

**PEER EVALUATIONS IN SELF-MANAGING WORK TEAMS:
THE ROLE OF SPECIFIC EMOTIONS IN EXTRA-ROLE BEHAVIOURS**

CHIAKI KOIKE

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Dedication

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Abstract

This study examined emotional reactions that occurred when participants compared the fairness of own outcomes to that of peer outcomes. The mediating role of emotions (pride, guilt, envy, or anger) on the fairness perceptions and the intention to engage in organizational citizenship (OCB) or counterproductive work behaviour (CWB) was assessed. Two hundred and sixty nine undergraduate business students participated in the main study. Peer evaluation vignettes were used to simulate four fairness conditions. Hierarchical multiple regression was used to test the hypotheses. The results indicated that perceived fairness to self interacted with perceived fairness to others, which led to emotional reactions, including pride, guilt, envy, and anger. Perceived fairness also directly influenced behaviour. However, only the negative emotions of anger and envy acted as mediators. As such, anger decreased OCB intention and increased CWB intention. Envy decreased the intention to engage in OCB. Implications of the results were discussed.

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1. Introduction

The growing prominence of flattened organizational hierarchies means that contemporary workers are experiencing more frequent interactions with co-workers in team settings (Chiaburu & Harrison, 2008). Self-managing teams are characterized as having the autonomy to make hiring decisions, assign jobs, plan and schedule their work, make production- or service-related decisions and problem solve (Ezzamel & Willmott, 1998; Kirkman & Shapiro, 2001; Wellins et al., 1990).

Because managers have fewer daily interactions with self-managed teams, they face a challenge when trying to accurately assess individual performance. Furthermore, the concept of autonomy inherent in self-managing teams means that they are often expected to control the quality of their own work.

Consequently, organizations are increasingly relying on peer evaluations as a part of their multi-source, 360-degree feedback systems (Barclay & Lynn, 1995; Conway, Lombardo, & Sanders, 2001; Dierdorff & Surface, 2007; Kramer, 1990; London & Beatty, 1993; Paswan & Gollakota, 2004). In addition to providing information to managers, peer evaluations are used to help employees improve their performance (Tornow, 1993), and may play a role in determining promotions and pay raises. It has been suggested that they increase the quality of feedback (Leavitt, 1964; Reilly & Chao, 1982) and that an employee's involvement in the evaluation process helps that individual to understand the supervisory perspective (Leavitt, 1964). Research offers some support for this perspective, indicating that peer evaluations have stronger reliability and validity than other evaluation sources, including supervisory ratings (Kremer, 1990).

Despite the arguments suggesting peer evaluations are a good choice, and some research indicating that they provide valid and high quality feedback, studies assessing their impact on job performance are not common (Bamberger, 2007; Levy & Williams, 2004). Furthermore, studies that do assess the influence of peer evaluations on individual performance have shown mixed results (Kluger & DeNisi, 1996). For example, Seifert, Yukl, and McDonald (2003) report that research assessing the effect of 360-degree feedback on performance improvements indicated that this relationship could be positive (Atwater, Rousch, & Fischthal, 1995; Walker & Smither, 1999), negative (Atwater, Waldman, Atwater, & Cartier, 2006; Johnson & Ferstl, 1999) or inconclusive (Reilly, Smither, & Vasilopoulos, 1996; Smither et al., 1995). Other peer evaluation research has assessed psychometric issues (Scullen, Mount, & Judge, 2003); cognitive processing (DeNisi & Peters, 1996); and rater/ratee concerns (Saavedra & Kwun, 1993) such as interpersonal liking (Bates, 2002); and personality traits (Strauss, Barrick, & Connerley, 2001).

Most job performance literature has focused on more traditional evaluation methods, where feedback is elicited from supervisors rather than peers (George & Jing, 2007). By definition, peers have relatively equal status to the focal employees (Chiaburu & Harrison, 2008). Since interactions among peers are less restricted than those with supervisors, peers are an important influence on an employee's individual attitudes (Chiaburu & Harrison, 2008). Therefore job performance effects may be different when the feedback originates from peers rather than supervisors.

Thus, a number of important questions regarding the effectiveness of peer evaluations remain unanswered because scholars have only recently cast co-workers as

the source of the feedback (Chiaburu & Harrison; 2008; Cropanzano, Li, & James, 2007; Erez, Lepine, & Elms, 2002).

One emerging body of research suggests that justice perceptions are a key factor influencing employee reactions to peer evaluation (Fellenz, 2006; Folger, Konovsky, & Cropanzano, 1992; Wong & Kwong, 2007). Justice¹ is generally considered a four-dimensional construct (e.g., Cohen-Charash & Spector, 2001; Colquitt, 2001) consisting of distributive, procedural, informational, and interpersonal elements. Distributive justice concerns the allocation of resources, such as pay, promotions and rewards (Adams, 1965; Homans, 1961; Leventhal, 1976). Procedural justice concerns the fairness of the procedures used to decide those outcomes (Leventhal, 1980; Thibaut & Walker, 1975). Informational justice concerns whether individuals receive thorough explanations regarding how outcome decisions are made (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Greenberg, 1993). Interpersonal justice refers to the personal treatment of individuals, such as politeness, respect, and dignity (Colquitt et al., 2001; Greenberg, 1993).

Flint (1999) suggests that individuals will make an effort to improve performance when they perceive fairness in peer evaluation outcomes. Supporting empirical work has found that individuals appraise the fairness of peer evaluations in relation to self-ratings (London & Smither, 2006), normative ratings of co-worker's perceptions, and prior expectations (Ilgen & Hamstra, 1972).

However, researchers have tended to focus on *procedural justice* in peer evaluations because supervisors often use them to elevate perceptions of process fairness

¹ Although some scholars distinguish between the terms justice and fairness (Guo & Miller, 2009), this study uses these terms interchangeably.

when they are giving feedback to subordinates (Drexler, Beehr, & Stetz, 2001; Flint, 1999). In self-managing teams, peer evaluations can also influence the rewards members receive (Flint, 1999). Inadequate or unfair peer evaluations can impair an individual's overall outcomes, thereby inducing concern over equity among team members (Paswan & Gollakota, 2004). Based on this rationale, I argue that peer evaluations are likely to trigger *distributive* justice assessments. To the best of my knowledge there are no studies that assess this justice dimension in peer evaluations.

In addition to the lack of distributive justice research in a peer evaluation context, the Deonance model of fairness (Folger, 2001) and Equity Theory (Adams, 1965) suggest that social comparison may trigger fairness assessments. This is particularly salient in peer evaluations where colleagues may be both the victims and the perpetrators of unfairness. The Deonance model proposes that individuals react not only to personal injustice, but also to injustice experienced by others. Equity Theory (Adams, 1965) suggests that people compare the ratio of their inputs and outcomes to the ratio of a salient other to determine whether they have been fairly rewarded. Thus an employee may not feel as bad as expected when they receive negative performance feedback if they perceive the feedback to be fair in relation to peers. This perception of fairness may, in turn, elicit positive reactions among employees because it satisfies their equity consideration in teams. However, this would occur only if the perception of equity derived from social comparison overrides the individual's internally-derived sense of effort-reward inequity (Weick, 1966). If not, the Deonance model (Folger, 2001) would suggest that personal inequity combined with deontic unfairness to peers could create negative, even risky, reactions.

As the example above indicates, it becomes more difficult to anticipate how employees will react when fairness assessments are complicated by social comparisons. It has been suggested that fairness appraisals evoke emotional responses (Folger, 1998), which result in emotion-driven behaviours. For example, research has shown that positive emotions can improve job performance (Lyubomirsky, King, & Diener, 2005), increase creativity (Amabile, Barsade, Mueller, & Staw, 2005), and reduce perceived job stress (Spector, Dwyer, & Jex, 1988). Alternatively, negative emotions can be associated with revenge behaviours (Bies, Tripp, & Kramer, 1997; Crossley, 2009).

Although emotional responses do not *always* lead to specific behaviours, they increase the likelihood that an individual will form the intent to act. According to the Theory of Reasoned Action, an individual first intends to engage in a behaviour before actually performing the behaviour (Ajzen & Fishbein, 1977). Ajzen and Fishbein (1977) explain that individuals have a higher probability of performing an actual behaviour when they have formed a prior intention to perform. Thus, forming the intent to act is the best predictor of future behaviour (Williams, Pitre, & Zainuba, 2002).

The theoretical link between post-feedback emotional reactions and individual behavioural intentions is established in Spector and Fox's (2002) emotion-focused model of voluntary work behaviours. In this model, they argue that emotions serve a central role in the appraisal and interpretation of events in the environment as well as predicting future behavioural intentions. Individuals first appraise environmental events, which elicit positive or negative emotional reactions. In essence, emotions serve as a mediating or moderating mechanism that translates an individual's perception of environmental events into behavioural intentions.

According to Spector and Fox (2002), positive emotions tend to increase organizational citizenship behaviour (OCB) while negative emotions tend to increase counterproductive work behaviour (CWB). OCB is defined as “individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective and efficient functioning of the organization” (Organ, 1988, p. 4). Such cooperative behaviours reflect the contributing factors to achieving organizational goals by enhancing social communications and reducing disruptive emotional responses (Arvey & Murphy, 1998). Additionally, OCBs in teams affect not only individual performance, but also team cooperation and co-worker's performances (Van Scotter & Motowidlo, 1996).

In contrast, counterproductive work behaviours (CWB) refer to an employee's voluntary behaviour that harms the organization or other organizational members (Marcus & Schuler, 2004; Miles, Borman, Spector, & Fox, 2002). CWB may consist of anti-social behaviours (Giacalone & Greenberg, 1996), delinquency (Hogan & Hogan, 1989), aggression (Latham & Perlow, 1996; Neuman & Baron, 1998; Perlow & Latham, 1993), retaliation (Skarlicki & Folger, 1997), revenge (Bies et al., 1997), and organizational deviance (Hollinger, 1986). CWB in teams negatively affect organizations and team members (Miles et al., 2002).

While previous research on the relationship between emotion and behaviour has focused on general emotions of positive and negative affect (Barclay, Skarlicki, & Pugh, 2005; Fox, Spector, & Miles, 2001), scholars have recently been emphasizing the need to assess more specific emotional responses to particular environmental events (Mikula, Scherer, & Athenstaedt, 1998; Spector & Fox, 2002). More precisely, the role of complex

emotions is understudied and needs further investigation (Miluka et al., 1998; Tangney, Stuewig, & Mashek, 2007).

To summarize, the use of peer evaluation in organizations has gained increased attention. However, there are few studies regarding employee reaction to performance feedback when it originates from peers rather than supervisors. Existing research (Spector & Fox, 2002) suggests that an event such as receiving a peer evaluation will trigger an assessment of the fairness of the evaluation. It is expected that these assessments will be influenced by social comparison (Adams, 1965; Tangney, 1999), which in turn may elicit more complex emotional responses and behavioural intentions. Evaluations perceived as distributively fair will elicit positive emotions. Evaluations perceived as distributively unfair will elicit negative emotions.

Therefore, this research asks how social comparison affects emotion, and how fairness assessments and complex emotions combine to influence behavioural reactions to peer evaluations.

The study contributes to the existing body of literature in four important ways: (1) it identifies unintended behavioural outcomes that may arise from peer evaluation processes, (2) it extends Spector and Fox's (2002) model by assessing complex rather than general emotional responses, (3) it assesses emotional responses and behavioural intentions when the feedback originates from peers rather than managers, and (4) it teases out whether comparative equity is more important than personal inequity and the desire for Deontic justice. It is a response to Levy and Williams' (2004) call for more research clarifying the complex mechanism that divides effective and ineffective use of peer evaluations. Figure 1.1 provides an illustration of the basic elements of the model. Section

2 contains a detailed discussion of the theoretical background. This is followed by hypothesis development in Section 3 and a description of the methodology in Section 4. The research results are reported in Sections 5 and 6, and the paper concludes with a discussion of the practical and theoretical implications of the peer evaluation study in Section 7.

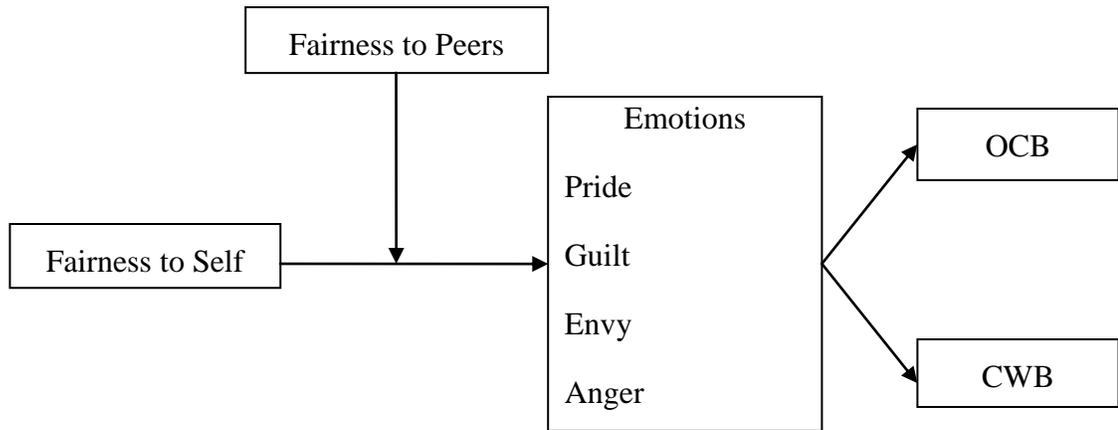


Figure 1.1 Conceptual Model

2. Theoretical Background

In order to fill some gaps in the research on the effectiveness of peer evaluations, this research examines how social comparison of distributive outcomes affects fairness perceptions, affective reactions and subsequent behavioural intentions. Three theoretical frameworks are utilized to inform the hypothesis development for this study; Equity Theory (Adams, 1963, 1965; Goodman, 1977), the Deonance model of fairness (Folger, 2001), and the emotion-centred model of voluntary work behaviour (Spector & Fox, 2002). A detailed discussion of each theory follows, along with a brief review of relevant research findings and an explanation of how each theory fits the conceptual model depicted in Figure 1.1.

2.1 Equity Theory

According to Equity Theory, individuals engage in a process of comparing work input and outcome ratios with the ratios of some referent individual(s) (Adams, 1963, 1965; Goodman, 1977). Kulik and Ambrose (1992) suggest that individuals make comparisons to referents whose information is readily available and who are relevant, or similar to themselves. Therefore, in work groups, team members are likely to be the chosen referent (Barr & Conlon, 1994). Each individual member assesses fairness by comparing their inputs such as time, effort, size and quality of contribution, and outcomes (in the form of peer evaluations) to those of their teammates. Inequity perceptions can result from under-reward or over-reward (Huseman, Hatfield, & Miles, 1987).

When individuals are under-rewarded relative to others, they experience a negative emotional state (e.g., Adams, 1965; Adams & Freedman, 1976; Greenberg, 1984;

Homans, 1961; Walster, Walster, & Berscheid, 1978) and feel that they have been victimized (Timm, 1978). It is this emotional state that leads to behavioural and attitudinal motivations to seek ways to redress inequality (Adams, 1965; Walster et al., 1978). For example, individuals who experience affective reactions, such as anger or guilt (Weiss, Suckow, & Cropanzano, 1999), may then manipulate their inputs by engaging in compensatory behaviours. Five behavioural reactions to under reward are suggested by Equity Theory (Adams, 1965; Walster, Berscheid, & Walster, 1973): (1) endure the distress, (2) demand compensation (attempt to increase outcomes), (3) retaliate against the injustice (decrease inputs), (4) make a cognitive adjustment or rationalize the injustice experience (change comparison other), or (5) withdraw from the inequitable relationship (Timm, 1978).

When individuals perceive over-reward inequity, they experience “survivor guilt” and may similarly try to remedy this guilt by behavioural or cognitive means (Brockner et al., 1986). For instance, employees may personally work harder to justify their outcomes (Adams, 1965). Over-reward may also result in other favourable outcomes, such as greater job satisfaction and lower intention to leave (Miles, Hatfield, & Huseman, 1989). The concomitant risk of over reward, however, is that it may engender resentment in others (Shore, 2004).

Recent studies have linked equity perceptions and extra-role behaviours, such as OCB and CWB. For example, Deluga (1994) indicates that perceived equitable treatment by a supervisor results in increased subordinate OCB. Another study suggests that when individuals perceive inequity in distributive justice coming from the organization, they engage in production deviance (e.g., intentionally working slowly and doing work

incorrectly) or theft (Greenberg, 1990) as a means of restoring equity (Gross, 1998; Krischer, Penney, & Hunter, 2010). The distress resulting from under reward also leads to lower levels of job satisfaction than those who are equitably rewarded (Adams, 1965; Huseman et al., 1987).

In the context of work groups, previous studies report that when individuals receive positive group feedback and the majority of the group receives negative feedback, they showed a persistent intention to engage in high performance (Barr & Conlon, 1994). On the other hand, when individuals received negative group feedback and the majority of the group received positive feedback, the intention to continue performing at a high level decreased. While this study provides evidence that individuals engage in social comparison of feedback outcomes, it assessed feedback from an external agent rather than the group members themselves. No studies have examined the effect of fairness perceptions in performance when the evaluation is provided by other group members. Furthermore, emotion has not been studied as an intervening variable in the context of fairness perception in performance evaluation.

2.2 Deonance Model of Fairness

Equity Theory indicates that individuals are prompted to act primarily in response to personal inequity. However, the Deonance model of fairness (Folger, 2001) suggests that people have an inherent predisposition, beyond self-interest, to right observed wrongs. According to this theory, individuals who willingly violate universal moral principles and act as if they were superior to this universal morality are perceived as *moral transgressors* (Cropanzano, Goldman, & Folger, 2003; Folger, 2001; Folger & Cropanzano, 2001). In

response to a moral transgression, not only the victims, but also the observers of the transgression, experience immediate emotional reactions. As a result, observers attempt to reinstate equity by punishing the moral transgressor even if it results in a significant personal sacrifice (Kahneman, Knetsch, & Thaler, 1986; Turillo, Folger, Lavelle, Umphress, & Gee, 2002).

A growing number of studies support the Deonance model (Colquitt, 2004; De Cremer & Van Hiel, 2006; Goldman, Slaughter, Schmit, Wiley, & Brooks, 2008; Lind, Kray, & Thomson, 1998; Rupp, Ganapathi, Aguilera, & Williams, 2006; Van den Bos & Lind, 2001).

However, since the Deonance model of fairness is relatively new, researchers have focused primarily on justice coming from external agents such as organizations (Skarlicki, Ellard, & Kelln, 1998), supervisors (Aquino, Tripp, & Bies, 2001) and customers (Spencer & Rupp, 2009). The growing number of work teams in organizations indicates the importance of intra-team treatment. For example, multi-foci justice researchers argue that the source of the justice (or injustice) is likely to be the target of the reactionary behaviour (Cropanzano et al., 2007; Lavelle, Rupp, & Brockner, 2007). In other words, when co-workers are viewed as moral transgressors, behavioural responses should be targeted at those co-workers. Despite the importance of co-workers as a source of justice, few studies have placed them in that role (Lavelle et al., 2007).

In a peer evaluation context, group members who put their own self-interest before the group norm of fairness would be considered moral transgressors (Folger, 2001). The actions of a transgressor can be expected to influence the behaviour of the other team members who observe or become aware of the unfair treatment. Deonance Theory

suggests that observers will take action to punish the transgressor and/or provide aid to the victim. However, what will occur if the transgressors are not immediately identifiable? In anonymous peer evaluation processes team members may not know who provided an unfair assessment. They may only be made aware of the overall outcome. Furthermore, if peer evaluations result in poor outcomes for an entire team, it is possible that team members could be conceptualized as both *victims* and *moral transgressors*. Finally, it is unclear how Equity Theory and Deontic justice interact. Are individuals more concerned with personally unfair treatment (as suggested by Equity Theory) or with the unfair treatment of others (as suggested by the Deonance model)?

2.3 Emotion-Centred Model

As noted above, equity and Deontic justice researchers have examined behavioural or cognitive outcomes of justice perceptions, but it has been argued that the effects of justice experiences are affective as well (Barclay et al., 2005; Mikula et al., 1998; Montada, 1994; Weiss & Cropanzano, 1996). Despite the universal occurrence of emotion in human experience, the role of affect and emotion in organizational behaviour is often underemphasized (Fox & Spector, 2002).

Similarly, most previous studies on 360-degree feedback or peer evaluation have focused on cognitive and task-based reactions of raters rather than affect-driven behaviours of ratees (c.f., Kluger & DeNisi, 1996). For example, Strauss et al. (2001) examined how personality traits influenced rating similarity of peers and supervisors by using undergraduate business students. They found that rater/ratee similarity in personality traits had little impact on performance ratings given by peers. Additionally,

DeNisi and Peters (1996) examined the cognitive processing of raters and ratees during performance appraisal. They reported that raters have more positive reactions to performance appraisals and are able to better remember performance information when they use diaries and structured recall processes. Magin (2001) examined how multiple peer ratings among medical practitioners are subject to the “reciprocity effects” in which the rater’s evaluations were influenced by the individual’s social interactions with the ratees. While these studies indicate that there are post-feedback effects of positive and negative peer evaluations, existing research is limited in terms of attention to affective components.

It is critical to study how peer evaluations influence emotion because affective reactions can hinder both learning and performance (Cannon & Witherspoon, 2005). For example, Cron, Slocum, and Vandewalle (2002) report that individuals experience negative emotions in response to negative performance feedback from their supervisors. Ilies et al. (2007) indicate that performance feedback is related to positive and negative affect. As such, individuals who fail to attain goals (i.e., negative feedback) report more negative affect than those who achieve goals (i.e., positive feedback). Belschak and Den Hartog (2009) reported that supervisory feedback elicited emotion, which then mediated CWB, turnover intention, citizenship behaviours and affective commitment. In the work group context, positive supervisory feedback regarding team performance increased team members’ OCB (Bachrach, Bendoly, & Podsakoff, 2001).

Affective Events Theory (Weiss & Cropanzano, 1996) explains the relationship between emotion and behaviour. It proposes that individuals experience emotions in response to certain workplace events, which then lead to affect-laden behaviours (Weiss

& Cropanzano, 1996). Emotions are “elicited by processes of evaluation that link events in the environment to the ongoing goals and needs of the appraising individual” (Niedenthal, Krauth-Gruber, & Ric, 2006, p. 6). Emotions can be categorized into two broad concepts, discrete and complex emotions. Discrete emotions are the fundamental elements of an individual’s emotional experiences and can be combined to produce more complex emotions (Niedenthal et al., 2006). Some discrete emotions include happiness, anger, sadness, and joy (Niedenthal et al., 2006).

Self-conscious or “cognition-dependent” emotions are considered to be more complex than discrete emotions (Niedenthal et al., 2006). Theoretically, self-conscious emotions occur with the presence of the sense of self and involve injury to or enhancement of the sense of self. These complex emotions can be classified in two subsets: *social comparison* emotions, such as envy; and *self-evaluation* emotions, such as guilt and pride (Niedenthal et al., 2006). Self-evaluation emotions are also called moral emotions, as they serve a fundamental role in regulating moral behaviours (Niedenthal et al., 2006; Tangney, 1999; Tangney et al., 2007). In the context of peer evaluation, recipients are likely to compare their own peer evaluation outcomes to those of others, and are then likely to experience complex or self-conscious emotions, such as pride, guilt and envy.

Affective Events Theory (Weiss & Cropanzano, 1996) can be applied to performance evaluation to examine a ratee’s emotional response to performance appraisal (e.g. Ferris, Munyon, Basik, & Buckley, 2008; Ilies et al., 2007). Because performance appraisal influences self-esteem and employment outcomes, it is likely to be an emotion-eliciting event. Affective Events Theory suggests that individuals perceive generally

pleasant emotion when they experience positive feedback, and generally unpleasant emotion when they experience negative feedback. For example, Mignonac and Herrbach (2004) report that praise from a co-worker evokes pleasure, which in turn leads to work attitudes, such as job satisfaction and affective commitment.

Spector and Fox (2002) extend Affective Events Theory by specifying which behaviours can be expected to occur as a result of the emotion. They also suggest that positive and negative emotions will have an inverse effect on OCB and CWB. Consequently, individuals who engage in high levels of OCB may well engage in low levels of CWB (c.f., Hunt, 1996; Robinson & O'Leary-Kelly, 1998). Positive emotions appear to encourage altruistic behaviours that make people continue to feel good (Isen, 1984). Alternatively, when individuals experience negative emotion they may engage in immediate and destructive behaviours, such as retaliation (Lazarus, 1995). Research by Robinson and O'Leary-Kelly (1998) offers some support for a parallel relationship. They found that the OCB measures they used were negatively correlated with the CWB measures. The current study attempts to lend further support and answer Spector and Fox's (2002) call to explore the underlying relationship between OCB and CWB.

Previous studies offer some support for an emotion focused model in both supervisory and peer evaluation contexts. For example, when individuals receive favourable feedback, they tend to maintain their performance rather than reducing their effort (Flint, 1999). Additionally, Erez et al. (2002) reported that favourable peer evaluations were related to improved team relationship quality. In the context of supervisory feedback, Belschak and Den Hartog (2009) reported that general positive emotion mediated the relationship between positive supervisory feedback and employee's

OCB intentions. Furthermore, Fox et al. (2001) reported a negative correlation between positive emotion and CWBs.

In spite of strong evidence that emotion evokes behaviour, there remains a debate regarding the precise nature of the relationship between the two constructs. Mixed research results suggest that emotion may be either a moderator or a mediator. Skarlicki, Folger, and Tesluk (1999) found that negative affectivity moderated the relationship between perceived fairness and organizational retaliatory behaviours. Goldman (2003) found that general trait-based, or dispositional affects, moderated the relationship between justice perceptions and individual outcomes. However, he reported that state-based emotion, which is evoked by specific events, served as a mediator rather than a moderator. While these studies have important implications, the current study tests Spector and Fox's (2002) emotion-centered model, and posits that emotion serves as a mediating mechanism, which translates fairness perceptions into behavioural intentions.

In summary, previous studies suggest a general link between performance evaluation, emotions, and behavioural inclinations. Perceived fairness of the evaluation and subsequent emotional reactions are influenced by social comparison. This makes predicting behaviour particularly difficult in peer evaluation scenarios because the transgressor is not always identifiable and the desire to right moral wrongs at any cost may result in behaviour that is harmful to the group.

Previous studies have focused on emotional reactions to external feedback, such as supervisory feedback (e.g., Belschak & Den Hartog, 2009). Therefore, this study utilizes peer evaluation as a source of justice and as the emotion-eliciting event. It then examines whether emotions mediate behavioural intentions (OCB and CWB). Since it is expected

that social comparison may cause conflicting emotions, this study focuses on self-conscious rather than discrete emotions. It also examines Spector and Fox's (2002) suggestion that OCB and CWB occur in parallel.

OCB is frequently conceptualized as two dimensional: (a) behaviours that targets specific individuals within the group, such as interpersonal helping, which indirectly benefits group functioning (OCBI) and (b) behaviours that target the group as a whole, such as attending meetings (OCBO) (McNeely & Meglino, 1994; Skarlicki & Latham, 1996; Williams & Anderson, 1991). Previous studies indicate that employee's cognitive perception of reward equity has a stronger relation to OCBO than to OCBI (McNeely & Meglino, 1994). Similarly, Skarlicki and Latham (1996, 1997) reported that fairness perception shows a stronger relationship to OCBO than to OCBI. These studies suggest that OCBO is more cognition-driven than affect-driven (Lee & Allen, 2002). Thus, emotional responses may well show a stronger relationship to OCBI than to OCBO.

Bennett and Robinson (2000) similarly suggest that it is important to distinguish the target of CWB because individual behavioural outcomes vary across different targets (Robinson & Bennett, 1995). Specifically, CWBs can be classified as individual-directed (CWBI) or organization-directed (CWBO). CWBO is conceptualized as *production deviance* or *property deviance*. *Production deviance* refers to an employee's minor withdrawal behaviours that negatively affect productivity. For example, employees may leave work early without permission. *Property deviance* refers to an employee's behaviours that damage organizational property, such as sabotaging company equipment. CWBI includes *political deviance* and *personal aggression*. *Political deviance* refers to a minor behaviour directed toward individuals. For example, an employee may spread

rumours about co-workers. *Personal aggression* refers to serious behaviour directed toward individuals. For example, an employee may engage in verbal harassment or theft from co-workers (Robinson & Bennett, 1995).

However, recent meta-analysis conducted by LePine, Erez, and Johnson (2002) suggests that the aggregate model of OCB is a viable alternative to separately assessing the sub-dimensions of OCB. In their meta-analysis, Hoffman, Blair, Meriac, and Woehr (2007) explained the practicability of the aggregate approach, which averages the items taken from multi-dimensional OCB scales to form an overall OCB measure. Similarly, a recent study on CWB emphasizes the importance of the integrative perspective, which refers to the aggregate approach to include the CWB sub-dimensions (Griffin, O'Leary-Kelly, & Collins, 1998; Hollinger & Clark, 1982; Robinson & Greenberg, 1998; Sackett, Berry, Wiemann, & Laczko, 2006). Taking on the latter stand, the current study examines both OCB and CWB as aggregate variables.

Figure 1.1 illustrates the conceptual model used in this study. In the next section of this paper, the hypotheses for the study are developed based on the basic premises of Equity Theory, Deontic justice and the emotion-centred model.

3. Hypothesis Development

Affective Events Theory (Weiss & Cropanzano, 1996) and Equity Theory (Adams, 1965) suggest workplace events that influence distributive outcomes, such as peer evaluation, will trigger fairness assessments. Employees will compare personal outcomes (e.g., rewards) to those of their peers. If the comparison of inputs to outcomes is deemed equitable, the emotion-centred model (Spector & Fox, 2002) indicates that the employee is likely to experience positive emotion. This occurs because goals have been attained and equity is present. If the evaluation of peers is also believed to be equitable, the Deonance model (Cropanzano, Goldman, & Folger, 2003) suggests that there are no victims and no moral transgressors, so it is unlikely that these employees will feel negative emotions such as envy, anger, or guilt. Employees may also attribute other's favourable outcomes to themselves which further elevates positive emotion. The fair personal outcome, fair peer outcome, and positive emotion, mean the employee feels no need to engage in behaviours that redress inequity. The emotion-centred model (Spector & Fox, 2002) suggests that emotions inversely affect OCB and CWB. Thus, the current study expects general positive emotion will result in increased OCB and decreased CWB.

Since the current study is concerned with evaluating complex/self-conscious emotions rather than generally positive emotions, I further hypothesize that pride will mediate the relationship between fairness and behaviour. The Deonance model suggests that individuals will have an emotional reaction to the treatment of others, and that the emotion is based on moral assessment of the trigger event. Pride is a positive, complex, and morally-based emotion. It is a feeling of exhilaration that "results from a positive self-evaluation" (Niedenthal et al., 2006, p.110). The pleasant feeling of pride results from

“satisfaction with meeting one’s own personal standards and goals, including internalized beliefs about what is right and wrong” (Niedenthal et al., 2006, p.110). In other words, individuals feel pride when they have done something well and when they have followed a moral code.

Fair evaluation *from* peers induces pride because it affirms that the individual has achieved personal and group goals, and that his or her personal moral code is shared by the group. Fair evaluation *of* peers induces pride because the individual feels partly responsible for other’s fair outcomes. Additionally, the shared code of conduct reduces the risk of future exploitation which should also lead to positive behavioural intentions. Consequently, they will engage in behaviours that will further improve personal and group outcomes, and to maintain their positive emotional states. Since pride is complex and has a moral dimension, it has been selected over other positive and discrete emotions, such as happiness or joy.

H1a: When an individual receives a group peer evaluation that is fair to self and also fair to peers, the individual will experience pride, increased OCB intentions and decreased CWB intentions.

H1b: Pride mediates the relationship between fairness perceptions and behavioural intentions.

When individuals believe their inputs are equal to those of their peers, but then receive superior outcomes, Equity Theory suggests those individuals will feel over-rewarded. Although favourable outcomes to oneself should evoke a positive emotion, such as happiness (Weiss et al., 1999), this may be affected by witnessing unfavourable outcomes for peers. Empirical research indicates that when an individual is personally

over-rewarded, that individual is likely to feel a more complex emotion, such as guilt (Guerrero, La Valley, & Farinelli, 2008).

Guilt refers to “an emotion that involves identifying a self-produced, specific behaviour, as bad, hurtful, or even immoral” and often occurs when individuals witness moral transgressions (Niedenthal et al., 2006, p. 97). It is considered to be one of the *moral emotions* that affect individual attitude (Tangney et al., 2007). Scholars suggest that guilt is the attenuation of self-worth in response to *social comparison* (Ambrose, Harland, & Kulik, 1991; Mumford, 1983). Although moral transgressors often experience guilt for their wrongdoing, the Deonance model indicates that witnesses may also experience guilt due to their inability to rectify the situation (Folger, Cropanzano, & Goldman, 2005; Spencer & Rupp, 2009). In other words, the unfair treatment of others can cause observers to experience “guilt by association” (Doosje, Branscombe, Spears, & Manstead, 1998). As moral beings, individuals project their emotions onto the victim, regardless of previous relationships to the victim. Therefore guilt is also supported by Deonance Theory when an individual experiences personal fairness but observes unfairness to others.

The behavioural response to a fair to self/unfair to peer situation is more difficult to predict than the emotional response. Empirical research suggests that the individual will behave more cooperatively when he or she is over-rewarded (Harder, 1992), and should therefore increase OCB and decrease CWB. On the other hand, Deonance Theory suggests that the unfair evaluation of peers *by* peers creates a conflict, because group members are both victims and moral transgressors. The observer will wish to take action to rectify the inequity for the victim. If no specific transgressor can be identified (i.e., as

would be the case in anonymous peer evaluations) then the observer will have a desire to punish the offender, but no specific outlet.

To solve this dilemma, emotion plays an important role as the mediator of behaviour. If the dominant emotion in the over-reward situation is guilt, one would expect behaviour to be driven primarily by that emotion rather than the desire to right a wrong (particularly where the transgressor is difficult to identify). When individuals experience guilt, research suggests they may engage in helping behaviour to reduce their negative emotional states. Guilt may also reduce interpersonal CWBs toward the team. In fact, Baumeister and Boden (1998) noted that guilt, unlike anger, reduces aggression and induces helpful behaviours, such as OCBs (Baron & Richardson, 1994; Freedman, Wallington, & Bless, 1967; McMillen, 1971; Wallington, 1973). Therefore I hypothesize that:

H2a: When an individual receives a group peer evaluation that is fair to self but unfair to peers, the individual will experience guilt, increased OCB intentions and decreased CWB intentions.

H2b: Guilt mediates the relationship between fairness perceptions and behavioural intentions.

When an individual receives an unfair evaluation of self and witnesses the fair evaluation of peers, it can be expected that Equity Theory will play a stronger role than Deonance Theory because others are not victims. In Equity Theory the upward social comparison of one's unfair evaluation and other's fair evaluation evokes a sense of social exclusion, thereby provoking envious emotions. Furthermore, envy is frequently correlated with perceptions of unfairness (Cohen-Charash, 2009).

Envy is defined as “an employee’s loss of self-esteem in response to a referent other’s obtainment of outcomes that one strongly desires” (Vecchio, 2000, p. 162). Envy occurs when “an individual believes that another individual has something that he or she wants but does not yet, or never will, have” (Niedenthal et al., 2006, p. 81). It is a complex emotion composed of other emotions such as anger, hatred, desire, and entitlement (Cohen-Charash, 2009). For envy to occur there must be a cognitive appraisal through social comparison, which makes it particularly appropriate for the current study. Envy can also be trait-based or episodic (Cohen-Charash, 2009). Unfair evaluation of an individual should therefore result in episodic envy when fairness outcomes are compared to those of fairly-treated peers. Although research strongly indicates that negative comparisons and the resulting sense of social exclusion cause envy (Baumeister & Leary, 1995; Baumeister & Tice, 1990), previous research has not examined envy as a mediator in the relationship between performance feedback and behavioural intentions (Briones, Tabernero, & Arenas, 2007).

Researchers have found that envy negatively impacts employee satisfaction (Vecchio, 1995), increases propensity to quit (Vecchio, 1995, 2000), and has negative implications for work groups (Duffy & Shaw, 2000). Furthermore, when individuals feel that they are treated differently from envied others, the “envior” is more likely to engage in CWBs in the hope that harming the envied others will reduce the gap (Cohen-Charash & Mueller, 2007; Conlon, Meyer, & Nowakowski, 2005; Fox & Spector, 1999; Robinson & Bennett, 1995). In a peer evaluation scenario, such aggression is likely to be aimed toward individual team members rather than to the organization because it is the team members that are responsible for the unfair outcome. For example, individuals may try to

take longer breaks from group meetings in the hopes of restoring equity. The emotion-centered model (Spector & Fox, 2002) suggests an inverse relationship between OCB and CWB. Envy should thus lead to decreased OCBs at the same time as increased CWBs.

Therefore, I hypothesize as follows:

H3a: When an individual receives a group peer evaluation that is unfair to self but fair to peers, the individual will experience envy, decreased OCB intentions and increased CWB intentions.

H3b: Envy mediates the relationship between fairness perceptions and behavioral intentions.

What happens when an individual receives an unfair evaluation to self as well as to peers? Equity Theory (Adams, 1965) suggests that when all group members receive unfair peer evaluations, the individuals should not perceive inequity in the compared ratios. However, early work on Equity Theory is often criticized because it lacks a nuanced approach about individual differences in the *social comparison* processes (Greenberg, Ashton-James, & Ashkanasy, 2007; Huseman et al., 1987). Furthermore, it has been argued that individuals have an internal sense of fairness that exists independent of any comparison to others (Weick, 1966). Research supports the proposition that individuals are generally more concerned with the equity of their own rewards than comparative equity (Lane & Messe, 1972).

Expectancy Theory (Lawler, 1968) also supports the proposition that personal equity will be more important than comparative equity. Expectancy Theory posits that effort and reward should have a linear relationship (Campbell, Dunnette, Lawler, & Weick, 1970). As such, individuals expect that their increased effort should lead to

increased outcomes. This is an instrumental view of the effort-reward relationship that differs from the social comparison perspective put forward in Equity Theory.

In order to overcome the limitations of Equity Theory, I propose that individuals will engage in *social comparison*. However, the violation of personal equity will be so strong in the unfair to self/unfair to peer scenario, that it overrides the equity perceived in *social comparison* process.

The Deonance model of fairness (Folger, 2001) further suggests that, regardless of their own experience, individuals experience anger for the unfair treatment of others, and engage in retaliatory behaviours (Van den Bos & Lind, 2001). Since it is a fairly new Theory, it has not been examined in the context of performance evaluation. In that context, individuals should experience anger for the personal inequity in their effort/reward ratio. It is possible that, because of this anger, they also enhance the attribution of unfair events in another situation (Frijda, 1993). In other words, when individuals receive unfair evaluations of themselves, they become angry, increasing attentiveness to their peers' experience of unfairness. The peer's experience of injustice, coupled with their own unfairness suggests that individuals should experience quite extreme feelings of anger.

Bies (2001) refers to anger as an "intense and personal pain" (p. 90). Although some scholars suggest it is a discrete emotion rather than a complex emotion (Niedenthal et al., 2006), others suggest anger requires cognitive appraisal (Bellman, 2007). I would argue that because individuals first evaluate personal inequity and subsequently engage in *social comparison* with peer's outcomes the resulting anger is of a highly cognitive nature. Numerous studies support the link between under-reward, unfairness and anger

(e.g., Cropanzano, Paddock, Rupp, Bagger, & Baldwin, 2008; Homans, 1961; Weiss et al., 1999). In a team context, Stouten, De Cremer, and Van Dijk (2005) note the importance of equality norms within a group. An in-group equality violator may elicit a stronger reaction of anger than an out-group violator. In a self-managing team, violation of the moral code by other team members may increase anger toward the team.

Guilt and envy are also less likely to occur in an unfair to self or unfair to peer scenario. Individuals may feel guilt if they initiate the unfair treatment of peers by giving unfavourable evaluations. However, an individual who does not initiate unfairness is less likely to experience guilt. Individuals may also feel guilty when they witness the unfair experiences of their peers. However, it may be argued that the deontic effect is relatively weak compared to an individual's own experience of injustice. Envy results from upward social comparison, where individuals compare their unfavourable outcomes to other's favourable outcomes. Since the individuals do not have a referent person with favourable outcomes, they are less likely to experience envy. Therefore, anger is assessed in this study as the dominant emotion in an unfair to self or unfair to peer scenario.

Previous research reports that anger leads to aggressive retaliation against individuals who violate moral-based norms (DaGloria & DeRidder, 1977, 1979). Chen and Spector (1992) reported that anger is highly correlated with sabotage, interpersonal aggression, hostility and complaints, theft, absenteeism, and the intention to quit. In the performance evaluation context, research suggests an association among negative performance feedback, negative emotions and CWBs. For instance, Fitness (2000) studied anger-eliciting events at work and reports that unjust treatment by a supervisor, such as being falsely accused of performing poorly, is one of the largest categories of

anger-eliciting events. Furthermore, Belschak and Den Hartog (2009) studied how negative supervisory feedback affected CWB intentions. They report that negative supervisory feedback is positively related to specific negative emotions, such as anger, which is also associated with CWB intentions.

While these studies suggest the mediating role of a negative emotion in the relationship between performance feedback and CWBs, no study has examined this link in the context of peer evaluations. When peers are responsible for unfair evaluations, retaliatory behaviours should be directed at those peers. The Deonance model suggests that those behaviours may occur in spite of the fact they may result in concurrent harm to the self. Therefore, it could be expected that individuals will try to eliminate the perception of personal inequity and resulting anger by reducing effort to the group project, even though it may cause the individual's own reward to be decreased. Furthermore, individuals may feel that any additional input to teamwork will only lead to wasted effort, thereby reducing team-directed helping behaviours, such as OCBs. Consequently, they will engage in both active retaliation (CWB) and withdrawal of cooperation (OCB). Therefore, I hypothesize as follows:

H4a. When an individual receives a group peer evaluation that is unfair to self and also unfair to peers, the individual will experience anger, decreased OCB intentions and increased CWB intentions.

H4b. Anger mediates the relationship between fairness perceptions and behavioral intentions.

4. Methodology

4.1 Experimental Design

The hypotheses developed in Section 3 were tested using an experimental design. Fairness to self and to peers was manipulated with 4 scenarios. A 2 (target) \times 2 (fairness) between-subjects factorial design was chosen because it allows the researcher to: (a) manipulate both independent variables in the hypotheses (fairness to self and fairness to peers), and (b) then compare groups of people who received different treatments to ensure the manipulation was effective. Subjects were randomly assigned to one of the 4 experimental conditions. They were asked to read the associated scenario and then respond to survey instruments assessing their emotional and behavioural reactions to the fairness scenarios. The remainder of this section provides the rationale for the scenario development and the measures selected for the fairness manipulation, emotion, OCB, CWB, and control variables. This is followed by a description of the procedures and participants for each stage of the study (expert judgment of the scenario, pilot study and main study). The outcome of the expert judgment and pilot study are then discussed and utilized to explain scenario adjustments made prior to the main study. Results of the main study are reported in Section 5.

4.2 Scenario Development

To manipulate perceptions of fairness to self (FTS) and fairness to peers (FTP), scenarios were developed for the experiment. Appendix C.1 contains the final scenarios (as noted above, minor adjustments were made after analysis by subject matter experts,

and again after a pilot study). While some scholars criticize the use of scenarios as emotion eliciting events, recent research indicates that the scenario yields comparative results (e.g., De Cremer & Van Knippenberg, 2004; Van Knippenberg & Van Knippenberg, 2005). In addition, scenarios have been successfully used in past research to assess attitudinal outcomes (e.g., De Cremer & Van Knippenberg, 2004) and behavioural intentions (e.g., Giessner, Viki, Otten, Terry, & Täuber, 2006).

Each of the 4 scenarios contained 2 sections. Section 1 of each scenario described the general context of a student group project and peer evaluations. In this section, students were told that they made a significant effort and contributions to a group project. Section 2 of the scenario illustrated the grades that were calculated based on the peer evaluations. Students were first presented with the overall project grade given by the instructor (excluding the peer evaluation component), followed by their individual grade and the average grade received by their peers (the individual and average grades reflected the peer evaluation component).

The grade from the instructor is always a B+. Those who are in the fair condition receive an increase to a grade of A. Those who were in the unfair condition receive a decreased grade of C. The scenarios explicitly indicate that the participant checks the instructor's calculations and finds no errors.

4.3 Measures

4.3.1 Independent Variables

4.3.1.1 Distributive Justice to Self. To measure distributive justice perceptions and confirm that the justice manipulation in the scenarios was effective, a 4-item self-report

measure was used (Colquitt, 2001; Moorman, 1991; Price & Mueller, 1986). This scale was selected since it has been frequently used and fit the context of the current study. Previous studies report high internal reliability for this scale. Colquitt's (2001) study reported a Cronbach's alpha of .92 (see Table 4.2). More recent research has also reported a Cronbach's alpha of .88 (Jones & Martens, 2009). Both meet Nunnally and Bernstein's (1994) recommendation for conventional Cronbach's alpha level of .70. Participants were instructed as follows: "The following are descriptive questions about your perceptions of the project group in the scenario. Please circle one response that best fits your belief about the project group. Please answer all questions. Based on the scenario, how did peer evaluations reflect your work?" An example item included "The peer evaluations reflected the effort I put into the project." Anchors ranged from 1 (*to a small extent*) to 7 (*to a large extent*). Complete items are included in Appendix C.3.1.

4.3.1.2 Distributive Justice to Peers. For justice to peers, the same 4-item scale for distributive justice (Colquitt, 2001; Moorman, 1991; Price & Mueller, 1986) was reworded to reflect perceptions of other group member's experiences of justice. For this scale students were asked to assess how the peer evaluations reflected the work of their teammates. An example item was: "The peer evaluation reflected the effort other team members put into the group project." Anchors ranged from 1 (*to a small extent*) to 7 (*to a large extent*). Complete items are included in Appendix C.3.2.

4.3.2 Dependent Variables

4.3.2.1 Organizational Citizenship Behaviour. This study used Williams and Anderson's (1991) 7-item scale for OCBI and 7-item scale for OCBO. Three reverse-

scored questions were included in the OCBO scale. Other studies have reported Cronbach's alphas of .75 for OCBO and .88 for OCBI (Williams & Anderson, 1991). Instructions to participants were as follows: "The following are descriptive questions about how you would behave if you were in the situation described in the scenario. Please circle one response that best fits how you would behave for the remainder of the group project. Please answer all questions." Examples of questionnaire items included: "I would help group members who have been absent" and "My attendance at group meetings would be above the norm." In order to adjust to this study's context, the term "work" (in the original scales) was changed to "group." The 5-point Likert scale ranged from 1 (*never*) to 5 (*always*). Completed items are included in Appendix C.3.3.

4.3.2.2 Counterproductive Work Behaviour. To assess CWBI and CWBO, Bennett and Robinson's (2000) interpersonal and organizational deviance scale was used. This scale included a 7-item scale for CWBI and a 12-item scale for CWBO. Both sub-concepts used a 7-point Likert scale ranging from 1 (*never*) to 7 (*always*). Cronbach's alpha has been reported at .81 for CWBI and .78 for CWBO (Bennett & Robinson, 2000). In the current study's context, the target organization referred to the student's project group. Therefore, the statements were changed to reflect individual members as the target of CWBI and the whole group as the target of CWBO. Instructions to participants were the same as they were for OCBO and OCBI. An example of a CWBI item was: "I would make fun of group members." An example of a CWBO item was: "I would take property from the group without permission." Complete scales are included in Appendix C.3.4.

4.3.3 Mediating Variables

In order to assess mediator variables, self-report measures of emotions were used. While single-item measures of emotion were useful for high face validity (Barclay et al., 2005; Ekman, Friesen, & Ancoli, 1980; Gross & Levenson, 1993), single item measures may exhibit low reliability when they are combined to examine one emotion. Therefore, the current study used multi-dimensional measures of emotions. For all emotion scales participants were instructed as follows: “The following are descriptive questions about your emotional reactions to the scenario. Please circle one response that best reflects your feelings. Please answer all questions.” Participants were then provided the emotional descriptors and asked if they would expect to experience them. In order to fit the scale to the scenario’s context, the labels for each anchor were reworded from their original version to: 1 (*definitely not*) to 5 (*definitely*). Original labels for each anchor were reported in the following section. Complete items are reported in Appendix C.3.5.

4.3.3.1 Pride. To assess pride, the Shame and Guilt Scale developed by Marschall, Sanftner, and Tangney (1994) was used. The original Shame and Guilt Scale ranged from 1 (*never*) to 5 (*always*) and was reported to have a Cronbach’s alpha of .85 (Marschall et al., 1994). As noted above, the original version was adjusted to fit the wording of the scenario so the Likert scale ranged from 1 (*definitely not*) to 5 (*definitely*) and included all 3 items: *proud*, *respectable*, and *honourable*. Complete items are included in Appendix C.3.5.1.

4.3.3.2 Guilt. Guilt was assessed with the emotions scale developed by Weiss et al. (1999) and modified by Mattern, Bedwell, and Rupp (2004). The 3 items included *guilty*, *sorry*, and *regretful* and the scale was revised from 1 (*not at all*) and 5 (*very much*) to 1

(*definitely not*) and 5 (*definitely*). This scale has been commonly used. For instance, Spencer and Rupp (2009) used this scale in an experimental context and report a Cronbach's alpha of .85. This scale was selected because it allowed the assessment of state-based guilt evoked by a specific event, rather than trait-based guilt caused by personal predisposition, and thus fit in the current study's context. Complete items are included in Appendix C.3.5.2.

4.3.3.3 Envy. Envy was assessed by using Fiske, Cuddy, Glick, and Xu's (2002) 2-item scale: *envious* and *jealous* which has a 5-point Likert scale that ranges from 1 (*not at all*) to 5 (*extremely*). Both items were included and the Likert scale was reworded as above. Cronbach's alpha has been reported at .89 (Fiske et al., 2002) and .82 (Cuddy, Fiske, & Glick, 2007). Complete items are included in Appendix C.3.5.3.

4.3.3.4 Anger. Anger was assessed by using Richin's (1997) Consumption Emotions Set (CES) subscale. The CES includes 3 items: *frustrated*, *angry*, and *irritated* with a 5-point Likert scale ranging from 1 (*never*) to 5 (*always*). This scale has previously shown a Cronbach's alpha of .96 (Voorhees et al., 2009). The CES was selected to accurately assess different intensities of anger. Complete items are included in Appendix C.3.5.4.

4.3.4 Control Variables

4.3.4.1 Social Desirability Scale. Individual responses on OCB and CWB may be influenced by the desire to be socially accepted (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In order to assess the social desirability bias, a shorter version of the Marlowe-Crowne social desirability scale (Crowne & Marlowe, 1960) was used. The

scale included 7-items (Ramanaiah, Schill, & Leung, 1977). Instruction included: “The following statements are about your general attitudes. Please indicate whether the statements below are true or false. There are no right or wrong answers. Please answer all questions.” A sample item was: “I have never intensely disliked anyone.” The complete scale is included in Appendix C.3.6.1.

4.3.4.2 Positive and Negative Affect Schedule. In order to understand the role of emotion in behaviour, it is important to differentiate between general affective dispositions and emotional reactions to a trigger event (Fox & Spector, 1999). Deffenbacher (1992) reported that individuals with traits of high anger tend to experience higher day-to-day anger across various situations than those with low anger traits. In order to prevent a confounding effect of trait-based affect, the current study used the Positive and Negative Affect Schedule (PANAS) developed by Watson, Clark, and Tellegen (1988). PANAS has been widely used to assess affective states. Although the original PANAS scale included 20 items, Mackinnon et al. (1999) shortened it to a 10-item version with a 7-point Likert scale ranging from 1 (*not at all*) to 7 (*very much*). The five items for positive affect include *inspired, alert, excited, enthusiastic, and determined*. The five items for negative affect include *afraid, upset, nervous, scared, and distressed*. Cronbach’s alpha for positive affect has been reported at .78, negative affect has been reported at .87 (Mackinnon et al., 1999).

Instructions to participants for the PANAS scale were as follows: “The following are descriptive questions about general emotional states. Please circle one response that best fits your general emotional states. Please answer all questions. I generally feel this way, that is, how I feel on the average:” Although the anchor for the original scale ranges

from 1 (*never*) to 7 (*always*), the current study used 1 (*never*) to 5 (*always*) to prevent common method bias in the self-report questionnaire. Although individuals have tendency to provide a consistent line of a series of answers (Podsakoff & Organ, 1986), variation in the number of anchors is recommended to force respondents to choose a more accurate response. Complete items are included in Appendix C.3.6.2.

4.3.4.3 Collective Group Identity. Social Identity Theory (Tajfel, 1978) suggests that group membership is an important element of individual identity. Previous studies support this theory. For example, those who do not identify themselves with the group tend to be less concerned with intergroup treatment (McCoy & Major, 2003; Petta & Walker, 1992), and perceive less injustice in terms of in-group treatment (Branscombe, Schmitt, & Harvey, 1999; Crosby, Pufall, Snyder, O'Connell, & Whalen, 1989). Thus, collective group identification may influence fairness perceptions of peer evaluations. Furthermore, previous research has suggested a relationship between group identity and emotional experience (e.g., Doosje et al., 1998; Mackie, Devos, & Smith, 2000). While there have been a number of measures used to assess collective group identity, some argue that a more specific measure of a person's identification to the group should be used to assess emotional experience and behavioural tendencies (Pennekamp, Doosje, Zebel, & Fischer, 2007).

There is no collective group identity scale. However Allen and Meyer's (1990) affective commitment scale has been used in previous studies to assess collective team identification because it captures the emotional component of social identification (e.g., Van der Vegt & Bunderson, 2005; Van der Vegt, Van de Vliert, & Oosterhof, 2003). Allen and Meyer (1996) refer to affective commitment as "identification with,

involvement in, and emotional attachment to the [collective]” (p. 253). Therefore, to control for the degree of group identification, similarly relies on Allen and Meyer’s (1990) affective commitment scale.

Since there were already ten scales used in this study, and some were quite lengthy, I was concerned about participant fatigue. Therefore, only the 4 highest loading items from the Allen and Meyer’s (1990) scale were included (e.g., Bergami & Bagozzi, 2000; Van der Vegt & Bunderson, 2005). Participants were instructed as follows: “The following are descriptive questions about your general attitude toward project groups. Please circle one response that best fits your usual feelings about project groups. Please answer all questions.” This was a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach’s alpha has previously been reported at .92 (Van der Vegt & Bunderson, 2005). The statements were reworded to reflect a student project group instead of an organization. One example item is: “I usually feel emotionally attached to my group.” Complete items are included in Appendix C.3.6.4.

4.3.4.4 Demographic Information. Previous studies have shown an association between demographic variables and behavioural variables including OCB and CWB (e.g., Lovell et al., 1999; Sackett et al., 2006). In the current study, demographic information was requested for age and gender. Previous studies report that the age of an employee has a negative effect on OCB (Deckop, Mangal, & Circa, 1999). Gender is also correlated with OCB and CWB. As such, males are more likely to show lower OCB and higher CWB than females (Sackett et al., 2006). Therefore, these variables are included in the questionnaire.

Since participants may have varied group work experiences, similar events in real life might influence salience of the scenario. This in turn may influence their fairness perceptions and emotional reactions to reading the scenario. Therefore, participants are asked whether they previously experienced a situation similar to that described in the scenario.

Additionally, the general experience of groupwork is included in the control variables. In the current study, it may be important that participants have some experience with groupwork in the past, in order to enable them to better understand and imagine the situation described in the scenario. Therefore, participants are asked how often they had previously engaged in the groupwork. The anchors ranged from 1 (*never*) to 5 (*very often*).

Finally, participants were asked to provide qualitative feedback about any comments and questions. Complete items are included in Appendix C.3.6.5. Table 4.1 presents a summary of all scales, including the name of the measure, authors, number of items, number of scale anchors, and the reliabilities reported in previous studies for each scale.

Table 4.1 Measures Assessed by Participants

<i>Measure</i>	<i>Author(s), Date</i>	<i># of Items</i>	<i># of Points and Scale Anchors</i>	<i>Cronbach's α</i>
Distributive Justice of Self	Colquitt, 2001	4	7; a small extent to a large extent	.92
Distributive Justice of Peers	Colquitt, 2001	4	7; a small extent to a large extent	--
OCB	Williams & Anderson, 1991	7 (OCBI), 7 (OCBO)	5; never to always	.88 (OCBI), .75 (OCBO)
CWB	Bennett & Robinson, 2000	7 (CWBI), 12 (CWBO)	7; never to daily	.81 (CWBI), .78 (CWBO)
Pride	Marschall, et al., 1994	3	5; never to always	.85 (reported by Stoeber, Harris, & Moon, 2007)
Guilt	Weiss et al., 1999	3	5; not at all to very much	.85 (reported by Spencer & Rupp, 2009)
Envy	Fiske et al., 2002	2	5; not at all to extremely	.82 (reported by Cuddy et al., 2007)
Anger	Richins, 1997	3	5; never to always	.96 (reported by Voorhees, Baker, Bourdeau, Brocato, & Cronin, 2009)
Affective Disposition	Mackinnon et al., 1999	PANAS 5 (PA), 5 (NA)	5; not at all to very	.78 (PA), .87 (NA)
Collective Group Identity	Allen & Meyer, 1990 (modified by Van der Vegt & Bunderson, 2005)	4	7; strongly disagree to strongly agree	.92 (reported by Van der Vegt & Bunderson, 2005)
Social Desirability	Crowne & Marlowe, 1960	7	T/F	.79 (reported by Ramanaiah et al., 1977)
Demographics		7		

Note. α = Coefficients alpha in original studies, OCBI = Organizational citizenship behaviour directed toward individuals, OCBO = Organizational citizenship behaviour directed toward organization, CWBI = Counterproductive work behaviour directed toward individuals, CWBO = Counterproductive work behaviour directed toward organization, PA = Positive affective disposition, NA = Negative affective disposition.

4.4 Phase One - Expert Judgment

4.4.1 Procedures and Participants

The purpose of the expert judgment was to determine the content validity of the vignettes. The total number of subject matter experts (SMEs) was 13, including 8 professors and 5 graduate students from the Faculty of Management at the University of Lethbridge. Experts were emailed a cover letter, the 4 scenarios, and 9 questions regarding fairness perceptions for each scenario (Appendix A). A sample question about fairness perception was “Do you think this scenario effectively illustrates a fair evaluation of self and fair evaluation of other group members?” Possible answers were: *yes*, *no*, and *not sure*. SMEs were asked to explain their responses and provide recommendations for improving the reliability of the vignettes.

4.4.2 Expert Judgment Results and Analyses

In Scenario 1, 12 experts (92.3%) responded that the scenario effectively evoked a fair perception of self and peers. In Scenario 2, 9 experts (69.2%) responded that the scenario effectively evoked a fair perception of self and unfair perception of peers. In Scenario 3, 7 experts (53.9%) responded that the scenario effectively evoked an unfair perception of self and fair perception of peers. In Scenario 4, 8 experts (61.5%) responded that the scenario effectively evoked unfair perceptions of self and peers. The results are reported in Table 4.2.

Table 4.2 Expert Judgment Results

<i>Scenario</i>	<i>Yes</i>	<i>No</i>	<i>Not sure</i>
1	12	0	1
2	9	3	1
3	7	4	2
4	8	2	3

Note. $N = 13$, Yes = effective in evoking fairness perception, No = not effective in evoking fairness perception.

Although the scenario was effective in evoking perceptions of fairness for Scenario 1, it was not as effective in evoking perceptions of unfairness in Scenarios 2, 3, and 4. To remedy this issue the expert's qualitative feedback was examined. As a result of the analysis, the wording and layout of the second part of the scenario was adjusted to allow readers to better understand the assignment grade verses the individual and averaged group grade.

4.5 Phase Two - Pilot Study

4.5.1 Procedures and Participants

To test the effectiveness of the scenarios, a pilot study was conducted among 70 undergraduate business students at the University of Lethbridge. Students were chosen over actual employees because limited use of peer evaluations made it difficult to find an appropriate field setting (Erez et al., 2002). Furthermore, undergraduate business students frequently experience peer evaluations in group projects at the university. Therefore, the current study used a convenience sample of undergraduate business students. To ensure participants could relate to the scenario, a university group project was described rather than a workplace project.

Instructors in the Faculty of Management were asked whether the researcher could enter their classes to conduct the study. Students were recruited in the classroom and provided a cover letter explaining the purpose of the study and general procedures (Appendix B.1). To avoid duplicate responses, students were asked to indicate whether they had participated in this study in another class (Appendix B.2). Duplicate responses were excluded from the analyses. Filling out the survey form and submitting it to the researcher indicated the student's agreement to participate.

Participants in the pilot study sample ranged in age from 20 to 40 years, $M = 24.84$, $SD = 3.78$. Of the final sample, 50% were female and 50% were male. Participants reported that they have experienced groupwork at the university very often (47.1%), often (45.7%), and sometimes (7.1%). Fifty four percent of the participants reported that they had experienced a situation similar to that described in the scenario while they have been at the university. Students at the Lethbridge campus represented 28.6% of the sample. The remaining 71.4% were from the Calgary campus.

The four scenarios were randomly assigned during class time, and each student received an envelope with the cover letter and scenario. A second envelope contained the grades received by members of the imaginary group in the scenario and the survey questions. Students were asked to open and read the scenario in the first envelope, and then to open the second envelope, read the second part of the scenario, and answer the survey questions. The total number of questions was 81.

Roth and BeVier (1998) suggest that advance notice, follow-ups, monetary incentives, personalization, and salience of the research issue should be associated with higher response rates in survey research. In order to increase response rate, a monetary

incentive was used for the current study. Participants were offered the opportunity to provide their e-mail addresses (Appendix B.2), which were entered into a draw for 100 Canadian dollars.

4.5.2 Pilot Study Results and Analyses

In order to examine the effectiveness of the scenario manipulation of fairness to self (FTS) and fairness to peers (FTP), an independent samples *t*-test was conducted by using PASW/SPSS 18.0. To do so, two variables (i.e., FTS and FTP) were dummy-coded (i.e., 1 = fair, 0 = unfair). To perform the independent samples *t*-test, the continuous variables (ranging from 1 to 7 for FTS and FTP) were entered as the test variables. Subsequently, the experimental conditions (i.e., 1 = fair, 0 = unfair) were entered as the grouping variables. This allowed the researcher to examine whether participants perceived fairness as expected for the 4 experimental conditions.

The results indicated that there was a statistically significant difference between the means of the groups that received scenarios with fair evaluations of self compared to unfair evaluations of self, $t(68) = 13.60, p < .001$. Participants in the fair condition perceived higher FTS, $M = 4.33, SD = .81$, than those who were in the unfair condition, $M = 1.79, SD = .76$.

There was also a statistically significant difference between the means of the groups that received scenarios with fair evaluations of peers compared to unfair evaluations of peers, $t(68) = 7.94, p < .001$. Participants in the fair condition perceived higher FTP, $M = 3.67, SD = .95$, compared to those who were in the unfair condition, M

= 1.93, $SD = .88$. Table 4.3 presents the results of descriptive statistics and results of the t -test.

Table 4.3 Descriptive Statistics of Participants' Perception of Fairness Grouped by Fairness and t -test Results

<i>Target</i>	<i>Fairness</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Fairness to Self	Fair	35	4.33	.81	13.60***	68
	Unfair	35	1.79	.76		
	Total	70				
Fairness to Peers	Fair	34	3.67	.95	7.94***	68
	Unfair	36	1.93	.88		
	Total	70				

Note. *** $p < .001$.

4.5.3 Qualitative Feedback

Students' qualitative feedback was also assessed. Based on their comments, some of the questions from the behavioural intention scales (i.e., OCBI and CWBO) were adjusted to fit the university groupwork context rather than the actual workplace context for which the original scale was developed. For example, an item from OCBI, "go out of my way to help new group members" was identified as problematic by the participants. The original wording for this item was "goes out of way to help new employees." Students pointed out that in the university context, groups are formed at the beginning of the semester and generally do not change over time.

Based on the results of the pilot study, minor wording adjustments were made to reflect future rather than past behaviour (e.g. "I would" rather than "I have") and 2 items were removed from the OCBI and CWBO scales. The results of the manipulation check indicated that the scenario was adequate in evoking desired fairness assessments. However, comments from students suggested that it would be beneficial to adjust the grade ranges so they would reflect the more common experience of good students rather

than the experience of outstanding students. Thus the instructor-assigned project grade was reduced from an A to a B+. This allowed the peer evaluations to result in an increase *or* a decrease to the individual grades. The wider gap in possible grades has the benefit of intensifying the experience of fairness compared to the earlier scenario where peer evaluations could only result in a decrease from the A grade.

4.6 Phase Three - Main Study

4.6.1 Procedures and Participants

The same survey procedures in the pilot study were used for the main study. Students were recruited in the classroom. Participants included 269 undergraduate business students at the University of Lethbridge. After removing 12 incomplete surveys, the sample consisted of 257 with a response rate of 92%. Missing survey items represented less than 5% of the total responses. Cell size in the 2×2 factorial design ranged from 61 to 68 per cell. The sample size exceeds 20, which is the minimum level of sample size per cell (Hair, Black, Babin, Anderson, & Tatham, 2006).

Participants in the main study sample ranged in age from 18 to 50 years, $M = 24.65$, $SD = 4.40$. Of the final sample, 52.9% were female and 47.1% were male. Participants reported that they had experienced groupwork at the university very often (51.4%), often (33.5%), sometimes (10.1%), and rarely (5.1%). Fifty-three percent of the participants reported that they had experienced a situation similar to that described in the scenario while they were at the university. Students at the Lethbridge campus represented 72.0% of the sample. The remaining 28% were from the Calgary campus. Table 4.4 illustrates the demographic data for the participants in the main study.

Table 4.4 Demographic Variables

<i>Variable</i>	<i>Sub-Group</i>	<i>Frequency</i>	<i>Percentage</i>
Age			
	18-20	21	8.2
	21-25	158	61.9
	26-30	58	22.6
	31-40	15	5.8
	Above 41	4	1.6
	Total	257	100.0
Gender			
	Male	121	47.1
	Female	136	52.9
	Total	257	100.0
Groupwork Experience			
	Never	0	0.0
	Rarely	13	5.1
	Sometimes	26	10.1
	Often	86	33.5
	Very often	132	51.4
	Total	257	100.0
Scenario Experience			
	Yes	122	52.5
	No	135	47.5
	Total	257	100.0
Campus			
	Lethbridge	185	72.0
	Calgary	72	28.0
	Total	257	100.0

5. Results and Analyses

This section reports the results of the main study. Firstly, validity and reliability for each scale are discussed. This is followed by analysis of the control variables and a final manipulation check on the scenarios. Assumptions for regression analysis are then discussed. Finally, Section 5 concludes by reporting the results of a Baron and Kenny's mediation analysis. Analysis of means confirmed that the interaction of FTS by FTP influenced the mediation and dependent variables in the expected direction. Five of the eight hypotheses were partially or fully supported, three were not. Only the negative emotions of anger and envy mediated behavioural intentions. Discussion of the results is included in Section 6.

5.1 Validity of Measures

5.1.1 Dimensionality and Distinctiveness

The variables used in this study were expected to be theoretically distinctive, or multi-dimensional. However, it is important to ensure that participants report differently on each scale, which refers to discriminant validity. Ensuring the multi-dimensionality of the scales is critical in accurately interpreting the results. If two variables show uni-dimensionality, it is difficult for the researcher to conclude which variable is responsible for the correlations. It is recommended for researchers to use a variety of model fit indices to examine how the actual data fits the proposed model (Bollen, 1989). This study examined goodness of fit and parsimonious fit indices.

In order to examine the dimensionality of the scales, PASW/SPSS Amos 18.0 software was used to run confirmatory factor analysis (CFA). Goodness of fit index (GFI)

refers to the fit statistic, and ranges from 0 to 1 with higher values indicative of good model fit (Maiti & Mukherjee, 1991). Root mean square error of approximation (RMSEA) tests how well a model fits a population. The smaller the RMSEA, the better the model fit (Browne & Cudeck, 1993). Comparative fit index (CFI) refers to the incremental fit index that is used to test model fit. CFI is most widely used and ranges from 0 to 1 with higher values considered good model fit (Bentler, 1990). The Tucker-Lewis index (TLI) compares the theoretical model to the baseline model (Bentler & Bonett, 1980). The conventional levels for these indices are GFI > .90, RMSEA < .10, CFI > .90, and TLI > .90 (Hair et al., 2006).

An increased number of variables increases the model complexity, which improves the model fit (Hair et al., 2006). However, as the model becomes more complex, the parsimony of the model reduces. Therefore, the current study examined parsimony fit indices, which were used to compare competing models to find the best in terms of fit relative to model complexity (Hair et al., 2006).

Parsimonious fit can be improved by a simpler model or a better fit. Parsimony goodness of fit index (PGFI) ranges from 0 to 1. When competing models are compared, the model with the higher value is the one with a more parsimonious fit. Parsimony-normed fit index (PNFI) assesses the model fit based on the degrees of freedom and the chi-square value for the fitted model. PNFI ranges from 0 to 1 with the higher value indicating the better fit (Hair et al., 2006).

5.1.1.1 OCB and CWB Scales. OCBO was aggregated with OCBI, and CWBO was aggregated with CWBI to create a two-factor model for testing the hypotheses. All 13 items from OCBI and OCBO were averaged to create a composite OCB score. Similarly,

all 16 items in CWBI and CWBO were averaged to create a composite CWB score. Cronbach's alpha for the combined scales was .95 for OCB and .97 for CWB.

5.1.1.2 Emotion Scales. Model fit for the four emotion scales (Model A) was compared to a competing one-factor model (Model B). A chi-square difference test was performed.² Results showed that the four-factor model fits the data better than the one-factor model ($p < .001$). The four-factor model was also more parsimonious than the competing model. Thus, goodness of fit indices and parsimonious fit indices together showed that the data better fit four-factor model than one-factor model. Table 5.1 reports the results of CFA for emotions.

Table 5.1 CFA for Emotions

<i>Model</i>	χ^2	<i>df</i>	$\Delta \chi^2$	<i>GFI</i>	<i>RMSEA</i>	<i>CFI</i>	<i>TLI</i>	<i>PGFI</i>	<i>PNFI</i>
Model A	96.51	38		.94	.08	.96	.95	.54	.65
Model B	554.70	44	458.19	.70	.21	.67	.59	.47	.52

Note. $N = 257$, $p < .001$, Model A = Hypothesized Four-factor model [pride, guilt, envy, and anger]; Model B = One-factor model.

5.1.2 Common Method Variance

Since survey research is often criticized for its reliance on self-report measures (Podsakoff et al., 2003), this raises the issue of common method variance (CMV). CMV refers to the concern that variables are correlated due to (a) having a common rater, (b) item characteristics, such as item ambiguity and (c) measurement context, such as simultaneous assessment of independent and dependent variables (Meade, Watson, & Kroustalis, 2007). It is important that researchers try to minimize such systematic bias (Spector, 2006).

² Differences chi-square ($554.70 - 96.51 = 458.19$) and degrees of freedom ($44 - 38 = 6$) were used.

In order to reduce CMV, the current study (a) provided detailed explanations of the study and maximum anonymity and confidentiality so that participants perceive less social desirability bias, (b) assessed independent, dependent and mediator variables in separate sections, and (c) included a social desirability bias scale in the statistical analyses. Specifically, responses on social desirability measures were controlled for when analyzing the relationships among all variables.

To examine CMV, Harman's one-factor test (Podsakoff & Organ, 1986) was conducted. If the results show a single factor that accounts for a large variance among variables, there is a potential for common method bias. The dependent variables (pride, guilt, envy, anger, OCB, and CWB) were entered in an exploratory factor analysis (EFA). The independent variables (FTS and FTP) were excluded because they were categorical. The EFA with varimax rotation resulted in 5 factors with eigenvalues over 1.0 (see Table 5.2). These 5 factors together accounted for 68.54% of the total variance with the largest factor accounting for 47.46%. Although pride and anger items loaded on a single construct, they loaded in opposite directions. The remaining construct items loaded as distinctive components, indicating internal validity of the scales. This suggests that CMV was not a concern in the current study, and that the scales used have construct validity.

Table 5.2 EFA for FTS, FTP, Pride, Guilt, Envy, Anger, OCB, and CWB

<i>Component</i>	<i>Item</i>	<i>Loading</i>	<i>Initial Eigenvalue</i>	<i>% of Variance</i>
1	7 CWBI Items	.659 to .758	19.93	47.46
	9 CWBO Items	.692 to .798		
2	6 OCBI Items	.534 to .760	3.32	7.90
	7 OCBO Items	.662 to .760		
3	3 Pride Items	.723 to .764	2.55	6.70
	3 Anger Items	-.499 to -.634		
4	3 Guilt Items	.760 to .890	1.68	4.00
5	2 Envy Items	.688 to .729	1.30	3.10

Note. $N = 257$.

To further examine CMV, a CFA was run on all variables to examine the viability of grouping them into one construct. A six-factor model (Model B) was compared to alternative models including an eight-factor model (Model A) and a uni-dimensional model (Model C). The two multi-dimensional models showed significantly better fit than the one-factor model. Model A showed slightly better fit than Model B. However, the difference was relatively small. Table 5.3 reports the results of CFA.

Table 5.3 CFA Results

<i>Model</i>	χ^2	<i>df</i>	$\Delta \chi^2$	<i>GFI</i>	<i>RMSEA</i>	<i>CFI</i>	<i>TLI</i>	<i>PGFI</i>	<i>PNFI</i>
Model A	1126.3	712		.82	.05	.95	.94	.71	.79
Model B	1255.86	725	129.56	.80	.05	.94	.93	.71	.80
Model C	2941.67	740	1685.81	.48	.11	.73	.72	.44	.64

Note. $N = 257$, $p < .001$. Model A = Eight-factor model [pride, guilt, envy, anger, OCBI, OCBO, CWBI, CWBO], Model B = Six-factor model [pride, guilt, envy, anger, OCB, and CWB], Model C = One-factor model.

5.2 Reliability Analyses

Cronbach's alpha was calculated for each scale (see Table 5.5). In general, scales have an acceptable level of internal reliability if Cronbach's alpha exceeds .70 (Cortina, 1993). Although most scales in the current study displayed Cronbach's alpha over .70, the social desirability scale was .62. Although social desirability was not a focal variable

in this study, subsequent analyses were performed both including and excluding this scale to assess how it influenced the results.

5.3 Analyses of the Effects of Control Variables

Examination of Table 5.5 shows that there were a number of statistically significant, but small correlations. For example, gender was positively correlated with OCB, $r = .13, p < .05$, and negatively correlated with CWB, $r = -.13, p < .05$. This indicated that males were more likely to form OCB intentions and less likely to form CWB intentions than females. Groupwork experience was also positively correlated with CWB, $r = .19, p < .01$, and negatively correlated with OCB, $r = -.15, p < .05$. This indicated that as the number of groupwork experiences increased, individuals displayed less OCB and more CWB. Experiences similar to those described in the scenario were positively correlated with OCB, $r = .15, p < .05$.

Moderately-sized, statistically significant correlations existed for social desirability, affective disposition and group identity. Social desirability was positively correlated with OCB, $r = .37, p < .01$, and negatively correlated with CWB, $r = -.38, p < .01$. This indicates that those who perceived high social desirability were more likely to engage in OCB and less likely to engage in CWB. Positive affective disposition was also positively correlated to OCB, $r = .52, p < .01$, and negatively correlated to CWB, $r = -.50, p < .01$. Similarly negative affective disposition was positively correlated to CWB, $r = .61, p < .01$, and negatively correlated to OCB, $r = -.58, p < .01$. This was consistent with previous studies that suggest affective dispositions should indirectly influence OCB (Organ & Ryan, 1995). Finally, collective group identity was positively correlated with

CWB, $r = .23, p < .01$. When individuals identified more with a group, they were more likely to display increased CWB. Finally, collective group identity was positively correlated with CWB, $r = .23, p < .01$. As Social Identity Theory posits, when individuals identify more with a group, they are more likely to display increased CWB. This suggests that group identification may increase sensitivity to fairness and, therefore, retaliatory behaviour.

The largest and most significant correlations were among certain emotions and between OCB and CWB. More specifically there was a strong positive correlation between the negative emotions of anger and envy ($r = .51, p < .01$). There was an inverse correlation between the positive emotion of pride and the negative emotions of both envy and anger. The negative correlation between OCB and CWB, $r = -.69, p < .01$, was expected and consistent with previous findings (c.f., Hunt, 1996; Lee & Allen, 2002; Robinson & O'Leary-Kelly, 1998).

5.4 Manipulation Check

Manipulation checks were conducted to ensure that participants read the scenario and perceived fairness to be consistent with the four experimental conditions. In order to perform manipulation checks, an independent samples t -test was conducted by using PASW/SPSS 18.0. For FTS, the results showed that there was a statistically significant difference between the means of the two groups: fair and unfair to self, $t(255) = 31.13, p < .001$. Participants who received the scenario that was fair reported higher fairness perceptions, $M = 6.23, SD = 1.14$, than those who received the unfair scenario, $M = 2.02, SD = 1.03$.

For FTP, there was also a statistically significant difference between the means of the 2 groups: fair and unfair to peers, $t(255) = 31.91, p < .001$. Participants who received the scenario that was fair to peers reported higher fairness perceptions, $M = 6.01, SD = 1.09$, than those who received the scenario that was unfair to peers, $M = 2.16, SD = .83$. These results indicated that the scenario successfully manipulated fairness perceptions and that the improvements made following the pilot study increased its effectiveness. Table 5.4 presents the t -test results.

Table 5.4 Descriptive Statistics of Participant's Perception of Fairness and t -test Results

<i>Variable</i>	<i>Sub-Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Fairness to Self	Fair	131	6.23	1.14	31.13***	255
	Unfair	126	2.02	1.03		
	Total	257				
Fairness to Peers	Fair	128	6.01	1.09	31.91***	255
	Unfair	129	2.16	.83		
	Total	257				

Note. *** $p < .001$.

Table 5.5 Descriptive Statistics, Coefficients Alpha, and Intercorrelations of the Variables

		<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1	OCB	3.50	.99	.95									
2	CWB	2.83	1.30	-.69**	.97								
3	FTS			.70**	-.62**	SIM							
4	FTP			-.18**	.11	-.04	SIM						
5	Pride	2.89	1.25	.66**	-.58**	.74**	.06	.89					
6	Anger	2.98	1.35	-.72**	.73**	-.735**	-.08	-.72**	.87				
7	Guilt	2.23	1.10	.20**	-.09	.33**	-.55**	.07	-.07	.81			
8	Envy	1.91	.94	-.53**	.51**	-.40**	.31**	-.38**	.51**	-.06	.72		
9	Age	24.65	4.40	-.10	.12	-.10	.08	-.08	.10	-.09	.09	SIM	
10	Gender			.13*	-.13*	.07	-.04	.03	-.06	-.06	-.08	.06	SIM
11	Scen_Exp			.15*	-.10	.19**	.15*	.24**	-.06	.00	.05	.08	-.06
12	GW_Exp	3.31	.85	-.15*	.19**	-.12	-.01	.01	.14*	-.04	.13*	.09	-.08
13	Campus			-.08	-.01	-.01	-.02	-.11	.02	.01	.01	.12	.04
14	SD			.37**	-.38**	.30**	.14*	.39**	-.47**	-.02	-.22**	.00	-.04
15	PA	3.42	.92	.52**	-.50**	.53**	.06	.59**	-.57**	.08	-.24**	-.08	.03
16	NA	2.74	.93	-.58**	.61**	-.55**	-.04	-.53**	.77**	-.02	.46**	.12	-.10
17	CGI	3.56	1.37	-.12	.23**	-.18**	.01	-.18**	.31**	-.05	.17**	.05	-.01

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed),

Coding [Gender: (0 = Female, 1 = Male, 2 = GLBT), Groupwork experience: (0 = Never, 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Very often), Scenario experience: (0 = No, 1 = Yes), Campus: (0 = Lethbridge, 1 = Calgary)],

Diagonal entries in bold indicate coefficients alpha; SIM = Single-item measure, OCB: Organizational citizenship behaviour, CWB: Counterproductive work behaviour, FTS: Fairness to self, FTP: Fairness to peers, GW_Exp: Groupwork experience, Scen_Exp: Scenario experience, SD: Social desirability, PA: Positive affective disposition, NA: Negative affective disposition, CGI: Collective group identity.

Table 5.5 (continued) Descriptive Statistics, Coefficients Alpha, and Intercorrelations of the Variables

		<i>M</i>	<i>SD</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>	<i>15</i>	<i>16</i>	<i>17</i>
1	OCB	3.50	.99							
2	CWB	2.83	1.30							
3	FTS									
4	FTP									
5	Pride	2.89	1.25							
6	Anger	2.98	1.35							
7	Guilt	2.23	1.10							
8	Envy	1.91	.94							
9	Age	24.65	4.40							
10	Gender									
11	Scen_Exp			SIM						
12	GW_Exp	3.31	.85	.11	SIM					
13	Campus			-.08	.04	SIM				
14	SD			.11	-.09	-.14*	.62			
15	PA	3.42	.92	.15*	-.10	-.06	.41**	.80		
16	NA	2.74	.93	-.01	.15*	.10	-.35**	-.48**	.82	
17	CGI	3.56	1.37	.02	-.01	.13*	-.04	-.05	.33**	.84

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed),

Coding [Gender: (0 = Female, 1 = Male, 2 = GLBT), Groupwork experience: (0 = Never, 1 = Rarely, 2 = Sometimes, 3 =

Often, 4 = Very often), Scenario experience: (0 = No, 1 = Yes), Campus: (0 = Lethbridge, 1 = Calgary)],

Diagonal entries in bold indicate coefficients alpha; SIM = Single-item measure, OCB: Organizational citizenship behaviour,

CWB: Counterproductive work behaviour, FTS: Fairness to self, FTP: Fairness to peers, GW_Exp: Groupwork experience,

Scen_Exp: Scenario experience, SD: Social desirability, PA: Positive affective disposition, NA: Negative affective disposition,

CGI: Collective group identity.

5.5 Assumption Tests

5.5.1 Outlier Analysis

Hierarchical multiple regression is sensitive to the effect of outliers, which influence the normality of the data (Hair et al., 2006). Outliers were assessed by calculating the standard scores for each scale. In general, a standard score that is greater than ± 4.0 is considered an outlier for a sample size greater than 80 (Hair et al., 2006). The standard scores were calculated by using means and standard deviations for each scale including FTS, FTP, pride, guilt, envy, anger, OCB, and CWB. No outliers were identified.

5.5.2 Normality

To perform hierarchical multiple regression analysis, it is generally considered important that the means of the dependent variables have normal distributions (Hair et al., 2006). While this is particularly problematic for small sample sizes, moderate or large sample sizes can accommodate modest violations of this assumption. In order to examine normal distribution among variables, skewness and kurtosis values were used. Skewness refers to how symmetrical the cases are. Kurtosis refers to the peaks of the distribution. The cases with skewness and kurtosis exceeding ± 1 indicate a potential problem with distribution (Meyer, Gamst, & Guarino, 2006).

The kurtosis level for OCB was -1.18, indicating that the OCB measure may have a modest normality violation. The CWB scale met the normality assumption (see Table 5.7). I proceeded to the subsequent analyses because, with a large sample size ($n = 257$),

regression was expected to be robust to the violation of normality assumption (Hair et al., 2006). Table 5.6 illustrates the results of the normality analyses.

Table 5.6 Normality Test Results

	<i>Skewness</i>	<i>Kurtosis</i>
OCB	-.29	-1.18
CWB	.58	-.25

Note. $N = 257$, OCB = Organizational citizenship behaviour, CWB = Counterproductive work behaviour.

5.6 Test of Hypotheses

To test the relationships among the variables, analysis of means and hierarchical multiple regressions (Hair et al., 2006) were performed. Analysis of means showed how FTS and FTP interact to affect OCB, CWB, and emotion for each experimental condition. Baron and Kenny's (1986) causal steps method was used to test the mediating effect of emotion.

Baron and Kenny require 4 steps to examine a mediation effect: (1) establish that the independent variable predicts the dependent variable, (2) establish that the independent variable predicts the mediating variable, (3) establish that the mediating variable predicts the dependent variables, and (4) that the relationship between the independent variable and the dependent variable is changed when controlling for the effect of the mediating variable. Steps 3 and 4 are estimated in the same equation. A mediating effect is present if 2 conditions are met: (1) in the first three steps, the results show statistically significant relationships and (2) in step four, the effect of the independent variable becomes zero (i.e., full mediation) or is reduced in size (i.e., partial mediation) while the statistically significant effect of the mediating variable remains at p

< .05. The mediation results are reported in Tables 5.7 to 5.18. Figures 5.7 and 5.8 (Appendix D) show standardized coefficients beta in the mediation analyses.

5.6.1 Hypothesis 1

Hypothesis 1a posited that, when an individual received peer evaluations that were fair to self as well as fair to other group members, the individual would experience pride, increased OCB intention and decreased CWB intention. Gender, groupwork experience, social desirability, positive affective disposition, and negative affective disposition were entered as control variables since they were statistically significantly correlated with OCB and CWB intentions (see Table 5.7). Scenario experience was added as an extra control variable for OCB. Collective group identity was added as an extra control for CWB intention. This was done because these control variables are uniquely correlated with those respective outcome variables.

5.6.1.1 Analysis of Means: OCB Intention. To examine the moderating effect of FTP on the relationship between FTS and behavioural intentions, an analysis of means (Aiken & West, 1991) was conducted. Furthermore, *t*-tests were performed to determine the statistical significance of simple regression lines at two levels (i.e., fair, unfair) of FTP. Results showed that individuals who are treated fairly (FTS) intended to engage in more OCBs than those who are treated unfairly (UFTS) regardless of how their peers were treated. When the grouping variable was fair peer treatment, the relationship between FTS and OCB was significant, $t(128) = -19.79, p < .001$. When the grouping variable was unfair peer treatment, the relationship was also significant, $t(129) = -6.60, p < .001$. Analysis of means thus reveal that FTS was statistically significantly related to OCB intention. The plot of mean differences (see Figure 5.1) showed that individuals

who were in the condition of fair treatment to self (FTS) and fair treatment to peers (FTP) reported the highest level of OCB intention.

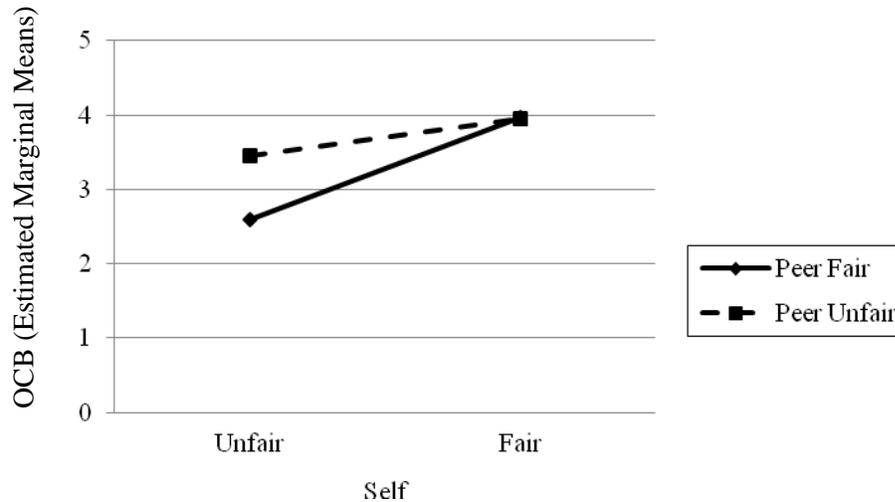


Figure 5.1 OCB Marginal Means Adjusted for Gender, Groupwork Experience, Scenario Experience, Social Desirability, and Positive and Negative Affective Dispositions

5.6.1.2 Analysis of Means: CWB Intention. Regression results showed that individuals who were treated fairly (FTS) intended to engage in less CWB than those who were treated unfairly (UFTS), regardless of how their peers were treated. When fair treatment of peers was the grouping variable, the relationship between FTS and CWB was significant, $t(128) = 17.27, p < .001$. When the grouping variable was unfair treatment of peers, the relationship between FTS and CWB was also significant, $t(129) = 4.02, p < .001$. When mean differences are plotted (see Figure 5.2), it confirms that when individuals were in the condition of fair treatment to self and fair treatment to peers, they intended to engage in the fewest CWBs.

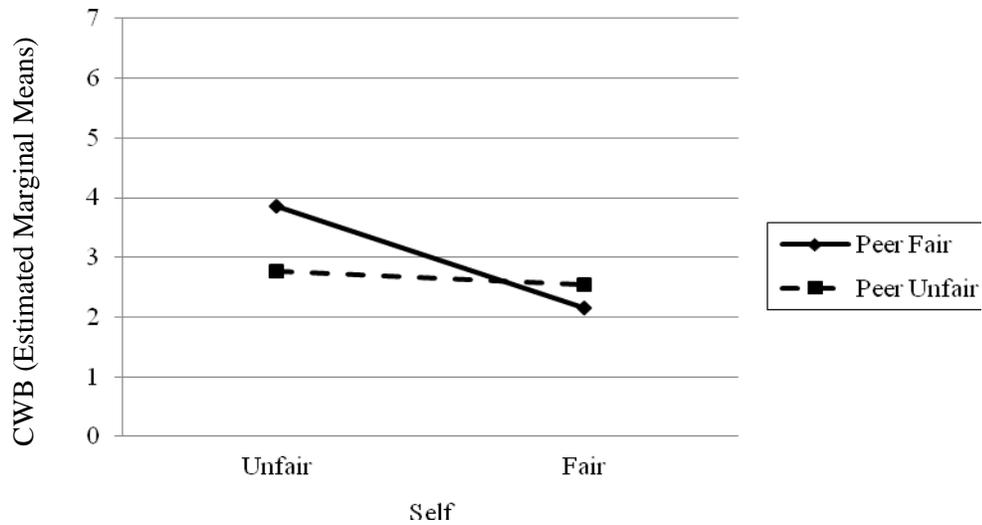


Figure 5.2 CWB Marginal Means Adjusted for Gender, Groupwork Experience, Social Desirability, Positive and Negative Affective Dispositions, and Collective Group Identity

5.6.1.3 Analysis of Means: Pride. To examine the moderation effect of FTP on the relationship between FTS and pride, analysis of means (Aiken & West, 1991) was conducted. Regression tests were performed to determine the simple regression lines at two levels (i.e., fair, unfair) of FTP, controlling for the effects of control variables. Results indicated that individuals experienced the highest level of pride when they received fair treatment to self as well as to peers. When peers were treated fairly, those who received fair treatment to self experienced higher pride, $t(128) = -23.42, p < .001$ than when peers were treated unfairly, $t(129) = -7.33, p < .001$. The interaction effect of FTS by FTP on pride is illustrated in Figure 5.3.

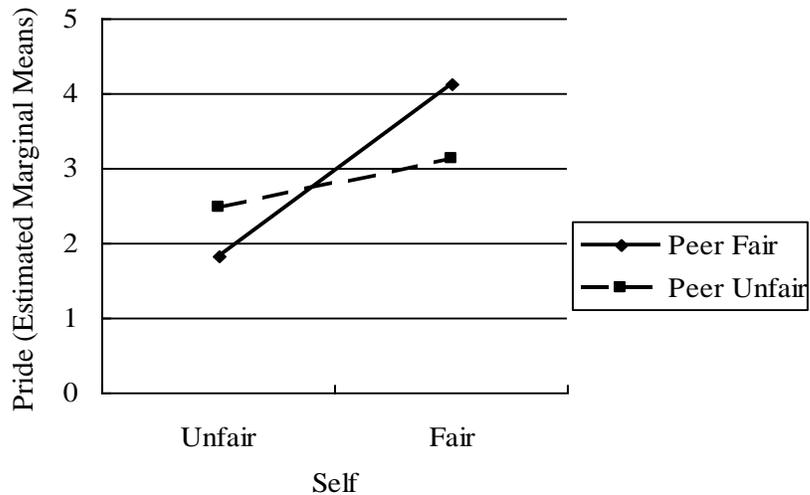


Figure 5.3 Pride Marginal Means Adjusted for Scenario Experience, Social Desirability, Positive and Negative Affective Dispositions, and Collective Group Identity

The interaction between fair treatment of self and fair treatment of peers predicted OCB intention, CWB intention, and pride. More specifically, individuals who were treated fairly plan to engage in a high level of OCBs and a low level of CWBs, as compared to those who were treated unfairly. Fair treatment of peers had a statistically significant negative effect (increased CWB intention). Therefore, hypothesis 1a was supported.

5.6.1.4 Mediation Analysis Fairness, Pride, and OCB Intention. Hypothesis 1b posited that, when an individual received peer evaluations that were fair to self as well as fair to other group members, pride would mediate the relationship between fairness perceptions and behavioural intention. Hierarchical regression was performed to assess whether pride mediates OCB intention. Tables 5.7 and 5.8 contain the results. As expected, the interaction of FTS by FTP was related to OCB intention above and beyond the control variables, the main effects of FTP and FTS, $\beta = .38, p < .001$ (see Table 5.7).

The interaction of FTS by FTP also predicted pride, $\beta = .37, p < .001$ (see Table 5.8). The interaction of FTS by FTP accounted for 4% of the variance in pride above and beyond the variance accounted for by control variables and the main effects of FTS and FTP. FTS alone was the strongest predictor of both OCB intention and pride ($\beta = .44, p < .001$ and $\beta = .52, p < .001$ respectively). Therefore, the first of Baron and Kenny's conditions was met. However, the second condition was not met because even though pride reduced the effect of fairness on OCB intention, pride was not statistically significantly related to OCB intention, $\beta = .13, p > .05$, (see Table 5.7). Therefore, pride did not mediate the relationship between fairness perceptions and OCB intention.

Table 5.7 Regression Analysis of Fairness and Pride on OCB Intention

	β	R^2	<i>Adj. R</i> ²	ΔR^2	<i>F</i>
Step 1					
Gender	.09				
GW_Exp	-.06				
Scen_Exp	.11*				
SD	.11*				
PA	.26***				
NA	-.40***				
		.44	.43		33.24***
Step 2					
FTS (A)	.44***				
FTP (B)	-.21				
		.62	.61	.18	50.36***
Step 3					
Pride	.13				
A*B	.33***				
		.67	.66	.01	49.66***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

Table 5.8 Regression Analysis of Fairness on Pride

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	.00				
GW_Exp	.09				
Scen_Exp	.16**				
SD	.11*				
PA	.37***				
NA	-.33***				
		.48	.46		37.66***
Step 2					
FTS (A)	.52***				
		.64	.63	.16	61.99***
Step 3					
A*B	.37***				
		.68	.67	.04	58.32***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

5.6.1.5 Mediation Analysis: Fairness, Pride, and CWB Intention. The results of the mediation analysis for CWB were similar to the results for OCB. FTS by FTP was significantly and negatively related to CWB intention, $\beta = -.49$, $p < .001$ (see Table 5.9). The interaction accounted for 8% of the total variance in CWB intention, above and beyond the variance accounted for by control variables and the main effects of FTS and FTP (see Table 5.9). In this case, FTS had a significant main effect on CWB intention ($\beta = -.32$, $p < .001$). FTP resulted in a small but significant increase in CWB intentions ($\beta = .14$, $p < .01$). Furthermore, fairness predicted pride (see Table 5.8). Thus, the first of Baron and Kenny's conditions was met. However, in step 3, pride was not related to CWB intention, $\beta = .00$, $p > .05$, and did not account for any variance in CWB intention (see Table 5.9). The second condition of Baron and Kenny's procedures was not met.

Pride did not mediate the relationship between fairness perceptions and CWB intention. Therefore, hypothesis 1b was not supported.

Table 5.9 Regression Analysis of Fairness and Pride on CWB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	-.08				
GW_Exp	.09				
SD	-.13*				
PA	-.23***				
NA	.41***				
CGI	.07				
		.46	.45		35.32***
Step 2					
FTS (A)	-.32***				
FTP (B)	.14**				
		.55	.53	.09	37.51***
Step 3					
Pride	.00				
A*B	-.49***				
		.62	.61	.00	40.61***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, CWB = Counterproductive work behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition, CGI = Collective group identity.

5.6.2 Hypothesis 2

Hypothesis 2a posited that when an individual received peer evaluations that were fair to self but unfair to other group members, the individual would experience guilt, increased OCB intention and decreased CWB intention.

5.6.2.1 Analysis of Means: Guilt. Analysis of means indicated that, as hypothesized, in the fair to self/unfair to peers condition OCB intention was higher than in unfair to self conditions. CWB intention was slightly higher than the fair to self/fair to peers condition, but lower than when individuals were treated unfairly. The analysis of

means shown in Figure 5.1 shows that when individuals were in the condition of fair to self (FTS) and unfair to peers (UFTP), they intended to engage in higher levels of OCB than when they were treated unfairly. Figure 5.4 shows the analysis of means for the interaction of FTS by FTP on guilt. As hypothesized, individuals experienced the most guilt when they were treated fairly and peers were treated unfairly $t(129) = -12.24, p < .001$. Therefore, hypothesis 2a was supported.

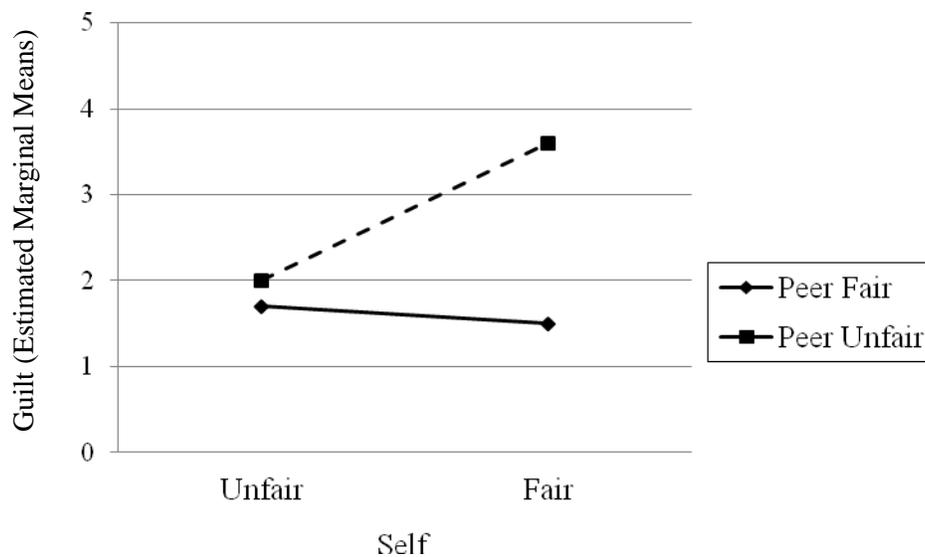


Figure 5.4 Guilt Marginal Means

5.6.2.2 Mediation Analysis: Fairness, Guilt, and OCB Intention. Hypothesis 2b posited that, when an individual received peer evaluations that were fair to self but unfair to other group members, guilt would mediate the relationship between fairness perceptions and behavioural intentions. Results of the hierarchical regressions are reported in Tables 5.10 and 5.11. The interaction of FTS by FTP was negatively related to guilt, $\beta = -.73, p < .001$ (see Table 5.10). As comparative fairness increases, guilt decreased. The interaction of FTS by FTP accounted for 17% of the variance in guilt

above and beyond the variance accounted for by control variables and the main effects of FTS and FTP. The relationship between fairness and OCB had already been established at $\beta = .38, p < .001$ (see Table 5.11). Therefore, the first of Baron and Kenny's conditions was met. Both FTS and FTP were strong predictors of guilt, $\beta = .51, p < .001$ and $\beta = -.53, p < .001$ respectively (see Table 5.10). FTP on its own did not predict OCB intention at a statistically significant level, $\beta = -.21, p > .05$ (see Table 5.11). However, in step 3, guilt was not statistically significantly related to OCB intention, $\beta = .02, p > .05$ (see Table 5.11). Therefore, the second condition of Baron and Kenny's procedures was not met. Guilt did not mediate the relationship between fairness perceptions and OCB intention.

Table 5.10 Regression Analysis of Fairness on Guilt

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	-.07				
GW_Exp	-.04				
Scen_Exp	-.01				
SD	-.06				
PA	.11				
NA	.01				
		.02	-.01		.69
Step 2					
FTS (A)	.51***				
		.17	.15	.15	7.27***
Step 3					
A*B	-.73***				
		.60	.59	.17	41.18***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

Table 5.11 Regression Analysis of Fairness and Guilt on OCB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	.09				
GW_Exp	-.06				
Scen_Exp	.11*				
SD	.11*				
PA	.26***				
NA	-.40***				
		.44	.43		33.24***
Step 2					
FTS (A)	.44***				
FTP (B)	-.21				
		.62	.61	.18	50.36***
Step 3					
Guilt	.02				
A*B	.39***				
		.66	.65	.00	48.59***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

5.6.2.3 Fairness, Guilt, and CWB Intention. As reported in Tables 5.10 and 5.12, the interaction of FTS by FTP was significantly and negatively related to both CWB and guilt. The first condition of Baron and Kenny's procedures were met. However, in step three, guilt was not related to CWB intention above and beyond the control variables, FTS, and FTP, $\beta = .01$, $p > .05$ (see Table 5.12). Therefore, Baron and Kenny's second condition was not met. Guilt did not mediate the relationship between fairness perception and decreased CWB intention.

The interaction between fair treatment of self and unfair treatment of peers predicted guilt, OCB intention, and CWB intention. Individuals who were treated fairly displayed higher intention to engage in OCBs and lower intention to engage in CWBs

compared to those who were treated unfairly. Unfairness to peers was just as important as FTS in predicting guilt. However, guilt did not mediate the relationship between fairness and behavioural intentions. Thus, hypothesis 2b was not supported.

Table 5.12 Regression Analysis of Fairness and Guilt on CWB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	-.08				
GW_Exp	.09				
SD	-.13*				
PA	-.23***				
NA	.41***				
CGI	.07				
		.46	.45		35.32***
Step 2					
FTS (A)	-.32***				
FTP (B)	.14**				
		.55	.53	.09	37.51***
Step 3					
Guilt	.01				
A*B	-.49***				
		.62	.61	.00	40.61***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, CWB = Counterproductive work behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition, CGI = Collective group identity.

5.6.3 Hypothesis 3

Hypothesis 3a posited that when an individual received peer evaluations that were unfair to self but fair to other group members, the individual would experience envy, decreased OCB intention and increased CWB intention.

5.6.3.1 Analysis of Means: Envy. Analysis of means indicated that, as hypothesized, OCB intention was low and CWB intention was high in the unfair to self/fair to peers condition. Also, as expected, analysis of means indicated that individuals in the condition of unfair treatment of self (UFTS) and fair treatment of peers

(FTP) experienced the highest levels of envy. *T*-test results showed that when peers were treated fairly, fairness to self was positively related to envy, $t(128) = 9.60, p < .001$.

Therefore hypothesis 3a is supported. The interaction effect of FTS by FTP on envy is illustrated in Figure 5.5.

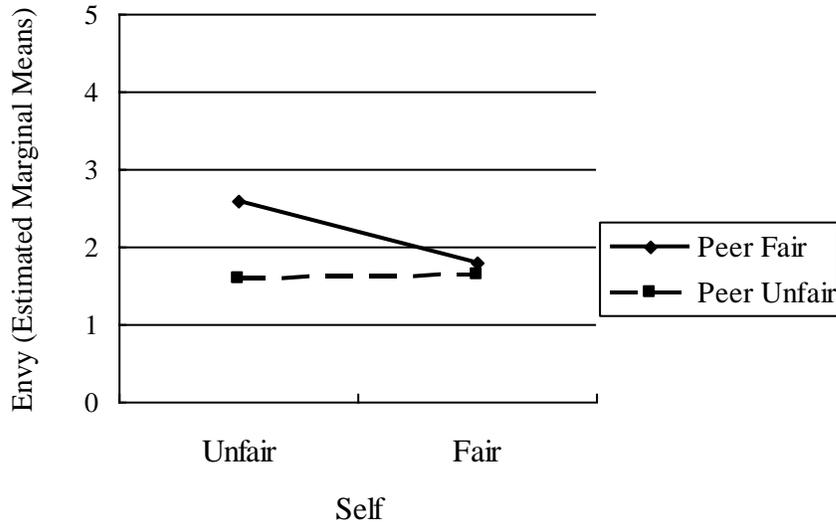


Figure 5.5 Envy Marginal Means Adjusted for Groupwork Experience, Social Desirability, Positive and Negative Affective Dispositions, and Collective Group Identity

5.6.3.2 Mediation Analysis: Fairness, Envy, and OCB Intention. Hypothesis 3b posited that, when an individual received peer evaluations that were unfair to self but fair to other group members, envy would mediate the relationship between fairness perceptions and behavioural intentions.

Tables 5.13 and 5.14 report the results of the hierarchical regression. The interaction of FTS by FTP was related to envy, $\beta = -.48, p < .001$ (Table 5.13) and fairness predicted OCB intention (see Table 5.14). Therefore, the first condition was met. In step 3, when envy was entered in the regression formula, the size of the effect was

slightly reduced ($\beta = .33$), while remaining statistically significant ($p < .001$). Envy was also statistically significantly related to OCB intention, $\beta = -.10$, $p < .05$ (see Table 5.14). The results showed the second condition of Baron and Kenny's mediation requirements was met. Therefore, envy partially mediated the relationship between fairness perception and decreased OCB intention.

The interaction of FTS by FTP accounted for 7% of the variance in envy above and beyond the variance accounted for by control variables and the main effects of FTS and FTP (see Table 5.13). This interaction effect accounted for 5% of the variance in OCB intention above and beyond the variance accounted for by control variables and the main effects of FTS and FTP (see Table 5.14). Both FTS and FTP showed statistically significant main effects on OCB intention ($\beta = .44$, $p < .001$ and $\beta = -.21$, $p < .001$ respectively, see Table 5.14). Envy accounted for 1% of the variance in OCB intention above and beyond the variance accounted for by control variables, the main effects of FTS and FTP, and the interaction of FTS by FTP (see Table 5.14).

Table 5.13 Regression Analysis of Fairness on Envy

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	-.02				
GW_Exp	.06				
Scen_Exp	.03				
SD	-.06				
PA	.07				
NA	.30***				
		.22	.20		11.88***
Step 2					
FTS (A)	.04				
		.26	.24	.04	12.35***
Step 3					
A*B	-.48***				
		.43	.41	.07	20.36***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

Table 5.14 Regression Analysis of Fairness and Envy on OCB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	.09				
GW_Exp	-.06				
Scen_Exp	.11*				
SD	.11*				
PA	.26***				
NA	-.40***				
		.44	.43		33.24***
Step 2					
FTS (A)	.44***				
FTP (B)	-.21				
		.62	.61	.18	50.36***
Step 3					
Envy	-.10*				
A*B	.33***				
		.67	.66	.01	49.91***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

5.6.3.3 Fairness, Envy, and CWB Intention. As Table 5.13 reports, the interaction of FTS by FTP was related to envy. Therefore, the first condition for mediation was met. In step 3, when envy was entered into the regression formula, the interaction effect of FTS by FTP on CWB intention was reduced in size, $\beta = -.45, p < .001$. However, envy was not statistically significantly related to CWB intention, $\beta = .08, p > .05$ (see Table 5.15). Therefore, the second condition was not met. Envy did not mediate the relationship between fairness perception and CWB intention.

The interaction between FTS and FTP predicted envy, OCB intention, and CWB intention. Individuals who were treated unfairly and witness peer's fair treatment experienced envy. Envy partially mediated the relationship between fairness and OCB intention. Envy did not, however, mediate the relationship between fairness and CWB intention. Therefore, hypothesis 3b was partially supported.

Table 5.15 Regression Analysis of Fairness and Envy on CWB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	-.08				
GW_Exp	.09				
SD	-.13*				
PA	-.23***				
NA	.41***				
CGI	.07				
		.46	.53		35.32***
Step 2					
FTS (A)	-.32***				
FTP (B)	.14**				
		.55	.53	.09	37.51***
Step 3					
Envy	.08				
A*B	-.45***				
		.63	.61	.00	41.25***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, CWB = Counterproductive work behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition, CGI = Collective group identity.

5.6.4 Hypothesis 4

Hypothesis 4a posited that, when an individual received peer evaluations that were unfair to self and also unfair to peers, the individual would experience anger, decreased OCB intention, increased CWB intention.

5.6.4.1 Analysis of Means: Anger. Analysis of means indicated that, as hypothesized, OCB intention was lower in the unfair/unfair condition than in the fair to self conditions. However, it was higher than in the unfair to self/fair to peer condition. CWB intention increased only marginally relative to the fair to self conditions. Anger predicted CWB intentions when individuals and peers are both treated unfairly $t(129) = 7.95, p < .001$. When peers were treated fairly, the unfair treatment of self also resulted in

a high level of anger $t(128) = 20.69, p < .001$. The interaction of FTS by FTP on anger is illustrated in Figure 5.6. Therefore, hypothesis 4a was supported.

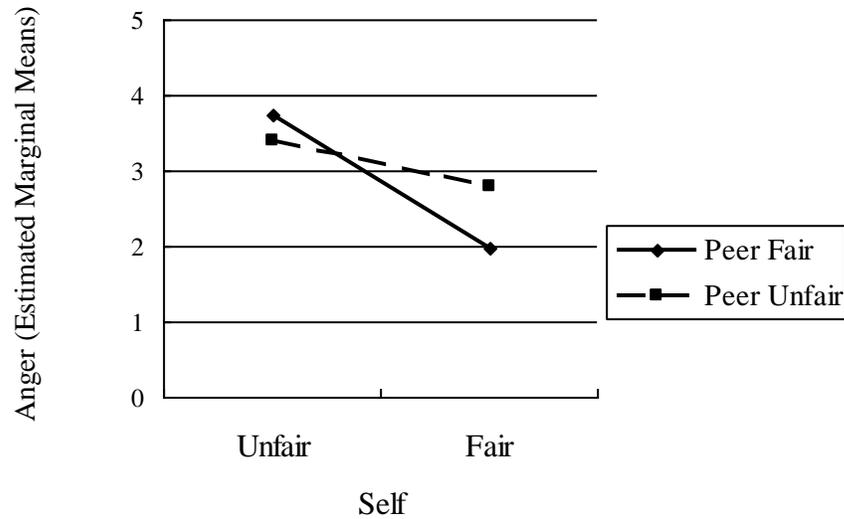


Figure 5.6 Anger Marginal Means Adjusted for Groupwork Experience, Social Desirability, Positive and Negative Affective Dispositions, and Collective Group Identity

5.6.4.2 Mediation Analysis: Fairness, Anger, and OCB Intention. Hypothesis 4b posited that, when an individual received peer evaluations that were unfair to self and also unfair to peers, anger would mediate the relationship between fairness perceptions and behavioural intentions. Tables 5.16 and 5.17 report the results of this hierarchical regression. FTS by FTP predicted OCB intention. The interaction of FTS by FTP was also related to anger, $\beta = -.25, p < .001$ (see Table 5.16). Therefore, the first of Baron and Kenny's mediation conditions were met. Furthermore, FTS was the strongest predictor of anger, $\beta = -.41, p < .001$. On the other hand, FTP was not statistically significantly related to anger. When anger was entered in the regression formula predicting OCB intention, the interaction effect of FTS by FTP reduced its size from $\beta = .38, p < .001$ to $\beta = .31, p < .001$, and anger itself was statistically significantly related to OCB intention, $\beta = -.27, p < .001$.

.01 (see Table 5.17). Anger accounted for 2% of the variance in OCB intention above and beyond the variance accounted for by control variables and the interaction of FTS by FTP. Thus, the second of Baron and Kenny's mediation conditions was also met. Results showed that anger partially mediated the relationship between fairness perception and decreased OCB intention.

Table 5.16 Regression Analysis of Fairness on Anger

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	.00				
GW_Exp	.01				
Scen_Exp	.00				
SD	-.17***				
PA	-.20***				
NA	.61***				
		.67	.67		85.93***
Step 2					
FTS (A)	-.41***				
		.77	.76	.10	119.678***
Step 3					
A*B	-.25***				
		.79	.79	.02	105.20***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

Table 5.17 Regression Analysis of Fairness and Anger on OCB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	.09				
GW_Exp	-.06				
Scen_Exp	.11*				
SD	.11*				
PA	.26***				
NA	-.40***				
		.44	.43		33.24***
Step 2					
FTS (A)	.44***				
FTP (B)	-.21				
		.62	.61	.18	50.36***
Step 3					
Anger	-.27**				
A*B	.31***				
		.68	.67	.02	51.86***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, OCB = Organizational citizenship behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, Scen_Exp = Scenario experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition.

5.6.4.3 Fairness, Anger, and CWB Intention. The interaction of FTS by FTP was related to anger (Table 5.16). It was also statistically significantly related to CWB intention (see Table 5.18). Therefore, the first of Baron and Kenny's mediation conditions were met. In step 3, when anger was entered into the regression formula, the interaction effect of FTS by FTP predicted CWB intention above and beyond the effects of the control variables and the main effects, $\beta = -.41$, $p < .001$. Anger was also statistically significantly related to CWB intention, $\beta = -.30$, $p < .01$ (see Table 5.18). Thus, the second of Baron and Kenny's mediation conditions was met. Results show that anger partially mediated the relationship between fairness perception and increased CWB intention.

The interaction of FTS by FTP accounted for 8% of the variance in CWB intention above and beyond the variance accounted for by control variables, anger, and the main effects of FTS and FTP. Anger accounted for 2% of the variance in CWB intention above and beyond the variance accounted for by control variables, interaction effects and main effects of FTS and FTP. Furthermore, both FTS and FTP showed statistically significant main effects on CWB intention ($\beta = -.32, p < .001$ and $\beta = .14, p < .01$ respectively, see Table 5.18). Therefore, hypothesis 4b was supported, such that anger partially mediates the relationship between fairness perception and behaviour by decreasing OCB intention and increasing CWB intention.

Table 5.18 Regression Analysis of Fairness and Anger on CWB Intention

	β	R^2	$Adj. R^2$	ΔR^2	F
Step 1					
Gender	-.08				
GW_Exp	.09				
SD	-.13*				
PA	-.23***				
NA	.41***				
CGI	.07				
		.46	.45		35.32***
Step 2					
FTS (A)	-.32***				
FTP (B)	.14**				
		.55	.53	.09	37.51***
Step 3					
Anger	.30**				
A*B	-.41***				
		.64	.63	.02	43.90***

Note. $N = 257$, * $p < .05$, ** $p < .01$, *** $p < .001$, CWB = Counterproductive work behaviour, FTS = Fairness to self, FTP = Fairness to peers, GW_Exp = Groupwork experience, SD = Social desirability, PA = Positive affective disposition, NA = Negative affective disposition, CGI = Collective group identity.

6. Discussion

6.1 Theoretical Contributions

The research question for this study asked: how does *social comparison* affect emotion, and how do fairness assessments and complex emotions combine to influence behaviour? There are 6 key findings.

First, distributive fairness assessments of the self and others interact to create both complex emotional responses and behaviours. These can be predicted even when peers are the source of justice and even if the distinction between victim and transgressor is unclear. Fairness perceptions of the self and others jointly predict OCB intention and CWB intention. As hypothesized, the results show that when outcomes are perceived as comparatively fair OCB intention is higher and CWB intention is lower ($\beta = .33$ and $-.49$ respectively, $p < .001$; see Figures 5.1 and 5.3). When outcomes are perceived as comparatively unfair the opposite occurs, OCB intention decreases and CWB intention increases. The findings also reveal that fairness perceptions of the self and others jointly predict all emotions: pride, guilt, envy, and anger. Nonetheless, one should note that anger and envy are correlated, which makes it difficult for the researcher to conclude which is responsible for the relationships.

Equity Theory (Adams, 1965) suggests that comparative ratios between one's input/reward ratio and a peer's input/reward ratio lead to affective and behavioural reactions. According to this theory, it is this comparative equity that elicits fairness perceptions. The findings on the joint effect of fairness perceptions support previous findings on Equity Theory, such that individuals engage in *social comparison* of the

equity ratios, which evoke specific behaviours (Viswesvaran & Ones, 2002) and complex emotions (Mikula et al., 1998). More importantly, the current study contributes to Equity Theory by providing the evidence that individuals form behavioural intentions to the group as an aggregate when peer evaluations come from non-specific transgressors.

The second finding is that fairness to self accounts for most of the variance in both OCBs and CWBs, such that individuals who are treated fairly engage in more positive behaviours than individuals who are treated unfairly. One's own fairness experience is the most important predictor, regardless of how peers are treated. When individuals receive a personally fair outcome, they engage in positive behaviours, regardless of the fairness in peer's outcomes. When they receive a personally unfair outcome, they engage in negative behaviours.

There has been some debate about the relationship between Expectancy Theory (Lawler, 1968) and Equity Theory (Adams, 1965). Expectancy Theory suggests that individuals are motivated by the possibility that (1) effort will contribute to performance, and (2) performance will result in desired rewards (Harder, 1991). According to this theory, when individuals perceive over-reward inequity, they will increase their inputs because they expect that this will bring more of the desired outcomes. When individuals are under-rewarded, Expectancy Theory suggests that individuals will decrease their inputs because added effort is unlikely to increase outcomes. On the other hand, Equity Theory suggests that when individuals perceive over-reward inequity in terms of compared ratios to other group members, they may reduce their efforts, or they may engage in perceptual strategies (justification) rather than behavioural strategies to reduce

inequity (Lawler, 1968). If individuals perceive under-reward compared to peers, Equity Theory suggests that they will try to restore equity by decreasing their inputs.

Thus in the condition of under-reward both theories make the same prediction. But in a condition of over-reward, the predictions are in opposition. Previous studies also report contradictory findings. Harder (1992) found that when expectancy is high, the biggest behavioural changes occurred for individuals in an over-reward condition.

Furthermore, under-rewarded individuals are unlikely to decrease performance for fear of jeopardizing future rewards. Greenberg (2002) reported that equity concerns increase an individual's intention to engage in counterproductive behaviour, such as stealing, in the under-reward condition. This suggests that, regardless of their own economic interests, individuals choose to restore equity rather than increase their outcomes. Vecchio (1981) refines Equity Theory by providing evidence that over-reward results in reduced quantity and increased quality of work. From Expectancy Theory's perspective, Vecchio's results indicate that individuals will try to maximize their economic interests regardless of what others receive when they are over-rewarded. Thus, Campbell and Pritchard (1976) argue that the personal equity suggested by Expectancy Theory can explain the findings from equity research. They suggest that Equity Theory should be incorporated under Expectancy Theory (Campbell & Pritchard, 1976; Lawler, 1968).

Other scholars call for examination of individual differences and contextual factors that influence the predictions of these theories. For example, Mowday (1987) and Pinder (1984) suggest that researchers should examine the specific conditions under which each theory better predicts the behavioural outcomes, rather than searching for an encompassing theory. In support of these arguments, Vecchio (1981) found that

individual factors, such as moral maturity, influence the behavioural outcome in an over-reward situation. Despite these contradictory findings, there are few studies that test the two theories simultaneously (Harder, 1991).

The current study contributes to the discussion by examining the specific conditions (i.e. over-reward and under-reward) that influence positive and negative extra-role behaviours. When individuals perceive they are over-rewarded or fairly rewarded, they show increased intention to engage in helping behaviour (FTS predicts OCB, $\beta = .44$, $p < .001$). This occurs regardless of how peers are treated (FTP does not independently predict OCB, although it does interact with FTS to reduce its influence on OCB). Therefore, this provides more support for Expectancy Theory than Equity Theory in OCB. However, comparative equity predicts increased negative behaviours ($\beta = -.41$, $p < .001$). When individuals perceive under-reward in comparing their outcome to peers, they tend to show higher tendency to act negatively toward the group. This result suggests greater support for Equity Theory rather than Expectancy Theory in CWB.

This study provides evidence that Expectancy Theory better explains over-reward inequity which results in increased positive extra-role behaviours, while Equity Theory better explains under-reward inequity and increased negative extra-role behaviours. These findings support the view that these two theories should be examined under certain conditions that distinguish individual perception of equity rather than incorporating them as one encompassing theory (Mowday, 1987).

The third finding from this research is that retaliatory behaviours were targeted at the group, in spite of the fact that this may negatively impact future outcomes for the individual. This has implications for the Deonance model of fairness (Folger, 2001). The

Deonance model posits that affective and behavioural reactions in response to justice experiences are not limited to one's own fairness experience, but peer's experience of fairness as well. Regardless of one's own experience of fairness, individuals experience negative emotional reactions when they witness peer's injustice experiences, which lead to behavioural outcomes. These deontic responses are especially in response to the injustice experience of others rather than the personal justice experience. Because complying with universal moral principles is considered a basic requirement for human beings, violation of such norms should evoke a strong negative reaction as compared to complying with them. This immediate emotional reaction is expected to lead to retaliatory behaviours even if such behaviours may be disadvantageous to one's own outcome (Folger, 2001).

This study shows that while individuals perceive injustice to others, they do not react to it in the anticipated manner. It appears that individuals react more strongly to comparative justice (Equity Theory) and will engage in negative behaviour when they observe fairness to others. This finding contradicts existing research on Deontic justice (Lind et al., 1998) which suggests that injustice to others (rather than justice to others) should provoke the negative response. This may be because the event in the experimental scenario was not "unjust enough" to change behaviour. The students in my scenarios received a poor grade but still passed. A potentially fruitful avenue of research may be the Deontic injustice threshold. How serious does the injustice need to be to provoke a strong response? This finding may also have occurred because in my scenarios the relationship to the victim is not "real" and the victim may also be a transgressor.

It is interesting, however, that the reaction to personal injustice induces behavioural responses that are in line with the Deonance model. Individuals will engage in behaviours that are detrimental to their own well-being and the well-being of others if they feel unfairly treated. This suggests that the “rational”, “outcome-maximizing” responses predicted by Expectancy Theory and Equity Theory cannot entirely explain behavioural reactions to unfairness. It also leads into a discussion of the last three findings of this research, which address the influence of emotion on behaviour.

The fourth finding is that fairness to self is the most important predictor of self-evaluative emotions, such as pride and anger, but assessment of peer outcomes is necessary to elicit comparative emotions such as envy and guilt. As previous studies suggest (Niedenthal et al., 2006), pride is largely influenced by positive self-evaluation (i.e., personal equity) rather than fairness of peer’s outcomes (i.e., Deontic justice). The results in the current study support this perspective by indicating that fairness to peers does not predict pride. Furthermore, personal unfairness is the strongest anger-eliciting event above and beyond comparative equity and Deontic justice. Fairness to peers, again, is *not* related to anger, indicating that Deontic justice concerns are overridden by personal fairness. Theoretically speaking, individuals experience anger for the unfair treatment of others, especially, when they receive fair treatment of themselves (Van den Bos & Lind, 2001). Alternatively, other scholars suggest that the other’s experience of unfair experience is too weak to provoke one’s own reaction (Lind et al., 1998). The current study affirms the latter position; personal injustice elicits stronger emotion than peer injustice.

Guilt is different than both pride and anger. FTS and FTP equally predict guilt, and the interaction of the two raises explanatory power to $\beta = -.73, p < .001$. Theoretically speaking, guilt results from witnessing moral transgressions (Niedenthal et al., 2006). When individuals witness peer's unfair peer evaluation, they should experience "guilt by association" (Doosje et al., 1998). Regardless of their own outcomes, observers feel guilty for their inability to rectify the unfair situation that affected their peers. Previous studies have shown similar results, indicating that individuals experience "survivor guilt" when they are over-rewarded following supervisory performance evaluation (Brockner et al., 1986). They feel guilty for receiving what they think they do not actually deserve. The current study adds that "survivor guilt" occurs in the context of peer evaluations and offers some support for the Deonance model, which suggests that individuals feel guilty when they witness injustice, even if they don't act on it.

Envy, on the other hand, is more influenced by fairness to peers. The direct effect of FTS on envy is not significant while the effect of FTP is large and positive ($\beta = .59, p < .001$). When the two are combined, the direction of the relationship changes ($\beta = -.48, p < .001$) suggesting that as FTS increases the effect of FTP on envy is reversed. Theoretically, individuals feel envy when a referent "other" receives an outcome that they desire to receive (Vecchio, 2000). These findings confirm that envious emotion results from the social exclusion that occurs when individuals compare their unfair outcome to a peer's fair outcome (i.e., comparative equity). In this *social comparison* process, fairness perception of peer's outcomes plays an important role thereby supporting Equity Theory.

The fifth finding in this research is that emotion is only a statistically significant mediator of behaviour when it is negative, rather than positive. Furthermore, strong, negative emotion (anger) is more likely to elicit CWBs than milder emotion (envy). The current study examined the mediating role of emotions rather than their moderating effects. Moderation suggests that specific emotions affect the direction or strength of the relationship between fairness perception and behavioural intentions (Baron & Kenny, 1986). A mediation model suggests that specific emotions serve as an explanatory mechanism that accounts for the original relationship between fairness and behaviours (Spector & Fox, 2002). In short, a mediating model explains *how* changes in behavioural intentions occur when individuals perceived fairness in peer evaluation outcomes.

The results show that positive emotion does not explain how changes to behavioural intention occur, while negative emotions do. In particular, envy and anger partially mediate the relationship between fairness perception and decreased OCB intention. Additionally, anger partially mediates the relationship between fairness perception and increased CWB intention. Some scholars suggest that injustice and CWB have a much stronger relationship than justice and OCB (Organ & Paine, 1999). When fair treatment is considered a universal moral norm, complying with such a norm is expected. Therefore, it does not change behaviour when compliance occurs. However, the violation of such universal morality tends to evoke much stronger negative reactions.

The stressor-emotion literature reports findings similar to mine. Negative emotion mediates the relationship between workplace stressors and CWB (Fox et al., 2001; Fox & Spector, 1999). Anger mediates the relationship between fairness perceptions and behavioural outcomes (Barclay et al., 2005; Rupp, McCance, Spencer, & Sonntag, 2008).

Envy has been linked to both CWB (Cohen-Charash & Mueller, 2007; Conlon et al., 2005; Fox & Spector, 1999; Robinson & Bennett, 1995) and OCB (Kim, O'Neill, & Cho, 2010).

However, unlike much of the previous work, my research indicates that the less intense emotion of envy does *not* predict increased CWB above and beyond the interaction and main effects. Although previous studies show a link between envy and CWB, there are differences in research method that may explain the different results. For instance, Cohen-Charash and Mueller (2007) used a scale for envy, in which the envied other is identified in each survey item. The current study uses an aggregate group as the envied other. The unspecified target of CWB may be one of the reasons why envy was not related to CWB in this study. It may also be that reduction of the extra effort to the group project requires less emotional intensity than evoking new aggressive behaviour to the team. In fact, Barclay et al. (2005) suggests that compared to complex emotions, outward-focused emotions such as anger will evoke stronger, negative behavioural intentions to the external party. By examining these specific emotions, the current study provides researchers the opportunity to compare and distinguish the role of each specific emotion.

The final finding of the current study is that it adds to Spector and Fox's (2002) model by showing that the sign of the emotion (positive or negative) alone does not determine its behavioural effect. Affective Events Theory posits that individuals experience affective events that give rise to particular emotions and subsequently engage in affect-laden behaviours after experiencing certain emotions (Weiss & Cropanzano, 1996). Spector and Fox's model suggests that individuals appraise the justice experience, and experience positive and negative emotions, which then lead to behavioural intentions:

OCB and CWB. The two models differ in terms of the expected relationship between emotions and behavioural outcomes. Affective Events Theory suggests a one-factor model, in which pleasant affect leads to OCB, and unpleasant affect leads to CWB. On the other hand, Spector and Fox (2002) posit that positive emotions lead not only to increased OCB, but also to decreased CWB. In other words, Spector and Fox's model illustrates a two-factor view of positive and negative emotions and OCB-CWB (Dalal, Lam, Weiss, Welch, & Hulin, 2009). The current study extends Affective Events Theory by indicating that emotion can be a mediator, but showing that negative emotion does not just influence CWB. It can elicit changes to either OCB or CWB or both. Envy partially mediates the relationship between fairness and OCB, while anger simultaneously influenced both OCB and CWB in a parallel manner as illustrated in Spector and Fox's two-factor model.

6.2 Practical Implications

Previous research has already confirmed that when performance evaluations affect rewards, given the opportunity, employees are likely to compare their outcomes. Peer evaluations affect reactions to performance assessment because employees may simultaneously experience the role of assessor, witness, victor or victim.

This study suggests that individuals will be most concerned about personal outcomes, and whether they are fair relative to effort and reward expectations. If an employee receives a personally fair outcome, comparison to peers is less likely to influence behaviour. OCB and CWB will continue at the same rate as that which existed prior to the evaluation. Peer comparisons only become relevant when there is differential treatment, and this only affects behaviour of the person who gets "the short end of the

stick". The individual who receives an unfair outcome relative to peers, experiences negative emotion which precipitates decreased OCB and increased CWB. Furthermore, the affected individuals will target negative behaviours at the workgroup, in spite of the fact that this may further reduce their own outcomes. There are several practical implications that flow from these results.

First, there is a clear relationship between performance-reward expectancies and positive extra-role behaviours. So employers should endeavour to develop systems that articulate specific performance criteria and explicitly state how those will influence rewards. The system should also include some objective measures that cannot be influenced by interpersonal liking. Furthermore, organizations are advised not to rely solely on peer evaluation, but to use it as a part of a multi-source feedback system. As such, practitioners can assess discrepancies between evaluations provided by peers and those provided from other sources. Employers can then investigate the cause of discrepancies and determine how best to manage them.

Second, fairness perceptions trigger both emotion and behaviour. This means that peer evaluation requires a fundamental understanding of fairness and this must be supported by a foundation of fair and equitable treatment between employers and employees, and among peers. Therefore, peer evaluation may not work in certain cultures. Where the culture is appropriate, employees still require training in order to conduct fair evaluations of their peers. Employers should clarify who will be part of the evaluation process, when the evaluations will take place, why peer evaluation is used, how it influences individual outcomes, and what the consequences may be if the system is undermined.

Third, employers should identify and pay particular attention to individuals who feel under-rewarded because this is the group that is most likely to engage in CWB. This may mean implementing a fairness survey that is conducted shortly after performance evaluations, or it may be a less formal process. Either way there should be some measure used to gauge fairness perceptions in the organization. Furthermore, processes should be in place to address perceived inequity when it occurs. Employees should have an appeal mechanism that is procedurally fair, transparent and that can result in changes to distributive outcomes. Groups should be monitored for escalating conflict that may decrease the fairness of peer evaluations. It may also be advisable to have interim evaluations of contributions before using assessments that directly affect individual outcomes. This will allow all members opportunities to improve performance and also clarify behavioural expectations.

Fourth, employers should be trained to better manage affective events at work. Interventions should be available to assist workers with the emotional costs associated with either perceived unfairness or group conflict. This is not to say that employers should try to ban the expression of emotion at the workplace. However, it may prevent a good deal of stress if employers learned to recognize and address specific emotions in appropriate ways. Some negative emotions, such as anger, clearly result in harmful behavioural effects and should not be ignored.

Finally, a comment on the role of Deontic justice is warranted. Although this research suggests that concern for the welfare of others does not influence behaviour in the context of peer evaluations, the practical implications of this should be interpreted with caution. Research indicates that injustice over a long period of time has a negative

impact on trust within an organization, which can have very negative impacts on behaviour and productivity (Colquitt, Judge, & Shaw, 2006; Pillai, Schriesheim, & Williams, 1999). Although most of this research evaluates injustice emanating from supervisors, it seems unlikely that the long-term impacts of peer-originated injustice would be all that different.

6.3 Limitations and Future Research Directions

6.3.1 Causality

This study is cross-sectional in nature, which makes it more difficult for the researcher to assess actual causality among the variables. The use of control variable such as negative and positive affectivity, as well as having respondents react to a scenario assists in some regards. However, longitudinal research is becoming more common (Diggle, Heagerty, Liang, & Zeger, 2002; Hand & Crowder, 1996), and would be a good direction for future work in this area. Longitudinal studies help researchers establish better causality among the variables because they examine treatment progress over time. It is particularly important in emotion research to infer that it is the emotion that caused the behaviours, since emotion may not last (Lazarus, 1995).

6.3.2 External Validity

Future research would benefit from investigating the mediating model of emotions in an actual organizational setting to increase the generalizability of the findings. Since the sample of the current study includes undergraduate students, and uses a scenario describing a university groupwork project, applying the results to actual work settings

should be done with caution. It is recommended that this study be replicated with a sample of actual employees, and revising the scenario to reflect a workplace team project. Field research that investigates existing teams in an organizational setting would be an important next step. This may be particularly significant for Deontic justice research because evaluating “real” peer relationships rather than imagined relationships may substantially alter the findings from this research.

6.3.3 Common Method Variance

Although the EFA suggested that common method variance (CMV) was not a significant concern in this study, there were negative correlations between anger and pride, and between OCB and CWB measures. This finding can be influenced by only using self-report measures. Having multiple raters will enable researchers to reduce CMV (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Previous studies caution against using self-report measures of OCB (Podsakoff & Organ, 1986). Dalal (2005) reports that item overlap may inflate the correlation between OCB and CWB scales. In the current study, three reversed items in OCB overlapped with some of the items in CWB. This may have influenced the correlation between the two measures. To reduce the CMV, researchers can invite immediate supervisors to rate the actual behaviours of individuals. In doing so, the researchers can examine the level of consistency in the ratings of supervisors and subordinates, thereby reducing the CMV.

6.3.4 Justice Dimensions

This study provides evidence that justice originating from peers is an important construct. Although the research only examined distributive justice perceptions, justice is a multifaceted construct (Colquitt, 2001). Justice scholars would benefit from examining how other dimensions of justice (procedural, informational, interpersonal) originating from peers influence emotional reactions and subsequent behavioural intentions (Barclay et al., 2005; Skarlicki et al., 1999). Investigating the multiple dimensions of justice is an important path to follow because different dimensions of justice have distinctive effects on individual emotional and behavioural intentions. For instance, interactional justice is suggested to have the highest association with negative emotional reactions (Schoefer & Diamantopoulos, 2008). In a peer evaluation context, future research should investigate the fairness of the evaluation schemes (i.e. procedural justice) and how the evaluation outcomes are provided (i.e. interpersonal justice).

6.3.5 Justice Source and Target of the Behaviour

The current study conceptualized peers as *transgressors* as well as *victims*, and examined the behavioural intentions toward team members as an aggregate. This was done to imitate an anonymous peer evaluation process and provides useful insights because it shows that negative behaviours will occur even when there is no specific target to blame for the injustice. While it addresses an important construct of peers as a source of justice, it does not distinguish the transgressor from the victims. It has recently been suggested that the source of a justice experience is linked to the target of the behavioural outcomes (Lavelle et al., 2007). Individuals tend to target their aggressive behaviours

toward the specific transgressor, such as an individual or an organization. Similarly, when the particular individual is considered a victim of injustice, the observer should show increased helping behaviours toward that particular victim rather than toward the team in an aggregate. Based on these arguments, it would be beneficial to conduct research that distinguishes the moral transgressor and victims to compare the distinctive behavioural outcomes to these targets.

6.4 Conclusion

The primary purpose of the current study was to examine how individuals engage in equity assessments when they receive peer evaluation outcomes, and to assess what specific emotional and behavioural reactions they experience. It examined how Equity Theory (Adams, 1965), Expectancy Theory (Lawler, 1968), and the Deonance model of fairness (Folger, 2001) predict affective and behavioural reactions when individuals receive distributive justice outcomes originating from their peers. Spector and Fox's (2002) emotion-centered model was integrated with the fairness models to investigate the mediating role of complex emotions (i.e., pride, guilt, envy, and anger) on extra-role behavioural intentions: OCB and CWB. It was hypothesized that fairness perceptions in peer evaluations evoke specific emotions, which in turn mediate OCB and CWB intentions.

The results show that fairness assessments predict emotion and behaviour separately. However, only anger and envy are mediators of behaviour. The findings indicate that individuals assess both *personal equity* and also *comparative equity*, but the treatment of peers provokes behaviour only if it results in under-reward for the affected

individual. Results show equity perception of one's own outcome results in continued positive behaviours, while comparative equity is more likely to evoke negative behaviours. Thus, equity assessments, depending on whether they are perceived as over-reward or under-reward, influence behavioural outcomes.

Furthermore, the equity assessments in peer evaluation outcomes trigger emotional reactions. Findings suggest that pride and anger are likely to result when individuals assess equity in terms of their own effort to reward expectations. On the other hand, guilt and envy are likely to result when they compare their input/reward ratios to those of their peers. These specific emotions show distinctive effects on their behaviours. As such, anger partially mediates fairness perceptions, resulting in decreased OCB and increased CWB. Envy partially mediates fairness perceptions and results only in decreased OCB. Pride and guilt do not mediate behaviour.

The current study thus offers six main contributions to the literature. First, it reveals that equity assessments of one's self and others interact to evoke specific emotions and behaviours even when the distributive justice outcomes originate from peers. Even if individuals do not know the transgressor, they are likely to target their harmful behaviours to the group as an aggregate. Second, the current study provides support for Equity Theory when individuals are under-rewarded. On the other hand, Expectancy Theory is supported when individuals are over-rewarded. Third, although the Deonance model of fairness suggests that, individuals engage in retaliatory behaviours when they witness peer's injustice experiences, my research suggests that this may not be the case. Fourth, this study provides evidence that equity assessments influence affective reactions. Fifth, my research supports Spector and Fox's (2002) emotion-centered model by

revealing that specific emotions inversely influence OCB and CWB intentions. Finally, this study reveals the important role of negative rather than positive emotion as mediating mechanisms on the relationship between fairness and behaviours. These findings provide guidance to practitioners who wish to enhance the effective use of peer evaluations as one source of performance appraisal in organizations.

7. References

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Appendix A

A.1 Cover Letter (Expert Judgment)

You are invited to participate in a research study on teamwork and attitude. This survey is about your beliefs about groups, and how this affects your attitude when you are in a project group. Your participation will benefit others by helping researchers to better understand group processes and to improve teamwork quality. In order to protect your anonymity and confidentiality of the data, you will *not* be required to record your name and student ID in this study. Your participation in this research is completely voluntary and you have the right to withdraw from any particular question or from the entire study at any time without any consequences. If you wish to withdraw, any information recorded in this survey will not be used and discarded immediately. Emailing me back the completed survey indicates your consent to participate. You have one week after completion of the survey to notify me that you wish to withdraw from the study. After one week of the withdrawal period, your personal information will not be linked to your individual survey responses.

Your survey responses without identifiable information will be printed out and stored in the MSc (Mgt) students' office (E411) at the University of Lethbridge, and computerized responses will be kept in my home and office computers which are password protected. The data are accessible only to my supervisors and me. After 5 years the data will be completely discarded. The collected data will be used only for calculating content validity of the scenarios. No data will be distributed to your school, instructor, or any other participating organization. Your responses will be averaged and thus no individual data will be reported. Only aggregated results will be reported as part of a Master's thesis. The results may be presented in academic or professional journals and conferences.

If you wish to participate you will be asked to fill out a questionnaire, which contains 4 scenarios. There are also no anticipated risks or discomforts related to this study. This survey will take approximately 10-20 minutes and require you to be graduate students or professors at the University of Lethbridge. In the questionnaire, you are asked questions about *distributive justice* perception and emotional reactions to 4 scenarios. Distributive justice is the fairness perception experienced in the allocation of resources, such as pay, promotions, and rewards. When individuals receive less reward than what they expect to deserve, they are suggested to perceive inequity in allocation. In this study, distributive justice refers to the fairness perception on the peer evaluation outcomes given by the group.

If you wish to receive a copy of the results from this study, or you may have any further questions, please contact me (chiaki.koike@uleth.ca or 403-360-5777) or my supervisor, Dr. Kelly Williams-Whitt (kelly.williams@uleth.ca or 403-284-8596). For questions regarding your rights as a participant in this research, you may contact the Office of Research Services at the University of Lethbridge at 403-329-2747.

This is a pre-test of my scenario for further study. Please keep the information on the scenario confidential.

A.2 Scenario (Expert Judgment and Pilot Study)

This is a hypothetical situation, which describes a project work at the university. Please read the following scenario carefully, and answer the following questions based on the scenario.

Imagine that you have been working on a semester-long group project with 3 other group members. You are a very good student with a B average or higher in most of your classes. In order to get an A on this project, you and 3 other group members have spent significant time and made valuable contributions since the beginning of the semester.

At the beginning of the semester, your instructor told you to fill out peer evaluations at the mid-point of the term so that you have an opportunity to improve teamwork performance for the rest of the semester. You like the idea of peer evaluation because you've been in groups before where some people didn't contribute as much as others but still got the same grade because there was no peer evaluation.

In this project, 50% of your individual mid-term evaluation grade depends on the peer evaluations given by other group members. You felt everyone worked extra hard to do their fair share for the project. And the quality of their work was very high. You are confident that other group members would fairly evaluate the input and the quality of your work in the project.

On the day of the evaluations, you gave all the other group members excellent evaluations because you felt everyone worked equally hard.

A.2.1 Scenario 1: Favorable equity to both self and peer (Expert Judgment and Pilot Study)

After everyone submitted the peer evaluations, your instructor gave you an overall project grade.

Your Overall Project Grade: "A"

Then, your instructor gave you and your group members individual grades based on the peer evaluations from the group.

Your Grade:

Based on the peer evaluations, you received an "A".

Your Group Members' Grade:

Based on the peer evaluations, all of your group members received an "A".

A.2.2 Scenario 2: Favorable equity to self and unfavorable equity to peer (Expert Judgment and Pilot Study)

After everyone submitted the peer evaluations, your instructor gave you an overall project grade.

Your Overall Project Grade: “A”

Then, your instructor gave you and your group members individual grades based on the peer evaluations from the group.

Your Grade:

Based on the peer evaluations, you received an “A”.

Your Group Members’ Grade:

Based on the peer evaluations, all of your group members received a “C”.

A.2.3 Scenario 3: Unfavorable equity to self and favorable equity to peer (Expert Judgment and Pilot Study)

After everyone submitted the peer evaluations, your instructor gave you an overall project grade.

Your Overall Project Grade: “A”

Then, your instructor gave you and your group members individual grades based on the peer evaluations from the group.

Your Grade:

Based on the peer evaluations, you received a “C”.

Your Group Members’ Grade:

Based on the peer evaluations, all of your group members received an “A”.

A.2.4 Scenario 4: Unfavorable equity to self and peer (Expert Judgment and Pilot Study)

After everyone submitted the peer evaluations, your instructor gave you an overall project grade.

Your Overall Project Grade: “A”

Then, your instructor gave you and your group members individual grades based on the peer evaluations from the group.

Your Grade:

Based on the peer evaluations, you received a “C”.

Your Group Members’ Grade:

Based on the peer evaluations, all of your group members received a “C”.

A.3 Expert Questions (Expert Judgment)

1. Do you think this scenario effectively illustrates “a *fair* evaluation of self and a *fair* evaluation of other group members”? (Yes, no, not sure)
2. Imagining your reaction to the grade outcome in the scenario, which of the following emotions do you believe you would be most likely to feel? (Happiness, pride, anger, frustration, guilt, envy, other)
3. Considering the fairness of the peer evaluations and the emotional reactions to the evaluations, what changes (if any) would you suggest to help increase the effectiveness of the scenarios?

Appendix B

B.1 Cover Letter (Pilot Study and Main Study)

You are invited to participate in a research study on teamwork and attitude. This survey is about your beliefs about groups, and how this affects your attitude when you are in a project group. If you wish to participate you will be asked to fill out a survey. This survey will take approximately 30 minutes and require you to be registered in a university course and over 18 years old.

Your participation will benefit others by helping researchers to better understand group processes and to improve teamwork quality. Every participant will be entered into a monetary draw for \$100 cash (Canadian dollars, one entry per person). The winner will be contacted via e-mail after 2 weeks following the survey.

Your participation in this research is completely voluntary and you have the right to withdraw from any particular question or from the entire study without any consequences. You have two weeks after completion of the survey to notify me that you wish to withdraw from the study. After two weeks, your personal information will not be linked to your individual survey responses. If you wish to withdraw, any information recorded in this survey will not be used and discarded immediately. Completion of survey indicates your consent to participate.

There are also no anticipated risks or discomforts related to this study. In order to protect your anonymity and confidentiality of the data, you will *not* be required to record your name and student ID in this survey. Your e-mail address will be recorded on a separate document in order to enter you into a draw. By the end of the study, no information will be able to link you to your individual survey responses.

The collected data will be transmitted to my home and office computers, both of which are protected by password, for conducting statistical analyses to test the hypotheses. The data are accessible only to my supervisors, one research assistant, and me. All information will be destroyed after 5 years. No data will be distributed to your school, instructor, or any other participating organization. Your responses will be averaged and thus no individual data will be reported. Only aggregated results will be reported as part of a Master's thesis. The results may be presented in academic or professional journals and conferences.

If you wish to receive a copy of the results from this study, or you may have any further questions, please contact me (chiaki.koike@uleth.ca or 403-360-5777) or my supervisor, Dr. Kelly Williams-Whitt (kelly.williams@uleth.ca or 403-284-8596). For questions regarding your rights as a participant in this research, you may contact the Office of Research Services at the University of Lethbridge at 403-329-2747.

B.2 Identification Form (Pilot Study and Main Study)

Please provide your e-mail address for a monetary draw of \$ 100!

Have you filled out this survey in another class?

Yes / No

Appendix C

C.1 Scenario (Main Study)

This is a hypothetical situation, which describes a project work at the university. Please read the following scenario carefully, and answer the following questions based on the scenario.

Imagine that you have been working on a semester-long group project with 3 other group members. You are pleased with your team because you have worked with two of the students before. In order to get a good grade on this project, the entire team spent significant time and made valuable contributions.

At the beginning of the semester, your instructor told you to fill out peer evaluations at the mid-point of the term so that you have an opportunity to improve teamwork performance for the rest of the semester. The peer evaluation is based on effort and quality of work. You like the idea of peer evaluation because you've been in groups before where some people didn't contribute as much as others but still got the same grade because there was no peer evaluation. In this project, 50% of your individual mid-term evaluation grade depends on the peer evaluations given by other group members. You felt everyone worked extra hard to do their fair share for the project, and the quality of the work they did was very high. You are confident that other group members would fairly evaluate the input and the quality of your work in the project.

You gave all three of your peers excellent evaluations because you really felt everyone worked equally hard. You feel that the work you contributed was of particularly high quality. It was always done on time, and the team relied on it heavily for the project that was handed in.

C.2 Manipulation (Main Study)

C.2.1 Scenario 1: Favorable equity to both self and peer

On the day that you get your mid-term grades, you found out that:
Your overall group project received a grade of “B+”.
After the effect of the peer evaluations was added in, you received an “A”.
The average grade for the rest of your team was also an “A”.

C.2.2 Scenario 2: Favorable equity to self and unfavorable equity to peer

On the day that you get your mid-term grades, you found out that:
Your overall group project received a grade of “B+”.
After the effect of the peer evaluations was added in, you personally received an “A”,
but the average grade for the rest of your team was a “C”.
When you look at the peer evaluations for your teammates, you can see that the instructor did not make a mistake in the calculations.

C.2.3 Scenario 3: Unfavorable equity to self and favorable equity to peer

On the day that you get your mid-term grades, you found out that:
Your overall group project received a grade of “B+”.
After the effect of the peer evaluations was added in, you personally received a “C”,
but the average grade for the rest of your team was a “A”.
When you look at the peer evaluations for your teammates, you can see that the instructor did not make a mistake in the calculations.

C.2.4 Scenario 4: Unfavorable equity to self and peer

On the day that you get your mid-term grades, you found out that:
Your overall group project received a grade of “B+”.
After the effect of the peer evaluations was added in, you personally received a “C”,
but the average grade for the rest of your team was a “C”.
When you look at the peer evaluations for your teammates, you can see that the instructor did not make a mistake in the calculations.

C.3 Justice Scale (Pilot Study and Main Study)

C.3.1 Fairness to Self

(Colquitt, 2001)

7-point Likert scale – To a large extent, to a small extent

Directions: The following are descriptive questions about your perceptions of the project group in the scenario. Please circle one response that best fits your belief about project group. Please answer all questions. Based on the scenario, how did peer evaluations reflect your work?

1. The peer evaluation reflected the effort I put into the project.
2. The peer evaluation was appropriate for the workload I completed.
3. The peer evaluation reflected what I contributed to the group.
4. The peer evaluation was justified, given my performance.

C.3.2 Fairness to Peer

(Colquitt, 2001)

7-point Likert scale – To a large extent, to a small extent

Directions: The following are descriptive questions about your perceptions of the project group in the scenario. Please circle one response that best fits your belief about project group. Please answer all questions. Based on the scenario, how did peer evaluations reflect the work of your teammates?

1. The peer evaluations reflected the effort my teammates put into the project.
2. The peer evaluations were appropriate for the workload my teammates completed.
3. The peer evaluations reflected what my teammates contributed to the group.
4. The peer evaluations were justified, given my teammates' performance.

C.3.3 Organizational Citizenship Behaviour Scale (OCB)

Directions: The following are descriptive questions about how you would behave if you were in the situation described in the scenario. Please circle one response that best fits how you would behave for the remainder of the term and group project. Please answer all questions. Based on the scenario, I would:

C.3.3.1 Organizational Citizenship Behaviour to individual (OCBI)

(Williams & Anderson, 1991)

5-point Likert scale – Never, rarely, sometimes, often, always

1. Help group members who were absent.
2. Help group members who had heavy workloads.
3. Assist group members with their work (even if not asked).
4. Take time to listen to group members' problems and worries.
5. Take a personal interest in group members.
6. Pass along information to group members.
(Item removed: "Go out of my way to help new group members.")

C.3.3.2 Organizational Citizenship Behaviour to organization/group (OCBO)

(Williams & Anderson, 1991)

5-point Likert scale – Never, rarely, sometimes, often, always

1. Attend at group meetings more than normal.
 2. Give advance notice when unable to come to group meetings.
 3. Take undeserved breaks from group meetings.*
 4. Spend a great deal of time on personal phone conversations.*
 5. Complain about insignificant things in group.*
 6. Conserve and protect group property.
 7. Adhere to informal rules devised to maintain order.
- *reverse scored

C.3.4 Counterproductive Work Behaviour Scale (CWB)

C.3.4.1 Counterproductive Work Behaviour to individual (CWBI)

(Bennett & Robinson, 2000)

7-point Likert scale – Never to always

1. Make fun of group members.
2. Say something hurtful to group members.
3. Make an ethnic, religious, or racial remark to group members.
4. Curse or swear at group members.
5. Play a mean prank on group members.
6. Act rudely toward group members.
7. Publicly embarrass group members.

C.3.4.2 Counterproductive Work Behaviour to organization/group (CWBO)

(Bennett & Robinson, 2000)

7-point Likert scale – Never to always

1. Take property from the group without permission.
2. Spend too much time daydreaming instead of working on the group project.
3. Take longer breaks than is acceptable at group meetings.
4. Come late to group meetings.
5. Neglect to follow group members' instructions.
6. Intentionally work slower than I could have worked.
7. Discuss confidential information with someone outside of the group.
8. Put little effort into group project.
9. Drag out groupwork.

(Item removed: “use an illegal drug or consumed alcohol on the group meeting.”)

C.3.5 Emotion Scale

Directions: The following are descriptive questions about your emotional reactions to the scenario. Please circle one response that best reflects your feelings. Please answer all questions. Based on the scenario, how would you feel?

C.3.5.1 Pride

(Marschall, et al., 1994)

5-point Likert scale – Definitely not, probably not, maybe, probably, definitely

1. Proud
2. Respectable
3. Honorable

C.3.5.2 Guilt

(Weiss et al., 1999)

5-point Likert scale – Definitely not, probably not, maybe, probably, definitely

1. Guilty
2. Sorry
3. Regretful

C.3.5.3 Envy

(Fiske et al., 2002)

5-point Likert scale – Definitely not, probably not, maybe, probably, definitely

1. Envious
2. Jealous

C.3.5.4 Anger

(Richins, 1997)

5-point Likert scale – Definitely not, probably not, maybe, probably, definitely

1. Frustrated
2. Angry
3. Irritated

C.3.6 Control Variables

C.3.6.1 Social Desirability Scale

Directions: The following statements are about your general attitudes. Please indicate whether the statements below are True or False. There are no right or wrong answers. Please answer all questions.
(Crowne & Marlowe, 1960)

Yes-No

1. I have never intensely disliked anyone.
2. No matter who I'm talking to, I'm always a good listener.
3. I am always willing to admit it when I make a mistake.
4. I am always courteous, even to people who are disagreeable.
5. I have never been irked when people expressed ideas very different from my own.
6. I have never felt that I was punished without cause.
7. I have never deliberately said something that hurt someone's feelings.

C.3.6.2 Positive Affectivity (PANAS) Scale

Directions: The following are descriptive questions about general emotional states. Please circle one response that best fits your general emotional states. Please answer all questions. I generally feel this way, that is, how I feel on the average:
(Mackinnon et al., 1999)

5-point Likert scale – Never, rarely, sometimes, often, always

1. Inspired
2. Alert
3. Excited
4. Enthusiastic
5. Determined

C.3.6.3 Negative Affectivity (PANAS) Scale

(Mackinnon et al., 1999)

5-point Likert scale – Never, rarely, sometimes, often, always

1. Afraid
2. Upset
3. Nervous
4. Scared
5. Distressed

C.3.6.4 Collective Group Identity Scale

Directions: The following are descriptive questions about your general attitude toward project groups. Please circle one response that best fits your usual feelings about project groups. Please answer all questions.

(Allen & Meyer, 1990)

7-point Likert scale – Strongly disagree to strongly agree

1. I usually feel emotionally attached to my group.
2. I usually feel a strong sense of belonging to my group.
3. I usually feel as if the group's problems are my own.
4. I usually feel like part of the family in my group.

C.3.6.5 Demographic Information

1. How old are you?
2. What is your gender? (Male, female, GLBT: Gay, Lesbian, Bisexual, Transgender)
3. What year of university education are you in? (1st year, 2nd year, 3rd year, 4th year, other)
4. What is your racial/ethnic heritage? (White/Anglo or European, Black/African, Hispanic/Latino, Asian, Pacific Islander, Middle Eastern, Aboriginal, bi-racial or multi-racial, other)
5. In the past, have you experienced the similar situation described in the scenario? (Yes/No)
6. On average, how often have you worked in student groups before? (Never, rarely, sometimes, often, very often)
7. Do you have any comments about the questions you encountered in this survey?

Appendix D

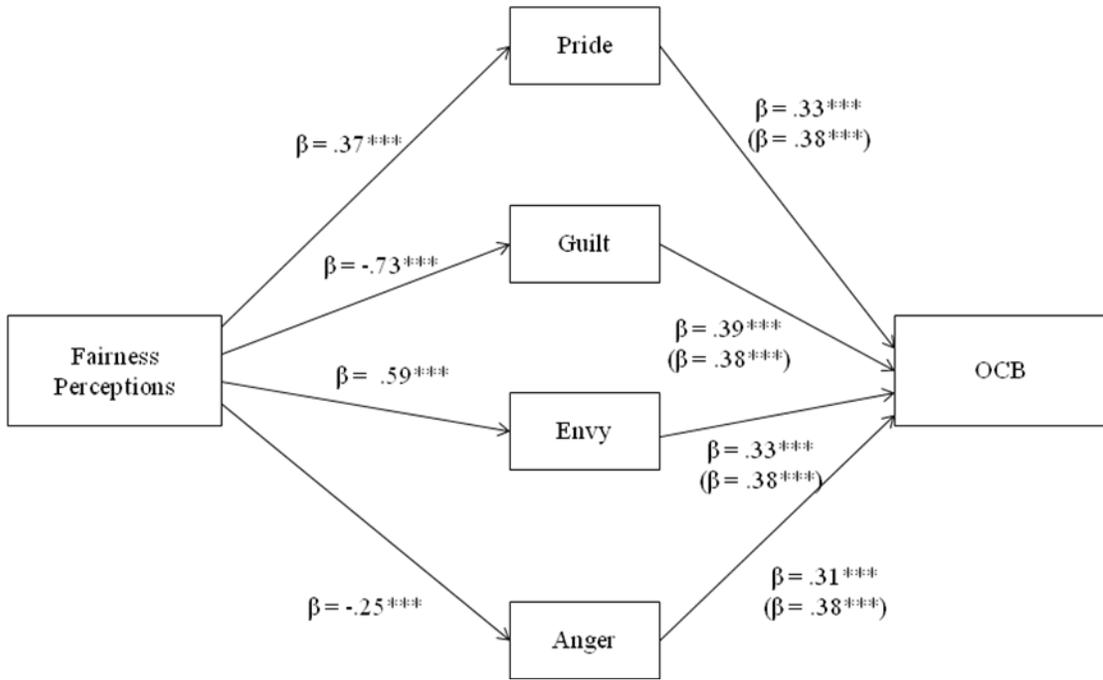


Figure 5.7 Mediation Model: OCB

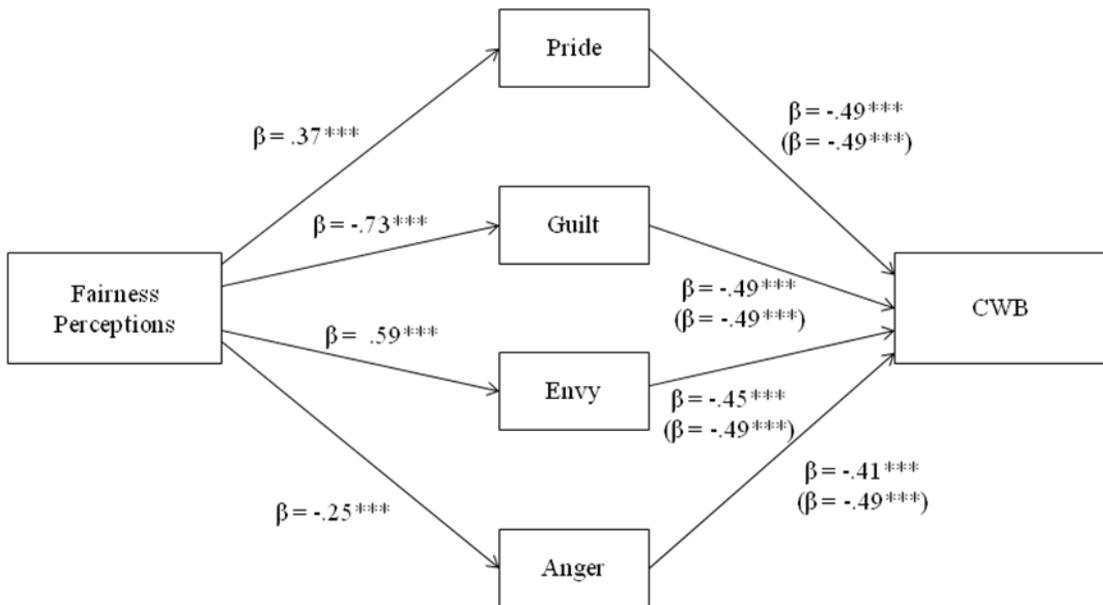


Figure 5.8 Mediation Model: CWB