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## Organizational Justice, Organizational Citizenship, and Group Performance in an Educational Setting

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Organizational Justice, Organizational Citizenship, and Group Performance  
in an Educational Setting

A Thesis

Presented to the

Department of Psychology

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

by

Charles Peterson

May, 2004

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Organizational Justice, Organizational Citizenship, and Group Performance  
in an Educational Setting

Acceptance for the faculty of the Graduate College,  
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requirements for the degree Master of Arts,  
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Organizational Justice, Organizational Citizenship, and Group Performance  
in an Educational Setting

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University of Nebraska, 2004

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Organizational citizenship behavior (OCB) is a widely researched topic in the psychology literature. However, the research has failed to provide strong support for one of the most central assumptions of OCB, the assumption that it increases organizational performance. Thirty-one groups of graduate students participated in this research, which attempted to demonstrate a link between OCB and group performance within a social exchange framework. Data were collected measuring the groups' levels of perceived trust, justice, and OCB; instructors provided grades and ratings of the performance of the groups on various class projects completed throughout the semester. Although the sportsmanship OCB sub-dimension was significantly correlated with the performance variables, the data were not largely supportive of a link between OCB and performance in this setting. The study did provide support for a social exchange model of OCB whereby the relationship between perceptions of group justice and OCB was mediated by trust in the group members. The finding that the group was the focus of the exchange relationship instead

of the course instructor is divergent from most of the current OCB literature. These finding suggests that context may play an important role in future OCB research.

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## Organizational Justice, Organizational Citizenship, and Group Performance in an Educational Setting

Since Organ (1988) first developed the concept of organizational citizenship behavior (OCB), it has been widely researched and has undergone some changes in its conceptualization. One of the central assumptions of OCB is that it should improve the overall effectiveness of the organization (Organ, 1988). Even though organizational effectiveness has remained the only relatively unchallenged aspect of OCB, it has been the focal point of few empirical studies. In this study, I hope to provide further evidence for the assumption that OCB enhances the overall effectiveness of an organization by showing that higher levels of OCB lead to higher levels of group performance.

Additionally, I attempted to provide evidence for a model of OCB based on social exchange theory wherein the impact of perceived justice on OCB is mediated by feelings of trust, and the impact of this trust on group performance is mediated by OCB. In the following pages the constructs of OCB and organizational justice will be reviewed, and literature concerning social exchange models of OCB will be examined. This research aims to provide a link between the antecedents of OCB and its outcomes within a new social exchange model.

### *Organizational Citizenship Behavior*

Organizational citizenship behavior was conceived in response to Organ's (1977) speculation that job satisfaction might influence organizational effectiveness through behaviors that supervisors could not technically require. That notion led to the outgrowth

of organizational citizenship behavior as developed initially by Organ (1988) and Smith, Organ, & Near (1983). Organ (1988) defined the construct explicitly:

...Individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization. By discretionary, we mean that the behavior is not an enforceable requirement of the role or the job description, that is, the clearly specifiable terms of the person's employment contract with the organization; the behavior is rather a matter of personal choice, such that its omission is not generally understood as punishable (p. 4).

In the time since that definition, research on OCB and its related constructs has accumulated rapidly, especially in the last decade (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Even though OCB has gained popularity as a construct over the years, it has also drawn its share of criticism. One of the strongest arguments against OCB is the problem of classifying behaviors as in-role or extra-role. Behaviors that are considered extra-role by one employee may be considered simply part of the job by another. This could be illustrated by the following example of two employees' attitudes toward attending voluntary work functions. One employee may feel that because these functions are voluntary by definition, attending these functions is not a required part of her job. Another employee, however, may feel that although these functions are technically voluntary, it is expected that he show up and represent his department or better himself as an employee.

Research has shown that many, if not most, organizational citizenship behaviors can be thought of as in-role given the correct context. Morrison (1994) asked hospital clerical workers and their supervisors to indicate whether they felt that certain behaviors were an expected part of their job or above and beyond what was expected. The behaviors were adapted from a widely used measure of OCB (Podsakoff et al., 1990). Participants were also asked to estimate the extent to which they engaged in these behaviors. Results showed that the employees who defined the behaviors as in-role engaged in these behaviors more often. The results also showed that, more often than not, employees classified the behaviors as in-role rather than extra role. There was also a low degree of agreement between employees and supervisors. Thus, the in-role versus extra-role distinction may not be particularly useful in defining OCB.

The problem with distinguishing behaviors based on properties such as extra-role, discretionary, or non-task (mentioned later) is that these are dichotomous categories; behavior is either task related or non-task, in-role or extra-role, discretionary or not. These problems are illustrated by research cited above which indicates that numerous individual and situational differences determine if employees and supervisors see a particular behavior as extra-role or not. I propose that the extra-role distinction be made along a continuum of behavior where some behaviors are clearly more discretionary than others. This does not imply that a given behavior is absolutely discretionary all the time. It would be a difficult task to identify behaviors that can always be considered extra-role; however, I think that most people would agree that employees have more discretion regarding the performance of some job behaviors. Therefore, I use the terms extra-role

or discretionary behavior to refer to behaviors that are clearly more discretionary than not.

An additional criticism of the OCB construct lies in its specification that OCB should not be contractually rewarded. It is difficult to identify behavior that is beneficial to the organization, but would fail to net the performer some positive gains. Organ (1997) points out that very few forms of compensation are ever guaranteed, even when related to required, in-role performance. More specifically, the research has suggested that managers almost certainly take OCB into account when evaluating employee performance for decisions regarding training, promotion, and reward allocations (MacKenzie, Podsakoff, & Fetter, 1991, Podsakoff & MacKenzie, 1994; Podsakoff, et al., 2000). Podsakoff & MacKenzie (1994) asked managers of full-time insurance agents to rate their employees on their overall job performance as well as three dimensions of OCB: helping behavior, civic virtue, and sportsmanship. Combined, the three dimensions of OCB accounted for 48% of the variance in the overall performance measure. Helping behavior, civic virtue, and sportsmanship all had a significant effect on managers' overall evaluations of employee performance. It should be noted, however, that common method variance was not controlled for in this study, which may have inflated the relationships among the study variables. The research would seem to suggest that this aspect of the definition of OCB lacks the specificity to distinguish OCB from other types of job behaviors. An examination of other citizenship-type behaviors may provide a partial solution to this quandary.

Other constructs similar to OCB that have been researched over the years include prosocial organizational behavior (Brief & Motowidlo, 1986), organizational spontaneity, (George & Jones, 1997), and contextual performance (Borman & Motowidlo, 1993). It was this last construct that Organ (1997) turned to when he retooled his OCB construct. Borman & Motowidlo (1993) defined contextual performance as, “behaviors that do not support the technical core [of the job] itself so much as they support the broader organizational, social, and psychological environment in which the technical core must function” (p. 73). Defined as such, contextual performance seems to avoid some of the problems that have haunted OCB as discussed above, while still capturing the essence of helping behavior that is beneficial to the organization. Organ (1997) points out that the two constructs are nearly identical in terms of their operationalization:

Borman and Motowidlo (1993) enumerated five categories of contextual performance, including volunteering for activities beyond a person’s formal job expectations, persistence of enthusiasm and application when needed to complete important task requirements, assistance to others, following rules and prescribed procedures even when it is inconvenient, and openly espousing and defending organization objectives. Obviously, the enumerated categories sound much like OCB in the form of altruism, compliance, sportsmanship, courtesy, and civic virtue (p. 90).

In light of this similarity in operationalization, Organ asserted that the difference between OCB and contextual performance is simply that the conceptual definition of contextual performance does not require the behavior be extra-role or that it be

nonrewarded. Organ argued that the defining quality of the behavior is that it be “non-task”. Thus, OCB as redefined by Organ (1997) is simply “performance that supports the social and psychological environment in which task performance takes place.” (p. 95). This focus on enhancing performance is largely unchanged from the initial conceptualization of OCB.

The enhancement of performance has proven to be problematic to measure and validate despite it being a key assumption of OCB as proposed by Organ (1988). The general concept is that OCB, when averaged across people and time, will improve the functioning of the organization as a whole. Early OCB literature simply took this for granted and referenced its intuitive appeal as sufficient evidence. Research has since sought to provide evidence for this contention through empirical investigation (Chen, Lam, Schaubroeck, & Naumann, 2002; MacKenzie, Podsakoff, & Ahearne, 1998; Podsakoff & MacKenzie, 1994; Podsakoff, Ahearne, & MacKenzie, 1997). The premise that OCB improves the overall functioning of an organization is a key factor in the motivation to understand this construct. If OCB improves the functioning of organizations, the drive to understand the antecedents of this behavior can be plainly understood.

*Operational definition.* In addition to the clarification needed regarding the conceptual definition of OCB, some attention needs to be paid to issues of its measurement. There are several widely used scales that measure OCB in terms of a number of sub-dimensions. These scales will be briefly reviewed, and an argument against measuring these sub-dimensions will be presented and critiqued.

Moorman and Blakely (1995) developed a 19-item scale that assessed four dimensions of OCB. The dimensions were termed: (a) interpersonal helping, (b) individual initiative, (c) personal industry, and (d) loyal boosterism. Interpersonal helping is a category of altruistic behaviors such as helping a coworker in need of assistance on job-related problems. Personal industry describes behaviors characterized by extreme attention to quality and the performance of tasks at an unusually high level. Individual initiative behaviors characterize employees' efforts to encourage participation and improve team performance. Finally, loyal boosterism describes a commitment to the organization and a defense of organizational interests.

Williams and Anderson (1991) developed a 21-item measure that consists of three sub-scales: one sub-scale measuring OCB directed at individuals (OCBI), one sub-scale measuring OCB directed at the organization (OCBO), and a sub-scale measuring in-role performance. Unlike some other types of OCB scales, the Williams and Anderson measure discriminates OCB dimensions based on the target of the behavior, not the nature of the behavior.

Podsakoff, MacKenzie, Moorman, and Fetter (1990) developed a five-factor scale measuring OCB. The 24-item scale measures OCB through the following sub-dimensions: (a) altruism, (b) conscientiousness, (c) sportsmanship, (d) courtesy, and (e) civic virtue. Altruism is discretionary behavior directed at helping others with work related matters. The conscientiousness dimension captures behavior that goes beyond the minimum role requirements of the organization. Sportsmanship is the willingness to tolerate less than ideal situations without exorbitant protesting. Courtesy is behavior that



reduces interpersonal problems within the organization through the consideration of how certain actions will impact others. Civic virtue measures the extent to which the employee is invested in the political life of the organization. Responses on all of these OCB scales indicate the respondents' degree of agreement or disagreement that the behavior-item is performed by the employee.

Motowidlo and Van Scotter (1994) developed a 16-item measure of contextual performance that I review in light of Organ's (1997) reconceptualization of OCB. As reviewed earlier, this reworking of the definition of OCB is similar to Motowidlo and colleagues' definition of contextual performance. The contextual performance measure is a two-part scale with one part assessing core task behaviors and the other part assessing the contextual performance behaviors. The core task behaviors for the scale developed by Motowidlo and Van Scotter (1994) were constructed from reports of task analyses. The items measuring contextual performance were conceptually tied to the definition of contextual performance. Some examples include: (a) "comply with instructions even when supervisors are not present," (b) "cooperate with others on the team," and (c) "defend the supervisor's decisions." This scale differs from the OCB scales previously mentioned in that respondents indicate, via Likert-type scales, the extent to which they would expect the employee in question to engage in the type of behavior listed in each item.

As evidenced above, scales assessing OCB are generally divided into sub-scales that purport to measure different aspects of OCB. Researchers frequently examine differences among these dimensions in terms of their predictive validity and often find

evidence for making such distinctions (e.g., Bachrach, Bendoly, & Podsakoff, 2001; Barksdale & Werner, 2001; Podsakoff & MacKenzie, 1994, 1997).

Recent research by LePine, Erez, and Johnson (2002) seems to suggest that interpreting results based on scores on OCB dimensions may be problematic. Their results support the view that OCB sub-dimensions are best thought of as indicators of the latent construct of OCB. Simply put, each sub-dimension functions much as an individual item on some measure of a larger construct, with each sub-dimension owing some of its variance to the larger construct (OCB) and the rest to various sources of error. This is in contrast to the view that OCB sub-dimensions are measuring distinct classes of OCB and can be interpreted as such. In summary, LePine et al. (2002) concluded that most of the dimensions of OCB “are highly related to one another and that there are not apparent differences in relationships with the most popular set of predictors” (p. 60). They also caution against interpreting differential relationships among predictors, citing that observed differences are likely a derivative of sampling error.

One criticism of this study is in their interpretation of correlation coefficients corrected for attenuation. LePine et al. (2002) completed a meta-analysis of studies that assessed the sub-dimensions of OCB. The intercorrelations among OCB sub-dimensions as well as correlations corrected for attenuation were reported. LePine et al. (2002) argued that, “all but two of the 95% confidence intervals [for the corrected intercorrelations]...included values that exceeded .70, the generally accepted minimum value for internal consistency reliability” (p. 57). However, an examination of Nunnally and Bernstein’s (1994) text suggests it might have been an error to use the correction for

attenuation in this case. Nunnally and Bernstein point out that the correction for attenuation is based on the assumption that “two tests from two different domains should have uncorrelated errors, and errors on either test should be uncorrelated with the true scores on either test” (p. 240). Although the sub-dimensions of OCB measure different aspects of OCB, they are still bound together by the overarching concept of OCB. Because the dimensions are thus related, it may be unwise to assume that errors would be uncorrelated. If this assumption is incorrect, the upward bias resulting from the correction for attenuation procedure may be misleading. An examination of the uncorrected correlations presented by LePine et. al. (2002) shows that they ranged from .34 to .67, which is below Nunnally’s recommended value of .70 for internal consistency.

In addition to the psychometric evidence endorsing the multi-dimensional view of OCB, a review of the literature lends further support for the multi-dimensional approach to OCB measurement. In the following section, I review several studies in which OCB was used to predict various criterion variables. In all cases, the various dimensions of OCB proved to be distinct predictors of the criteria variables. These studies also showed that OCB sub-dimensions related to various criteria differently and that those relationships are fairly consistent. Note that most of these studies used OCB to predict various kinds of performance, supporting the idea that OCB leads to enhanced job performance.

Podsakoff and Mackenzie (1994) conducted a study of OCB and sales unit effectiveness among insurance agents. Three OCB sub-dimensions were examined: helping (altruism), civic virtue, and sportsmanship. Initial analyses provided evidence for

discriminant validity by showing that the items for the three sub-scales had intercorrelations significantly less than 1.00 and the shared variance among any two constructs was always less than the average variance explained in the items by the construct. When the three OCB dimensions were used to predict objective unit performance of the insurance sales agents, civic virtue and sportsmanship were found to have significant positive correlations with objective performance. Interestingly, helping (altruism) was found to have a significant but negative correlation with objective unit performance. The authors offered several possible explanations for this relationship. Among these, the authors speculate that though an inexperienced employee's performance could benefit from the help administered by a more experienced employee, this will result in positive results for the organization only if the gains in the inexperienced employee's performance offset the loss in productivity by the experienced employee. Another explanation ventured by the authors is that behavior intended to be helpful may not actually be helpful or that helping behavior may result in negative outcomes in the short run but have positive effects in the long run. The author's final explanation is based on the high turnover rate in the insurance industry. Inexperienced employees receiving help may leave the organization before the positive effects of the help are fully realized.

Barksdale and Werner (2001) tested several models of the relationships among OCB, in-role behavior, and overall performance. Data were collected by way of managerial surveys of MBA and MS students from a large southeastern university. In-role behavior was measured using the Williams and Anderson(1991) in-role behavior

sub-scale. The OCB dimensions of altruism and conscientiousness were measured using the Smith et al. (1983) scale. Overall performance was assessed using a 7-item comparative performance appraisal with one additional item assessing global performance. Through structural equation modeling, they showed that two dimensions of OCB, altruism and conscientiousness, were separate but related constructs. They also hypothesized that overall performance would be predicted by in-role behavior, altruism, and conscientiousness. A test of this model showed that, although it accounted for 90% of the variance in overall performance, only altruism and in-role behavior were significantly related to overall performance. Barksdale and Werner also hypothesized that all the constructs would be correlated to some degree due to a second order “general performance” factor. The authors suggested that this general performance factor is akin to “g”, the general cognitive intelligence factor. They acknowledged, however, that this could also be a statistical artifact resulting from common method variance. Their results showed moderate support for the model. Overall, their results indicated that altruism and conscientiousness are unique dimensions of behavior that predicted overall performance as measured in this study.

Podsakoff, Ahearne, and MacKenzie (1997) examined the extent to which OCB would predict quality and quantity of work group performance. The data for this experiment were collected from work crews at a paper mill. The authors defined two performance dimensions: quality of paper produced, and quantity of paper produced. The quality of paper produced was defined as the percentage of paper produced that met company standards, while quantity was defined as the percent of maximum production.

The researchers measured OCB through three sub-scales: helping (altruism), civic virtue, and sportsmanship. The helping dimension of OCB was positively correlated with quantity measures, but negatively correlated with quality measures. Sportsmanship correlated positively with quantity. Civic virtue failed to correlate with quality or quantity.

The evidence above seems to present a strong case for a multi-dimensional conceptualization of OCB. The research revealed consistent relationships between some dimensions of OCB and a variety of outcome variables, although the directions of the effects were not always in the predicted direction. The research also shows that each OCB sub-dimension measures “general” OCB as well as some unique variance. Evidence for a multidimensional conceptualization is found in the form of differential relationships between the dimensions and the criterion variables. For example, Podsakoff and MacKenzie’s (1994) results showed that while sportsmanship and civic virtue had significant, positive relationships with criterion measures, helping behavior had a significant, negative relationship with the criterion measure. Such evidence suggests that there is a unique variance measured by each OCB sub-dimension. LePine et al. (2002) argued that these relationships are a function of sampling error, however, there is lack of evidence for their uni-dimensional view of OCB. Furthermore, if the sub-dimensions of OCB were essentially different predictors of the same “general” OCB construct, and if they shared variance to the point that one would accept them as one single scale, sampling error would still prove to be an inadequate explanation for these findings. Generally, the effect sizes reported for the relationship between OCB and performance

outcomes are quite large. In their review of the literature, Podsakoff et al. (2000) reported  $R^2$  values for the effect of OCB on group or organizational performance ranging from .15 to .43. With effect sizes as substantial as those reported by Podsakoff et al. (2000), one would not expect sampling error to affect the magnitude and direction of the relationships so severely as to account for the results reported in the studies reviewed above.

In summary, although LePine et al. (2002) argued for a uni-dimensional model of OCB, the empirical evidence suggests a multi-dimensional conceptualization. Further, the literature presents a convincing picture of complex relationships between the dimensions of OCB and various criterion variables. The fact that these relationships fluctuate between contexts is further evidence that the unique effects related to OCB dimensions are not simply statistical artifacts. Finally, given the effect sizes generally reported for the effects of OCB on outcome measures, the argument that differences in the predictive nature of the dimensions are due to sampling error seems inadequate. Thus, OCB research is best served by a multi-dimensional definition of OCB.

#### *OCB and Performance*

In addition to supporting an argument for a multidimensional conceptualization of OCB, the research above also provides a basis for examining the assumption that OCB has an effect on organizational performance. While the effect sizes reported by Podsakoff et al., (2000) are substantial, the direction of the effects is not always in the predicted direction. For instance Podsakoff and MacKenzie (1994) and Podsakoff et al. (1997) both found significant, *negative* relationships among measured performance and OCB sub-dimensions. This seems to indicate that in some instances OCB can negatively

impact performance depending on the nature of the tasks and the organizational environment. Hunt (2002) hypothesized that in certain jobs, predominantly in the labor and manufacturing sector, OCB may not be desirable. Hunt posited that OCB may lead to negative outcomes when performed by employees with poor decision making ability in positions with static, well defined work tasks. Hunt reasons that if employees have poor decision-making skills they may incorrectly interpret opportunities to perform OCBs and engage in extra role behavior under inappropriate circumstances and that this effect would be magnified in highly structured jobs. Hunt tested his theory and found that OCB type behaviors were related to lower performance in steel processing workers and barge deck hands, although the studies reported never actually measured OCB or job characteristics.

While some recent studies have also found that OCB had negative or negligible effects on performance (e.g. Dunlop & Kibeom, 2004; Hunt 2002), other recent research has further supported the contention that OCB improved organizational performance. Chen et al.(2002) collected data from 148 work groups within a large multi-national bank assessing group level OCB, turnover intentions, group performance, and individual performance. The results indicated that group level OCB was positively related to work group performance and individual performance, while it was negatively related to turnover intentions. One of the most interesting aspects of this study is that it examined OCB as a group level construct. Most research examines OCB as individual behavior; however, this study set out to measure group level OCB as a construct distinct from



individual OCB. Additionally, the authors had the insight to include multiple aspects of organizational performance, i.e. turnover intentions.

The inconsistencies among the results reported in these studies indicates that the relationship between OCB and organizational performance is not as straightforward as many researchers assumed in the past. Given the findings that, under the right circumstances, OCB can result in impaired performance, research should not only attempt to link OCB to organizational performance, it should attempt to make clearer the circumstances that affect the OCB-performance relationship.

#### *Organizational Justice Theory*

While the body of research concerning OCB and organizational performance is still developing itself, there is an extensive body of research concerning the antecedents of OCB. One area of this research that has received strong support is the work done investigating the influence of organizational justice on OCB. In the following sections I present an argument for examining the relationship between OCB and performance from an organizational justice theory perspective.

*Equity theory.* Researchers interested in issues of justice often base their investigations of this construct within the framework of equity theory (Greenberg, 1990). In this research, workers have compared themselves to other workers by means of a ratio of perceived work outcomes to perceived work inputs. Workers who have higher ratios of work related outcomes (e.g., pay, recognition, etc.) to work inputs (e.g., level of effort applied to the job) are predicted to feel guilty. Workers who have a low ratio of outcomes to inputs are predicted to feel angry. Workers are theorized to be motivated to

maintain an equitable ratio of inputs to outcomes, resulting in higher levels of job satisfaction (Greenberg, 1984). Workers can achieve this equity by adjusting their perceptions, or adjusting their behavior.

Organ (1988) initially argued that the desire to maintain equitable ratios would motivate employees to adjust their performance. As employees desired to adjust their level of work input, Organ theorized that they would do so by varying their performance of OCB. He argued that OCB would be a prime candidate for such adjustments due to its discretionary nature. This argument has since evolved into a more sophisticated model based on organizational justice theory. A brief introduction of some justice terms will precede an outline of an organizational justice theory of OCB.

*Procedural versus distributive justice.* Organizational justice is used to explain how employees determine whether they have been treated fairly in their jobs and how perceptions of fairness impact other organizational processes (Moorman, 1991).

Organizational justice has been divided into two main categories: distributive justice and procedural justice. Distributive justice refers to employees' perceptions of the fairness of outcomes received by the employee. Procedural justice refers to employees' perceptions of the fairness of the procedures used to determine those outcomes. (See Greenberg (1990) for a review of the empirical evidence distinguishing distributive and procedural justice.)

Research has indicated that attitudes changed by procedural justice may have a different focus than do attitudes affected by distributive justice (Lind & Tyler, 1988). Distributive justice results from the equity of specific, individual outcomes, whereas

procedural justice affects attitudes about the organization as a whole or authorities within it (Lind & Tyler, 1988). This influence on attitudes toward the organization is a main avenue for organizational justice perceptions to influence OCB.

Organ (1988) developed the concept of OCB as a way to understand how employee satisfaction could lead to improved organizational outcomes. Initially, Organ (1988) adopted an equity theory perspective that satisfied employees would perceive themselves in a favorable situation and, therefore, feel motivated to perform extra-role behaviors that would benefit the organization. This equity approach presented some conceptual problems discussed in more detail below. More recent approaches have shifted toward using organizational justice theory to understand employees' motivation to perform citizenship behaviors. In the next section I will review research that frames OCB within an organizational justice theory perspective.

#### *An Organizational Justice Theory of Organizational Citizenship Behavior*

When a worker feels that a violation of justice has occurred as a result of an inequitable ratio of work input to work outcomes, the worker will be motivated to adjust this ratio to a state of equity. This can be accomplished by altering perceptions or by altering job related behavior. Organ (1988) hypothesized that OCB could be considered a work-related input, and thus would be subject to possible adjustment. Organ (1988) further hypothesized that altering OCB would be a primary strategy since, by its very nature, OCB is discretionary. Because the OCBs are nearer the discretionary end of the continuum than other job behaviors, the employee has more discretion as to how much or little of this behavior to display. In contrast to required work behavior, if employees

decreased their OCB in response to inequity, they would be at a reduced risk for additional repercussions.

Though this view is appealing, the relationship between perceived work equity and OCB is complicated. One issue that complicates this relationship is the ongoing debate regarding the in-role/extra-role distinction within the OCB construct. An employee may not perceive OCB as extra role, and thus might not come to the conclusion that there is a reduced risk in decreasing the frequency of these behaviors. Additionally, research has shown that OCB is a strong source of variance in employee performance appraisals. MacKenzie, Podsakoff, and Fetter (1991, 1993) have shown that OCB predicts variance in performance appraisals to a greater degree than objectively measured performance. Motowidlo and Van Scotter (1994) also found that both task behavior (in-role behavior) and contextual performance (extra-role behavior) affect subjective supervisory ratings. Thus, while disciplinary repercussions are unlikely due to the discretionary nature of OCB, an employee could still incur aversive consequences in the form of a negative impact on performance appraisals. Though these issues are important to consider, they do not affect the premise that the discretionary nature of OCB makes it a more attractive option compared to required job behaviors when workers make efforts to adjust the equity of their work situation.

*Social exchange theory.* Researchers operating within a social exchange framework have found strong evidence that organizational justice is related to OCB (Blau, 1964; Konovsky & Pugh, 1994; Moorman, 1991). Blau (1964) conceptualized two types of workplace exchanges: economic and social. The nature of economic

exchange is familiar to most of us; it revolves around a calculated, quid pro quo method of exchange. Whereas economic exchange is based on finite transactions, “social exchange relationships are based on individuals trusting that the other parties to the exchanges will fairly discharge their obligations in the long run” (Konovsky & Pugh, 1994, p.570). Trusting relationships are therefore necessary in a social exchange relationship because temporary asymmetries in equity may exist and individuals need to have confidence they will be resolved (Moorman, 1991). This expectation of long-term fairness in social exchange is in contrast to the short-term fairness that accompanies economic exchange (Konovsky & Pugh, 1994):

Research has focused on two primary antecedents of the supervisor-employee trust relationships: distributive justice and procedural justice. Distributive justice is integral to the economic exchange process because of its basis in the fidelity of transactional contracts. Procedural justice describes the social exchange process and is based on the fidelity of relational contracts. Research seems to support the view that relational contracts and procedural justice are more likely to enhance levels of trust in the supervisor than transactional contracts and distributive justice (Konovsky & Pugh, 1994; Lind & Tyler, 1988; Organ & Moorman, 1993). Additionally, research summarized by Konovsky and Pugh (1994) seems to support the view that social exchanges between supervisors and subordinates seem to enhance the performance of behavior that typifies OCB.

Equity theory and social exchange theory explanations for OCB do not necessarily conflict with one another, and could in fact be complementary. Equity theory

primarily concerns a worker's motivation to engage in certain behaviors. In relation to OCB theory, employees will be motivated to adjust their level of OCB performance in accordance with the perceived equity of their input-to-outcome ratio. Social exchange theory is primarily concerned with the social environment's facilitation of this behavior. The prime question to be answered from a social exchange theory standpoint is whether or not the employee will feel safe exhibiting OCB in his or her present environment. In the case of OCB, this is a function of trust. If employees can trust, based on assessment of the social environment, that performance of OCB will not be in vain, they will be more likely to perform this behavior. Therefore, equity theory and social exchange theory are distinct but non-competing theories of OCB. Employees motivated to perform OCB through equity theory may not feel secure that this behavior will be recognized because of a poor social exchange relationship and may still refrain from engaging in OCB.

Research has supported the view that level of trust in the supervisor mediates the relationship between procedural justice and OCB (Deluga, 1994; Fahr, Podsakoff, & Moorman, 1990; Moorman, 1991; Moorman, Blakely, & Niehoff, 1998; Organ & Ryan, 1995). A majority of this research focused on altering previous theories of attitudinal antecedents of OCB (trust of supervisor, organizational commitment, perceived fairness, and leader supportiveness) by characterizing them as mediators of the organizational justice - OCB relationship. These studies showed that when controlling for various measures of organizational justice, the relationship between attitudes and OCB disappeared. Two of the most recent and well-developed studies of the relationship

between procedural fairness and OCB were conducted by Konovsky and Pugh (1994) and Aryee, Budhwar, and Chen (2002).

Konovsky and Pugh (1994) hypothesized that procedural justice in a supervisor's decision making would be more likely than distributive justice to influence trust in the supervisor. Second, they hypothesized that trust would mediate the relationship between procedural justice and OCB (Figure 1). They collected data from 475 hospital employees and their supervisors. The subordinates completed questionnaire measures of procedural justice, distributive justice, and trust in supervision. The procedural justice scale was an 8-item measure adapted from Konovsky and Folger (1991). Respondents completed the measure twice: once in reference to the supervisor's overall decision making and then again in reference to the most recent decision made by the supervisor. The distributive justice measure consisted of two items adapted from Tyler (1990) and was also completed two times in the same manner as the procedural justice measure. The trust in supervision measure consisted of a three-item scale developed by Roberts and O'Reilly (1974). All items were completed only once, unlike the justice measures. Supervisors responded to a 19-item OCB measure adapted from Podsakoff et al. (1990) via 7-point Likert-type rating scales. The researchers assessed all five dimensions of OCB: conscientiousness, altruism, sportsmanship, courtesy, and civic virtue. These dimensions were not examined individually and were instead used as manifest indicators of OCB in all analyses.

The data were analyzed using structural equation modeling techniques. A Chi-square test showed that the fully mediated model presented in their hypotheses (Figure 1)

Figure 1. Relationship Among Procedural and Distributive Justice, Trust in Supervisor, and OCB.

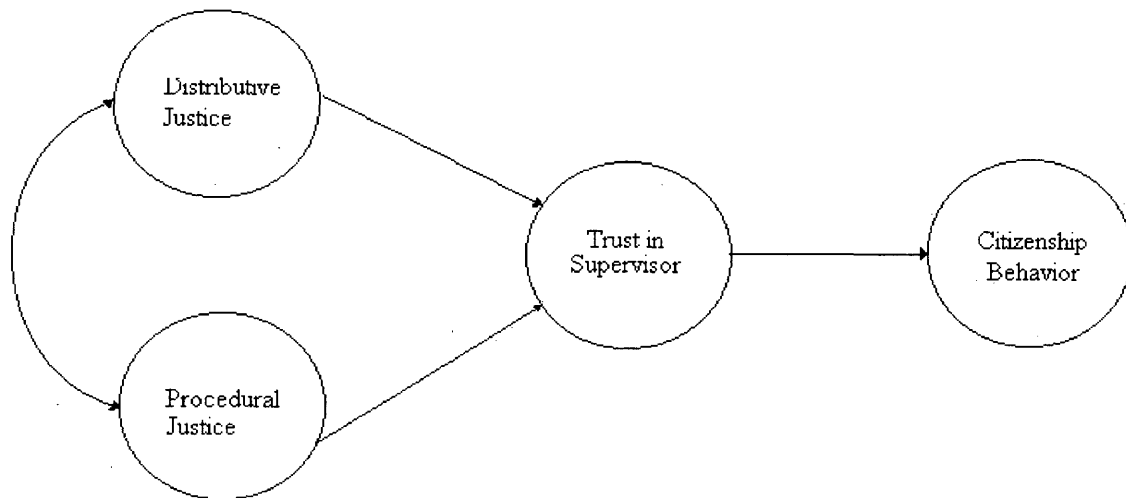


Figure adapted from Konovsky & Pugh (1994).



better fit the observed data than either a measurement model or a partially mediated model. Results also showed that procedural justice was a significant predictor of trust in one's supervisor, which was in turn a significant predictor of OCB; distributive justice was not significantly related to trust in the supervisor. In summary, the results indicated that the relationship between procedural justice and OCB was fully mediated by trust in one's supervisor.

Aryee et al. (2002) expanded on the model tested by Konovsky and Pugh (1994) in several ways. First, they added interactional justice to their OCB model based on work by Bies (1987) and colleagues (Bies & Moag, 1986). They further augmented their OCB model by assessing trust in the organization as well as trust in one's supervisor. Lastly, they examined the influence of these two trust mediators on two different forms of OCB and task performance.

The decision by Aryee et al. (2002) to introduce interactional justice into their social exchange model of OCB has been strongly supported by the literature (e.g., Greenberg, 1991). Interactional justice has been frequently conceptualized as a part of procedural justice, however, more recent research has suggested that they are distinct constructs (Bies, 1987; Bies & Moag, 1986; Greenberg, 1991). Put simply, procedural justice refers to the formal decision making process employed by the organization, while interactional justice refers to the interpersonal treatment received during the implementation of the process. Bies and Moag (1986) posited that procedural justice would influence perceptions of trust toward the organization, whereas interpersonal justice would influence perceptions of trust in the supervisor. Relying on this

distinction several researchers have incorporated interactional justice into their models of justice and social exchange relationships (Barling & Phillips, 1993; Masterson, Lewis, Goldman, & Taylor, 2000).

Ayree et al. (2002) expanded the conceptualization of trust used in previous research by including trust in the organization as a whole as well as trust in the supervisor. They based this distinction on research by Becker (1992) and Reichers (1985) who suggested that employees differentiate between multiple exchange partners. From this research, Ayree et al. (2002) concluded that it is essential to expand beyond trust in the supervisor to obtain a more complete picture of how an organization's fair treatment of its employees impacts work outcomes.

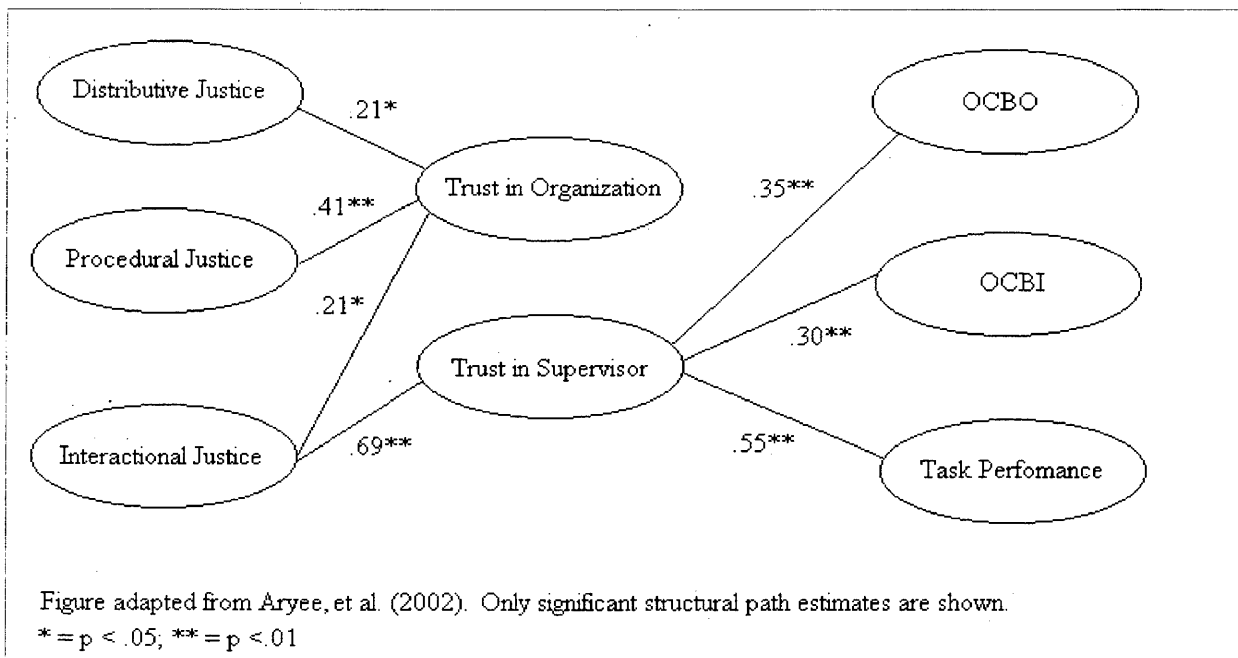
To further enhance their model, Ayree et al. (2002) chose to differentiate OCB along the same lines as Williams and Anderson (1991) by specifying organizational citizenship directed at individuals (OCBI) and the organization as a whole (OCBO). The researchers also sought to include task performance in their overall model. However, because both task performance and OCB were measured by supervisor responses to a Likert type scale, task performance was likely confounded with OCBO and OCBI. Given the correlations between task performance and OCBO and OCBI were  $r(152) = .59$  and  $r(152) = .61$  respectively, this seems probable. The measure of task performance assessed general performance with questions such as, "this employee's quantity of work is higher than average" (p. 275). If the task performance measure is viewed as a simplistic performance appraisal, the research suggests that it should share a significant amount of

variance with OCB, particularly because common method variance was not controlled (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

Aryee et al. (2002) hypothesized that the relationship between distributive justice and OCBO would be fully mediated by trust in the organization. They further predicted that the relationship between procedural justice and OCBO would be fully mediated by trust in the organization. Finally, they predicted that interactional justice would predict OCBO, OCBI, and task performance, and that both trust in the organization and trust in the supervisor would mediate these relationships (see Figure 2).

Data were collected from 179 supervisor-subordinate dyads in a coal production organization based in Bilaspur, India. The subordinates completed measures of distributive justice, procedural justice, interactional justice, trust in organization, and trust in supervisor. Supervisors completed measures of OCBO, OCBI, and task performance. The researchers predicted that trust in the organization would mediate the relationship between distributive justice and OCBO, however, this relationship was not supported by the data. The researchers also predicted that trust in the organization would mediate the relationship between procedural justice and OCBO, this also was not supported by the data. Only trust in the supervisor mediated the relationship between interactional justice and OCBO, OCBI, and task performance as predicted (see Figure 2). Overall, the research provided general support for the model proposed by Aryee et al. (2002) and strong support for a social exchange model of OCB.

Figure 2. Structural Path Estimates: Partially Mediated Model



### *Summary*

Organ (1988) first defined OCB as discretionary behavior not recognized or required by the organization that promotes the functioning of the organization. This conceptual definition has shown to be problematic in that it is difficult to define exactly what behaviors are extra-role or in-role. Additionally, it is difficult to determine whether a given behavior will net the performer any rewards. In response to these conceptual problems, Organ (1997) reconceptualized OCB, defining it as behavior that contributes to the “maintenance and enhancement” of the job context while increasing organizational effectiveness. This revision adjusted the assumption that OCB must be completely discretionary and eliminated the requirement that it go unrewarded. The enhancement of organizational effectiveness remained largely unchanged from the original definition. The updated definition is less specific than the original, allowing for a less restricted interpretation of what behavior meets the extra-role requirement. Thus, OCB may be best thought of as being *relatively* more discretionary than not.

Most measures of OCB are comprised of several factors or sub-dimensions. These factors are thought to measure unique aspects of OCB as well as provide a general measure of OCB when they are combined. LePine et al. (2002) argued that OCB is best thought of as a uni-dimensional construct and that the sub-dimensions are simply imperfect indicators of general OCB. This view was critiqued, and the literature was reviewed to show that the majority of the evidence was in favor of a multi-dimensional conceptualization of OCB.

Research showing a link between OCB and organizational and group performance was also reviewed. Although few in number, these studies have provided support for the contention that OCB improves the general functioning of the organization. This is substantial because the assumption that OCB improves the functioning of the organization is an important one that deserves investigation. Whether or not this is the case, it would be beneficial to determine what impact OCBs have within an organization.

A review of organizational justice theory began with a discussion of equity theory. Within equity theory, workers evaluate a ratio between their perceived work inputs and perceived work outcomes. If they perceive inequity, they will seek to rectify it through adjustment of their level of work inputs. OCBs are considered prime candidates for adjustment since they are not explicitly required and thus lend themselves to varying performance more so than required work behaviors. The equity theory of OCB was then contrasted with the social exchange perspective. Social exchange theory may explain how employees' perceptions of the social environment affect the performance of OCB. To the degree that employees trust the organization to recognize their extra effort, they are likely to perform OCB. Trust in the organization leads employees to tolerate periods of inequity as they will have confidence that it will be only temporary and they will be reimbursed, so to speak, for their extra effort.

#### *Overview of Present Research*

Like much of the research presented above, the present research examined OCB within a social exchange framework. Unlike previous research, this study investigated OCB in an educational setting where study participants were students working in teams

on group projects. As suggested by previous social exchange research, the present study proposed that procedural and interactional justice impact OCB through perceptions of trust in the group. Past research supports the contention that procedural justice and interactional justice are more important predictors of OCB than is distributive justice (Podsakoff et al., 2000). This past research, however, generally focuses on the exchange relationship developed with the supervisor. Because of the different dynamic existing in the research environment, it was hypothesized that the important exchange relationship would be the exchange among the group members. Therefore, the following hypotheses were formulated.

Hypothesis 1a: Perceptions of trust in the group will mediate the relationship between procedural justice and OCB.

Hypothesis 1b: Perceptions of trust in the group will mediate the relationship between interactional justice and OCB.

In the present research, I also attempted to provide support for the assumption that OCB results in improved organizational effectiveness. Past research has provided some support for the OCB-performance relationship (MacKenzie et al., 1998; Podsakoff et al., 2000; Podsakoff & MacKenzie, 1994); however, this research is not conclusive enough to provide a firm argument for the assumption that OCB results in increased organizational effectiveness.

The research is also fairly consistent in showing that the strongest relationship between OCB and performance is through the three OCB sub-dimensions of altruism, sportsmanship, and civic virtue. However, because the setting of the present research is

yet unexplored, my predictions differed somewhat from what the findings in the literature would suggest. Because OCB has not been well researched within an educational setting, relationships between all OCB sub-dimensions, save one, were examined. Civic virtue was not assessed in spite of the findings of previous research because it was not thought to be relevant to this educational setting. Civic virtue has been defined as “responsible, constructive involvement in the political process of the organization” (Organ, 1988, p. 96). It has been measured using questionnaire items such as: “keeps abreast of changes in the organization,” “attends functions that are not required but help the company image,” and “reads and keeps up with organization announcements, memos, and so on” (Podsakoff et al., 1990). This type of behavior did not seem relevant to the educational context investigated in the present study. Furthermore, items used to assess this sub-dimension of OCB would be difficult to adapt to an educational context without altering the underlying meaning of the items. Therefore, OCB and its measured sub-dimensions were expected to mediate the relationship between trust in the group and performance. Performance was measured both in terms of project grades and the instructor’s performance rating of the projects in hopes of fully capturing the performance of the groups beyond simply meeting the project requirements. This led to the following hypotheses:

Hypothesis 2a: OCB and its sub-dimensions will mediate the relationship between trust in the group and project grade.

Hypothesis 2b: OCB and its sub-dimensions will mediate the relationship between trust in the group and the instructor’s performance rating of the projects.



The social exchange model of OCB proposed here differs from models proposed in previous work (Aryee et al., 2002; Konovsky & Pugh, 1994). First, the proposed model was tested in an educational environment as opposed to an industrial setting. Second, it differs from Aryee et al. (2002) in its hypothesized relationships among the constructs. Finally, in contrast to Konovsky and Pugh (1994), the present research examined both antecedents and outcomes of OCB in one model. Each of these differences are discussed in detail in the following sections.

*OCB in an educational setting.* Though research has been done with university students (Barksdale & Werner, 2001; Deluga, 1994; Diefendorff, Brown, Kamin, & Lord, 2002; Williams & Anderson, 1991), it generally includes only students who have jobs and supervisors who are available and willing to participate. In that context, the focus is on OCB as executed in a business or industrial environment. In these studies, the educational environment does not constitute the actual OCB environment. I know of no studies in which OCB has been examined within an educational setting. Extending the concept of OCB beyond the traditional business/industrial setting is important because of possible differences between educational groups and work groups. Educational settings differ from work settings in the duration of time groups are assembled, the nature of supervision, the form of compensation, and the ability of the supervisor (instructor) to discipline the students, among other things. For these reasons, investigating OCB, or any construct for that matter, in different settings may help uncover new moderators of the relationships among constructs.

One difference is that the important exchange relationship in an educational setting seems likely to be among the group members rather than between the students and the course instructor. Whereas past research has indicated that feelings of trust in the supervisor are most likely to mediate the relationship between justice and OCB, the present study focuses on trust in the group because of the change in group dynamics resulting from the group context. Once the project has been assigned, the group members are not nearly as dependent on the instructor as they are on each other. This interdependence means that the meaningful social exchange relationship is likely to be among the group members (Kramer, Hanna, Su, & Wei, 2001; Whitener, Brodt, Korsgaard, & Werner, 1998) rather than with the instructor. This is supported by research which suggests that the relevant social exchange relationship may not always be between supervisors and subordinates (Becker, 1992; Reichers, 1988). While the main focus of the organizational trust literature is on hierarchical relationships (Kramer, 1996; Kruglanski, 1970), it is important not to ignore the impact of trust among group members—especially in light of organizations' ever increasing reliance on teams (Janz, Colquitt, & Noe, 1997).

*Antecedents and outcomes presented within a unified model.* Research related to OCB generally seeks to understand only the antecedents or the outcomes of the behavior. To better understand a construct, it may be more useful to assess it as part of a causal system rather than as only a means to an end or an end in itself. An investigation of a construct done in this way presents a more complete picture of the system and allows researchers to detect any instances where differences in the phenomena causing a

behavior may also result in differences in phenomena affected by that behavior. Aryee et al., (2000) took a step toward researching OCB in this manner by examining several antecedents of OCB, OCB, and performance within the same model. However, they assessed performance only at the level of the individual and did not attempt to assess any level of group performance. Using structural equation modeling techniques, the authors tested eight different path models; however, none of these models examined a link between any form of OCB and the individual performance measure. In the present study, OCB is viewed as a moderator of the relationship between trust in the group and performance and, therefore, is examined in the context of both antecedents and outcomes.

## Method

### *Participants*

Data were obtained from 107 student participants enrolled in an MBA program at a medium-sized midwestern university. The participants were selected from five sections of two classes required for all MBA students. These classes, Essential Leadership Skills and Managing Performance in Organizations, require that students form groups of 3-5 students for the purpose of completing several group projects throughout the semester. Projects completed by these groups consisted of group-authored papers and group presentations to the class. It was not possible to randomly assign participants to groups; the students were given a chance to form their own groups and the instructor assigned the remaining students to groups. Because group work was completed outside of class time, most groups were formed on the basis of schedule compatibility. This research had no impact on participants' grades or the evaluation of their performance in the class. All

participants were given the option of not participating in this research after informed consent was given. All research participants were treated in accordance with the “Ethical Principles of Psychologists and Code of Conduct” (American Psychological Association, 1992).

### *Measurement of Study Variables*

All of the following scales were combined into one questionnaire (Appendix A). The first 30 items assessed the participant’s perceptions of justice and OCB within their group. These items assessing each construct were mixed in a random order to try to prevent participants from patterning their responses similarly within each construct measure. The order of all the items was consistent across subjects. The next 11 items assessed the perceptions of justice referent to the instructor. These were similarly, randomly ordered. The next seven questions assessed participant’s level of trust in their group members, and the final seven items assessed the participants’ level of trust in their instructor. These trust items were not distributed among the other questions because they contained a slightly different form of question.

*Perceptions of justice.* Organizational justice was assessed using 11-items adapted from the scales developed by Niehoff and Moorman (1993) and Colquitt (2001). This measure was comprised of two sub-scales with six items measuring procedural justice and five items measuring interactional justice. An example of items from the procedural justice scale is: “To what extent have you had influence over the group project and the related procedures?” An example of items from the interactional justice subscale is: “Through the course of this project I have been treated with respect and dignity”. Ratings

were obtained with a 5-point Likert-type scale ranging from 1 = *to a small extent* to 5 = *to a large extent*. Separate scores were computed for procedural and interactional justice scales for both the group referent scales and the instructor referent scales by averaging the responses for each participant. This resulted in four scores: (a) procedural justice/group referent, (b) procedural justice/instructor referent, (c) interactional justice/group referent, and (d) interactional justice/instructor referent. These scores were then averaged across group members to represent the group's perceptions of justice.

*Feelings of trust.* Trust in the instructor and trust in the group were measured by a seven-item trust scale adapted from Robinson (1996). Two versions of this scale were used to reflect the multiple targets of the feelings of trust. As with the justice scales, one scale referred to the instructor while the other referred to the group. Some examples of scale items included: "I believe the members of my group have high integrity" and "My class instructor is not always honest and truthful." Ratings were provided on a 5-point Likert-type scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. Scores were computed by averaging the responses for each participant separately for the trust in the instructor scale and the trust in the group scale. These scores were then averaged across the group to indicate the group's perceptions of trust in the instructor and the group members.

*Organizational citizenship behavior.* OCB was measured using a 19-item scale adapted from Podsakoff et al, (1990). Four of the five OCB sub-scales were included: altruism, conscientiousness, courtesy, and sportsmanship. The civic virtue scale was not felt to be relevant to the types of experiences these groups were likely to have. The items

measuring sportsmanship were reverse scored because it was easier to assess this dimension using negative statements and reversed scores. Scores for each of the sub-dimensions of OCB were computed by averaging the item scores for each participant and then averaging the scores across participants for each group. A composite OCB score was computed by averaging the dimension scores for each group.

*Group performance.* Group performance was assessed through a separate questionnaire given to the course instructor for each group (Appendix B). The instructor recorded the percentage grade that each group received on each of their group projects. The percentage scores for each group project were averaged to create a measure of project grade. The questionnaire also contained three items assessing the quality of the group work in a more global manner, using a 7-point Likert-type rating scale. The items were: “This project includes all aspects of the task assigned”, “This project appears to be the product of thoughtful planning and execution”, and “This project is well written and well presented”. The rating scale was anchored with 1 = *strongly disagree* and 7 = *strongly agree*. These items were averaged together to comprise a measure of instructor performance ratings. Performance was assessed using two measures to hopefully capture the performance of the groups more fully. Project grade was assessed against a grading standard, while the instructor’s performance rating assessed a more general, qualitative rating of the group performance. Additionally, the instructors assessed project grades as the semester progressed, with the graded product in front of them; the instructor performance ratings were taken after the semester had ended.

### *Procedure*

The questionnaires were presented to the participants in their classroom setting near the end of the semester. The participants were given a brief presentation about the nature of the research and purpose for which data were being collected. They were told that the data were being collected as part of a master's thesis investigating group processes. They were told that they were to use their experiences in the project groups for this class to answer the questions on the questionnaire. The researcher then answered any questions that the participants had and distributed the questionnaires. After the conclusion of the semester, the questionnaires assessing the group performance measures were given to the instructors for completion.

### **Results**

Means and standard deviations of perceptions of justice and trust in the group, OCB and its sub-scales, and the performance measures are presented in Table 1. The groups had fairly high perceptions of justice, trust, and OCB; groups also demonstrated uniformly high performance on group projects. This lack of variance could cause problems in detecting effects; this will be addressed further in the discussion section. Chronbach's alpha was computed for all scales and found to be within the accepted range for newly developed scales ( $\alpha = .81 - .92$ ). Intraclass correlation coefficients were computed for all variables to be aggregated to the group level to assess the extent to which group members agreed in their ratings of their group experiences (Bliese, 2000). The intraclass correlation coefficients ranged from .23 - .50, indicating that the group

Table 1

*Means and standard deviations of justice, trust, performance, and OCB at the group level*

Target	Group		Instructor	
Variable	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Trust	4.19	.53	4.26	.50
Justice (combined)	4.23	.47	4.17	.48
Interpersonal justice	4.28	.48	4.23	.47
Procedural justice	4.18	.48	4.11	.49
OCB	3.88	.46		
OCB - altruism	3.89	.51		
OCB - conscientiousness	3.84	.48		
OCB - courtesy	3.86	.55		
OCB - sportsmanship	3.90	.50		
Instructor performance rating	5.56	1.14		
Project grades	90.02	2.47		

Note  $n = 31$ .



means are stable estimates of the perceptions of the group. A larger intraclass correlation indicates that the variance within each group is smaller than the variance between the groups. In the case of this study, we would expect the ratings of the group experiences to be similar for each group member because they are in the same group, however, we would not expect them to be the same because the experiences for each group member were different. Because of this, it is reasonable to expect a moderate correlation such as those in the range reported above. Two exceptions were the perceived interactional justice of the group ( $r = .05$ ) and the OCB altruism subscale ( $r = -.04$ ). These lower values indicate that, for these ratings, there may have been differences in perceptions within the groups. All further analyses were computed at the group level, however, as this is the level of analysis appropriate to the proposed hypotheses and the level at which the outcome variables were assessed.

Initial inspection of the data revealed that there were differences in the relationships among the variables within the five different sections. It was found that correlations between any two variables varied widely if assessed within each section. Problems that could result from any systematic variance related to individual sections of the courses were also a concern. For these reasons, all subsequent analyses were performed controlling for the variance attributable to the difference in section. Table 2 presents the correlations among study variables partialing out the effects of four contrast-coded variables representing differences in section. Zero-order correlations without the effects of section partialled out are presented in Appendix C. A comparison of the two tables indicates that partialing out the effects of section did not impact the values of the

correlations much with the exception of the correlations between the two performance variables and the correlation between instructor performance ratings and sportsmanship. These correlations were no longer significant when computed without partialing out variance due to section. Because the impact of partialing out variance attributable to section was negligible in most cases and, because when the partialing did affect the correlations it resulted in improved significance levels, it appears that controlling for section is the appropriate analysis.

The correlations among the justice, trust, and OCB variables were extremely high. This indicates some degree of multicollinearity that will be discussed further in the discussion section as a limitation of the present study. The correlations also revealed that both of the performance variables, although highly correlated with one another, failed to correlate with any other study variable with the exception of the OCB sub-dimension of sportsmanship. Because the OCB sub-scales were so highly correlated with each other, only the analyses using the OCB composite measure are reported. Analyses on the separate subscales simply replicated these results, and thus, are repetitive. Analyses involving the sportsmanship dimension and performance variables will be presented due to the significant correlations reported above.

The first portion of the model proposed that trust would mediate the relationship between organizational justice and OCB. This hypothesis was tested using the procedures outlined by Baron and Kenny (1986). Baron and Kenny outline the four conditions that must be met to support a mediational hypothesis as follows: (1) the IV significantly affects the mediator, (2) the IV significantly affects the DV in the absence of

Table 2

*Intercorrelations among study variables at the group level partialing out variance due to class*

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Trust in group	1.00										
2. Justice composite	.81**	1.00									
3. Justice – interpersonal	.79**	.97**	1.00								
4. Justice – procedural	.78**	.97**	.89**	1.00							
5. OCB composite	.86**	.82**	.80**	.80**	1.00						
6. OCB – altruism	.82**	.86**	.85**	.81**	.93**	1.00					
7. OCB – conscientiousness	.60**	.59**	.55**	.59**	.84**	.68**	1.00				
8. OCB – courtesy	.84**	.88**	.84**	.88**	.93**	.90**	.70**	1.00			
9. OCB – sportsmanship	.80**	.58**	.59**	.53**	.85**	.74**	.64**	.70**	1.00		
10. Instructor performance rating		-.01	-.04	-.02	-.07	.15	.10	.04	.03	.38*	1.00
11. Project grades		.07	-.12	-.06	-.19	.04	.01	-.01	.31*	.58**	1.00

*Note.* One tailed tests. \* $p < .05$ , \*\* $p < .01$ .  $n = 31$ .

the mediator, (3) the mediator has a significant unique effect on the DV, and (4) the effect of the IV on the DV shrinks upon the addition of the mediator to the model. If the effect of the IV on the DV does not drop completely to zero, a Sobel (1982) test is required to detect if the indirect effect of the IV on the DV through the mediator is significantly different from zero. Sobel created this test as a method for establishing confidence intervals around path estimates derived from structural equation modeling techniques. The Baron and Kenny (1986) procedure was used to test hypothesis 1a, that perceptions of trust in the group will mediate the relationship between procedural justice and OCB. Examining the correlations in Table 2 one can see that the first condition to support mediation has been met, procedural justice was correlated with group trust,  $r(30) = .78, p < .01$ . To test the second condition, that the IV will significantly affect the DV in absence of the mediator, OCB was regressed on procedural justice controlling for perceptions of trust in the group. The second condition was also supported as it was found that higher levels of procedural justice also led to higher levels of perceived OCB controlling for trust in group,  $F(1,30) = 4.53, p < .05$ . To test the third condition, that the mediator has a significant unique effect on the DV, OCB was regressed on perceptions of trust in the group controlling for procedural justice. It was found that higher levels of trust in the group had led to higher levels of perceived OCB when controlling for procedural justice,  $F(1,30) = 14.56, p < .001$ , thus meeting the third requirement for mediation. A Sobel (1982) test of this relationship provided evidence for the final condition of mediation and indicated that trust in the group did indeed mediate the relationship between procedural justice and OCB,  $z = 3.266, p < .001$ . Given the high

correlation among the justice variables, it is not surprising that these results were essentially replicated for interactional justice, supporting hypothesis 1b. The results clearly support the position that perceptions of trust in the group will mediate the relationship between justice and OCB.

The Baron and Kenny (1986) method was also used to test hypothesis 2a: OCB and its sub-dimensions will mediate the relationship between trust in the group and project grades and hypothesis 2b: OCB and its sub-dimensions will mediate the relationship between trust in the group and the instructor's performance rating of the projects. An examination of the correlations in Table 2 reveal that there were no significant zero order correlations that met the first criterion for mediation as outlined by Barron and Kenny (1986) with the exception of significant correlations between sportsmanship and project grade,  $r(30) = .31, p < .05$ , and instructor performance ratings,  $r(30) = .38, p < .05$ . To test hypothesis 2a, project grade was regressed on perceptions of trust in the group and sportsmanship. Trust in the group failed to significantly affect project grade when controlling for sportsmanship,  $p = .31$ , thus the second condition of mediation was not met and hypothesis 2a was not supported. To test hypothesis 2b instructor performance rating was regressed on perceptions of trust in the group and sportsmanship. Trust in the group failed to significantly affect instructor performance ratings when controlling for sportsmanship,  $p = .82$ , thus the second condition of mediation was again not met and hypothesis 2b was not supported.

Exploratory analyses were carried out investigating the impact of the perceived justice of the instructor and trust in the instructor on OCB as well. Correlations among

these instructor-based variables and the remainder of the study variables are presented in Table 3. As in the case with the group related justice and trust variables, the instructor based trust and justice variables correlate very highly. However, unlike the group based justice and trust variables, the instructor based justice and trust variables did not correlate with OCB or its sub-dimensions. These low correlations with OCB preclude any mediation effect, so no further analyses were completed on these variables.

Overall, these results suggest that the relationship between the perceived justice of the group and OCB is mediated by trust in the group. They further suggest that these group related variables are more important than instructor based perceptions of trust and justice in the present context. Unfortunately, the results do not provide strong support for the relationship between OCB and performance.

Table 3

*Correlations among instructor-based justice and trust with OCB and performance variables partialing out the effects of section.*

	Instructor Based Variables		
	Trust	Interactional justice	Procedural justice
Trust (instructor)	1.00		
Interactional justice	.74**	1.00	
Procedural justice	.71**	.95**	1.00
Group Based Variables			
OCB	.29	.27	.34
OCB - altruism	.38	.19	.25
OCB - conscientiousness	.16	.31	.41**
OCB - courtesy	.36	.26	.35
OCB - sportsmanship	.08	.21	.19
Instructor performance rating	-.22	-.18	.18
Project grade	-.21	-.14	-.12

Note, \* $p < .05$ , \*\* $p < .01$   $n = 31$

## Discussion

In this study I proposed and tested a social exchange model of OCB similar to those proposed by researchers in the past (Aryee et al., 2002; Konovsky & Pugh, 1994). Traditional social exchange models of OCB have proposed that employees will enter into social exchange relationships with supervisors who they perceive to be fair, as measured by organizational justice perceptions. This social exchange relationship will be characterized by feelings of trust toward the supervisor. The trust between supervisor and subordinate enables the employees to feel free to engage in OCB because they trust that they will be treated fairly, that is, that the extra effort will be recognized and rewarded. The social exchange model of OCB presented here differs in several important ways. It is tested within an educational setting, and because of this it was proposed that the relationship of importance was the relationship among the group members; not the relationship between the group members and the supervisor represented by the course instructor. Additionally, this model also attempted to link OCB to improved group performance. One of the key assumptions of OCB theory is that OCB results in improved organizational performance, and this study attempted to uncover evidence supporting this assumption.

The present results supported the social exchange model of organizational citizenship. Trust in the group mediated the relationships of interactional and procedural justice with OCB. However, the variables that were part of this mediational hypothesis (procedural justice, interactional justice, trust in the group, and OCB) were all highly intercorrelated indicating that multicollinearity might be a problem. Multicollinearity can be



indicated by high intercorrelation among predictors and results in unstable regression coefficients (Nunnally & Bernstein, 1994). This problem with the data may have been a result of common method variance. Ideally, it would have been preferable to have someone other than the group members rate the degree to which OCB type behaviors were performed in the group. However, in this case no one, other than the group members, was in a position to observe the group member's behaviors. The group members were also the only individuals in a position to report the feelings of trust and justice within the group. Although common method variance could have affected these data, the likely source of the high intercorrelations among the justice, trust, and OCB variables was a failure by the participants to distinguish between these constructs in their ratings, creating a type of halo error. Though the concepts are theoretically distinct, participants may have had difficulty making such distinctions on a rating form. If the participants indeed failed to distinguish between justice, trust, and OCB in their ratings, these measures likely represent some indication of the participant's perceptions of the positivity of their group experience. This is another instance where the study could have benefited from multiple raters. The potential for halo error would have been greatly reduced if separate raters had responded to the OCB scales. Rating accuracy could have also been increased through some form of rater training that contrasted the study constructs from the valence of group experiences.

With the exception of the sportsmanship sub-dimensions, OCB largely failed to correlate with either project grades or with the more subjective performance assessments made by the instructor. Considering that the OCB dimensions were highly correlated yet

no other dimensions correlated with the performance variables indicates that these correlations may not very meaningful. However, past research has shown that the relationship between OCB sub-dimensions and performance outcomes can occur in unexpected patterns. It is also a possibility that in the present research situation, only sportsmanship type behaviors affect performance. It could be that group members' tendency to focus on positive versus negative aspects of the work enabled the teams to function more smoothly and efficiently. With slight exception, however, OCB essentially failed to correlate with the performance dimensions. These results are troubling, because an enhancement of organizational performance is a central assumption of OCB. There are several proposed explanations for this lack of relationship. First, the variance of the performance variables was quite low. This lack of variance in performance could have made finding a relationship between performance and any variable problematic. The participants in this study were all students at the graduate level, so we would expect a negatively skewed performance distribution; however, it was not expected that the variance would be this low. While the instructors' performance ratings showed slightly more variance than project grade, neither variable significantly correlated with OCB. Although the correlations between the outcome variables and the sportsmanship dimension of OCB were substantial, the fact that all other dimensions of OCB failed to show evidence of a relationship with the outcome variables indicates that these correlations could be a statistical artifact.

A second explanation for the weak relationship between OCB and performance is that the relationship simply did not exist. Perhaps the groups did not interact over a

sufficiently long duration or spend enough time together for OCBs to impact performance. It is also possible that the nature of the task was not conducive to performance enhancement by OCBs. If the tasks engaged in by these groups were worked on primarily individually and then simply combined for presentation to the instructor, OCB may not have a strong impact because the group members would have only limited exposure to each other in these instances. However, it is possible that even in circumstances such as these OCB could affect group performance during the process of combining the elements of the project into the finished product. Group members could “go the extra mile” in terms of executing last minute details, or making allowances with a schedule so that the work can be turned in on time. The nature of how OCB impacts performance is largely unknown. Research suggests that the effect OCB has on performance is affected by the nature of the task, employee attitudes, and the organization among other things. Future research into the outcomes of OCB will need to also examine these contextual factors in order to better understand the dynamics of this phenomenon.

Finally, the findings support the idea that in some situations the more important exchange relationship may be among the group members rather than between the group and the supervisor. These data supported the hypothesis that, in this instance, the important exchange relationship was with the group members and not with the course instructor. This was likely a result of the nature of the group’s tasks. In situations where the supervisor has little ability to impact the daily functioning of the group, the perceived fairness of the supervisor exchange could be less important than the group exchange.

Although, it has not been researched up to this point, I feel that it may be reasonable to believe that situations in which the group exchange has a stronger impact on OCB may be more numerous than instances where the exchange with the supervisor is superseding. Given the trend in organizations to move toward group and team work-environments, this finding may be increasingly more important in future literature. I believe these findings present a strong case for a broadened investigation into how OCB functions in different situations, as well as what situational moderators could be included in future OCB models. In order to determine situational moderators, OCB needs to be examined in various settings to uncover what environmental or task based factors contribute to the exchange relationship. This study had one major limitation in that it failed to assess the nature of the group tasks or the task environment. Information such as how well acquainted the participants were prior to the group work, how often they met, and how they divided the workload would have been very useful in understanding what factors determine the focus of the important exchange relationship. This type of task information could have also been useful to understanding why OCB largely failed to impact group performance in this instance. Future researchers may benefit from assessing this type of information by analyzing workers' observations they have recorded in a diary or log-book. To understand how OCBs function in a work environment and affect work outcomes one needs to first understand the nature of the work environment.

Aside from the data problems discussed above, this study had several other limitations. First, because of its cross-sectional nature, causality cannot be inferred from these data. It is entirely possible that the performance of OCB could cause more positive

perceptions of justice and trust. More longitudinal studies need to be completed in order to truly understand how justice impacts OCB. This study also had marginal power. Because the study was conducted at the group level and the availability of adequate groups was limited, only a small number of variables could be included in the data analysis. Had there been more groups, additional variables could have been included and potentially led to a clearer picture of the underlying relationships among the variables. One example of this would have been a measure to assess the participants' attitude toward group work in general. The data could have also been aided by the addition of more open-ended types of questions that could potentially help researchers understand the reasons why OCB, justice, and trust in the group were so highly correlated. As it stands, these data provide limited support for a social exchange model of OCB.

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## Appendix A

### *Questionnaire Presented to the Student Participants*

In group projects, groups must make decisions about issues such as who will be responsible for various tasks, how these tasks will be carried out, when tasks need to be completed, etc. Thinking of your group in this class and the projects you have worked on together throughout the semester, please answer the following questions.

My group members in this class...

1. Allow me to express my views and feelings
2. Treat me with kindness and consideration
3. Allow me to influence our projects
4. Are consistent in their treatment of each other
5. Are unbiased in their decisions regarding group members
6. Adequately explain project decisions to me
7. Use accurate and reliable information in project decisions
8. Treat me with respect and dignity
9. Deal with me in a truthful manner
10. Are like the classic “squeaky wheel” that always needs greasing
11. Adequately justify project decisions to me
12. Always focus on what is wrong rather than the positive side
13. Are always willing to lend a helping hand to those around them
14. Willingly help others who have group work related problems
15. Help others who have been absent
16. Are very conscientious
17. Only seek credit for the work they put in

18. Tend to make “mountains out of molehills”
19. Stay on task when working in the group
20. Comply with the rules and norms of the group at all times
21. Are open to suggestions if someone disagrees with a decision
22. Consume a lot of time complaining about trivial matters
23. Regularly attend group sessions
24. Help others within the group who have heavy workloads
25. Always find fault with what the group is doing
26. Try to avoid creating problems for other group members
27. Consider the impact of their actions on other group members
28. Do not abuse the rights of others
29. Take steps to try to prevent problems with other group members
30. Are mindful of how their behaviors affect people

My instructor in this class...

1. Allows me to express my views and feelings
2. Treats me with kindness and consideration
3. Allows me to influence our projects
4. Is consistent in her treatment of group members
5. Is unbiased in her treatment of group members
6. Adequately explains project decisions to me

7. Uses accurate and reliable information in project decisions
8. Treats me with respect and dignity
9. Deals with me in a truthful manner
10. Is open to suggestions if someone disagrees with a decision
11. Adequately justifies project decisions to me

Please indicate your level of agreement with these statements about your group.

1. I believe the members of my group have high integrity
2. I can expect my group members to treat me in a consistent fashion
3. My fellow group members are not always honest and truthful
4. In general I believe my group member's motives are good
5. I don't think my fellow group members treat me fairly
6. My fellow group members are open and up-front with me
7. I am not sure I fully trust my fellow group members

Please indicate your level of agreement with these statements about your instructor.

1. I believe my course instructor has high integrity
2. I can expect my instructor to treat me in a consistent fashion
3. My instructor is not always honest and truthful
4. In general I believe my instructor's motives are good



5. I don't think my instructor treats me fairly
6. My instructor is open and up front with me
7. I am not sure I fully trust my instructor

Note. All items are responded to using a five-point Likert type scale.



## Appendix C

*Intercorrelations among study variables at the group level*

Variable	1	2	3	4	5	6	7	8	9	10	11	
1. Trust in group	1.00											
2. Justice composite	.83*	1.00										
3. Justice – interpersonal	.81*	.98*	1.00									
4. Justice – procedural	.81*	.98*	.90*	1.00								
5. OCB composite	.87*	.86*	.83*	.84*	1.00							
6. OCB – altruism	.83*	.86*	.86*	.82*	.92*	1.00						
7. OCB – conscientiousness	.66*	.66*	.62*	.66*	.87*	.71*	1.00					
8. OCB – courtesy	.84*	.90*	.85*	.90*	.93*	.86*	.75*	1.00				
9. OCB – sportsmanship	.80*	.65*	.64*	.64*	.88*	.73*	.70*	.76*	1.00			
10. Instructor performance rating	.04	-.04	-.04	.05	.03	.12	.07	.05	.13	.16	1.00	
11. Project grade	.17	-.01	.03	-.04	.19	.10	.13	.09	.38†	.13	.13	1.00

Note. One tailed tests. † $p < .05$ , \* $p < .01$ .  $n = 31$ .