

Examining the positive and negative effects of *guanxi* practices: A multi-level analysis of *guanxi* practices and procedural justice perceptions

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Abstract In this research, we compared and contrasted the effects of managers' interpersonal level *guanxi* practice and group level *guanxi* practice on employees' procedural justice perceptions. Results indicated that interpersonal *guanxi* practice was associated with increased employee fairness perceptions whereas group level *guanxi* practice (the sense that *guanxi* is used often to make human resource decisions within a management group) was negatively related to perceived fairness. Thus, while individuals may like the personal favors of managers' interpersonal *guanxi* practice, their sense of justice is undermined by the broad use of *guanxi*. In addition, group level *guanxi* practice moderated the relationship between interpersonal *guanxi* practice and procedural justice such that this relationship was stronger in work units with high levels of group level *guanxi* practice. Thus, when employees see many others affected by *guanxi*, their sense of justice is even more strongly influenced by interpersonal *guanxi* practice.

Keywords *Guanxi* · *Guanxi* practice · Procedural justice

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It is commonly recognized that the practice of *guanxi* is prevalent and important in Chinese society (e.g., Hwang, 1987; Xin & Pearce, 1996; Yeung & Tung, 1996). Previous work on *guanxi* has focused on linking *guanxi* and organizational outcomes. This previous research indicates that *guanxi* practice involves a social dilemma (Chen & Chen, 2009). On the positive side, supervisor-subordinate *guanxi* (that is, strong social ties between a supervisor and a subordinate) can bring benefits to the parties involved. Research has found, for example, that managers tend to give more bonuses to and are more likely to promote employees with whom they have good personal relationships (Law, Wong, Wang, & Wang, 2000). This practice of allowing supervisor-subordinate *guanxi* to influence how substantive work rewards are allocated is called “*guanxi* practice.” On the negative side however, even though *guanxi* practices can benefit individual recipients of favors, at a broader level *guanxi* practices can be detrimental to the interest of groups, organizations, and society (e.g., Dunfee, Warren, & Li, 2004; Fan, 2002). Research evidence has shown that group *guanxi* practice, which is defined as the general pattern within a management group of making human resource (HR) decisions on the basis of personal relationships, is related negatively to employees’ in-role performance and extra-role performance (Hsu & Wang, 2007). Although the particularistic norms and favored treatment inherent in *guanxi* practices may be beneficial to the individuals involved, in organizational settings, such particularistic rules may conflict with universalistic norms, which stress treating people similarly regardless of one’s relationship with them (Heimer, 1992). The potential conflict between these two norms gives rise to justice concerns in organizations.

This research is an attempt to integrate and extend the above two lines of thought about *guanxi* using a procedural justice perspective. In the present study, we distinguish between employees’ reactions to interpersonal level *guanxi* practices (that is, the way that individual employee feels about gaining work benefits from *guanxi*) and employees’ reactions to group level *guanxi* practices (that is, the shared perception that as a general practice work benefits are being allocated within a group based on supervisor-subordinate *guanxi*). By measuring both individual and group level effects at the same time, we are able to directly compare the effects of interpersonal level and group level *guanxi* practices on employees’ procedural justice perceptions. We also investigate the possible interaction effect between group level *guanxi* practice and individual level *guanxi* practice for procedural justice perceptions. We argue that the kind of self-interests (Leventhal, 1980; Thibaut & Walker, 1975) that drive positive reactions to personal level *guanxi* are increased when *guanxi* is more prevalent within the overall work group. This effect has implications for the evolution of Chinese firms from ones with more particularistic forms of management to ones with more universalistic forms of management.

Our theoretical arguments were tested using a sample of 342 employees in 72 groups from 12 organizations. This study extends the line of research on *guanxi* practice and justice perceptions in two main ways. First, it deepens our understanding of *guanxi* practices by empirically testing the trade-off between individual and group *guanxi* effects that have been hypothesized to exist (Chen & Chen, 2009), and by showing that group level practices can dampen or amplify core individual level *guanxi* effects. Second, it demonstrates the cultural boundary conditions of justice theories such as the self-interest model (Thibaut & Walker, 1975) which deepens our understanding of organizational justice.

Literature review on interpersonal relationships and justice perceptions

Organizational justice perceptions are important because numerous studies have found that they can lead to important workplace outcomes. Recent meta-analyses confirm that justice perceptions positively relate to job satisfaction, organizational commitment, in-role performance, and organizational citizenship behaviors (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). Organizational justice research focuses on “the way in which employees determine if they have been treated fairly in their jobs and the way in which these determinations influence other work-related variables” (Moorman, 1991: 845). Justice generally is regarded as having three dimensions: distributive justice, procedural justice, and interactional justice. Recent research adds informational justice as the fourth component of organizational justice (Colquitt, 2001).

Of all these justice forms, we are interested in studying the relationship between supervisor-subordinate *guanxi* and procedural justice perceptions, which refers to the perceived fairness of procedures used in the reward allocation process (Tyler & Lind, 1992). Our focus is on procedural justice, rather than interactional or distributive justice, because procedural justice has been shown, by recent meta-analyses, to be more directly related to various organizational outcomes (Viswesvaran & Ones, 2002) and to be more important in terms of its predictive power on employees' performance and work attitudes (Cohen-Charash & Spector, 2001). Future research should also examine the relationships between *guanxi* practices and distributive justice perceptions as well as interactional justice perceptions.

Relations affect justice

Organizational justice researchers have argued that the type of interpersonal relationship between two parties can be an important factor influencing their choices of procedural justice norms (Deutsch, 1985). This pattern has been especially visible in the Chinese culture. For example, a study conducted by Li (1993) provides evidence that interpersonal relationships can impact Chinese subjects' justice judgments. Li asked Chinese subjects to respond to scenarios in which a driver caused an accident and ran away from the scene. The relationship between the driver and the subjects was controlled in terms of the closeness to the subjects such as a spouse, a sibling, a classmate, or a stranger. The findings showed that when subjects punished the driver, they favored spouses most, followed by siblings, and classmates. They did not give any favor to strangers. These findings suggest that, among the Chinese, consideration of interpersonal relationships may take precedence over the more universalistic procedural justice rule (Tsui & Farh, 1997). Zhang (2001) also found that Chinese subjects made more generous resource allocations to those with whom they had frequent interactions and closer personal bonds.

Studies on interpersonal relationships and justice principles in Chinese societies indicate that Chinese people care about procedural justice (Chen, Chen, & Xin, 2004), but that personal relationships can influence the norms that Chinese people use to make allocations or justice judgments. Morris and Leung (2000) concluded, based on similar findings, that *guanxi*-based patterns of resource exchange are regarded as fair in Chinese society. However, their conclusion was based on the

perspective of the individual *guanxi* beneficiaries, not how people evaluate the appropriateness of the broad use of *guanxi* as a driver of managers' HR decisions.

Observing how others are treated

Responses to *guanxi* may be different if we switch perspectives, from looking at how individual *guanxi* beneficiaries respond to getting preferential treatment, to seeing how people respond when watching others around them get (or not get) *guanxi*-based preferential treatment. For example, Xin and Pearce (1996) have argued that close interpersonal relationships can be used as an effective substitute for institutional support, but this could happen at the expense of others' interests and rights (Fan, 2002). Moreover, even for *guanxi* beneficiaries, would the consideration of others' interests affect their evaluation of procedural justice? Recent research shows that others' treatment can have an impact on people's own procedural fairness perceptions (Kray & Lind, 2002; Van den Bos & Lind, 2001). In this study, we explore the possible boundary conditions of the argument made by Morris and Leung (2000), who concluded that *guanxi*-based patterns of resource exchange are regarded as fair in Chinese society. While Chinese employees may put aside general principals of procedural justice to accommodate practices that benefit them directly and personally, they may nonetheless still judge *guanxi* practices applied to others according to well-known procedural justice norms (that is, they may be much more critical when HR decisions are generally influenced by *guanxi*).

Theoretical background and hypotheses

Interpersonal versus group level *guanxi* practices

Guthrie (1998) distinguished "*guanxi*" from *guanxi* "practices," explaining that they are two different processes. *Guanxi* refers to the personal relations that emphasize emotional attachment and obligations whereas *guanxi* practice refers to the use of *guanxi* for instrumental purposes such as "to make exchanges, manufacture indebtedness, or accomplish tasks" (Guthrie, 1998: 266). In this paper, we focused on managers' *guanxi* practices and further categorized them into two types: interpersonal level *guanxi* practices and group level *guanxi* practices. Managers' interpersonal level *guanxi* practice is defined as managers making favorable HR decisions for subordinates with whom he or she has a good personal relationship. Group level *guanxi* practice is defined as the general pattern within an organization or department of making HR decisions on the basis of personal relationships. In other words, when managers make human resource management (HRM) decisions based on the quality of personal relations with their subordinates, and do so broadly within the area of their authority, they engage in group level *guanxi* practices.

While it is likely that interpersonal *guanxi* practices and group level *guanxi* practices correlate to some degree, they are clearly distinct conceptually and empirically. Conceptually, interpersonal *guanxi* is experienced by the parties in the relationship, while group level *guanxi* is experienced by a wider set of employees who can observe and judge how a manager tends to make HR decisions; an individual employee can

know how he or she benefits from *guanxi* with a supervisor, but at the same time have some perception about whether *guanxi* typically influences that supervisor's HR decisions. Empirically, as well, the two should be distinct. While a manager may generally be perceived by a group as, for example, letting *guanxi* influences his or her HR decisions (high group level *guanxi* practice) any individual employee working under that manager could nonetheless still feel that he or she has a low level of personal benefit from *guanxi* (individual level *guanxi* practice). In other words, there is likely to be variance among supervisor-subordinate dyads within a work group, even while members of a group develop a shared understanding of how much their supervisor generally tends to use *guanxi* to allocate rewards at work. Moreover, as we discuss in the next section, we expect employees to react quite differently to *guanxi* practices based on whether they are the beneficiaries of these practices (individual level *guanxi* practices) or if they see it used as a common practice by management (group level *guanxi* practices).

Interpersonal level *guanxi* practices and procedural justice perceptions

A vast body of research has found that Chinese managers engage in interpersonal level *guanxi* practices. Managers give favors to those with whom they have good *guanxi*. Empirical evidence consistently shows that Chinese managers' decisions are influenced by their personal relationships with their subordinates. Zhang and Yang (1998) argued that Chinese decision makers' reward-allocation decisions are influenced not only by the equity rules, but also by the recipients' *guanxi* with them. They found in a scenario study that the Chinese do not distribute rewards based only on contribution; rather they adopt the reasonableness norm, which means that they consider both the recipients' *guanxi* with them and their fairness in making allocation decisions. Recent research has found that *guanxi* between supervisor and subordinate affects the supervisor's administrative decisions in promotion and bonus allocations. Managers give those with whom they have good *guanxi* more promotion opportunities and larger bonuses (Law et al., 2000). Zhou and Martocchio (2001) reported that Chinese managers would give more nonmonetary rewards to those who have good relationships with them than those who have poor relationships with them.

When employees receive such favors from managers (that is, they experience interpersonal *guanxi* practices), self-serving biases are likely to lead them to regard the procedures as fair. The self-interest model of justice provides support for this proposition. The self-interest model suggests that outcomes generated by a procedure will have strong effects on procedural justice judgments about it (Lind & Tyler, 1988). Solid evidence has supported this prediction (e.g., Conlon & Fasolo, 1990; Folger & Konovsky, 1989; Greenberg, 1986). Greenberg (1986) found that people tend to believe that more beneficial outcomes are fair regardless of the fairness of the procedure. Studies on legal disputants found that subjects used final outcomes in dispute resolutions as reference information to understand their experiences in legal processes (Lind & Lissak, 1985), and there is a positive relationship between outcome favorability and procedural justice perceptions of court-order arbitration (Lind, Kulik, Ambrose, & de Vera Park, 1993). Hence, we propose the following hypothesis:

Hypothesis 1 There is a positive relationship between interpersonal level *guanxi* practices and procedural justice perceptions.

Group level *guanxi* practices and procedural justice perceptions

As discussed above, those with whom managers have good personal relationships and are given favors by managers are likely to believe that the resource allocation procedures are fair. At the group level, however, when employees perceive that managers systematically make HRM decisions based on individuals' personal relationship with managers, their evaluations of fairness of procedures may decrease. In other words, at the group level, employees' shared perceptions of *guanxi* practices may be related negatively to employees' procedural justice perceptions.

As a first step, we consider the general trend of social norms in China about how rewards should be allocated. According to Parsons and Shils (1951), when a traditional society is transformed into a modern society, universalistic rules generally replace particularistic rules. Recent studies have demonstrated that China has been experiencing shifting norms in terms of resource allocation rules. Among three allocation criteria—equity, equality, and need—equity (based on work performance) has become the dominant rule for Chinese employees and organizations. Chinese managers used to employ criteria such as equality, seniority, and need to allocate resources (Walder, 1986) but recent research has shown that they are shifting toward the use of equity criteria. Evidence shows that employees perceive performance-based HRM evaluations and reward systems to be fair (Bozionelos & Wang, 2007; Chen, 1995; He, Chen, & Zheng, 2004). Bozionelos and Wang (2007) investigated the attitudes of Chinese employees towards individually-based performance-related reward systems. They found that, although Chinese employees believe that performance evaluations can be affected by *guanxi*, they consider performance-based reward systems to be good in principle. If employees hold an ideal of equity as the appropriate basis for pay, then group level *guanxi* practices are likely to generate perceptions of pay injustice on the part of employees. This occurs because, where group level *guanxi* practices are prevalent, rewards are allocated based on personal relationship, not performance. Even though one might be lucky to benefit from *guanxi* personally, and would likely (as stated in Hypothesis 1) be happy to accept the benefits of *guanxi* if received, it is a precarious situation to be in: there is no common underlying principle to govern how you are rewarded, and rewards may be unpredictable if supervisors change or if the supervisor's relations with others prove stronger than your relations with that supervisor.

In addition, group level *guanxi* practices violate core ideas of procedural justice. Leventhal, Karuza, and Fry (1980) identified six rules of procedural justice: consistency, bias suppression, accuracy, correctability, representativeness, and ethicality. Lind, Tyler, and Huo (1997) have shown that neutrality is a main determinant of procedural justice. When managers have good personal relationships with some group members and their managerial decisions are impacted by these personal relationships, the rule of neutrality is violated, which, in turn, decreases employees' evaluations on procedural fairness. When benefiting directly from *guanxi*, general principals of procedural justice may be overlooked, but there is no reason to believe that these core justice norms would be overlooked when it is others who benefit. This sense of unfairness may occur despite the fact that it is others whose outcomes are affected. Recent studies have shown that people care about how others are treated—unjust treatment others receive can have a

significant impact on people's own evaluations of the fairness of procedures (Van den Bos & Lind, 2001). In two experimental studies, researchers found that knowing that other research participants received an unfair procedure lowers subjects' own fairness judgments (Van den Bos & Lind, 2001). Thus, we propose the following hypothesis:

Hypothesis 2 There is a negative relationship between group level *guanxi* practice and employees' procedural justice perceptions.

Group level *guanxi* practice as an amplifier of self-interest

Group level *guanxi* practices may not only have a direct effect on procedural justice perceptions, but also affect positively the impact that individual level *guanxi* practices have on procedural justice perceptions. We expect this to happen for two reasons. First, group *guanxi* practices are visible to all employees in a work group and thus establish what is perceived to be legitimate within a work group. If work units have high levels of group level *guanxi* practice, *guanxi* will come to be accepted and made normal. As Opp (1982) found, frequently repeated behaviors become normative. Once norms are built into the social structure of a group, those structures shape expectations and guide behaviors (Bourdieu, 1977). In Hypothesis 1 we proposed that individual self-serving biases would outweigh normal expectations that decision-making based on personal relations was inappropriate. However, to the degree that group level *guanxi* practices become routine and expected, there would be less of a feeling that decision-making based on personal relations was inappropriate, and thus less constraint on the full expression of the self-interest model discussed above. Where group level *guanxi* is higher, maneuvering for self-interest is legitimized; where group level *guanxi* is lower, such maneuvering is delegitimized.

A second way in which group level *guanxi* practices may amplify or dampen the effects predicted by the self-interest model of justice is through social comparisons. As suggested by social comparison theory, individuals compare themselves with similar others to evaluate their own situations (Festinger, 1954) and studies have shown that employees care about the relative reward differences within groups (e.g., Sweeney, McFarlin, & Inderrieden, 1990). We can expect, then, that employees' perceived relative value of rewards from personal *guanxi* with a manager would become more salient when they work in a work unit with high levels of group level *guanxi* practice since they are comparing their own outcomes to those achieved by others who may have gained those outcomes through *guanxi*. Based on these two arguments, we propose the following hypothesis:

Hypothesis 3 Group level *guanxi* practice will moderate the relationship between interpersonal *guanxi* practice and procedural justice perceptions at the individual level; the relationship between interpersonal *guanxi* practice and procedural justice perceptions will be stronger in work units with higher levels of group level *guanxi* practice.

The set of relationships included in the Hypotheses are summarized in Figure 1.

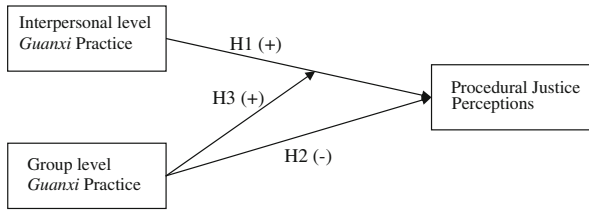


Figure 1 A multilevel model of *guanxi* practice and procedural justice perceptions

Sample and procedures

The sample of this study consisted of 395 employees constituting 77 work groups. These groups were drawn from 12 organizations in China. We considered employees to be members of a work unit or group if they had a common supervisor and worked together on the same shift. Listwise deletion of individuals with missing information resulted in a final usable sample of 342 employees from 72 work groups. Employees were given their questionnaires directly from researchers and researchers collected those questionnaires directly from employees. Participation was voluntary and confidentiality was assured. In our cover letter and when we explained the survey purpose to participants, we made it clear that the survey was not in any way related to performance appraisal in their firms, but was for scientific research only. The language used in all questionnaires was Chinese. Across organizations, the average response rate was 95%. The response rate was high for two reasons. First, two authors of this paper were present when the questionnaires were distributed and collected. Previous studies have shown that the presence of researchers in the data collection process can increase response rates (Chen & Tjosvold, 2007). Second, two authors knew managers of the organizations well, which helped to ensure that the survey was taken seriously. Employees in this sample had an average age of 36 years; the median education level was 2 years of college. The average organizational tenure was 12 years. Of the respondents, 56% were male.

Measures

Unless noted otherwise, all multi-item scales were measured on a six-point Likert scale (1=strongly disagree, 6=strongly agree).

Interpersonal level guanxi practice We adapted three items developed by Lin (2002) to measure interpersonal level *guanxi* practice. These three items were “Under the conditions of similar qualifications, my supervisor would assign me the important and easy to be achieved job assignments,” “Under the same condition of qualification, my supervisor would promote me first,” and “My supervisor allocates me more bonuses than others.” The scale’s alpha reliability in this study is 0.82.

Group level guanxi practice We adapted three items from Chen et al. (2004) to measure *guanxi* practice in HRM. These three items were “Task allocation are often decided based on *guanxi* with supervisors,” “Many people got promoted through

guanxi with supervisors,” and “Bonuses are often decided based on *guanxi* with supervisors.” The scale’s alpha reliability in this study is 0.81. It is noteworthy that group level *guanxi* practice is measured as the mean of work unit members’ responses to our measure of group level *guanxi* practice. The use of mean response to represent a work unit-level variable is justified when there is a high degree of interrater agreement within the work unit on group level *guanxi* practice. This is expected since members of a work unit are exposed to the same policies, practices, and procedures of their supervisor. They also may share information with each other on what is going on in their work unit and develop shared perceptions of group level *guanxi* practice in their work unit.

Supervisor-subordinate guanxi While we do not have any hypotheses that relate directly to supervisor-subordinate *guanxi* (the existence of a strong social relationship between supervisors and their subordinates), it is important that we measure supervisor-subordinate *guanxi* in order to be sure that the work benefits identified in our individual *guanxi* practice measure do in fact come from strong social relations between supervisor and subordinate. Thus, we included a four-item supervisor-subordinate *guanxi* scale used in prior studies (Chen, Friedman, Yu, Fang, & Lu, 2009). The four items were “After the office hour, I have social activities together with my supervisor such as having dinner together or having entertainment together which go beyond work duties,” “I am familiar with the family members of my supervisor and have personal contact with these members,” “During holidays my supervisor and I would call each other or home visit each other,” and “I am familiar with the family members of my supervisor and have personal contact with these members.” The alpha coefficient of supervisor-subordinate *guanxi* in the present study is 0.84. We should note that this is a measure examining directly the degree of personal relationship between the employee and his or her supervisor. This is different than *guanxi* practices, which according to Guthrie (1998) are the effects of *guanxi* on management practices.

Procedural justice Owing to space constraints on the survey, we assessed procedural justice using only four of the highest-loading items from the justice scale by Niehoff and Moorman (1993) that reflect the presence of formal procedure when supervisors make decisions. The four sample items were “Job decisions are made by my supervisor in an unbiased manner,” “All job decisions are applied consistently across all affected employees,” “To make job decisions, my supervisor collects accurate and complete information,” and “My supervisor makes sure that all employee concerns are heard before job decisions are made.” The scale’s alpha reliability in this study is 0.91. This measure was used in a Chinese context in previous research (e.g., Tata, Fu, & Wu, 2003) and had good validity and reliability.

Control variables At the individual level, we controlled leader-member exchange (LMX) and four demographic variables which were age, sex, educational level, and years working for the supervisor.

It has been well established that there is a positive relationship between LMX and procedural justice perceptions. Although LMX can be regarded as an outcome of procedural justice, research results also showed that LMX can predict perceptions of

procedural justice (e.g., Bhal, 2006; Lee, 2001; Pillai, Scandura, & Williams, 1999). Because LMX and *guanxi* are conceptually related (Chen et al., 2009) we wanted to control for LMX to ensure that what we were measuring with our *guanxi* measure was not really LMX. LMX and *guanxi* practices are related in that both include some level of social exchange between supervisor and subordinate, but they are different in that LMX should involve rewards given to employees in response to their better work performance while *guanxi* practices refer to benefits allocated on the basis of personal ties, not work performance. Thus, while we expect that group level *guanxi* practices would violate rules of procedural justice, we would not expect that broad use of LMX would be seen as procedurally unjust since rewards are allocated based on performance. Still, to ensure that the effects of *guanxi* practices are not confounded with LMX, we included Liden and Maslyn's (1998) LMX scale as a control variable. The alpha for LMX in this study is 0.95.

Four subordinate demographic variables—age, sex, education, and organization tenure—were included as control variables in this study. They were included because previous research has shown that these demographics might be associated with commitment, justice perceptions, and turnover intentions (e.g., Lee & Farh, 1999). Age and organization tenure were measured in years. Male was coded as 1 and female as 0. Education was measured by five categories: below high school, high school, 3-year college, 4-year college, and Master's degree or above.

At the group level, we controlled group size. Group size was operationalized as the number of employees in a group. It has been found that group size is related negatively to fairness perceptions (Schminke, Ambrose, & Cropanzano, 2000).

Analysis strategy

Employees were nested within groups, which, in turn, were nested within organizations creating a hierarchical data structure with three levels of random variation: variation among employees within groups (level 1), variation among groups within organizations (level 2), and variation among organizations (level 3). Because of this nested data structure, we used hierarchical linear modeling (HLM) to test the hypotheses.

Although Hypothesis 1 proposed relationships at the individual levels of analysis, we must also account for possible group level effects since the 342 respondents were supervised by 72 managers in 12 organizations. We used HLM 3 to control the potential effects of shared managers and organizations so that we could obtain accurate estimations of the relationships proposed by our hypotheses. All the variables were grand-mean centered, as suggested by Hofmann and Gavin (1998). At level 1, we controlled for employees' LMX and four demographic variables: age, education level, sex, and the years worked together with the supervisor. At level 2, we controlled for group size. For the level 2 dependent variable, group level *guanxi* practices (which was produced by aggregating individually reported group *guanxi* practices responses to the group level), we examined whether there was significant between-group variance in group level *guanxi* practice. Level 3 is at the organizational level and there are no predictors at the organizational level. Since the data come from 12 different organizations, level 3 is put into the HLM model to control any organizational level effects on the dependent variables.

Results

Table 1 presents descriptive statistics, intercorrelations, and internal-consistency reliabilities of all variables.

To assess the viability of creating a variable to represent shared perceptions of group level *guanxi* practices we computed three complementary measures of within-group agreement. These three measures were r_{wg} , ICC (1), and ICC (2). We also calculated the F-statistic from a one-way ANOVA to determine the between-group variance for group level *guanxi* practice. We computed r_{wg} values using the approach recommended by James, Demaree, and Wolf (1984). James and colleagues (1984) recommended 0.70 as the threshold for asserting that work unit members have developed shared perceptions on certain aspects of their experiences. The mean of r_{wg} for 72 groups was 0.88. A one-way ANOVA indicated significant group-level variance in group level *guanxi* practice ($F = 34.18, p < 0.001$).

ICC (1) provides an estimate of the reliability of a single individual rating of the unit mean. Its values can range from -1 to +1. In empirical settings, the range from 0.05 to 0.30 is typical with 0.12 as an acceptable cutoff point (Bliese, 2000). ICC (2) provides an overall estimate of the reliability of the unit means. The closer the value is to 1, the more reliable the unit means. Generally, values equal to or above 0.70 are acceptable (Klein, Conn, Smith, & Sorra, 2001). ICC (1) and ICC (2) calculated from an ANOVA were 0.30 and 0.71 respectively in this study. On the basis of these results, we concluded that aggregation of individual level *guanxi* practice to work unit level shared perceptions of *guanxi* practice is justified.

Since we used three-level HLM for testing all hypotheses, it is necessary to examine whether there are significant between-group and between-organization variances in the outcome variables. The reason is that HLM 3 assumes significant between-group and between-organization variance, therefore we have to investigate whether these assumptions are met. We examined two null models; that is, models with no predictors specified (at levels 1, 2, or 3), with procedural justice as the dependent variable. The results provide evidence of significant between-group variance in procedural justice ($p < 0.001$). The variance between organization was significant for procedural justice ($p < 0.001$). The null models also provide information for computing the intra-class correlation coefficients, which can be interpreted as the proportion of variance in the outcome variables that reside between groups. Our calculation shows that 20% of the variance in procedural justice exists between work units and 9% of the variance in procedural justice exists between organizations in this sample. These results justify further cross-level analyses. Moreover, it suggests that even though we have no level 3 predictors, we need to include level 3 in our analyses as a control for any effects that might be accounted for by organizational differences.

We checked (using HLM, and the same controls as other models) the relationship between managers' interpersonal level *guanxi* practice and supervisor-subordinate *guanxi* and found that there is a positive relationship between interpersonal level *guanxi* practice and supervisor-subordinate *guanxi* ($\gamma = 0.49, p < 0.001$). Thus, our individual level *guanxi* practices measure scale does identify work benefits that come from having a strong *guanxi* relationship between supervisor and subordinate.

Table 1 Means, standard deviations, and intercorrelations.

	Mean	SD	1	2	3	4	5	6	7	8
Level 1										
Age	35.86	8.05								
Education	4.02	1.09	-0.06							
Sex	0.56	0.50	-0.02	-0.01						
Years working for supervisors	5.82	5.26	0.29***	-0.01	-0.06					
Leader-member exchange (LMX)	4.83	1.02	-0.04	0.08	-0.10	0.07				
Supervisor-subordinate <i>guanxi</i>	3.05	1.36	0.00	-0.02	0.15*	0.15*	0.41***			
Interpersonal level <i>guanxi</i> practice	3.09	1.24	0.03	0.07	0.10	0.15	0.36***	0.63***		
Group level <i>guanxi</i> practice (individual perceptions)	2.89	1.15	0.02	0.03	0.05	0.07	-0.39***	-0.10	-0.11	
Procedural justice	4.67	1.21	0.02	0.03	0.00	0.02	0.78***	0.31***	0.39***	-0.49***
Level 2										
Group size	4.75	1.65								
Group level <i>guanxi</i> practice (aggregated)	2.86	0.79								

$N = 342$.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Hypothesis 1 Hypothesis 1 predicts that the relationship between interpersonal *guanxi* practice and procedural justice is positive. As seen in Table 2, Model 1, the result from level 1 HLM analysis indicated a significant positive relationship between interpersonal *guanxi* practice and procedural justice ($\gamma = 0.12, p < 0.01$). Therefore, Hypothesis 1 is supported.

Hypothesis 2 Hypothesis 2 proposes that there is a negative relationship between shared perceptions of group level *guanxi* practice and procedural justice perceptions. To test Hypothesis 2, we estimated an HLM model in which interpersonal *guanxi* practice was the level 1 predictor and then regressed the intercept coefficients obtained from level 1 on the shared perceptions of group level *guanxi* practice at level 2. As shown in Table 3, Model 1, results show a significant negative relationship between group level *guanxi* practice and procedural justice (after we had controlled for individual-level variables; $\gamma = -0.12, p < 0.05$). Overall group level *guanxi* practice accounts for 13% of the total variance among groups in employee procedural justice ($R^2_{\text{between}} = .13$). Hence, Hypothesis 2 is supported.

Hypothesis 3 Hypothesis 3 proposes that the shared group level *guanxi* practice perceptions will moderate the relationship between interpersonal *guanxi* practice and procedural justice perceptions. A prerequisite for testing this cross-level interaction was that there is significant random variance for the interpersonal *guanxi* practice

Table 2 HLM results for individual level Hypothesis (H1).

Dependent variables	Procedural justice Model 1
Intercept	4.88***
Level 1	
Controls	
Age	-0.02
Education	0.01
Sex	-0.07
Years working for supervisors	-0.01
Leader-member exchange	0.89***
Supervisor-subordinate <i>guanxi</i>	-0.10*
Interpersonal level <i>guanxi</i> practice	0.12*
Level 2	
Group size	-0.02
Level 3	
No predictors	
Model deviance ^a	538.83

N (level 1) = 342; N (level 2) = 72. In all models, level 1 variables were grand-mean centered.

^aDeviance is a measure of model fit; Deviance = $-2 \times \log$ -likelihood of the full maximum likelihood estimate.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 3 HLM results for cross-level Hypotheses (H2 and H3).

Dependent variables	Procedural justice	
	Model 1	Model 2
Intercept	4.78***	4.82***
Level 1		
Control		
Age	0.00	-0.00
Education	-0.03	-0.04
Sex	-0.06	-0.06
Years working for supervisors	0.00	-0.01
Leader–member exchange	0.86***	0.85***
Supervisor-subordinate <i>guanxi</i>	-0.08*	-0.08*
Interpersonal level <i>guanxi</i> practice	0.12*	0.11*
Level 2		
Group size	-0.02	-0.02
Group level <i>guanxi</i> practice	-0.16*	-0.12*
Interpersonal <i>guanxi</i> practice × group level <i>guanxi</i> practice (slope)		0.07*
Level 3		
No predictors		
Model deviance ^a	535.23	532.46

N (level 1) = 342; *N* (level 2) = 72. In all models, level 1 variables were grand-mean centered.

^aDeviance is a measure of model fit; the smaller the deviance is, the better the model fits. Deviance = $-2 \times \log$ -likelihood of the full maximum likelihood estimate.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

variable in the intercepts-as-outcomes models estimated above. We estimated the between-group variance for interpersonal *guanxi* practice and the result showed that the random variance was significant ($\tau = 0.06$, $p < 0.05$), suggesting significant variability in the level 1 interpersonal *guanxi* practice-procedural justice perception relationship across work units. We then regressed the slope estimates for interpersonal *guanxi* practice at level 1 on shared perceptions of group level *guanxi* practice at level 2. Results are shown in Table 3, Model 2 for the interpersonal *guanxi* practice-procedural justice slope. Consistent with the prediction of Hypothesis 3, results indicate that the relationship between interpersonal *guanxi* practice and procedural justice perceptions is stronger in work units with high levels of group level *guanxi* practice ($\gamma = 0.11$, $p < 0.05$; $R^2_{\text{between}} = 0.15$). R^2 for the level 2 cross-level interaction effect indicates the percentage of explainable level 2 variance in the slope of the level 1 relationship between the independent variables (i.e., interpersonal *guanxi* practice) and employee procedural justice perceptions accounted by patterned group level *guanxi* practice. Hypothesis 3 is supported.

Using the method described by Cohen and Cohen (1983), we derived equations for predicting procedural justice perceptions for two levels of group level *guanxi*

practices, at 1 standard deviation above the mean and at 1 standard deviation below the mean. Figure 2 shows this interaction effect.¹

Discussion

To summarize the results, we found, as predicted, that interpersonal level *guanxi* practice is positively related to procedural justice perceptions whereas group level *guanxi* practice is negatively related to procedural justice perceptions (after interpersonal level *guanxi* practice is controlled). Consistent with our prediction, results show that the effect of interpersonal *guanxi* practice on procedural justice was stronger in work units with high levels of group level *guanxi* practice.

Theoretical contributions

The current research makes four major theoretical contributions. First, in this study, we directly compared the effects of interpersonal *guanxi* practice and group level *guanxi* practice on procedural justice perceptions while previous studies focused on just the effects of either one of the two levels of *guanxi* practice. On the one hand, we found that interpersonal *guanxi* practice can increase employees' procedural justice perceptions. Employees may engage in social activities with managers in order to get various favors from them, which, in turn, increase their sense of procedural justice perceptions. On the other hand, group level *guanxi* practice—having managerial decisions be systematically based on *guanxi*—can have a negative impact on employees' procedural justice perceptions. In order to compare the positive effect of interpersonal *guanxi* practice with the negative effect of group level *guanxi* practice on procedural justice perceptions, we standardized the coefficients of the two variables to obtain the effect sizes. For interpersonal level *guanxi* practice, the standardized effect size was 0.13, while for group level *guanxi* practices, the standardized effect size was -.09 (note that Tables 2 and 3 report unstandardized coefficients). Looking at the effect sizes of the two variables, it appears that the negative effects of group level *guanxi* practices are slightly weaker than the positive effects of interpersonal level *guanxi* practices from *guanxi*, indicating that for those employees who are beneficiaries of *guanxi* practices, their overall response to *guanxi* practices may be net positive, while the opposite may be true for those who are not beneficiaries.

We should note that in making this comparison we had to improve the way group level *guanxi* has typically been measured. Previously, researchers have focused

¹ For the cross-level interaction—the effect of group level *guanxi* practice on the slope of interpersonal *guanxi* practice on procedural justice—we did some extra analysis as recommended by Hofmann and Gavin (1998). Hofmann and Gavin (1998) demonstrated that grand-mean centering in the presence of cross-level interactions can sometimes produce misleading results. In order to verify that the grand-mean centered estimation of the cross-level interaction in the present study was not misleading, we examined an additional model using grand-mean centering for “interpersonal level *guanxi* practice” at level 1. At level 2, we included the work unit level “interpersonal level *guanxi* practice” × group level *guanxi* practice to control for the between-group interaction. The between-group interaction was not significant. The result for the cross-level interaction in the group-mean centered model was similar to the one in Model 2, Table 3 ($\gamma = .11, p < .05$).

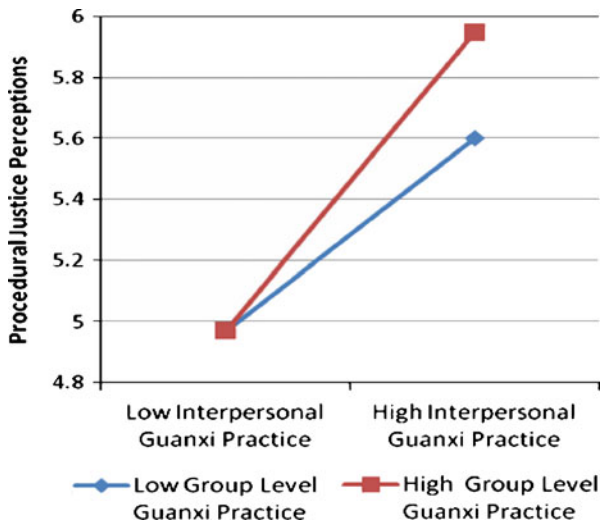


Figure 2 Interaction of interpersonal level *guanxi* practice and group level *guanxi* practice on procedural justice perceptions

mainly on the individual level of analysis when examining the role of group level *guanxi* practice. That is, they took as valid each individual's own perception of group level *guanxi* practices, rather than measuring the actual group's collective assessment of the level to which a work unit's rewards are allocated based on *guanxi* ties. The present study, by contrast, assessed intra-group agreement about group level *guanxi* practices. We were able to determine that there are in fact shared perceptions of group level *guanxi* practice at the work unit level. In the present study, the average r_{wg} for group level *guanxi* practice was 0.88, suggesting that there are collective perceptions of group level *guanxi* practices at the work unit level. This approach to measuring group level *guanxi* practices allows for a true cross-level analysis of the relative effects of individual and group level *guanxi* practices.

Second, we found that the relationship between interpersonal *guanxi* practice and procedural justice perceptions is stronger in work units with higher levels of *guanxi* practice. This finding has an important implication. When group level *guanxi* practices exist, they not only lower the degree of employees' procedural justice perceptions in general, but also enhance their self-focus—they judge the procedural justice of the supervisor even more on engaging in interpersonal level *guanxi* practices. Thus, the risk of broad use of *guanxi* in the workplace is that it puts managers in a bind. In order to help employees feel that allocations are made in a way that is just, they have to provide more individual *guanxi*-based benefits to employees, which then further increases perceptions of group level *guanxi* practices being used. It can become a never-ending cycle of *guanxi* amplification. On the positive side, the interaction between group level *guanxi* practices and self-interest dynamics show that if managers control the level of *guanxi* practices used generally, they can indirectly control the relative influence of employee self-interest, and thus the strength of their likely *guanxi*-based demands and expectations.

Third, this study enriches procedural justice literature by showing the boundary conditions of the justice models in a Chinese context. Although, as

predicted by the self-interest model, interpersonal *guanxi* practice has a positive effect on procedural justice, this pattern is more pronounced in the context of high levels of group level *guanxi* practice. Thus, the core dynamics predicted by justice scholars needs to take into account the cultural context. If the cultural environment is one that legitimizes *guanxi*-based practices, that cultural context can amplify the effects of self-interest. Oddly, this implies that China, which is generally thought of as a place where the group has greater weight than the individual, may have employees who judge the justice of allocation decisions based more on self-interest than employees from countries that are generally thought of as placing a greater weight on the individual.

Fourth, the current work also deepens our understandings on procedural justice. The self-interest model is confirmed in the current study, but it cannot explain fully the findings we obtained from this study. We found that group level *guanxi* practice, on average, can lower employees' procedural justice perceptions after controlling interpersonal level *guanxi* practices. The finding that the relationship between interpersonal *guanxi* practice and procedural justice varies based on the levels of group level *guanxi* practice in work units indicates that individual concerns for others also have boundary conditions. When employees work in an environment in which *guanxi* practice is rampant, they may be less concerned about others' or the groups' benefits than they would be in an environment in which *guanxi* practice is less legitimate.

Study limitations and future research

There are several limitations in this study. First, the data for this study come from state-owned firms, which may have special characteristics that led to our results. Future research should consider conducting studies in other types of ownership firms such as foreign-owned companies in order to ensure the generalizability of the research findings from this study. It is also desirable to study the cross-cultural difference on the effects of *guanxi* practices on work outcomes. *Guanxi* itself is a very general phenomenon, not limited to China. We speculate that similar effects may also exist in other societies, especially in collectivist cultures that value personal relationships. Interdependent self theory (Markus & Kitayama, 1998) indicates that in collectivist cultures relationships are valued more than autonomy, while in individualistic cultures people value autonomy more than relationships. Therefore, interpersonal *guanxi* practices may be more prevalent in these collectivist cultures and people may have mixed perceptions on the effects of such practices. In Western individualistic cultures, we speculate that the positive effects of interpersonal *guanxi* practices on procedural justice perceptions would be less whereas the negative effects of group level *guanxi* practices would be amplified in such cultural environments.

Second, some major variables in our survey studies come from the same source that may bring concerns about common method variance. While the possibility exists that such artifacts could have affected our individual level results, group level *guanxi* practice stems from aggregated responses that make common method artifacts an unlikely explanation for the effects of group level *guanxi* practice on procedural justice perceptions.

Practical implications

Our research has two important practical implications for decision makers in Chinese organizations. First, Chinese managers and expatriates who work in Chinese contexts should be aware that *guanxi* practices can have both positive and potentially negative effects on employees' procedural justice perceptions. Chinese managers and expatriates should also be very cautious when they allocate organizational rewards to individuals with whom they have close personal relationships. When employees perceive that there is group level *guanxi* practice in work units, they may have lower procedural justice perceptions. Therefore, explicit justification and explanations may be needed to justify managers' decisions when they reward individuals with whom they have good personal relationships. Greenberg's (1990) study shows that explicit and clear explanations can enhance fairness perceptions.

Second, employees and managers can be motivated to develop personal relationships in organizations; therefore, organizations should pay special attention to lower group level *guanxi* practices. Organizations should set up policies that prevent managers from engaging in personal favoritism practices. By lowering group level *guanxi* practice, organizations are able to (1) make the impact of interpersonal *guanxi* practice less (which is good), and (2) make people feel less injustice when they perceive that managers engage in lower interpersonal *guanxi* practice with them. So, having low group level *guanxi* practice does draw people away from an excessive focus on managers' interpersonal *guanxi* practice.

In conclusion, this research represents the first known attempt at taking a cross-level approach to the study of relationships among interpersonal *guanxi* practice, group level *guanxi* practice, and procedural justice perceptions. The findings deepen our understanding on both the positive and negative effects of *guanxi*. Given the importance of *guanxi* and the prevalence of *guanxi* practice in the Chinese context, this study has direct implications on how managers should interact with employees and how organizations should set up HRM policies to prevent possible negative effects of group level *guanxi* practices.

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