Trust as a mediator of the relationship between organizational justice and work outcomes: test of a social exchange model

SAMUEL ARYEE1*, PAWAN S. BUDHWAR2 AND ZHEN XIONG CHEN1
1Department of Management, Hong Kong Baptist University, Hong Kong
2Cardiff Business School, University of Wales at Cardiff, Wales, U.K.

Summary
Data obtained from full-time employees of a public sector organization in India were used to test a social exchange model of employee work attitudes and behaviors. LISREL results revealed that whereas the three organizational justice dimensions (distributive, procedural and interactional) were related to trust in organization only interactional justice was related to trust in supervisor. The results further revealed that relative to the hypothesized fully mediated model a partially mediated model better fitted the data. Trust in organization partially mediated the relationship between distributive and procedural justice and the work attitudes of job satisfaction, turnover intentions, and organizational commitment but fully mediated the relationship between interactional justice and these work attitudes. In contrast, trust in supervisor fully mediated the relationship between interactional justice and the work behaviors of task performance and the individually- and organizationally-oriented dimensions of citizenship behavior. Copyright © 2002 John Wiley & Sons, Ltd.

Introduction
Recognition of employees’ positive work attitudes and contributions that go beyond their prescribed or contractually enforceable roles as a source of an organization’s competitive advantage (Podsakoff & MacKenzie, 1997) has precipitated an interest among organizational researchers to understand and explain the motivational basis of such work attitudes and contributions. As an exchange relationship, the employment relationship may be characterized either as a social or economic exchange. Blau (1964: 91–92) described social exchange as ‘the voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others.’ It entails the notion that ‘one person does another a favor and while there is an expectation of some future return, its exact nature is never specified in advance but must be left to the discretion of the one who makes it.’ Social exchange is therefore, premised on a long-term exchange of favors that precludes accounting and is based on a diffuse obligation to reciprocate. In contrast, a prototype economic exchange rests on a

* Correspondence to: Samuel Aryee, Hong Kong Baptist University, Department of Management, 34 Renfrew Road, Kowloon Tong, Hong Kong. E-mail: saryee@hkbu.edu.hk

Received 16 April 2001
Revised 1 December 2001
Accepted 10 December 2001
formal contract that stipulates the exact quantities to be exchanged and can be enforced through legal sanctions. Social exchange has provided the conceptual underpinning of research on work attitudes and behaviors (Settoon, Bennett, & Liden, 1996; Wayne, Shore, & Liden, 1997) because unlike the specific benefits or commodities involved in an economic exchange, the favors or benefits exchanged are indicative of mutual support and investment in the relationship.

Social exchange in an employment relationship may be initiated by an organization’s fair treatment of its employees. This favor or spontaneous gesture of goodwill on the part of the organization (or its agents) engenders an obligation on the part of employees to reciprocate the good deeds of the organization. Consequently, much research has examined the relationship between an organization’s fair treatment of its employees or organizational justice and work attitudes and behaviors (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Cropanzano & Greenberg, 1997). The main effect approach that characterized the first wave of organizational justice research (Alexander & Ruderman, 1987; Folger & Konovsky, 1989; McFarlin & Sweeney, 1992) has since been complemented by research that seeks to explain the mechanisms that underpin the reported relationship between organizational justice and employee work outcomes (Konovsky & Pugh, 1994; Moorman, Blakely, & Niehoff, 1998). Although this stream of research has contributed substantially to explicating the social exchange basis of employee attitudes and behaviors, it is not without limitations.

First, in spite of the tripartite conceptualization of organizational justice, much of this research has not examined all three dimensions of justice simultaneously (Manogran, Stauffer, & Conlon, 1994—Paper presented at the Annual Meeting of the Academy of Management, Dallas). For example, Masterson, Lewis, Goldman, and Taylor (2000) examined procedural and interactional justice while Moorman et al. (1998) examined procedural justice. A fuller understanding of the social exchange basis of employee work attitudes and behaviors requires a simultaneous examination of all three dimensions (distributive, procedural and interactional) of organizational justice. Second, the discretionary nature of when favors or services rendered will be reciprocated makes trust a critical component of social exchange. As previously noted, trust has been examined as a mechanism through which organizational justice affects employee outcomes. Unfortunately, this stream of research (Konovsky & Pugh, 1994; Pillai, Schriesheim, & Williams, 1999) examined only trust in supervisor. There is evidence, however, that employees differentiate between multiple exchange partners at the workplace—supervisors, coworkers and management (Becker, 1992; Reichers, 1985). Indeed, Whitener (1997: 393) argued that employees can develop trust in at least two different types of referents-specific individuals (e.g. supervisor) and generalized representatives (e.g. employer). Thus, the focus on trust in supervisor provides only a limited understanding of how an organization’s fair treatment of its employees is related to their work outcomes.

Finally, and based on Hofstede’s (1980) cultural framework, much of this stream of research has been conducted primarily in the individualist cultures of the West (particularly the US) raising questions about the extent to which the findings are generalizable to the collectivist cultures of the East. Parikh and Garg (1990) observed that in India’s collectivist culture, each individual has a distinct role and relatedness is defined by bonds of caste, community and neighbour. Further, authority is anchored in social position and the entire system reinforced psychological and social belonging. Indian society is, therefore, characterized by expressive ties among people and an emphasis on such values as respect for authority, affiliation, dependency and social obligation (Tripathi, 1990). An examination of the emergence and functioning of social exchange processes in collectivist Eastern cultures where values differ dramatically from those typically found in a Western context, should enhance our understanding of the motivational underpinnings of employee work attitudes and behaviors in a competitive globalized economy. Consequently, this study sought to address the preceding limitations by testing an integrative social exchange model of organizational justice, trust foci (supervisor and organization), and employee work attitudes and behaviors.
Social exchange theory and employee work outcomes

Although Blau’s (1964) formulation highlighted the role of trust in the emergence and maintenance of a social exchange relationship, there is a paucity of research that has examined the role of trust in explicating the social exchange basis of employee work outcomes (Konovsky & Pugh, 1994). Instead, much of this stream of research has examined the social exchange mechanisms of perceived organizational support (POS) and leader–member exchange (LMX), reflecting the two social exchange relationships (supervisor and organization) employees are involved in at work (Eisenberger, Huntington, Hutchison, & Sowa, 1986; Liden, Sparrowe, & Wayne, 1997; Masterson et al., 2000; Setton et al., 1996; Wayne et al., 1997). POS describes the quality of employee–organization relationship as indexed by employees’ perception of the extent to which their organization cares about their welfare and values their contributions. LMX, on the other hand, describes the quality of the relationship between a supervisor and an employee. Eisenberger, Fasolo, and Davis-LaMastro (1990: 57), however, invoked trust to explain the demonstrated outcomes of POS. They noted that ‘perceived support would create trust that the organization will fulfill its exchange obligations of noticing and rewarding employee efforts made on its behalf.’ Eisenberger et al.’s (1990) explanation resonates with Blau’s observation that social exchange requires trusting others to discharge their obligations. This study acknowledges the relevance of POS and LMX in understanding the motivational basis of employee work outcomes. However, given the centrality of trust in Blau’s formulation coupled with the paucity of research on trust in social exchange processes in organizations, this study examined the mediating role of trust.

Figure 1 presents a schematic representation of the model tested in this study. A key outcome examined in this study is organizational citizenship behavior (OCB) which describes ‘behavior that is discretionary, not directed or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization’ (Organ, 1988: 4). Following Williams and Anderson (1991), much of the extant OCB research (Podsakoff, MacKenzie, Paine, & Bachrach, 2000) has distinguished between individually-directed (OCBI) and organizationally-directed (OCBO) citizenship behaviors. The OCBI or helping dimension (e.g. helping to orient a new employee) has been suggested to benefit the supervisor (Masterson et al., 2000) whereas the OCBO or voice dimension (e.g. making innovative suggestions to improve the department) may benefit both the organization (Tsui, Pearce, Porter, & Tripoli, 1997) and the supervisor. Of the work attitudes examined (job satisfaction, turnover intentions and organizational commitment), job satisfaction represents a multifaceted construct and may be both a supervisor- and an organization-related outcome (Spector, 1997). However, given that it has been reported to be more of an organization than supervisor-related outcome (Masterson et al., 2000), we conceptualized job satisfaction as an organization-related work outcome.

As shown in Figure 1, the three dimensions of organizational justice are hypothesized to be differentially related to the trust foci of supervisor and organization, which in turn, differentially related to the employee work outcomes examined in this study. More specifically, trust in organization is posited to mediate the relationship between the organizational justice components and the organization-related outcomes of job satisfaction, organizational commitment, turnover intentions, and OCBO. In contrast, trust in supervisor is posited to mediate the relationship between interactional justice and the supervisor-related outcomes of task performance, OCBI and OCBO. The literature that underpinned these relationships is reviewed below.

Organizational justice and work outcomes

Organizational justice describes the individual’s and the group’s perception of the fairness of treatment received from an organization and their behavioral reaction to such perceptions (James, 1993).
Figure 1. Hypothesized fully mediated model.
Distributive justice describes the perceived fairness of the outcomes employees receive; procedural justice refers to the perceived fairness of the means used to determine those outcomes, and interactional justice refers to the quality of interpersonal treatment received at the hands of decision-makers (Bies & Moag, 1986; Colquitt et al., 2001; Cropanzano & Greenberg, 1997). Research has consistently found the three dimensions of organizational justice to be related, albeit differentially, to employee work-related attitudes and behaviors (Colquitt et al., 2001). Given that employees are involved in an exchange relationship with the supervisor and the organization, outcomes of organizational justice have been examined in terms of the focal exchange partner. For example, Masterson et al. (2000) reported procedural justice to be related to the organization-referenced outcomes of OCBO and organizational commitment while interactional justice was related to the supervisor-referenced outcomes of OCBI and task performance. In this study, we conceptualized OCBO as an employee’s currency for exchange with both the supervisor and organization. This is because the type of OCBO (e.g. voice) will benefit both the supervisor and the organization.

The mediating role of trust

Mayer, Davis, and Schoorman (1995: 712) defined trust as ‘The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor irrespective of the ability to monitor or control that other party.’ This vulnerability stems from the risk or uncertainty regarding whether the other party intends to and will act appropriately. The degree of vulnerability is enhanced in situations where the parties are interdependent such that the interest of one party cannot be achieved from the other. As a psychological state, McAllister (1995) distinguished cognition from affect-based trust. Cognition-based trust describes a rational evaluation of an individual’s ability to carry out obligations and, therefore, reflects beliefs about that individual’s reliability, dependability and competency. In contrast, affect-based trust reflects an emotional attachment that stems from the mutual care and concern that exist between individuals. Although a social exchange-based relationship is characterized by affect-based trust (Chen, Chen, & Meindi, 1998), our conceptualization of trust reflects each of the dimensions (concern for others’ interests, reliability, openness and competence) that has been suggested to additively influence an individual’s trustworthiness (Mayer et al., 1995; Mishra, 1996; Butler, 1991).

As Blau (1964: 98) noted ‘The establishment of exchange relations involves making investments that constitute commitment to the other party. Since social exchange requires trusting others to reciprocate, the initial problem is to prove oneself trustworthy.’ Consequently, a focal exchange partner’s (organization or supervisor) fair treatment of the other initiates a social exchange relationship with that partner (employee). Over time, these inducements constitute a global schema of history of support (Shore & Shore, 1995) reinforcing the trustworthiness of the exchange partner. As human resource practices, distributive and procedural justice have been empirically shown to be related to trust in organization (Pearce, Branyiczki, & Bakacsi, 1994). Interactional justice has been argued to be related to trust in supervisor. Further, as supervisors build relational contracts and fulfill employees’ perceptions of the organization’s obligations, employees trust in the organization grows (Whitener, 1997).

To equalize or ensure a balance in their exchange, employees will feel obligated to reciprocate the good deeds of the focal exchange partner. As Blau (1964: 94) noted, ‘By discharging their obligations for services rendered, . . . individuals demonstrate their trustworthiness and the gradual expansion of mutual service.’ Reciprocation, therefore, reinforces and stabilizes trust, the axis upon which social exchange revolves. The obligations that partners incur in social exchange are generally diffuse and are valued as symbols of mutual loyalty, goodwill and broad support. Employees wares for reciprocation have been conceptualized in terms of positive work attitudes and contributions, particularly those
that exceed prescribed role requirements. There is empirical evidence linking trust in organization to organizational commitment, intention to remain, and the civic virtue dimension of citizenship behavior (Liou, 1995; Robinson, 1996; Robinson & Morrison, 1995). Trust in supervisor has also been shown to be related to the supervisor-directed citizenship behavior dimensions of altruism, courtesy, and conscientiousness (Podsakoff, MacKenzie, Moorman, & Fetter, 1990) and a global measure of citizenship behavior (Konovsky & Pugh, 1994).

Following Konovsky and Pugh (1994), we contend that to the extent that trust is a manifestation of social exchange and social exchange underpins the expression of mutual loyalty, goodwill and support, trust will mediate the relationship between organizational justice and the employee work-related attitudes and behaviors. However, as noted earlier, employees’ wares for reciprocation are contingent upon the focal exchange partner (Masterson et al., 2000). Accordingly, we expect trust in organization to mediate the relationship between the organizational justice dimensions (distributive, procedural and interactional) and the organization-referenced work outcomes. By the same logic, we expect trust in supervisor to mediate the relationship between interactional justice and the supervisor-referenced work outcomes.

Organizational Context

The site for this research was one of the eight subsidiaries of Coal India Limited (CIL) located in the Indian State of Madhya Pradesh. Coal mining started in India in 1779, initially as a private sector activity but shifted to the public sector with the nationalization of coking mines in 1972, and the subsequent formation of CIL in 1975. CIL’s headquarters are in Calcutta. Each of the eight subsidiaries is headed by a Chairman and Managing Director who is ultimately responsible to the Board and Chairman of CIL. Although each subsidiary enjoys local autonomy, they share a common identity. Management structure and practices are designed to ensure a balance between local autonomy and organization-wide integration.

Given that 80 per cent of India’s energy is supplied by thermal plants which are dependent on coal, CIL plays a significant role in India’s economy. It produces about 260 million tons of coal annually and has about 90 per cent of the market share for coal products. The main consumers of coal are power plants, locomotives, steel and cement factories. In recent times, the near monopolistic position enjoyed by CIL has been undermined with the government’s globalization policy. This policy has opened up the domestic coal market to imports which are considered to be of better quality and are available at competitive prices. Given the competitive pressures, CIL is now focusing increasingly on quality as a major strategic tool to ensure its survival.

CIL is one of the largest employers in India with a total workforce of 580,000 employees. The site for this research has 94,228 non-managerial employees and 3,142 executives. Employment at CIL is on a long-term basis and employees move through a series of clearly defined job classifications during their careers. The organization provides a range of benefits such as free housing, loans, free medical facilities, yearly bonus and paid leave. On retirement, employees are entitled to gratuity or provident fund provisions based on their length of service. Given the specialized nature of CIL’s activities, career development programmes are provided for employees to enhance or upgrade their firm-specific skills. The employment relationship at CIL approximates what has been described as a relational psychological contract. However, the competitive pressures
Consequent upon the opening up of the domestic coal market to foreign competition, have led to plans to adopt strategic actions to ensure the survival and effectiveness of CIL. At the time of data collection, some of these strategic actions being actively discussed include downsizing (through early or voluntary retirement), limited-term employment contracts, and initiatives to improve the quality of coal. At the point, it is uncertain the extent to which these strategic actions, if implemented, will change the nature of the employment relationship at CIL.

Methods

Sample and procedure

Data were obtained from full-time employees of a public sector organization in Bilaspur, Madhy Pradash state in India. Respondents provided the name of the person whom they reported directly to and was cross-checked by a survey coordinator (a member of the participating organization). Survey packets were sent separately to respondents (Form B) and their immediate supervisors (Form A). Form A contained the measure of work behaviors (task performance, OCB and OCBI) and a section assessing the demographic characteristics of the supervisors. Form B contained the rest of the measures used in this study. Attached to the survey instrument for both supervisors and their subordinates was a letter that explained the objective of the survey in general terms (employees’ experience of the employment relationship), assured respondents of the confidentiality of their responses, and notified them that participating in the survey was voluntary. Instructions to the supervisors further assured them that their ratings of their subordinates will be used only for the purposes of the survey. A coding system used to match supervisor ratings to subordinate responses was also explained to both supervisors and their subordinates. Form A contained the code numbers for both the supervisor and subordinate. Form B on the other hand, contained only the subordinate’s code number. Completed questionnaires were returned sealed in envelopes provided by the researchers to a specially marked box in the organization’s human resource department. The survey instrument was in English.

Of the 350 subordinate questionnaires distributed, 182 completed questionnaires were returned. After deleting records with unmatched supervisor–subordinate dyads, a total of 179 supervisor–subordinate dyads (179 subordinates and 28 supervisors) remained and constituted the sample for this study. Of the subordinate sample, 91.7 per cent were men, 58.6 per cent were in the 30–49 years age bracket and 80.7 per cent had obtained university education. They also reported an average organizational tenure of 6.88 years, average position tenure of 3.22 years and, worked an average of 49 hours per week. Respondents were employed as mining, engineering, sales and marketing, finance and human resource management professionals. Pertaining to the demographic composition of the supervisory respondents, 81.5 per cent were men, the average age was 41.63 years, and the vast majority (94.9 per cent) had obtained university education. They reported average organizational tenure of 10.65 years.

Measures

Distributive justice

A 5-item scale developed by Price and Mueller (1986) was used to measure distributive justice. Example items are ‘I am fairly paid or rewarded considering my job responsibilities’ and ‘I am fairly
paid or rewarded considering the stresses and strains of my job.’ The scale’s alpha reliability in this study is 0.95.

Procedural justice
A 7-item abbreviated version of a scale by Niehoff and Moorman (1993) that reflect the presence of formal procedures for making decisions was used to measure procedural justice. Example items are ‘My present organization has procedures designed to provide opportunities to appeal or challenge a decision’ and ‘My present organization has procedures designed to allow for requests for clarification or additional information about a decision.’ The scale’s alpha reliability in this study is 0.92.

Interactional justice
A 6-item abbreviated version of a scale developed by Niehoff and Moorman (1993) that reflect the fair use of procedures by an employee’s supervisor was used to measure interactional justice. Example items are ‘When decisions are made about my job, my supervisor treats me with kindness and consideration’ and ‘When decisions are made about my job, my supervisor shows concern for my rights as an employee.’ The scale’s alpha reliability in this study is 0.92.

Trust in organization
A 7-item scale by Gabarro and Athos (1978), and used by Robinson (1996) was used to measure trust in organization. Example items are ‘My employer is not always honest and truthful’ (reverse-scored) and ‘I believe my employer has high integrity.’ The scale’s alpha reliability in this study is 0.84.

Trust in supervisor
An 8-item scale by Marlowe and Nyhan (1992) was used to measure trust in supervisor. Response options ranged from (1) ‘nearly zero’ to (7) ‘nearly 100 per cent confidence and trust in my supervisor.’ Example items are ‘My level of confidence that my supervisor is technically competent at the critical elements of his/her job is . . . ’ and ‘When my supervisor tells me something, my level of confidence that I can rely on what he/she tells me is . . . ’ The scale’s alpha reliability in this study is 0.95.

Job satisfaction
A 6-item abbreviated version of Brayfield and Rothe’s (1951) 18-item scale was used to measure job satisfaction. Example items are ‘Most days, I am enthusiastic about my job’ and ‘I am seldom bored with my job.’ The scale’s alpha reliability in this study is 0.75.

Turnover intentions
A 3-item scale by Camman, Fichman, Jenkins, and Klesh (1979—unpublished manuscript) was used to measure turnover intentions. Response options for two of the items (‘I often think about quitting my job with my present organization’ and ‘I will probably look for a new job within the next year’) ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree’ and for the last item (‘How likely is it that you will actively look for a new job in the next year?’) ranged from (1) ‘not at all likely’ to (5) ‘extremely likely.’ The scale’s alpha reliability in this study is 0.79.

Organizational commitment
A 6-item abbreviated version of Porter, Steers, Mowday, and Boulián’s (1974) scale was used to measure affective organizational commitment. Example items are ‘I would be very happy to spend the rest of my career with my present organization’ and ‘I feel a strong sense of belonging to my present organization.’ The scale’s alpha reliability in this study is 0.87.

Organizational citizenship behavior
A 6-item abbreviated version of a 9-item scale by Tsui et al. (1997) was used to measure OCBO and a 6-item scale pooled from the extant literature (Williams & Anderson, 1991; Van Dyne & LePine, 1998; Smith, Organ, & Near, 1983) was used to measure OCBI. Example items for OCBO are ‘This employee makes innovative suggestions to improve the department’ and ‘This employee suggests revisions in work to achieve organizational/departmental objectives.’ Example items for OCBI are ‘This employee takes the initiative to orient new employees even though it is not part of his/her job description’ and ‘This employee helps others with their work when they have been absent even when he/she is not required to do so.’ The alpha reliability for the measure of OCBO is 0.86 and for OCBI is 0.87.

Task performance
A 6-item abbreviated version of an 11-item scale by Tsui et al. (1997) was used to measure task performance. Example items are ‘This employee’s quantity of work is higher than average’ and ‘This employee strives for higher quality work than required.’ The scale’s alpha reliability is 0.89.

Excluding task performance and organizational citizenship behavior which were supervisor-rated, all measures were self-reported. Further, response options for all measures (with the exception of trust in supervisor), ranged from (1) ‘strongly disagree’ to (5) ‘strongly agree.’

Analyses
We used LISREL 8 (Jöreskog & Sörbom, 1993) with maximum likelihood estimation to estimate the factor structure of our measurement model. We first examined the factor structure of the trust foci, and then the factor structure of all the variables in the study including the trust foci. In the second stage of data analysis, we evaluated our hypothesized model by assessing the conditions for mediation (Baron & Kenny, 1986). In order to provide a stringent test of our model (Platt, 1964), we examined seven alternative nested models (partially mediated) by comparing them with our hypothesized fully mediated model. Further, based on Bigley and Pearce’s (2001—manuscript under review) work, we compared our model to a non-nested model. They examined two competing models of how supervisory trust and procedural justice relate to each other. In the instrumental model (grounded in social exchange theory), procedural justice was hypothesized to lead to supervisory trust whereas in the relational model (grounded in social identity theory), supervisory trust was hypothesized to lead to procedural justice. Bigley and Pearce (2001—under review) reported support for the relational model in both their US and Lithuania samples. Their finding suggests a possibility of reverse causality in the ordering of the variables in the social exchange model examined in this study. We, therefore, compared the fit of a non-nested (relational) model (the trust foci were hypothesized to be differentially related to the justice dimensions which, in turn, differentially influence the work outcomes examined) to our hypothesized model.

In terms of the structural equation modelling, we were confronted with a relatively small sample size in light of the number of observed indicators. Based on procedures reported in the extant literature (Bagozzi & Heatherton, 1994; Brooke, Russell, & Price, 1988), we reduced the number of items by creating two indicators for each construct. On the basis of factor analysis results, the items with the highest and lowest loadings for each construct were combined first, followed by items with the next highest and lowest loadings until all the items for each construct had been assigned to an indicator. Scores for each indicator were then computed as the mean of the scores on the items that constituted each indicator. Data with listwise deletion of missing values were used for the LISREL analysis resulting in a final sample size of 153. To assess model fit, we used the overall model chi-square measure
\( \chi^2 \), the Tucker–Lewis Index (TLI, Tucker & Lewis, 1973), the goodness-of-fit index (GFI, Jöreskog & Sörbom, 1993), the comparative fit index (CFI, Bentler, 1990) and root mean square error of approximation (RMSEA, Browne & Cudeck, 1993). Further, we used Akaike’s (1987) information criterion (AIC) to evaluate the relative fit of our best fitting model and the non-nested alternative model. The model with the smaller AIC value is considered the better fitting model (Jöreskog & Sörbom, 1993: 120).

**Results**

The CFA results of the trust foci indicated that the two-factor model \((\chi^2 = 195.53, df = 89, p < 0.01; TLI = 0.92, CFI = 0.93, GFI = 0.86, RMSEA = 0.08)\) relative to the 1-factor model \((\chi^2 = 598.46, df = 90, p < 0.01; TLI = 0.63, CFI = 0.68, GFI = 0.58, RMSEA = 0.23)\), provided a better fit to the data. This suggests support for the distinctiveness of trust in organization and trust in supervisor. Additionally, CFA results of the test of our measurement model revealed support for the 11-factor model indicating the distinctiveness of the 11 constructs used in this study. The chi-square value for the 11-factor model \((\chi^2 = 248.18, df = 154, p < 0.01)\) was significantly lower than that for the null model \((\chi^2 = 2927.95, df = 231, p < 0.01)\) and the one-factor model \((\chi^2 = 1848.73, df = 209, p < 0.01)\). The fit indices also showed a better fit for the 11-factor model \((TLI = 0.95, CFI = 0.95, GFI = 0.89, RMSEA = 0.05)\) relative to the one-factor model \((TLI = 0.31, CFI = 0.37, GFI = 0.48, RMSEA = 0.23)\).

Table 1 presents the reliabilities and zero-order correlations of the study variables. The alpha reliabilities are 0.77 or higher and, therefore, satisfactory for structural equation modelling (Bollen, 1989). In general, the zero-order correlation results were all in the expected direction, indicating preliminary support for the relationships depicted in Figure 1.

To test the hypothesized model, we first assessed the conditions of mediation (Baron & Kenny, 1986; Prussia & Kinicki, 1996: 192). First, correlation coefficients indicated that distributive justice was correlated with all four outcomes hypothesized (job satisfaction, turnover intentions, organizational commitment and OCBO); procedural justice was associated with three of four outcomes hypothesized (job satisfaction, turnover intentions and organizational commitment) but not OCBO, and interactional justice was correlated with all six outcomes hypothesized. This pattern of results partially satisfied the first condition of mediation. Second, baseline structural or hypothesized model results showed that all three organizational justice dimensions correlated with trust in organization, and interactional justice was associated with trust in supervisor. The third condition of mediation was only partially satisfied as the results showed that: (i) trust in organization was related to job satisfaction, turnover intentions and organizational commitment but not OCBO and (ii) trust in supervisor was positively associated with OCBO and OCBI, and task performance. Consequently, in further tests of the model, we only specified paths for which the antecedents and mediators have significant effects on the specified outcomes.

To evaluate the final condition for mediation, we compared the fit of seven alternative models (partially mediated) to our hypothesized fully mediated model, the results of which are presented in Table 2. As shown in that table, Model 1 and Model 4 provided a better fit relative to the hypothesized fully mediated model. However, on the basis of the fit indices and parsimony, we concluded that of the eight models examined, Model 4 provided the best fit. Additionally, the AIC values showed that Model 4 had a smaller value \((AIC = 489.66)\) than the non-nested alternative model \((AIC = 517.86)\), thereby reinforcing our finding that Model 4 was the best fitting model.
Table 1. Descriptive statistics and zero-order correlations among study variables (n = 153)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Distributive justice (DJ)</td>
<td>3.20</td>
<td>1.05</td>
<td>[0.95]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Procedural justice (PJ)</td>
<td>3.26</td>
<td>0.80</td>
<td>0.38†</td>
<td>[0.92]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Interactional justice (IJ)</td>
<td>3.63</td>
<td>0.79</td>
<td>0.59†</td>
<td>0.53†</td>
<td>[0.92]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Trust in organization (TIO)</td>
<td>3.83</td>
<td>0.65</td>
<td>0.44†</td>
<td>0.58†</td>
<td>0.52†</td>
<td>[0.85]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Trust in supervisor (TIS)</td>
<td>4.09</td>
<td>1.00</td>
<td>0.29†</td>
<td>0.28†</td>
<td>0.71†</td>
<td>0.32†</td>
<td>[0.95]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Organizational commitment (OC)</td>
<td>3.79</td>
<td>0.81</td>
<td>0.61†</td>
<td>0.55†</td>
<td>0.47†</td>
<td>0.56†</td>
<td>0.31†</td>
<td>[0.87]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Turnover intention (TI)</td>
<td>2.25</td>
<td>0.95</td>
<td>−0.45†</td>
<td>−0.31†</td>
<td>−0.43†</td>
<td>−0.40†</td>
<td>−0.27†</td>
<td>−0.52†</td>
<td>[0.81]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Jobs satisfaction (JS)</td>
<td>3.50</td>
<td>0.67</td>
<td>0.49†</td>
<td>0.59†</td>
<td>0.51†</td>
<td>0.68†</td>
<td>0.29†</td>
<td>0.66†</td>
<td>−0.41†</td>
<td>[0.77]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Task performance (PERF)</td>
<td>3.52</td>
<td>0.57</td>
<td>0.12</td>
<td>0.19*</td>
<td>0.34†</td>
<td>0.11</td>
<td>0.50†</td>
<td>0.02</td>
<td>−0.41</td>
<td>0.15</td>
<td>[0.89]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. OCBI</td>
<td>3.53</td>
<td>0.52</td>
<td>0.10</td>
<td>0.12</td>
<td>0.17*</td>
<td>0.02</td>
<td>0.25†</td>
<td>−0.07</td>
<td>−0.12</td>
<td>0.02</td>
<td>0.59†</td>
<td>[0.87]</td>
<td></td>
</tr>
<tr>
<td>11. OCBO</td>
<td>3.48</td>
<td>0.58</td>
<td>0.17*</td>
<td>0.12</td>
<td>0.20*</td>
<td>0.09</td>
<td>0.34†</td>
<td>0.10</td>
<td>−0.17*</td>
<td>0.11</td>
<td>0.61†</td>
<td>0.39†</td>
<td>[0.86]</td>
</tr>
</tbody>
</table>

*p < 0.05; † p < 0.01.
Figures in parentheses are alpha reliabilities.
Table 2. Results of model comparisons (n = 153)

<table>
<thead>
<tr>
<th>Models</th>
<th>$\chi^2$</th>
<th>$df$</th>
<th>$\Delta \chi^2$</th>
<th>$\Delta df$</th>
<th>TLI</th>
<th>CFI</th>
<th>GFI</th>
<th>RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hypothesized model</td>
<td>403.43</td>
<td>195</td>
<td>—</td>
<td>—</td>
<td>0.90</td>
<td>0.92</td>
<td>0.81</td>
<td>0.081</td>
</tr>
<tr>
<td>2. Model 1$^a$</td>
<td>387.98</td>
<td>192</td>
<td>15.45</td>
<td>3</td>
<td>0.91</td>
<td>0.92</td>
<td>0.82</td>
<td>0.079</td>
</tr>
<tr>
<td>3. Model 2$^b$</td>
<td>398.47</td>
<td>193</td>
<td>3.96</td>
<td>2</td>
<td>0.90</td>
<td>0.92</td>
<td>0.81</td>
<td>0.081</td>
</tr>
<tr>
<td>4. Model 3$^c$</td>
<td>400.36</td>
<td>190</td>
<td>3.07</td>
<td>5</td>
<td>0.90</td>
<td>0.92</td>
<td>0.81</td>
<td>0.083</td>
</tr>
<tr>
<td>5. Model 4$^d$</td>
<td>377.53</td>
<td>189</td>
<td>25.9</td>
<td>6</td>
<td>0.91</td>
<td>0.93</td>
<td>0.82</td>
<td>0.078</td>
</tr>
<tr>
<td>6. Model 5$^e$</td>
<td>383.73</td>
<td>186</td>
<td>19.7</td>
<td>9</td>
<td>0.90</td>
<td>0.92</td>
<td>0.82</td>
<td>0.082</td>
</tr>
<tr>
<td>7. Model 6$^f$</td>
<td>395.98</td>
<td>187</td>
<td>7.45</td>
<td>8</td>
<td>0.90</td>
<td>0.92</td>
<td>0.81</td>
<td>0.083</td>
</tr>
<tr>
<td>8. Model 7$^g$</td>
<td>372.56</td>
<td>183</td>
<td>30.87</td>
<td>12</td>
<td>0.91</td>
<td>0.93</td>
<td>0.82</td>
<td>0.080</td>
</tr>
<tr>
<td>9. Model 8$^h$</td>
<td>382.46</td>
<td>179</td>
<td>20.97</td>
<td>16</td>
<td>0.90</td>
<td>0.92</td>
<td>0.82</td>
<td>0.084</td>
</tr>
</tbody>
</table>

Notes:
$^a$In comparison to the hypothesized model, Model 1 adds path from DJ to JS, TI, OC, and OCBO.
$^b$Model 2 adds path from PJ to JS, TI, and OC.
$^c$Model 3 adds path from JJ to JS, TI, OC, OCBO, PERF, and OCBL.
$^d$Model 4 adds paths from DJ to JS, TI, OC, and OCBO, and adds paths from PJ to JS, TI, and OC simultaneously.
$^e$Model 5 adds paths from DJ to JS, TI, OC, and OCBO, and adds paths from JJ to JS, TI, OC, OCBO, PERF, and OCBL simultaneously.
$^f$Model 6 adds paths from PJ to JS, TI, and OC, and adds paths from JJ to JS, TI, OC, OCBO, PERF, and OCBL simultaneously.
$^g$Model 7 adds paths from DJ to JS, TI, OC, and OCBO, PJ to JS, TI, and OC, and adds paths from JJ to JS, TI, OC, OCBO, PERF, and OCBL simultaneously.
$^h$Nonnested alternative model that posited justice dimensions as mediators of the relationship between trust foci and employee work outcomes.
TLI = Tucker–Lewis index; CFI = comparative fit index; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation.

Figure 2 presents the LISREL estimates for Model 4. As shown in that figure: (i) interactional justice had indirect effects on job satisfaction, turnover intentions and organizational commitment through trust in organization, and indirect effects on OCBO, OCBI and task performance through trust in supervisor; (ii) distributive justice had both direct and indirect effects through trust in organization on job satisfaction, turnover intentions and organizational commitment; and (iii) procedural justice had indirect effects (through trust in organization) on job satisfaction and organizational commitment. The fit indices for Model 4 were: $\chi^2 = 377.53$ ($df = 189$; $p < 0.01$); TLI = 0.91, CFI = 0.93, GFI = 0.82, RMSEA = 0.078. These results suggest that the data fit the alternative partially mediated Model 4 moderately well (Medsker, Williams, & Holaham, 1994).

Discussion

This study sought to examine an integrative social exchange model of employee work attitudes and behaviors in an Eastern collectivist culture. Specifically, the study examined the potential mediating influence of the trust foci of supervisor and organization on the relationship between organizational justice and employee work attitudes and behaviors among a sample of Indian employees. Results of zero-order correlational and confirmatory factor analyses revealed the two trust foci to be interrelated but distinct constructs. This finding suggests that employees can develop trust in specific individuals such as supervisor and generalized representatives such as the organization (Whitener, 1997).

The findings further revealed partial support for our proposition that the two trust foci will fully but differentially mediate the relationship between the organizational justice dimensions and the work attitudes and behaviors examined. The relationship between distributive and procedural justice and
Figure 2. Structural path estimates of the best fitting partially mediated model
the employee work-related attitudes were partially mediated by trust in organization. In contrast, the influence of interactional justice on all three work attitudes was fully mediated by trust in organization, as predicted. Although trust in organization partially mediated the relationship between the organizational justice dimensions (with the exception of interactional justice which was fully mediated) and the work attitudes, the findings nevertheless reinforce the social exchange basis of employee work attitudes. Human resource practices that facilitate the fair treatment of employees not only engender trust in organization but also directly influence their work attitudes.

As predicted, our findings revealed interactional justice to be a primary source of trust in supervisor. Previous research that reported a relationship between procedural justice and trust in supervisor combined decision-making structures and the supervisor’s enactment of these structures (Bigley & Pearce, 2001—under review; Konovsky & Pugh, 1994; Pillai et al., 1999). Our findings seem to suggest that when procedures and their enactment are separated, it is interactional but not procedural justice that is related to trust in supervisor. This finding dovetails with Cropanzano and Prehar’s (1999—Paper presented at the Annual Meetings of the SIOP, Atlanta, April) suggestion that procedural justice applies to the exchange between an employee and his/her organization, whereas interactional justice applies to the exchange between an employee and his/her supervisor. Consistent with our prediction, trust in supervisor fully mediated the relationship between interactional justice and the work-related behaviors of OCBO, OCBI and task performance. This pattern of findings further reinforces the social exchange basis of employee work-related behaviors as currency for reciprocating their fair treatment by the supervisor, and the trust such treatment engenders in the supervisor.

The differential antecedents and outcomes of the trust foci of supervisor and organization further underscores the distinctiveness of the two constructs. Although OCBO has traditionally been treated as an organizational-level outcome (Masterson et al., 2000) and should have been influenced by trust in organization, our findings did not support our prediction. Our measure of OCBO (Tsui et al., 1997) had both departmental and organizational referents (‘This employee makes suggestions to improve department’, and ‘This employee suggests revisions in work to achieve organizational or departmental objectives’). This may have led respondents to respond to the items that measured OCBO with a supervisor rather than an organizational frame of reference. In general, our findings indicate that the two trust foci, supervisor and organization, are not only differentially related to the work outcomes examined but also differentially mediated the relationships between the organizational justice dimensions and these work outcomes.

The findings reported here should be interpreted against a backdrop of the study’s limitations. First, the cross-sectional data precludes any inference of causality. Although our SEM results revealed that our hypothesized model fitted the data better than the non-nested model suggested by Bigley and Pearce’s (2001 — under review) results, both studies were based on cross-sectional data. Consequently, the direction of causality cannot be unequivocally established and will have to be examined using longitudinal data. Second, our reliance on data obtained from a predominantly male sample constrains the generalizability of our findings to women. Research evidence suggests that reactions to justice perceptions are moderated by gender. For example, Brockner and Adsit (1986) reported that men tend to be more sensitive to issues of distributive justice than women. Third, our respondents were full-time, public sector employees. Given the stability of employment in India’s public sector, our respondents were involved in a social exchange-based employment relationship. Consequently, our findings may not be applicable to employees (e.g. part-time employees) in an economic exchange-based employment relationship. Indeed, there is research evidence that suggests that because of the economic exchange-based nature of their employment relationship, part-time employees engage less in citizenship behavior and have lower affective commitment than full-time employees (Van Dyne & Ang, 1998; Stamper & Van Dyne, 2001). Fourth and related to the preceding limitation is the stability of Blau’s (1964) social exchange model when applied to an employment relationship. In a stable
employment relationship characterized by high levels of fairness and trust (as was the context in which this study’s data were obtained), a social exchange model will predominate. However, in an employment context characterized by low levels of fairness and trust (engendered by, for example, perceptions of psychological contract breach), the employment relationship will undergo a qualitative change and an economic exchange will predominate. Consequently, the findings of this study may not generalize to an employment context undergoing a transition from a social to an economic exchange model of the employment relationship. Lastly, our reliance on self-reports (with the exception of task performance, OCBO and OCBI were supervisor-rated) suggests that the reported relationships could potentially be attributed to method variance. Results of confirmatory factor analysis revealed, however, that the constructs were distinct, hence the results cannot be attributed to method variance. Furthermore, the magnitude of the correlations shown in Table 1 indicates relatively low levels of shared variance among the self-report constructs. Nevertheless, there is a need to replicate this study to ascertain the validity of our findings.

These limitations are counterbalanced by the strengths of this study. First, this study examined an integrative social exchange model. It not only examined the three dimensions of organizational justice but also the trust foci of supervisor and organization, as well as myriad work attitudes and behaviors. The findings, therefore, highlight the social exchange relationships that differentially underpin employee work attitudes and behaviors. Second, although we did not exhaust potential rival models, examination of plausible rival models ensured a stringent test of our hypothesized model. Finally, the results of this study demonstrate the generalizability of the social exchange underpinnings of work attitudes and behaviors to an Eastern collectivist culture, India. This finding assumes particular importance in view of the recognition of employees as a competitive resource in the context of increasing globalization, and the resulting need for companies to manage a multicultural workforce.

The findings of this study suggest a number of implications. From a theoretical perspective, the differential influence of the social exchange-related variables highlight a need for researchers to employ not only a tripartite conceptualization of organizational justice but also multiple trust foci, and simultaneously investigate their links with outcome variables. The often contradictory findings in the extant literature may be attributable to the failure, on the part of researchers, to examine integrative social exchange models of employee work attitudes and behaviors. From a practical perspective, the findings reinforce the notion of trust as the axis on which a social exchange-based employment relationship revolves and the consequent challenge for organizations to discover how to effectively manage trust. First, organizations should consider the trust building capacity of their human resource practices when formulating these practices. This is because practices that promote fair treatment of employees constitute sources of trust in the organization (Whitener, 1997). Relatively, the findings highlight the pivotal role supervisors play in building trust towards themselves and the organization (Deluga, 1994; Whitener, 1997). For this reason, organizations should train supervisors in the fair enactment of human resource practices. There is empirical evidence that training in procedural justice enhances employees’ perceptions of supervisor fairness which they reciprocate with citizenship behaviors (Skarlicki & Latham, 1996).

The increasing paradigmatic status of social exchange as a framework for understanding the motivational underpinnings of employee work attitudes and behaviors, suggest continued research to more fully understand the social exchange basis of these attitudes and behaviors. First, future research should examine a more comprehensive social exchange model that incorporates not only organizational justice and the trust foci but, also, the social exchange mechanisms of perceived organizational support and leader–member exchange. Although trust has been noted to be integral to both perceived organizational support and leader–member exchange, no research has as yet, examined these propositions. Second, while a preponderance of research has examined the mechanisms through which the social exchange-related variables influence their reported outcomes, there is a relative paucity of
research that has examined the moderators of these relationships. Future research should examine the conditions (moderators) under which these variables influence their reported outcomes. One such moderator suggested by previous research is outcome favorability. Brockner, Siegel, Daly, Martin, and Tyler (1997) reported that the relationship between trust in supervisor and support for the supervisor was stronger when outcomes were perceived to be unfavorable than when they were perceived to be favorable. Lastly, future research should examine the source of employee perceptions of the organizational justice dimensions simultaneously. Relatedly increasing globalization and the resulting need to manage a multicultural workforce suggest that future research particularly in non-Western countries, examine the emic dimensions of organizational justice (Law, Lee, Farh, & Pillutla, 2000—manuscript under review) as well as the salience of the etic dimensions examined in this study.

Acknowledgement

The authors are grateful to the reviewers for their comments on earlier drafts of the manuscript.

Author biographies

Samuel Aryee is a Professor in the School of Business at Hong Kong Baptist University. He obtained his Ph.D. from McMaster University. His areas of research interests include cross-cultural management, employee–employer relationships, organizational justice, power and influence, and behavioral unionism.

Pawan S. Budhwar is a Lecturer in the Cardiff Business School, University of Wales at Cardiff. He received his Ph.D. from the Manchester Business School. His research focuses on leadership, human resource management in developing countries, transfer of human resource management practices from headquarters to subsidiaries, and quality of worklife.

Zhen Xiong Chen is an Assistant Professor in the School of Business at Hong Kong Baptist University. He obtained his Ph.D. from Hong Kong University of Science and Technology. His areas of research interests include cross-cultural management, Chinese management, organizational commitment and leadership.

References


