THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE, LEADER-MEMBER EXCHANGE AND ORGANIZATIONAL COMMITMENT

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ABSTRACT

The purpose of this paper was to hypothesize the mediating impact of leader-member exchange (LMX) on the relationship between emotional intelligence (EI) and organizational commitment. A total of 98 participants voluntarily participated in the study. They represented four different organizations located in Balochistan province, Pakistan. Hypothesized relationships were examined using partial least squares (PLS) structural equation modeling. Results indicated that EI was positively related to LMX, which in turn was positively related to organizational commitment. In addition, the results indicated that LMX fully mediated the relationship between EI and organizational commitment.

INTRODUCTION

Since the early 1990s we have been witnessing a particular growing body of research regarding the importance of emotional intelligence (EI) within the organizational setting. Underlying this research interest is the view that people with high EI competencies are more likely to gain success in the workplace (Goleman, 1995, 1998). Although there is accumulating evidence that EI abilities and traits influence various work attitudes, behaviors and outcomes (e.g., Carmeli, 2003; Daus & Ashkanasy, 2005) but there is still a need for rigorous research to underpin
various unknown relationships between EI and other organizational variables. One such variable that could not get considerable attention in the EI literature is Leader-Member Exchange (LMX) (Smith, 2006). Although, in the literature, considerable attention has been paid to the overall understanding of the LMX concept, but there is still little evidence of personal or interpersonal attributes associated with these relationships (Phillips & Bedian, 1994) and EI could be one such personal attribute preceding the LMX relationships. As Bernerth and Walker (2007) suggest, ‘If our understanding of the LMX relationship and its formation are to advance, research is needed on the antecedents associated with the leader-member exchange process’. In line with Bernerth and Walker’s (2007) suggestion, this study empirically tested EI as one of the antecedent associated with the LMX process within organizational setting.

The present study is a follow-up to the research on EI and LMX and contributes to the existing literature in three ways. First, this study attempts to narrow the gap which exists in the EI and LMX literature by empirically testing the degree to which emotionally intelligent employees develop high quality exchange relationships with their supervisors. In this way, we move beyond the simple exploration of demographic variables that have been cited as important variables in the formation of LMX relationships (Dienesch & Linden, 1986). Second, this study is a follow up to the research on the EI-organizational commitment relationship by examining the mediating effect of LMX on the relationship between EI and organizational commitment. Third, since most studies on EI, LMX and attitudinal outcomes have been conducted in the West, there is a need to validate these findings in other cultural contexts. In other words, if EI or LMX plays an important role in influencing various outcomes in the West (e.g., organizational commitment), does this potential exist in eastern cultures? To our knowledge, to date, no empirical investigation has been conducted to study the relationship of EI and LMX with each other or with other outcome variables in the Pakistani context. As cultural differences have profound impacts on attitudes and behaviors (Hofstede, 2001), the need to examine the organizational issues (i.e., relationship between EI, LMX, and organizational commitment) in a cultural context cannot be underemphasized. Various studies have already revealed the importance of cultural differences in the underlying dimensions of EI, such as emotion display, emotional expressivity, and emotional recognition (Edelmann et al., 1989; & Nowicki et al., 1993; Mastsumoto, 1991). In this regard, it is expected that in a relationship oriented and collective society like Pakistan (Hofstede, 2001), EI would play a vital role in the formation of the high quality LMX relationships. Also, the quality of leader member relationships would demonstrate a strong influence on employees’ attitudes and behaviors, such as organizational commitment.
CONCEPTUAL BACKGROUND AND HYPOTHESES

Emotional Intelligence (EI)

Salovey and Mayer (1999) were first to utilize the term ‘emotional intelligence’ to represent the ability to deal with emotions. They defined EI as ‘the subset of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions’. They drew on relevant evidence from previous intelligence and emotion research and presented the first comprehensive model of EI. Their model included three distinct components: Appraisal and expression of emotions, regulation of emotions, and utilization of emotional information in thinking and acting. Later, Mayer and Salovey refined their 1990s model, as reflected in a number of their publications (e.g., Mayer & Salovey, 1997; Mayer et al, 2000). In sum, they conceived EI as an ability to process the information contained in emotions to determine the meaning of emotions and their connections to one another; and to use emotional information as the basis for thought and decision-making.

Salovey and Mayer’s (1990) model of EI was followed by a number of EI conceptualizations and operationalizations. Goleman’s (1995) book titled ‘Emotional Intelligence’ provided an impetus for the popularization and broadening of the field of EI. He based his model on the early ideas of Salovey and Mayer (1990). He elaborated Salovey and Mayer’s (1990) model by incorporating many other personality traits like, zeal, persistence, and social skills. In fact he brought together cognitive abilities and personality traits in one model. Goleman (1995) was responsible for bringing the EI concept before the mass media and business world. Soon after the publication of his book, organizations began to consider the application of emotional intelligence in the workplace by enhancing the EI of current employees and the selection of potential employees (Goleman, 1998).

Mainly based on Gardner’s (1983) conceptualization of the social intelligence, Reuvan Bar-On (1997) presented his model of Emotional Social Intelligence (ESI). He was the first to coin the term ‘Emotional Quotient’ or ‘EQ’. He stated that emotional intelligence plays an important role in how well one succeeds in life, copes with daily situations and gets along in the world. He defined EI as all non-cognitive abilities, knowledge, and competencies that enable a person to successfully deal with various life situations. Bar-On (2006) presented his framework by grouping 15 facets into five distinct areas: Interpersonal, Intrapersonal, Adaptability, Stress Management and General Mood.

During the subsequent years, other models appeared as well that depicted somewhat similar views as already presented by Salovey and Mayer (1990), Goleman (1995), and Bar-On (1997) (e.g. Dulewicz & Higgs, 1999; Petrides & Furnham, 2001). Ciarrochi et al. (2000) assert that these alternative models do not contradict, but rather complement one other.
Various studies have already examined the relationship between EI and several life criteria like, life satisfaction, depression, positive affectivity, negative affectivity, and anxiety (e.g., Brackett & Mayer, 2003; O’Connor & Little, 2003; Livingstone & Day, 2005). More interestingly, empirical studies demonstrating the predictive role of EI within organizational setting are also growing (e.g., Carmeli, 2003; Daus & Ashkanasy, 2005; Kafetsios & Zampetakis, 2008).

**Leader-Member Exchange (LMX)**

LMX theory describes how leaders develop different exchange relationships over time with various subordinates of the same group. Further, the relationship between a leader and a member contained within the work unit are different and each leader-member relationship is a unique interpersonal relationship.

LMX theory has its roots in Blau’s (1964) social exchange theory and Graen’s (1976) role making theory. Social exchange refers to the voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact from others (Blau, 1964) and role-making refers to the process of role augmentation for the voluntary actions of individuals that are motivated by anticipated mutually rewarding work relationships (Graen, 1976).

Dienesch and Linden (1986) delineated how both social exchange and role making are involved in developing the leader-member relationship. According to them, a supervisor (during initial interactions) asks a subordinate to complete a task or duty by delegating him various resources and adequate responsibility. Those subordinates who perform well are perceived by the supervisor as more reliable, more trustworthy and in turn will be asked to perform more demanding roles. Making reference to social exchange theory, Sanchez and Byrne (2004) assert that accepting something of value from another person obligates the receiver to the giver. In order to fulfill this obligation and continue the relationship development, the receiver eventually supplies something of equal or greater in return. Further, since one member of the relationship offers benefits to another without any explicit guarantee of reciprocation, trust and fairness become fundamental attributes of the social exchange relationships, particularly in well-developed leadership relationship. In other words, LMX theory suggests that leaders develop different quality of relationships with each of their members within the group setting. According to Linden and Graen (1980), high quality LMX is a characteristic of in-group and low quality LMX is a characteristic of out-group. In-group is characterized by high trust, support and high information sharing. Due to these characteristics, in-group members make contributions that go beyond their formal job duties (Linden & Graen, 1980). On the other hand, out-group is characterized by low trust, support and information due to which out-group members make little contribution that go beyond their formal job duties (Linden & Graen, 1980). The relationship between a leader and his/her subordinate(s) has been shown to be important for a variety of individual and organizational outcomes. For example, the quality of LMX influences organizational commitment (Kinicki & Vecchio 1994; Nystrom, 1990), job satisfaction (Scandura & Graen, 1984) and turnover (Ferris 1985).
EI and LMX

From the perspective of employees, there are various EI abilities that are vital for developing a leader-member dyad into a high quality exchange relationship (Smith, 2006), that is, more social and less economic as proposed by Graen and Uhl-Bien (1995). Smith (2006) proposed a conceptualized model where he asserted that EI abilities are related to high quality LMX relationships. He conceptualized this relationship by relating various EI competencies, identified by Goleman (1995), with LMX. In line with Smith’s (2006) propositions, this study also conceives that various EI abilities are related to high quality LMX relationships. For the purpose of this research I relate LMX with one of the most widely studied model of EI presented by Mayer & Salovey (1997). This model consists of four general EI abilities: (1) Identifying emotions, which involves the ability to recognize emotions in oneself and others, as well as the ability to express emotions; (2) Using emotions, to facilitate thinking, which involves using emotions to improve thinking processes and harness the power of positive moods; (3) Understanding emotions, including the complexities and subtleties of emotions as well as their interrelationships; and (4) Managing emotions, which involves skills in regulating and controlling felt emotions in a positive fashion.

Identifying and expressing emotions contribute to developing high quality LMX relationships. People who are high in this ability are good at recognizing their own feelings and feelings of those with whom they are interacting. Because we must know how we feel and be able to label our feelings appropriately if we wish to better understand ourselves and others (Caruso & Salovey, 2004: 40-41). Additionally, building trust and strong bond with the supervisor requires employees to be aware of the verbal and nonverbal messages they send to the supervisor. For example, if an employee is calm and at ease but communicates a message that says something different about his emotional stage, another person (supervisor) may perceive him as a threat and will take action against the perceived threat (Caruso & Salovey, 2004: 42-43). In sum, identifying emotions is a key to successful interpersonal interactions and ultimately to high quality LMX.

Emotionally intelligent employees use their emotions to improve thinking processes and harness the power of positive moods (Mayor & Salovey, 1997). Because people in positive moods tend to be better at inductive problem solving (Caruso & Salovey, 2004: 47-48), people high on this ability can easily swing their moods from negative to positive which in turn enhance and assist their thought processes in some meaningful manner. This enables them to be more creative and more initiative. This ability contributes to the stage of ‘Role making’ in the LMX development process, where employees make an offer to engage in an effort that goes beyond their formal employment contract. According to Caruso & Salovey (2004: 49-50), this mood-generating ability may also play an important role in empathy (feeling what other people feel). In order to relate genuinely to others, whether they are employees, bosses or customers, we need to be able to understand them and their feelings. Empathy allows subordinates to sense the emotions of their supervisors and to understand their perspective on various matters which led them to develop a high quality LMX relationship (Smith, 2006).
Emotionally intelligent employees are good at understanding the emotions of other people. They make correct assumptions about people and can predict what people may feel (Caruso & Salovey, 2004: 54-57). Understanding the causes of emotions enables a person to judge the situation in appropriate manner. If an employee understands the ebb and flow of his supervisors’ emotions, then he can know about the future: he can predict perhaps with some accuracy, how his supervisor will feel next, if certain events unfold in certain ways (Caruso & Salovey, 2004: 58-59). Since, during the role making stage of LMX development, the leader and member decide how each will behave in various situations and begin to define the nature of their dyadic relationship (Graen & Scandura, 1987), this EI ability enables a subordinate to predict the behavior of his supervisor and mould his behavior to the expectations of his supervisor. Moreover, these employees have a sophisticated emotional knowledge and they have the information what makes people tick, they always meet the expectations of their supervisors by making contributions that go beyond their formal job duties.

Finally, people with a strong ability to manage emotions can be passionate, but they also have good emotional self-control, tend to be even-tempered, think clearly when they are experiencing strong feeling, and make decisions based on their hearts and their heads and generally reflect on their emotions often (Caruso & Salovey, 2004; Baumeister et al., 1994). Managing emotions is a key element for the quality of social interaction and this has been indicated by a study conducted by Lopes et al. (2004). In their study (conducted on college students) they found positive relationships between the ability to manage emotions and quality of interactions with friends. This clearly demonstrates that effectively managing emotions is a basic ingredient for the growth of any social relationship. Employees who demonstrate this EI ability in their ongoing interaction with their supervisors are likely to perceive the LMX relationship as one of high quality because of two main reasons. First, the ability to manage emotions may influence employee’s motivation and expectations for social interaction (Cunningham, 1988). Second, this may help them to effectively use their interaction strategies (Furr & Funder, 1998).

H1: Emotional intelligence is positively related to LMX

**Emotional Intelligence, LMX and Organizational Commitment**

Organizational commitment refers to an employee’s loyalty to the organization, identification with the organization (i.e., pride in the organization and internalization of organizational goals), and involvement in the organization (i.e., personal effort made for the sake of organization) (Mowday et al., 1979). Organizational commitment is the bond between an individual and his/her organization (Mathieu & Zajac, 1990). Several studies have demonstrated the importance of LMX as an antecedent to organizational commitment satisfaction (e.g., Kinicki & Vecchio 1994; Nystrom, 1990). Employees who experience low-quality exchanges with their leaders tend to feel little organizational commitment, whereas, employees with high-quality exchanges express high organizational commitment (Nystrom, 1990; Hassan & Chandaran, 2005).

H2: LMX is positively related to organizational commitment
According to Baron & Kenny (1986), a given construct functions as a mediator to the extent that it accounts for the relationship between the predictor and criterion. This study predicts that LMX will mediate the relationship between EI and organizational commitment. As discussed earlier, within the organizational setting the primary value of understanding EI lies in the prediction of various outcomes. EI has a positive impact on attitudinal outcomes such as organizational commitment (e.g., Carmeli, 2003; Langhorn, 2004). The discussion about the relationship between LMX and organizational commitment shows that employees’ perceptions about LMX quality may affect their attitudes and interactions at work. Thus, EI is related to work-related outcomes, such as organizational commitment, because EI affects an employee’s perceptions of LMX quality, in that emotionally intelligent employees will be able to form high quality LMX relationships with their supervisors. This high quality LMX may prompt the employee to reciprocate with increased organizational commitment. The above discussion suggests that perceptions of LMX quality will mediate the effects of EI on work-related outcomes, such as organizational commitment.

H3: LMX mediates the relationship between EI and Organizational Commitment

METHOD

Participants and Procedure

To test the relationships between the variables, data was collected from different government, private and semi-government organizations in Quetta, Balochistan province in Pakistan. Employees from four different organizations formed the population from which this sample was selected. The sample was collected using non-probability purposive sampling methods in order to obtain the appropriate number of participants for the study. Purposive sampling involves collecting any cases that contain the most representative attributes of the population. Before the distribution of questionnaires, permission was obtained from each of the organizations. Attached to the survey instrument was a letter that explained the objective of the survey in general terms, assured respondents of the confidentiality of their responses, and notified them that participating in the survey was voluntary. Of the 300 questionnaires distributed, 98 usable questionnaires were returned, which corresponds to a return rate of 32.6%.

Fourteen cases contained missing data: three cases with one item missing, six cases with two items missing, two cases with four items missing and three cases with five items missing. Little’s MCAR test revealed that the missing data were missing completely at random (MCAR). When the missing data is MCAR, any imputation method can be used (Hair et al., 1998). For our data we preferred to use the expectation–maximization (EM) method in SPSS. The EM approach is an iterative two-stage process where the E-stage makes the best estimates of the missing data and the M-stage makes parameter estimates assuming the missing data are replaced (Hair et al., 1998). This process resulted in a complete data set of 98 responses.
We also investigated the possibility of non-response bias. We compared early respondents (first 20%) to late respondents (last 20%) for all items in the model. Results (not reported) showed that there were no significant differences for any variables between the groups of early respondents and late respondents.

In line with Bido’s (2008) recommendations (regarding power analysis for PLS models), we performed a priori power analysis to find the sample size for our proposed PLS model. The software used was GPower (Erdfelder et al., 1996). A priori power analysis indicated that we needed to have minimum of 84 participants to have 80% power for detecting a medium sized effect (0.30) with traditional 0.05 criterion of statistical significance. Our final sample of 98 respondents well met this standard.

In the sample, the age range was 19-66 years (mean = 38.7 years, SD = 13.5). Male respondents constituted 83.5%, 50.5% were employed in government organizations, 33% were in private sector, and rests of the respondents were employed in semi-government organizations. Regarding education level, majority of respondents (66%) had obtained master’s degree.

**Measures**

**Emotional intelligence.** The Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002) was used to measure the respondent’s EI. It comprises 16 items measuring four dimensions namely ‘Self-Emotion Appraisal’, ‘Emotion Appraisal of Others’, ‘Use of Emotion’ and ‘Regulation of Emotion’. Sample items in the scale include: ‘I have good understanding of my own emotions’ and ‘I have good understanding of the emotions of people around me’. The response scale is a seven point Likert-type scale ranging from one (strongly disagree) to seven (strongly agree). Prior studies have reported acceptable levels of reliability and validity for the scale (e.g., Wong & Law, 2002). The scores for the four subscales were averaged and utilized for further analysis.

**Organizational commitment.** A nine-item abbreviated version of Mowday et al. (1979) scale was used to measure affective organizational commitment. Sample items in the scale include: ‘I am proud to tell others I am part of this organization’ and ‘I feel that my values and the organization’s values are very similar’. The response scale is a seven point Likert-type scale ranging from one (strongly disagree) to seven (strongly agree). Prior studies report acceptable levels of reliability and validity for this scale (e.g., Angle & Perry, 1981).

**LMX.** The seven-item measure (LMX-7) developed by Scandura and Graen (1984) was used to measure LMX. Results from the meta-analysis of the LMX literature by Gerstner and Day (1997) have shown that LMX-7 has the soundest psychometric properties of all LMX instruments. They examined the reliability and correlates of LMX-7 and other measures of LMX and recommended that LMX-7 be used in future research as the measurement of choice. Moreover, LMX is more reliably assessed from a member’s perspective than from a leaders’ perspective. For the purpose of this survey, items were re-worded from interrogative form to affirmative form. Sample items in the scale include: ‘my supervisor recognizes my potential’ and ‘supervisor understands my job problems and needs’. The response scale is a seven point Likert-type scale ranging from one (strongly disagree) to seven (strongly agree).
RESULTS

The relationships between the constructs were analyzed using the partial least squares (PLS) structural equation modeling approach. Like covariance-based structural equation modeling, PLS models relationships among latent variables and between latent and observed variables. However, PLS is far less restrictive in its distributional assumptions and sample size restrictions as compared to covariance-based structural equation modeling. Furthermore, maximum likelihood models are based on assumptions of a specific joint multivariate distribution and independence of the observations (independently and identically distributed, i.e., iid), PLS does not impose such requirements on data. PLS applies to situations where knowledge about distribution of the latent variables is limited and requires the estimates to be more closely tied to the data compared to covariance structure analysis (Fornell & Cha, 1994). Moreover, the application of PLS requires a minimum sample size of 30 and a minimum sample size that is 10 times greater than (1) the number of items comprising the most formative constructs or (2) the number of independent constructs directly influencing a dependent construct (Wixom & Watson, 2001). With a sample size of 98 in this study, these requirements were well met. The software used was SmartPLS (Ringle et al., 2005).

The PLS model was analyzed and interpreted in two stages: the measurement model and the structural model. The measurement model relates to the relations between manifest variables (observed items) and latent variables. The measurement model is tested by assessing the validity and reliability of the construct measures in the model. This ensures that only reliable and valid constructs’ measures are used before assessing the nature of relationships in the overall model (Hulland, 1999). Structural model specifies relations between latent constructs. The structural model is tested by estimating the paths between the constructs, which are an indicator of the model’s predictive ability.

Measurement Model

The measurement model was tested by assessing the individual item reliability and construct reliability followed by convergent and discriminant validity of the constructs’ measures.

Reliability. Reliability is the extent to which an item, scale or instrument will produce the same values when given in different times, places, or populations (Nunnally & Bernstein, 1994). In PLS, individual item reliability is assessed by examining the loadings of respective items on their respective latent construct (Hulland, 1999). The higher loadings imply that there is more shared variance between the construct and its measures than error variance. Whereas, low loadings add very little to the explanatory power of the model while attenuating the estimates of the parameters linking constructs (Hulland, 1999). In line with Hulland’s (1999) recommendations all items with loadings less than 0.50 were dropped from further analysis. The factor loadings from the final PLS measurement models are reported in Table 1.
In addition to Cronbach’s (1951) alpha, reliability of each variable was assessed by using Fornell and Larcker’s (1981) measure of composite reliability which is calculated as follows.

\[
\text{Composite reliability} = \frac{(\sum L_i)^2}{(\sum L_i)^2 + \sum \text{var}(E_i)}
\]

Where \( L_i \) is the standardized factor loading for a given factor, \( \text{var}(E_i) = 1 - L_i \) is the measurement error or the error variance associated with the individual indicator variable(s) for that given factor.

This measure is preferred over Cronbach’s alpha because it offers a better estimate of variance shared by the respected indicators and because it uses the item loadings obtained within the nomological network (Hair et al., 2006). In this study the composite factor reliability coefficients of the constructs ranged from 0.87 to 0.96, which met the standard of 0.70 as suggested by Fornell and Larcker (1981) (see Table 1).

### TABLE 1
**Item Loadings and Scale Reliability**

<table>
<thead>
<tr>
<th>Block</th>
<th>Item Loadings</th>
<th>Cronbach's Alpha</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMX</td>
<td>0.8873</td>
<td>0.9176</td>
<td>0.6912</td>
<td></td>
</tr>
<tr>
<td>LMX_1</td>
<td>0.9044</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX_2</td>
<td>0.7452</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX_3</td>
<td>0.8466</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX_6</td>
<td>0.7966</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX_7</td>
<td>0.8552</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC</td>
<td>0.8886</td>
<td>0.9112</td>
<td>0.5634</td>
<td></td>
</tr>
<tr>
<td>OC_1</td>
<td>0.7955</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC_2</td>
<td>0.8131</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC_3</td>
<td>0.7207</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>OC_4</td>
<td>0.6293</td>
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<td></td>
<td></td>
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<tr>
<td>OC_6</td>
<td>0.7981</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC_7</td>
<td>0.7349</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC_8</td>
<td>0.7262</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OC_9</td>
<td>0.7705</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI</td>
<td>0.7521</td>
<td>0.8379</td>
<td>0.5916</td>
<td></td>
</tr>
<tr>
<td>SEA</td>
<td>0.2997</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OEA</td>
<td>0.9155</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>UOE</td>
<td>0.9111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.7798</td>
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</table>
**Construct validity.** The construct validation focuses on the extent to which a measure performs in accordance with theoretical expectations. Specifically, if the performance of the measure is consistent with theoretically derived expectations, then it is concluded that the measure has construct validity. On the other hand, if it behaves inconsistently with theoretical expectations, then it is usually inferred that the empirical measure does not represent its intended theoretical concept (Carmine & Zeller, 1979: 19-20). Construct validity of a test can be examined through two most widely used methods: by assessing its convergent validity and by assessing its discriminant validity.

**Convergent validity.** Evidence of convergent validity for EI, LMX, and organizational commitment scales were assessed by inspection of variance extracted for each factor (Fornell and Larcker, 1981). According to Fornell and Larcker (1981), convergent validity is established, if the variance extracted value exceeds 0.50 for a factor.

Average Variance Extracted (AVE) = $\frac{\sum L_i^2}{\sum L_i^2 + \sum \text{var}(E_i)}$

Where $L_i$ is the standardized factor loading for a given factor, $\text{var}(E_i) = 1 - L_i$ is the measurement error or the error variance associated with the individual indicator variable(s) for that given factor. Results showed that the variance extracted for EI, LMX, and organizational commitment ranged from 0.56 to 0.69 (see Table 1).

**Discriminant validity.** Discriminant validity is the extent a concept or construct is different from other concepts or constructs (Carmine and Zeller, 1979: 22-23). In other words, discriminant validity occurs when different instruments measure different constructs, and the correlations among the items of these dissimilar or divergent constructs are low (Straub et al., 2004). Discriminant validity was assessed by the test provided by Fornell and Larcker (1981) in which the pairwise correlations between constructs were compared with the variance extracted estimates for the constructs making up each possible pair. Evidence of discriminant validity occurs when square root of the variance extracted estimation exceed the correlations between the factors making each pair. Results revealed relatively high variances extracted for each factor compared to the inter-scale correlations, which was an indication of discriminant validity of three constructs (i.e., EI, LMX, and organizational commitment). The results are carried in Table 2.

**TABLE 2**

Discriminant Validity

<table>
<thead>
<tr>
<th></th>
<th>$M$</th>
<th>$SD$</th>
<th>EI</th>
<th>LMX</th>
<th>OC</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI</td>
<td>5.43</td>
<td>0.95</td>
<td>0.769$^a$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX</td>
<td>5.25</td>
<td>1.41</td>
<td>0.559</td>
<td>0.831$^a$</td>
<td></td>
</tr>
<tr>
<td>OC</td>
<td>5.19</td>
<td>1.32</td>
<td>0.541</td>
<td>0.714</td>
<td>0.750$^a$</td>
</tr>
</tbody>
</table>

$^a$ Square root of AVE
Structural Model: Path Coefficients and Predictive Validity

The PLS structural model and hypothesis were tested by computing path coefficients ($\beta$’s), since, the objective of PLS is to maximize variance explained rather than fit, therefore prediction-oriented measures, such as $R^2$, are used to evaluate PLS models (Chin, 1998). According to Chin’s (1998) recommendations, a bootstrapping procedure using 1,000 subsamples was performed to evaluate the statistical significance of each path coefficient. Hypothesized path coefficients along with their bootstrap values, $t$ values, and significance levels are presented in Table 3.

<table>
<thead>
<tr>
<th>Path coefficients</th>
<th>Original sample estimate</th>
<th>Mean of resamples</th>
<th>Standard Deviation</th>
<th>$T$ Statistics$^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI -&gt; LMX</td>
<td>0.559</td>
<td>0.565</td>
<td>0.084</td>
<td>6.609*</td>
</tr>
<tr>
<td>EI -&gt; OC</td>
<td>0.206</td>
<td>0.216</td>
<td>0.117</td>
<td>1.758</td>
</tr>
<tr>
<td>LMX -&gt; OC</td>
<td>0.598</td>
<td>0.594</td>
<td>0.105</td>
<td>5.692*</td>
</tr>
</tbody>
</table>

$^aT$-values are calculated through a bootstrapping routine with 98 cases and 1,000 samples.

The results showed that all hypothesized relationships were significant. As predicted, the relationship between EI and LMX was positive ($\beta = 0.559, t = 6.609, p < 0.05$), thus supporting hypothesis H1. Regarding hypothesis H2, LMX had significant relationship with organizational commitment ($\beta = 0.598, t = 5.692, p < 0.05$). Hence H2 was also supported. Additionally, the results showed that the structural model explained 31.3% of variance in the LMX and 53.9% of variance in organizational commitment.

The value of multiple $R^2$ may be decomposed in terms of the multiple regression coefficients and correlations between the dependent variable and the explanatory ones (Tenanhaus et al., 2005). This decomposition allows understanding the contribution of each explanatory variable to the prediction of the dependent one (i.e. organizational commitment). LMX contributed to 79.33% of $R^2$ while EI contributed to 20.67% (see Table 4).

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta_j$</th>
<th>Correlation</th>
<th>Contribution to R (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI</td>
<td>0.206</td>
<td>0.541</td>
<td>20.67</td>
</tr>
<tr>
<td>LMX</td>
<td>0.599</td>
<td>0.714</td>
<td>79.33</td>
</tr>
</tbody>
</table>
Contrary to CBSEM (covariance based structural equation modeling); PLS path modeling does not report any kind of fit indices like RFI, RMSEA or CFI. So, it naturally lacks an index that can provide the user with a global validation of the model (as it is instead the case with chi square and related measures in CBSEM) (Tenanhaus et al., 2005). In PLS, the overall model fit is assessed via strong loadings, significant weights, multiple $R^2$, substantial/significant structural paths (Chin, 1998), communality, redundancy and goodness-of-fit (GOF) (Amato et al., 2004).

The communality index measures the quality of the measurement model for each block and the redundancy index measures the quality of the structural model for each endogenous block, taking into account the measurement model (Tenanhaus et al., 2005). The indices for redundancy, communality and explained variance ($R^2$) are given in Table 5. As can be seen, the average communality and average redundancy indices for the overall model were quite acceptable (Tenanhaus et al., 2005). The cv-communality (cv stands for cross-validated) index measures the quality of the measurement model for each block. It is a kind of cross-validated $R^2$ between the block MVs and their own LV calculated by a blindfolding procedure. The quality of each structural equation is measured by the cv-redundancy index (i.e. Stone–Geisser’s $Q^2$). It is a kind of cross-validated $R^2$ between the MVs of an endogenous LV and all the MVs associated with the LVs explaining the endogenous LV, using the estimated structural model (Tenanhaus et al., 2005). This index is used for measuring the quality of the path model. For this model, blindfolding was employed using $G=30$ blocks. The results are presented in Table 5. We may notice that, for this model all blocks had relatively high values for both cv-communality index $H^2$ and cv-redundancy index $F^2$. These values were well above the threshold level of zero (Fornell & Cha, 1994).

Goodness-of-fit (GoF) (Amato et al., 2004) was employed to judge the overall fit of the model. GoF, which is the geometric mean of the average communality and the average $R^2$, represents an index for validating the PLS model globally, as looking for a compromise between the performance of the measurement and the structural model, respectively. For this model GoF index was 0.51.

### TABLE 5

<table>
<thead>
<tr>
<th>Block</th>
<th>$R^2$</th>
<th>Communality</th>
<th>Cv-communality</th>
<th>Redundancy</th>
<th>Cv-redundancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>EI</td>
<td>0.5916</td>
<td>0.5600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX</td>
<td>0.3126</td>
<td>0.6912</td>
<td>0.3489</td>
<td>0.2142</td>
<td>0.1135</td>
</tr>
<tr>
<td>OC</td>
<td>0.5391</td>
<td>0.5634</td>
<td>0.2312</td>
<td>0.0998</td>
<td>0.1366</td>
</tr>
<tr>
<td>Average</td>
<td>0.42585</td>
<td>0.6154</td>
<td>0.1570</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In order to test the mediation effect of LMX, we employed product of coefficients strategy (Sobel, 1982; Preacher & Hayes, 2004; 2007). Product of coefficients strategy is preferred over Baron and Kenny’s (1986) casual step approach because of two main reasons. First, causal step approach does not consider the estimate of the indirect effect, nor is there a standard error for this effect that might permit direct investigation of statistical significance. That is, it ignores the central question: Is the indirect effect different from zero? (Preacher & Hayes, 2007). Second, testing the null hypothesis that indirect effect = 0 requires one fewer hypothesis test, and thus type II error in the testing of mediation would be less likely (Preacher & Hayes, 2004). This approach urges to bootstrap the sampling distribution of indirect effect and derive confidence interval with the empirically derived bootstrapped sampling distribution.

We followed the procedure identified by Preacher and Hayes (2007) for testing the null hypothesis that indirect effect = 0 (no mediation). First, we bootstrapped the sampling distribution of path a (path coefficient from EI to LMX) and path b (Path coefficient from LMX to OC) and then calculated ab* (indirect effect). The mean of the k values of ab* (indirect effect after bootstrap) can be used as the bootstrap estimate of the size of the indirect effect and their standard deviation functions as an estimate of the standard error of ab. Second, the bootstrap confidence interval for the population indirect effect was derived by sorting the k values of ab* from low to high. Values cutting off the lower and upper 100(1-α)% of the distribution of ab* are then found and taken as the lower and upper limits of the 100(1-α)% for the population indirect effect. As we used 1,000 resamples, the lower limit of the confidence interval was defined as the 25th score and the upper limit was defined as the 976th score.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Mean</th>
<th>S.E</th>
<th>LL 95 CI</th>
<th>UL 95 CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.326</td>
<td>0.0629</td>
<td>0.210</td>
<td>0.447</td>
</tr>
</tbody>
</table>

Note: Values are calculated through a bootstrapping routine with 98 cases and 1000 samples.

As can be seen from Table 6, the bootstrapped estimate of the indirect effect is similar to the point estimate (0.559 x 0.598 = 0.334) computed from the conventional PLS analysis of the raw data and the true indirect effect is estimated to lie between 0.2101 and 0.4474 with 95% confidence. Because zero is not in the 95% confidence interval, we can conclude that the indirect effect is indeed significantly different from zero at p < 0.05 (two tailed).
DISCUSSION

While a great deal of research is available to examine the link between EI and organizational commitment and between LMX and organizational commitment, but none of the research (to our knowledge) has empirically tested the relationship between LMX, EI, and organizational commitment jointly. Although, some researchers have already examined the role of mediator variables in the link between EI and outcome variables (e.g., Kafetsios & Zampetakis, 2008) but still there are large number of untouched variables which can serve as potential mediators between EI and various outcome variables. In this regard, Smith (2006) directed the researchers to consider the role of LMX as a mediator variable in studying the relationship of EI with various outcomes. Thus, following this call, it was hypothesized that one possible mechanism that could operate between EI and organizational commitments would be LMX.

Overall, the stated research hypothesis received considerable support for the data. The results of the study revealed that EI is a positive predictor of LMX (H1). In other words, if an employee is emotionally intelligent, the quality of LMX relationships would be high. This result confirmed the proposition made by Smith (2006) that EI is one of the potential predictor of high quality LMX relationships. Thus, emotionally intelligent people are more likely to be the member of leader’s in-group. In sum, ability to accurately identify emotions, ability to appropriately use emotions, ability to understand emotions, and ability to successfully manage emotions lead to the development of high quality LMX.

The results of this study supported the contention that LMX remains a salient dimension of the work environment, shaping employee perceptions of organizational commitment (H2). This result was consistent with the results of previous studies (Kinicki & Vecchio, 1994; Nystrom, 1990). Results suggest that when employees perceive high quality of LMX relationships they tend to be more committed with their organizations.

Finally, the results suggest that EI impacts organizational commitment via LMX (H3). This mediation result suggests that, employees who have high EI abilities are more likely to establish high quality LMX relationships with their supervisors leading ultimately to high organizational commitment. In other words, the results show that EI through LMX could promote positive attitudes among the employees. Thus, it has become increasingly vital for modern organizations to learn how to enhance the EI of employees in order to achieve maximum business results. In brief, if LMX quality does indeed predict organizational commitment as indicated by the results, the organization can benefit by encouraging an environment that fosters the development of high-quality LMX relationships between leaders and subordinates. In this regard, incorporation of EI criteria into selection and training and development could serve to ameliorate the LMX quality, leading ultimately to organizational commitment (Smith, 2006).

The findings of this study are subject to several limitations which are common in this type of research. First, the results are specific to only four organizations in one geographical area and may or may not be generalizable to other organizations and other areas. Second, the cross-
sectional data precludes any inference of causality. The direction of causality (in cross-sectional studies) cannot be established and will have to be examined using longitudinal data (Aryee et al., 2002). Moreover, since LMX and emotional intelligence are developmental in nature (Ansari et al., 2007, Goleman, 1995), only future longitudinal investigations can uncover the stage at which employees develop organizational commitment. Third, since most of the respondents in sample were males (83.5 %), this constrains the generalizability of our findings to women. Fourth, all respondents were full-time employees and these findings may not be applicable to part-time employees. Fifth, this study used a trait (self report) measure of emotional intelligence. Though, studies reported good reliability and evidence of validity, it would be useful to conduct a study which compare results of this study with those employing other ability measures of emotional intelligence such as MSCEIT . Sixth, in this study we used a global measure of LMX, and since LMX is a multidimensional construct (Dienesch & Liden, 1986; Schriesheim et al., 1992; Liden & Maslyn, 1998), future research should investigate the relationship of sub dimensions of LMX with emotional intelligence and organizational commitment. Seventh, research has indicated that supervisor LMX (SLMX) and subordinate LMX (LMX) have varying impacts on different organizational outcomes (Gestner & Day, 1997; Schriesheim et al., 1998). In this regard, future studies should employ supervisor LMX (SLMX) measure along with subordinate LMX (LMX). Lastly, this study emphasized only upon the EI of employees. Since, LMX quality depends upon efforts of both parties (i.e., supervisor and subordinate), high quality LMX are more likely to develop when both, i.e., supervisor and subordinate, have high levels of EI. Future research should assess the impact of both supervisors’ and subordinates’ EI upon LMX exchange quality. As proposed by Smith (2006: 182), ‘leaders with high EI signal to subordinates that they understand and care about their concerns. They also signal that they recognize employees’ personal development needs and are willing to assist them in their development efforts. These leaders show that they are concerned about their subordinates as people and not just employees. Individuals with leaders who consistently demonstrate the EI competencies in their ongoing interaction with them are likely to perceive the leader-member exchange relationship as one of high-quality’.

REFERENCES


The Relationship between Emotional Intelligence, Leader-Member Exchange and Organizational Commitment


