Leader-Member Exchange and Academic Job Performance in the Iraqi Technical Colleges and institutes: The Mediating Role of Job Satisfaction

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Abstract

The purpose of this study is to examine the relationship between leader-member exchange and academic job performance in the Iraqi technical colleges and institutes and evaluate the mediation effect of job satisfaction on the relationship between leader-member exchange and academic job performance. This study adopted a quantitative approach using survey instruments. From the population of academic staff working in 18 Iraqi technical colleges and institutes, a total of 750 questionnaires were distributed. The total number of usable questionnaires was 419. Structural equation modeling (SEM) was used to test the mediating effect of job satisfaction on the relationships between leader-member exchange and academic job performance. The results revealed that job satisfaction partially mediated the relationship between leader-member exchange and academic job performance.

Key Words: Technical Colleges and Institutes, Leader-Member Exchange, Academic Job Performance, Job Satisfaction.

Introduction

Effective motivation and good job satisfaction among the academic staffs are important in order to help them enhance their job performance. Thus, it is necessary for the organizations to analyse the issues related with job performance (Yozgat, Yurtkoru, & Bilginoğlu, 2013). In the end, this improved job performance will determine the quality and level of education imparted in the institutes of higher education (Machado, Soares, Brites, Ferreira, & Gouveia, 2011). However, the connection between leader-member exchange (LMX) and academic job performance in the institutes of higher education have not been well researched.

Moreover, previous studies showed that LMX positively affects job satisfaction (Brimhall, Lizano, & Mor Barak, 2014; Golden & Veiga, 2008). In addition, perceptions of a higher-quality LMX produce higher subordinate performance compared to lower-quality exchange (Markham, Yammarino, Murry, & Palanski, 2010). However, there is a scarcity of studies conducted under the setting of Iraqi higher education organizations. The present study attempts to overcome this issue by probing into the relationship between LMX, job satisfaction (JS), and academic job performance (JP) in Iraqi technical colleges and institutes. In addition, there could be potential mediators of LMX–outcome relationships (Li, Sanders, & Frenkel, 2012). Therefore, this study aims to examine the role of mediating effect of job satisfaction on the relationship between LMX and academic JP based on leader-member exchange theory.

Literature Review

In LMX literature, partnerships are interpreted as relationships that have transcended beyond the downward influence of a superior on a subordinate to a mutually advantageous and mutually influential dynamic (Graen & Uhl-Bien, 1995). They also mentioned, that the supervisors have a typical association with all of their subordinates with high-quality interactions characterised by mutual obligation, respect, and trust. According to Liden, Sparrowe and Wayne (1997) the leader-member exchange looks into the quality of relationship among supervisors and employees and stipulates issues which administer the relationship quality. This causes the formation of "in group" and "out-group" within work units, with high quality exchanges or "in-group" relationships being characterized by increased mutual respect, trust, and obligation (Graen & Cashman, 1975).

A high level of performance has always been one of the most demanded organizational goals by managerial levels. The total organizational performance depends on the performance of individual employees (Bitmiş & Ergeneli, 2013). Job performance has been defined by Motowildo, Borman and Schmit (1997) as the overall expected value from employees' behaviours carried out over the course of a set period of time. Since this study considers the job performance of academic staff in Iraqi technical colleges and institutes as individual performance. the researchers operationalized job performance as a function that an individual can successfully perform within the framework of the normal constraints and available resources (Jamal, 2007), in terms of teaching, research, publication and public engagement performances (Sukirno & Siengthai, 2011).

Job satisfaction has been an interesting construct for many researchers in understanding employee attitudes and behaviors. Lack of job satisfaction may cause a low level of productivity and a higher level of absenteeism, occupational accidents, mental and physical health problems (Alniaçik et al., 2013). Job satisfaction is the attitude that an employee adopts towards his or her job (Robbins, 2003). For the purpose of this study job satisfaction is defined as an extent to which one feels positively or negatively about the intrinsic and extrinsic aspects of one's job (Bhuian & Mengue, 2002).

Hypothesis Development

The theoretical model proposed in this study illustrated in Figure 1 below goes further to explain the relationship between leader-member exchange and academic job performance, and the mediating role of job satisfaction.
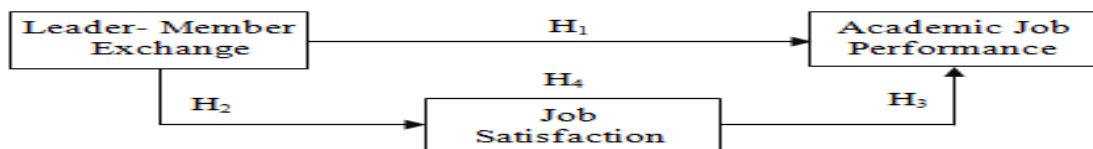

Figure 1: Theoretical Model.

Based on the theoretical model, the following hypotheses are proposed to examine the relationship among LMX, JS and academic JP.

According to Markham et al. (2010), understandings of a high-quality LMX create greater subordinate performance. In the same direction, Janssen and Yperen (2004) found leader-member exchange positively related to in-role job performance. The current study has the intention of bridging the gaps highlighted in the review of the relevant literature. Li et al. (2012) argued was that LMX has generally been shown to have positive influence on employee work outcomes including employee job performance (Li et al., 2012; Wang, Law, & Chen, 2008). However, there are other research works which demonstrate that there is non-significant relationship between LMX and job performance (Scandura & Pellegrini, 2008; Wayne & Ferris, 1990) which leads to the calling for investigation of probable mediators of LMX–outcome relationships (Li et al., 2012). Therefore, this study hypothesizes the following:

H_1: There is a significant relationship between leader-member exchange and academic job performance among the academic staff in the Iraqi technical colleges and institutes.

Janssen and Yperen (2004) examined the relationship between leader-member exchange and job satisfaction; the researchers surmised that LMX was positively related to job satisfaction. Epitropaki and Martin (2005) also found that LMX strongly influences the level of job satisfaction. Another study performed by Collins (2007) revealed that the quality of the LMX relationship has significant and direct linear relationship with job satisfaction. Despite the relationship between leadership and job satisfaction that has been studied in a broad range of fields and in an equally multifarious settings, few of these studies focus on this relationship in the context of higher education organizations (Rizi, Azadi, Farsani, Aroufzad, & Mirsafaei, 2013). Therefore, this study address the gap between LMX and JS as it is hypothesizes that:

H_2: There is a significant relationship between leader-member exchange and job satisfaction among the academic staff in the Iraqi technical colleges and institutes.

Recently, a study by Hayati and Caniago (2012) found that employees who reported higher levels of job satisfaction were more likely to demonstrate better job performance. Peng (2014) examined the effect of job satisfaction on the job performance of university librarians. The conclusion was that job satisfaction is a strong predictor of job performance. In the context of higher education, very limited studies have focused on the relationship between job satisfaction and job performance. Ismail et al. (2013) examined the mediating role of job satisfaction on the relationship between innovativeness and job performance among academicians in Malaysian public universities. In their study, job satisfaction was found to be partially mediated the relationship between innovativeness and academician's job performance. In addition, it was concluded that job satisfaction has significant positive effect on job performance. Therefore, this study hypothesizes the following:

H_3: There is a significant relationship between job satisfaction and job performance among the academic staff in the Iraqi technical colleges and institutes.

In the study by Wang and Yi (2011) job satisfaction have been found to mediates the relationship between LMX and intention of turnover. Moreover, in regard to job satisfaction as mediator and independent variable toward job performance, it was also found by another study that job satisfaction partially mediated the relationship between innovativeness and job performance of the academic staff in Malaysian public universities (Ismail et al., 2013). Therefore, this study hypothesizes the following:

H_4: Job satisfaction mediates the relationship between leader-member exchange and academic job performance among the academic staff in the Iraqi technical colleges and institutes.

Method

In the structure equation modeling (SEM), Hair et al. (1998) assert that in a given research, the sample size cannot be less than 200. This is due to the fact that when using SEM, if the sample size decreases per variable or parameter, there is the likelihood that it will not run and will give an error. For the purpose of conducting this study, academic staffs holding a degree of master and Ph.D. have been selected from 18 Iraqi technical colleges and institutes. Therefore, the population of this study is the total number of academic staff in 18 colleges and institutes (N=1,781) (Iraqi Foundation of Technical Education, 2014). Through the use of the ratio 10:1 as suggested by Kline (2011), the sample size (n = 750) have been chosen to get a sample large enough to achieve the statistical significance and a good model fit in the structural equation modeling (SEM). Therefore, in this study, a total of 750 academic employees have been invited to take part. Leader-member exchange (LMX) is operationalized as quality of the working relationship between leaders and faculty members in higher education (Alabi, 2012). The leader-member exchange multidimensional (LMX-MDM) 12-item was proposed by Liden and Maslyn (1998) to evaluate the quality of LMX at work. The 12 items were distributed as three items under each dimension (Affect, loyalty, contributions and professional respect) each of the four categories of the LMX-MDM was tested for reliability from the Cronbach alpha by Liden and Maslyn (1998). In the context of higher education, Lo et al. (2009) and Alabi (2012) adopted the measurement of Liden and Maslyn (1998) 12-item LMX scale to assess the quality of relationship between leaders and faculty members. In the current study responses were rated on a 5-point type Likert scale ranging from one (strongly disagree) to five (strongly agree). Since this study conducted in Iraqi technical colleges and institutes which are under higher education, some items modified according to the context of this study.

In this study, job satisfaction is operationalized as an extent to which one feels positively or negatively about the intrinsic and extrinsic aspects of one's job (Bhuian & Mengue, 2002). Weiss, Dawis, England, and Lofquist, (1967) developed the Minnesota Satisfaction Questionnaire (MSQ) in order to measure job satisfaction. The MSQ is one of the most widely used instruments in the measurement of job satisfaction and its validity and reliability has been proven over the past 40 years (Eyupoglu & Saner, 2009; Martins & Proença, 2012; Saner & Eyupoglu, 2012). Recently, MSQ instrument was adapted by Ismail et al.(2013) to measure job satisfaction among the academics of 20 Malaysian public universities. The short-form MSQ has been used to measure the job satisfaction of the academics in higher education institutions in the Middle East countries. This study considers the self-esteem needs of the academic staff in the Iraqi technical education which include the need for recognition, respect, achievement, autonomy, independence et cetera. Therefore, the researchers adapted the work of Siron, Tasripan and Majid (2007) and modified six items as part of job satisfaction (three items for intrinsic and three items for extrinsic job satisfaction) in addition to the 20 items of MSQ developed by Weiss et al. (1967).

For the purpose of measuring the academic job performance, this study adapted the items of measuring lecturer job performance from Sukirno and Siengthai (2011), who adapted the items from Smeenk, Teelken, Eisinga and Doorewaard (2008). This study adapted and modified only four out of six items of Sukirno and Siengthai (2011) as dimensions in terms of teaching, research, publication and public engagement performance in order to improve the measurement. The last two items regarding to the miscellaneous and overall performance have been omitted since they are not related to the context of the current study. These four items were modified to become four dimensions of job performance with four items each for teaching, research, publication and public engagement performance in the current study.

Data Analysis and Results

From a total of 750 distributed questionnaires, 419 questionnaires were deemed useful after removal of outliers and incomplete questionnaires. The profiles of respondents are as follow: male (61%), female (39%), master (67%), and Ph.D. (32%). Majority of the respondents (51%) were above 50 years old, 30 to

40 years (26%), 41 to 50 years (21%), and only (2%) less than 30 years. About 37% were lecturers, 35% assistant lecturers, 26% assistant professors and only 2% were professors. Two thirds 64% have above 16 years of work experience, 5 to 10 years (16%), 11 to 15 years (12%), and 7% have less than 5 years of working experience.

Measurement Model

An overall measurement model upon individual persons and three individual confirmatory factor analysis (CFA) models were included in this research. The progress of every measurement model is examined in the succeeding sub-segments extensively and by utilizing the AMOS 22.0, the outcomes of examining the uni-dimensionality of every construct are also explained.

To calculate the four first-order constructs in leader-member exchange that includes professional respect (PRR), contribution (CON), loyalty (LOY) and affect (AFF), 12 items were used in this research. The factor loading of every item exceeded the cut-off .50 as suggested by Hair et al. (2006) that was pointed out in the outcome. It lied between the range of .66 and .77. Therefore, no item was removed from the model since there was no insufficient factor loading. The overall results obtained from CFA showed that the initial measurement model for leader-member exchange fitted the data with 12 items satisfactorily. The chi-square was 45.48, df = 48, and p-value = .58. The GFI was .98 for the model. This value is well over the cut-off value of .90 as suggested by Hoyle (1995). The AGFI was .97 which is much larger than the recommended cut-off value of .80 as suggested by Chau and Hu (2001). The values of CFI, TLI and IFI were 1, above the cut-off .90 (Bagozzi & Yi, 1988; Byrne, 1998; Hair et al., 2006; Ho, 2006). Moreover, the value of root-mean-square error of approximation (RMSEA) was considerably below the threshold value of .08 as Hair, Black, Babin and Anderson (2010) had suggested and it was 0.000. According to Bagozzi and Yi (1988), the Relative CMIN/f (0.95) was less than 5 that signified that the model was very suitable for the data.

To calculate the first-order constructs that include extrinsic job satisfaction (EJS) and intrinsic job satisfaction (IJS), the CFA model for job satisfaction included 26 items. The assessed factor loadings for 11 items in the model (i.e IJS1, IJS4, IJS6, IJS8, IJS10, IJS13, EJS2, EJS5, EJS7, EJS8, and EJS10) were below the cut-off value of .50, as it has been pointed out in the outcomes of measuring the standardized loadings of the model's item. Thus, these items had to be discarded from their relative constructs. Subsequently, the revised model, containing 15 items, was retested to make sure that the factor structure was still stable. As a consequence of this improvement, the second standardised factor loadings for all the items and constructs in the measurement model were larger than .50, with values ranging between .73 and .82. The revised measurement model for job satisfaction is suitable for the data sufficiently by utilizing 15 remaining items as it has been pointed out in the complete findings of the GOF. The p-value was .000, chi-square was 154.95 and df = 89, but the absolute fit index of lowest discrepancy chi-square can be disregarded if the sample size that is acquired for the study exceeds 200 as stated by Hair, Anderson, Tatham and Black (1995), and Jöreskog and Sörbom (1984). As Hoyle (1995) had suggested, the GFI was .95 that had exceeded the cut-off value of .90 and the AGFI was .94 that also exceeds the cut-off point of .80 as Chau and Hu (2001) had suggested. According to Bagozzi and Yi (1988), Byrne (1998), Hair et al. (2006), and Ho (2006), the value of IFI, TLI and CFI were all .98 and they had exceeded the cut-off value of .90. Moreover, as Hair et al. (2010) had stated, the root-mean-square error of approximation (RMSEA) was .04 that lies below the threshold value of .08. In addition, the Relative CMIN/df (1.741) was lower than 5 and therefore indicated that there was good fit of the model (Bagozzi & Yi, 1988).

In this study, 16 items were employed to assess four first-order constructs in job performance: teaching performance (TEA), research performance (RES), publication performance (PUB), and public engagement performance (PEN). The CFA model was also conducted for the sub-constructs in job performance construct. The result indicated that one item, PEN4, had a factor loading value of .145 which is well below the cut-off value of .50. Thus, this item was discarded from the revised model. The new model therefore had 15 remaining items and was retested to make sure that the factor structure was still stable.

The standardised factor loadings for the second model were acceptable as all items and constructs had values greater than .50; ranging from .66 to .80. The overall results of the CFA showed that the revised model for assessing job performance, with 15 remaining items, was adequate and fitted the observed data well. The chi-square was 114.86, df =84, and *p*-value =.000. The GFI was .97 which was larger than the recommended cut-off value of .90 by Hoyle (1995). The value of AGFI was .95 and that has also exceeded the cut-off point of .80 as it has been recommended by Chau and Hu (2001). The values of IFI, TLI and CFI were all .99 and according to Bagozzi and Yi (1988), Byrne (1998), Hair et al. (2006), and Ho (2006), every one of them had exceeded the cut-off value of .90. Moreover, as Hair et al. (2010) had recommended, the root-mean-square error of approximation (RMSEA) was .03 and that was less than the threshold value of .08. According to Bagozzi and Yi (1988), the Relative CMIN/df (1.367) was below 5 and that depicts that the model fits appropriately.

In order to calculate the overall measurement model for leader-member exchange, job performance and job satisfaction, the CFA was utilized. All latent constructs with their relevant calculated measured indicators are incorporated in the overall measurement model. These relevant calculated measured indicators are mentioned in the prior individual CFA models.
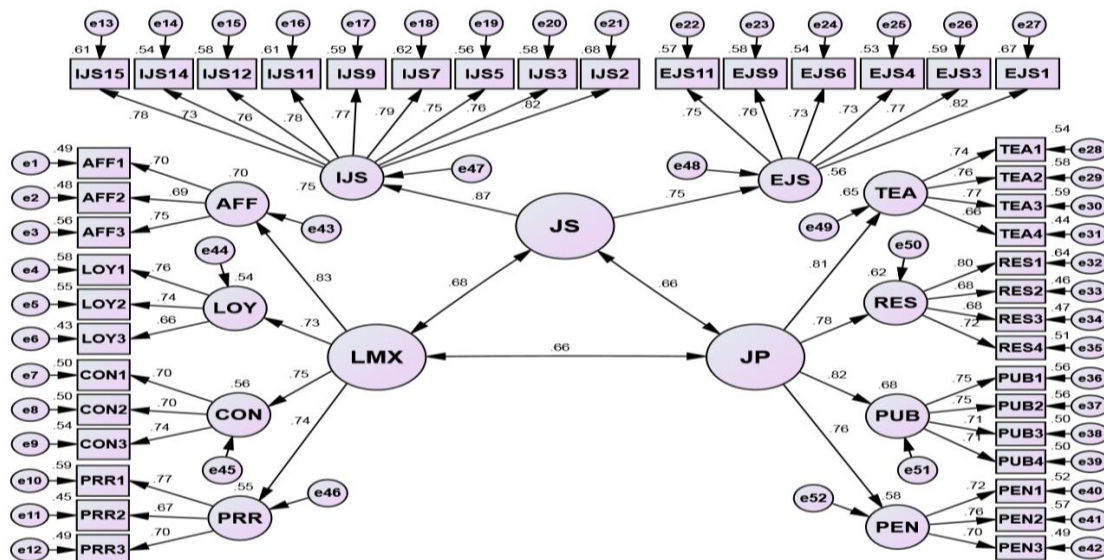

Figure 2: Overall Measurement Model.

Figure 2 above showed that the result of factor loadings of all First-Order Constructs were above the cut-off value of .50 as recommended by Hair et al. (2006) and ranged from .73 to .87. Therefore, no construct was removed from the model since there was no insufficient factor loading. Table.1 shows the results of factor loadings in overall CFA Model. The overall results of the CFA of overall measurement model provided adequate fit of the data. The chi-square value was insignificant; χ^2= 1013.289, df =806, p-value=.000. The GFI was .90 as recommended by Hoyle (1995). As Chau and Hu (2001) had recommended, the AGFI was .89 that exceeded the cut-off point of .80. The value of IFI was .98, while the values of TLI and CFI were .97 and .98. According to Bagozzi and Yi (1988), Byrne (1998), Hair et al. (2006), and Ho (2006), these values exceeded the cut-off value of .90. Further, the RMSEA was .03 which was lower than the threshold value of .08 as recommended by Hair et al. (2010). Also, the Relative CMIN/df of 1.26 was lower than 5 and indicated good fit between the observations and the model (Bagozzi & Yi, 1988). Therefore, the results of the different statistical analyses indicated that the overall measurement model fit the data very well thereby obviating the need for further adjustments. The uni-dimensionality of the constructs that were utilized in the measurement model was evaluated for consistency and validity after they were checked and

acquired. The construct reliability (CR), average variance extracted (AVE) and Cronbach's alpha were utilized in the calculation of reliability.On the other hand, validity of the constructs was determined using convergent and discriminant validity tests. The outcomes of Cronbach's alpha and convergent validity for the overall measurement model are illustrated in the Table 1.

Table 1 List of Cronbach's Alpha and Convergent Validity Values for the Different Constructs in the Overall CFA Model

Second-Order Construct	First-Order Construct	Cronbach Alpha	Convergent validity		
			Factor Loading	(AVE)[a]	(CR)[b]
Leader-Member Exchange (LMX)	Affect (AFF)	.91	.83	.58	.85
	Loyalty (LOY)		.73		
	Contribution (CON)		.75		
	Professional Respect (PRR)		.74		
Job Satisfaction (JS)	Intrinsic Job Satisfaction (IJS)	.82	.87	.66	.79
	Extrinsic Job Satisfaction (EJS)		.75		
JobPerformance (JP)	Teaching Performance (TEA)	.92	.81	.63	.87
	Research Performance (RES)		.79		
	Publication Performance (PUB)		.82		
	Public Engagement Performance (PEN)		.76		

a: AVE= $\sum \lambda i 2/ n$ λ = Standardized Factor Loading   n = Number of Item in a Model
b: CR = $(\sum ķ) 2 / [(\sum ķ) 2 + (\sum l- ķ 2)]$ ķ 2 = Factor loading of every item

Table 1 above demonstrates that the AVE is much higher than the cut-off value of .50 for all second-order constructs as recommended by Nunnally, Bernstein and Berge (1994) and ranged from .58 to .66. As recommended by Bagozzi and Yi (1988), the composite reliability values lied between the range of .85 and .87 and they exceeded the suggested value of .60 for every construct. Nunnally et al. (1994) suggested the threshold value of .70, but Cronbach's alpha values lied between the range of .82 and .92 and exceeded the value that was presented. Hence, the Cronbach's alpha for all constructs were regarded as suitably flawless.

According to the advice of Kline (2005), the correlations between the elements within the measurement model do not cross .85 in the case of discriminant validity. According to Fornell and Larcker (1981), on the basis of the comparisons of the correlations between square root of the mean variance that was obtained for a construct and constructs, the validity was verified. The discriminant validity of the general measurement model is illustrated in the Table 2.

Table 2 Discriminant Validity of Overall CFA Model

	LMX	JS	JP
Leader-Member Exchange (LMX)	.76		
Job Satisfaction (JS)	.68	.81	
Job Performance (JP)	.66	.66	.79

Residing within the overall absolute measurement model, the absolute inter-correlations that exist between the three first-orders constructs that vary from .66 and .68 had the threshold value of .85, as it has been depicted in Table 2. This value was declared as acceptable. Moreover, as stated by Kline (2005), the square root of the mean variance that was obtained by the indicators was more than the correlations and this reveals sound discriminant validity between these elements. It can be deduced that the general

measurement scale that was utilized to calculate the constructs and the items related to it was reliable and valid. This was deduced after the assessment of the goodness to fit of data, discriminant validity of the measurement model and the convergent validity.

Structural Model

The creation of an illustration of the structural model was the work that was supposed to be done after verifying the measurement model. The identification of the connections of the current constructs would help in the establishment of this illustration. The structural model through maximum likelihood estimate (MLE) and regression method was calculated in this latest study. These measures and assessments helped to critically analyse the research hypotheses. The connection between the variables of leader-member exchange, job performance and job satisfaction and were observed in the structural model. Further, the mediating effect of job satisfaction on the relationship between leader-member exchange and job performance were evaluated. The Figure 3 that is displayed below describes the structural model for latest investigative research and also depicts the standardised regression weights.
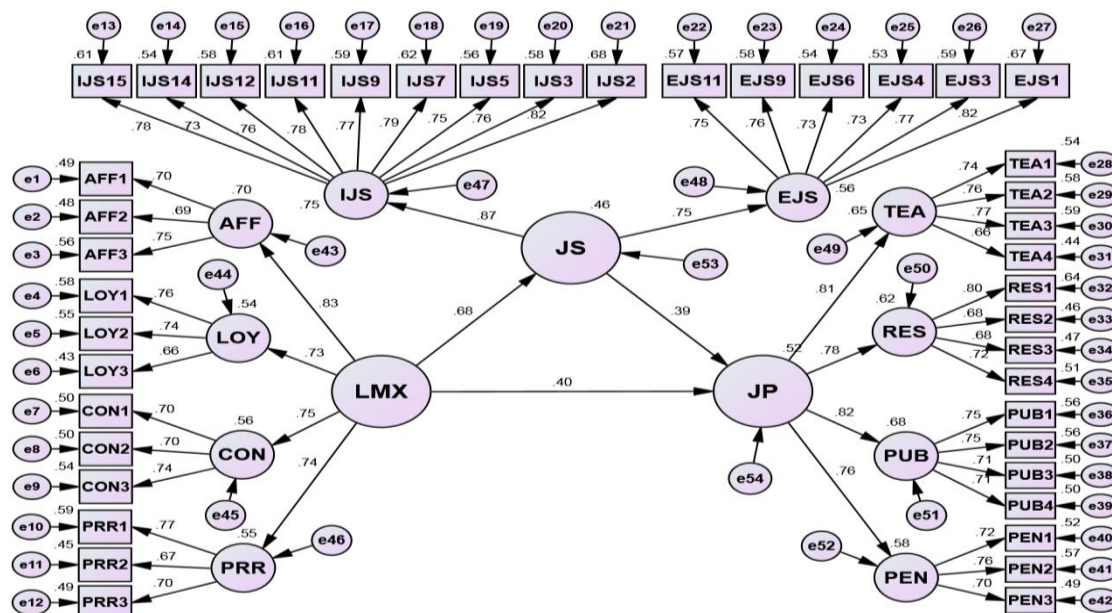

Figure 3: Structural Model

The goodness-of-fit indices demonstrated that the structural model developed in this research adequately fitted the data: χ^2 = 1013.29, df = 806, p-value = 0.000, GFI =.90, AGFI = .89, CFI = .98, TLI =.97, IFI =.98, RMSEA = .03, and χ^2/df = 1.26. For the job performance (JP), the value of R^2 was 52 and it was 46 for the job satisfaction (JS). This indicated vital details about the variables concerned; for example, the error variance of job performance (JP) was approximately 52 percent. To put it in another way, 52 % of variations in job performance could be fully explicated by its two predictors (i.e. leader-member exchange, and job satisfaction). According to Quaddus and Hofmeyer (2007), all the values of R^2 fulfilled the necessity for the .30 cut off value, as it has been revealed in the overall findings of the statistical analyses. To investigate the hypothesized direct impacts that variables have, the estimations of coefficient parameters were checked afterwards. In the table 3, the outcomes that were obtained from inspecting the hypothesized direct effects and the standardised regression weight are described.

Table 3 Examining Results of Hypothesized Direct Effects of the Variables (Path Analysis)

Path	Unstandardized Estimate		Standardised Estimate	C.R.	P-value	Hypothesis Result
	Estimate	S.E.	Beta			
LMX → JP	.40	.09	.40***	4.47	.000	H$_1$ Supported
LMX → JS	.56	.07	.68***	7.79	.000	H$_2$ Supported
JS → JP	.47	.11	.39***	4.32	.000	H$_3$ Supported

. *: Contribution is significant at the 0.01 and 0.001 level (2-tailed)

Table 3 above showed that all the 3 direct paths existent in the structural model were statistically significant. Thus, all three hypothesized direct effects were supported (i.e. H$_1$, H$_2$, H$_3$,) with Beta= .40, .68, and .39 respectively. These values indicated positive relationships. Furthermore, The significance of the regression coefficients between leader-member exchange (LMX) as IV, job satisfaction (JS) as M, and job performance (JP) as DV were examined to determine the occurrence of the mediation effect and its mediating degree. The results of examining hypothesis H$_4$ are displayed in Table 4.

Table 4. Results of Examining Mediation Effect of Job Satisfaction (JS)

IV = (LMX), DV = (JP), and M = (JS)	Standardized Effect
Total Effect of IV on DV without M (path a)	.66**(sig:0.001)
Direct Effect of IV on DV with M (path a')	.40**(sig: 0.001)
Indirect Effect of IV on DV through M (path bc)	.26**(sig: 0.001)
Effect of IV on M (path b)	.68**(sig: 0.001)
Effect of M on DV (path c)	.39**(sig: 0.001)
Mediation Effect	Yes
Degree of Mediation	Partial
Hypothesis Result	H$_4$ Supported

*, **, ***: Contribution is significant at the 0.05, 0.01 and 0.001 level (2-tailed)

The result in Table 4 above showed that leader-member exchange had a significant indirect positive effect on job performance through job satisfaction with the standardized indirect effect of .26 and the P-value of 0.000.

Conclusion

This study aimed to examine the relationship between leader-member exchange and job performance and the mediating role of job satisfaction among 419 of academic staff in 18 Iraqi technical colleges and institutes. This study contributed to the current body of knowledge by utilizing leader-member exchange theory as underpinning theory in developing the theoretical model in order to examining the relationship between the variables of this study. Structural equation modelling (SEM) was utilized to examine the relationships between the variables and to test the hypotheses of this study. The results confirmed that all four hypotheses are supported. Moreover, the results showed that the LMX has significant relationship with academic JP through the mediating variable of JS. The findings of the study also contribute new knowledge to the field of leader-member exchange, job satisfaction and new measurement of academic job performance in the context of higher education in developing countries such as Iraq. The findings suggest the importance of how leader-member exchange and job satisfaction in enhancing the academic job performance of the academic staff in the Iraqi technical colleges and institutes.

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