

Examination of the Mediating Role of Leader-Member Exchange on the Association between Transformational Leadership and Innovative Behavior: A Study in Turkish Technological Organizations

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Abstract—The objective of this study was to examine the relationship between transformational leadership and innovative work behavior and to evaluate the mediating role of leader-member exchange relationships (LMX) on the assumed relationship. This study has focused on the suggestion that LMX might emerge through transformational leadership behaviors and thus could mediate the relationship between transformational leadership and innovative behavior. A cross-sectional survey research has been conducted on the relationship these leadership approaches and their impact on organizational HRM-outcomes have been conducted on two organizations operating in the technical sector in Istanbul-Turkey. The results of the research have supported the hypotheses. Transformational leadership was positively related to the innovative behaviors and LMX emerged to mediate that relationship.

Keywords—Innovative leadership, Leader- Member Exchange, Transformational leadership, Turkey.

I. INTRODUCTION

THE topic of leadership effectiveness and the issues of transformational leadership and leadership approaches based on leader-member exchange relationships have received exceptional attention in the last decades. Based on the extant literature of leadership, this study attempted to analyze the association between transformational leadership and innovative work behavior within the frame of leadership approaches based on leader-member exchange theory (LMX). Transformational leadership has been characterized by communicating a higher vision to his or her subordinates and by changing their attitudes to serve a higher goal [1]. It is obvious that leaders and subordinates being situated in a closely related transformational leadership setting can establish personal relations based on mutual support, which has been described as a high-quality leader-member exchange relationship. LMX has been known as the instance of a transactional leadership approach which proposed that leaders develop different kinds of exchange relationships with their subordinates wherein exchanges concerning contribution, loyalty, professional respect, and affect are. On the other side, innovation has been defined as the application and implementation of ideas, processes, and products that are substantially new to the organization and that contribute to its

competitiveness and performance [3]. Innovative behavior concept has been described as the intentional creation, introduction, and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization [4]. In the current study, innovative behavior has been characterized with the stages of idea generation, idea promotion, and idea generalization. Building on the conceptual definitions, previous findings and the suggestions, LMX is expected to have a mediating variable role on the association between transformational leadership and innovative work behaviors of employees. In sum, the current study has investigated the relationship between transformational leadership and innovative behavior of employees and tested the mediating role of LMX on that relationship.

II. LITERATURE REVIEW

Leadership is one of the most important concepts when studying and conducting research in the field of organizational behavior (OB). All the research in OB comes back to effective leadership for the applicability of its program and for achieving its goals. The long-term success of many organizations certainly depends on organizational skills for having quality and speed, however, “improving speed and quality relates more to the processes of leadership than to the obvious focus on products or outcomes” [5]. It was suggested that forces of globalization, political and social changes, and rapid technological advances started one of the most challenging eras for leadership [6]. These challenges transformed the type of requirements demanded from leaders in many organizations [5]. The constant change that has become a part of life for many organizations highlights the increasing importance of transformational leadership. Superior performance is possible only by transforming followers’ values, attitudes, and motives from a lower to a higher plane of arousal and maturity [1]. Transformational leadership integrates ideas from trait, style, and contingency approaches of leadership [7].

Transformational leaders were described as the leaders who motivate followers to do more than they originally expected to do [1]. Transformational leadership raises the level of human conduct of both leader and follower and transformational leaders broaden and change the interests of their followers,

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and generate awareness and acceptance of the purposes and mission of the group [8]. It was stated that transformational leaders change the core values of followers for the benefit of the common interest by committing people and seeing them as ends not as means, inspire followers to go beyond their own self-interests for the good of the organization with their vision [5]. It was indicated that such leaders are proactive, raise follower awareness for transcendent collective interests and motivate followers to achieve out of range goals [9]. It was also mentioned that they are capable of having profound and extraordinary effects on subordinates by causing shifts in the beliefs, the needs, and the values of followers, so followers can become leaders themselves [10]. Transformational leaders heighten the awareness of followers with vision they create and the strategies for reaching them [5], create self-confidence in followers by empowering them, tend to direct specific activities as much as to alter moods, to evoke symbolic images and expectations, and to inspire desires and objectives [11].

When the conceptualization of transformational leadership is examined, it is seen that transformational leadership consists of four factors—charismatic leadership or idealized influence, inspirational leadership or motivation, intellectual stimulation, and individualized consideration. Followers have complete faith in charismatic leaders, feel proud to be associated with them, and trust their capacity to overcome any obstacle. Inspirational leadership involves the arousal and heightening of motivation among followers. Intellectual stimulation arouses in followers the awareness of problems and how they may be solved, and stirs the imagination and generates thoughts and insights. Individualized consideration involves giving personal attention to followers who seem neglected, treating each follower individually, and helping each follower get what he or she wants [12]. It was claimed that the main dimensions of leadership for extraordinary performance are universal [8].

Consequently, based on the above empirical results and conceptual background, the first hypothesis of this study is generated as follows:

H1. Transformational leadership is positively related to employees' innovative behavior.

On the other side, the LMX theory occupies a unique position among leadership theories because of its focus on the dyadic relationship between leader and follower. LMX theory was originally referred to as Vertical Dyad Linkage (VDL) theory. According to the theory, the relationship between supervisors and subordinates is a reciprocal exchange and continuous role making process, influenced by the expectations of both leaders and subordinates [13]. VDL approach indicates that leaders and followers develop dyadic relationships and leaders treat individual followers differently, resulting in two groups of followers—an in-group and an out-group [14]. The dyadic relationships that were described by LMX theory differed in terms of their quality and they were defined as high or low quality relationships. Subordinate-members of these relationships are referred to as either in-group or out-group members in high- or low quality relationships, respectively [14]. High quality dyads are

characterized by frequent exchange of valued resources and engagement in activities beyond formal requirement, whereas low quality dyads rely more on the formal employment relationship [15]. These varying social exchange relationships are relatively enduring; they develop due to the leader's limited time and energy, and inability to give equal attention to all followers [16].

Quality of leader-member exchange has been found to be positively related to follower's satisfaction, organizational commitment, role clarity, performance ratings given by leaders, and objective performance, innovativeness and negatively related to role conflict and turnover intentions [17], [18]. LMX is a relationship between leaders and followers, and building this relationship requires an appreciation for the personal values of those who would be willing to give their energy and talents to accomplish shared objectives [8]. A high-quality LMX relationship is characterised by mutual trust, respect, and influence that go beyond a formal employment contract, whereas a low-quality relationship develops based on the terms and conditions of a formal employment contract [16]. Overall, results of studies suggest that having a high-quality relationship with one's leader can affect the entire work experience in a positive manner, including performance and affective outcomes [16]. It was found that work group cohesiveness, organizational climate, and leader power were related to LMX [19]. A meta-analysis showed a positive relationship between LMX and job performance, satisfaction with supervision, overall satisfaction, and commitment [16]. Furthermore, innovations and innovative behavior are of high importance to organizations' effectiveness and survival in an ever changing organizational environment [2]. Innovation is defined as the application and implementation of ideas, processes, and products that are substantially new to the organization and aim at benefiting it [3]. Innovative work behavior (IWB) typically includes exploration of opportunities and the generation of new ideas (creativity related behavior), but could also include behaviors directed towards implementing change, applying new knowledge or improving processes to enhance personal and/or business performance (implementation oriented behavior) [20]. IWB is typically seen to encompass a broad set of behaviors related to the generation of ideas, creating support for them, and helping their implementation [21].

It is suggested that the stimulating and inspiring focus of transformational leaders as well as their emphasis on initiating self-interested behavior and their engagement in employees contribute to the relation between transformational leadership and innovative behavior [1]. In addition, participative and transformational leadership involves the use of decision-making procedures that allow subordinates influence in important decisions and autonomy to design and guide their own tasks [20]. Transformational leadership can take different forms, including consultation, joint decision-making, and delegation. In the context of individual innovation, transformational leadership has been mentioned as a potential antecedent [20]. It is supposed that one of the most important factors to form innovativeness is leader-member exchange

quality. The quality of interaction between leaders and employees help the favorable circumstances for innovative behavior which is one of the keystones of innovation in organizations [21]. As further, recent research indicated that LMX functions as a mediator between transformational leadership and organizational citizenship behavior as well as task performance, as the outcomes of transformational leadership behavior are a result of dyadic relationships between leaders and subordinates that actually origin in the social orientation of transformational leadership behaviors [22]. Aiming to refine these findings, this study extends the relationship found by previous studies, investigating a possible mediating effect of LMX in the relation between transformational leadership and innovative behavior. It is argued that the behaviors of transformational leadership determine how followers develop and maintain the quality of LMX relationships with their leaders. Specifically, when leaders provide individualized consideration to their followers, their LMX relationships are strengthened. It was suggested that followers experiencing the individualized consideration behavior of their leaders will characterize their LMX relationships as invaluable because they perceive their leaders to be reliable and trustworthy in exchange processes and the leaders also provide them with work-related benefits and organizational resources beyond their expectations [23]. Therefore, determining the mediation role of leader-member exchange quality in the effect of transformational leadership on occurring employee's innovative behaviors is established as basic problematic point of this study. Therefore, this argumentation results in the second hypothesis:

H2. The quality of the leader-member exchange mediates the relationship between transformational leadership and innovative behavior.

Fig. 1 is a graphical presentation of the research model to be investigated in this study and sums up the hypotheses stated above.

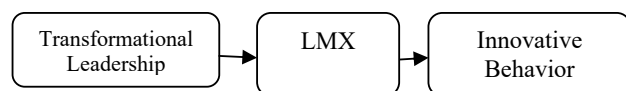


Fig. 1 Research Model

III. INSTRUMENTS AND THE METHOD

Cross-sectional survey research was conducted on a sample of two organizations from the technological sector being settled in Istanbul-Turkey. Finally, of the 280 employees being contacted 161 returned the questionnaire, leading to an overall response rate of 55.9%. The questionnaires were administered online or via personal interviews. All scales were 5-point Likert scales ranging from totally disagree to totally agree. Innovative work behavior was assessed by a 9-item scale originally developed by Scott and Bruce and later extended by [4]. Transformational leadership was measured by Hoogh and Koopman's 11-item CLIO (Charismatic Leadership In Organizations) scale [14]. Leader-member exchange relationships were assessed by Liden and Maslyn's

12-item scale [15] aimed at measuring the above mentioned four components of LMX, that is to say affect, loyalty, contribution and professional respect.

IV. THE FINDINGS

TABLE I
RELIABILITY ANALYSIS AND DESCRIPTIVE STATISTICS

Scale	N	α	Mean
Transformational Leadership	11	.906	3,688
LMX	12	.923	3,762
Innovative Behavior	9	.919	3,278

TABLE II
CORRELATION ANALYSIS RESULTS FOR THE RESEARCH VARIABLES

	1	2	3
1. Trans.Leadership	1	,773	,332
2. LMX	,773	1	,612
3. Innov.Behavior	,332	,612	1

$p < .01$

TABLE III
HIERARCHICAL REGRESSION ANALYSIS RESULTS FOR THE MEDIATING ROLE OF LMX

Variables	B	β	R ²	Adj. R ²	F
Step 1 (1)					
Transformational Leadership	,342*	,409*	,409**	,613	58,652
Step 2 (2)					
Transformational Leadership	,326*	,395*	,413**	,235	72,422
Step 3 (3)					
- Transformational Leadership	,365*	,401*	,598**	,636	53,611
- LMX	,393*	,432*			

* $p < .05$ ** $p < .01$

(1) 1. Step: Dependent variable: LMX; Independent variable: Transformational Leadership

(2) 2. Step: Dependent variable: Innovative Behavior; Independent variable: Transformational Leadership

(3) 3. Step: Dependent variable: Innovative Behavior; Independent variables: Transformational Leadership and LMX

The overall sample included 69.5% male (N=110) and 30.5% female (N=51) employees. The majority of the respondents (35.4%, N=62) were settled in the age group younger than 25 years of age. A number of statistical adjustments and analysis were conducted. Internal consistency reliability measures of the scales assessing transformational leadership, LMX, employees' innovative behavior indicated a good reliability of $\alpha = .906$, $\alpha = .923$, $\alpha = .919$. Descriptive statistics of the scales reported that the mean values for transformational leadership was 3,688, for LMX was 3,762, and for innovative behaviour as 3,278. Descriptive statistics of the incorporated scales after reliability adjustments have been made can be found in Table II along with the results of the reliability analysis. Moreover, bivariate correlations according to Pearson's correlation coefficient have been used to examine the associations among the research variables and to test the hypothesis. According to the correlation analysis, a strong positive correlation between transformational leadership and LMX ($r = .773$, $p < .01$) was found, since this was a prerequisite for LMX to have a role as a mediator variable between transformational leadership and innovative behavior. In addition, strong positive correlations between transformational leadership and the innovative behavior

($r=.332$, $p<0.01$); were reported. The findings of correlation analysis are presented in Table II. Furthermore, the mediating role of LMX was tested with Baron and Kenny's suggestions [24]. The hierarchical regression analysis was performed and the results indicated that transformational leadership was strongly related to innovative employee behavior ($\beta=.326$, $p<0.05$) and it was found that LMX significantly mediated the relationship between transformational leadership and innovative behavior ($\beta = 0,395$, $p <0.05$). The results are displayed in Table III.

V. CONCLUSION AND DISCUSSION

The objective of this study was to investigate the relation between transformational leadership and employees' innovative behavior at work, as well as their perceptions of LMX quality. The relationship between transformational leadership and innovative behavior has been expected to be mediated by high-quality leader-member-exchange relationships. It was expected that high-quality leader-member-exchange relationships emerge through the high interest and personal involvement that transformational leaders show for their subordinates. This expectation was based on the suggestion that transformational leaders initiate self-interested behavior in employees by enhancing the personal value of the outcomes they receive. Thereby, in this study, it was suggested that transformational leadership is positively related to employees' innovative behavior. Results of the correlation and regression analysis indicate that transformational leadership is strongly related to innovative employee behavior. Thus, Hypothesis 1 was confirmed. The results of this analysis can be found along with the analysis of hypothesis 2, which states that LMX mediates the relationship between transformational leadership and innovative behavior as seen in Table III. Hypothesis 2 expected the quality of the leader-member exchange relationship would mediate the positive relationship between transformational leadership and innovative behavior. Hierarchical regression analysis was used to test the hypothesized effects. The results of the analysis provided support for the positive influence of transformational leadership on employees' innovative behaviors. This finding was significant because this positive effect was also identified in previous research focused on various industries or organizations. It can be suggested that the results are found to be consistent with previous literature and empirical findings. In a study, it was also indicated that among the factors influencing organizational innovation and employee innovative behavior, leadership has been identified as being one of the most important factor, after reviewed relevant studies [25]. Especially, the label "transformational" has been applied to a set of adaptive leadership behaviors held to be more effective than other leadership styles in enhancing organizational innovation [25]. Additionally, LMX was found to significantly mediate this effect. Specifically, the relationship between transformational leadership and employee innovative behavior was less when LMX was at high levels. As confirmed in hierarchical regression model, it was found that LMX significantly mediated the relationship

between transformational leadership and innovative behavior. This finding confirmed Hypotheses 2.

This study has importance since it investigated and empirically displayed the role of a contextual condition of LMX for employee innovative behavior innovation. Therefore, the results of this study clarified that there was a link between transformational leadership and leadership based on dyadic relationships between leader and subordinate. Besides, the suggestion that LMX was the result of transformational leadership and played a mediating role on the relationship between transformational leadership and innovative behavior was supported. The results are consistent with the previous literature findings which have indicated the positive relations of transformational leadership and LMX with employee outcomes of innovative behaviors.

It is striking that transformational leadership style which is investigated to affect leader-member exchange quality and innovative behaviors significantly. Today, it is thought that it results from the importance of leader-member exchange quality. As a result of research; it is determined that transformational leadership style and leader-member exchange quality increase innovative behavior in organizations. It is thought that this finding is important for managers to be taken into consideration. On the other side, as a limitation, this study has a number of weaknesses and restrictions hindering the generalizability of the results and impeding definite conclusions. The main weakness of this study surely is the cross-sectional design in which it has been conducted, lacking any possibility to draw conclusions about causal relations. Without the possibility to define causal relationships between the variables investigated, the utility of the results and especially the usefulness in practice will be decreased. Moreover, the sample size of two organizations, a relatively low response rate of two organizations contacted, and a total number of 161 respondents is a quite weak basis to build on and establish significant relations and generalizable results.

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