

TRANSFORMATIONAL LEADERSHIP AND ITS IMPACT ON EXTRA-ROLE PERFORMANCE OF PROJECT TEAM MEMBERS: THE MEDIATING ROLE OF WORK ENGAGEMENT

Suzyanty Mohd Shokory, Universiti Pendidikan Sultan Idris
Nur Riza Mohd Suradi, Universiti Kebangsaan Malaysia

ABSTRACT

The purpose of this study is to examine the effect of transformational leadership of project manager on extra-role performance of project team members, and determine the mediating effect of work engagement on that relationship. Data which collected from 195 project team members of 39 teams from different contractors in Selangor registered with the Construction Industry Development Board (CIDB) using self-administrated questionnaire were analyzed using Hierarchical Linear Modeling (HLM). The Monte Carlo analysis was also used to examine the mediating role of work engagement in the relationship between transformational leadership of the project manager and extra-role performance of project team members. The findings showed that transformational leadership of project manager significantly affect extra-role performance of project team members. Work engagement significantly mediated the relationship between transformational leadership of the project manager and extra-role performance of project team members. This study provide fresh insight on the effect of transformational leadership and extra-role performance and highlight the mediating role of work engagement as the relevant variables that affect the degree of influence that transformational leadership has on employees' extra-role performance.

Keywords: Transformational Leadership, Extra-Role Performance, Project Team Members, Work Engagement, Mediating.

INTRODUCTION

The construction industry is one of the major industries in Malaysia and it provides the catalyst for the development of more than 120 types of industries. The above statement is true and supported with evidence from Malaysia's achievement in 2016 with a total of 6,305 construction projects valued at RM 166.4 billion; this indirectly reflects the magnitude and impact of the domestic construction sector (Lembaga Pembangunan Industri Pembinaan Malaysia, 2017).

Studies focusing on the leadership aspect in the construction industry are very few (Ofori & Toor, 2012) and past research on leadership concentrated on only the direct effects of the concept of leadership on employee performance (Yammarino & Dansereau, 2008). Furthermore, very little research has been done to test psychological factors as mediators in explaining a relationship between leadership and employee performance. Therefore, this study attempts to address this gap by testing the transformational leadership of the project manager in influencing the extra-role performance of project team members. In addition, the study also uses the

psychological factor (work engagement) as a mediator in explaining the relationship between the transformational leadership of project manager in influencing the extra-role performance of project team members. The concept of leadership is also being debated by scholars whether it is at the individual level (Judge et al., 2006) or at the team level (Bliese et al., 2002). However, the researchers thought the concept of leadership in this study was located at the team level as the position of leadership at the individual level cannot account for whether the impact of leadership on employee behavior had been caused by the influence of the organization or individual (Yammarino et al., 2005).

Our study contributes to the body of knowledge in two ways. First, for several decades, a lot of research regarding transformational leadership effects on employee performance has been conducted (Dundum et al., 2002) but little research has looked at the augmenting effects of transformational leadership behavior on extra-role behavior (MacKenzie et al., 2001). Secondly, with the exception of a few studies focusing on leadership research in construction (Ofori & Toor, 2012), not much studies have unveiled that psychological factors can explain the relationship between transformational leaders and extra-role performance subordinate (Walumbwa et al., 2008). Therefore to overcome this gap, the current study used work engagement as a psychological factor to explain the relationships. This study used the multilevel modeling approach to understand how different transformational leadership of the project manager influences extra-role performance of project team members in complex multilevel systems. In addition, this study also aims to examine whether the relationship between the transformational leadership of the project manager and the extra-role performance of project team members is linked to the psychological factors (work engagement) of the project team members.

METHODOLOGY

This study was carried in 2017 for the period of six months involving 195 employees (project team members) from 39 teams (project teams). Each of the team represents different contractors in Selangor registered with the Construction Industry Development Board (CIDB). The number of samples in current study was sufficient and adequate because multilevel modeling analysis only requires a minimum of 30 organizations (Kreft & De Leeuw, 1998) and a minimum of 5 samples from each organization (Maas & Hox, 2005). Data was collected from multiple sources to minimize common method variance bias effects (Podsakoff et al., 2003). Two different sets of questionnaires were prepared and administered to project manager (provide ratings on extra role performances for each of their project team members) and project team members (responses for items pertaining to transformational leadership and work engagement).

Transformational Leadership was measured using Multi-factor Leadership Questionnaire (MLQ Form 5X) (Bass & Avolio, 2000). The instrument consists of five dimensions (idealized influence-attribute, idealized influence-behavior, inspirational motivation, intellectual stimulation and individual consideration). Work engagement was measured using three subscales (vigor, dedication, and absorption) involving the respective nine items scales from the short version of the Utrecht Work Engagement Scale (UWES-9) (Schaufeli et al., 2006). A five-point response scale was used from 0 (never) to 4 (always) for measure transformational leadership and work engagement. We assessed extra-role performance using the seven item scale taken from Goodman & Svyantek (1999). A five-point scales was used from (1) strongly disagree to (5) strongly agree.

We used Hierarchical Linear Modeling (HLM) version 7.0 (Raudenbush et al., 2011) in order to test all the hypotheses in this study and also because of the multilevel nature of the data of individuals nested in organizations. In this study, variables at the individual level were referred to the project team members (Level 1) while variables at team level (Level 2) referring to the project manager were standardized between these two levels as suggested by Mathieu & Taylor (2007). To test the mediator of the hypotheses proposed, we used a Monte Carlo method (Selig & Preacher, 2008) which should comply with the basic principles of testing based on 3 conditions (Baron & Kenny, 1986).

The variable transformational leadership was introduced at team levels of analysis. Since this variable was measured at the individual level, their aggregation to the team level was required for further analyses. There are three tests were performed to assess the suitability the data for aggregation: intra-class coefficient ICC (1); inter-rater reliability (r (wg)) and F-tests (FIII). In order to test our study hypotheses, we followed (Mathieu & Taylor, 2007) by conducting with three types of analyses. First, we ran an analysis for lower-level effects for *hypotheses 1*, followed by cross-level analysis for *hypotheses 2* and finally test the mediation effects for *hypotheses 3*.

RESULT

The findings of the analysis are shown in Table 1 indicating that all the conditions had been fulfilled for the aggregate procedure before conducting the analysis by multilevel modelling.

Variable	M	SD	α	1	2	3	F _{III}	ICC (1)
Transformational leadership	3.793	0.497	0.857	1			2.561	0.237
Work Engagement	3.348	0.652	0.851	0.730 (p=0.000)	1		2.934	0.279
Extra-role performance	4.288	0.490	0.750	0.624 (p=0.000)	0.543 (p=0.000)	1	2.599	0.242

Note: Bivariate correlations only between lower level variables. N=195; M=Mean; SD=Standard Deviation; α =Reliability.

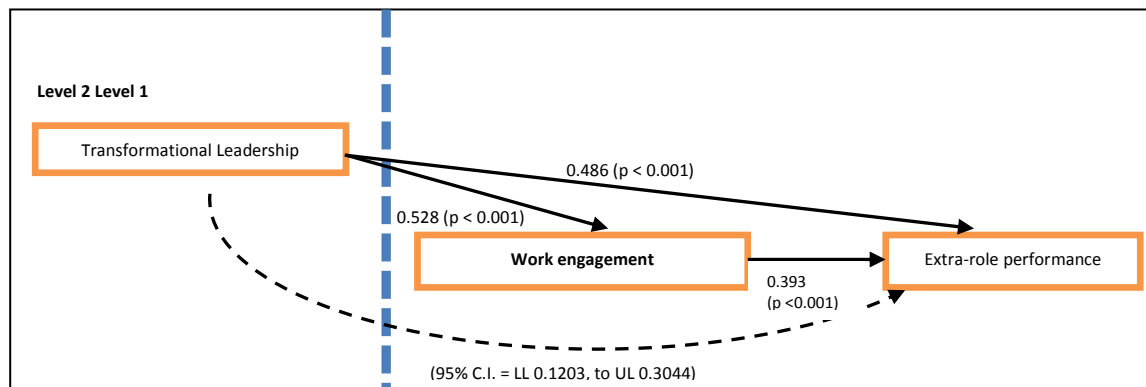
Results for HLM analysis of lower level outcomes and cross level effect on lower level outcomes are shown in Tables 2. *Hypothesis 1* proposes that work engagement would be positively related to extra-role performance. We found that *hypotheses 1* was supported ($\gamma=0.393$, SE=0.08, $t=4.833$, $p<0.001$). For *hypothesis 2*, we found that transformational leadership at the team level would be positively related to work engagement at the individual level ($\gamma=0.528$, SE=0.05, $t=10.411$, $p<0.001$).

Effect	Extra-role performance	Extra-role performance	Work Engagement
Model	1	2	3
Lower-Level Effect Work engagement	0.393 (0.08) (t=4.833) (p<0.001)		
Cross-Level Effect Transformational leadership		0.486 (0.073) (t=6.627) (p<0.001)	0.528 (0.05) (t=10.411) (p<0.001)

Note: The first value is the parameter estimate and the value in parentheses is the standard error (SE) followed by p-value.

N (individuals)=195; n (teams)=39.

Finally hypotheses 3 was supported as the finding indicated that the relationship between transformational leadership and extra-role performance was mediated by work engagement (95 % CI=LL 0.1203, to UL 0.3044). The final model is show in Figure 1.



Note: 195 individuals, 39 teams ———▶ Direct Effect - - ▶ Mediation pathway

FIGURE 1
RELATIONSHIP BETWEEN TRANSFORMATIONAL LEADERSHIP AND EXTRA-ROLE PERFORMANCE MEDIATED BY WORK ENGAGEMENT

DISCUSSION

Transformational leadership of the project manager was able to influence the extra-role performance of project team members significantly. Leaders who adopt transformational leadership can inspire team members to perform a given task together and thus increase productivity (Kouzes & Posner, 2007), performance and team skills (Yukl, 1999). This statement also supported the views expressed by (Bacha, 2014) that transformational leadership practiced by leaders influences the performance and activities of team members and teams’ pro-activity (Wu & Wang, 2015). Furthermore, Williams (1994) found that transformational leaders influenced the extra-role behaviors among followers. The results of this study reinforce the fact that the practice of transformational leadership style by project managers strive to improve the performance of the project team members in line with the study (Saiful et al., 2016). Our study also supports that the work engagement of project team members indirectly mediated the relationships between transformational leadership of the project manager and the extra-role

performance of project team members. The findings in this study were consistent with certain studies (Aryee et al., 2012) as the authors found that work engagement is the psychological factor that mediates the relationships between transformational leader and job performance. In conclusion, this research provides evidence and justification in the specific area of construction by showing that the transformational leadership of the project manager was positively significant to the extra-role performance of project team members with the particular mediator role of project team members' work engagement. These results provide important guidance especially for project managers to practice transformational leadership styles to help create a good and positive environment and also to ensure that projects can be set up according to a set time period.

REFERENCES

- Aryee, S., Walumbwa, F.O., Zhou, Q., & Hartnell, C. A. (2012). Transformational leadership, innovative behavior, and task performance: Test of mediation and moderation processes. *Human Performance*, 25(1), 1-25.
- Bacha, E. (2014). The relationship between transformational leadership, task performance and job characteristics. *Journal of Management Development*, 33(4), 410-420.
- Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Bass, B. M., & Avolio, B.J. (2000). Technical report, leader form, rater form, and scoring key for the MLQ Form 5x-short. Binghamton, NY: Center for Leadership Studies, Binghamton University.
- Bliese, P.D., Halverson, R.R., & Schriesheim, C.A. (2002). Benchmarking multilevel methods in leadership: The articles, the model, and the data set. *The Leadership Quarterly*, 13(1), 3-14.
- Dundum, U.R., Lowe, K.B., & Avolio, B.J. (2002). A meta-analysis of transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension. *Transformational and Charismatic Leadership*, 2, 35-66.
- Goodman, S.A., & Svyantek, D.J. (1999). Person-organization fit and contextual performance: Do shared values matter. *Journal of Vocational Behavior*, 55(2), 254-275.
- Judge, T. A., Fluegge Woolf, E., Hurst, C., & Livingston, B. (2006). Charismatic and transformational leadership: A review and an agenda for future research. *Zeitschrift für Arbeits-und Organisationspsychologie A&O*, 50(4), 203-214.
- Kouzes, J. M., & Posner, B. (2007). *The Leadership Challenge. Introduction to Leadership: Concepts and Practice*. San Francisco: CA: Jossey-Bass.
- Kreft, I.G., & De Leeuw, J. (1998). *Introducing multilevel modeling*. Sage.
- Lembaga Pembangunan Industri Pembinaan Malaysia (CIDB). (2017). *CITP Memperkasakan Industri Pembinaan Kelantan*. Retrieved from <https://t.co/PcVUyb1m1Y>
- Maas, C.J., & Hox, J. (2005). Sufficient Sample Sizes for Multilevel Modeling. *Journal of Research Methods for the Behavioral and Social Sciences*, 1, 86-92.
- MacKenzie, S.B., Podsakoff, P.M., & Rich, G.A. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science*, 29(2), 115.
- Mathieu, J.E., & Taylor, S.R. (2007). A framework for testing meso-mediational relationships in Organizational Behavior. *Journal of Organizational Behaviour*, 28(2), 141-172.
- Ofori, G., & Toor, S. (2012). Leadership and construction industry development in developing countries. *Journal of Construction in Developing Countries*, 1, 1-21.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Raudenbush, S.W., Bryk, A.S., Cheong, Y.F., Congdon, R., & Du Toit, M. (2011). *HLM 5177: Hierarchical linear & nonlinear modeling*. Lincolnwood: Scientific Software International, Inc.
- Saiful Amin, Yasir, K., & Asiya, S. (2016). Relationship between Transformational Leadership and Project Team Performance: Assessing the Mediating Role of a Project Team Management Education. *Journal of Management Sciences and Technology*, 3(3), 1-12.
- Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The Measurement of Short Questionnaire A Cross-National Study. *Educational and Psychological Measurement*, 66(4), 701-716.

- Selig, J.P., & Preacher, K. J. (2008). *Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]*.
- Walumbwa, F.O., Bruce, J., Avolio, B., & Zhu, W. (2008). How transformational leadership weaves its influence on individual job performance: the role of identification and efficacy beliefs. *Personnel Psychology, 61*, 793-825.
- Williams, E.S. (1994). *Tying Up Loose Ends: The Role of Transformational Leadership in OCBs, Commitment, Trust and Fairness Perceptions*. Southern Management Association, New Orleans, LA.
- Wu, C.H., & Wang, Z. (2015). How transformational leadership shapes team proactivity: The mediating role of positive affective tone and the moderating role of team task variety. *Group Dynamics: Theory, Research, and Practice, 19*(3), 137-151.
- Yammarino, F.J., & Dansereau, F. (2008). Multi-level nature of and multi-level approaches to leadership. *Leadership Quarterly, 19*(2), 135-141.
- Yammarino, F.J., Dionne, S.D., Chun, J.U., & Dansereau, F. (2005). Leadership and levels of analysis: A state-of-the-science review. *The Leadership Quarterly, 16*, 879-919.
- Yukl, G. (1999). An Evaluative Essay on Current Conceptions of Effective Leadership. *European Journal of Work and Organizational Psychology, 8*(1), 33-48.