



Exploring the Impact of Empowerment on Group Effectiveness: Multi-dimensional Social Network as the Mediating Variable

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ABSTRACT

The purpose of this research was aimed to explore the importance of fitness club employees' management by using multi-dimensional social network point of view and use the method purpose by Preacher and Hayes (2008) to analyze the mediating effect of multi-dimensional social networks in empowerment and group effectiveness. The subjects of this study were employees from a well-known chain fitness club in southern of Taiwan. The results show that: The "meaning" and "competence" of employees' empowerment can significant predict the social networks and group effectiveness; the "network centrality", "social solidarity" and "social impact" of employees' social networks can significantly predict group effectiveness; and the social network of fitness club employees has significant mediating effect between empowerment and group effectiveness. The "meaning" of empowerment has a low impact on group effectiveness, and has a moderate impact on group effectiveness through by social network; the "competence" of empowerment has no significant direct impact on group effectiveness, but also can influence group effectiveness through by social networks. According to the results of this study, practical strategies and recommendations were purposed.

Keywords: Empowerment, Social Networking, Group Effectiveness

JEL Classifications: M10, M14, M16

1. INTRODUCTION

With the rise of leisure and health awareness, sports industry now already is a star industry in the national economic. The fitness club is one of the emerging sports facilities and services. It mainly provides the environment, facilities, technical guidance and related services needed by the public to engage in sports and helps the sports and leisure participants to improve their physical and mental state. Due to the domestic professional sports leisure and fitness clubs continue to rise, the market demand tends to warm and universal. Therefore, how to manage the business to meet the needs of consumers, become an important issue which the operators need to face it (Tang, 2011).

According to the norm of reciprocity of social capital theory, employees will gain more trust, support and freedom of work when they feel they are in a high-quality leader-member exchange

(LMX). The generating feedback will lead them into a positive attitude and good results (Fukuyama, 1995). Simultaneously, due to the LMX theory, when employees feel better interaction with their supervisors, their work performance and work efficiency higher (Erdogan and Enders, 2007). Consequently, when the social network of the employees closer, the better the team's ability to work, and ultimately improve the overall effectiveness of the group. Mao (2016) pointed out that the empowerment management can be effective to solve the efficiency of employees and poor service attitude. Simultaneously can enhance employees' self-efficacy, work motivation and increase the feelings of autonomy in work. In this way, it is possible to improve the performance of the organization and to achieve the satisfaction of customer goal (Spreitzer, 2008). Therefore, the organization can use the empowerment management to create the opportunity for power autonomy to prompting employees to achieve good performance (Robbins et al., 2002). Summing up the above, group

structure was the main type of business, the interaction time with colleagues in work environment more. The network center of individuals in a team higher, the greater the trustworthiness of the individual to show, resulting the trustworthiness in a team will higher. The team will have a high degree of cooperation with the individual and will show a high degree of team effectiveness (Meneghel et al., 2016; Burt, 2001).

Now, the sport and leisure industry flourish, the fitness club employees' performance depends on who can use the autonomy and sharing of resources given by the company. If empowering can help employees more initiative participation in the various tasks and objectives, will help the employees to improve their work performance. In the past, there are few kinds of literature on the management of fitness club employees, and most of the literature have confirmed the positive relationship between employees' empowerment and group effectiveness. This study mainly discusses the interaction of a social network of fitness club employees, and find out whether it is a mediating role between empowerment and group effectiveness. This study uses the multi-dimension mediator effect test method who proposed by Preacher and Hayes (2008) to examine, to understand the interaction between employees and the enabling mechanism of the empowerment and group effectiveness for improving the organization's effectiveness.

2. RESEARCH METHOD AND PROCEDURE

2.1. Research Subjects

This study was using Southern of Taiwan as an area of research. The subjects of this study were full-time employees at a well-known company which is chain fitness clubs in southern of Taiwan (part-time employees and casual workers were excluded). The company has eight fitness clubs and about 300 employees. Cluster sampling was adopted in five clubs which about 35-40 employees in each club; surveying time from August 1, 2015, to September 30, 2015. A total of 200 questionnaires were investigated, 194 questionnaires were collected and total valid questionnaires was 188; effective recovery rate was 94% and the sampling ratio was 89%.

2.2. Research Tool and Validity Analysis

This study is using the empowerment, the social network and the group efficacy as variable measurement tools. Each issue was measured using the Likert five-point scale; each subscale and the average of total scale represent the sub-direction and overall score of the study variables; then the higher the score, the higher the employee's cognitive level in the variable. The scale of empowerment in this study uses the scale of empowerment of Spreitzer (1995), a total of 12 questions. After the exploratory factor analysis, four dimensions such as "influence", "meaning", "competence" and "autonomy" were extracted by the principal component method and the four dimensions were extracted according to the literature and the factor rotation is performed with maximum variation. The total explained variance was 87.3%, Cronbach's alpha coefficients were between 0.84 and 0.97. The social network was self-created to develop a total of 18 questions, which is based on the opinion of Erickson (1988), Ferris et al. (2005), Prell et al. (2009) a total of 18 questions.

After the exploratory factor analysis, three dimensions of "social influence", "network centrality" and "social connection" were extracted. Total explained variance was 76.7%, Cronbach's alpha coefficient was between 0.90 and 0.92. The group effectiveness scale was self-designed to develop a total of 24 questions, which is based on the group's effectiveness proposed by Bandura (2006) to design questionnaires. After the exploratory factor analysis, three dimensions of "mutual cooperation", "experience perception" and "goal to achieve" were extracted. Total explained variance was 74.2%, Cronbach's alpha coefficient was between 0.85 and 0.96.

2.3. Data Processing

In this study, SPSS 18.0 software was used to analyze the data. Then, mainly using regression analysis, and the product-of-coefficients approach of Baron and Kenny (1986) to calculate the mediating effect. Lastly, the multi-dimension mediating effect test method was used to achieve the analysis of the purpose of this study. All statistics in this paper were tested and had a significance level of $\alpha = 0.05$.

3. RESULTS AND DISCUSSIONS

3.1. Sample and Data Collection

The study subject features are as follows: Male 117 (62.2%), female 71 (37.8%); the main age group were concentrated in 20-40 years old (90.0%); supervisor 53 (28.2%), non-supervisor 135 (71.8%).

3.2. Analysis of Current Empowerment, Social Networking and Group Efficacy

The overall presentation medium level of cognitive empowerment (mean = 3.77, standard deviation [SD] = 0.31). Among the dimensions, cognitive "meaning" was the highest (mean = 4.13, SD = 0.54), followed by "competence" (mean = 3.98, SD = 0.53) and "impact" (mean = 3.52, SD = 0.64) with "self-determination" being the lowest (mean = 3.46, SD = 0.65). Social network showed a high level of overall interaction (mean = 4.29, SD = 0.43). Among the dimensions, "network centrality" had the highest interaction (mean = 4.53, SD = 0.54), followed by "social impact" (mean = 4.23, SD = 0.53) and "social solidarity" having the lowest interaction (mean = 4.08, SD = 0.59). Group effectiveness showed a high level of overall self-confidence (mean = 4.29, SD = 0.42). Among the dimensions, "mutual cooperation" was the highest (mean = 4.48, SD = 0.55), followed by "goal completions" (mean = 4.13, SD = 0.58) with "experience perception" being the lowest (mean = 4.10, SD = 0.53).

3.3. The Forecast Analysis of Empowerment and Social Networking on Group Effectiveness

Stepwise regression was firstly used in this study to analyze the influence of empowerment and social network among fitness club employees on group effectiveness. The results indicated that "meaning" is the first input of the dimension ($R^2 = 0.444$) and "competence" as the input of the second dimension ($R^2 = 0.140$).

3.4. Mediating Effect Verification of Social Network

This study further uses three social network dimensions as "network centrality", "social connection" and "social influence"

as mediating variables, which uses the mediator variable in multi-dimensional explore the interrelation between the “meaning” and “competence” to the variables of group effectiveness. This study was conducted in a two to analyze the social network as a full mediation or as a partial mediating variable: The first stage is according to the four conditions of mediating effect to judge if the social network variable has only partial mediating effect between the empowerment and the group effect variable, then the second stage Sobel’s t-test (MacKinnon, 2008) to determine if the mediating effects achieved significant.

Table 1 is used “meaning” X_1 and “competence” X_2 of the empowerment as the independent variable; group effectiveness (Y) as dependent variable; the “network centrality” (Z_1), “social solidarity” (Z_2), and “social impact” (Z_3) of the social network as the mediating variable; to view whether the four conditions are satisfied.

The mediating effect verification of the “meaning” of empowerment in social network to group effectiveness, condition 1-holds; condition 2-holds; condition 3-holds; condition 4 does not hold: The effect of group effectiveness from “meaning” of empowerment were still significant, it expresses its complete mediation does not hold but from the analysis found that the coefficient values significantly reduced from 0.862 to 0.132. Therefore, it is necessary to carry out the second stage, use Sobel’s t-test to get on intermediary effect test. While this study uses the multi-directional intermediary verification method of the coefficient multiplication method. This method is a continuation of Sobel (1982) with Preacher and Hayes (2004) one-dimensional approach. The indirect effect variance was estimated by the delta method under a large sample size (MacKinnon et al., 2002), get test value 7.96 and reaching significance level ($P < 0.05$). The multi-directional social network has partial mediating effect in the above path, and it’s normalized path coefficient as shown in Figure 1.

Figure 1 shows that the “meaning” of empowerment has a direct effect on the “network centrality”, “social solidarity”,

“social impact” of social networks and group effectiveness. At the same time, the “network centrality”, “social solidarity” and “social impact” of the social network have significant direct effects on group effectiveness. Therefore, the multi-dimensional social network has an indirect effect on the “meaning” of empowerment with group effectiveness; the indirect effect value is 0.547 calculated by the coefficient multiplication method. The “meaning” of empowerment can influence group effectiveness through multi-dimensional social networks; the total effect of “meaning” of empowerment on group effectiveness is direct effect and add the indirect effect of the multi-dimensional social network, the total effect is 0.718.

The mediating effect verification of the “competence” of empowerment in the social network to group effectiveness, condition 1-holds; condition 2-holds; condition 3-holds; condition 4-holds. Then, using the coefficient multiplication method to calculate the verification value. Substituting the estimate of the non-standardized coefficient and the standard deviation, get the verification value 7.22, reaching significance level ($P < 0.05$). That means the multi-dimensional social network in the “competence” dimension of empowerment with group effectiveness has a fully mediated effect, the standardized path coefficient as shown in Figure 2.

Figure 2 shows that the “competence” of empowerment has a direct effect on the “network centrality”, “social solidarity”, “social impact” of social networks, but the direct effect of “competence” to group effectiveness no significant. At the same time, the “network centrality”, “social solidarity” and “social impact” of the social network have significant direct effects on group effectiveness. Therefore, the multi-dimensional social network has a completely indirect effect on the “meaning” of empowerment with group effectiveness; the indirect effect value is 0.471 calculated by the coefficient multiplication method. The “competence” of empowerment can completely influence the performance of group effectiveness through multi-dimensional social networks.

Figure 1: The “meaning” cognition of employees’ empowerment vs social networks and group effectiveness path coefficient.

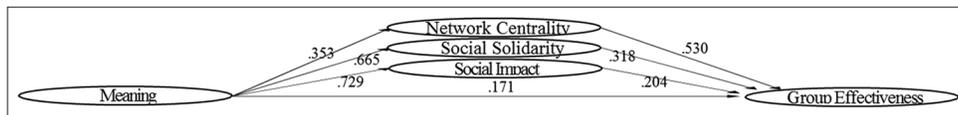
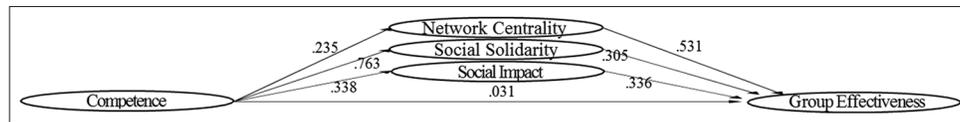


Table 1: Mediating effect summary

First		Second			Third		
$X \rightarrow Y$		$X \rightarrow Z$			Mediating effect		
X	Y	β_1	Z	β_2	X,Z	Y	β_3
Meaning	Empowerment	0.862*	Network centrality β_{21}	0.353*	Network centrality β_{31}	Empowerment	0.408*
			Social solidarity β_{22}	0.620*	Social solidarity β_{32}		0.226*
			Social impact β_{23}	0.806*	Social impact β_{33}		0.160*
					Meaning β_{34}		0.132*
Competence	Empowerment	0.400*	Network centrality β_{21}	0.244*	Network centrality β_{31}	Empowerment	0.409*
			Social solidarity β_{22}	0.856*	Social solidarity β_{32}		0.217*
			Social impact β_{23}	0.344*	Social impact β_{33}		0.263*
					Competence β_{34}		0.025*

*p < 0.05

Figure 2: The “competence” cognition of employees’ empowerment vs social networks and group effectiveness path coefficient diagram

3.5. The Multi-dimensional Social Network on Empowerment and Group Effectiveness in Mediating Effect

This study confirmed that the empowerment cognitive of fitness club employees will directly affect the social network, in which the cognition of “meaning” and “competence” are the important factors influencing the social network positively. The higher the cognition of the “meaning” and “competence” of empowerment, the more the employees understand the meaning of their work, have good professional skills and confidence to complete the task assigned by the company. Then through the frequent interaction of the company colleagues and the supervisor, helpful in information transmission and resource exchange. In the past, scholars have pointed out that the most important thing of the empowerment is to create opportunities, make the employees spontaneously establish informal relations and interactive behavior to builds up the individual social skills. When someone has the stronger social capacity, friendship links will be more, naturally formed a wealth of social capital, virtually inspired the team members a more novel idea, nurture the product or service innovation (Perry-Smith and Shalley, 2003).

Most of the past studies have found that employees’ empowerment awareness has a significant positive impact on employees’ performance and group effectiveness, but the effect is not clear. In this study, the “meaning” and “ability” dimension of empowerment can have a significant indirect effect on the group effectiveness through the multi-dimensional social network. The multi-dimensional social network interaction of employees can play an important mediating effect between empowerment and group effectiveness, and the multi-dimensional mediating effect test is also significant. The indirect effects of group effectiveness to empowerment are higher than the direct effect, indicating the indirect effect of social networks cannot be ignored. The content of the questionnaire shows that the higher the cognition of “meaning” and “competence” of the employees’ empowerment, the greater the sense and the confidence in the work. Means through co-operation with colleagues, contacts and partnerships, can create a positive cooperation team then cultivate a higher faith in group effectiveness, will effectively achieve organizational goals. Therefore, if can strengthen the employee’s social network interaction, the effectiveness of the employee’s group will have a significant enhancing. Most scholars have pointed out that, when the organization use the empowerment to management, provide employees information and knowledge they need while they making decisions, can enhance the cohesion of the organization team and work efficiency (Yen et al., 2009; Hart and Van-Vugt, 2006).

4. CONCLUSION

In the past, the effect of mediating variables was mostly based on the one-dimensional test, which was more difficult to understand the impact of mediating variables. In the present study, the

mediator effect was tested in multi-dimensional ways. Based on the results, suggested that the human resource management must fully authorize management, to enhance employees social network interaction and group effectiveness, in order to create good working performance, to achieve customer satisfaction. The study concluded that the empowerment of the employees in the fitness club shows a medium level of cognition; the social network present a medium-high level of interaction; the group effectiveness shows a medium-high level of cognition. At the same time, the multi-dimensional social network of employees in the fitness club has an important mediating effect between the empowerment and the group effectiveness, and the cognition of employees’ empowerment can be enhanced by enhancing the multi-dimensional social network interaction.

REFERENCES

- Bandura, A. (2006), Guide for constructing self-efficacy scales. *Self-efficacy Beliefs of Adolescents*, 5, 307-337.
- 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.
- Burt, R.S. (2001), Attachment, decay, and social network. *Journal of Organizational Behavior*, 22(6), 619-643.
- Erdogan, B., Enders, J. (2007), Support from the top: Supervisors perceived organizational support as a moderator of leader-member exchange to satisfaction and performance relationships. *Journal of Applied Psychology*, 92(2), 321.
- Erickson, B.H. (1988), The relational basis of attitudes. *Social Structures: A Network Approach*, 99, 121.
- Ferris, G.R., Treadway, D.C., Kolodinsky, R.W., Hochwarter, W.A., Kacmar, C.J., Douglas, C., Frink, D.D. (2005), Development and validation of the political skill inventory. *Journal of Management*, 31(1), 126-152.
- Fukuyama, F. (1995), *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Hart, C.M., van-Vugt, M. (2006), From fault line to group fission: Understanding membership changes in small groups. *Personality and Social Psychology Bulletin*, 32(3), 392-404.
- MacKinnon, D.P. (2008), *Introduction to Statistical Mediation Analysis*. New York: Routledge.
- MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., Sheets, V. (2002), A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7(1), 83.
- Mao, Y.C. (2016), The Relationships among High-Performance Work Systems. Wayne: Leader-Member Exchange, and Employee’s Affective Commitment.
- Meneghel, I., Salanova, M., Martínez, I.M. (2016), Feeling good makes us stronger: How team resilience mediates the effect of positive emotions on team performance. *Journal of Happiness Studies*, 17(1), 239-255.
- Perry-Smith, J.E., Shalley, C.E. (2003), The social side of creativity: A static and dynamic social network perspective. *Academy of Management Review*, 28(1), 89-106.

- Preacher, K.J., Hayes, A.F. (2004), SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments and Computers*, 36(4), 717-731.
- Preacher, K.J., Hayes, A.F. (2008), Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.
- Prell, C., Hubacek, K., Reed, M. (2009), Stakeholder analysis and social network analysis in natural resource management. *Society and Natural Resources*, 22(6), 501-518.
- Robbins, T.L., Crino, M.D., Fredendall, L.D. (2002), An integrative model of the empowerment process. *Human Resource Management Review*, 12(3), 419-443.
- Sobel, M.E. (1982), Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13(1982), 290-312.
- Spreitzer, G.M. (1995), Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal*, 38(5), 1442-1465.
- Spreitzer, G.M. (2008), Taking stock: A review of more than twenty years of research on empowerment at work. *Handbook of Organizational Behavior*, 1, 54-72.
- Tang, C.M. (2011), The risk factors of fitness industry investment in Northern Taiwan as an example. *Journal of Physical Education Fu Jen Catholic University*, 10, 311-328.
- Yen, H.W., Liu, C.H., Niu, Y.Z., Chiou, S.Y. (2009), A study of health promoting work teams group efficacy and related factors in Taiwanese elementary schools. *Journal of Health Education*, 31, 101-127.