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The Role of Psychological Capital and Trust in Individual Performance and Job Satisfaction Relationship: A Test of Multiple Mediation Model

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Abstract

This study investigates the mediating effects of psychological capital and trust on the individual performance and job satisfaction relationship by using bootstrapping method. We test our multiple mediation model with a sample of 260 medical staff, which is composed of doctors and nurses. The bootstrap estimates are based on 5000 bootstrap samples in this study. Results reveal that psychological capital and trust transmit the effect of individual performance to job satisfaction. Both are found as mediators for the relationship between individual performance and job satisfaction. Some suggestions for future research will be offered.

Keywords: Psychological capital, individual performance, trust, job satisfaction, and multiple mediation.

1. Introduction

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, which may leads to the job satisfaction level of such employees. The interest in the relationship between performance and job satisfaction goes back to the Hawthorne studies (Roethlisberger & Dickson, 1939) and the topic still continues to be attractive for the researchers. However, literature has inconsistent findings about the performance-satisfaction relationship. Expectancy based theories of motivation claim that satisfaction follows from the rewards produced by performance (Naylor et. al, 1980; Vroom, 1964). Lawler and Porter (1967) argue that performance would lead to job satisfaction through the provision of intrinsic and extrinsic rewards. They claim that good performance may lead to rewards, which in turn lead to satisfaction. Therefore, there can be some intervening mechanisms in order to explain performance-satisfaction relationship. These intervening variables may be psychological capital and trust. In other words, the mechanisms,

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which tie individual performance to job satisfaction, may be psychological capital and trust. Therefore, this study reexamines the performance-satisfaction relationship by investigating some potential intervening variables such as psychological capital and trust. Bootstrapping method is employed in order to test mediating effects.

The article proceeds in the following order. First, we briefly review the literature regarding individual performance, job satisfaction, psychological capital, and trust. Then, we explain in detail the data collection method, analytical procedures, and hypotheses testing. Finally, the results will be discussed.

2. Individual performance, job satisfaction, psychological capital, and trust relationships

The Performance-satisfaction relationship has been studied for decades. The Hawthorne studies in the 1930s and the human relations movement stimulated interest in the relationship between performance and employee attitudes. Individual performance can be defined as a function of individual ability, skill and effort in a given situation (Porter and Lawler, 1974). Effort is an internal force of an employee, which makes him or her to work willingly in workplaces. Lawler and Porter (1967) claim that performance would lead to job satisfaction through the provision of intrinsic and extrinsic rewards. They claim that good performance may lead to rewards, which in turn lead to satisfaction. Locke (1970) viewed satisfaction as resulting from performance but he explains satisfaction as a function of goal-directed behavior and value attainment (Judge et al., 2001). Therefore, there should be some intervening variables between individual performance-job satisfaction relationships. For instance, Locke (1970) hypothesized that value attainment would moderate the performance-satisfaction relationship; such that performance is satisfying to the extent that it leads to important work values (Judge et al., 2001). Other potential intervening variables may be psychological capital and trust for the individual performance-job satisfaction relationship.

Psychological capital is a manifestation of positive psychological state of individuals, which is a higher-order construct that represents the commonality among the four component dimensions such as self-efficacy, optimism, hope, and resiliency (Luthans & Youssef, 2004; Luthans & Youssef, 2007; Luthans et al., 2008). Luthans et al. (2007b, p. 3) define psychological capital as: “an individual’s positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resiliency) to attain success”. Research reveals that psychological capital generally relates to performance (Avey et al., 2010; Rego, et al., 2010; Walumbwa, et al., 2010; Luthans et al., 2007a). When the performance of the employees increases, this will make them more positive and higher levels of positivity may build an individual’s intellectual, physical, social, and psychological resources to help them cope with challenges in the workplace. Also, when employees perform better, they will have self confidence and attribute more positively about their success now and in the future and their individual motivation will also increase as well. All of these will raise their psychological capital and employees with higher levels of psychological capital will also be more satisfied with their job (e.g.Luthans, et al. 2007a).

Another potential mediator for individual performance-job satisfaction relationship may be trust to management (e.g. Walumbwa, et al., 2011). Trust is based on a cognitive process which discriminates among persons, that are trustworthy, distrusted, and unknown (Lewis and Weigert, 1985). Competence or ability has become one of the more commonly discussed components of trustworthiness (Gabarro, 1978, Mayer et al., 1995, Colquitt et. al., 2007). Competence or ability, which captures the knowledge and skills needed to do a specific job along with the interpersonal skills and general wisdom needed to succeed in an organization (Gabarro, 1978). When employees accomplish ongoing tasks and perform better, they will feel competent and the exchange of knowledge and information sharing with their managers will increase. Also, the higher levels of transparency and disclosures that characterize managers will also promote the development of value-congruence between managers and employees (Walumbwa, et al., 2011). All of these will build trust to the management, which in turn leads to greater job satisfaction since when those in top management, who make strategic decisions and policy changes such as monetary raises, trust employees; employees will feel safe in the organization and their motivation will increase, which leads to higher level of satisfaction as well. Taken these together, the following hypotheses will be tested in this research:

H_1: Individual performance positively affects psychological capital.
H_2: Psychological capital positively affects job satisfaction.
H_3: Individual performance positively affects trust.
H_4: Trust positively affects job satisfaction.

H_5: Individual performance positively affects job satisfaction.
H_6: Psychological capital and trust mediate the relationship between individual performance and job satisfaction.

3. Methodology

3.1. Sample and Data Collection Procedure

Our sample is composed of 260 medical staff, which includes doctors (55%) and nurses (45%). Survey questionnaires were distributed to 330 medical staff, who actively works in hospitals. We received responses from 266 (80% response rate) medical staff. However, some of them were discarded due to the excessive missing data, resulting 260 useable questionnaires. Average age and tenure of the respondents were 29.98 and 6.67 years, respectively and 24 % of the respondents were male.

3.2. Measures

The constructs in our study are developed by using measurement scales adopted from prior studies. All of the survey items, excluding demographic ones were responded to on five-point Likert scales, with anchors ranging from strongly disagree (1) to strongly agree (5).

3.2.1. Psychological Capital

We assessed psychological capital with the scale developed by Luthans et al. (2007b). The Cronbach's alpha coefficient was 0.90. A sample item includes "I feel confident in representing my work area in meetings with management."

3.2.2. Trust

Trust in management is evaluated using a seven-item scale developed by Robinson and Rousseau (1994). This scale was derived from the bases of trust in business relationships identified by Gabarro and Athos (1976). The Cronbach's alpha coefficient was 0.88. A sample item includes "I believe management has high integrity."

3.2.3. Performance

Self-reported performance was measured with four items from Staples et al. (1999). Rego and Cunha (2008) also used this scale in order to evaluate self-reported performance. The Cronbach's alpha was 0.85. A sample item includes "I believe I am an effective employee".

3.2.4. Job Satisfaction

Job satisfaction was measured with the 3-item General Satisfaction scale from the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (MOAQ-JSS) (Cammann, Fichman, Jenkins, & Klesh, 1979). The Cronbach's alpha was 0.70. A sample item includes "All in all I am satisfied with my job".

4. Analyses and Results

We tested a multiple mediation model by using bootstrapping approach, which is suggested by Preacher and Hayes (2008). Bootstrapping, which is introduced by Efron (1979) is a computer based way of estimating standard errors, biases, and confidence intervals. This method allows testing for more than one mediator simultaneously. Therefore, the likelihood of parameter bias due to the omitted variables will be reduced by using this method. On the contrary, when several simple mediation hypotheses are each tested with a simple mediator model, these separate models may suffer from the omitted variables, which can lead to biased parameter estimates (Judd & Kenny, 1981; Preacher and Hayes, 2008). Further, the total indirect effect and the specific indirect effects of independent variable on dependent variable via mediators will be analyzed smoothly by using this approach.

Table 1 provides the means, standard deviations, and Pearson correlations for the measures of psychological capital, trust, individual performance, and job satisfaction. The correlations reveal that job satisfaction was positively correlated with psychological capital (.47, $p < .01$), trust (.50, $p < .01$), and individual performance (.33, $p < .01$). Also, individual performance was positively correlated with psychological capital (.53, $p < .01$), and trust (.21, $p < .01$).

Table 1 Summary Statistics and Correlations

	Variables	M	SD	1	2	3	4
1	Psychological Capital	3.55	0.53	---			
2	Trust	3.43	0.89	0.39**	---		
3	Performance	3.78	0.77	0.53**	0.21**	---	
4	Job Satisfaction	3.21	0.95	0.47**	0.50**	0.33**	---

Note: N =260, **. p < 0.01

The multiple mediation models basically involve two parts. The first one is analyzing the total indirect effect, namely, whether the set of mediators such as psychological capital and trust transmits the effect of individual performance to job satisfaction. The second part is the testing hypotheses regarding individual mediators such as investigating the specific indirect effect associated with each putative mediator. Further, a significant total indirect effect is not a prerequisite for investigating specific indirect effects. It is entirely possible to find specific indirect effects to be significant in the presence of a non significant total indirect effect (Preacher and Hayes, 2008). The total effect (c) of independent variable on dependent variable is the sum of the direct effect (c*) and all of the specific indirect effects ($a_1.b_1 + a_2.b_2$), namely, $c = c^* + a_1.b_1 + a_2.b_2$. The total indirect effect can also be calculated as $c - c^*$.

Figure 1 presents the total effect of individual performance on job satisfaction. Individual performance positively affects job satisfaction (B= .40, p<.05). Therefore, we accept hypothesis 5.

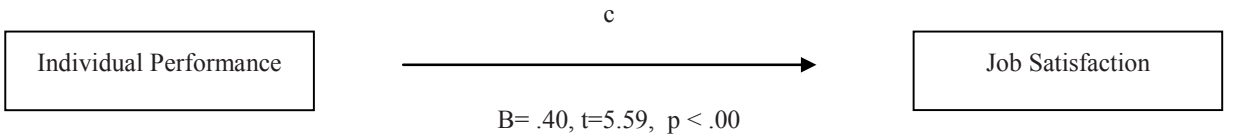

Figure 1: Total effect of individual performance on job satisfaction (c)

Figure 2 shows the unstandardized paths linking individual performance to job satisfaction via psychological capital and trust. Individual performance positively affects psychological capital (B= .36, p<.00), psychological capital positively affects job satisfaction (B= .46, p<.00), individual performance positively affects trust (B= .24, p<.00), and trust positively affects job satisfaction (B= .39, p<.00). Therefore, we accept hypothesis 1, 2, 3, and 4.

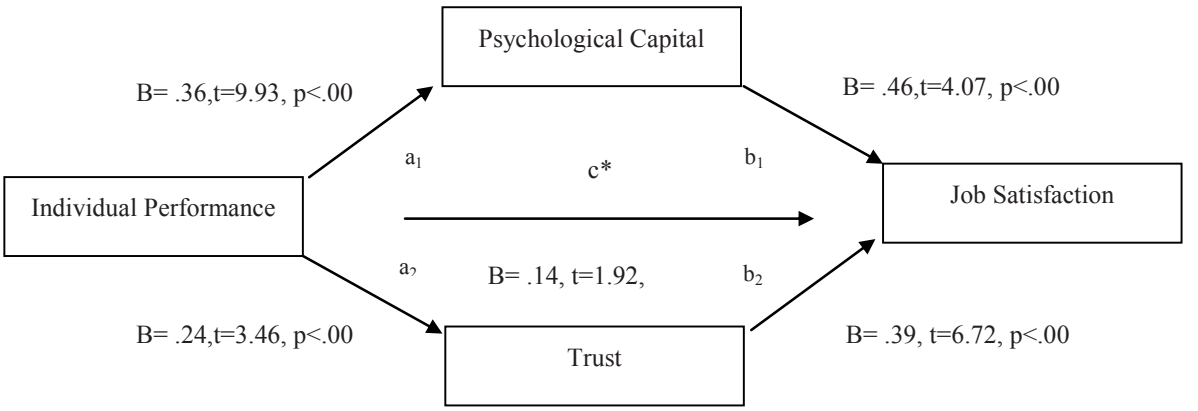

Figure 2: The unstandardized paths linking individual performance to job satisfaction via psychological capital and trust

In multiple mediation models, the researcher is concerned not only with the total indirect effect (.2642, z=4.94, p<.01) of individual performance on job satisfaction, but also with specific indirect effects. The specific indirect effects are a_1b_1 = .1678 (z=3.79, p<.01) (through psychological capital), a_2b_2 = .0964 (z=3.09, p<.01) (through trust). The SEs and critical ratios for these effects are reported in Table 2.

Total effect (c) of individual performance on job satisfaction via trust and psychological capital will be the sum of direct effect (c*=0.1415) and all specific indirect effects ($a_1b_1 + a_2b_2 = 0.2642$), which is equal to 0.4057.

Table 2: Indirect Effects of Individual Performance on Job Satisfaction through Psychological Capital and Trust.

			Product of Coefficients		Bootstrapping BC 95 % CI	
	Point Estimate	Boot	SE	Z	Lower Limit	Upper Limit
Total	.2642	.2620	.0534	4.94**	.1608	.4038
Psychological Capital	.1678	.1664	.0442	3.79**	.0842	.2811
Trust	.0964	.0956	.0312	3.09**	.0446	.1665
C_1	.0714	.0708	.0549	1.30	-.0427	.1805

C_1 = Contrast of the two indirect effects, SE= Standard error, **. $p < 0.01$, BC= Bias Corrected Confidence Intervals, 5000 bootstrap samples.

We bootstrapped the indirect effects of individual performance on job satisfaction in this study. The bootstrap estimates presented in Table 2 are based on 5000 bootstrap samples. 95% Bias Corrected bootstrapped Confidence Intervals are also reported in Table 2. We are analyzing if zero (0) lies within the interval range, namely, we are investigating whether it is possible (with 95% confidence) that the true indirect effect would be zero (basically, no mediation).

Table 2 reveals that the true total indirect effect is 95% likely to range from .1608 to .4038 and the estimated effect is .2620, which is lying in between these two values. Because zero does not occur between the lower and upper limits, we can conclude that the total indirect effect is significant. True indirect effect via psychological capital is 95% likely to range from .0842 to .2811 and the estimated effect is .1664, which is lying in between these two values. The indirect effect for psychological capital is significant as well since zero does not occur between the lower and upper limits for psychological capital. Finally, true indirect effect via trust is 95% likely to range from .0446 to .1665 and the estimated effect is .0956, which is lying in between these two values. The indirect effect for trust is also significant since zero does not occur between the lower and upper limits for trust. However, the two indirect effects cannot be distinguished in terms of magnitude since zero is contained in the interval for C_1. Therefore, we accept hypothesis 6.

All in all, the interpretation of these results is that, taken as a set, psychological capital and trust do mediate the effect of individual performance on job satisfaction. The total and direct effects of individual performance on job satisfaction are 0.4057, $p < .01$ and 0.1416, $p < .06$, respectively. The difference between the total and direct effects is the total indirect effect through the two mediators, with a point estimate of .2642 and a 95% BC bootstrap CI of 0.1608 to 0.4038. The directions of the a and b paths are consistent with the literature that greater individual performance leads to greater psychological capital, and trust, which in turn leads to greater job satisfaction. An investigation of the specific indirect effects reveals that both psychological capital and trust are mediators, since their 95% CI does not contain zero. Also, examination of the pairwise contrasts of the indirect effects indicates that the two indirect effects cannot be distinguished in terms of magnitude.

5. Discussion

This study analyzed the mediating effects of psychological capital and trust on the relationship between individual performance and job satisfaction. Because the hypothesis of mediation by multiple potential mediators was entertained, we used the multiple mediation method as an appropriate strategy. Further, bootstrapping method is applied in order to test our mediation model. Results show that psychological capital and trust are mediators for the

relationship between individual performance and job satisfaction. In other words, psychological capital and trust transmit the effect of individual performance to job satisfaction. The results are in line with previous literature that greater individual performance leads to greater psychological capital (e.g. Luthans, et al. 2007, Walumbwa, et al., 2010, Rego, et al., 2010) and trust (e.g.Walumbwa, et al., 2011), which in turn leads to greater job satisfaction (e.g.Luthans, et al. 2007). When employees perform better; they will have self confidence and attribute more positively about their success now and in the future, they will feel competent and the exchange of knowledge and information sharing with their managers and also their motivation will increase, which result with higher job satisfaction. Also, high performance of the individuals may cause the increase of managers' trust to their subordinates due to the success at work. Then this might increase the quality of manager-subordinate relationship and leads the subordinates to consider his or her manager as helping him whenever necessary and being a mentor in tough times. All of these may increase the job satisfaction level of subordinates.

As a practical implication, to enhance psychological capital and trust; effective leaders or managers need to find ways to increase individual performance such as sharing information, involving employees in the decision-making process, and in general be ethical, open, and truthful in their dealings with his or her employees, which in turn lead to higher levels of satisfaction.

Although this study makes a number of contributions to the extant literature, there are some limitations that should be considered in order to properly interpret the findings. First, our study has cross-sectional nature and this prevents us to test more complicated relationships (e.g. recursive relationships). Therefore, we invite future researchers to analyze our hypotheses in a longitudinal study, which will reveal that how performance, psychological capital, trust, and job satisfaction relationships will change over time. Future research with cross sectional and longitudinal data is necessary to confirm and generalize our findings. Another limitation is that our respondents in this study came from healthcare industry, which may have unique characteristics not found in other organizations. Thus, there is a need for replication of our study in other samples and cultures for the generalizability of the findings. Also, there can be some other intervening variables for the performance-satisfaction relationship such as pay-performance contingency, job complexity, and self-esteem. We invite future researchers to investigate such potential relationships.

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