

# Small and Medium Business Workers' Positive Psychological Capital, Life Satisfaction, and Innovative Work Behavior

Hoe-Chang Yang\*, Hee-Young Cho\*\*

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## Abstract

**Purpose** – This study aims to measure the influence of the positive psychological capital (PPC) of business workers by using innovative work behavior (IWB) and the influence of Leader–member exchange (LMX) and Member–member exchange (MMX) in this relation and investigating the directional efforts of small and medium company leaders and members.

**Research Design, Data, and Methodology** – This study selects PPC as an integrated superior concept to establish research models and hypotheses of the influence of PPC on IWB, and the influence of LMX and MMX in these relations. Of the questionnaires distributed, 373 valid questionnaires were collected in total.

**Results** – It was confirmed that the PPC of workers has a statistically significant influence on LMX, MMX, and IWB. Moreover, LMX and MMX have similar influence on worker life satisfaction with life satisfaction and innovative work behavior having different dimensions.

**Conclusion** – To enhance IWB, worker PPC is very important as it has significant influence on the relations with leaders. However, it is also notable that positive relations with colleagues did not influence IWB.

**Keywords:** Positive Psychological Capital(PPC), Life Satisfaction, Innovative Work Behavior(IWB), Leader–Member Exchange(LMX), Member–Member Exchange(MMX).

**JEL Classifications:** L10, L29, M10, M12, N35.

## 1. Introduction

According to the material reported from the Small and Medium Business Administration in 2015, 3,415,863 small and

medium businesses exist in our country to be 99.9% of total companies(3,130 large companies, 0.1%) and the number of workers is 13,421,594(87.5%) which shows overwhelming portion compared to the number of workers in large companies which is 1,923,266(12.5%).

However, small and medium businesses in our country have decreasing production scale and reducing average operating rate due to the economic recession of major global nations. Main export items such as semi-conductors, computers, and other IT items have showed continuous increasing rate, but the export on these items are also currently on a downturn due to change of various external situations. There may be several causes for these problems that small and medium businesses in our country are facing such as weak financial structure compared to large companies, decline of production caused by not obtaining competitive technology, high cost due to inefficient work process methods, structural issues of low efficiency, but the most noticeable reason is that the environmental change of 21st century companies was not quickly corresponded(Son, 2009).

Various papers related to technology innovation for small and medium businesses to enter new markets and gain competitive advantage (Becheikh et al., 2006; Lim & Sin, 2012; Park & Lee, 2012; Park et al., 2012) and several research papers related to finance·accounting(e.g., Sin, 2011) are being reported, but research on the works of small and medium businesses is lacked. The reason why this paper focuses on workers of small and medium businesses and the relation between them is because the main subjects of innovation and technology development for small and medium businesses to survive are the workers of small and medium businesses.

Therefore, this study excludes the aspect of researches that focus on improving the attitude and behavior of members pointed out in organizational behavior until now(e.g., Luthans, 2002; Stajkovic, 2006) and aims to approach to POB(positive organizational behavior) which is a new flow of understanding the motivation improvement of positive aspects that can be managed and developing strong points of organization members.

In this study, based on various researches that assert that development of POB is needed along with human and social

\* First Author, Assistant Professor, Dept. of Distribution Management, Jangan University, Korea. E-mail: pricezzang@naver.com,

\*\* Corresponding Author, Adjunct Professor, Dept. of Distribution Management, Jangan University, Korea. E-mail: imarketinghy@paran.com.

capital to gain continuous competitive advantage in uncertain environments (Avolio & Gardner, 2005; Gooty et al., 2009; Luthans et al., 2004), the influence of positive psychological capital of small and medium company workers on satisfaction of personal lives and innovational behavior for organization development was to be looked into. Also because small and medium businesses are relatively smaller sized than large companies, the influence of LMX (Member-Exchange) relation and MMX (Member-Exchange) relation on positive psychological capital, satisfaction of life, and innovational behavior was to be looked into.

## 2. Literature Review

Positive psychological capital systemizes features that are differently shown in people and is understood as a concept of capital (Luthans et al., 2004) in which it means positive psychological status that allows development of organization members (Luthans et al., 2007). Positive psychological capital uses positive psychological advantages on given environment for progressive thought and behavior in which development is possible by improving results. Thus, improvement of results can be measured, development is possible, and application of positively oriented organization member advantages and psychology capability is possible. Luthans et al. (2004) said that relationship networks by demand of cooperation and human capital such as experience · knowledge · technology · information-idea becomes significant capital rather than conventional capital in which positive psychological capital, a one step expanded concept, means maximum potential for an individual to actualize. To enhance scientific validity of positive psychological capital, Luthans et al. (2007) introduced the psychological resource theory by Hobfoll (2002). Psychological resource theory points out the importance of competence and resource gained by the organization in which continuous competitive advantage of firms not only takes base from encountering opportunities, but also from unique firm-specific resources and competence that other firms have difficulty in following (Hobfoll, 2002).

The theory on leader-member exchange relation was first proposed by Dansereau et al. (1975) in which he asserted that leaders and members have different level of exchange relation that exchange relation composes VDL (Vertical Dyad Linkage). Graen & Uhl-Bien (1995) proposed the development process of LMX research in 4 steps. Specifically, dual relation distinguished from individuals is confirmed in step 1 (VDL), characteristics of exchange relation is understood in step 2 (LMX), the leader checks if organization members can be development into a companionship relation in step 3 (LM; Leadership-Making), and individual relation is expanded into a system or in-organization network level (TCN; Team-making Competence Network) (Graen & Uhl-Bien, 1995).

The leader in an organization must full responsibility to create outcomes for the group, receiving restriction of resources such

as time and ability is inevitable (Dansereau et al., 1975) that a close and unofficial relation with an in-group among members is formed and important duties are given to them. High-level information and feedback that helps duty of in-groups is provided and it is practical that out-groups are controlled by official rights, institutions, or rules (Dansereau et al., 1975). Even in study results of many researchers (e.g., Howell & Hall-Merenda, 1999; Liden et al., 1993; Yukl, 1994), it is said that members with high quality LMX have smooth communication with leaders, develop relation, trust, respect with leaders, receive challenging tasks, gain much responsibility, and rights, and the leader actively gives help to those members.

This study focuses not only on leader-member exchange relation (LMX), but also that member-member exchange relation (MMX) should have the same effect. It is because the higher the quality of LMX, leaders provide various privileges to members such as compensation, promotion, mental composure, and support in which higher quality MMX provides higher possibility of positive working attitude, mental composure, and various relational privileges.

Life Satisfaction is a factor of subjective stability which is an ultimate result of human experience (Andrew, 1974) and includes inclusive assessment of one's life (Lent & Brown, 2008). Havighurst et al. (1968) defined satisfaction of life as emotional satisfaction on current position and activity and Neugarten et al. (1961) defined satisfaction of life as feeling joy from everyday activities, feeling achievement of one's goal, considering oneself as a valuable person with positive ego despite current weakness, and maintaining optimistic attitude and emotion.

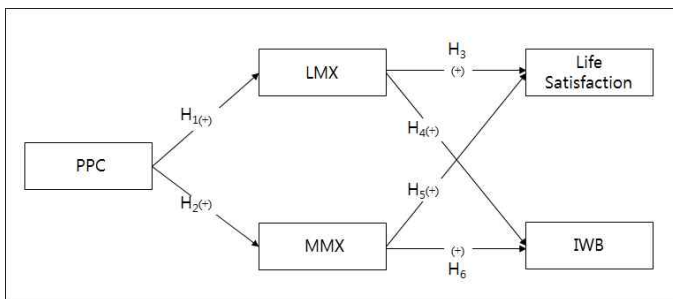
Innovative work behavior is the variable that best shows personal level innovation in which it is the activity of actualizing ideas made in different methods and supported by others with purpose to improve one's work or results of one's department, organization (Janssen, 2000; Scott & Bruce, 1994; West & Farr, 1990). Therefore innovative work behavior is distinguished with innovation of organization level at the fact that individual members have leading role (Damanpour, 1991) and is different from creativity (Scott & Bruce, 1994).

## 3. Research Model and Hypotheses

This study aimed to check the influence of individual, developable positive psychological capital of small and medium business members on satisfaction of personal life and innovative work behavior, and also aimed to check the role of leader exchange relation and exchange relation between members in this relation. Especially because the degree of satisfaction of life that members recognize are in psychological state to be differently sensed in one's life environment and level as a subjective region among life quality regions, recognition on degree of satisfaction of personal life can have influence on innovative work behavior. On one hand, innovative work behavior can be actual-

ized by receiving recognition of personal ideas from others that tendency of institutionalization based on this support is shown(Kanter, 1988; Scott & Bruce, 1994). Also, individuals aiming innovative work behavior not only aim to improve current work environment, but is also known to have high possibility to be spreaded from individual aspect to groups.(Parker et al., 2006).

On one hand, positive psychological variables in individual level are self-efficacy, hope, optimism, restoring force which received much interest from many researchers(Bandura, 1997; Luthans & Jensen, 2002; Luthans et al., 2007; Snyder, 2000), but there is effort to integrate these four variables into one superior concept(Luthans et al., 2007; Stajkovic, 2006) because they are all related to cognitive condition for work, goal achievement and tendency of motivation that form of positive contribution on result variable is similar. This study selects positive psychological capital as an integrated superior concept to establish structural research models and hypotheses of the influence of positive psychological capital of small and medium company members on innovative work behavior, and the influence of LMX and MMX in these relations. On the basis of the preceding studies above, research models and hypotheses were established as follows.



Note: PPC: Positive Psychological Capital, LMX: Leader-Member Exchange, MMX: Member-Member Exchange, IWB: Innovative Work Behavior.

<Figure 1> Research Model and Hypotheses<sup>1)</sup>

- <Hypothesis 1> Positive psychological capital(PPC) shall have positive influence upon leader-member exchange(LMX).
- <Hypothesis 2> Positive psychological capital(PPC) shall have positive influence upon member-member exchange(LMX).
- <Hypothesis 3> Leader-member exchange(LMX) shall have positive influence upon life satisfaction.
- <Hypothesis 4> Leader-member exchange(LMX) shall have positive influence upon innovative work behavior(IWB).
- <Hypothesis 5> Member-member exchange(LMX) shall have positive influence upon life satisfaction.

1) There are not showed the hypothesis of mediating effect of LMX(H<sub>7</sub>,H<sub>8</sub>) and MMX(H<sub>9</sub>,H<sub>10</sub>)

- <Hypothesis 6> Member-member exchange(LMX) shall have positive influence upon innovative work behavior(IWB).
- <Hypothesis 7> Leader-member exchange(LMX) shall mediated the relationship between positive psychological capital and Life satisfaction.
- <Hypothesis 8> Leader-member exchange(LMX) shall mediated the relationship between positive psychological capital and innovative work behavior(IWB).
- <Hypothesis 9> Member-member exchange(MMX) shall mediated the relationship between positive psychological capital and Life satisfaction.
- <Hypothesis 10> Member-member exchange(MMX) shall mediated the relationship between positive psychological capital and innovative work behavior(IWB).

## 4. Methodology

### 4.1. Methods and Data Collection

To conduct this study, a survey was carried out SEM members of the Seoul and Metropolitan Area. A total of 373 valid questionnaires were collected and utilized for analysis. Frequency analysis, descriptive statistic analysis, correlation analysis, simple regression analysis, multiple regression analysis, 3-step mediated regression analysis (Baron & Kenny, 1986), and structured equation modeling(SEM) for path analysis were conducted using SPSS 19.0 and AMOS 19.0.

The demographic characteristics of the participants are presented in <Table 1>.

<Table 1> Demographic characteristics

Variables	Sub-variables	Frequency	Percent (%)
Gender	Male	317	85.0
	Female	56	15.0
Age	less than 30	46	12.3
	30-35	162	43.4
	36-40	93	24.9
	41-50	68	18.2
	more than 50	4	1.2
Continuous service year	less than 3 years	98	26.3
	4-10	186	49.9
	more than 10 years	89	23.8

The following self-report measures were used. Specifically, positive psychological capital was measured 24 items, likert 6-point scale based on Luthans & Youssef(2007). LMX and MMX was measured each 7 items, based on Graen &

Uhl-Bien(1995). Life satisfaction was measured 5 items, likert 7-point scale based on Diener et al.(1985). And innovative work behavior was measured 4 items, likert 5-point scale based on Scott & Bruse(1994), Janssen(2003) and Kleysen & Street(2001).

4.2. Reliability and Validity of Measurement Scale

To find out if measurement items are internally consistent, reliability was verified using Cronbach  $\alpha$ . Nunnally(1978) argued that if Cronbach  $\alpha$  is over 0.7, it is considered reliable. In this respect, the reliability of variables in this study was found to be 0.871~0.913. As a result of confirmatory factor analysis to verify validity of variables, all variables' AVE are over than 0.5 to confirm validity.

<Table 2> Reliability and Validity

	first item	final item	Cronbach's $\alpha$	Construct reliability	AVE
PPC	24	17	0.913	0.948	0.521
LMX	7	7	0.877	0.885	0.527
MMX	7	7	0.901	0.933	0.665
Life satisfaction	5	4	0.901	0.830	0.551
IWB	4	4	0.871	0.918	0.739

5. Empirical Analysis

Correlation analysis was done to investigate relations and direction of the variables (See <Table 2>).

<Table 3> Results of Correlation analysis(n=373)

	1	2	3	4	5
1. PPC	(0.521)				
2. LMX	0.352**	(0.527)			
3. MMX	0.398**	0.396**	(0.665)		
4. Life satisfaction	0.374**	0.412**	0.405**	(0.551)	
5. IWB	0.570**	0.321**	0.293**	0.255**	(0.739)
Mean	3.59	17.86	21.97	3.47	3.45
Standard Deviation	0.52	5.22	4.57	1.20	0.65

Note: \*\*  $p < .01$ , AVE marked in ( ).

The demographic variables were controlled such as gender, age and continuous service year for the verification of the direct effect and the regression analysis was performed. According to its result, positive psychological capital had statistically significantly positive influence upon LMX( $\beta=0.344, p < .01$ ), and

MMX( $\beta=0.378, p < .01$ ), respectively. Therefore, hypothesis 1 and hypothesis 2 was adopted. LMX had statistically significantly positive influence upon life satisfaction( $\beta=0.399, p < .01$ ), and innovative work behavior( $\beta=0.283, p < .01$ ), respectively. Therefore, hypothesis 3 and hypothesis 4 was adopted. Also, MMX had statistically significantly positive influence upon life satisfaction( $\beta=0.392, p < .01$ ), and innovative work behavior( $\beta=0.246, p < .01$ ), respectively. Therefore, hypothesis 5 and hypothesis 6 was adopted, too.

Multiple regression analysis was done with control of same demographic variables to verify which factor such as LMX and MMX had more significant influence upon life satisfaction and innovative work behavior, in order to LMX( $\beta=0.296, p < .01$ ) and MMX( $\beta=0.280, p < .01$ ) had significantly positive influence upon life satisfaction. Also, in order to LMX( $\beta=0.224, p < .01$ ) and MMX( $\beta=0.162, p < .01$ ) had significantly positive influence upon innovative work behavior.

The result of the 3 step mediated regression analysis proposed by Baron & Kenny (1986) was performed among the independent variables for the verification of the LMX and MMX's mediation effect has been presented in <Table 4>. LMX was partial mediated between positive psychological capital and life satisfaction, and innovative work behavior, respectively. However, MMX was only partial mediated between positive psychological capital and life satisfaction. Therefore, hypothesis 7, hypothesis 8 and hypothesis 9 was supported, respectively. However hypothesis 10 was not supported.

<Table 4> Results of mediation effects

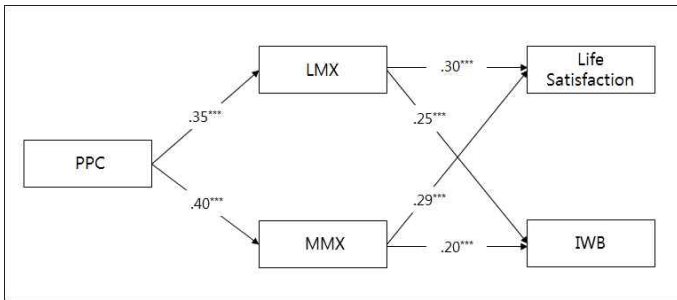
Mediating variable	Dependent variable	Step	Result ( $\beta$ )	R <sup>2</sup>	F
LMX	Life satisfaction	1( $\beta_1$ )	.334**	.259	25.660***
		2( $\beta_2$ )	.358**		
		3( $\beta_3, IV$ )	.252**		
		3( $\beta_4, MV$ )	.318**		
	IWB	1( $\beta_1$ )	.334**	.363	41.866***
		2( $\beta_2$ )	.546**		
3( $\beta_3, IV$ )		.506**			
	3( $\beta_4, MV$ )	.121**			
MMX	Life satisfaction	1( $\beta_1$ )	.378**	.245	23.770***
		2( $\beta_2$ )	.358**		
		3( $\beta_3, IV$ )	.244**		
		3( $\beta_4, MV$ )	.301**		
	IWB	1( $\beta_1$ )	.378**	.353	39.963***
		2( $\beta_2$ )	.546**		
		3( $\beta_3, IV$ )	.528**		
		3( $\beta_4, MV$ )	.050n.s		

note: \*\*  $p < .01$ , \*\*\*  $p < .001$ , Independent variable(IV): positive psychological capital.

We proposed three-step results of R<sup>2</sup> and F-value.

And, path analysis was performed for which path affected among variables showed in <Figure 2>.

The verification result is as follows: The effect of positive psychological capital on LMX( $\gamma = .352, p < .001$ ) and MMX( $\gamma = .398, p < .001$ ) was statistically significant, respectively. And, the effect of LMX on life satisfaction( $\gamma = .305, p < .001$ ) and innovative work behavior( $\gamma = .246, p < .001$ ) was statistically significant, respectively. Also, the effect of MMX on life satisfaction( $\gamma = .293, p < .001$ ) and innovative work behavior( $\gamma = .199, p < .001$ ) was statistically significant, respectively.



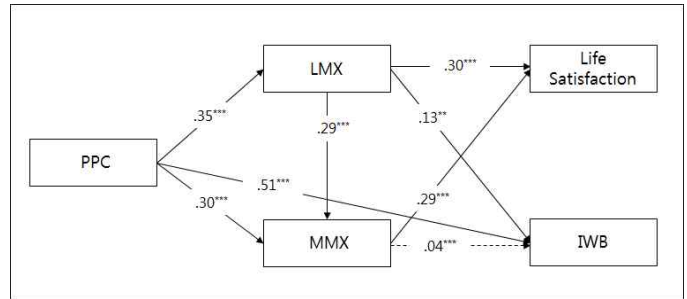
note \*\*\*  $p < .001$

<Figure 2> Results of Path analysis

However, according to the verification result of the suitability of this model, the values were  $\chi^2 = 151.524, d.f = 4, p = .000, GFI = .864, AGFI = .490, NFI = .640$  and  $RMR = .138$  etc and they did not reach each suitability index proposed. It was known about this result that after proposing a modified model which can enhance the suitability of the study model using the Modification Index(MI) proposed by Jöreskog & Sörörom(1981), the improvement level of the modified model can be verified through the comparison with the original model or composition of additional route, input of additional variable or replacement of variables which apply theoretical ground will be needed.

Theoretical basis of self-valence from Farr & Ford(1990) who conducted research on influence on innovative work behavior and research of Scott & Bruce(1994) proposing that individual characteristics has influence on innovative work behavior, and through situational basis that positive influence may effect relation with colleagues when exchange relation with leaders is close, additional route was set in the "PPC  $\rightarrow$  IWB" and "LMX  $\rightarrow$  MMX" which were modified routes proposed in the modification index.

The verification result of the suitability of modified model, the values were  $\chi^2 = 14.985, d.f = 2, p = .001, GFI = .984, AGFI = .883, NFI = .964$  and  $RMR = .044$  etc and they reached each suitability index proposed. Also as result of analyzing additional routes to check if satisfaction of life influences innovative work behavior, it was confirmed that satisfaction of life( $\gamma = -.005, n.s$ ) is not statistically significant to innovative work behavior.



Note: \*\*  $p < .01, *** p < .001$

<Figure 3> Results of modified path analysis

## 6. Discussions and Summary

This study aimed to check the influence of positive psychology capital of workers by setting innovative work behavior as important personal factors to gain competitiveness in small and middle company aspect. Also, the influence of LMS and MMX in this relation was checked to search clues for the direction of small and middle company leaders and members to put effort in.

As result of analysis, the following implications were deducted.

First, it was confirmed that positive psychological capital of workers has statistically significant influence on LMX, MMX, and IWB. Especially, it was confirmed that positive psychological capital has most influence on innovative work behavior of workers. This result implies that various strategies can be used by small and medium businesses. This is because positive psychological capital is not only a superior core factor composed of multi-dimensional factors such as self-efficacy, hope, recuperative power, and optimism(Bandura, 1997; Luthans et al., 2007; Snyder, 2000), but also can have state-lie change by learning or training. Therefore as Luthans et al.(2007) restricted, high goal must be set, difficult work should be voluntarily chosen, and support must be given for self motivation in which firm and personal effort is required to enhance self-efficacy of members. Also, giving hope to members will also become a very important strategy by giving clarity in task execution and goal establishment, establishing realizable plans, and fulfilling goals. Optimism is strong belief that various difficulties and failures will become ultimately better in the future(Seligman, 1998) that small and medium company leaders must put effort in giving confidence to member that current situations will become much better in the future. According to Luthans et al.(2004), recuperative power does not mean going back to the past condition, but means higher level by finding meaning of values of life and higher results than before. In this aspect, it is implied that effort such as participating and sharing information on vari-

ous situations occurring in small and medium businesses can become significant factors in overcoming current difficulties or failures.

Second, it could be known that LMX and MMX has similar influence in satisfaction of life of workers and that satisfaction of life and innovative work behavior are different in dimensions. Therefore various systems that can improve positive relations between members along with leaders should be built to increase satisfaction of life of workers. Especially in case of small of medium company leaders, it is implied that much effort is needed for organizations not to be divided into in-groups and out-groups.

Third, it was known that workers must enhance their own positive psychological capital to increase satisfaction of life and that the relation with leaders and members must be positively maintained/developed. However to enhance innovative work behavior, positive psychological capital of workers is very important as it has much influence on the relation with leaders, but it must be known that positive relation with colleagues does not have influence on innovative work behavior. This means that positive relation between colleagues has high possibility to be restricted to personal relations. Therefore, firms should put effort in linking enhancement of positive relation between colleagues with circle activities and production.

General limitations of this study were not proposed.

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