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An Examination of Self-Leadership Performance Mechanism Model in Thai Private Organization

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The objective of this study was to examine self-leadership performance mechanism model by analyzing the relationship between self-leadership, psychological empowerment, self-efficacy, job satisfaction, and job performance. The samples were 577 employees from one private company in Bangkok. Data collection was done through questionnaires and data acquired from questionnaires were analyzed by using structural equation modeling analysis. Study results showed that the measurement model of self leadership which had a second-order factor structure was retained as the best fit model with data collected from the samples, and was better than other measurement models. In addition, the relationship model between latent variables of self-leadership, psychological empowerment, self-efficacy, job satisfaction, and job performance were tested well by the researcher as the best fit model with data collected from the samples; in which self leadership directly affected psychological empowerment, self-efficacy and job performance, and indirectly affected job performance.

Keywords: self-leadership, psychological empowerment, self-efficacy, job satisfaction, job performance, self-leadership performance mechanism model

Nowadays, private companies –both overseas and in Thailand, must meet the challenge of changing work environment; i.e., organization's needs of competitive efficiency by means of cost reduction and continuous improvement of work efficiency. In addition, the nature of a higher-education workforce means that these employees desire more challenging, more meaningful and more valuable works; and need to be empowered to lead themselves (Pearce & Manz, 2005, p. 132). This challenge causes organizations to be inclined to utilize the capacity of employees at all levels to lead themselves –through self-leadership.

Self-leadership (Manz, 1986; Manz & Neck, 2004) is the process by which a person controls own behaviors, creates influence and leads oneself using specific behavioral and cognitive strategies. It is the process a person uses for self-direction and self-motivation necessary to complete a mission successfully. A person with self-leadership

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in this concept will use behavioral strategies to motivate/encourage the positive behaviors and to curtail the negative behaviors that affect success at work. Of constructive thought pattern strategies, a person will assess his thought to reflect on oneself whether his own beliefs and assumptions are positive; as well as using a mental imagery (visualizing successful performance) and self-talks.

The concept of self-leadership originated from the article by Manz and Sims (1980) concerning self-management. Subsequently, this concept was further developed in various articles and literature on management and leadership disciplines; thus, prompting more executives/managers in private sector to apply this concept to practice and develop their employees (Neck & Houghton, 2006, p. 271). The present concept of leadership divides self-leadership into three categories (Neck & Houghton, 2006) –of which each strategy comprises components aimed at employees to perform in order to build self-direction successfully:- 1) behavioral-focused strategies: comprising self-observation, self-goal setting, self-reward, self-punishment, and self-cueing. 2) natural reward strategy: with a single component of focusing thoughts on natural rewards building. 3) constructive thought pattern strategies: comprising identification and replacement of false self-assumptions, creating mental-imagery, and self-talks.

Neck and Houghton (2006) has proposed the self-leadership performance mechanism model to explain self-leadership processes and outcome, by combining variables related to self-leadership strategies. These variables affect performances at individual, team, and organization levels, of which the variable that produces improved performance is self-leadership of employees.

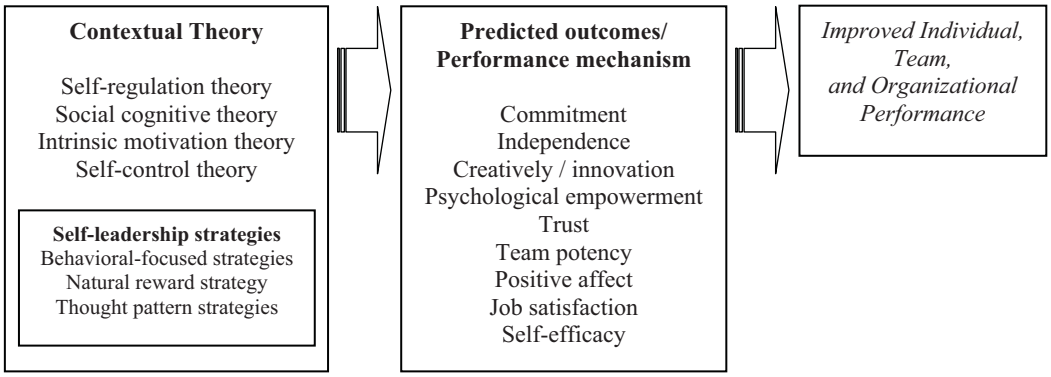

Figure 1. Self-Leadership Performance Mechanism Model.

The diagram above depicts a model in which self-leadership is the cause of various predictable outcomes; a process that leads to improved performance behaviors of employees at all levels. Those outcomes may include organizational commitment, independence, creativity, psychological empowerment, trust, team potency, positive affect, job satisfaction or self-efficacy, etc. Nevertheless, the above model is a hypothesis that Neck & Houghton had synthesized to explain the importance of self-leadership through an array of related variables. Consequently, for one to apply the theory and concept mentioned into practice, a study by means of empirical data in the cultural context and the researcher's work context is necessary to test whether the model is valid and can be accordingly applied to personnel development.

From that reason, the researcher is interested in testing the structural relationship of self-leadership performance mechanism model's variables in the context of Thai private organization. The result would be to investigate the validity of self-leadership concept and related variables; and whether they are in consonance with work context of Thai society. Lastly, the role of self-leadership on the performance process can be applied to construct guidelines of self-leadership development for Thai employees.

Literature Review

Self-efficacy

Self-efficacy is the state in which a person believes that they possess the ability to succeed in specific behaviors. Such beliefs influence what we evaluate as a challenge to our abilities, how much effort and perseverance is necessary and how long persistence is needed to endure difficulty (Bandura, 1982; cited in Prussia, Anderson, & Manz, 1998, p. 527). There are many studies that tested components of self-leadership in individual and found that those components influence self-efficacy. For instance, Bandura & Cervone (1986; cited in Prussia, Anderson, & Manz, 1998, p. 526) found that after the targeted standard had been established, a person with high self-efficacy would increase their effort to achieve that target, whereas a person with low self-efficacy would not do that. In addition, Gist (1989; cited in Prussia, Anderson, & Manz, 1998, p. 526) found that the inclusion of cognitive modeling into training results in higher level of self-efficacy in trainees than those who were exposed to lecture training only.

Many empirical research papers identify a concrete relationship between self-efficacy and subsequent outcomes. For instance, researchers have linked or studied self-efficacy and success at job applications (e.g., Kanfer & Hulin, 1985; Rife & Kilty, 1990), increased attention on work (e.g., Frayne & Latham, 1987; Latham & Frayne, 1989), increased work behaviors (e.g., Barling & Beattie, 1983; Lee & Gillen, 1989; Mathieu, Martineau, & Tannenbaum, 1993) and study accomplishment (Relich, Debus, & Walker, 1986; e.g., Multon, Brown, & Lent, 1991). From these aforementioned research results, it can be seen that the positive influences of self-efficacy on various outcomes have been clearly documented and supported by empirical research (Prussia, Anderson, & Manz, 1998, p. 526).

Job satisfaction

Ivancevich et al. (1997, p. 91) defined job satisfaction as the attitude a person has concerning job; which is the result of perception of job they perform, including the degree of cohesion between individual and organization. The study by Cohen et al. (1996) found that self-management leader behavior according to the concept of Manz and Sims (1987) [self-management, self-rehearsal and self-criticism] has positive influence on job satisfaction. But in consideration of the self-management measurement scale of Manz and Sims (1987) comprising components of self-observation, self-goal setting, rehearsal and habitual self-punishment patterns –which were identical to the self-leadership measurement scale of Manz (1992) on behavioral-focused strategy; it is thus reasonable to state that self-leadership is the predictor of job satisfaction. (Politis, 2006, p. 205)

There are empirical researches on job satisfaction that indicate a solid correlation between job satisfaction and subsequent outcomes. In the work of Politis (2006) – examining relationship between behavioral-focused strategy dimension of self-leadership, job satisfaction and teamwork –and whether job satisfaction mediates the influence of behavioral-focused strategy dimension of self-leadership on teamwork. The findings were that: 1) there is a direct relationship between behavioral-focused strategy dimension of self-leadership and job satisfaction, which is positive and statistically significant, 2) the relationship between job satisfaction and teamwork is positive and

statistically significant, and 3) a clear result that job satisfaction mediates the relationship between behavioral-focused strategy dimension of self-leadership and teamwork.

Psychological empowerment

Psychological empowerment is not about management practices of sharing power to employees at all levels, but is about how employees experience empowerment at work –in view of psychological empowerment, with reference to empowerment as individual beliefs that employees have on their own roles related to the organization (Spreitzer, 1995, 1996; Thomas & Velthouse, 1990; cited in Houghton & Yoho, 2005, p. 66). Self-leadership is often proposed as an effective mechanism that facilitates empowerment (Houghton & Yoho, 2005, p. 68). For example, Shipper and Manz (1992) presented in the W.L. Gore and Associates case study that self-management techniques and self-leadership are the critical focus of empowerment in an organization. As did Manz (1992), who stated that self-leadership skills is the essence of the empowerment process and is crucial for employees to succeed at performing work with autonomy.

The work of Prussia et al. (1998) shows a statistically significant relationship between self-leadership behaviors and self-efficacy, by which self-efficacy mediates fully the relationship between self-leadership and work performance. Empowerment not only affects employees' attitudes, but also affects job performance (e.g., management effectiveness and job performance of employees) and work behaviors (e.g., innovation, upward influence, and inspiration to others). And research papers on empowered teams also found positive outcomes: the more empowered team had improved work process, the better quality of goods and services, and also better satisfied customers. Moreover, empowered teams are more proactive with less resistance to changes, have job satisfaction and a sense of commitment to team and organization.

Conceptual Framework

In this study, the researcher tests the relationship among variables in the self-leadership performance mechanism model; by assigning self-leadership as an exogenous variable that is a causal variable of predictable outcomes or performance mechanisms, which are mediators: psychological empowerment, self-efficacy, and job satisfaction.

These mediators will lead to end result of job performance. The research model can be explained by the following figure:

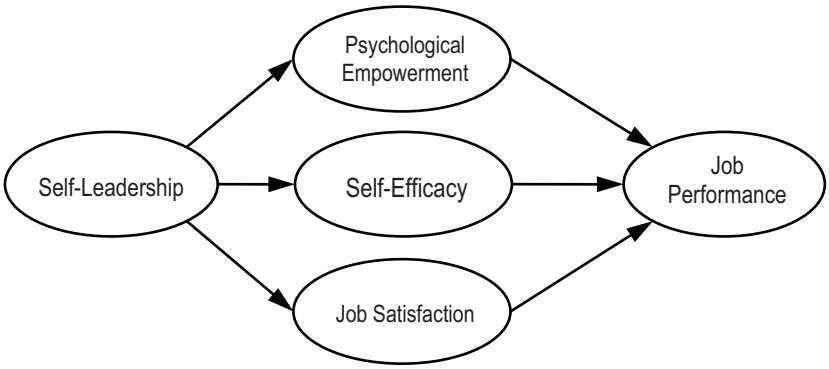

Figure 2. Conceptual Framework.

Research Hypothesis

In this study, the researcher hypothesizes that the self-leadership performance mechanism model is best fit with observed data collected from the samples, in which:-

1. Self-leadership directly affects psychological empowerment, self-efficacy, and job satisfaction.

2. Psychological empowerment, self-efficacy, and job satisfaction directly affects job performance.

3. Self-leadership indirectly affects job performance through psychological empowerment, self-efficacy, and job satisfaction.

Research Methodology

Participants

The sample in this study comprised 577 employees from one medium-sized private companies in Bangkok; the majority of which were male (54.5%) with an average work-age of about 7 years.

Research Instrument

1. The Revised Self-leadership Questionnaires (RSLQ). The researcher used the Revised self-leadership questionnaire, as developed by Houghton and Neck (2002), comprising a total of thirty-five items in nine sub-scale representing the three primary self leadership categories:- 1) behavioral-focused strategies: eighteen items on sub-scales –i.e., self-goal setting: five items, self-reward: three items, self-punishment: four items, self-observation: four items, and self-cueing: two items; with alpha coefficients ranging from .575 to .919 (please see alpha coefficients figures in diagonal parentheses of the correlation matrix Table), 2) natural reward strategy: with one sub-scale of focusing thought on natural rewards building: five items, with alpha coefficients of .672, and 3) constructive thought pattern strategies: twelve items on three sub-scales –i.e., mental imagery (visualizing successful performance): five items, self-talks: three items, and evaluation of beliefs & assumptions: four items; with alpha coefficients ranging from .738 to .824. The Revised Self-leadership Questionnaires (RSLQ) was a self-administered survey tool utilizing a 5-point rating scale, with labels ranging from "definitely not true" to "definitely true".

2. Psychological empowerment questionnaires. The researcher used the psychological empowerment questionnaire by Spreitzer (1995), measuring all four subcomponents of psychological empowerment; a total of twelve questions, three questions on each factor: Meaning, Competence, Self determination, and Impact. The alpha coefficients are between .728 and .862. The psychological empowerment questionnaires are a 5-point Likert Scale, with labels ranging from "strongly agree" to "strongly disagree".

3. Self-efficacy questionnaires. The researcher used the personal efficacy belief scale (Riggs, et al., 1994), reflecting self-awareness of own skills and competence at work; at .724 alpha coefficients. The self-efficacy questionnaires are a 5-point Likert Scale, with labels ranging from "not at all accurate" to "completely accurate".

4. Job satisfaction questionnaires. The researcher used the global satisfaction scale of Pond & Geyer (1991) –as revised from Quinn & Shepard, to measure overall satisfaction of job; comprised 6 questions reflecting feelings toward work; at .742 alpha coefficients.

5. Job performance questionnaires. The researcher used the 5-item job performance questionnaire by Scullen, Mount, and Goff (2000), measuring self-reported in-role performance in terms "quality of work", "quantity of work", and "overall competence in performing one's job." Each item was rated from "absolutely incorrect" (1) to "absolutely correct" (6).

Data Analysis

The researcher used the confirmatory factor analysis to examine the self-leadership measurement model to be a second-order factor structure. Then linear structural equation modeling was used to investigate the relationship model of variables; with goodness of fit considered from various goodness of fit indexes. The researcher employed LISREL application program in all analysis of hypothesis.

Results

In this study to examine the relationship between self-leadership and predictable outcomes of the hypothesized model, the researcher first presents the research results by presenting result of second-order factor test of self-leadership measurement model, according to the self-leadership measurement concept of Houghton and Neck (2002); and presents results of the structural equation modeling analysis to investigate relationship of the structural model.

From Table 1 –showing various mean of observed variables used to measure other variables; it was found that mean of observed variables of behavioral-focused strategies were high (approx. 3.842 to 3.905), as did mean of observed variables of natural-reward strategy (at 3.986). Observed variables of constructive thought pattern strategies were mostly high, except mental-imagery variables that was moderate (at 3.540). Psychological empowerment's observed variables were mostly high, except the impact variable that was moderate (at 3.260). Self-efficacy variables were moderate (3.431). Job satisfaction variables were high (3.923), same as observed variables of Job performance (4.074). In consideration of relationship among observed variables, it was found that the majority of variables were correlated at the statistical significance of .01

and .05 levels. This correlation matrix will be subsequently employed to study the structural relations to test the hypothesized model.

Table 1

Means, Standard Deviations, Reliability and Correlation Between Observed Variables (in diagonal parentheses)

Observed Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Sgoal	3.953	0.576	(.760)															
2. Srew	3.842	1.098	.516**	(.919)														
3. Spun	3.887	0.560	.434**	.422**	(.575)													
4. Sobs	4.045	0.544	.666**	.500**	.565**	(.761)												
5. Scue	3.905	0.878	.457**	.460**	.431**	.481**	(.794)											
6. Nrew	3.986	1.154	.348**	.306**	.173**	.314**	.192**	(.672)										
7. Mental	3.540	0.710	.665**	.549**	.449**	.583**	.447**	.318**	(.795)									
8. Stalk	3.801	0.748	.437**	.431**	.467**	.395**	.381**	.105*	.470**	(.824)								
9. Evabel	3.704	0.626	.632**	.532**	.547**	.706**	.404**	.305**	.650**	.474**	(.738)							
10. Mean	4.119	0.632	.562**	.389**	.457**	.573**	.326**	.263**	.505**	.394**	.527**	(.833)						
11. Comp	4.149	0.560	.450**	.284**	.212**	.513**	.234**	.213**	.382**	.223**	.437**	.497**	(.775)					
12. Sdet	3.941	0.577	.334**	.219**	.148**	.341**	0.099	.210**	.343**	.126*	.387**	.375**	.436**	(.728)				
13. Imp	3.260	0.898	.372**	.376**	.328**	.380**	.184**	.263**	.408**	.240**	.382**	.301**	.390**	.365**	(.862)			
14. Jobse	3.431	0.470	.464**	.419**	.397**	.408**	.248**	.261**	.485**	.282**	.440**	.391**	.336**	.353**	.450**	(.742)		
15. Jsat	3.923	0.668	.435**	.273**	.246**	.377**	.202**	.221**	.378**	.175**	.376**	.468**	.476**	.325**	.255**	.370**	(.860)	
16. Jperf	4.074	0.474	.434**	.324**	.344**	.505**	.246**	.226**	.398**	.268**	.416**	.477**	.475**	.371**	.395**	.465**	.446**	(.778)

Note. *p < .05, **p < .01, Sgoal = Self-goal setting, Srew = Self-reward, Spun = Self-punishment, Sobs = Self-Observation, Scue = Self-cueing, Nrew = Focusing on natural reward, Mental = Mental Imagery, Stalk = Self-talk, Evabel = Evaluating beliefs and assumptions, Mean = Meaning, Competence, Sdet = Self-determination, Imp = Impact, Jobse = Job self-efficacy, Jsat = Job satisfaction, Jperf = Job performance, all of observed variables range from 1 to 5.

Validity of Self-Leadership Measurement Model

In an analysis to determine whether the self-leadership measurement model is a second-order factor structure as stipulated by Manz and Neck's theory, the researcher used confirmatory factor analysis to test for best fit, including comparing good-fit with other alternative models: i.e., the One factor model, in which latent variables of self-leadership are directly measured by observed variables –a first order model; and the Three uncorrelated factor model, measuring self-leadership by latent variables of the three strategies separately. Analysis results showed that the second-order factor model was best-fit with data collected from the samples, as shown in Figure 2, with goodness-of-fit indexes of: Chi-square = 74.25 (df = 23, p = .00) RMSEA = .077, NFI = .97, NNFI = .97, CFI = .98, GFI = .96 and AGFI = .92. On this, although the chi-square value was statistically significant, it is sensitive to a large sample group. Therefore, other indexes must be investigated in consideration for goodness-of-fit of the model.

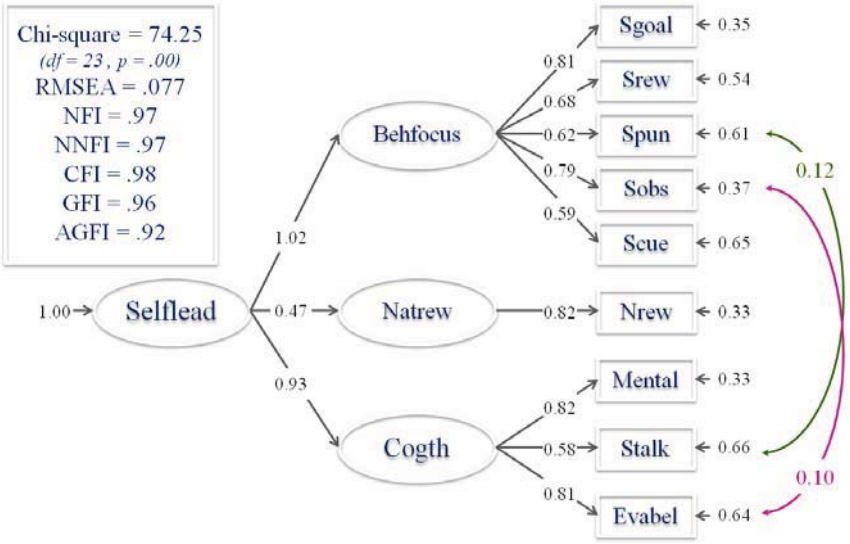

Figure 3. The Second-Order Factor Structure of Self-Leadership.

The researcher compared goodness-of-fit indexes of the second-order factor model with other alternative models, and found that the one factor model was somewhat best-fit also: Chi-square = 103.97 (*df* = 27, p = .00) , NFI = .97, NNFI = .97, CFI = .97, GFI = .94 and AGFI = .90; but root mean square error of approximation was more than .08 (RMSEA = .087), indicating a moderate best-fit. Of the three uncorrelated model, goodness-of-fit indexes reflect lesser good-fit with data; i.e., Chi-square = 484.68 (*df* = 28, p = .00) RMSEA = .197, NFI = .81, NNFI = .76, CFI = .82, GFI = .80 and AGFI = .67. Compared on chi-squares differences, the three models were different at the statistical significance level of .05; of which the second-order factor model was the best fit model with observed data, followed by the one factor model, and last was the three uncorrelated factor. From this information, it was revealed that the self-leadership hypothesized model was in accordance with theory proposed by Houghton and Neck (2002). Thus, in analyzing relationship model between self-leadership and outcomes variables, the researcher used the second-order factor model as the measurement model.

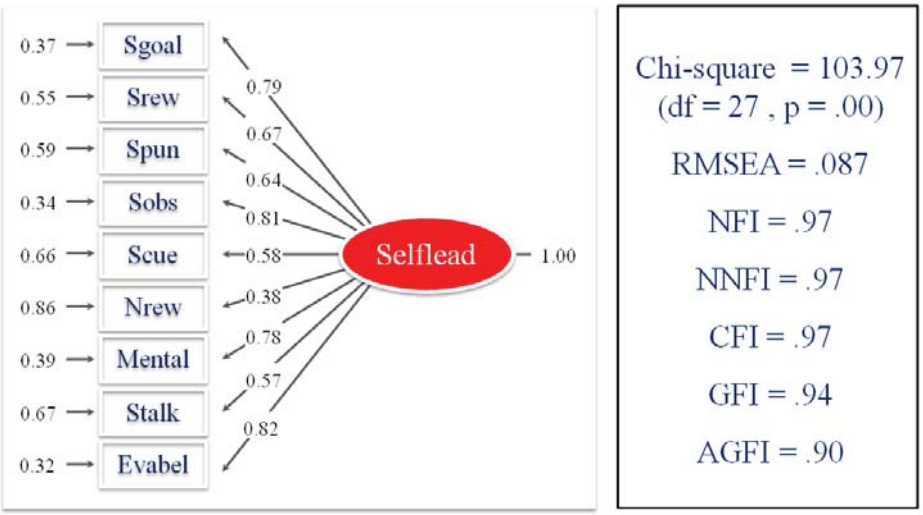

Figure 4. The One Factor Structure of Self-Leadership.

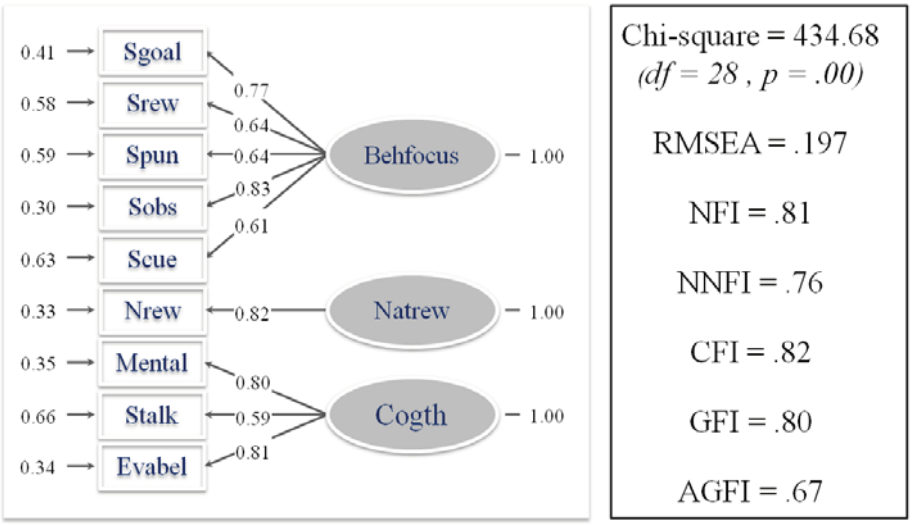

Figure 5. The Three Uncorrelated Factors Structure of Self-Leadership.

Table 2

Goodness of Fit Index of Self-Leadership Factor Structure

Models	X^2	*df*	ΔX^2	Δ *df*	GFI	CFI	NFI	RMSEA
1. Second-Order Factor Model (Measurement Model)	74.25	23			0.96	0.98	0.97	0.077
2. One Factor Model (Model 1 - Model 2 Difference)	103.97	27	29.72**	4	0.92	0.97	0.97	0.087
3. Three Uncorrelated Factors Model (Model 1- Model 3 Difference)	434.68	28	360.43**	5	0.80	0.82	0.81	0.197

Note. ** p < .01.

Analysis of Self-leadership Structural Equation Model

The researcher analyzed data acquired from questionnaires by using structural equation modeling analysis, to estimate the parameters of the hypothesized model for the fit to observed data. The model comprises variables of study i.e., self-leadership, psychological empowerment, self-efficacy, job satisfaction, and job performance. In case of the estimation of parameters of latent constructs with single observed variable, the researcher used the analytical method of specifying error variance for analytical instruction, as recommended by Joreskog and Sorbom (1993, p. 37): by deducting that observed variable's reliability coefficients by 1, and multiplying by variance of that observed variable, after which parameter estimation of path coefficient can be performed. Total effect, direct effect, and indirect effect obtained from the model analysis are as in Table 3.

Table 3

Total, Direct, Indirect Effects of Latent Variables: Self-Leadership, Psychological Empowerment, Self-Efficacy, Job Satisfaction, and Job Performance

	Dependent variables											
	Psychological Empowerment			Self-Efficacy			Job Satisfaction			Job Performance		
Causal variables	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
Self-leadership	.85	-	.85	.71	-	.71	.56	-	.56	-	.67	.67
Psychological Empowerment										.47	-	.47
Self-efficacy										.23	-	.23
Job satisfaction										.18	-	.18
Square Multiple Correlation (R^2)	.72			.50			.31			.56		

Note. All effects at the .01 statistical significance.

Results showed that relationship model between latent variables of self-leadership, psychological empowerment, self-efficacy, job satisfaction, and job performance were best-fit with data collected from samples; and found that goodness of fit index was good: chi-square = 284.61 (*df* = 95, p = .00) RMSEA = .075, NFI = .96, NNFI = .97, CFI = .97, GFI = .91, AGFI = .87. Even though the chi-squares were significant, but they were sensitive to the sample group; the researcher hence employed other measures for decision.

In consideration of all three effects in the Table displaying relationship of the model's latent variables, it was found that the latent exogenous casual variable –self-leadership –had direct effect on latent endogenous predictable outcome variables as followed:-

1. Self-leadership had direct effect on psychological empowerment at the statistical significance level of .01, with standardized path coefficient of .85.
2. Self-leadership had direct effect on self-efficacy at the statistical significance level of .01, with standardized path coefficient of .71.
3. Self-leadership had direct effect on job satisfaction at the statistical significance level of .01, with standardized path coefficient of .56.

In addition, effects of latent endogenous variables on predictable outcome variables– that is, job performance –were as followed:-

1. Psychological empowerment had direct effect on job performance at the statistical significance level of .01, with standardized path coefficient of .47.
2. Self-efficacy had direct effect on job performance at the statistical significance level of .01, with standardized path coefficient of .23.
3. Job satisfaction had direct effect on job performance at the statistical significance level of .01, with standardized path coefficient of .18.

Moreover, it was found that self-leadership had indirect effects on job performance through psychological empowerment, job satisfaction, job performance, at effect of .67.

From this model, self-leadership can explain variance in psychological empowerment, job satisfaction, and job performance at 72%, 50%, and 31% respectively; and outcomes were explained for variance from exogenous and endogenous causal variables at 56% overall.

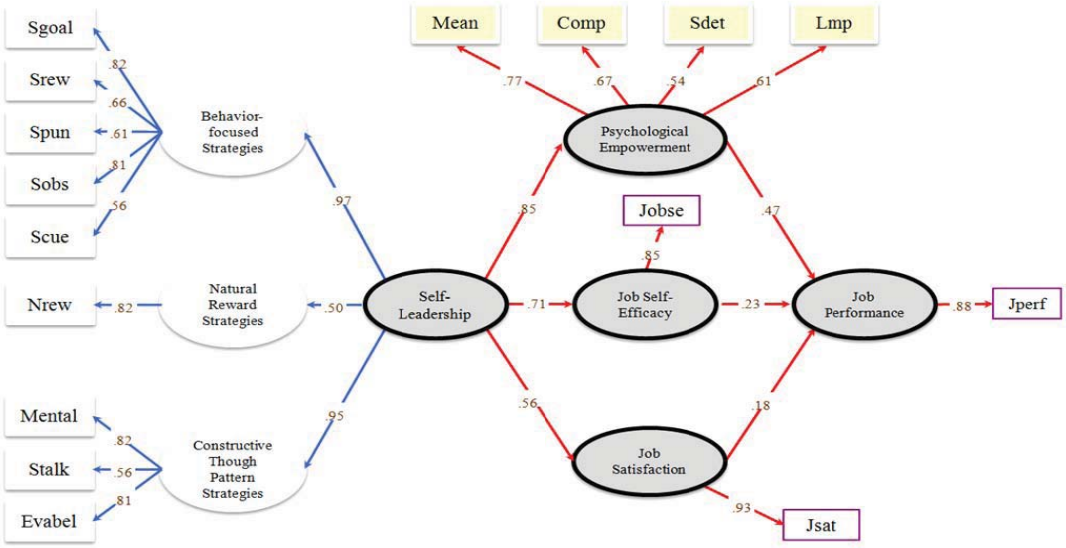

Figure 6. Standardized Coefficients of the adjusted Model.

The reason that the researcher did not specify the error coefficient into the model was a desire to reduce the representation's complexity; by enumerating only those main parameters related to hypothesis-testing to ensure a better understanding.

Discussion

From the study to test self-leadership performance mechanism model, the researcher can elaborate on the following issues:-

1. The test of self-leadership measurement model showed that the component structure of self-leadership is a second-order factor structure. This result is consistent with self-leadership concepts (Neck & Houghton, 2006; Neck & Manz, 2007), which stated that self-leadership is composed of three main components i.e. behavioral-focused strategies, natural reward strategy, and constructive thought pattern strategies; in which each strategy comprises various subcomponents under that strategy. In addition, the research result corresponds with the research by Houghton and Neck (2002) which studied self-leadership model structure in 357 American students and found the second-order factor model to be the best fit model, followed by the one factor model, and the three uncorrelated factor was the least fit model.

2. Research result found that the hierarchical relationship model of variables in self-leadership performance mechanism model, in which self-leadership affects directly mediators and indirectly on employees' job performance was best-fit with data collected from samples –and was consistent with concepts of self-leadership performance mechanism model proposed by Neck and Houghton (2006) to explain process and outcomes of self-leadership. These variables affect performances at individual, team, and organization levels, of which the variable that produces improved performance is self-leadership of employees, through mediators of psychological empowerment, self-efficacy, job satisfaction, and ultimately job performance.

3. Research result found that self-leadership had direct effects on psychological empowerment, in coherent with many researchers who advocated that self-leadership is the preliminary process toward establishment of empowerment (Manz, 1992; Houghton & Yoho, 2005; Pearce & Manz, 2005). One who displays self-leadership strategies would augment feelings of psychological empowerment, by sensing that work is meaningful, has goals, able to make own decisions, and feels that one is capable of successful completion of work (Lee & Koh, 2001). When considered in detail, behavioral-focused strategies –self-observation, self-goal-setting, and self-reward— can motivate senses of autonomy and competence. While natural reward strategy will motivate senses of self-control and goals of task.

4. Research findings that self-leadership had direct effects on self-efficacy is consistent with research papers which state that self-efficacy is a continuous process that is affected directly by self-leadership, and leads to individual's job performance. This is coherent with research studies of Prussia, Anderson, & Manz (1998) –which studied influences of self-efficacy as a mediator of self-leadership on job performance of 151 samples, and found that self-leadership strategies had direct effects on self-efficacy, and that this self-efficacy fully mediated the relationship between self-leadership and job performance.

5. Research findings that self-leadership had direct effects on job satisfaction are consistent with research studies in the U.S.A. that found correlation between thought self-leadership training and positive affect on job satisfaction of an airline's employees (Neck & Manz, 1996), as did research studies by Houghton and Jinkerson (2004) that found constructive thought pattern strategies of self-leadership to be related with job satisfaction.

Recommendations

1. Research findings that self-leadership had direct effects on psychological empowerment, self-efficacy and job satisfaction, and ultimately on job performance indicates importance of self-leadership on improved performance mechanism of employees. Therefore, those in the functions of human resource development may apply the three self-leadership strategies to design of employees' performance development in their own organizations, especially the development of self-direct work groups.

2. Since findings showed that self-leadership affects job performance of employees, those concerned with employee recruitment and selection can utilize this self-leadership concept to the evaluation of potential employees to accept for jobs. But on this, perhaps researches to find empirical data regarding predictive validity of the measurement form on job performance may be needed to be done first, to ensure effective applications.

3. Besides Neck and Houghton's (2006) self-leadership variables, there are other predictable outcomes or performance mechanisms variables; e.g., commitment, independence, trust, team potency, positive affect, creativity, etc. In order to construct a structural complex of variables related to self-leadership, further studies using these variables are needed to confirm this performance mechanism model in the context of actual tasks.

4. This study used sample groups of private companies' employees. Thus, in future studies, researchers may study in the civil-service and state-enterprise sectors; perhaps by comparative studies of model invariance between those organizations, or whether this model can be applied on occupations with diverse job characteristics and duties.

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