

# Determinants of Patient-Directed Citizenship Behaviors of Nurses in Thailand: A Motivation Model

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## Abstract

This cross-sectional study explored how transformational leaders and public service motives impacted patient-directed citizenship behaviors of the nurses in three southern border provinces of Thailand. The participants of 813 nurses were selected via multi-stage sampling. A questionnaire was employed as its instrument. The structural model analysis revealed a congruence between the hypothesized model and the empirical data where  $\chi^2/df = 4.65$ , CFI = 0.98, GFI = 0.95, TLI = 0.97, and RMSEA = 0.067. The results indicated direct and positive impacts of transformational leadership on public service motivation ( $\beta = 0.34$ ,  $p < .001$ ) and patient-directed citizenship behaviors ( $\beta = 0.18$ ,  $p < .001$ ); as well as direct and positive impacts of public service motivation on patient-directed citizenship behaviors ( $\beta = 0.49$ ,  $p < .001$ ). The variables with indirect impacts on patient-directed citizenship behaviors were also explored and the findings suggested that there were indirect impacts of transformational leadership via public service motivation on patient-directed citizenship behaviors ( $\beta = 0.30$ ,  $p < .001$ ). Based on the model, transformational leadership and public service motivation were 34 percent of the variance in patient-directed citizenship behaviors ( $R^2 = 0.43$ ) whereas, transformational leadership was 11 percent of the variance in public service motivation ( $R^2 = 0.11$ ). The findings of this research show that transformational leadership not only has a direct effect on nurses' patient-directed citizenship behavior, but also has an indirect effect via PSM. Furthermore, PSM was found to have a direct effect on nurses' patient-directed citizenship behavior.

**Keywords:** patient-directed citizenship behavior, nurses, three southern border provinces, Thailand

## 1. Introduction

Health care systems worldwide are undergoing significant changes as a consequence of the increased demand in healthcare needs and the financial constraints that limit the possibility to strengthen health sector infrastructures and workforces. Accordingly, a provision of cost-effective healthcare services and high-quality care is the key approach to achieving the goals of health care organizations (Hamilton et al., 2007). Within this challenging healthcare environment, nurses constitute the largest single group that provides the majority of health services. According to Westlake (2009) nurses are, and will continue to be in high demand due to the dynamic changes in the healthcare system.

In the work setting, nurses are confronted with many focal issues; for example, excessive workload, poor work conditions, lack of well-being and the balance between job demands and one's personal life, shortage of talents and high turnover rates (Brooks & Anderson, 2005). Indeed, several countries around the world have witnessed the shortage of nurses and it has been estimated that, by 2020, the number of shortage could rise to 400,000. This situation is no different in Thailand where high levels of skill shortage and relocation/turnover rates among local nurses have been observed. According to the Nurses Association, during 2010-2019, Thailand lacks roughly 33,112 professional nurses (Srisuphan et al., 2012). In addition to the shortage of nurses, many organizations are dealing with the issues of how they can maintain its quality of care, which is a vital component of patient outcomes and safety (Burhans & Alligood, 2010).

The three southern border provinces' political unrest is classified as a human-made disaster. The long-lasting and never-ending ordeal involves explosive and violent ambushes. From January 2004 to April 2017, Deep South Incident Database (DSID) reported that 19,279 violent crimes took place, leaving 6,544 deceased and 12,963 injured victims. Similarly, based on the 13-year record of 2004-2016, the cumulative figure of deaths and injuries is 19,507 and Narathiwat ranked the highest with crimes, followed by Pattani, and Yala at 6,959 (36%), 6,279

(33%), and 5,357 (28%) violent cases, respectively. In 2016, Pattani suffered the most as it was overwhelmed with 310 cases, followed Narathiwat, Yala, and Songkhla with 276, 176, 53 cases (Deep South Watch, 2017).

The impacts on public health and nursing services include 3 factors: Firstly, physical and mental health as a substantial number of local people have suffered from disabilities and fatality. Moreover, the situation created a negative mental impact on the public, government authorities, and nurses. As a result, they lacked the working motivation, face depression from excessively witnessing catastrophes, and felt frightened for the insecure living. More importantly, many of them were diagnosed with post-traumatic stress disorder (PTSD) within a month after experiencing the incidents. These people living with PTSD are prone to several severe mental conditions in the future. According to a Department of Mental health's epidemiological survey on the three southern border provinces' political unrest, the prevalence of PTSD was 10%, and the prevalence rate ranged between 15% and 25% (Makwichit & Taameeyapradit, 2005). Secondly, healthcare behaviors as more patients with chronic diseases, e.g., diabetes, hypertension, and asthma, were admitted to hospitals (Makwichit & Taameeyapradit, 2005). Behaviorally, people habitually did exercises before the unrest. Nonetheless, such habits were forced to change. When the locals felt discouraged to work out, their health deteriorated. Moreover, hospital visits were reportedly difficult, whereas the nightly visits were almost impossible. Only those with severe and unbearable medical conditions would risk going out for medical attention. These delayed visits could be the causes that have worsened the symptoms. Also, severe medical conditions could take longer to cure, which is financially unwise. Lastly, nursing service systems which are divided by 2 factors. Medical outreach as a home visit, community health promotion and prevention, school dental outreach, and other health-promotion programs were halted and passively stationed at the hospitals as the staffs felt insecure in performing these outreach operations. A study on a public health crisis in the southern border provinces revealed that the effectiveness of health promotion/prevention reduced by 70% and if the unrest persists, it would cause a long-term detrimental effect. Without timely health prevention, it will eventually be more costly to fix delayed treatments (Suteerawut, 2007). Another is patient transfer as all affected hospitals avoid patient transfers at night. As night referrals were restricted, only the extremely severe cases were transferred, and the remaining usually resumed during the day. Officers carrying out the night transfers were to coordinate with the police to verify if there are any ongoing or possible threats along the planned routes.

In healthcare systems, nurses are the key personnel who administer patient-centered cares and, thus, the determinants of care quality and effectiveness. Therefore, providing quality health care has become a global phenomenon in the nursing organization, and to achieve safe, high-quality and efficient health services, job performance of nurses' is essential. The working conditions of nurses have dramatically changed during the past decade after the healthcare reform. Several researchers indicated that nurses were riddled with more intensive patient care, longer work hours, more work demands from patients and families, more interactions between patients and physicians, and additional office work (Aiken, Clarke, & Sloane, 2002; Aiken et al., 2002).

In the nursing literature, Greenslade (2008) expanded on the original work of Bowman and Motowidlo (1993) to propose that there are three important components of organizational citizenship behavior including (1) *interpersonal support* which refers to the facilitating efforts among colleagues that are collectively aimed sustain an organization; (2) *job support* or patient-directed citizenship behaviors which refers to the optional or non-required conducts dedicated to enhancing job performance; and (3) *organizational support* which refers to the sense of duty in fulfilling organizational objectives and organizational commitment which is demonstrated through the compliance of organizational rules and regulations (Greenslade, 2008).

The emphasis of this study is the roles of public service motivation—individual desires to serve society (Perry, 2000). It hypothesized that transformational leadership can improve public service motivation and organizational citizenship behaviors. According to the self-determination theory (SDT), intrinsic motivation and value internalization (e.g., understanding the importance of serving the public) which are the positive influences of work performance can emerge when the needs for autonomy, competence and relatedness are fulfilled (Gagne' & Deci, 2005). Based on its self-directed nature (Vandenabeele, 2007; Park & Rainey, 2008), public service motives tend to produce positive work results, e.g. citizenship behaviors (Park & Rainey, 2008; Vandenabeele, 2009; Taylor & Westover, 2011). With the lack of academic investigations on public service motivation and its impacts on employee outcomes, this study is projected to continues a further exploration of its mediating roles.

Since the study examined the impacts of transformational leaders and public service motives on patient-directed citizenship behaviors of the nurses in three southern border provinces of Thailand, it substantially contributed to the literature via the self-determination theory (SDT) by demonstrating that patient-directed citizenship behaviors are associated with transformational leadership. To date, only a small number of studies have examined the antecedents of public service motivation (Gould-Williams et al., 2013) and Figure 1 reflects the

general hypothesis of its relationship model.



Figure 1. The Conceptualized Relationship Model

## 2. Literature Review

### 2.1 Greenslade's Nursing Performance Concept

After examining a job performance model by Greenslade (2008) formulated a job performance conceptual framework for nursing. Since previous studies discuss significant involvements of nurses in task performance and contextual performance, Greenslade later revised the framework to consist of six components in two subcategories: 1) task performance consisting of A) social support; B) information provision; and C) technical care; and 2) contextual performance consisting of A) interpersonal support; B) job-task support; and C) organizational support. While, in nursing, task performance deals with core nursing behaviors, e.g., designing, implementing, and assessing treatments; contextual performance deals with auxiliary behaviors that enhance the social and psychological aspects of the hospital, e.g., extra time with patients, off-duty or overtime assistance, voluntary mental supports, and comforting or advising the relatives. Generally, contextual activities are the roles and behaviors that are not primarily assigned as duties to the nurses, but they are conducted for the perceived supplementary benefits (Greenslade, 2008).

### 2.2 Self-determination Theory

Self-determination theory (SDT) is unlike other motivation theories because it theorizes motivation as an autonomous-controlled sequence and not an extrinsic-intrinsic split (Gagne & Deci, 2005). This autonomous-controlled sequence is activated when a worker wants or feels obligated to do an activity (Figure 3). Amotivation, on the very left side of Figure 3, is a state when motivation is intrinsically and extrinsically absent, and workers have no willingness to behave. Not being permitted to self-regulate, for instance, is one of the discouraging constraints since the self-determination factor is missing (Deci & Ryan, 2004). In the middle of Figure 3, extrinsic motivation refers to the willingness to participate in an activity for the benefits that are additional to the activity itself or the fulfillment of other regulatory procedures. Towards the right of Figure 3, intrinsic motivation refers to the willingness to participate in an activity for inner satisfaction (Gagne & Deci, 2005). When compared to the autonomous-controlled sequence, intrinsic motivation can only trigger the autonomous motivation whereas; the extrinsic one can circumstantially trigger both. The more internalized the extrinsic motivation, the stricter the behavioral control. Based on SDT, external non-self-circumstances externally control behaviors, and they are thus called extrinsic motivation.

Internalization also activates another form of extrinsic motivation. When workers internalize values, they regulate their behaviors accordingly to the internalization. Once internalized, external regulators become internal or personal and hence, external circumstances are no longer required. According to Gagne' and Deci (2005), there are three stages in SDT's internalization: introjection, identification, and integration.

- 1) Introjection: Introjected regulation is not a voluntary or internalizing process as it controls workers' behaviors regardless of their acceptance.
- 2) Identification: Identified regulation provides more behavioral freedom and tends to conform to personal values. Hence, it can be considered a behavioral reflection of self.
- 3) Integration: Integrated regulation is what workers perceive essential, and hence, these sensible behaviors are adopted.

In conclusion, integrated regulation is considered the most effective internalization as extrinsic motivation is autonomously converted and integrated. Although integrated regulation and intrinsic motivation might feature many common characteristics, integrated regulation is still a type of extrinsic motivation. Integrated regulation utilizes activities at its core to satisfy workers goals rather than to use the very activities to attract them. As a result, integrated regulation and intrinsic motivation employ different autonomous motivation (Gagne' & Deci, 2005).

In SDT, intrinsic motivation and internalization both utilize autonomous motivation, and they are correlated to

PSM (Vandenabeele, 2007). PSM is known to motivate individuals to favor prosocial behaviors and help society by providing public services (Kjeldsen & Jacobsen, 2013). A study refers it to a “motivational force” that encourages meaningful services to the public (Brewer & Selden, 1998). Workers with high PSM depend less on extrinsic motivation to provide effective public services (Perry & Wise, 1990). Based on the SDT, workers with high PSM are those who have either been intrinsically motivated or internalized organizational values via effective management measures.

Nonetheless, when they are autonomously motivated, they are committed to providing public services. Congruently with the PSM theory, individuals can be committed to public services when appropriate work policies are strategically designed and implemented (Perry, 2000). Hence, when an organization implements proper external regulations or policies, it is possible that these measures would permit its workers to internalize public-service values.

### **3. Methods**

#### *3.1 Population and Sample*

This study scoped its investigation to the deep south of Thailand: Yala, Pattani, and Narathiwat provinces. Nurses working in public hospitals were chosen as participants in this present research. It is required that the nurses work for at least one year before participating in this study. Surveys were sent to 32 hospitals and a total of 2,565 nurses successfully responded to the survey. Because structural Equation Modeling (SEM) was used in this present research for the data analysis, the sample size must be large enough to yield highly reliable estimation of correlation coefficients. Tabachnick and Fidell, (2007) explained that a sample group of 200 is acceptable; 300 is good; 500 is very good; and 1000 is excellent, whereas Hair et al. (2010) suggested that the sample size should be 400 or more to obtain more reliability. This present study, the sampling units were 1,000 nurses. Assuming a drop-out rate of 10%, need 100 persons in the sample, totaling 1,100 persons. There were 813 respondents or 73.9% of sampling. The sample was selected by using multi-stage samplings with the following details. Firstly, the sampling units were hospitals by randomizing depended on the classification of hospitals, by the regional hospital criterion, Yala hospital that was purposively selected, and by the general hospitals criterion, There are 4 hospitals: Betong hospital, Pattani hospital, Narathiwat Rajanagarindra hospital, and Su-ngai Kolok hospital. And all general hospitals were re-randomized by 50% of themselves to be simple random samplings as Narathiwat Rajanagarindra hospital and Pattani hospital. Another sampling was classified by the community hospital criterion and randomized by 50 % of proportional stratified random sampling, there are 3 from 5 community hospitals in Yala province were Kabang hospital, Raman hospital, and Banangstar hospital. There are 6 from 11 community hospitals in Pattani province Thung Yang Daeng hospital, Mayo hospital, Mae Lan hospital, Mai Kaen hospital, Yaring hospital, and Nong Chik hospital. There are 6 from 11 community hospitals in Narathiwat province were Chanae hospital, Takbai hospital, Ra-ngae hospital, Rueso hospital, Waeng hospital, and Su-ngai Padi hospital. Secondly, this stage was randomized sampling unit of nurses by proportional stratified random sampling.

#### *3.2 Measurement Tool*

All of the items used in this present research were borrowed from the validated measures used in previous research (Bass, 1985; Avolio & Jung, 1999; Perry, 1996; Greenslade, 2008). Dimensionally, a five-point Likert scale (where 1 refers to strong disagreement and 5 refers to strong agreement) was employed to rate transformational leadership (TL) and public service motivation (PSM) whereas a seven-point Likert scale (where 1 refers to none and 7 refers to utmost) was employed to rate patient-directed citizenship behaviors (PCB). In respective orders, the reliability values of TL, PSM, and PCB were 0.965, 0.849, and 0.833, whereas, the item-correlation ranges were 0.522 – 0.852, 0.612 – 0.748, and 0.678 – 0.705.

#### *3.3 Data Collection*

Upon receiving permission from the hospitals to collect data, the researcher contacted the hospital administrators and heads of the nurses of each hospital to introduce the research project and explain the objectives and significance of the study. The data collection method was also explained. After the survey questionnaires were completed, the researcher went to collect them and checked if each was completed before using it for data analysis.

#### *3.4 Data Analysis*

The causal relationships between variables of the study were analyzed with LISREL 8.72 where Maximum Likelihood (ML) was employed to provide the model parameter estimates. In SEM environment, multivariate statistics is the most effective analytical approach (Hair et al., 2010) to test the measurement and structural

components of the theoretical model. Consequently, Anderson and Gerbing's (1988) two-step procedure was implemented. Confirmatory factor analyses (CFAs) were employed to test the variables for validity and reliability in the first step whereas, the structural equation model was examined in the second step. The model fits were assessed using the overall chi-square values and indices of the model. To determine the acceptable fits, the normed fit chi-square should not exceed 5 ( $\chi^2/df < 5$ ) (Schumacker & Lomax, 2004); the comparative fit index (CFI) and the Tucker-Lewis Index (TLI) should exceed 0.90 (Hu & Bentler, 1999); and the root mean square error of approximation (RMSEA) should be within the 0.05-0.08 range (MacCallum et al., 1996).

### 3.5 Ethical Consideration

The proposal was approved by the Ethics Committee of Social and Behavioral Sciences Institutional Review Board, Prince of Songkla University PSU IRB 2018 – PSU – L 004. The research informed the purpose of the study to the nurses before performing questions.

## 4. Results

### 4.1 Socio-demographic Factors

The information about the participants is presented in Table 1. The majority of the respondents including 759 persons (94.9%) were female whereas, the majority age group including 349 persons were between 31 and 40 years old (43.5%). Most of them, including 507 persons (62.4%) were married and 679 persons (92.6%) possessed a bachelor's degree and had experience of work less than 10 years as 341 persons (42.5%). The majority is registered nurses as 794 persons (99.0%) and worked in type of community hospitals as 392 persons (48.2%) and worked in Narathiwat province as 329 persons (40.5%).

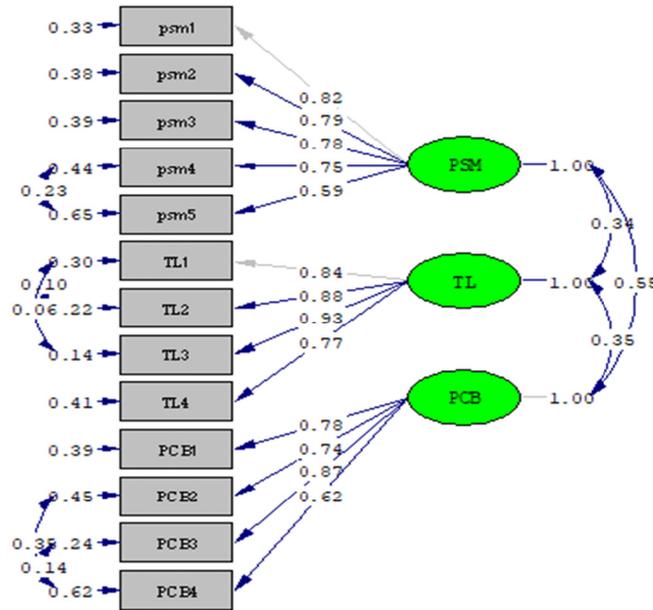
### 4.2 Assessment of Normality

Table 1. Assessment of Normality

Construct	Items	Skewness	Kurtosis
Public Service Motivation	PSM1	-.218	-.284
	PSM2	-.417	-.631
	PSM3	-.158	-.624
	PSM4	-.216	.033
	PSM5	-.302	.357
Transformational Leadership	Lead1	-.529	.579
	Lead2	-.507	.712
	Lead3	-.495	.518
Idealized Influence (TL1)	Lead4	-.578	.643
	Lead5	-.577	.808
	Lead6	-.452	.535
	Lead7	-.482	.615
	Lead8	-.413	.174
	Lead9	-.412	.376
Inspirational Motivation (TL2)	Lead10	-.354	.392
	Lead11	-.304	.364
	Lead12	-.383	.607
Intellectual Stimulation (TL3)	Lead13	-.538	.599
	Lead14	-.437	.494
	Lead15	-.563	.765
Individualized Consideration (TL4)	Lead16	-.524	.693
	Lead17	-.535	.644
	Lead18	-.497	.023
	Lead19	-.472	.191
	Lead20	-.291	.292
Patient-directed citizenship behavior (PCB)	PCB1	-.990	.819
	PCB2	-.791	.988
	PCB3	-.878	.361
	PCB4	-1.215	2.278

Table 2 represents the skewness and kurtosis for the study items. All the items in the current study is presented that quite soft of skewness or kurtosis values, all the items present are less than 2 as skewness values, and are less than 4 of kurtosis values. Concluding, generally total multivariate normality can be supposed.

4.3 The Measurement Model



Chi-Square=265.30, df=57, P-value=0.00000, RMSEA=0.067

Figure 2. The Measurement Model

Figure 2 and Table 2 demonstrate that a series of CFAs were performed. The latent constructs were correlated with each other. The results suggest that every standardized factor loading exceeds 0.60, every *t*-value is statistically significant ( $p < 0.001$ ), and the overall measurement model fits the data ( $\chi^2/df = 4.65$ , CFI = 0.98, GFI = 0.95, TLI = 0.97, and RMSEA = 0.067). Also, the average variance extracted (AVE) was employed to determine convergent validity provided that an AVE value exceeding 0.5 reflects a sufficient convergent validity (Hair et al., 2010). In addition, Table 4 suggests that all factor loadings exceed .50 which was the recommended value and they specifically range from .62 to .93. Furthermore, the square roots of the average variance extracted (AVE) was used to validate the constructs' discriminant validity (Fornell & Larcker, 1981).

Composite reliability (CR) was implemented to, firstly, determine the study's reliability based on the Cronbach's alpha values and the indicators of the same construct measurement (Koufteros, 1999) and, secondly, assess the scale items' levels of internal consistency and homogeneity. The condition is that when constructs are intercorrelated, they are reliable and signifying that the same latent construct is being measured. The results indicated that the range of the CRs were .74-.86 which exceed the recommended .60 (Bagozzi & Yi, 1988). Supplementing that, the Cronbach's alpha range of .83-.96 demonstrated an adequate internal consistency (Nunnally, 1978).

Table 2. Factor Loadings, AVE, CR, and Cronbach's Alpha

Construct	Item	Std. Factor Loading	t-value	CR	AVE	Cronbach's Alpha
Public service motivation	PSM1	0.82	.....*	0.86	0.56	0.85
	PSM2	0.79	23.56			
	PSM3	0.78	23.36			
	PSM4	0.75	22.13			
	PSM5	0.69	16.78			
Transformational leadership	TL1	0.84	.....*	0.74	0.92	0.96
	TL2	0.88	33.47			
	TL3	0.93	33.81			
	TL4	0.77	23.63			

	PCB1	0.78	.....*			
Patient-directed citizenship behaviors	PCB2	0.74	22.85	0.84	0.64	0.83
	PCB3	0.87	28.40			
	PCB4	0.62	17.52			
	$\chi^2/df = 4.65, CFI = 0.98, GFI = 0.95, TLI = 0.97, RMSEA = 0.067$					

\*Fixed parameter

Table 3. Means, Standard Deviations, Inter-Construct Correlations, and the Square Root of AVE

Variables	Mean	SD	1	2	3
1. Public service motivation	4.02	.57	<b>(0.75)</b>		
2. Transformational leadership	3.65	.63	0.33	<b>(0.96)</b>	
3. Patient-directed citizenship behaviors	6.06	.69	0.39	0.28	<b>(0.80)</b>

\*\*  $p < .01$ ; the diagonal items being highlighted in bold refer to the square root of AVE whereas, the sub-diagonal items refer to the intercorrelations of the latent constructs.

#### 4.4 The Structural Model

The hypothesized model was found congruent based on the structural model analysis and the empirical results of  $\chi^2/df = 4.65, CFI = 0.98, GFI = 0.95, TLI = 0.97,$  and  $RMSEA = 0.067$ . Table 4 elaborates the analytical results of the direct, indirect, and total effects of the structural model which project the causal relationships of transformational leadership, public service motivation, and patient-directed citizenship behaviors.

The findings suggest that transformational leadership positively and directly influenced public service motivation ( $\beta = 0.34, p < .001$ ) and patient-directed citizenship behaviors ( $\beta = 0.18, p < .001$ ). In a similar nature, public service motivation positively and directly influenced patient-directed citizenship behaviors ( $\beta = 0.49, p < .001$ ). Based on the variables with indirect impacts on contextual performance, transformational leadership, via public service motivation, indirectly influenced patient-directed citizenship behaviors ( $\beta = 0.30, p < .001$ ). Based on the model, transformational leadership and public service motivation were 34 percent of the variance in patient-directed citizenship behaviors ( $R^2 = 0.34$ ) whereas, transformational leadership was 11 percent of the variance in public service motivation ( $R^2 = 0.11$ ). Figure 2 illustrates the analytical findings of the structural equation model.

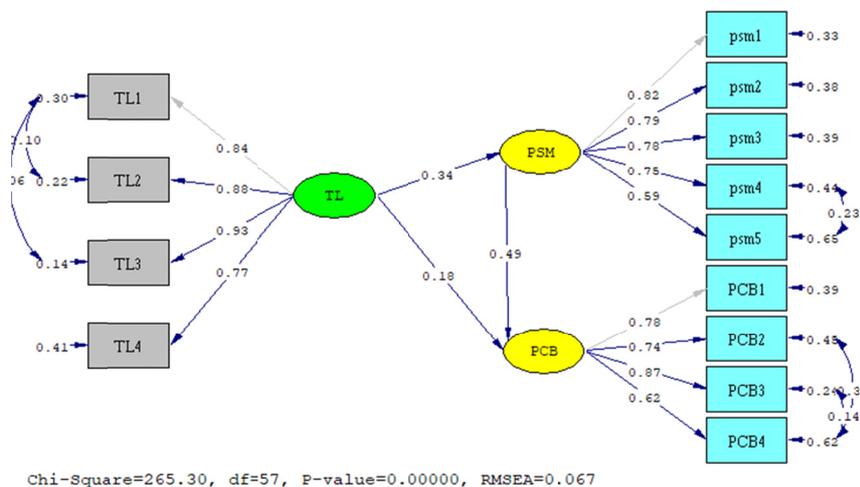


Figure 3. The Structural Equation Model Analysis

Table 4. The structural model's direct, indirect, and total effects

Paths from	to	Path coefficient		
		Direct effects	Indirect effects	Total effects
Transformational leadership	Patient-directed citizenship behaviors	0.18***	0.30***	0.48***
Public service motivation	Patient-directed citizenship behaviors	0.49***	-	0.49***
Transformational leadership	Public service motivation	0.34***	-	0.34***

\*\*\*  $p < .001$ ; coefficients are standardized.

## 5. Discussion and Conclusion

The aim of the study was to identify and explain the influence of transformational leaders on nurses' patient-directed citizenship behaviors. The findings revealed that with the mediation of public service motivation, such positive relationship exists, and the notion is consistent with Judge and Piccolo (2004); and Piccolo and Colquitt (2006).

What is meaningful about these findings is that public service motivation serves as a vital mediator between transformational leadership and patient-directed citizenship behaviors. The notion implicates that transformational leaders can motivate individuals through skill-utilization opportunities in serving the patients. Furthermore, transformational leaders may be able to inspire their employees by connecting them with the overarching goals of the organizations by continuously reminding them how significant nursing is in professional contributions. Consistently with Judge and Piccolo (2004); Park and Rainey (2008); and Piccolo and Colquitt (2006), intrinsic motivation is a fruitful outcome that reflects a positive effect of transformational leadership.

Furthermore, this study suggests a beneficial implication for public hospitals which is the fact that leaders should seek to foster transformational leadership for their subordinating managers. In many cases, middle managers are those who turn organizational policies into practices and their roles are vital to organizations because they are the ones who implement tools and strategies to motivate the subordinates and ensure that organizational objectives and missions are familiarized. Oftentimes, nurses can become worn out because of the long working hours and a lack of instrumental support in the line of work. So managers can play an important role in changing the perspectives of these nurses and in reminding them of the prosocial impact of their work. Hence, managers should communicate and cultivate the desired organizational goals and values for their subordinate nurses through group meetings so that they could learn to monitor and appreciate the work results which impact the lives. The findings also indicate that managers should simultaneously be the role models by engaging in exemplary behaviors; attempt to identify and satisfy the nurses' individual needs; and help them maximize the performance.

There are some limitations that should be mentioned. Firstly, a single data source was used in the data collection which could have made the derived data source biased. Secondly, the study was cross-sectional and thus causality of the variables could not be concluded. Thirdly, the sampled nurses remained stationed in their respective hospitals and the condition could have led to less comprehensive causal-relationship results. Multilevel modeling could be more effective at handling this limitation. Fourthly, the findings are not the only logical reason that can explain the ways leadership impact employees. Finally, the hospitals are situated in the southernmost region of Thailand with prolonged suffering from the political unrest and the condition could have made the results region-specific. Hence, the researcher encourages future studies to run a similar investigation in different cultural and work contexts.

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