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The Effectiveness of Transformational Leadership and Job Satisfaction on Nurse Innovative Behaviour in Healthcare Malaysia

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Abstract

The purpose of this study is to examine the influence of transformational leadership and job satisfaction toward innovative behaviour among nurses of public hospitals. Based on a previous study, transformational leadership is an important antecedent of innovative behaviour. Only several studies have been conducted on the influence of transformational leadership onto innovative behaviour among nurses. The sample of this study is 320 nurses from nine general hospitals in Kelantan, Malaysia. This study employs simple random sampling and it is quantitative in nature. Data was collected through a survey conducted. Structural equation modelling (SEM) through AMOS version 25 was utilised to analyse the analyse data. Findings reveal that transformational leadership has a positive and significant effect on job satisfaction and innovative behaviour. Thus, nurse leaders need to employ a transformational leadership style which encourages nurses to focus on innovation besides helping nurses to adapt to changes. It is believed that nurses who are satisfied with the job may exhibit innovative behaviour.

Keywords: Transformational Leadership, Innovative Behaviour, Idea Generation, Idea Promotion, Idea Realization, Job Satisfaction

Contribution/Originality: This study contributes to leadership and job satisfaction by providing insights on mediating effects of job satisfaction in the relationship between transformational leadership and innovative behaviour among nurses in Malaysia.

Introduction

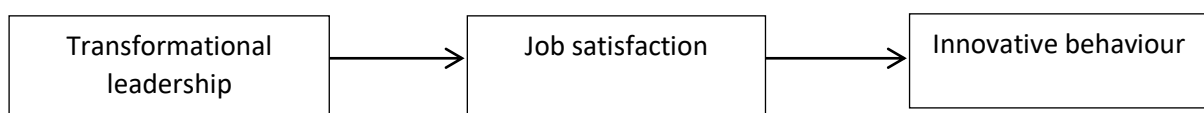
Individual innovation is crucial in enhancing the performance of organisations. Previous studies reveal that innovation is crucial for organisations to obtain maximum effectiveness and efficiency (Asurakkody & Shin, 2018; Janssen, 2003; Qi, Liu, Wei & Hu, 2019). Researchers have defined innovation as a new and different thing to do (Kaya, Turan & Aydın, 2015). Many studies concentrate on developing innovation in the area of business management, technology, engineering, and education (Asurakkody & Shin, 2018) and less attention has been given to innovative behaviour in the area of healthcare, especially in nursing (Asurakkody & Shin, 2018; Masood & Afsar, 2017; Moreira, Gherman & Sousa, 2017;

Xerri, 2013). Motivating nurses to be innovative is vital because they constantly face challenges in providing quality services to those who are under their care (Brysiewicz, Hughes & McCreary, 2015). The healthcare stakeholders expect nurses to continuously innovate their ways of working in improving the quality of healthcare. Only small number of empirical studies on the innovative behaviour of nurses is available in Malaysia. One of the possible reasons is that the aspect is rarely given adequate attention. In addressing this gap, this study aims to contribute to the knowledge of innovation in public hospitals by providing empirical evidence on the effect of transformational leadership onto the innovative behaviour of nurses.

In ensuring innovation takes place in healthcare, leaders in this area need to understand appropriate innovative measures and factors involve in making the healthcare system more efficient. In general, leaders are able to strongly influence employees to create innovative behaviours (De Jong & Den Hartog, 2007). Effective leaders are able to direct and motivate nurses to go beyond their current roles and responsibilities. Ahamad and Abd (2016) state that transformational leadership is able to significantly change the attitude and behaviour of employees in improving their performance and achieving the goals of organisations. In the healthcare area, this of leadership can help nurses to attain their potentials by allowing for creativity and new ideas to flourish. This would help both leaders and nurses to come out with strategies in ensuring effectiveness of services in response to the expectations of patients.

Besides, this study also investigates the mediation effect of job satisfaction in the relationship between transformational leadership and innovative behaviour. This emphasises the attitude of nurses toward their working environment and it is also the process of psychological change in their job satisfaction (Tang, Shao & Chen, 2019). Nursing profession is prone to higher stress level compared to other professions in healthcare. Nurses are constantly challenged emotionally, physically and psychologically due to their heavy workload and other factors such as limited time to complete their job tasks, lack of experience or knowledge in handling patients and lack of nursing skills. All these boil down to nurses showing negative reactions or behaviours in carrying out their responsibilities. These negative reactions and behaviours are manifested in poor work quality, poor work performance and lacking of innovative thinking or ideas in their work (Al-edenat, 2018). Yee (2018) has argued that job satisfaction is a predictor for good job performance. Therefore, it is imperative that leaders and managers fulfil the needs of nurses in carrying out their duties and inculcate and support innovative behaviour among nurses in improving organisational performance.

Figure 1. Conceptual framework showing nurses' innovative behaviour in the public hospital: The influence of transformational leadership and job satisfaction



Sources: Conceptualised by the researcher

Literature Review

Innovative Behaviour

Innovative behaviour is crucially significant at workplace. Innovative behaviour can be considered as employees' nonroutine job that is exhibited in a dynamic work environment

and can help an organisation to overcome new challenges in a complex environment (Scott & Bruce, 1998). Employee innovative behaviour focuses on the innovation process (i.e., engaging in innovative activities) rather than the innovation outcome (Montag, Maertz, & Baer, 2012), which is beyond the concept of creativity (Shin, Yuan & Zhou, 2016). Creativity and innovation have been recognised to key drivers of success and competitive advantage and they are directly related (Ismail & Mydin, 2019). Creativity is conceptualised as the nature of the thinking processes and intellectual activity used to generate insights or solutions to problems (Martins & Terblanche, 2003; Mumtaz & Parahoo, 2019). Innovative behaviour does not only include the generation of idea but also the implementation of a process. Therefore, creativity can be considered as an important form of innovative behaviour (Shin et al., 2016). Innovative behaviour includes the complex process which requires employees to prepare themselves with new knowledge and skills. That is why organisations need to understand each factor that can affect innovative behaviour among employees to boost productivity.

Janssen (2000) has identified three dimensions of innovative behaviour, namely idea generation (problem recognition, defining the problem, and generate innovative solutions to deal with the problems), idea promotion (introduction and dissemination), and idea realisation (application). Table-1 presents the summary of the selected definitions by different authors.

Table 1. The Concept of Innovative Behaviour– A Summary

Sources	Concepts	Definitions
Scott and Bruce (1994)	Innovative behaviour	Innovation is viewed as a multistage process with different activities and individual behaviours necessary at each stage.
Janssen (2000)	Innovative work behaviour	Innovative work behaviour is defined as “the intentional creation, introduction, and application of new ideas within a work role, group, or organisation to benefit the role performance, group, or organisation.” It includes rethinking and changing the underlying principles of organisational work.
Carmeli, Meitar, and Weisberg (2006)	Innovative behaviour	Innovative behaviour is defined as “a multistage process in which an individual recognises a problem for which she or he generates new (novel or adopted) ideas and solutions, works to promote and build support for them and produces an applicable prototype

		or model for the use and benefit of the organisation or parts within it.”
De Spiegelaeere et al. (2014)	Innovative work behaviour	Innovative work behaviour is defined as “all employees’ behaviours directed at the generation, introduction, and/or application (within a role, group, or organisation) of ideas, processes, products, or procedures which are new to the relevant unit of adoption that benefits the relevant unit of adoption”.

Transformational Leadership

In healthcare, leaders are believed to catalyse something fresh from the usual routines by demonstrating transformational leadership style (Mowbray, 2001). Bass and Avolio (1994) have stated that transformational leadership focuses on the positive vision of what can be achieved and characterised by enthusiasm and optimism. This kind of leadership encourages innovation and creativity, and challenges previous assumptions. Based on these, it can be concluded that transformational leadership primarily focuses on changes (Weng et al., 2015). Changes are made to guarantee that the performance of staff and the tasks objectives can be of better-quality. According to literatures, there are four factors in transformational leadership. They are idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration.

First, idealised influence signifies that leaders are role models who can set good examples through their actions and set goals which would influence staff’s behaviour at workplace (Nilwala, Gunawardana & Fernando, 2017). In addition, idealised behaviours or idealised influence (behaviours) refers to leaders who have values and beliefs, have a sense of purpose, and ethical (Avolio & Bass, 2004). In this context, leaders who act respectfully, exercise their power optimally and confidently, successfully instil pride in others, and go beyond their self-interest for the betterment of the group are said to have idealised influence (Avolio & Bass 2004; Avolio 2011). Second, inspirational motivation is defined as leaders who exhibit enthusiasm that encourages followers to change their expectation, perception, and motivation to work toward common goals. Moreover, these leaders have strong communication skills to cascade down the meaning of and promote visionary goals to followers (Denker, 2014). Third, intellectual stimulation refers to leaders who are change agents that inspire followers to explore innovative ways of doing things and provide new opportunities to learn. They also encourage creativity among followers and accept challenges as part of their job. Lastly, individualised consideration is about leaders who genuinely show their understanding on the needs of followers’ and are prepared to enhance and prepare preferred workplace behaviour (Khan, Nawaz & Khan, 2016).

Job Satisfaction

Job satisfaction is not only crucial for employees, it is also the basis in observing the maturity level of an organisation. In addition, it is also a reliable platform in monitoring sustainable

human development process in organisations. Although it is impossible to make all employees feel satisfied with their job, job satisfaction still needs to be addressed as to achieve greater performance of organisations (Wijayati, 2014). Without job satisfaction, employees cannot achieve self-actualisation and this will lead to frustration. Self-actualisation is defined as an ongoing process of realising one's potential by doing what one is capable of (Maslow, 1969; Ozaslan, 2018). For example, employees also have the desire for self-development rather than just being merely satisfied with fulfilling their basic needs (Ozaslan, 2018).

Hasibuan (2006) mentions that job satisfaction affects employees' attitudes. For example, employees who enjoy and love their job would do their best to achieve greater performance. Satisfaction should be generated in enhancing the quality of work ethics, dedication, sense of caring for others and self-discipline amongst employees. Robbins (2006) has defined job satisfaction as a general attitude towards one's job, the difference between the number of rewards received by workers and the amount they believe they should receive. Sumantri (2008) states that job satisfaction refers to the behavioural traits of satisfied workers who have high motivation to work and they are happy with their work, whereas the characteristics of unhappy workers are those who feel lazy to go to work and lacking in doing their jobs. Therefore, satisfied employees are crucial because they can determine to a certain extent, the performance and the growth of their companies or organisations.

Transformational Leadership and Innovative Behaviour

Transformational leadership encourages nurses to become more innovative and consequently, changes the way they work. According to Kotter's transformational change, there are two critical actions of leading changes in organisations; first creating a vision to direct efforts in making changes and second, encouraging risk-taking and non-traditional ideas, activities, and actions (Kotter, 2007; Weng et al., 2015). Innovation among employees can be instilled and encouraged through charismatic leaders. Thus, it can be said that transformational leadership and employees' innovation behaviour are positively correlated (Jung, Chow & Wu, 2003, Gumusluoglu & Ilsev 2009; Weng et al., 2015). To measure the relationship between transformational leadership and innovative behaviour, this study proposes the following hypothesis:

H1: Transformational leadership has a significant and direct influence on innovative behaviour of nurses.

Transformational Leadership and Job Satisfaction

Transformational leaders focus on intrinsic motivation and personal development of their followers that influence job satisfaction (Omar, 2013). Numerous studies have reported convincing relationships between transformational leadership and organisational health to increase job satisfaction such as (Bono & Judge, 2003; Nielsen, Yarker, Podsakoff, Mackenzie & Bommer, 1996). Abdelhafiz, Alloubani, and Almatari (2016) conducted a survey among 200 nurse managers from selected private and public hospitals in Jordan. The results revealed correlation between all Multifactor Leadership Questionnaire (MLQ) subscales and job satisfaction. This study proves that if managers have more transformational characteristics, staff would be more satisfied with job. There have also been many research works on job satisfaction among nurses in the early 1990s focused on the role of organisations in determining satisfaction level in this profession (Chang, 2003). Job satisfaction triggers employees to be more productive, innovative, and dedicated in providing and maintaining

quality services to patients (Ahmad, Adi, Md Noor, Rahman & Yushuang, 2013). Thus, based on these notions, this study proposes the following hypothesis:

H2: Transformational leadership has a significant and direct influence on job satisfaction of nurses.

Job Satisfaction and Innovative Behaviour

Employees who have job satisfaction are expected to be more productive and stay with their job compared to those who have not (McNeese-Smith, 1997; Irvine & Evans, 1995). According to Bashayreh (2009), job satisfaction is a gratifying state that is a consequence of one's job and one's experience in doing it. Employees behave positively and have positive attitudes when they are satisfied with their job. In other words, high level of job satisfaction can lead employees to have greater sense of belonging to their job in which would enhance their motivation in generating, extending and implementing innovative ideas within their organisations (Ng & Feldman, 2011). Al-edenat (2018) has conducted a study involving 486 participants from three major telecom companies supplying telecommunication and internet services in Jordan. The results show positive direct impact of transformational leaders on both employees' innovativeness and job satisfaction. Job satisfaction is found to affect product and service innovation positively. Thus, based on these findings and notions, this study proposes the following hypothesis:

H3: Job satisfaction has a significant and direct influence on innovative behaviour of nurses.

The Mediating Role of Job Satisfaction

In the context healthcare, previous studies have proven that transformational leadership (Weng et al., 2015) and job satisfaction (Wijayati, 2014) are determinants of innovative behaviour among employees. Transformational leadership patterns can reduce work pressure and build nurses' morale. Apart from that, other studies also show that nurses are likely to work in achieving longer-term goals to meet the leader's expectations (Bayram & Dinç, 2015) that can promote their job satisfaction (Mohammad, AL-Zeaud, & Batayneh, 2011; Walumbwa, Orwa, Wang, & Lawler, 2005). Likewise, Sanders, Moorkamp, Torka, Groeneveld, and Groeneveld (2010) have investigated the impact of leader-member-exchange (LMX), satisfaction with human resource (HR) practices (employee influence, flow, rewards, and work content) on innovative behaviour. Therefore, based on these notions, this study proposes the following hypothesis:

H4: Job satisfaction mediates the relationship between transformational leadership and innovative behaviour of nurses.

Methods

This study is primarily quantitative in nature. The data was collected using the survey method. The population for this study comprised of nurses with valid Malaysian Nursing Board license from nine Kelantan public hospitals. This research employed the random sampling technique in choosing the sample of study.

The variables of this study were measured using three different scales. First, the transformational leadership (idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration) was measured using 23 items from MLQ-5X

developed by Bass and Avolio (Bass & Avolio, 1995). Second, the innovative behaviour with three components which are idea generation, idea promotion, and idea realisation was measured using the 9-item scale developed by Janssen (2000). Third and lastly, the scale of job satisfaction was measured using 18 items by Brayfield and Rothe (1951), and the measurement was developed from the elements of Brayfield and Rothe’s Index of Job Satisfaction (1951). All items were measured using the 7-point Likert scale ranging from 1 = strongly disagree to 7 = strongly agree.

The gathered data was analysed using Statistical Package for Social Science (SPSS) version 25 for Windows and SEM software with Analysis of Moment Structures (AMOS). SEM was used to answer the research questions and test research hypotheses. In addition, the researcher can model multiple observed variables or incorporate unobserved variables to estimate the causal effect relationship using SEM (Afthanorhan, Awang, & Fazella, 2017).

Results

Figure-2 shows all fitness indices ($\chi^2/df = 1.493 \leq 5.0$, $RMSEA = 0.039 \leq 0.08$, $CFI = 0.951 \geq 0.90$, $TLI = 0.949 \geq 0.90$, $IFI = 0.952 \geq 0.90$) that have been achieved after several observed variables were deleted. Items that had a value less than 0.60 were deleted from the model. Four items from “Job Satisfaction” were deleted due to poor factor loading; namely item S4, item S10, item S11, and item S14. The results demonstrated that the fitness index was satisfied, and the construct correlations were also satisfied because all correlations were less than 0.85.

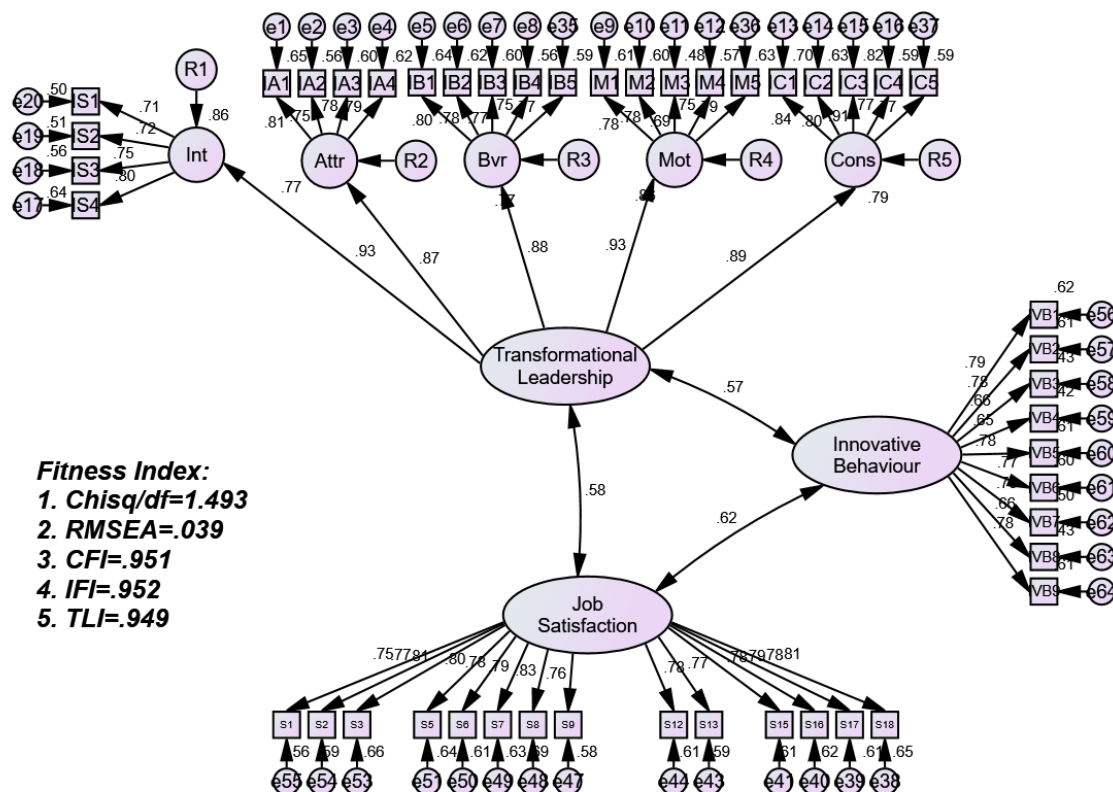


Figure 2. Confirmatory Analysis for Transformational Leadership, Job Satisfaction, and Innovative Behaviour

The next step was to determine the construct reliability and validity using composite reliability (CR), average variance extracted (AVE), and discriminant validity.

Table 2. Composite Reliability and Average Variance Extracted

Constructs	Composite Reliability (CR)	Average Variance Extracted (AVE)
Attribute	0.863	0.613
Behaviour	0.882	0.599
Motivation	0.871	0.576
Consideration	0.911	0.672
Intellectual	0.833	0.556
Transformational Leadership	0.988	0.866
Job Satisfaction	0.928	0.550
Innovative Behaviour	0.913	0.541

The reliability and validity of a construct are proportionally related to the value of CR and AVE. Higher CR and AVE values indicate higher reliability and validity for the particular construct. In this study, the range value for CR was between 0.833 and 0.988, and the value for AVE for each construct was between 0.541 and 0.866. The result of discriminant validity was also satisfied as shown in Table 3. The diagonal value for each construct was higher than the value of construct correlations, which made all constructs were distinct. In addition, the value of construct correlation was lower than the recommended literature; suggesting that the minimum requirement for the assessment could not be higher than 0.85.

Table 3. Discriminant Validity

Constructs	Transformational Leadership	Job Satisfaction	Innovative Behaviour
Transformational Leadership	0.90		
Job Satisfaction	0.58	0.76	
Innovative Behaviour	0.57	0.62	0.73

This study had examined three constructs to test the proposed hypotheses. This study expected that “Innovative Behaviour” was the mediator construct that mediated the exogenous construct of “Transformational Leadership” and the endogenous construct of “Job Satisfaction”.

Figure 3 demonstrates the standardised result and squared multiple correlations (R²). It shows that 0.45 or 45 per cent of the “Innovative Behaviour” construct was explained by “Transformational Leadership” and “Job Satisfaction”. Figure 4 and Table 4 show the unstandardised estimates to analyse research hypotheses for direct effect.

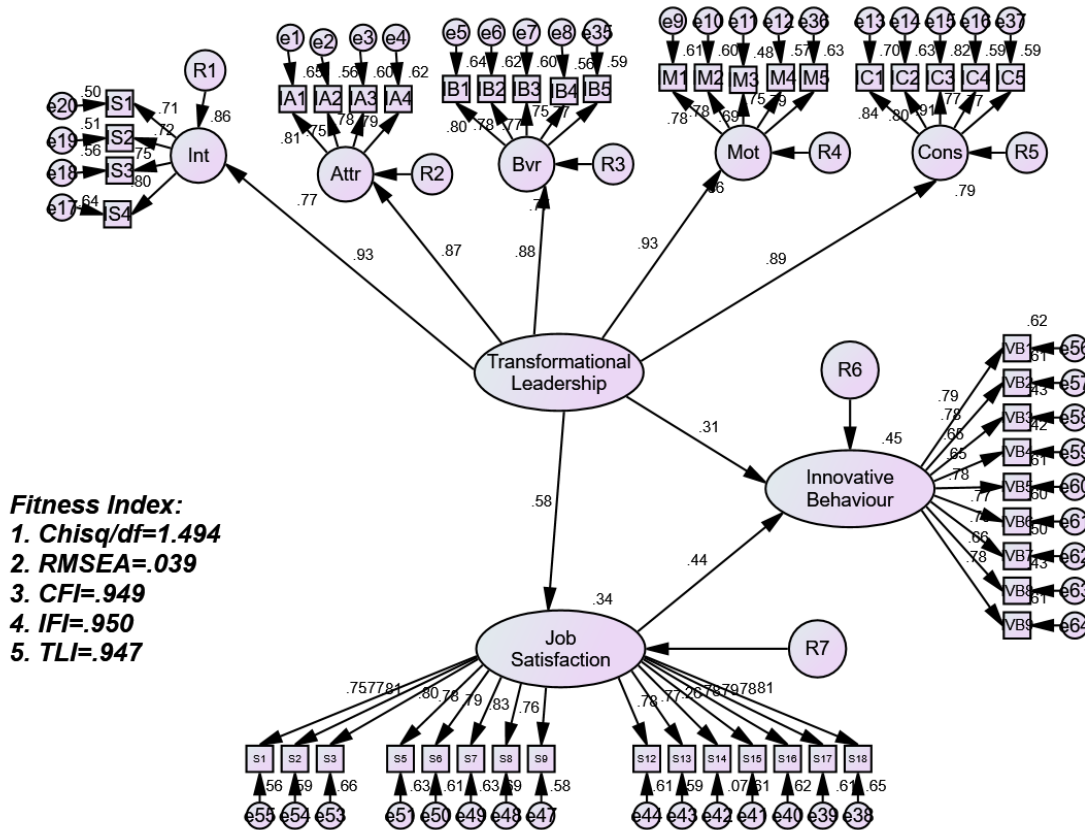


Figure 3. Standardised Estimates

Table 4. Regression Weight

			Estimate	SE	CR	P	Results
Job Satisfaction	<---	Transformational Leadership	.654	.071	9.261	***	Significant
Innovative Behaviour	<---	Transformational Leadership	.308	.063	4.908	***	Significant
Innovative Behaviour	<---	Job Satisfaction	.389	.057	6.875	***	Significant

Table 4 shows that all constructs have significant contribution toward their respective endogenous constructs. By looking at the estimated value, “Transformational Leadership” (Beta = 0.654) has the highest positive contribution toward “Job Satisfaction” compared to “Innovative Behaviour” (Beta = 0.308). The following tables present the interpretation for each effect:

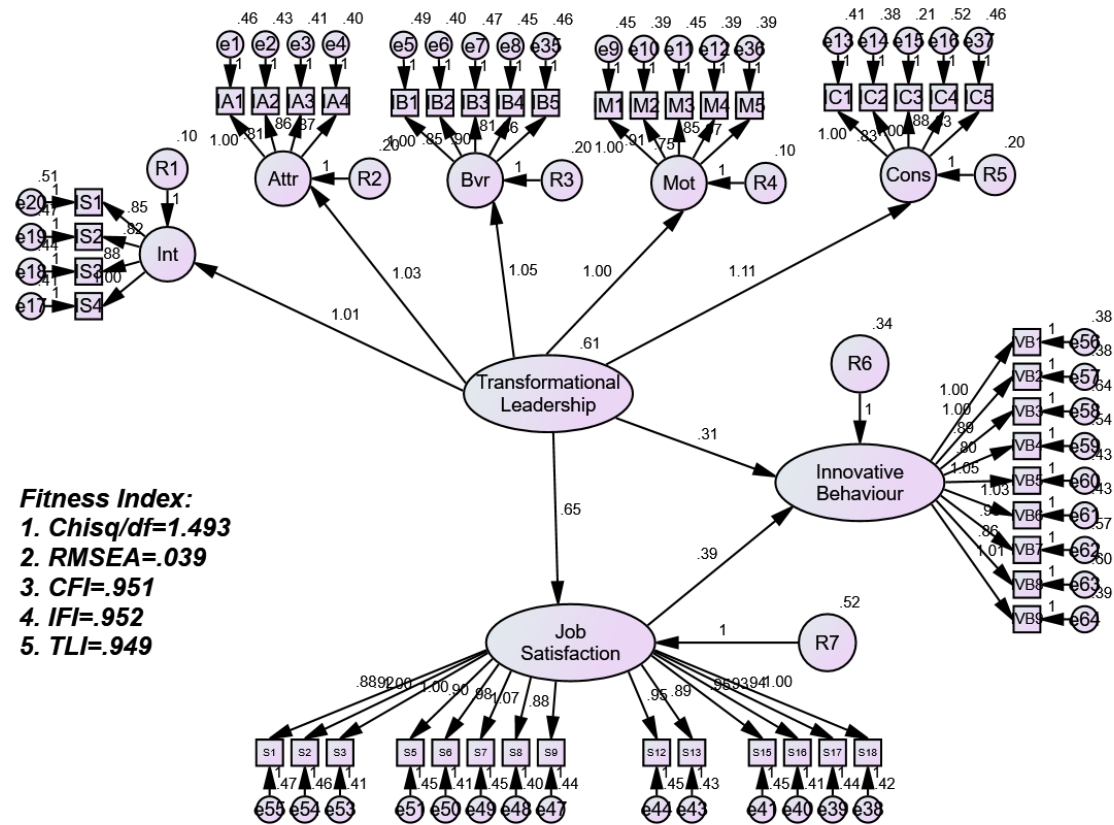


Figure 4. Unstandardised Estimates

Table 4 also shows that the regression weight for “Transformational Leadership” in the prediction of “Innovative Behaviour” was significant at 0.001 level. In other words, the direct effect of transformational leadership on innovative behaviour was significant. Therefore, H1 is highly supported.

The regression weight for “Transformational Leadership” in the prediction of “Job Satisfaction” was significant at 0.001 level. In other words, the direct effect of transformational leadership on job satisfaction was significant. Thus, H2 is highly supported.

The regression weight for “Job Satisfaction” in the prediction of “Innovative Behaviour” was significant at 0.001 level. In other words, the direct effect of job satisfaction on innovative behaviour was significant. Hence, H3 is highly supported.

Table 5. The Result of Direct and Indirect Effect (Transformational Leadership, Job Satisfaction, and Innovative Behaviour)

	Indirect Effect	Direct Effect
Bootstrapping Estimate	0.256	0.310
Bootstrapping P-Value	0.001	0.002
Result	Significant	Significant
Type of Mediation	Partial Mediation	

The regression weight for the direct effect was 0.303. The probability of getting the bootstrap *p* value for direct effect was 0.002 (*p* value < 0.05). Accordingly, the researcher concluded that the type of mediation for the “Innovative Behaviour” construct in this model

is partial mediation because of the significant effect observed in the direct causal effect. Therefore, H4 is highly supported.

Discussion

The success of an organisation depends on the quality performance of employees. Employees need to do well in their job. Hence, employees need to change the way that they work and improve the organisational process. Therefore, the role of leaders is to motivate employees in generating and implementing new ideas which can improve the overall service quality and performance (Afsar & Umrani, 2019; Edghiem & Mouzugh, 2018). Leaders can promote innovative behaviour by motivating employees and ensuring them in accepting the changes that can benefit the organisation and their performance. Transformational leadership is found to positively affect the innovative behaviour of staff. Although previous studies have found a positive impact of transformational leadership on innovative behaviour (Afsar, Badir & Saeed, 2014), the relationship has been minimally examined among nursing staff (Umrani & Afsar, 2019; Khalid, 2020).

In previous research works, job satisfaction has been found to mediate the relationship between transformational leadership and innovative behaviour. Hence, this study adds more insights and understandings to the findings of previous works by examining the mediation role of the employees' job satisfaction between transformational leadership and innovative behaviour. This is because there are only a small number of research works that have examined job satisfaction and innovative behaviour (Xerri, 2014). Xerri (2014) indicated that job satisfaction has a positive and significant relationship with innovative behaviour. When the employees are more satisfied with their job, they may be more inclined to put in extra efforts to be innovative at workplace. Furthermore, this study is also one of the first attempts to examine the mediating role of job satisfaction in the relationship between transformational leadership and nurses' innovative work behaviour in the context of the healthcare industry. The results propose that transformational leadership directly predicts nurses' innovative behaviour. This finding is in agreement with previous studies that have found a direct positive link between transformational leadership and innovative behaviours among nurses (Umrani & Afsar, 2019; Khalid, 2020). The results of this study do not only complement the previous findings but also contribute to the literature with regard to transformational leadership and innovative behaviour by using job satisfaction as the mediator.

Conclusion

All in all, in achieving the aim of this study which is to explore the role of transformational leadership in enhancing nurses' innovative behaviour through job satisfaction, the findings suggest that transformational leadership may stimulate nurses to engage in innovative behaviour and job satisfaction may mediate this. In addition, the results also indicate the validity and reliability of the scale employed to measure transformational leadership, job satisfaction, and innovative behaviour within the new context of a non-western country.

This result extends a study by investigating the influence of transformational leadership and job satisfaction on innovative behaviour among nurses. According to Masood & Afsar (2017), extending research to individual level of analysis have a good contribution to knowledge because only a few definitive theory on nursing leadership that provides direction to enhance innovative behaviour among nurses. Furthermore, this study attempts to

contribute evidence that nurses in Malaysia also need to keep continuous effort in enhancing innovations in clinical practice. This is important, since the culture, operating environment and values in Malaysia are different from Western country.

Ethical Consideration for this Study

This study was conducted after receiving the approval from the National Medical Resource and Research (NMMR) and Ethics Committee (MREC) of the Malaysian Health Ministry. The data was collected through the use of questionnaire and before respondents answered the questionnaire, they were informed about the study and those who expressed their agreement to participate in the survey signed the consent forms.

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