

EXAMINING THE IMPACT OF PERCEIVED TRANSFORMATIONAL LEADERSHIP ON INNOVATIVE WORK BEHAVIOUR: ROLE OF TEACHER SELF-EFFICACY

Aziyah Mohd Yusoff¹

Faculty of Entrepreneurship and Business
Universiti Malaysia Kelantan, Malaysia
aziyah@iab.edu.my

Prof. Dr. Naresh Kumar Samy²

Faculty of Entrepreneurship and Business
Universiti Malaysia Kelantan,
Malaysia
naresh@umk.edu.my

Abstract

Innovation has been increasingly regarded as a crucial factor for the sustainability and success of organizations. Innovation also relies on human behaviour. Innovation in education is must since it is essential to fulfil public obligation in alleviating education quality. Yet research on antecedents of innovative work behaviour is relatively limited. This study contributes to the literature by investigating the impact of perceived transformational leadership on innovative work behaviour by the mediating role of teacher self-efficacy. The study employed Smart PLS and tested on High performing schools' teachers. The findings showed that perceived transformational leadership and teacher self-efficacy are a strong determinant of innovative work behaviour. This study has also fulfilled both convergent and discriminant validity. Data also show that all dimensions of perceived transformational leadership and teacher self efficacy impacted teacher's innovative work behaviour. These findings are discussed in the light of previous research and avenues of future research are proposed.

Keywords: innovative work behaviour, transformational leadership, teacher self-efficacy.

Introduction

One of the major task of Ministry of Education (M.o.E) in raising education quality is to ensure all aspirations, namely system and students in the Malaysia Education Blueprint 2013-2025 (MEB 2013-2025) are attained. This entails a huge commitment from all parties in M.o.E especially teachers and school leaders. This is vital since the nation is facing with a global competitiveness and dynamic environment. Therefore, innovation in education is a must. Exploring new methods of teaching, new practice, new perspectives by teachers indeed important and surge certain leadership style of school leaders. Hence, school leaders play an important role in fostering innovation in the workplace and striking a unique equilibrium between these competing priorities to maximize individual creativity and organizational innovation outcomes as pointed out by Yusr, Othman, and Mochtar (2011) that innovation is the key source of many organizations' competitive advantage in the global marketplace. Moreover, it also contributes to long-term organisation success and survival (Janssen, Van de Vliert, & West, 2004; Eisenbeiss, Knippenberg, & Boerner, 2008; Birkinshaw, Hamel, & Mol, 2008). Additionally,

organizations that can keep up with the changing environment conditions via innovation can build the employees' creativity and ability of producing new ideas (Derin & Gökçe, 2016).

Most studies related innovative work behaviour focused on manufacturing, service and industrial sectors in private businesses rather than the public sector (Chatchawan, Trichandhara & Rinthaisong, 2017). In fact, Former Deputy Prime Minister cum Education Minister Tan Sri Mahyuddin Yassin at the High Performance Schools Launching Ceremony in 2010 has stated that "High Performance Schools will be given additional autonomy to create innovation in school administration and improve student success" (Keynote Speech by the Ministry of Education Malaysia, 2010). Realising the importance of having highly innovative teachers in HPS, certain leadership styles are crucial in this matter. Leaders need a comprehensive understanding of teacher innovative work behaviour to foster a high quality education. This can only be achieved through school leaders style of leadership. Schools entail innovative work behaviour among teachers for various reasons including to meet the demands in knowledge society (Brandsford, Derry, Berliner, & Hammerness, 2005); to face with upcoming new technology (Thurlings, Evers, & Vermeulen, 2014); and to set as an example for more innovative work behaviour to the society (Andiliou, & Murphy, 2010). Hence, teacher innovative work behaviour is vitally important to raise the quality of education and need to be a central focus by school leaders.

Several researchers have identified transformational leadership (Bass & Avolio, 1990; Gong, Huang, & Farh, 2009; Janssen, 2003; Jung, Chow & Wu, 2003; Kroes, 2015; Mumford et al., 2002; Oke, Munshi, & Walumbwa, 2009; Pieterse, van Knippenberg, Schippers, & Stam, 2010; Reuvers, van Engen, J. Vinkenburg, & Wilson-Evered, 2008; Shunlong & Weiming, 2012; Sosik, Avolio & Kahai, 1997; Wilson-Evered, Härtel & Neale, 2004; Wilson-Evered, Dall & Neale, 2001) in promoting innovative work behaviour. Additionally, according to Gumusluoglu and Ilsev (2009), the processes through which transformational leaders elicit innovative behavior are not sufficiently studied yet (Poppendick, 2009), scarce and inconsistent (Gong, Huang, & Farh, 2009; Pieterse, van Knippenberg, Schippers, & Stam (2010). Furthermore, studies also found that leadership and innovation is still missing (Messman, 2012), less integration (Jong & Hartog, 2007) and less attention Matzler, Schwarz, Deutinger, and Harms (2008

1. Literature review

2.1 Underpinning theory

The researcher has referred to several theories in this study which include leadership theory, Social Cognitive theory and innovation theory. Leadership theory started with the first writings on leadership date back to the ancient Greeks and Romans who believed that leaders were born not made. They tried to identify the physical and mental abilities, as well as the personality traits, of various leaders of their times. These early theories often assumed that leaders would be men (the 'great man' theory).

Teacher self-efficacy is based on Social Cognitive Theory (SCT). SCT encompasses both the psychosocial dynamics influencing healthy behaviour and methods for promoting behavioural change. Within SCT, human behaviour is explained in terms of a triadic, dynamic, and reciprocal model in which behaviour, personal factors and environmental influences all interact (Bandura, 1997). According to Bandura (1997), there are four sources that influence self-beliefs or self-efficacy. These include mastery experience, vicarious experiences, verbal persuasion, and physiological and affective states.

Innovation theory emerges from the work of Schumpeter (1934). It was a prominent stage in innovations' evolution. He defines innovation in terms of creation and implementation of "new combination" of service, work processes, products and markets.

2.2 Transformational leadership

Previous studies show that most of the studies on transformational leadership frequently link to aspects of job characteristics, organization culture, job satisfaction, organization learning, organizational commitment, teacher self-efficacy, effective schools, excellent school, and school effectiveness (Teng, Zaidatol, Fooi, Zakaria & Jegak Uli, 2011; Amran Dazid@Ab. Aziz, 2011; Jazmi, 2009; Mohamad Zabidi, 2009). The study of Mohd Izham, Fuziah, Norazah & Saemah (2011) shows that the leadership level of transformation leadership of cluster school principals is high. The lowest mean score is the individual consideration dimension. This shows principals at least practice this dimension of leadership and give less attention to aspects such as giving space to differing views or taking into account the needs, needs and capabilities of individual teachers.

Furthermore, Ross and Gray (2006) found that schools with higher levels of transformational leadership had higher collective teacher-efficacy, greater teacher commitment to school mission, school community, and school-community partnerships.

Table 1: Research findings on Transformational leadership

Authors	Findings	Context
Nazarudin, Fauzee, Sofian & Abd Latif (2008)	Transformational leaders with characteristics of inspirational motivation, intellectual stimulation, and individualised consideration of headmasters perceived by most teachers in school in Sabah. It also found that there is a positive relationship between Transformational Leadership of headmasters and teachers' organisational commitment.	Education
Habib Ismail and Zaimah Ismail (2012)	There is high level of TFL of headmasters in primary schools in Batu Pahat District, Johor	Education
Faridah (2013)	The level transformational leadership practices is high among High performance schools head teachers in Cohort 1	Education
(Davidhizer & Shearer, 1997 Keller, 1995; Mink, 1992 King, 1994; Wofford & Goodwin, 1994; Zaccaro & Banks, 2001)	Several studies have been conducted that demonstrate a positive relationship between transformational leaders and organizational vision	Management
Solomon (2007)	Findings discovered that transformational leadership correlated with teacher commitment and student achievement in communication arts and Mathematics. There were significant correlations between teacher commitment and	Education

student achievement in communication
arts and Mathematics

Yun, Cox, Sims,
& Salam (2007)

It is found that one important possible
variable that can mediate
the transformational leadership and
another variable is satisfaction

Education

2.3 Teacher self-efficacy

Principals also play an important role in providing support for teachers' efficacy by trusting teachers to participate in efforts to raise the quality of the instruction in their schools (Ebmeier, 2003). Richardson (2014) studied on teacher efficacy in low-performing and high performing urban schools and found that teachers working in the high-performing urban schools had a higher sense of efficacy than teachers working in the low-performing urban schools cited in Dilliplane (2016). Moreover, studies also have revealed a high level of teacher efficacy and learning in school systems where transformational leadership is implemented (Silins & Mulford, 2002; Jolley, 2016). Nonetheless, Rao and Jani (2011) revealed that teachers' sense of efficacy is low among rural school teachers because of the poor infrastructure and the workload that have frustrated and burdened them in Rahmad et. al (2016).

2.4 Innovative work behaviour

Innovation occurs in a wide range of academics disciplines including science, engineering, economics, history, geography, psychology, sociology, finance, ICT, manufacturing and so forth. Innovation in education is vital since it requires an implementation of a new or significantly improved service or process, a new practice, or a new organisational method in work place that strengthen or replace existing practice in order to improve routine work, add value in terms of cost, transform from ordinary practice to more dynamics one, to increase efficiency and effectiveness.

Innovative work behaviour has been conceptualized as searching for new practices or products, generating new ideas, and implementing new ideas (Janssen, 2000; Kanter, 1988; Scott & Bruce, 1994). Innovative work behaviour encompasses idea exploration, idea generation, idea championing, and idea implementation (De Jong & Den Hartog, 2010; Janssen, 2004; Scott & Bruce, 1994; West & Farr, 1989).

2. The research model and research hypotheses

Transformational leadership (TFL) and teacher self-efficacy (TSE) affect innovative work behaviour (IWB) among teachers in High Performing Schools (HPS). In order to better understand the relationship between TFL, TSE and innovative work behaviour in Malaysia, below research hypotheses be tested by basing on the proposed research framework.

2.1 Research model

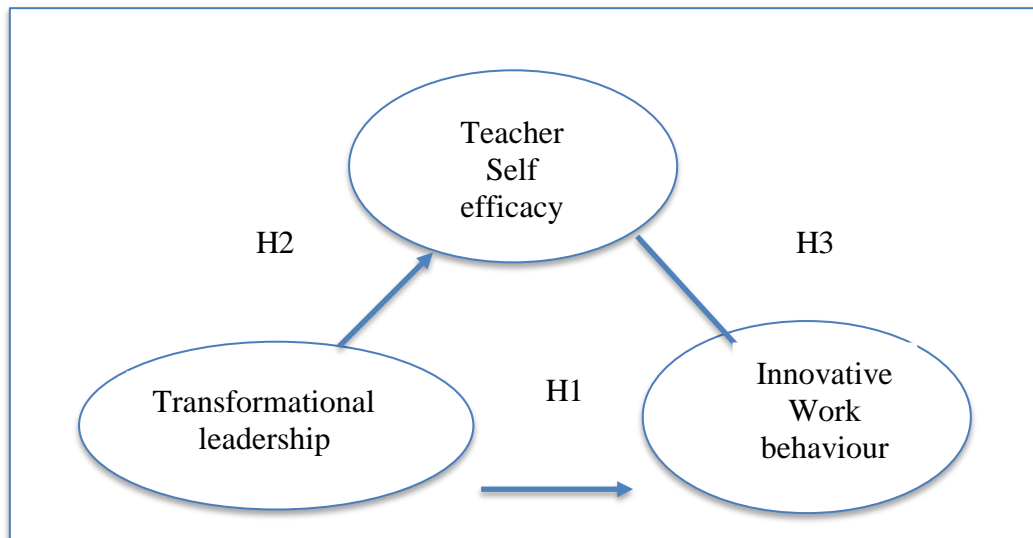


Figure 1: Research model

2.2 The relationship between TFL and IWB

The following three hypotheses state the relationships between the constructs to be empirically tested in the research. As confirmed in a study (Bass & Avolio, 1990; Sosik, Avolio & Kahai, 1997; Basu & Green, 1997; Mumford, Scott, Gaddies, & Strange, 2002 in Reuvers, van Engen; Vinkenbunrg & Wilson-Evered, 2008; Jung, Chow, & Wu, 2003; Wilson-Evered, Hartel, and Neale ,2004; Oke, Munshi, & Walumbwa, 2009; Gumusluoglu & Ilsev, 2009; Poppendick,2009; Ghulam Abbas, Javed Iqbal, Ajmal Waheed & M. Naveed Riaz, 2012; Muhammad Jamshed Khan and Naeem Aslam, & Muhammad Naveed Riaz, 2012; Afsar, Badir, & Bin Saeed , 2014; Kroes B. (2015). In the same vein, Sofinaz (2004) found that school applies actively its innovation in various aspects namely curriculum, learning, technology and school innovation at active level. Consequently, the way leaders lead the school could innovative work behaviour among teacher, which is the objective of this study and is examined through the lenses of the hypotheses below:

Literature on innovative work behaviour showed that most studies that have investigated the relationship between transformational leadership and on innovative work behaviour (Bass & Avolio, 1990; Sosik, Avolio & Kahai, 1997; Basu & Green, 1997; Mumford, Scott, Gaddies, & Strange, 2002 in Reuvers, van Engen; Vinkenbunrg & Wilson-Evered, 2008; Jung, Chow, & Wu, 2003; Wilson-Evered, Hartel, and Neale ,2004; Oke, Munshi, & Walumbwa, 2009; Gumusluoglu & Ilsev, 2009; Poppendick,2009; Ghulam Abbas, Javed Iqbal, Ajmal Waheed & M. Naveed Riaz, 2012; Muhammad Jamshed Khan and Naeem Aslam, & Muhammad Naveed Riaz, 2012; Afsar, Badir, & Bin Saeed , 2014; Kroes B. (2015). In Malaysian education

setting, a study carried out by Sofinaz (2004) in Sentul Zone, Kuala Lumpur Federal Territory found that school applies actively its innovation in terms of innovation in curriculum, learning, instructional, technology and school innovation at active level. Therefore, based on previous studies, H1 is proposed:

H1: Transformational leadership positively influences Innovative work behaviour

2.3 The relationship between TFL and TSE

Research has consistently found a positive relationship between transformational leadership and teacher efficacy (Hsu, Bell, & Cheng, 2002; Ebmeir, 2003; Ross and Hogoboam-Gray, 2008), Fitzgerald, 2015; Rahmad, Haris, Mohamed & Lai, 2016; Kirk, 2016 and Sompongdam, 2016). Demir (2008) also posited that the predictor contributed 35% of the change in criterion variable (collective teacher efficacy) while 49% of the change in criterion variable (teacher sense of efficacy) are due to the change in transformational leadership behaviour. Therefore, based on previous studies, H2 is proposed:

H2: Transformational leadership positively influences and teacher self-efficacy

2.4 The relationship between TSE and IWB

Previous research has shown that the relationship between teacher efficacy and innovative work behaviour (Tierney & Farmer, 2002; Gong, Huang, & Farh, 2009; Michael, Hou, and Fan, 2011; Hsi-Chi Hsiao, Jen-Chia Chang, Ya-Ling Tu, and Su-Chang Chen, 2011; Shih-Ching Shiu and Shy-Yi Lin Hsiu-O Chien, 2012; Rahmad, Haris, Mohamed & Lai, 2016). Therefore, based on previous studies, H3 is proposed:

H3: Teacher self-efficacy positively influences innovative work behaviour

2.5 The relationship between TFL, TSE and IWB

Previous studies have shown that there is a relationship between transformational leadership and innovative work behaviour (Bass & Avolio, 1990; Sosik, Avolio & Kahai, 1997; Basu & Green, 1997; Muhammad Jamshed Khan & Naeem Aslam, Muhammad Naveed Riaz, 2012; Afsar, Badir, & Bin Saeed, 2014; Kroes, 2015; Gross, 2016; Pujari-Sai Siva, Jing-Fen Uen & David, 2016). According to (Tierney & Farmer, 2002; Gong, Huang, & Farh, 2009; Michael, Hou, and Fan, 2011; Hsi-Chi Hsiao, Jen-Chia Chang, Ya-Ling Tu, and Su-Chang Chen, 2011; Shih-Ching Shiu and Shy-Yi Lin Hsiu-O Chien, 2012; Mikail Momeni, Habib Ebrahimpour & Mohammad Bashokoh Ajirloo, 2014; Rahmad, Haris, Mohamed & Lai, 2016), there is a relationship between teacher self-efficacy and innovative work behaviour. Kroes (2015) also pointed out in his cross-sectional study investigated the relationship between transformational leadership and Innovative Work Behaviour (IWB) which mediated by employees' self-

efficacy, However, in education setting, the study on the influence of transformational leadership on innovative work behaviour via teacher self-efficacy as mediator is to be found under study. Therefore, based on previous studies, H4 is proposed:

H4: Transformational leadership positively influences Innovative work behaviour which is mediated by teacher self-efficacy

3. Methodology

3.1 Data collection

This research adopted a quantitative approach for collecting data using a structured survey instrument. A total of 94 questionnaires were distributed as for pilot study to the teachers in High performing schools in Middle zone in Malaysia. The researcher has randomly selected them. HPS are schools' showcase and denotes as an exemplar to residents' schools and becomes one of the education National Key Results Area (NKRA) that aimed to boost school performance and become a model to other schools (Siti Noor, 2011). The researcher employed 5-Likert scale. The instrument was adapted from Leithwood and Jantzi (2006) in measuring TFL, Tschannen-Moran, and Hoy (2001) in measuring TSE, Janssen (2000) in measuring Innovative work behaviour. In this study, the researcher utilised the instrument by Tschannen-Moran and Woolfolk Hoy (2001) and identified three dimensions of teacher efficacy that comprise classroom management, instructional strategies, and student engagement. The researcher employs the instrument since TSES has been widely used in recent empirical studies in teacher efficacy and showed significant relations with teacher commitment, job satisfaction, classroom goal structures (Chan, Lau, & Nie, Lim, & Hogan, 2008); Chong, Klassen, Huan, Wong, & Kates, 2010); Ciani, Summers, & Easter, 2008; Klassen & Chiu, 2010; Tschannen-Moran & Hoy, 2007; Wolters & Daugherty, 2007).

4.2 Statistical technique

Partial least squares structural equation modelling (PLS-SEM)—a variance-based structural equation modelling—was used to analyse the data for this study. PLS was considered more suitable than CB-SEM because (1) the sample size was relatively small (below 200), (2) multiple independent and dependent constructs can be analysed simultaneously, and (3) the focus of the model is more on prediction than theory testing (Hair, Hult, Ringle and Sarstedt 2017).

3.2 Data analysis and results

The demographic background of the respondents revealed that majority of respondents were female (60.7 %) and the remaining were male (39.3%) which currently teaching at HPS.

3.2.1 Measurement model assessment

To validate the measurement model (CFA) in SmartPLS, item loadings, average variance extracted (AVE) and composite reliability (CR) were assessed by running PLS algorithm. Figure 2 exhibits the measurement model in SmartPLS. As shown in Table 1, the item loadings for all constructs are above the cut-off point of 0.5 (ideally 0.7) according to Fornell and Larcker (1981) and Hair et al. (2017), except TFL1, TFL2, TFL3 and TFL4 item in ‘transformational leadership’ construct. It has a loading of 0.295 which is below 0.5. Therefore, items ‘TFL1, TFL2, TFL3 and TFL4’ were discarded before running the PLS algorithm again to check for the AVE and CR. Table 1 illustrates the results of the measurement model after discarding items ‘TFL1, TFL2, TFL3 and TFL4’. As shown in Table 2, all the item loadings are above the cut-off value of 0.5 (ideally 0.7) (Fornell and Larcker 1981; Hair et al. 2017). Moreover, all constructs had acceptable average variance extracted (AVE) ranging from 0.515 to 0.751 which are above the threshold of 0.5 (Fornell and Larcker 1981; Hair et al. 2017) and acceptable composite reliability ranging from 0.964 to 0.966 above the cut-off point of 0.7 (Hair et al. 2009) except for ‘transformational leadership’ construct below cut-off point (AVE-0.467). Table 1 and Table 2 depicts item loadings, AVE and composite reliability (before and after discarding)

Table 1: Results of measurement model-Convergent validity (Before Discarding)

Latent Constructs	Items	Loading	AVE	C.R
Transformational Leadership	TFL 1	0.466	0.467	0.963
	TFL2	0.441		
	TFL3	0.424		
	TFL4	0.295		
	TFL5	0.645		
	TFL6	0.599		
	TFL7	0.680		
	TFL8	0.556		
	TFL9	0.564		
	TFL10	0.706		
	TFL11	0.644		
	TFL12	0.637		
	TFL13	0.729		
	TFL14	0.725		
	TFL15	0.722		
	TFL16	0.724		
	TFL17	0.537		
	TFL18	0.542		
	TFL19	0.767		
	TFL20	0.852		
	TFL21	0.441		
	TFL22	0.818		

	TFL23	0.794		
	TFL24	0.761		
	TFL25	0.807		
	TFL26	0.818		
	TFL27	0.836		
	TFL28	0.767		
	TFL29	0.744		
	TFL30	0.666		
	TFL31	0.658		
Teacher Efficacy	TE1	0.881	0.720	0.966
	TE2	0.873		
	TE3	0.854		
	TE4	0.680		
	TE5	0.836		
	TE6	0.834		
	TE7	0.826		
	TE8	0.802		
	TE9	0.844		
	TE10	0.898		
	TE11	0.840		
	TE12	0.865		
Innovative work behaviour	IWB1	0.867	0.751	0.964
	IWB2	0.881		
	IWB3	0.901		
	IWB4	0.828		
	IWB5	0.896		
	IWB6	0.860		
	IWB7	0.818		
	IWB8	0.848		
	IWB9	0.896		

Table 2: Results of measurement model-Convergent validity (After Discarding)

Latent Constructs	Items	Loading	AVE	C.R
Transformational Leadership	TFL5	0.654	0.515	0.966
	TFL6	0.607		
	TFL7	0.687		
	TFL8	0.568		
	TFL9	0.573		
	TFL10	0.704		
	TFL11	0.640		
	TFL12	0.633		
	TFL13	0.729		
	TFL14	0.723		
	TFL15	0.723		

	TFL16	0.725		
	TFL17	0.547		
	TFL18	0.555		
	TFL19	0.767		
	TFL20	0.852		
	TFL21	0.838		
	TFL22	0.817		
	TFL23	0.796		
	TFL24	0.761		
	TFL25	0.804		
	TFL26	0.819		
	TFL27	0.839		
	TFL28	0.770		
	TFL29	0.746		
	TFL30	0.673		
	TFL31	0.669		
Teacher Efficacy	TE1	0.881	0.702	0.966
	TE2	0.873		
	TE3	0.854		
	TE4	0.680		
	TE5	0.836		
	TE6	0.834		
	TE7	0.826		
	TE8	0.802		
	TE9	0.844		
	TE10	0.898		
	TE11	0.840		
	TE12	0.865		
Innovative work behaviour	IWB1	0.867	0.751	0.964
	IWB2	0.881		
	IWB3	0.901		
	IWB4	0.828		
	IWB5	0.896		
	IWB6	0.860		
	IWB7	0.818		
	IWB8	0.848		
	IWB9	0.896		

In addition, the discriminant validity of the constructs was measured using the square root of the average variance extracted (AVE). As shown in Table 2, the square root of average variance extracted (AVE) on the diagonals (in bold) for each construct is larger than its correlation with all the other constructs confirming the discriminant validity of the constructs. Overall, the measurement model (CFA) was assessed and confirmed by examining convergent validity and discriminant validity.

Hypotheses	Relationship	Sample Mean	Standard deviation	T value	P value	Decision
------------	--------------	-------------	--------------------	---------	---------	----------

Table 3: Discriminant Validity

	Innovative work behaviour	Teacher Self-efficacy	Transformational leadership
Innovative work behaviour	0.867		
Teacher self-efficacy	0.689	0.838	
Transformational leadership	0.547	0.478	0.718

4.2.2 Assessment of Significance of the Structural Model

The next step after ascertaining the direct relationship is to assess the structural model, a standard bootstrapping method was applied with 500 bootstrapped samples and 94 cases in SmartPLS. This was employed to conduct an assessment of the path coefficients significance as explained by Hair et. al (2017). Among the four hypotheses advanced in this study, all hypotheses were supported at $p < 0.01$ confidence level as depicted in Table 4 shows a summary of the structural model analysis.

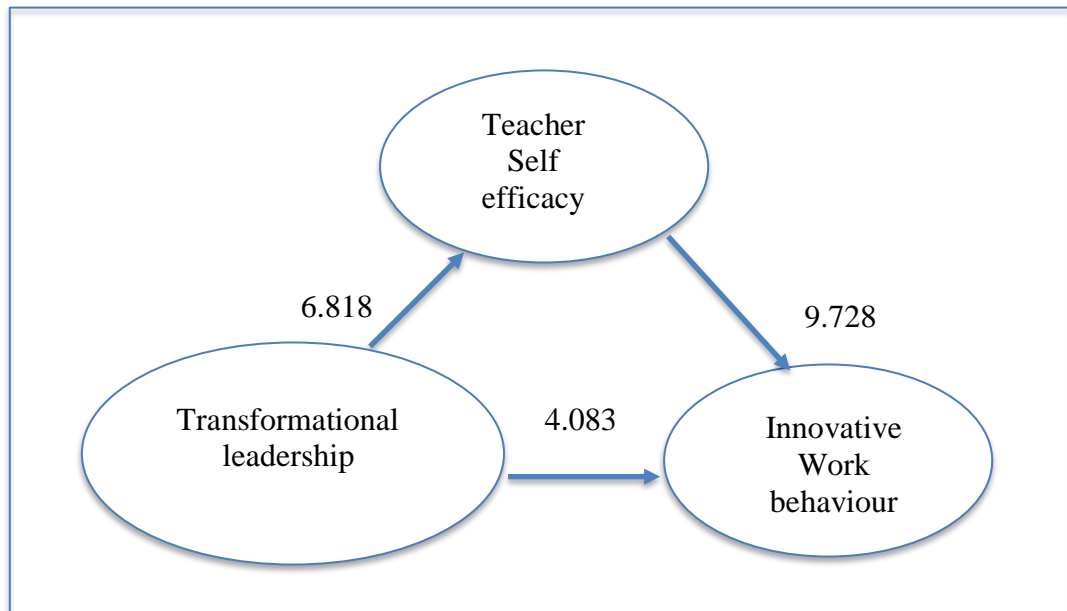
More specifically, Hypothesis H1 proposed the relationship between transformational leadership and innovative work behaviour through the mediating role of teacher self-efficacy. The obtained result supported the hypothesis at ($t = 9.728, p < 0.01$). Similarly, the result depicted in Table 4 supported Hypothesis H2, which proposed the relationship between transformational leadership and teacher self-efficacy at ($t = 4.083, p < 0.01$). In the same vein, Hypothesis H3 proposed the relationship between teacher self-efficacy and innovative work behaviour was supported at ($t = 6.818, p < 0.01$). Lastly, the result exhibited in Table 4 and Figure 2 supported Hypothesis 4 at ($t = 5.353, p < 0.01$).

Table 4: Parameter estimates (structural model)

H1	TFL---->IWB	0.548	0.057	9.728	0.000	Supported
H2	TFL----->TSE	0.288	0.069	4.083	0.000	Supported
H3	TSE----->IWB	0.501	0.070	6.818	0.000	Supported
H4	TFL--->TSE-->IWB	0.275	0.050	5.353	0.000	Supported

Note: t-value >1.65*(p<0.10); t-value >1.96**(p<0.05); t-value***>2.58(p<0.01)

Figure 2: Structural Model Assessment Result



Discussion

Findings of this study corroborate prior research, which indicate that perceived transformational leadership affects innovative work behaviour among teachers in High Performing Schools. This is in line with the study by Basu & Green (1997) that

transformational leaders are proposed to stimulate follower innovative behaviour through expressing an inspiring vision, stimulating followers to question the status quo, and allowing individual development and growth. It has been argued to entail aligning followers' needs and desires with the interests of the organization (Bass,1999), which may also promote going the extra mile needed for innovative behaviour. In addition, recent research found a positive relationship between transformational leadership and organizational innovation (Gumusluoglu & Ilsev, 2009; Jung, Chow,& Wu, 2003; Jung, Wu, & Chow, 2008).

This findings of this study also support previous studies that there was significant relationship between teacher efficacy and innovative work behaviour (Mikail Momeni, Habib Ebrahimpour & Mohammad Bashokoh Ajirloo, 2014; Rahmad, Haris, Mohamed & Lai, 2016). Similarly, this study is consistent with previous studies that there was a positive relationship between transformational leadership and teacher efficacy (Hsu, Bell, & Cheng, 2002; Ebmeir, 2003; Ross and Hogoboam-Gray, 2008), Fitzgerald, 2015; Rahmad, Haris, Mohamed & Lai, 2016; Kirk, 2016 and Sompongdam, 2016).

Conclusions

This study showed detailed investigation of the factors influencing teachers' innovative work behaviour in High Performing schools. Although teachers' innovative work behaviour has been widely researched in western countries, little is known about the influence of perceived transformational leadership which can enhance teachers' innovative work behaviour in Malaysia educational context. Hence, this study responded to recent calls to examine factors influencing teachers' innovative work behaviour. This study investigated the relationship between perceived transformational leadership, teacher self efficacy, and teachers' innovative work behaviour beyond the ordinary scope of western setting.

References

Amran Dazid@Ab. Aziz (2011) . *Gaya Kepemimpinan transformasi pengetua wanita dan motivasi guru di sekolah Seremban*. Unpublished Master Degree of Headship, University of Malaya

Annual Report, 2015: Malaysia Education Blueprint 2013-2025. Ministry of Education

Bass, B. (1990). *Bass and Stogdills handbook of leadership: Theory, research and managerial applications (3rd ed.)*. New York, NY: The Free Press

Bass, B.M. and Avolio, B.J. (1990) Developing Trans-formational Leadership: 1992 and Beyond. *Journal of European Industrial Training*, 14, 21-27.
<http://dx.doi.org/10.1108/03090599010135122>

- Basu, R., & Green, S. G. (1997). Leader-Member Exchange and Transformational Leadership: An Empirical Examination of Innovative Behaviors in Leader-Member Dyads. *Journal of Applied Social Psychology* , 477-499
- Bilal Afsar, Yuosre F. Badir, Bilal Bin Saeed, (2014) "Transformational leadership and innovative work behavior", *Industrial Management & Data Systems*, Vol. 114 Issue: 8, pp.1270-1300, <https://doi.org/10.1108/IMDS-05-2014-0152>
- Birkinshaw, Hamel, & Mol, (2008). Management Innovation, *Academy of Management Review* 2008, Vol. 33, No. 4, 825–845.
- Chatchawan, Trichandhara & Rinthaisong (2017). Factors Affecting Innovative Work Behavior of Employees in Local Administrative Organizations in the South of Thailand. *International Journal of social Sciences and Management*, Vol. 4, Issue-3: 154-157
- Demir (2008). Transformational Leadership and Collective Efficacy: The Moderating Roles of Collaborative Culture and Teachers' Self-Efficacy. *Eurasian Journal of Educational Research (EJER)*33112(93) · January 2008
- Derin & Gökçe, 2016
- Dilliplane R.W. (2016). Principal Leadership Responsibilities And Teacher Efficacy In Low-Performing Middle Schools And High-Performing Middle Schools. Dissertation
- Ebmeier, H. (2003). How supervision influences teacher efficacy and commitment: An investigation of a path model. *Journal of Curriculum and Supervision*, 18(2), 110-142.
- Eisenbeiss, S. A., van Knippenberg, D., & Boerner, S. (2008). Transformational leadership and team innovation: Integrating team climate principles. *Journal of Applied Psychology*, 93(6), 1438- 1446.
- Fitzgerald, T.T (2015). Study Exploring Transformational Leadership and its Impact on Teacher Efficacy, Teacher Trust, and Change Readiness. Dissertation
- Guskey, T. R. (1984). The influence of change in instructional effectiveness upon the affective characteristics of teachers. *American Educational Research Journal*, 21, 245-259.
- Gong, Y., Huang, J., & Farh, J. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal*, 52, 765–778
- Gumusluoglu, L., & Ilsev, A. (2009). Transformational Leadership and Organizational Innovation: The Roles of Internal and External Support for Innovation. *Journal of Product Innovation Management* , 264-274

- Hair, J.F, Hult, G.T.M, Ringle, C.M and Sarstedt, M. (2017). A Primer Partial Least Squares Structural Equation Modelling (PLS-SEM). 2nd edition. Los Angeles, London, New Delhi, Singapore, Washington DC, Melbourne. Sage Publications Inc.
- Janssen, Van de Vliert, & West, (2004) The bright and dark sides of individual and group innovation: a special issue introduction. *Journal of Organizational Behavior*, Vol. 25, No. 2, 03.2004, p. 129-145.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology* , 287-302.
- Janssen, O. (2003). Innovative behavior and job involvement at the price of conflict and less satisfactory relations with co-workers. *Journal of Occupational and Organizational Psychology* , 347-364
- Jazmi Md Isa. (2009). Gaya kepemimpinan pengetua dan kepuasan kerja guru: kajian perbandingan antara SMKA dengan SMK. Tesis Sarjana. Universiti Utara Malaysia
- Jung, D. I., Chow, C., & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly* , 525-544.
- Jong, J. P., & Den Hartog, D. N. (2007). How leaders influence employees' innovative behaviour. *European Journal of Innovation Management* , 41-64.
- Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform: Effects on students, teachers, and their classroom practices. *School effectiveness and school improvement*, 17(2), 201-227. Retrieved from <http://myfirstwikipage.wiki.westga.edu/file/view/ResearchsourceLeadershipTransformation.pdf>
- Kanter, R.M. (1988) When a Thousand Flowers Bloom: Structural, Collective and Social Conditions for Innovation in Organization. *Research in Organizational Behavior*, 10, 169-211.
- Kementerian Pelajaran Malaysia. (2010). Teks Ucapan Majlis Pelancaran Sekolah Berprestasi Tinggi (SBT)
- Kroes, O. (2015). The Relationship Between Transformational Leadership And Innovative Work Behavior: The role of Self-efficacy and the effect of Perceived Organizational Support on Innovative Work Behavior. Thesis
- Malaysia Education Blueprint 2013-2025, Ministry of Education

- Matzler, K., Schwarz, E., Deutinger, N. and Harms, R. (2008) Relationship between Transformational Leadership, Product Innovation and Performance in SMEs. *Journal of Small Business and Entrepreneurship*, 21, 139-152.
<http://dx.doi.org/10.1080/08276331.2008.10593418>
- Messmann, G., & Mulder, R. H. (2012). Development of a measurement instrument for innovative work behaviour as a dynamic and context-bound construct. *Human Resource Development International*, 15, 43–59.
doi:10.1080/13678868.2011.646894
- Muhammad Jamshed Khan, Naeem Aslam and Muhammad Naveed Riaz (2012).
Pakistan Journal of Social and Clinical Psychology 2012, Vol. 10, No. 1, 17-22
- Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly* , 705-750
- Mohamad Zabidi Abdullah. (2009). Kepimpinan transformasi pengetua dan hubungannya dengan kepuasan kerja guru. Tesis Sarjana. Universiti Malaya
- Mohd Izham Mohd Hamzah, Fuziah Mat Yakop, Norazah Mohd Nordin and Saemah Rahman (2011). School as Learning Organisation: The Role of Principal's Transformational Leadership in Promoting Teacher Engagement. *World Applied Sciences Journal 14 (Special Issue of Innovation and Pedagogy for Diverse Learners): 58-63, 2011 ISSN 1818-4952*
- National Transformation Programme Annual Report (2015). Ministerial Department
- Oke, A., Munshi, N., & Walumbwa, F. O. (2009). The Influence of Leadership on Innovative Processes and Activities. *Organizational Dynamics* , 64-72.
- Pieterse, A. N., van Knippenberg, D., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior*, 31(4), 609-623. doi: 10.1002/job.650
- Popendick. P. (2009). *Direct and indirect effect of transformational leadership on innovative behaviour*. Dissertation
- Rao, R. R., & Jani, R. (2011). Teacher Allocation and Equity in Malaysian Schools. *International Journal of Institutions and Economies Teacher Allocation and Equity*, 3(1),103-112. Retrieved from
<http://biomed2011.um.edu.my/filebank/articles/3061/ Fulltext5.pdf>
- Rahmad Sukor Ab Samad, Haris Abd Wahab, Mohamed Iskandar Rahmad Sukor & Lai Yuet Wei (2016). *Contribution Of Headmaster Transformational Leadership Towards Teachers' Sense Of Efficacy In Under-Enrolled Primary Schools In Port Dickson*.

Malaysian Online Journal Of Educational Management (MOJEM). October 2016,
Volume 4, Issue 4, 66 - 80 E-ISSN No: 2289 – 4489

Reuvers, M., van Engen, M.L., Vinkenbergh, J., Wilson-Evered, E., (2008).
Transformational Leadership and Innovative Work Behaviour: Exploring the
Relevance of Gender Differences. *Creativity and Innovation Management*, 17(3),
227-244. DOI: [10.1111/j.1467-8691.2008.00487.x](https://doi.org/10.1111/j.1467-8691.2008.00487.x)

Ross, J. A. & Gray, P. (2006b) Transformational leadership and teacher commitment to
organizational values: The mediating effects of collective teacher efficacy. *School
Effectiveness and School Improvement*, 17(2), 179-199

Schumpeter, J.A. (1934), *The Theory of Economic Development: An Inquiry Into
Profits, Capital, Credit, Interest, and the Business Cycle*. Cambridge: Harvard
University Press.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior a pathmodel
of individual innovation in the workplace. *Academy of Management Journal* ,
580-607.

Shunlong, X and Weiming, Z. The Relationships between Transformational Leadership,
LMX, and Employee Innovative Behavior, *Journal of Applied Business and
Economics vol. 13(5) 2012*

Silins, H., & Mulford, B. (2002). Schools as learning organizations. The case for
system, teacher and student learning. *Journal of Educational Administration*,
40(5), 425.

Siti Noor, I. (2011). Hubungan antara amalan pengurusan kualiti menyeluruh (TQM)
dengan iklim sekolah dalam kalangan sekolah-sekolah menengah berprestasi
tinggi, sederhana dan rendah di negeri Kelantan. (Unpublished doctoral
dissertation). Universiti Utara Malaysia, Malaysia

Sosik, J. J., Avolio, B. J., & Kahai, S. S. (1997). Effects of leadership style and
anonymity on group potency and effectiveness in a group decision support system
environment. *Journal of Applied Psychology*, 82, 89-103.

Sosik, J., Kahai, S., & Avolio, B. (1998). Transformational leadership and
dimensions of creativity: Motivating idea generation in computer-mediated
groups. *Creativity Research Journal*, 11(2), 111-121

Sofinaz, A.B., (2004). *Inovasi dalam Pembangunan Pendidikan Islam di Zon Sentul,
Wilayah Persekutuan, Kuala Lumpur*. Tesis

Solomon, C. Bernard. (2007). The relationship among middle level leadership, teacher
commitment, teacher collective efficacy, and student achievement. Faculty of the
Graduate School, University

- Smylie, M. A. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal*, 25(1), 1-30.
- Teng L. K., Zaidatol Akmaliah Lope Pihie, Fooi S. F., Zakaria Kasa & Jegak Uli, (2011). Kepimpinan transformasional dan hubungannya dengan efikasi guru. Serdang: UPM.
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and teacher education*, 17(7), 783-805. Retrieved from https://www.researchgate.net/profile/Anita_Hoy/publication/222564347_Teacher_Efficacy_Capturing_an_Elusive_Construct/links/00463528a20374eea4000000.pdf
- West, M. A., & Farr, J. L. (1990). Innovation at work. In M. A. West, & J. L. Farr (Eds.), *Innovation and Creativity at Work: Psychological and Organizational Strategies* (pp. 3-13). Chichester: Wiley
- Wilson-Evered, E., Dall, P., & Neale, M. (2001). The influence of leadership on innovation at work. In K. W. Parry (Ed.), *Leadership in the antipodes: Findings, implications and a leader profile* (pp. 46-73). New Zealand: Victoria University of Wellington.
- Wilson-Evered, E., Härtel, C. E. H., & Neale, M. (2004). Leadership and innovation surfacing synergies among theories and constructs. In A. B. Ghobadian, N. O. Regan, D. Gallear, & H. Viney (Eds.), *Strategy and performance: Achieving competitive advantage in the global market place* (pp. 268-285). Palgrave Macmillan, Basingstoke
- Yusr, M. M., Othman, A. R., Mokhtar, S. S. M., & Don, M. S. (2014). How innovation capability can be a mediate between knowledge management and innovation performance? *International Business Management*, 8(2), 118-125.