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The Validation of Psychological Capital Instrument: An Exploratory Factor Analysis (EFA) in Research Involving Lecturers in Private Institutes of Higher Learning in Malaysia

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Abstract

This study aims to validate the Psychological Capital Questionnaire (PCQ) instrument that is used to measure the Psychological Capital among lecturers in private institutes of higher learning in Malaysia. The instrument that is used is the instrument that is translated into Malay Language and the original instrument was taken from previous study. A number of 100 respondents were taken to be tested using the Exploratory Factor Analysis (EFA) method and the reliability of Cronbach's Alpha. The result shows five factors with the Eigen value more than 1.0 of the KMO (Kaiser-Meyer-Olkin) value $.799 > 0.06$ shows the items in the PCQ instrument are adequate for inter-correlation. Moreover, the Bartlett Test is significant. Out of 23 PCQ items, only 1 item shows the weighting factor that is less than 0.6 where item 1 had to be eliminated. Finally, the value of the variants number which is indicated by the results of the analysis from the five factors are 70.378. Although the Alpha Cronbach value decreases from $.822$ to $.815$, it is still in the best range as suggested by previous scholars. Overall, findings show that items of PCQ instrument can measure what is to be measured.

Keywords: Psychological Capital, Exploratory Factor Analysis

Introduction

Becoming an educator is not an easy task particularly in a career as an educator in a private institute of higher learning (IPTS) where it is very demanding. According to Darus and Ahmad (2016), lecturers nowadays have to catch up and increasingly challenged in addition to the essential task in achieving the key performance indicator (KPI) yearly. Besides the main task in teaching, lecturers have to conduct researches, consultations, publications and for private lecturers in higher learning institutes, they have to get a number of new students to enrol.

This is not surprising according to Ehido et al (2019) the success of an education sector depends solely on the role of academic staff as well as the professionalism of its lecturers. Therefore, lecturers particularly in private institutes of higher learning have to be competent and possess excellent credentials if they want to be established and productive in IPTS. A number of previous scholars mention that psychological capital is among the predictors that presents some positive behaviors such as organizational citizenship behavior. According to Mokhtar et al (2021) the Organizational Citizenship Behavior is an essential characteristic as a lecturer particularly lecturers of private institutes of higher learning. Mokhtar et al (2020) also asserts that altruism as one of the dimensions in the organizational citizenship behavior is among the best indicator in steering lecturers at the private institutes of higher learning in Malaysia. Several other researches indicated that psychological capital influences positive work attitude and behavior such as work satisfaction, organizational commitment and organizational citizenship behavior (Luthans et al., 2007a; Luthans et al., 2005; Avey et al., 2010). According to Park et al (2017) in helping an individual to cope with various demands particularly in work, a source of positive psychology can push a positive attitude and behavior. Psychological capital is among the positive psychological source that can provide benefit to organization. Besides that, (Park et al., 2017; Luthans & Youssef, 2004); argue that psychological capital is a potential and important psychological ability to be developed in improving work performance that can contribute to the wellness of employees. In this context, the main source of positive psychology which is psychological capital must be present in the being of lecturers of private institutes of higher learning in developing a prosperous work environment.

Luthans et al (2007) define psychological capital as the capacity and potential of human resource that can be developed and enhanced. It also refers to the strength of positive psychology comprises of four elements of positive characteristics that shapes the acronym HERO, namely; i) Hope that is characterised a determination to achieve goal, ii) self –efficacy is having confidence to succeed, iii) resiliency is the ability to face difficulty and challenges, and iv) optimism is positive thinking towards future success (Luthans & Youssef, 2004; Luthans et al., 2007a). Former President of APA (American Psychological Association), Martin Seligman (1998) mentions that every component in psychological capital is the sources of potential psychology to be developed to enable human resources to thrive in their lives. Psychological capital also can push positive behavior and shape employees' attitude to be committed to work (Park et al., 2017; Avolio et al, 2004).

Table 1 : Positive psychological capital according to Luthans & Youssef, 2004

Hope	Is characterised as a determination to achieve goal
Efficacy	Is having confidence to succeed
Resilience	Is the ability to face difficulty and challenges
Optimism	Is positive thinking towards future success

An individual with low hope, self-efficacy, optimism and resilience might not be able to deal with stress and pressure on their own but when it becomes the psychological capital factor, they are able to deal with it (Nafees & Jahan, 2017)

According to Youssef and Luthans (2010), many researches have proved that individual factor such as personality trait is said to having interaction with psychological condition such as hope and optimism that enable the development of employees' psychological capital. Besides that, findings from previous research, prove that through training and development in an organization can enhance employees' psychological capital namely hope, self-efficacy, resilience and optimism. In the end, it contributes to the enhancement of positive attitude such as work satisfaction and commitment, as well as encouraging organizational citizenship behavior, work performance and feeling happy at workplace (Youssef & Luthans, 2010).

Since the concept of psychological model describes motivational tendency, so, psychological capital is believed to play a role as a mediator in the relationship between an individual factor and organization with the result in the organization.

Exploratory Factor Analysis for Psychological Capital Instrument

This study uses the instrument of Psychological Capital Questionnaire (PCQ) used by Luthans et al (2007) in measuring psychological capital. There are four dimensions that are being measured namely, hope, self-efficacy, resilience and optimism. The whole test equipment consists of 23 items. Likert scale 10 is used in this instrument in comparison to 5 scales from the original instrument. The scales are strongly disagree to strongly agree. Likert scale that consists of 10 answers will facilitate the study that uses SEM analysis based on parametric. Awang et al (2016) say the use of 10 likert scale in a social science and management study will reduce the risk of problem in analysing the model that is to be designed.

Table 3.7 : Detailing of questionnaire items for Psychological Capital

Dimensions	Items' No		Number of Items
	Positive items	Negative Items	
Hope	1,2,3,4,5,6		6
Efficacy	7,8,9,10,11, 12		6
Resiliency	14,15,16,17 ,18	13	6
Optimism	19,22,23	20,21	5
Overall total			23

Habsah et al (2018) argue that the result from pre-testing, the researcher rewrites the statement of the items and organize them in a proper order to achieve the face validity in the questionnaire. According to Creswell (2014), pilot study is important to validate the validity of the test equipment content that is developed to improve the questions, format and scales. Creswell (2014) says that field test is important in determining the validity of score content of the test equipment, and to provide an initial assessment of the internal consistency of the items, and to improve questions, format and instructions. The pilot testing of all study materials give an opportunity to assess how long the study will take (and to identify the potential anxiety with participant fatigue). State the number of people who will test the test equipment and the plan to include their comments into the final test tool review.

In this study, the researcher will do the Exploratory Factor Analysis for pilot test data. According to Awang (2015) the EFA has to be done if the instrument is self-constructed, being adapted or translated into another language. Therefore, in this study, although the researcher

uses the original instrument, but there is the process of translation into Malay Language from English Language. So, the EFA analysis has to be done. According to Habsah et. al (2018) the sampling size to do the EFA has to be 100. In the EFA, the weighting factor value that is less than 0.6 will be discarded. So, the items that are of value 0.6 will be eliminated.

Findings

a) Findings of Factor Analysis Variables of Psychological Capital

Table 2 : Findings of Kaiser-Meyer-Olkin (KMO) and Bartlett's Test Of Sphericity χ^2 sample adequacy test results

Index model of Exploratory factor Analysis	Suggested value*	Result
Kaiser-Meyer-Olkin (KMO) and Bartlett's Test Of Sphericity χ^2 sample adequacy test results	799	As suggested by Hair et. Al. (2018)
Bartlett's Test Of Sphericity χ^2	.000	As suggested by Hair et. Al. (2018)

When the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test Of Sphericity χ^2 sample adequacy test results are at a good value as suggested by Hair et al. (2018), Tabachnick dan Fidell (2013). Next, the percentage value test for the measurement of a construct for all the items used, are based on the total variance explained. Table 2 depicts in detail for the total variance explained based on the instrument of psychological capital. The value for total variance explained of psychological capital instrument is 66.073%, which exceeds the minimum value 60% as determined by (Hair, 2018; Muda et al., 2018). It is also used in the research by (Yusoff & Tengku Faekah, 2021).

Table 3 Total Variance Explained

Variable	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
4	1.653	7.188	70.378	1.653	7.188	70.378

Extraction Method: Principal Component Analysis

According to Hair et. al (2018); Hoque et al (2017) in order to identify the items that is used (selected) for a particular component, the load value has to exceed the minimum value limit (0.6). If the weighting value is less than 0.6, therefore, the item has to be eliminated from

being used in the study. The table below will explain in detail the weighting factor analysis for every item.

The table below shows the overall weighting value factor for a component in a construct of Discipline Problem

Table 4: Exploratory factor Analysis (Weighting factor)

No of items	Items	Loading Factors
1	When face dead end at work, I can think of many ways to get out of it.	.539
2	Now I see myself successful in the workplace.	.822
3	At the moment, I am excited to pursue the goals of my work.	.856
4	There are many ways to solve problems.	.853
5	I can think of many ways to achieve my work goals at the moment.	.808
6	At this point, I am achieving the work goals that I have set for myself.	.773
7	I am able to analyze long -term problems and find solutions.	.805
8	I am able to represent my field of work in meetings with management.	.740
9	I am able to give ideas in discussions about organizational strategy.	.785
10	I am able to set goals in my field of work.	.836
11	I am confident to contact outsiders for work matters	.710
12	I am confident presenting information to my colleagues.	.806
13	Usually, I am able to manage the difficulties in the workplace.	.669
14	I can work alone at my work place if necessary.	.622
15	Most of the time I will face problems at work calmly and “redho”	.860
16	I will not easily give up when faced with a problem at work.	.689
17	I persevered through adversity at work.	.678
18	Usually, I will hoped for the best when the situation at work is uncertain for me.	.767
19	I think about it positively for every work -related thing,	.795

20	I always believe in my job for the future	.815
21	I see every problem has a silver lining.	.655
22	I am optimistic about my life achievements.	.893
23	I feel positive and confident with myself.	.773

In the test equipment of psychological capital item no. 1 has to be discarded because the weighting factor is less than 0.6 as suggested by (Hair et al., 2018). After the validity measurement is done, the measurement of the value of reliability has to be done on the items used in the study. Therefore, according to the suggestion by Awang (2015); Muda et al (2018), Hair (2018) all items are retained because the load value factor is on top of 0.6. The value of reliability can be seen at the Alpha Cronbach's values obtained.

a) The Result of Reliability of Organizational Citizenship Behavior Test Tool

b) Table 3.27 : The Cronbach's Alpha Result of Every Psychological Capital Test Tool

Name of Variables		Value	of	No. of
		Cronbach's Alpha		Items
Psychological (Mediator)	Capital	.822		23
	Hope	.825		6
	Efficacy	.906		6
	Resiliency	.728		6
	Optimism	.892		5

After 1 item is discarded, the value of Cronbach's Alpha is recalculated and the result is as the table below:

3.28. The value of the alpha coefficient of the psychological capital test tool after 1 item is discarded

Name of Variables		Value of cronbach's Alpha	No. of Items
Psychological (Mediator)	capital	.815	22
	Hope	.809	5
	Efficacy	.906	6
	Resiliency	.728	6
	Optimism	.892	5

Table 6.0 : Summary of Cronbach's Alpha Value

			No of items	Cronbach's Alpha Value
Before	item	is	23	.822
discarded				
After	item	is	22	.815
discarded				

If the value of reliability obtained is high, that is minimum 0.60 indicates the good value of consistency (Aliff et al. 2015; Sekaran & Bougie 2013). Therefore, it looks like although many writers follow the usual rules that alpha has to reach 0.70 for the instrument to have an acceptable level of self-consistency of research instruments and this study successfully passes the set level (Nawi et al., 2020). According to (Hair et al., 2018), the value that passes is very good and effective with high level of consistency. So, this instrument indicates high reliability because every dimension shows the value as suggested by previous scholars. On the overall, the reliability of this instrument is high based on the suggestion by previous scholars.

Discussions

Factor analysis that is done has proven that the Psychological Capital instruments in this research can be used in the real research. The analysis shows all the values being suggested by Hair (2018) as the table below has successfully being achieved.

Exploratory Factor Analysis (EFA) Model Index	Suggested value*	Result
Bartlett's test of sphericity/ (sig. <0.05)	<0.05	Successfully achieved
Kaiser-Meyer-Olkin (KMO) of sampling adequacy	> 0.50	Successfully achieved
The value of factor loading for each item	≥ 0.40	Successfully achieved
The measure of communalities	≥ 0.30	Successfully achieved
The eigenvalue	≥ 1.00	Successfully achieved
% contribution of variance on factors	≥ 3.00	Successfully achieved
Cronbach's Alpha	> 0.70	Successfully achieved

Hair et al (2018)

Therefore, on the overall this instrument can measure what has to be measured.

Conclusion

According to the previous study, psychological capital can enhance organizational commitment, work performance, forming positive attitude towards work, lessen work pressure and able to increase psychological wellbeing. Therefore, human resource development has to change the strategy by enhancing psychological capital (self-confidence, hope, optimism and resiliency) so to lessen the negative effect of work stress and enhancing work commitment (Avey et al., 2009).

The profession of university lecturers is a form of social service that is demanding. This is because lecturers play a critical role in delivering knowledge to students particularly in the institutes of higher learning (IPT) (Iowa State University, 2009). Besides that, lecturers are the most important source of human resource in the arena of education in universities. The knowledge that is in lecturers can produce quality, calibre, dedicated and skillful university graduates.

According to previous researches, psychological capital is the mediator between organizational commitment with organizational justice towards the existence of organizational citizenship behavior. A study done by Lather & Kaur (2015) found that regression analysis indicates that psychological capital on the overall can predict organizational commitment and the organizational citizenship behavior in both types of schools. Nandan & Azim (2015) found that half of psychological capital mediates the relationship between distributive justice, procedural justice, interactional justice and organizational citizenship behavior. Jaffery (2014) found that psychological capital mediates the relationship between organizational climate and the organizational citizenship behavior. The importance of organizational citizenship behavior particularly in the lecturer especially in the private institutes of higher learning has the role to enhance work productivity. Several previous researches by Mokhtar et al (2018); Mokhtar et al (2021); Mokhtar et al (2022) asserted the importance of high level of citizenship behavior in a lecturer in IPT in Malaysia. It can arouse high productivity to compete in the rapidly growing stream of education today.

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