Exploring the Psychometric Properties of Mandarin-Translated Zuckerman Kuhlman Personality Questionnaire among Chinese High School Students in Malaysia

Lee Enn Hooi, Mohammad Rahim Kamaluddin, Norruzeyati Che Mohd Nasir, Hilwa Abdullah @ Mohd Nor, Noremy Md Akhir

Abstract*: *The Zuckerman Kuhlman Personality Questionnaire (ZKPQ-50-CC) is widely used tool to measure personality traits among the test takers and has been translated in various languages. However, based on the literatures related to personality, it is apparent that there is no Mandarin translated ZKPQ is available to measure personality traits among Chinese population based on the Alternative Five Factor Model. Therefore, the aim of this study is to validate and explore the psychometric properties of the Mandarin-translated version of the Zuckerman Kuhlman Personality Questionnaire. A cross-sectional study was designed involving 250 Malaysian Chinese High school students, aged thirteen to eighteen. Forward-backward translations were performed followed by the factor analysis and reliability testing. The five factors structure was assessed and the factor loadings are similar with the Malay version of ZKPQ. This Mandarin translated ZKPQ comprised of 38 items with the factor loadings ranged from 0.41 to 0.79. The reliability values also showed that Mandarin translated ZKPQ is reliable. As such, the Mandarin translated ZKPQ was found to be valid and reliable to use among Mandarin speaking population for the purpose of personality testing and screening.

Index Terms*: *Mandarin language, personality tool, psychometric properties, reliability, validation, Zuckerman-Kuhlman Personality Questionnaire

I. INTRODUCTION

Crime is often viewed as the outcome of anti-social behaviour. Over the decades, voluminous researches have been devoted to understand the possible factors for criminal acts. Along this line of thought, psychological factors or intrinsic factors are always acknowledged as potential factors that trigger criminal behaviour within a person.

Psychological factors such as negative personality traits, low self-control, and distorted thinking patterns are among the significant risk factors to develop criminal behaviour [1]. As such, personality seems to act as one of the fundamental factors in developing and forming criminal behaviour and it also refers to an individual's appearance which includes thoughts, perceptions, values, attitudes, characters, abilities, beliefs, intelligence, motivation, habits and so on.

Mischel [2] has stated that the concept of personality acts as a dynamic organization of the psychophysical system of each individual which determines behavior and thought. As an effort to assess the personality traits of criminals, forensic psychologists and criminologists use several models to explain personality traits that are associated with criminal behaviour. Along this, Alternative Five Factor Model (AFFM) is considered as one of the potential models to link personality traits with criminal behaviour.

AFFM is a comparatively new model and also considered as a 'revised' model of Big Five Model (also known as Five Factor Model) which comprised of five personality traits: Impulsive Sensation Seeking, Aggression-Hostility, Neuroticism-Anxiety, Activity, and Sociability. This AFFM is considered as a 'revised' model as few modifications were made to the AFFM compared to the Big Five Model. For instance, agreeableness trait in Big Five was replaced with aggression, and impulsive sensation seeking replaced conscientiousness [3]. In addition, the broad dimension of extraversion in Big Five Model was also further break down into two separate domains i.e., activity and sociability [4]. This was because it was deemed that activity level merits a distinctive assessment as a major personality trait and should not be under one roof.

Moreover, the distinction between hostility and anxiety also played vital roles in the modification because both traits are said to have different psychobiological bases [5] and should not be placed under a single domain as originally found in the neuroticism domain of the Big Five Model [3]. This in turn justifies the significant need of AFFM as an alternative model to the Big Five in order to predict and link with criminal behaviour.

Exploring the Psychometric Properties of Mandarin-Translated Zuckerman Kuhlman Personality Questionnaire among Chinese High School Students in Malaysia

Consequently, this addresses the need of assessment tools to measure personality traits of AFFM as well. With this in mind, Zuckerman-Kuhlman Personality Questionnaire-Cross Cultural-50 items [6] is found to be the personality tool that that assesses the personality of test takers based on the AFFM.

Zuckerman Kuhlman Cross-Culture Personality Questionnaire 50 items (ZKPQ-50-CC) is one of the most comprehensive and most widely used assessment tool to assess the individual personality. This questionnaire is derived from the efforts of Marvin Zuckerman. ZKPQ-50-CC has been translated and used by scholars from all over the world in various backgrounds such as in counseling, organizations, criminology [7][8] and many more.

It should be noted that those psychometrics which were developed in the English language may not be suitable to be used directly within Malaysian context due to the cultural and language differences. In Malaysia, this ZKPQ-50-CC was successfully validated in Malay language as Zuckerman Kuhlman Personality Questionnaire-40-Cross-Culture (ZKPQ-M-40-CC) which consists of 40 items and has been utilized in many researches pertaining to school and university students and also among high risk individuals and prison populations [9]. Since Malaysia is a multiracial country with Chinese as the second major ethnic in Malaysia; it is imperative to have a Mandarin based ZKPQ as an effort to cater the Mandarin speaking populations in Malaysia and also other parts of the world. With this in mind, the present study aims to explore the psychometric properties of ZKPQ-M-40-cc (Malay version) into Mandarin language. The researchers used the Malay language ZKPQ since it has been validated locally and found to be culturally sensitive. It is highly anticipated that the emergence of validated Mandarin translated ZKPQ would be very beneficial for personality assessment and screening especially for Mandarin speaking populations in Malaysia. It is also expected to be very useful for criminal behavioural risk assessment among Mandarin speaking populations which act as fundamental for further intervention and rehabilitation efforts.

II. METHODS

A. Study Design and Respondents

A cross-sectional research design method was adapted to validate ZKPQ tool into Mandarin language. A number of selection criteria was determined as indicators to select appropriate samples for this study. Inclusion criteria included those who are able to read and understand Mandarin language as well as those who are Malaysians. As such, this study was conducted among Chinese school students from Malaysia. The aim of this validation study was clearly briefed to the respondents prior to their participation. As ethical considerations, respondents were informed regarding the anonymity and confidentiality of the data. Since it involves school children, consent was also obtained from respondents' respective parents and teachers. The questionnaire was administered in a group format and they took about 10 to 15 minutes to complete the entire questionnaire. A total of 250 Malaysian Chinese school students (male = 119, female = 131) were recruited in this study using a convenience sampling method. In terms of the age, the samples are fairly distributed according to the age (13 years old = 39, 14 years old = 42, 15 years old = 41, 16 years old = 44, 17 years old = 41, 18 years old = 43).

B. Validation Protocols

The present validation study involved several validation protocols in order to establish a valid and reliable Mandarin translated ZKPQ.

Forward-Backward Translations

The study commenced with Forward and Backward translation processes. A Forward-Backward Translation is a process of translating a questionnaire from one language to another language and translates back to the original language by linguists. To achieve this, two independent linguists were appointed to perform forward translation. In addition, a professional proof-reader was assigned as well to endorse the Mandarin translated ZKPQ. Consequently, the Mandarin version ZKPQ was termed as ZKPQ-Mn-cc (the suffix "Mn" indicates Mandarin version). A week later, another two bilingual experts who had zero exposure with original ZKPQ-M-40-cc was hired to perform the back-translation process. As an effort to produce a harmonized Mandarin-translated ZKPQ, the researchers compared both drafts (ZKPQ-M-40-cc and ZKPQ-Mn-cc) and necessary amendments were made. The amendments made were based on language levels and ambiguously worded items.

Subjective Validation – Content and Face Validity

Following the translation processes, the ZKPQ-Mn-40-cc was subjected to subjective validation processes: content and face validations. Content validity should be carried out at the planning stage to ensure the validity of the content from the beginning, rather than re-considering the content again in the final stage. The content validation process also ensures that the tool includes an adequate and representative set of items that tap the concept investigated [10]. For the purposes of content validity in this study, experts from the field of Criminology and Psychology were assigned to assess and validate the items in the ZKPQ-Mn-CC from content perspective. Since ZKPQ-M-40-cc is locally established personality tool, the primary role of the experts assigned herein was more to ensure that those items were relevant and suitable to the scope of measurement within Malaysian context especially Chinese related cultures. Several minor amendments were made by the experts from the context of rewording and restructuring of the sentences. For the purpose of face validation, the process was carried out among 25 students from one of the Chinese Private High Schools in Kedah, Malaysia.

In general, face validity can be defined as the degree to which a test or scale appears to measure what it claims to measure [11]. The main objective of face validation was to obtain the feedbacks from the respondents regarding language level, understandability of the items and technical aspects i.e. size of the fonts and layouts. In addition, respondents were also required to evaluate whether the items are clear,

easy to understand and free of typographical errors. Based on the feedback, some improvements in terms of format and font size have been performed. Additionally, some elusive words have also been replaced by words that are easier to understand. In addition, ZKPQ-Mn-CC also demonstrates good authenticity as all respondents understand the items in the ZKPQ-M-40-CC. The language used was appropriate but some minor amendments in terms of the construction of the sentences were made based on feedbacks from the respondents.

Construct Validity and Reliability Analyses

In general, objective validation is performed to ensure how the items in the tools measure the concept that being assessed. In other words, Construct validity is an objective validation which assesses the degree to which an instrument or scale measures what it supposed to measure. The preliminary analyses assessed were: correlation matrix, anti-image correlation matrix, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity [12] The sample will be considered adequate if two conditions are met: KMO values must be more than 0.60 and Bartlett's test of sphericity must be significant ($p < 0.05$) [12]. In this study, construct validity has been evaluated using the Exploratory Factor Analysis method (EFA) by extracting factors using Principal Component Analysis (PCA). The factors were rotated using Varimax rotation with Kaizer normalization to get the best possible loadings on the factors. A loading factor of more than plus or minus 0.3 was considered as acceptable. The remaining items with factor loadings 0.30 were subjected to reliability testing. For this, the internal consistency for each dimension in ZKPQ-Mn-cc was measured through the Cronbach (α) alpha coefficient method and the Cronbach Split-Half alpha coefficient (α). After both methods of alpha coefficients are performed, the correlation analysis was also carried out to ascertain interdimensional correlation method with the aim to show the associations between the domains in ZKPQ-Mn-cc. The entire construct validity and reliability analyses as well as correlation analyses were performed using IBM SPSS version 23 software.

III. RESULTS AND DISCUSSION

As mentioned earlier, the construct validity of the ZKPQ-Mn-40-cc was assessed using EFA with PCA. Prior to EFA and PCA, preliminary analyses were carried out to ascertain the suitability of data for factor analyses. The preliminary analysis finds that the determinant value was 0.05; indicating that this data has no multicollinearity problem and supports factor analysis [13]. The anti-image correlation matrix for 39 items was between 0.50 and 0.86 which further supports the suitability for factor analyes. The KMO value obtained in this study was 0.76 which indicates that this study has sufficient sample to proceed with factor analyses. In addition, the sample sufficiency of this study was also supported by the significant value of Bartlett Test of Sphericity (p<0.001). Table 1 below summarizes the findings of preliminary analyses.

Table 1. Result of Preliminary Analyses

Preliminary Analysis	Result
Multicollinearity	0.05
Anti-image correlation	0.50 – 0.86
KMO value	0.76
Bartlett Test of Sphericity	$\chi^2(378) = 2826.648$
	P < 0.001

The EFA shows that the factor analyses of the data led to emergence of five factors which is in line with AFFM. Overall, the factor analysis revealed five loading factors that explained 41.67% from the total variance. Scree plot also suggested that five main components with eigenvalues greater than 1. Precisely, Factor 1 contributed 13.98 percent variance (eigen value = 5.31), followed by Factor 2 of 10.16 percent variance (eigen value = 3.86), Factor 3 of 7.10 percent variance (eigen value = 2.70), Factor 4 of 5.87 percent variance (eigen value = 2.23) and Factor 5 of 4.56 percent variance (eigen value = 1.73). The scree plot is shown in Fig. 1.
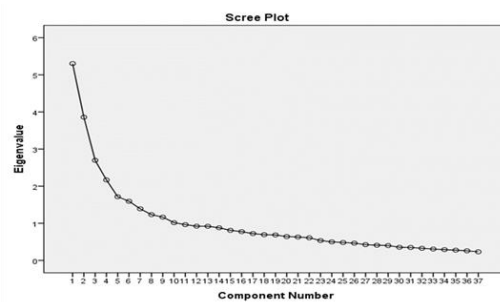

Fig. 1. Scree Plot ZKPQ-Mn-40-CC

After considering the minimum factor loadings of 0.40, item correlations and the meaningful interpretation of the items, only one item was removed. All these items exhibited factor loadings of 0.40 and above. Based on the rotated component matrix items shown in Table 2, the factor structure and the compilation of items show a total of five factors. Factor 1 reported eight items, factor 2 and factor 3 reported nine items respectively while factor 4 reported seven items and factor 5 reported six items. In factor 1, there are eight items from the original Neuroticism-Anxiety traits were loaded (NA1, NA2, NA3, NA4, NA5, NA6, NA7, NA8); which is a clear indication for Neuroticism-Anxiety. In factor 2 there are eight items from original Aggressiveness- Hostility (A1, A2, A3, A4, A5, A6, A7, A8) and one item from the original Impulsive Sensation Seeking trait (ImpSS8) were also loaded under factor 2. Since the majority of the items loaded in factor 2 were Aggressiveness-Hostility items (Agg-Host), therefore, this factor was labelled as Agg-Host dimension. In factor 3, there are eight items from the original Sociability trait were loaded (Sy1, Sy2, Sy3, Sy4, Sy5, Sy5, Sy6, Sy7, Sy8) which signify factor 3 as a Sociability dimension. Meanwhile, seven items (Act1, Act2, Act4, Act5, Act 6, Act7, and Act 8) from the Activity trait were loaded under factor 4. This in turn allow us to label factor 4 as Activity dimension. Finally, six items (ImpSS1, ImpSS2, ImpSS3, ImpSS44, ImpSS5, and ImpSS7) from the

Impulsive Sensation Seeking trait were loaded under this factor. One of the ImpSS item (ImpSS8) was loaded under factor 1 with the factor loading of 0.469. After careful evaluation of the content of ImpSS8, it is suggested to retain under factor 2 (Agg-Host). Besides that, another item (ImpSS6) was omitted under factor 5 since the factor loading value was only 0.340. In conclusion, there are 38 items were retained under five factors in Mandarin translated ZKPQ. Table 2 shows the component matrix of EFA of ZKPQ-Mn-38-cc.

Table 2. Component Matrix of EFA of ZKPQ-Mn-38-cc

No.	Item	Factor Loading
NA1	Badan saya sering berasa tidak selesa tanpa sebarang sebab yang munasabah. (我经常无故地感到身体不适。)	.591
NA2	Saya mudah sensitif dan mudah terguris dengan kata-kata dan tindakan orang lain. (我对别人的言行举止，感到敏感，并容易受到伤害。)	.556
NA3	Saya mudah berasa takut. (我容易感到害怕。)	.781
NA4	Kadang-kadang saya berasa cemas. (有些时候，我会感到特别紧张。)	.599
NA5	Saya sering berasa tidak pasti dengan diri sendiri. (我经常对自己感到生疑。)	.616
NA6	Saya sering berasa hendak menangis tanpa sebab. (我经常无缘无故地想哭。)	.715
NA7	Saya sering berasa tidak selesa dan tidak sihat tanpa sebab yang munasabah. (我经常无缘无故地感到身心不适。)	.759
NA8	Saya sering berasa kecewa. (我经常感到伤心沮丧。)	.645
A1	Apabila saya marah, saya mengeluarkan kata-kata yang tidak baik. (当我生气时，我会说出一些粗俗难听的话。)	.637
A2	Apabila saya marah, biasanya saya akan mencarut atau menyumpah. (当我生气时，我会说出一些粗话或诅咒他人的话。)	.569
A3	Saya bersikap kasar terhadap orang yang saya tidak suka. (对于不喜欢的人，我会粗言相待。)	.601
A4	Jika seseorang membuat saya marah, saya akan memarahinya semula. (当有人激怒我时，我会以牙还牙，痛骂对方。)	.650
A5	Saya sentiasa bersabar dengan orang lain meskipun mereka menyakiti hati saya. (我是个有耐心的人，即使受到他人的批评和伤害。)	
A6	Saya seorang yang panas baran. (我是个脾气暴躁，容易发怒的人。)	.552
A7	Apabila orang menengking saya, saya menengking mereka semula. (当别人对我大吼大叫时，我会以同样的方式回应他们。)	.657
A8	Apabila orang tidak bersetuju dengan saya, saya akan bergaduh dengan mereka. (当别人不认同我的想法时，我会沉不住气地和他们起冲突。)	.601
Impss6	Saya seringkali rasa seperti hendak memukul seseorang. (我经常出现殴打他人的念头。)	.469
Sy1	Saya suka keluar secara berkumpulan. (外出时，我喜欢结伴一大班人一起出门。)	.615
Sy2	Saya meluangkan banyak masa bersama kawan-kawan. (我花很多时间和朋友们聚在一起。)	.560
Sy3	Saya tidak memerlukan ramai kawan. (我不需要太多朋友。)	.517
Sy4	Dalam sesuatu majlis, saya seronok bergaul dengan ramai orang. (在某些场合上，我可以愉快地和众人相处。)	.424
Sy5	Saya suka bersendirian dan tidak suka diganggu. (我喜欢独处一人，不想被打扰。)	.650
Sy6	Saya seorang yang sangat peramah dan suka berkawan. (我是个友善和热爱交友的人。)	.446
Sy7	Saya menghabiskan banyak masa bersendirian. (我大部分时间都独自一人。)	.694
Sy8	Saya lebih suka melakukan sesuatu perkara seorang diri. (我独自一人完成事项。)	.591
Act1	Saya tidak suka membuang masa saya dengan hanya duduk bersenang-lenang. (我觉得放空地坐着，很浪费时间。)	.454
Act2	Kehidupan saya lebih sibuk daripada orang lain. (我的生活比大部分人忙碌。)	.322
Act4	Saya suka menjadi seorang yang aktif. (我是一个活泼开朗的人。)	.593
Act5	Saya suka melakukan aktiviti sukan. (我热爱运动。)	.646
Act6	Saya suka melakukan aktiviti fizikal seperti buat kerja dan bersenam. (我喜欢付出体力的活动，如搬运东西和运动。)	.656
Act7	Saya suka bertindak cergas dan aktif sebaik sahaja saya bangun dari tidur. (每天早上起身后，我都很迫不期待地展开充满活力的一天。)	.375
Act8	Saya melakukan sesuatu kerja dengan bersungguh-sungguh. (我认真地完成每一件事情。)	.475
Impss1	Saya sering melakukan sesuatu perkara mengikut kehendak hati. (我不计后果，随心所欲地完成有关事项。)	.541
Impss2	Saya ingin pergi melancong tanpa sebarang perancangan. (我想在没有任何准备计划下去旅行。)	.555
Impss3	Kadang-kadang saya suka melakukan perkara-perkara yang agak berbahaya. (我偶尔会做出危险的事情。)	.646
Impss4	Saya akan mencuba apa-apa sahaja, sekurang-kurangnya sekali. (对于所有新事项，我会勇于尝试。)	.378
Impss5	Saya kadang-kadang melakukan perkara-perkara yang 'gila' hanya untuk berasa seronok. (为了一时的刺激感，我可以做出一些"疯狂"的事情。)	.556
Impss7	Saya suka parti yang liar dan bebas. (我喜欢狂野和疯狂的派对。)	.503

Reliability Outputs

The internal consistency of the 38 items in Mandarin translated ZKPQ was calculated using the Cronbach's alpha and split half reliability methods. Table 3 shows the findings of reliability analyses.

Based on Table 3, Mandarin translated ZKPQ has recorded a high reliability value of α from 0.63 to 0.83 for five dimensions with Neuroticism-Anxiety trait recorded a high Cronbach alpha value of 0.83. The split half reliability analyses findings also showed that the results of the

dimensions in the Unequal Length category of Sociability, Impulsive Sensation Seeking and Neuroticism-Anxiety have recorded high reliability values of 0.71, 0.64 and 0.82 while the dimensions of the Equal Length for Activity and Aggressiveness-Hostility have also recorded high reliability values of 0.71 and 0.74. Based on the reliability outputs, the values seem to be within the acceptable range as the cut-off reliability values above 0.70 are considered good particularly in the field of social science [14].

Table 3. Reliability Output of ZKPQ-Mn-38-cc

Dimension/ Trait	Number of Items	Cronbach Alpha Values	Split Half Reliability Values
Activity	7	0.63	0.71
Sociability	8	0.73	0.71
Aggressiveness-Hostility	9	0.77	0.74
Impulsive Sensation Seeking	6	0.72	0.64
Neuroticism-Anxiety	8	0.83	0.82

IV. LIMITATION AND CONCLUSION

In this validation study, researchers were aware of the importance of test-retest reliability analyses. However, the researchers could not conduct the test-retest reliability due to logistics and accessibility factors. It is highly recommended to perform test-retest analyses in upcoming researches as it can shed some insight on the stability of this Mandarin translated ZKPQ. Despite of this limitation, the present study has successfully validated and explored the psychometric properties of Mandarin translated ZKPQ which is considered vital for personality screening and assessment among Mandarin speaking population in Malaysia.

REFERENCES

1. B. Muhammad Amin, K. Mohammad Rahim, & M.S. Geshina Ayu. (2014). A trend analysis of violent crimes in Malaysia. *Health and the Environment Journal.* 5, 41-56.
2. W. Mischel, *Introductory to Personality* (6th ed). Florida: Harcourt Brace College Pub, 1999.
3. M. Goma-i-Freixanet, & S.V. Ventura (2008). Spanish normative data of the Zuckerman-Kuhlman Personality Questionnaire in a general population sample. *Psicotherna.* 20 (2), 324-330.
4. M. Zuckerman, "Zuckerman-Kuhlman personality questionnaire (ZKPQ): An alternative five-factorial model," in *Big five assessments* B. de Raad & M. Perugini, Eds. Ashland, OH, US: Hogrefe & Huber Publishers, 2002, pp.376-392.
5. J. A. Gray, *The neuropsychology of anxiety: An enquiry into the functions of the septo-hippocampal system.* New York: Oxford University Press, 1982.
6. A. Aluja, J. Rossier, L.F. Garcia, A. Angleitner, M. Kuhlman & M. Zuckerman. (2006). A cross-cultural shortened form of the ZKPQ (ZKPQ-50-cc) adapted to English, French, German, and Spanish languages. *Personality and Individual Differences,* 41, 619-628.
7. K. Mohammad Rahim, M. S. Nadiah Syariani, O. Azizah, I. Khaidzir, M. S. Geshina Ayu. (2014). Associations between personality traits and aggression among Malay adult male inmates in Malaysia, *ASEAN Journal of Psychiatry.* 15, 176-185.
8. M. S. Geshina Ayu, K. Mohammad Rahim, M. S. Nadiah Syariani, O. Azizah, I. Khaidzir. (2015). Linking psychological traits with criminal behavior: A Review. *ASEAN Journal of Psychiatry.* 16, 135-147.
9. K. Mohammad Rahim, M. S. Nadiah Syariani, M. S. Geshina Ayu. (2013). A Validity Study of Malay Translated Zuckerman-Kuhlman Personality Questionnaire Cross-Cultural 50 Items (ZKPQ-50-CC). *Health and the Environment Journal.* 4(2), 37-52.
10. T. K. Dharmalingam, K. Mohammad Rahim & S. K. Hassan (2016). Factorial validation and psychometric properties of establishment of Malay version critical care family need inventory. *The International Medical Journal of Malaysia,* 15 (1), 51-60.
11. L. R. Gay, G. E. Mills, & P. W. Airasian, *Educational Research: Competencies for Analysis and Applications.* USA: Pearson Education Limited, 2014.
12. A. Field, *Discovering statistics using SPSS* (3rd ed.). SAGE: Publication Ltd, London, 2009.
13. P. Allen, K, Bennet, & B. Heritage, *SPSS Statistics Version 22: A Practical Guide.* Australia: Cengage Learning Australia Pty Limited, 2014.
14. D. George & P. Mallery, *SPSS for Windows Step by Step: A Simple Guide and Reference. 11.0 update.* (4th ed.). Boston: Allyn & Bacon, 2003.
15. George, D. & Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference. 11.0 update.* (4th ed.). Boston: Allyn & Bacon.

AUTHORS PROFILE

Miss Lee Enn Hooi is a psychology graduate from The National University of Malaysia and also alumni of University Mobility for Asia and Pacific (UMAP) International Programme.
Email: leeennhooi0402@gmail.com

Dr. Mohammad Rahim Kamaluddin* is a Senior Lecturer and Criminologist (with Doctoral Degree qualification) at Human and Societal Well-Being Centre, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia (UKM).
*Corresponding author
Email: rahimk@ukm.edu.my

Dr. Norruzeyati Che Mohd Nasir (PhD) is a Senior Lecturer and Correctional Science Expert at School of Applied Psychology, Social Work and Policy, Universiti Utara Malaysia.
Email: zeyati@uum.edu.my

Dr. Hilwa Abdullah @ Mohd. Nor (PhD) is a Lecturer and Clinical Psychologist at Faculty of Social Sciences and Humanities, UKM.
Email: hilwa@ukm.edu.my

Dr. Noremy Md Akhir (PhD) is a Social Work Expert and Senior Lecturer at Faculty of Social Sciences and Humanities, UKM.
Email: noremy@ukm.edu.my

Dr Tengku Elmi Azlina binti Tengku Muda is counselor and senior lecturer at Genius@Pintar National Gifted Centre, UKM.
Email: elmiazlina@ukm.edu.my

Retrieval Number: B11100982S1019/2019©BEIESP
DOI:10.35940/ijrte.B1110.0982S1019

794

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication