

AN ANALYSIS FOR MEASURING PSYCHOMETRIC PROPERTIES OF THE MALAY VERSION EMOTIONAL COMPETENCE INVENTORY (MALAY-ECI) AMONG PUBLIC SCHOOL LEADERS IN MALAYSIA

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Abstract

The aim of this study is to examine the psychometric properties of the Malay Emotional Competence Inventory, Teacher Version Quotient (Malay-ECI). The study was conducted in Malaysia and the response rate for educator leaders is 75%. A quantitative research design is utilized and sample of the study was comprised of 306 (Male =132; Female =174) public school personnel as leaders in their respective environments. Primary data was collected through self-administered questionnaires using purposive sampling. Structural equation modelling (SEM) technique was selected for data analysis via the analysis of moment structure (AMOS) software version 27 to assess the fitness of the model. The measurement model was checked in terms of the psychometric properties of the measures through confirmatory factor analysis (CFA), such as reliability analysis, convergent validity, and discriminant validity. Several goodness of fit indices are commonly used to evaluate how well the structural model fits the data but initially showed the measurement model failed to reach certain part of the recommended standard for the model fitness. Some modification was utilized in order to produce a better level of fitness that was resulted only 30 items remains and met recommended standard.

Keywords: *Emotional intelligence, psychometric, confirmatory factors analysis, educator leaders*

1. INTRODUCTION

The term emotional intelligence has focused its using globally as in the context of human relationships. Now days, this term is recently adopted by various disciplines, yet each perspective gives different interpretation. Generally most of the scholars agreed that conceptually distinct forms of EI have emerged into two categories: ability-based (ability EI) and nature-based (trait EI) along with a large number of psychometric tools designed to measure these forms. According to Mayer, Salovey and Caruso (2002) view EI as an ability based on cognitive-emotional processes. While EI trait refers to the ability and skills of self-perception that are not dependent on cognition aspects (Petrides & Furnham, 2001). Although there is some clarity within the EI field regarding the types of EI and their respective measures, those external to the field are faced with a seemingly complex EI literature, overlapping terminology, and multiple published measures.

Hence, emotional intelligence (EI) broadly refers to skills or/and abilities that enable awareness of the emotional states of oneself and other also capacity to regulate or use emotions positively in human life. It is one part of intelligence that has broad meaning, not only focuses on cognitive but also non-cognitive intelligence. Indeed, EI indicates important construct in every aspect of human life. This is because in everyday life, humans need and must communicate with each other to accomplish task. Low EI may lead to less productive life.

Historical background on Emotional intelligence started with Charles Darwin with his approach called the expression of men and animals. Darwin found that in order to get the sound of

adaptation types, emotional expressions must be the key elements in order for people to recognize something and adapt to it, they need to use their emotional expression as their reaction towards it. Thorndike (1920) found that there are three types of intelligence, namely mechanical intelligence, abstract intelligence and social intelligence. Social intelligence is defined the ability to understand and manage men and women as well as to act wisely in human relations. It also involve the ability to perform suitable action in any condition will bring benefits and easy to make any judgment in all circumstances.

The public understands emotion as a form of intelligence that involves an element of feeling simply because it is clearly related to psychology. However, Yunus Yusuf (2005), disputes the opinion of most people who think that emotions are only described as psychological elements that have nothing to do with other intelligence. This is in line with Gardner (1983) who strongly criticized human understanding about the concept of intelligence. In fact, Gardner (1983) proved through Multiple Intelligence Theory that the concept of intelligence encompasses various dimensions such as language intelligence, musical intelligence, logic-Mathematical intelligence, spatial intelligence, kinesthetic intelligence, naturalist intelligence, existential intelligence including social or emotional intelligence.

From the perspective of education development and training, emotional intelligence among the educator leaders is an important aspect of constructing their future careers. In today's globalized and competitive world, our educator leaders needs to be equipped with the ability to identify, understand, and express appropriately to their own emotions and feelings as well as those of others, so that they will be able to develop a productive future workforce and improve the lives of next coming student generations. The concept of emotional intelligence is currently important as people are now realizing that these skills can help them manage both their professional and personal lives in educational context.

The concept of emotional intelligence was firstly introduced by Salovey & Mayer (1990) as three adaptive abilities, namely the ability to: (1) appraise and express emotion, (2) regulate emotions and (3) utilize emotions in solving problems. Another definition of emotional intelligence is the ability to recognize the meanings of emotions and their relationships, to reason, and to solve problem on the basis of them (Mayer, Salovey & Caruso, 2000). This model of emotional intelligence involves four branches namely 'reflectively regulating emotions', 'understanding emotions', 'assimilating emotion in thought' and 'perceiving and expressing emotion'.

Other models then offer different numbers of EI component for example the model proposed by Dulewicz and Higgs (2003) has seven components (self-awareness, emotional resilience, motivation, interpersonal sensitivity, influence, intuitiveness, and conscientiousness and integrity). On the other hand, Goleman (2001), affirms that emotional intelligence is an important factor in determining competency and personal success as a student, teacher, parent, manager and leader. The differing ways of conceptualizing emotional intelligence according Petrides and Furnham (2001) listed three main models namely hierarchical model, (cognitive) ability model, and mixed models (personality variables plus cognitive ability).

Therefore, Bar On (1997) has placed emotional intelligence in the context of personality theory as an umbrella concept of non-cognitive capabilities and skill to cope efficiently with environmental demands and pressures. He proposed a model of non-cognitive intelligences that includes five broad areas of skills and more specific skills that appear to contribute to success. These include intra-personal skills, interpersonal skills, adaptability, stress management, and general mood (optimizing happiness).

In the recent year, the most appropriate method of measuring emotional intelligence is currently an area of controversy. Since there are many conflicting emotional models, it is not easy work to describe emotional intelligence, the proximal roots which lie in the work of Gardner (1983) and more specifically in his concept of intrapersonal and interpersonal intelligence (Mayer, Salovey & Caruso, 2008). Hence emotional intelligence is characterized by some researchers as an ability, involving the cognitive processing of emotional information, which is accordingly more

appropriately measured by performance test. An alternative proposal is that emotional intelligence is a dispositional tendency like personality and can be assessed by self-assessment or self-report questionnaire.

There has been an increasing interest in the theoretical development of the concept of emotional intelligence to identify whether or not this newly introduced concept accounts for variance not already accounted for by intelligence and/or personality (Fox & Spector, 2000) in various human transactions. Thus, it is not currently clear if emotional intelligence actually assesses the same construct, and in this context Petrides and Fruhnam (2001) have suggested the terminology 'ability EI' and 'trait EI' to distinguish the two measurement approaches. Ability EI or cognitive-emotional ability refers to one's actual ability to recognize, process and utilize emotion-laden information. Meanwhile trait EI refers to self-perceptions concerning ones' ability to recognize, process and utilize emotion-laden information. Petrides and Furhnam (2003) further stated that ability and trait EI are different constructs, but their theoretical domain and concept may overlap.

Recent debates on EI have focused largely on whether trait EI measured by self-report/self-assessment tests has predictive power over traditional personality traits. The results of several studies have indicated that trait EI might be a valid construct in the prediction of life satisfaction, somatic complaints, rumination and coping styles (Kluemper, 2008). However, the ability of the trait EI in an academic setting is still unclear (Tok & Morali, 2009). Besides that emotional intelligence also as a construct has been shown to be an independent construct from the personality aspect (Shulman & Hemeenover, 2006). They used an ability and trait to measure emotional intelligence and 16PF as personality measure. However, Higgs (2001) found a positive correlation between emotional intelligence and the function of Intuition, but not Feeling (Myer-Briggs Type Indicator). This finding shows that the relationship between emotional intelligence and personality is still far from clear.

For the current study, the authors retained the original items used for translation of Malay Language. The translation work was done to suit the scale for the educator participants and more importantly, for future use in the general local population in education setting. Therefore, the psychometric study of this instrument is very important to show that it has good value and is suitable for the educator leaders. In this research, the definition of emotional intelligence is the same as adopted by Goleman (2001). The construct is operationally defined as the score on the EI scale developed by Goleman (2001).

The current study focuses on Goleman (2001) by examining the psychometric properties of the Goleman Emotional Competence Inventory in Malay Language. On the basis of his research, two basic divisions of emotional intelligence include personal competency and social competency. Goleman develops emotional intelligence framework based on five elements, i.e. Self-Awareness, Self-Management, Social Awareness and Relationship Management. Self-Awareness refer to people with high emotional intelligence are usually very self-aware. They understand their emotions, and because of this, they do not let their feelings rule them. They are confident because they trust their intuition and do not let their emotions get out of control. They are also willing to take an honest look at themselves. They know their strengths and weaknesses, and they work on these areas so they can perform better. Many people believe that this self-awareness is the most important part of emotional intelligence. On the other hands, Self-Management refers to the ability to control emotions and impulses. People who self-manage typically do not allow themselves to become too angry or jealous, and they do not make impulsive and careless decisions. Normally they think before they act. Characteristics of self-management are thoughtfulness, comfort with change, integrity, and the ability to say no.

As for Social Awareness refers to people with a high degree of emotional intelligence are usually motivated and empathy. They are willing to defer immediate results for long-term success. They are highly productive, love challenges and are very efficient in whatever they do. Meanwhile, empathy is the ability to identify with and understand the wants, needs, and viewpoints of those around you. People with empathy are good at recognizing the feelings of others, even when those

feelings may not be obvious. As a result, empathetic people are usually excellent at managing relationships, listening, and relating to others. They avoid stereotyping and judging too quickly, and they live their lives in a very open & honest way. Lastly for Relationship Management, it is usually easy to talk to and like people with good social skills, another sign of high emotional intelligence. Those with strong social skills are typically team players. Rather than focusing on their own success first, they help others develop and shine. They can manage disputes, are excellent communicators, and are masters at building and maintaining relationships. The ability to manage people and relationships is very important in all leaders, so developing and using your emotional intelligence can be a good way to show others the leader inside of you.

The development of the translation psychometric measures contributed greatly to the field of EI research in Malaysia. Until to date, translations of the emotional competency can be found in almost 30 languages (Bar-On, 1997) from different countries around the world. Thus, there was a necessary to investigate whether tests of EI are subject to cultural bounds when applied in a different population from its origin. The use of translated versions of EI instruments from the western world without proper adaptation and validation to the Malaysian culture may produce results which are susceptible to cultural biases. It also encourages local researchers to use properly adapted and validated measures that fit the multicultural complexity of Malaysian culture. Therefore, recent research needs to be conducted to measure EI with greater precision, together with more easily-administered, briefer tests which can become shorter but yet valid and reliable instrument for assessing the emotional competencies in Malaysian population. Apart from providing cross-cultural data, this cross-cultural data collection using the ECI helped during scale validation and development by assisting in the process of item selection and alteration, and establishing the final nature of the response format. These cross-cultural research provide evidence that the ECI can also be used with Malaysian samples provided that such samples are compatible with the reliability and validity measure of the inventory.

Therefore, the main aim of the present study is to determine the psychometric proprieties specifically to assess the suitability of the model, reliability and validity of The Malay Emotional Competence Inventory, Teacher Version Quotient (Malay-ECI) using Malaysian samples to overcome the limitation of available instruments. This is significant for several reasons. Firstly, there are currently limited translated scales accessible in Malay, which makes it difficult for Malay-speaking persons to undergo psychological testing (Kim *et al.*, 2004). Secondly, the present study could address the fact that the psychometric qualities of the instruments have not been efficiently tested outside of North America and Europe. Thirdly, few prior studies have investigated how academic institutions have responded to each of the tools.

2. METHODOLOGY

a. Participants

In the current study, the sampling frame was acquired from 15 High Performance Schools (SBT) in Malaysia based on five selected locations (Northern, Eastern, Southern, and Middle zones of Peninsular, and Sabah/ Sarawak). Then, the sample was chosen by using purposive design that involved principals, senior administrative assistant, senior assistant student affairs, senior assistant curriculum, the heads of the four departments set by the Ministry of Education i.e. Heads of Humanities and Religion, Science and Mathematics, English, and Engineering & vocational as well as members of general committee from High Performance Schools (SBT) in Malaysia

b. Measures

The Malay Brief ECI contains 63 items produced based on emotional intelligence model introduced by Goleman (1998) in Working with Emotional Intelligence, the efficiency presented by Boyatzis (2001) of the Self -Assessment Questionnaire (SAQ). It is also a 360-degree instrument that can measure overall emotions about one feeling, others, employers and colleagues. The instrument measures 20 competencies divided into four sub-scales namely Self-awareness, Self-management,

Social awareness and Relationship management for measuring global emotional intelligence of the subject. The response to the items in this questionnaire is based on the Likert scale which ranged from 1= very seldom true to 5 = very often true. Each ECI sub-scale contains three items. The high score obtained in this instrument indicates the more positive the level of emotional intelligence possessed by an individual and vice versa. An individual who obtains a high score in an efficiency or scale indicates that the individual has a high level of emotional competence.

The original version of ECI was initially translated into Malay (forward translation) by two bilingual translators who were Malay native speakers working independently of each other. The two Malay versions were revised by researchers and reconciled into one Malay version. This was then back-translated into English by a native English speaker who has a good command of the Malay language. Following this, further discussions and modifications were carried out by the researchers based on the forward and back versions before generating the final Malay instruments.

Applying self-report questionnaires is a more widespread method to assess the perceived level of the person's emotional intelligence, because the subject rates himself or herself along the different dimensions of emotional intelligence. Advantages of self-report emotional intelligence questionnaires are that they are fast and easy to administer and are able to reveal different components of emotional intelligence. Their disadvantage, however, is that they measure a meta-experience and, compared with the performance tests, they are less connected to emotions.

c. Procedure

The instruments and the participants' responses are presented in the Appendix (in English and Malay). This English version was translated into Malay and then back-translated into English by a second translator to ensure comparability and equivalence in meaning (Brislin, 1970). In order to demonstrate their voluntary involvement in the study, the respondents were required to sign an informed permission form that was attached to the questionnaire before responding. The study was conducted electronically by distributing the self-report survey (Qualtrics) through email and WhatsApp. In order to assess the usability of the instruments, it was necessary to ask the respondents questions regarding the wording, timing, and their understanding of the items during the surveys. They were encouraged to offer suggestions for data that they felt would be more pertinent. The data collection process was completed in March 2022.

d. Data analysis

The data analysis began with the exploratory factor analysis (EFA) to know the number of factors that are formed. The EFA is aimed at revealing the factors which construct Malay- ECI when solving physics problems. This analysis used SPSS version 25.00. In EFA, the Chi-Squared at Bartlett's test shows the sample is sufficient. When the significance value is lower than .01, the sample is said to be sufficient. These data were supported by the value of Kaiser Meyer Olkin measure of sampling adequacy (KMO MSA) which is higher than .50 (Hair Jr, Black, Babin, & Anderson, 2010).

EFA is conducted using SPSS to examine the factor structures as a preliminary step in understanding the clustering of the items. In other words, it is used to determine whether items that together measure a construct, load highly with the same factor. Only valid items will be used for subsequent analysis. This was done using the Principal Component Analysis with Promax rotation. However to determine whether the data is suitable for factor analysis, the following condition to measure of sampling adequacy must be satisfied; i) Kaiser-Meyer Olkin > 0.6 , ii) Bartlett's Test of Sphericity, sig val, $p < 0.05$.

The next course of action is to examine the factor loadings of each item. If all items converge into the same factor, it is assumed the factor to be constructed. The value of the factor loading should be greater than 0.05. If it is lower than this standard value or the item cross load into other factors, then it may have to be dropped from further analysis. Subsequent to the EFA, CFA using an alternative method SEM AMOS is conducted to further validate this instrument and make it more concrete.

Later, the confirmatory factor analysis (CFA) was performed on the selected item scale to test the suitability and to verify the fitness of the model in the Malaysian teacher population. The Malay ECI of the proposed four sub scales was examined by comparing the multiple goodnesses of the fit indices of the model to the recommended criteria such as using Root Mean Square Error of Approximation (RMSEA) with p value for test of close fit should be less than 0.05 (RMSEA <.05), Adjusted of the Comparative Fit Index (CFI), the goodness of fit index (GFI), CFI (Comparative Fit Index), IFI (Incremental Fit Index), NFI (Normed Fit Index) should be larger than 0.90 (Browne and Cudeck, 1993). However, for Adjusted GFI (AGFI), its values should be greater than 0.08 (AGFI>0.08). Whereas for the Chi-square/df ratio, the values must be less than 5.0 (CMIN/DF<5.0) (Carmines and Mclver, 1981). All these criteria can be considered as acceptable indices of fitness and concluded that there is a relatively good fit. Later were used to determine the adequacy of the model measure. Furthermore, in order to retain the items, it was indicated by an item factor loading > 0.5. If it is lower than this standard value or the item cross load into other factors, then it may need to be dropped. (Hair et. al., 2009). Therefore, convergent validity as well as discriminant validity and composite reliability of this scale was also examined.

3. RESULTS

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted using SPSS version 21 by passing through several stages. The first stage referred to the overall fit based on scree test and latent root criterion. The study found criteria for Scree Test is 4, which shows all variables divided into four main factors. Therefore, it is appropriate that all the factors for further analysis. There needs to be seen to the measure of sampling adequacy - MSA), load factor (factor loading) and the communalities. Found that all the above factors above the appropriate level of 0.5.

EFA method was used for the analysis of 3 runs of 63 items formed. At the end or 3rd running, the appropriateness of the data for further analysis was determined through KMO and Bartlett's Test. The result indicates that the data is still suitable for factor analysis since the value of Kaiser Meyer Olkin measure of sampling adequacy (KMO) of .949, which is higher than .50 and Bartlett's Test is significant ($p < .000$).

The principal components analysis with the Promax rotation method was run without 8 dropped items caused by cross loading and eight items due to not reaching the loading of more than 0.5. The analysis has performed extracted four factors which are F1, F2, F3 and F4 represented 44 items of Halal Requirement Practices which accounted 65.04% of the total variance explained. All these factors were found to have a high correlation with each other to show the validity of the relationship (criterion-related validity) group existed between all the factors.

While finding from the result through EFA analysis, show the inter item-item consistency reliability of all measures in this study with alpha value is 0.92. Therefore, all the items are reliable and can be further studied.

Confirmatory Factor Analysis

By using IBM SPSS Amos in order to test Confirmatory Factor Analysis as well as to perform structural equation modelling (SEM) of the data received from 306 SBT school leaders. For the purpose in conducting the multivariate statistical techniques, Tabachnick and Fidell (2001) suggested that the sample size should be a minimum of 200 subjects of the data. In the current study, there were 306 subjects. Based on this criterion, the sample size in this research is suitable and should not raise an issue.

The fit indices indicated CMIN /DF of 2.48 which is below the threshold of 5. Besides that, all other indices (i.e., GFI = 0.89, CFI = 0.82, and NFI=0.88 estimates) were less than the threshold value of 0.90 (Browne and Cudeck, 1993), which does not reach the recommended standard. For the value of AGFI of 0.89 which can consider acceptable. Consistent with the value of RMSEA

(Root Mean Square Error of Approximation) shows .05 (RMSEA <.05) indicates met the basic requirement of model fit indices and well within the recommended range of acceptability. (Please refer Table 1).

Table 1: Goodness of fit Indices of the Malay- Emotional Competence Inventory

Fit indices	Recommended Level of Fit	Current Model	Modified Model
Absolute Fit Measures			
CMIN/DF	<5.0	2.48	2.71
GFI (Goodness of Fit Index)	>0.90	0.89	0.93
RMSEA (Root Mean Square of Approximation)	<0.08	0.05	0.04
Incremental Fit Measure			
CFI (Comparative Fit Index)	>0.90	0.82	0.90
IFI (Incremental Fit Index)	>0.90	0.92	0.91
NFI (Normed Fit Index)	>0.90	0.88	0.93
AGFI (Adjusted Goodness of Fit Index)	>0.80	0.89	0.92
Parsimony Fit Measures			
PCFI (Parsimony Comparative Fit Index)	>0.50	0.64	0.76
PNFI (Parsimony Normed Fit Index)	>0.50	0.66	0.75

Based on Table 2, the results showed that four-factor sub-scale of Malay-ECI had some issue as regard to model fitness. Therefore, a reasonable adjustment of data was required. For this study, current model of the Malay- ECI was showed in Table 1. The co-variance issue that indicates the error pertaining some factor and the items' loading value need to be checked in order to improve the model fit. First step is to remove several items which the factor loading was loaded insufficiently on the latent factors and certain of the items were removed due to high co-variance issue (removing the 10 items was based on the factor loading and higher in terms of co- variance among the items). Two items were removed in the self-management (B2 and B27), four items in the social awareness dimension (B4, B48, B10 and B7) and for relationship management there were also 4 items that need to remove (B1, B23, B34 and B31). Therefore, finally the modified model of Malay-ECI remained 34 out of a total 44 items from the four sub-scales together the suggested quality standards and better goodness fitness to the data (Please refer Table 2). Based on Table 1, specifically refer to modified models indicated a better fit for the data with CMIN/DF of 2.71, GFI= 0.93, CFI=0.90, IFI=0.92, NFI=0.93, AGFI=0.92 and RMSEA =0.04. Table 2 lists retained 34 items of the Malay-ECI based on factor loading.

Table 2: Confirmatory Factor Item Loadings

Sub scale	
Items	Loading
Self-Awareness	
B3_ECI	0.57
B18_ECI	0.70
B24_ECI	0.58
B40_ECI	0.73
B13_ECI	0.52
B14_ECI	0.60
B16_ECI	0.65
B50_ECI	0.54

B8_ECI	0.45
Self-Management	
B19_ECI	0.68
B20_ECI	0.69
B22_ECI	0.62
B32_ECI	0.65
B36_ECI	0.69
B39_ECI	0.66
B44_ECI	0.71
B52_ECI	0.69
Social-Awareness	
B47_ECI	0.63
B29_ECI	0.79
B42_ECI	0.75
B45_ECI	0.76
B57_ECI	0.65
Relationship Management	
B33_ECI	0.71
B46_ECI	0.66
B63_ECI	0.69
B21_ECI	0.73
B26_ECI	0.69
B37_ECI	0.59
B58_ECI	0.70
B59_ECI	0.72
B60_ECI	0.73
B49_ECI	0.77
B6_ECI	0.57
B43_ECI	0.71
B54_ECI	0.69

Reliability Analysis

The reliability analysis was tested by referring to the Cronbach's alpha and composite reliability values. In this case, adequate reliability is present when Cronbach's alpha and composite reliability values surpassed 0.70 (Hair et al., 2010) of the modified measurement model of the ECI. As for the Cronbach's Alpha values range between 0.80 and 0.85. All the four factors of ECI for composite reliability (CR) values range between 0.84 and 0.89. In addition, analysis of average variance extracted (AVE) showed that the values reached the as recommended. Table 3 details that both readings exceeded the recommended value, signifying acceptable reliability among the measures.

Table 3: Reliability and Confirmatory Factor Item Loadings

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Self-awareness	0.837	0.845	0.589
Self-management	0.806	0.873	0.633
Social awareness	0.835	0.890	0.669
Relationship management	0.853	0.878	0.664

Convergent Validity

Convergent validity was evaluated following Hair et al. (2014)'s suggestions by checking (i) item loadings, (ii) average variance extracted (AVE), and (iii) composite reliability (CR). Hair et al. (2014) noted that the loadings should be >0.70 , $AVE > 0.50$, and $CR > 0.70$. Several items were discarded for having lower loadings and not fulfilling the recommended value. Consequently, Table 2 lists the findings showed that all factors of the Emotional Competence Inventory were greater than the threshold value of $CR > 0.70$. Furthermore, the AVE is above 0.50, and the CR exceed 0.70. These results entails that the convergent validity was accomplished.

Discriminant Validity

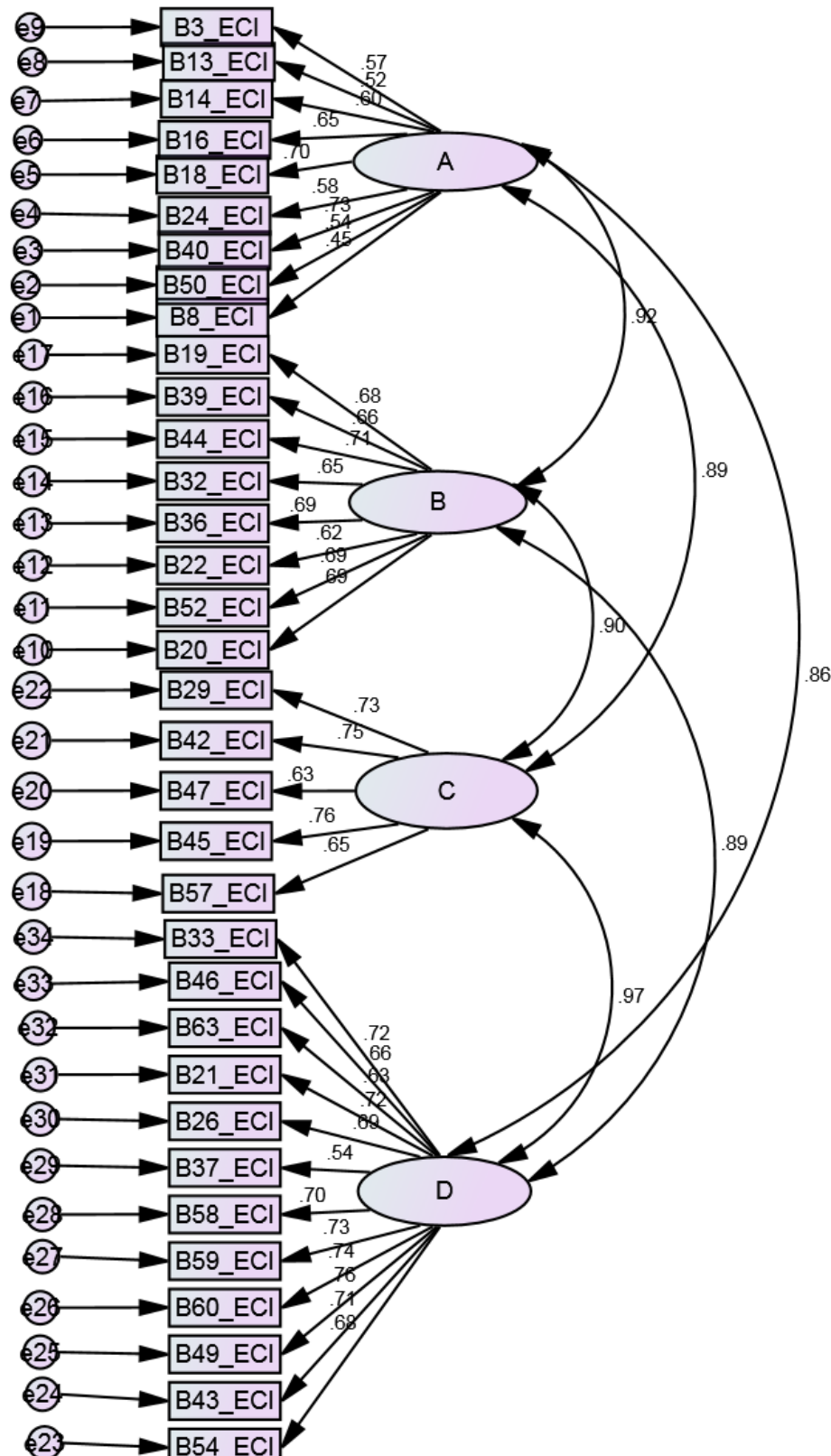
Discriminant validity is the extent to which a construct is truly distinct from other constructs by empirical standards. In other words, establishing discriminant validity implies that a construct is unique and captures phenomena not represented by other construct in the model. According to Hair *et. al* (2010) there are two measures of discriminant validity; First, by examining the cross loadings of the indicators. Specifically, an indicator's outer loading on the associated construct should be greater than all of its loadings on other construct. Here, Table 3 shows that all the items measuring a particular construct highly loaded on that construct and loaded lower on the other constructs thus confirming the first criterion of discriminant validity. Second, Fornell-Larcker criterion by comparing the square root of the AVE values with the latent variable correlations.

Specifically, the square root of each construct's AVE should be greater than its highest correlation with any other construct. According to Table 4, the square correlations for each construct are lower than the average extracted (AVE) by the indicators measuring construct indicating adequate discriminant validity. Here, it was found that overall, the measurement model demonstrated adequate convergent validity and discriminant validity. Table 4 presents that all the square roots of the AVE (bolded) topped the off-diagonal correlations, demonstrating that discriminant validity was reached.

Table 4: Inter-construct Correlations

Variables	Self-Awareness	Self-Management	Social Awareness	Relationship Mgt
Self-Awareness	0.767			
Self-Management	0.521	0.796		
Social Awareness	0.614	0.433	0.818	
Relationship Management	0.600	0.580	0.640	0.814
Mean	3.801	5.020	4.099	
Standard deviation	0.756	0.768	0.845	
Skewness	-0.396	-1.280	-0.855	
Kurtosis	-0.146	3.695	0.309	

Note: Diagonal in bold is the square root of AVE



4. DISCUSSION

In order to investigate the goodness of fit for this instrument, CFA was examined by applying the Structural Equation Modelling. Unfortunately, the finding of the CFA analysis does not meet the standard suggested criteria for GFI as well as NFI. However in this research the findings are still tolerable. Therefore, the co-variance issue between errors on the similar sub – scales was found and the items for loading factor values had been checked for the further model fit improvement. Two items were removed (B2 and B27) in the self-management sub scales, one items loading (B4, B48,

B10 and B7)) also need to be removed in the social- awareness sub scales. Another last dimension there were four items (B1, B23, B34 and B31) was also removed in the relationship management sub scales, all the items were loaded insufficiently towards the corresponding latent factors. The items have met the requirement, i.e. their loading factors are above .40 (Bowen & Guo, 2013), and therefore they are acceptable.

After all these particulars items were removed, the researchers conducted subsequent covariance analysis on the items with high co-variance problems. The modified model of Malay Emotional Competence Inventory (M-ECI) retained 34 out a total of 38 items of four-sub scales structure of the Emotional Competence Inventory (M-ECI) model, which met standard of quality and better goodness-of-fit with data in Malaysia context. As a result, by removing as suggested items bring into a clearer and more coherent factorial structure. Basically the obvious reason for eliminating items is to prevent the confusion for the same meaning towards certain items or redundant items which makes respondents experiencing difficulty in order to understand subtle differences among some of the item in questionnaire that was provided. For instance, items deleted in the relationship management sub scales were “I convince others by appealing to their self-interest” and “I use an engaging in my presentations”.

There were also eliminated items in the social management sub scales that indicate the subjects possible have a lack of self-awareness. Moreover, having lower loading values also due to the cultural factors since majority the subjects in this research comprised various ethnics in Malaysia. This influenced the way the subjects understand and interpret the item according to their own understanding based on their cultural context. Therefore the further investigation needs to be carried out in the future for the clarification or subject’s ability to understand the items. Hence it will provide insight of the suitability of these items. It was consistent with the study by Byrne, (2003) that mentioned the validity of certain items.

In terms of construct validity in order to ensure that the instrument was validated, convergent and discriminant need to be assessed. The results showed that there were no issue pertaining to convergent validity with the scale of Malay-ECI. This is based on the AVE above 0.50, (self-management: 0.589, self-awareness: 0.633, social management: 0.669, relationship management: 0.664) and the CR exceed 0.70 (self-management: 0.845, self-awareness: 0.873, social management: 0.890, relationship management: 0.878). Thus, the study can conclude that the Convergent Validity and Composite Reliability for all latent constructs in the model have been achieved. Even though it was a translated instrument but it can still be adopted to cultural influences. It was not consistent with the finding by Parker et al. (2005) which mentioned that culture may influence the way of how people need to respond and express their feelings as well as experiences that reflects from emotional intelligence because of various culture and backgrounds.

Referring to the result, the discriminant validity of the respective construct is achieved if the square root of its AVE exceeds its correlation value with other constructs in the model. In other words, the discriminant validity is achieved if the diagonal values (in bold) are higher than any other values in its row and column. The tabulated values in Table meet the threshold of discriminant validity. Thus, the study concludes that the discriminant validity for all constructs is achieved.

5. CONCLUSION

The Malay ECI, validated with local samples during the present research, can be used as a meaningful instrument in various organization facilities, including government, private, and etc. Looking at the findings of the present research, some of the comparative fit indices did not meet the recommended standards but it is still acceptable to use the Malay ECI as a reliable and valid instrument. This is based on the AVE above 0.50, and the CR exceed 0.70. These results entail that the convergent validity was accomplished. Therefore, its use in organization and research settings will help professionals use for the presence of emotional intelligence. The main objective of the study was to determine the factor structure of the Malay AQ-Child; it found that four components

drawn during the present research are consistent with the four main categories of sub scales adopted as criteria for original ECI.

Future studied is suggested to explore and further evaluate on how the Malay ECI can perform and being used on a national scale in large populations as well as can be extended to educator or teachers in the rural areas. So this taking consideration of having differences especially due the technology using as well as various cultural context. Since this study only involved several selected High Performance Schools in Malaysia, the findings obviously cannot be generalized to other samples.

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Appendices
English versions

EMOTIONAL COMPETENCY INVENTORY (ECI)

	Instruction: Here are 63 statements related to your emotional behavior. Read each statement carefully. Please circle how often you show the behavior stated according to the scale as next:	Never	Rarely	Sometimes	Always	Very Often
1	<i>I make activities or projects engaging.</i>	1	2	3	4	5
2	<i>I follow through my commitment.</i>	1	2	3	4	5
3	<i>I present myself in an assured and unhesitating manner.</i>	1	2	3	4	5
4	<i>I accurately read people's moods or non-verbal cues.</i>	1	2	3	4	5
5	<i>I anticipate obstacles to a goal.</i>	1	2	3	4	5
6	<i>I maintain cooperative working relationship.</i>	1	2	3	4	5
7	<i>I am attend to providing satisfaction to my customer or others with I deal.</i>	1	2	3	4	5
8	<i>I have a sense of humor about myself.</i>	1	2	3	4	5
9	<i>I remove barriers to change.</i>	1	2	3	4	5
10	<i>I understand the political forces at work in the organization.</i>	1	2	3	4	5
11	<i>I bring disagreements out in open.</i>	1	2	3	4	5
12	<i>I take calculated risks.</i>	1	2	3	4	5
13	<i>I have "present" (i.e stand out in a group).</i>	1	2	3	4	5
14	<i>I am aware of my own strengths and weaknesses.</i>	1	2	3	4	5
15	<i>I act rather than wait.</i>	1	2	3	4	5
16	<i>I am aware of which emotions I am feeling and why.</i>	1	2	3	4	5
17	<i>I am authentic (e.g what you see is what you get)</i>	1	2	3	4	5
18	<i>I recognize the links between my feeling and what I think, do and say.</i>	1	2	3	4	5
19	<i>I deal calmly with stress.</i>	1	2	3	4	5
20	<i>I set measurable goals.</i>	1	2	3	4	5
21	<i>I inspire others by articulating a vision or a mission.</i>	1	2	3	4	5
22	<i>I smoothly juggle multiple demands.</i>	1	2	3	4	5
23	<i>I use an engaging in my presentations.</i>	1	2	3	4	5
24	<i>I am open to new information about myself.</i>	1	2	3	4	5
25	<i>I see opportunities rather than threats.</i>	1	2	3	4	5

26	<i>I motivate others by arousing emotions.</i>	1	2	3	4	5
27	<i>I am careful in my work.</i>	1	2	3	4	5
28	<i>I accurately read key power relationship within group or organizations.</i>	1	2	3	4	5
29	<i>I build consensus and support for positions.</i>	1	2	3	4	5
30	<i>I seek information in unusual way.</i>	1	2	3	4	5
31	<i>I made close personal friends with acquaintances or classmate.</i>	1	2	3	4	5
32	<i>I take tough principles stands even if they are unpopular.</i>	1	2	3	4	5
33	<i>I offer feedback to improve another person's performance.</i>	1	2	3	4	5
34	<i>I convince others by appealing to their self-interest.</i>	1	2	3	4	5
35	<i>I use non-verbal cues like tone of voice to express feelings that reinforce my messages in presentations.</i>	1	2	3	4	5
36	<i>I easily handle shifting priorities and rapid change.</i>	1	2	3	4	5

Malay versions**BAHAGIAN B: EMOTIONAL COMPETENCY INVENTORY (ECI)**

	Arahan: Berikut terdapat 63 kenyataan berhubung dengan tingkah laku emosi anda. Baca setiap kenyataan tersebut dengan teliti. Sila bulatkan berapa kerap anda menunjukkan tingkah laku yang dinyatakan mengikut skala seperti di sebelah :	Tiada pernah	Jarang-Jarang	Kadang-kadang	Selalu	Sangat Selalu
1	Saya menjadikan aktiviti atau projek-projek di sekolah supaya menarik.	1	2	3	4	5
2	Saya dapat melaksanakan komitmen saya.	1	2	3	4	5
3	Saya dapat menampilkan diri dengan gaya yang yakin dan tidak ragu-ragu.	1	2	3	4	5
4	Saya boleh membaca dengan tepat mood atau isyarat badan orang lain.	1	2	3	4	5
5	Saya dapat menjangka rintangan yang menghalang saya untuk mencapai matlamat.	1	2	3	4	5
6	Saya mengekalkan hubungan kerja berdasarkan kepada prinsip-prinsip kerjasama.	1	2	3	4	5
7	Saya mampu memberi kepuasan kepada orang atau guru yang berurusan dengan saya.	1	2	3	4	5
8	Saya boleh berjenaka tentang diri saya sendiri.	1	2	3	4	5
9	Saya menghapuskan halangan-halangan untuk berubah.	1	2	3	4	5
10	Saya faham akan desakan politik yang wujud dalam organisasi.	1	2	3	4	5
11	Saya membangkitkan perbezaan pendapat secara terbuka.	1	2	3	4	5
12	Saya mengambil risiko secara berhati-hati.	1	2	3	4	5
13	Saya menonjol (misalnya, menonjol dalam kumpulan).	1	2	3	4	5
14	Saya sedar kekuatan dan kelemahan diri saya.	1	2	3	4	5
15	Saya lebih suka bertindak daripada menunggu.	1	2	3	4	5
16	Saya sedar emosi yang saya alami dan sebabnya.	1	2	3	4	5
17	Saya seorang yang tidak berpura-pura (misalnya, apa yang anda lihat itulah yang sebenarnya saya).	1	2	3	4	5

18	Saya boleh mengenalpasti hubungan antara perasaan saya dengan apa yang saya fikirkan, lakukan dan katakan.	1	2	3	4	5
19	Saya menangani tekanan dengan tenang.	1	2	3	4	5
20	Saya menetapkan matlamat yang boleh diukur.	1	2	3	4	5
21	Saya memberi semangat kepada guru atau orang lain dengan menggariskan wawasan atau misi.	1	2	3	4	5
22	Saya boleh mengendalikan beberapa tugas secara serentak.	1	2	3	4	5
23	Saya menggunakan gaya yang mempesona semasa menerangkan sesuatu.	1	2	3	4	5
24	Saya bersifat terbuka terhadap maklumat baru tentang diri saya.	1	2	3	4	5
25	Saya melihat sesuatu sebagai peluang dan bukannya ancaman.	1	2	3	4	5
26	Saya memotivasikan orang lain dengan merangsang perasaan mereka.	1	2	3	4	5
27	Saya berhati-hati dalam melaksanakan tugas.	1	2	3	4	5
28	Saya boleh mengecam dengan tepat hubungan-hubungan yang penting dalam organisasi.	1	2	3	4	5
29	Saya cuba membentuk kesepakatan dan sokongan bagi sesuatu pendapat.	1	2	3	4	5
30	Saya mencari maklumat dengan cara yang luar biasa.	1	2	3	4	5
31	Saya menjalin persahabatan dengan guru atau staf yang lain.	1	2	3	4	5
32	Saya mengambil pendirian yang tegas berdasarkan prinsip walaupun ia mungkin tidak popular.	1	2	3	4	5
33	Saya secara sukarela memberi maklum balas untuk meningkatkan prestasi guru.	1	2	3	4	5
34	Saya yakinkan guru-guru dengan menumpukan perhatian kepada apa yang mereka minati.	1	2	3	4	5
35	Saya menggunakan isyarat bukan verbal seperti nada suara dalam meluahkan perasaan untuk menegaskan mesej saya dalam menerangkan sesuatu.	1	2	3	4	5
36	Saya boleh menangani dengan mudah perubahan keutamaan (<i>priorities</i>) dan juga perubahan yang cepat.	1	2	3	4	5

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