THE IMPORTANCE OF SELF-EMOTIONAL COMPETENCY MODEL FOR MIDDLE SCHOOL LEADERS IN THE ERA OF SOCIETY 5.0: A PILOT STUDY

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Abstract:

The self-emotional competency model can be used as a measurement tool to increase the emotional qualities of school leadership in facing the change in the education era of Society 5.0. However, validation of the self-emotional competency model using exploratory factor analysis (EFA) is still scarce. Therefore, this pilot study is conducted to identify the applicability of the emotional competency model of middle leaders in primary schools through exploratory factor analysis (EFA). This study employed a quantitative approach using a survey method. A questionnaire was used as a research instrument. The instrument contained 18 items. A total of 179 respondents participated in this pilot study. The validity and reliability of the instrument were obtained through descriptive analysis of Cronbach's Alpha reliability and exploratory factor analysis (EFA) using SPSS version 27 software. The overall analysis shows that 13 items meet the EFA fit requirements with Kaiser-Meyer-Olkin (KMO) values of more than 0.6. Bartlett's test values were significant, with item communalities values exceeding 0.3 and Eigen values exceeding 1.0 at a percentages of variance exceeding 60 percent. The Cronbach's Alpha coefficient was above 0.70 for all items. A total of five items were removed. The findings of the study show that the instrument of self-emotional competency instrument has very high validity and reliability and has the potential to be used as a guide in the development of self-emotional competence of middle leaders in Malaysia. A positive impact is essential in generating emotionally intelligent leaders who are competitive and capable to lead the school community towards the era of Society 5.0 especially in primary school in Malaysia.

Introduction

The middle leader in a school is an academic teacher who is trusted to be the leader of a team (Rosenfield, Newell, Zwolski & Benishek, 2018) either formally (Bush, 2019) or informally (Lu & Hallinger, 2018). Cohen and Schechter (2019) define middle leaders as individuals who are between the level of top leadership and the teachers. While Gjerde and Alvesson (2020) posit that middle leaders are in a 'sandwiched middle' position. In this position, they act as an umbrella that is responsible for controlling instructions from superiors and only conveying necessary information to sub-ordinates.

Nonetheless, concern arises about the ability of these middle leaders to face the challenges of the Society 5.0 era if they are still unclear about their actual tasks, roles and competencies they needed as leaders in the middle level (Harding, Lee & Ford, 2014). The failure to clarify the role and the identity of these middle leaders indicates that they are unable to cope with this situations. Even Gallos (2002) and Lokman, Norazah, Mohd Fadzli, Muzammil, Lina Mursyidah and Hanin Naziha (2023) agree that middle leaders are seen as struggling with unchallenged workloads.

Literature Review

Education in the era of Society 5.0 is indicated as the concept of human-centred and technology-based (Ismail, Makhsin, Noor, Ismail, & Halim, 2022). In other words, the middle leadership in the school must be ready and able to take advantage of technology to solve the problems faced in a critical, creative, and collaborative way. Integration between human intellectual intelligence and artificial intelligence of this technology is said to be able to face complex challenges thoroughly, carefully, and efficiently (Yunus, 2022). In order to ensure that technology can be used optimally, middle leaders should have good emotional intelligence as well.

Thus far, studies related to the role and function of middle leaders in school organisations have always been given attention by education scholars around the world (Harris & Jones, 2018; Bryant, Wong & Adames, 2020; Pavlopoulos, 2021). In addition to performing duties as a teacher in the classroom (Gurr, 2019; Nehez et al., 2021), they are also teacher leaders that are responsible for curriculum management and school administration (Highfield & Robertson, 2016; Bassett & Shaw, 2018; Vijian & Jamalul, 2020). Therefore, they are often seen as assistants who share the administrative workload (Forde & Kerrigan, 2022). Since the middle leaders play the role of the second most important leader after the headmaster in the school, they should be equipped with adequate competency (Duong, 2020; Irvine, 2020; Slater-sanchez, 2020; Nehez, Blossing, Gyllander Torkildsen, Lander & Olin, 2021).

However, studies focusing on the competency requirements of middle leaders still lack the attention of researchers (Tay, Tan, Deneen, Leong, Fulmer & Brown, 2019). The burden of teaching and managing the curriculum by the middle leaders at the same time has interrupted their focus on their role as leaders (Suhaili, Osman & Matore, 2020). The absence of clear

guidelines coupled with a lack of competence leads to difficulties in carrying out their tasks and duties (Bush, 2019), in addition to being burdened with administrative duties (Beram, Awang & Ismail, 2020). This kind of situation can affect their motivation and lead to emotional stress (Del Pozo-Antúnez, Ariza-Montes, Fernández-Navarro & Molina-Sánchez, 2018). Therefore, it is important for middle leaders to be proficient in their field of work as well as in managing their emotions.

According to Lambert (2020), the ability of middle leaders to shoulder the burden of this task is closely related to their ability to control their own emotions. This capability is important, especially in the population of primary school children (Frearson, 2003). Hughes, Patterson and Terrell (2005) also proved in their study that leaders with high levels of emotional intelligence is the main key to the success of a school. The study of Meisler (2010) also found that individuals with a high level of emotional intelligence are more respected by colleagues and seen as highly committed to carrying out tasks. Based on the research by Madhar (2010), leaders should be able to identify their own emotions before they can manage them well. Many studies have linked the positive emotional effects of leaders to school success. According to the findings in the study by Zeidner, Matthews and Roberts (2004), school success is highly dependent on various forms of emotional intelligence of leaders, such as empathy, optimism, and wisdom in managing conflicts. Despite not achieving academic success, at least this leadership can support an effective, enjoyable, and pleasurable work environment. In fact, according to Goleman, Boyatzis and McKee (2013), emotional intelligence accounts for 80 to 90 per cent of the competencies that distinguish between excellent leaders and ordinary ones.

Meanwhile, the use of special competency models for middle leaders has been widely practiced abroad such as Singapore with the Management and Leadership in Schools Program, Brunei with the Competency Model-based Middle Leader Development Program and The National Professional Qualification for Middle Leadership (NPQML) is been used as middle leaders' preparation training in the United Kingdom, and many more. According to Boyatzis (1982), the use of the competency model is unique because it takes into account the work activities, functions, culture and environment in the organization. Based on studies related to competency levels in education, Massing and Schneider (2017) found that competencies acquired in the education phase are not the same as competency requirements in other workplace. In fact, the same competencies will produce different outputs when used in different job functions. This proves that each competency model that is developed only suits within the scope and strengths of the members in the organization (Hay Group, 2003) and was designed specifically for that locality only. In addition, the literature proved that there is still no review on development of a middle leadership competency model that relates to the leader's self-emotional aspects.

As such, the development of a model of middle leaders' emotional competence must be carried out by undertaking various aspects so that the planned training meets the organisation's requirements (Aminuddin Baki Institute, 2020; Tahir, Musah, Ali, Abdullah & Hamzah, 2021). A detailed training plan can have a positive effect on the Ministry of Education and also ensure the best return on investment (ROI) (Momin, 2018). This initiative proved to maximise the potential of middle leaders and their effectiveness in school (Fred & Bishen Singh, 2021; Lokman et al., 2021). Furthermore, this would provide new leaders with preliminary preparation related to social norms in school (Goleman et al., 2013; Silam, Pang, & Lajium, 2020).

Next, a pilot study was conducted on the questionnaire instrument. A pilot study needs to be done to help identify suitability and usability as well as avoid confusion that may arise before being used in the field (Merriam, 2015). In the context of the pilot study, the Exploratory Factor Analysis (EFA) method was used to verify the consistency in each construct and the constructed items, as suggested by Mansor, Mohd Noor, Musa and Yusof (2018) and Amatan Han and Pang (2021). This procedure will produce several factors that may be related to the theory that supports the competence of middle leaders in schools. Among other things, the pilot study also aims to assess the consistency of the item from the aspect of the level, objective, understanding and instruction of the item itself (Roid & Haladyna, 1982). This process can be repeated until the best final prototype that meets the scope of data collection in the actual study is obtained (Yin, 2018).

Exploratory Factor Analysis (EFA)
Exploratory Factor Analysis (EFA) was conducted to obtain the validity of the items in the instrument before being used in the field. Through EFA, the adaptation and tendency of each item to be in the construct will be seen more systematically. This procedure aims to identify, reduce, and organise a number of questionnaire items into specific constructs in the study (Hair, Page & Brunsveld, 2020). According to Muda, Lognathan, Awang, Jusoh and Baba (2018), there is also the possibility of overlapping items and items that are not in the designated construct. Table 1 shows a summary of the proposed conditions for the fit indices to be met in EFA.

Table 1: Fit Indices for Exploratory Factor Analysis (EFA)

EFA Model Indices	Suggested value
Kaiser-Meyer-Olkin (KMO) test	>0.60
Bartlett's Test of Sphericity, χ^2	<0.05
Communal Value	≥0.30
Factor Loading Value	≥0.50
Eigenvalues	>1.00
The value of the percentage change of the variant	≥60%

Through EFA, the number of constructs and factor structures that underlie the variables under study can be identified. The factor structure formed is based on feedback from the study sample. Each item in the competency construct needs to meet the EFA fit index testing as has been established.

Research Objective
The objective of the pilot study was to obtain the initial validity and reliability of the middle leaders' self-emotional competency model in Malaysian primary schools through exploratory factor analysis (EFA).

Research Questions
Based on the stated objectives, this study was conducted to answer the following questions;

i. What is the assessment of the instrument validity of the middle leaders' self-emotional competency model in Malaysian primary schools through exploratory factor analysis (EFA)?

ii. What is the assessment of the instrument reliability of the middle leaders' self-emotional competency model in Malaysian primary schools through exploratory factor analysis (EFA)?

Methodology

This study uses a quantitative approach that is conducted as a cross-sectional survey. The questionnaire instrument employed contains 18 items based on the level of agreement with a five-point Likert scale (5- Strongly Agree, 4-Agree, 3-Moderately Agree, 2- Disagree and 1-Strongly Disagree). A five-point Likert scale is used as an alternative scale in instrument testing, as suggested by Likert (1932). The research instrument consists of two parts, namely, Part A, which is the demographics of the respondents and Part B is the items in the construct of self-emotional. The questionnaire link was distributed via Google Forms through the NPQEL Department Head at the Aminuddin Baki Institute (IAB) on 22nd September, 2022.

Sample

The study sample was selected by simple random sampling that only involved NPQEL participants in the category of primary school middle leaders for the year 2022. According to Awang (2015) and Hair et al. (2017), the number of samples for the pilot test must exceed 100 samples to ensure the validity of EFA. In the context of this pilot study, more than 100 respondents will be involved. Analysis of the findings of the pilot study was done using SPSS version 27 software.

Instrument

Based on the research context, competency mapping was conducted according to the framework of School Social System Model (Hoy & Miskel, 2013), Middle Leadership in Curriculum Area (White, 2000), and a Model for Effective Performance (Boyatzis, 1982). These were also combined with the items agreed upon by the experts through the Fuzzy Delphi Method (FDM) in the previous stage. Overall, the propose instrument consist of 18 items as shown in Table 2.

Table 2: Research Instrument

Item Code	Item Description	Competency Element
KED1	Identify self-knowledge and strengths.	Self-strength
KED2	Sharing knowledge within the school community.	Self-strength
KED3	Utilize knowledge to achieve school goals	Self-strength
KED4	Identify self's weaknesses.	Self-weakness
KED5	Exhibit self-improvement efforts to achieve school goals.	Self-achievement drive
KED6	Recognize the limits of emotions that pose a risk to health.	Self-limitation
KED7	Self-esteem.	Self-limitation
KED8	Recognize the need for self-improvement.	Self-development orientation
KED9	Demonstrate willingness to change.	Self-achievement drive
KED10	Demonstrate efforts to improve self-competence.	Self-development orientation

KED11	Controlling one's emotions to stay focused on achieving school goals.	Emotional self-control
KED12	Demonstrate maturity in making decisions.	Emotional self-control
KED13	Maintain self-motivation at work.	Self-motivation
KED14	Has a strong drive to achieve goals.	Self-motivation
KED15	Demonstrates high spiritual strength.	Spiritual Intelligence
KED16	Performs work as an act of worship.	Intrapersonal Skills
KED17	Utilizes intrapersonal skills in achieving school goals.	Intrapersonal Skills
KED18	Self-improvement	Intrapersonal Skills

Findings and Discussion

Standard deviation is used to identify the distribution of data. All survey responses from respondents were received on 29 September, 2022. Out of a total of 190 responses received, 11 responses provided a standard deviation (SD) value of less than 0.25. According to Collier (2020), data that is at a value of SD<0.25 is non-responsive and is removed from the data list. All 11 responses are in 1st, 2nd, 27, 29, 30, 51, 67, 71, 112, 135, and 153 samples. Thus, only 179 data samples will be further analysed. The demographics of the 179 respondents for the pilot test are shown in Table 3.

Table 3: Demographics of Respondents

Demography	Category	Frequency	Percentage, %
School type	SK	131	73.2
	SJKC	38	21.2
	SJKT	8	4.5
	Others	2	1.1
Gender	Male	78	43.6
	Female	101	56.4
Academic	Diploma	19	10.6
	Degree	140	78.2
	Masters' Degree	20	11.2
	Doctorate	0	0
Age	Less than 39 years old	10	5.6
	40 to 49 years old	68	38.0
	50 to 59 years old	101	56.4
	More than 60 years old	0	0

Table 3 shows the demographics of the 179 respondents who participated in the pilot study. It was found that 131 respondents (73.2%) are Administrative Senior Assistants in national schools (SK). A total of 38 respondents (21.2%) are from national type (Chinese) primary schools (SJKC), eight respondents are from national type (Tamil) primary schools (SJKT) (4.7%), and two respondents are from other types of schools. The study involved 101 (56.4%) female respondents and 52 (48.6%) male respondents. In terms of academics, it was found that a total of 140 Administrative Senior Assistants in primary schools have a degree (78.2%), 20 respondents (11.2%) have a Masters' degree and 19 respondents (10.6%) have a Diploma. The data also shows that 101 respondents are between 50 and 59 years old (56.4%), while 68

respondents are between 40 and 50 years old (38%), and only 10 respondents (5.6%) are less than 39 years old.

Analysis of Validity
The validity of the items in the instrument was identified using the Exploratory Factor Analysis (EFA) method. The EFA procedure will systematically extract each item according to the adaptation in its construct. Several EFA index compatibility conditions need to be fulfilled in EFA.

The KMO and Bartlett's test will determine the adequacy of the data to proceed with the EFA procedure. Based on the context of the study, the value of KMO>0.6 and Bartlett's was determined to be significant at p<0.05 to ensure that items are independent and suitable for EFA. Analysis for KMO and Bartlett's test is shown in Table 4.

Table 4: Analysis of the KMO and Bartlett's Test

Construct Competency	No. of Item	KMO Test	Bartlett's Test
Self-Emotional	18	0.942	0.000

Table 4 shows that all competency items give KMO values>0.6, and Bartlett's test values are significant at p<0.05 for all items. The communality values of the items in the Self-Emotional construct is shown in Table 5.

Table 5: Analysis of Items Communality

Item Codes	Initial	Extraction
KED1	0.527	0.462
KED2	0.761	0.655
KED3	0.709	0.604
KED4	0.523	0.438
KED5	0.715	0.694
KED6	0.652	0.603
KED7	0.584	0.447
KED8	0.679	0.691
KED9	0.715	0.699
KED10	0.710	0.653
KED11	0.668	0.662
KED12	0.689	0.679
KED13	0.596	0.573
KED14	0.654	0.616
KED15	0.623	0.580
KED16	0.419	0.367
KED17	0.640	0.652
KED18	0.649	0.594

Extraction Method: Principal Axis Factoring.

Table 5 shows that all items in the Self-Emotional construct have a communality value>0.3 with a range between 0.367 and 0.699. The EFA analysis of the Self-Emotional construct is shown in Table 6.

Table 6: Factor Analysis

Factor	Eigenvalue	Cumulative Variance, %	Item Code	Factor Loading
Factor 1 Emotional self-awareness	7.873	60.562	KED2	0.672
			KED3	0.589
			KED11	0.716
			KED12	0.813
			KED13	0.773
			KED14	0.830
			KED15	0.779
			KED17	0.777
			KED18	0.555
Factor 2 Emotional self-control	1.005	68.293	KED7	0.549
			KED8	0.941
			KED9	0.858
			KED10	0.594

Table 6 shows that at an Eigenvalue>1.00 with a percentage variance>60%, the extracted items have formed two factors with a cumulative variance of 68.293%. Factor 1 consists of nine items, while Factor 2 consists of four items. Items with the code KED1, KED4, KED5, KED6 and KED16 were omitted from the model instrument because they had a loading value of less than 0.5.

Table 7: Correlation Matrix

Factor	1	2
Emotional self-awareness	1.000	0.751
Emotional self-control	0.751	1.000

Extraction Method: Principal Axis Factoring.
Rotation Method: Promax with Kaiser Normalization.

Table 7 shows the correlation matrix between components with a value of 0.751. A correlation with a value of less than 0.9 indicates that this component or items in the instrument does not have multi-collinearity problems (Pallant, 2010).

Analysis of Internal Reliability
The internal reliability of an instrument can be identified through Cronbach's Alpha value. Cronbach's Alpha value must be greater than 0.7 to ensure the effectiveness of items measuring the construct consistently. Analysis of internal reliability according to items in the competency construct is shown in Table 8.

Table 8: Analysis of Reliability

Competency Construct	Sub-construct	No. of item	Alpha Cronbach
Self-emotional	Emotional self-awareness	9	0.934
	Emotional self-control	4	0.874
	Total item	13	

Table 8 shows Cronbach's Alpha values exceeding 0.7 for both sub-constructs, which are at 0.934 and 0. 874. This finding confirms that all the items in the construct are consistent and

have a very high internal reliability (George & Mallery, 2003). The summary of the total number of items after the pilot study was carried out is shown in Table 9.

Table 9: Analysis of Items in the Research Instrument

Competency Construct	Initial Items	Omitted Items	Final Items
Self-Emotional	18	5	13

Table 9 shows that five items were omitted from the initial 18 items. A total of 13 final items were retained in the questionnaire instrument of the middle leaders' Self-Emotional competency model after conducting the factor exploratory analysis (EFA) procedure.

Summary
Overall, the construct of self-emotional competency model for middle leaders of primary schools in Malaysia has achieved EFA fit with a KMO value of more than 0.6, and Bartlett's test value is significant at a value of $p<0.05$. EFA analysis has produced two new factors at Eigenvalue>1.0 with percentage variance>60%. The factor is a sub-construct of self-emotional competency in the research model. Cronbach's Alpha value>0.7 in the self-emotional construct shows that this research instrument achieves internal consistency criteria and has high reliability. This instrument has met the level of validity and reliability and has been found to be suitable for use in conducting actual studies.

Based on the findings of the pilot study, the emotional quality of middle leaders in primary schools was determined by measuring the level of Self-Emotional Awareness and Self-Emotional Control. The EFA analysis also confirms that the instrument formed is suitable and has the potential to be used as a guide in identifying, controlling, and developing the emotional intelligence of middle leaders in schools In accordance with the opinion of Lambert (2020), which states that the ability to identify one's emotional state will help one solve many concerns in the field of work.

In conclusion, the emotional of middle leadership in schools must be ensured to be at the best level in line with the ministry's efforts in facing the development of educational changes in the Society 5.0 era. Thus, a cheerful, harmonious, and prosperous working environment is developed.

Further Research Recommendation
Recommendations for further research can be made by measuring the validity and reliability of the instrument using other methods, such as content validity ratio analysis (CVR) or content validity index analysis (CVI). This recommendation will be able to expand the development of knowledge in a variety of research methodologies. Since the study respondents are middle leaders in primary schools, it is recommended that this instrument be used by middle leaders in secondary schools and also in Teacher Education Institutes (IPG). This research can also be extended to middle leaders in primary schools in other countries. This proposal will be able to contribute to the body of knowledge with outputs that diversified in accordance to the various populations.

Acknowledgement

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