Humanitas: Indonesian Psychological Journal
Vol. 21 (2), August 2024, 143-156
ISSN: 2598-6368(online); 1693-7236(print)

# The Adaptation and Validation of Adolescent Emotional Competence Scale for Indonesian Adolescents

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ARTICLE INFO

**Article history**
Received October 26, 2023
Revised May 15, 2024
Accepted May 20, 2024

**Keywords**
Adolescant
Emotional competence
Reliability
Validity

ABSTRACT

Assessing emotional competence is crucial for understanding how adolescents handle negative emotions and form their future scenarios. However, none of the Emotional Competency measurements are available for Indonesian' adolescents. This research aimed to adapt and validate the short version of the Emotional Competency Scale for Indonesian adolescents. 352 high school students were selected as participants through a cluster sampling method. Twenty indicators of the Short Version of the Emotional Competence Scale were employed to collect data. The data was analysed using Second Order Confirmatory Factor Analysis (CFA) in the Lisrel 7.9 program to determine the scale's reliability and validity. The results showed that 18 indicators had loading factors larger than 0.5; the CR and AVE values were greater than 0.7 and 0.5, respectively. Thus, the 18 indicators of the Short Version of the Emotional Competency Scale demonstrated validity and reliability and were suitable for widespread use among Indonesian adolescents.



## Introduction

Hurlock (2017) defines adolescence based on chronological age, from age 13 to 18 years. During this period, adolescents are faced with developmental tasks that are different from childhood developmental tasks, such as forming relationships with peers of the same and opposite sex, achieving emotional independence from parents, and being responsible for their actions. If these tasks are completed, they will gain satisfaction, happiness and acceptance from the environment. The success of adolescents in fulfilling the tasks will also determine their success in fulfilling developmental tasks in the next phase.

As it develops, adolescence is often associated with deviation and impropriety. This is based on the developmental theories discussing emotional and behavioural disorders due to various pressures from changes in themselves and the environment. According to (Lestari et al., 2019), the association occurs due to a lack of positive and constructive development of one's emotions, as well as low self-control in controlling emotions, which is considered to be one of the driving factors for someone to take actions that are not following the rules and norms that apply in the society. During this period, adolescents are susceptible to significant emotional lability and the onset of social-emotional disorders. this shows that the developmental stage heralds a rapid increase in mental disorders, including disruptive,

depression, eating disorders, and anxiety-related problems (Potterton et al., 2022). This phase is characterized by significant neurobiological changes, marked by a high level of emotional lability and a substantial increase in emotional reactivity, which can impact their well-being and lead to the emergence of emotional and behavioural disorders (Guyer et al., 2016). Moreover, challenges such as peer pressure, identity crisis, and academic stress, can exacerbate emotional turmoil, potentially leading to maladaptive behaviours and emotional disorders if not adequately addressed.

One important factor in coping with those situations is the ability to manage their emotion Successful emotional development determines a person's potential to interact constructively with other people (Honmore & Jadhav, 2015), academic success (Blankson et al., 2017), achieve a higher social level (Denham et al., 2012), have stable employment in the future and promote prosocial behaviour (Mesurado et al., 2019). Conversely, a lack of skills in managing one's emotions leads to various levels of anxiety, withdrawal (Czekóová et al., 2020), risk of maladaptive behaviour and engagement in aggressive behaviour which indicates that the early development of emotional competence is critical for the short- and long-term well-being of adolescents (Jones et al., 2017).

Emotional intelligence and emotional competence are important aspects related to adolescent emotions. It refers to the ability to recognise, understand, and manage one's own emotions and others, as well as the ability to express emotions in a socially appropriate manner. Emotional intelligence and emotional competence affect individuals' choice of coping style, which determines the level of emotional disorders. Moreover, higher levels of emotional intelligence affect emotional understanding and regulation which associated with better mental health outcomes (Vucenovic & Sipek, 2023). Understanding and addressing the emotional and behavioral needs of adolescents is essential for promoting their well-being and successful development (Bailen et al., 2019).

Denham (2019) emphasizes that emotional competence is the ability to intentionally and fully engage in various emotions, while also managing the expression of emotions when necessary. Housman (2017) points out the significance of emotional competence, starting from birth, which involves recognizing, interpreting, and responding constructively to emotions in oneself and others. This competence not only improves personal and relational performance but also contributes to overall quality of life (Housman, 2017). Studies in the field, as highlighted in the research on teenagers' emotions and complex thinking, suggest that adolescents experience emotions differently from adults and may struggle more to regulate their emotions effectively. Acknowledging and fostering emotional competence during adolescence is crucial for their well-being and successful navigation through life challenges (Oberauer et al., 2023).

Emotional competence is the ability to manage emotions, including the ability to identify, express, understand, regulate and use emotions (Brasseur et al., 2013; Saarni et al., 2007). Sass et al. (2013) discovered that emotional processes within individuals play a role in executive functions such as planning for the future. In other words, positive expectations for the future depend on current emotional states (Tejada-Gallardo et al., 2022). Individuals with poor emotional competence tend to validate the negative emotions they are currently feeling, resulting in maladaptive behaviour, for example, looking for situations that trigger negative emotions. On this basis, adolescents who lack emotional competence tend to form awful future scenarios (Montalvo-Garcia et al., 2021).

There needs to be more research regarding emotional competence among teenagers in Indonesia. However, none of the emotional competence measurements are available for Indonesians. Thus, this research aimed to adapt the Profile of Emotional Competence Scale (PEC) developed by Brasseur et al. (2013) for Indonesian adolescents. The PEC was

constructed based on five dimensions of emotional competence, which are identification, understanding, expression, regulation and use of emotions (Brasseur et al., 2013). This research chose Brasseur et al.'s PEC scale as it is comprehensive and encompasses the requirements for individuals' development of emotional competence including in facing stressful situations. The definition and development of the emotional competency theory and scale are discussed in the following section.

### *Definition of Emotional Competence*

Emotion is one of an individual's internal aspects that influences how a person will behave (Denham et al., 2007). Saarni et al. (2007) define *emotion* as a physiological reaction, cognitive interpretation, communication, and behaviour toward situations. Furthermore, emotion is a feeling or affection that arises when a person is in a situation or interaction that is considered necessary to him, especially his well-being. Emotions are a form of communication. Emotions are represented by behaviour that expresses comfort or discomfort with the circumstances or interactions a person experiences (Santrock, 2017). One psychological construct that can indicate a person's emotions is emotional competence.

Emotional competence is an adaptability obtained from emotional experience (Saarni, 1999). An individual who has emotional competence in varied contexts tends to be able to manage their emotions effectively, be resilient in dealing with stressful situations, and build positive relationships (Denham et al., 2007). Another definition of emotional competence is the ability to manage emotions or the ability to identify, express, understand, regulate, and use emotions (Mikolajczak, 2015). When an individual cannot manage emotions effectively, this will lead to depression, anger, and a lack of emotional regulation, which trigger adjustment difficulties, deviant behaviour and perpetrators of violence in the family (Santrock, 2017).

This research is based on Brasseur et al. (2013) definition of emotional competence, which is the ability to manage emotions, including the ability to identify, which refers to, express, understand, regulate, and use emotions. According to Brasseur et al. (2013) emotional competence encompasses five dimensions, those are: identification, which refers to the ability to acknowledge emotions when they arise and identify these emotions; understanding, the ability to understand the causes and consequences of the emergence of emotions and be able to differentiate between various causes of the emergence of emotions; expression, the ability to express emotions in a socially acceptable way, regulation, the ability to regulate emotions that emerge not according to the context, thereby avoiding stress; utilisation, the ability to use emotions to improve skills in self-reflection, making decisions and taking action.

### *Development of Emotional Competence Measurement*

Over the past two decades, Emotional Competence (EC) has received increasing attention from the general public and the scientific society. Sometimes better known as Emotional Intelligence (EI), this concept emphasises how individuals deal with intrapersonal or interpersonal emotional information. Furthermore, Emotional Competence (EC) refers to how a person identifies, expresses, understands, regulates, and uses his or her emotions or the emotions of others (Brasseur et al., 2013). In other words, EI and EC are both related to individual emotions. However, EI is the individual's ability to respond to the emotions, while EC is the individual's ability to process and use the emotions.

In Indonesia, there was research conducted by Wulandari (2013) regarding the emotional intelligence instrument. Wulandari developed The Emotional Competence Inventory 2.0 (ECI) based on Goleman's theories and dimensions (i.e., self-awareness, self-

management, social awareness, and relationship management). Research on emotional intelligence instruments has a different approach to theories with emotional competence. We chose to develop an emotional competence scale because it considered measuring emotions by looking at the interpersonal and intrapersonal aspects of the individual.

Several EC measurements were subjected to in-depth validation tests, which have proven to be very useful in predicting several effects, making it easier to understand the significance of EC in psychological, somatic, professional, and social adjustment. In some cases, intrapersonal EC carries more weight than interpersonal EC (e.g., predicting health rather than social relationship quality). The scale test conducted by Brasseur (2013) was carried out on 5,676 subjects (in 6 sample groups). Reliability analysis conducted on the six samples shows good consistency of the internal subscale (α from .60 to .83) and good consistency of the two-factor (.84), and the total score (.88). Pearson's bilateral correlation was carried out on ten subscales, two-factor score and global score. All correlations were significant ($p<0.001$). The results of the analysis show strong correlations between each subscale and the global score (from .55 to .71). At the intrapersonal level, correlations between subscales were moderate to strong (from .34 to .60). At the interpersonal level, correlations within the interpersonal scales were moderate to strong (from .44 to .48), except that the utilization scale showed lower correlations compared to other scales (.19 to .41) (Brasseur et al., 2013). There are two versions of the PEC Brasseur scale, a long version which has 50 items, and a short one which consists of 20 items. This short version was obtained from a study developed by Mikolajczak (2015). Researchers used the short version because it is easier for the high school teenage subject group, and easier to understand. Researchers chose the scale developed by Brasseur et al. (2013) because the five aspects of Brasseur's emotional competence were important for individuals and were approved by scientists who developed the theory of individual emotions, but Brasseur then developed it completely by focusing on the five aspects at the same time from an interpersonal and intrapersonal perspective, how individuals see the five aspects within themselves, and when individuals relate to other people. The PEC Brasseur scale was also used by Aouani, H. et al. in 2018-2019 in Saudi Arabia.

## Method

### *Study Participants*

The inclusion criteria for participants were (1) adolescents studying in grades 10, 11 and 12 from Public High School in Semarang; (2) male and female; (3) domiciled in Semarang. The exclusion criteria for the participants were (1) domiciled outside the city of Semarang; and (2) having attended emotional competency training. This research involved a total of 352 female high school students, aged 15-18 years, that were selected through cluster sampling methods. The sampling was carried out by taking representatives from each class even though they were not evenly distributed. All participants had filled in informed consent as evidence of their willingness to participate voluntarily. The data collection procedures met the standard issued by the Faculty research ethics committee.

### *Instruments*

We used the short version of the Profile of Emotional Competence (PEC) (Brasseur et al., 2013; Mikolajczak, 2015) to measure emotional competency which consists of 20 indicators (10 indicators for the interpersonal section and 10 indicators for the intrapersonal section).

The PEC scale adaptation process has received permission from the original owner, Brasseur. we carried out a scale adaptation process as each indicator of the PEC needed to be translated into Indonesian and adjusted with the characteristics of the subject's emotional competence (i.e., high school teenagers) and Indonesian culture. The experts chosen for this process are selected based on considerations of educational background, proficiency in both Indonesian and English languages, cultural understanding, measurement expertise, as well as experience and knowledge in developmental psychology. Drawing from Beaton's (2000) theory, the process of adaptation encompasses: (1) translation to Indonesians, conducted by 2 (two) translators, (2) back translation, conducted by 2 (two) colleagues from other countries; (3) indicator revision process, supported by 2 (two) experts; (4) sentence comprehension test, carried out to 2 (two) samples of subjects; (5) scales try out.

The operational definition of emotional competence in this research refers to the theory of Brasseur (Mikolajczak, 2015), that is the ability of adolescents to manage their emotions related to the dimensions of emotional competence, namely the ability to identify, express, understand, regulate, and use their emotions well, in interacting with other people. The scale was scored from 1 for strongly disagree to 5 for strongly agree, for 20 indicators. The higher the score indicates the higher the individual's emotional competence ability. The blueprint of the scale can be seen in Table 1.

**Table 1**

*Blueprint of Adolescents' Emotional Competence Scale*

| No. | Component | Intrapersonal | Interpersonal |
|---|---|---|---|
| 1. | *Identification*, the ability to acknowledge emotions when they arise and identify these emotions. | 6.20 | 11.17 |
| 2. | *Understanding*, the ability to understand the causes and consequences of the emergence of emotions and be able to differentiate between various causes of the emergence of emotions. | 10.16 | 1.3 |
| 3. | *Expression*, the ability to express emotions in a socially acceptable way. *Listen to other emotions*, the ability to listen to and accept others' emotions. | 5.9 | 8.18 |
| 4. | *Regulation*, the ability to regulate emotions that emerge not according to the context, thereby avoiding stress. | 4.14 | 13.19 |
| 5. | *Use/utilization*, the ability to use emotions to improve skills in self-reflection, making decisions and taking action. | 7.15 | 2.12 |

### *Statistical Analysis*

The factor loading of the PEC scale was between 0.60-0.89, all indicators showed a factor loading value greater than 0.5, so it is concluded that all the indicators were valid. Based on the Goodness of fit table, the fit of the PEC scale model meets the model fit criteria. The value of each dimension (CR) is greater than 0.6 and the AVE value of each dimension is greater than 0.5 indicating high validity and reliability (Mikolajczak, 2015).

## Results

### *Adaptation Process*

The process begins with the forward translation process, namely translating the instrument from the original language (English) into Indonesian. This process was carried out by two translators by providing information regarding the purpose of the translation which was tailored to the research objectives. The results of this process were given to the forward translation reviewer whose task was to synthesize the two translation results. The next stage is back translation by two translators who have good English and Indonesian skills. The translator did not see the original measuring instruments used in this study. Synthesis results were carried out by a backward translation reviewer. The next stage was the indicator revision process by the linguist experts who provided validation by comparing the original version of the scale and the translated scale. The components were assessed related to the level of comparability and similarity of items between the original version and the back-translated version using a Likert scale assessment with 7 choices, starting from 1 (very comparable/similar) to 7 (very incomparable/ very dissimilar). Comparability is the level of formal similarity of language, phrases, terms, words and sentences. Similarity refers to the degree of similarity in meaning between two versions of an item, even though the terms used are different. The scale content reviewer stated that the measuring instrument was quite understandable both in terms of instructions and sentences, resulting in the final item and then the content reviewer gave a score of relevance, importance and clarity. The tryout was carried out offline which involved 396 participants.

**Table 2**
*Goodness of Fit (GFI) Table*

| No | Criteria | Cut off Value | Result | Conclusion |
|---|---|---|---|---|
| 1 | GFI | ≥ 0.9 | 0.94 | Good fit |
| 2 | RMR | ≤ 0.05 | 0.02 | Good fit |
| 3 | RMSEA | ≤ 0.08 | 0.01 | Good fit |
| 4 | NNFI | ≥ 0.9 | 1.00 | Good fit |
| 5 | NFI | ≥ 0.9 | 0.98 | Good fit |
| 6 | AGFI | ≥ 0.9 | 0.92 | Good fit |
| 7 | RFI | ≥ 0,9 | 0.98 | Good fit |
| 8 | IFI | ≥ 0,9 | 1.00 | Good fit |
| 9 | CFI | ≥ 0,9 | 1.00 | Good fit |
| 10 | PGFI | 0 - 1 | 0.74 | Good fit |
| 11 | CMIN/df | < 5.0 | 1.02 | Good fit |
| 12 | PNFI | 0 - 1 | 0.85 | Good fit |

Table 2 shows that the PEC scale model meets the model fit criteria. The value of each dimension (CR) was greater than 0.6 and the AVE value of each dimension was greater than 0.5. Thus, validity and reliability were high.

**Table 3**
*Emotional Competence (EM) CFA Test*

| Level | | Indicator | Λ | Remark | $\lambda^2$ | e | CR | AVE |
|---|---|---|---|---|---|---|---|---|
| Variable | Emotional Competence (EM) | EM1 | 0.73 | Valid | 0.527 | 0.473 | 0.850 | 0.534 |
| | | EM2 | 0.76 | Valid | 0.578 | 0.422 | | |

**Table 3**
*(Continued)*

| Level | | Indicator | Λ | Remark | λ2 | e | CR | AVE |
|---|---|---|---|---|---|---|---|---|
| Variable | Emotional | EM3 | 0.589 | Valid | 0.347 | 0.653 | 0.850 | 0.534 |
| | Competence | EM4 | 0.742 | Valid | 0.551 | 0.449 | | |
| | (EM) | EM5 | 0.817 | Valid | 0.667 | 0.333 | | |
| | | E1.1 | 0.638 | Valid | 0.407 | 0.593 | | |
| | | E1.2 | 0.656 | Valid | 0.430 | 0.570 | | |
| | Identification | E1.3 | 0.789 | Valid | 0.623 | 0.377 | 0.826 | 0.546 |
| | (E1) | E1.4 | 0.852 | Valid | 0.726 | 0.274 | | |
| | | E2.1 | 0.699 | Valid | 0.489 | 0.511 | | |
| | | E2.2 | 0.601 | Valid | 0.361 | 0.639 | | |
| | Understanding | E2.3 | 0.478 | Not | 0.228 | 0.772 | 0.763 | 0.457 |
| | (E2) | | | Valid | | | | |
| | | E2.4 | 0.867 | Valid | 0.752 | 0.248 | | |
| | | E3.1 | 0.746 | Valid | 0.557 | 0.443 | | |
| | | E3.2 | 0.495 | Not | 0.245 | 0.755 | | |
| | | | | Valid | | | | |
| Dimension | Expression | E3.3 | 0.705 | Valid | 0.497 | 0.503 | 0.766 | 0.456 |
| | (E3) | E3.4 | 0.724 | Valid | 0.524 | 0.476 | | |
| | | E4.1 | 0.616 | Valid | 0.379 | 0.621 | | |
| | | E4.2 | 0.631 | Valid | 0.398 | 0.602 | | |
| | Regulation | E4.3 | 0.736 | Valid | 0.542 | 0.458 | 0.804 | 0.510 |
| | (E4) | E4.4 | 0.849 | Valid | 0.721 | 0.279 | | |
| | | E5.1 | 0.679 | Valid | 0.461 | 0.539 | | |
| | | E5.2 | 0.584 | Valid | 0.341 | 0.659 | | |
| | Use/utilization | E5.3 | 0.784 | Valid | 0.615 | 0.385 | 0.802 | 0.506 |
| | (E5) | E5.4 | 0.779 | Valid | 0.607 | 0.393 | | |

**Figure 1**
*Emotional Competence (EM) CFA Model*

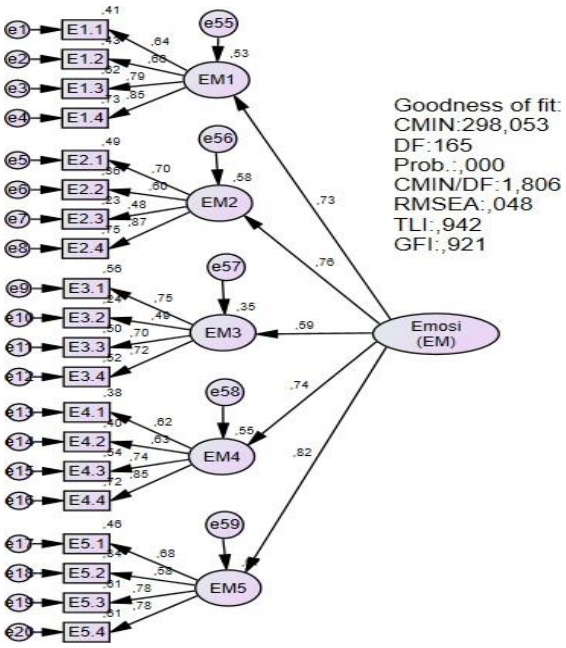


Table 3 and Figure 1 show two indicators with standardized loading estimate values lower than 0.5, so it can be concluded that these two indicators were invalid. Since they were invalid, the two indicators were omitted, and then the remaining indicators were retested, resulting in the following figures.

**Table 4**

*Emotional Competence (EM) CFA Test after Dropping Invalid Indicators*

| Level | | Indicator | Λ | Remark | $\lambda^2$ | e | CR | AVE |
|---|---|---|---|---|---|---|---|---|
| Variable | Emotional Competence (EM) | EM1 | 0.708 | Valid | 0.501 | 0.499 | 0.840 | 0.516 |
| | | EM2 | 0.728 | Valid | 0.530 | 0.470 | | |
| | | EM3 | 0.547 | Valid | 0.299 | 0.701 | | |
| | | EM4 | 0.755 | Valid | 0.570 | 0.430 | | |
| | | EM5 | 0.824 | Valid | 0.679 | 0.321 | | |
| | Identification (E1) | E1.1 | 0.637 | Valid | 0.406 | 0.594 | 0.826 | 0.547 |
| | | E1.2 | 0.656 | Valid | 0.430 | 0.570 | | |
| | | E1.3 | 0.789 | Valid | 0.623 | 0.377 | | |
| | | E1.4 | 0.853 | Valid | 0.728 | 0.272 | | |
| | Understanding (E2) | E2.1 | 0.695 | Valid | 0.483 | 0.517 | 0.777 | 0.543 |
| | | E2.2 | 0.610 | Valid | 0.372 | 0.628 | | |
| | | E2.4 | 0.879 | Valid | 0.773 | 0.227 | | |
| Dimension | Expression (E3) | E3.1 | 0.790 | Valid | 0.624 | 0.376 | 0.779 | 0.540 |
| | | E3.3 | 0.711 | Valid | 0.506 | 0.494 | | |
| | | E3.4 | 0.701 | Valid | 0.491 | 0.509 | | |
| | Regulation (E4) | E4.1 | 0.617 | Valid | 0.381 | 0.619 | 0.804 | 0.510 |
| | | E4.2 | 0.632 | Valid | 0.399 | 0.601 | | |
| | | E4.3 | 0.736 | Valid | 0.542 | 0.458 | | |
| | | E4.4 | 0.848 | Valid | 0.719 | 0.281 | | |
| | Use/utilization (E5) | E5.1 | 0.680 | Valid | 0.462 | 0.538 | 0.801 | 0.506 |
| | | E5.2 | 0.583 | Valid | 0.340 | 0.660 | | |
| | | E5.3 | 0.783 | Valid | 0.613 | 0.387 | | |
| | | E5.4 | 0.779 | Valid | 0.607 | 0.393 | | |

**Figure 2**

*Emotional Competence (EM) CFA Model after Dropping Invalid Indicators*

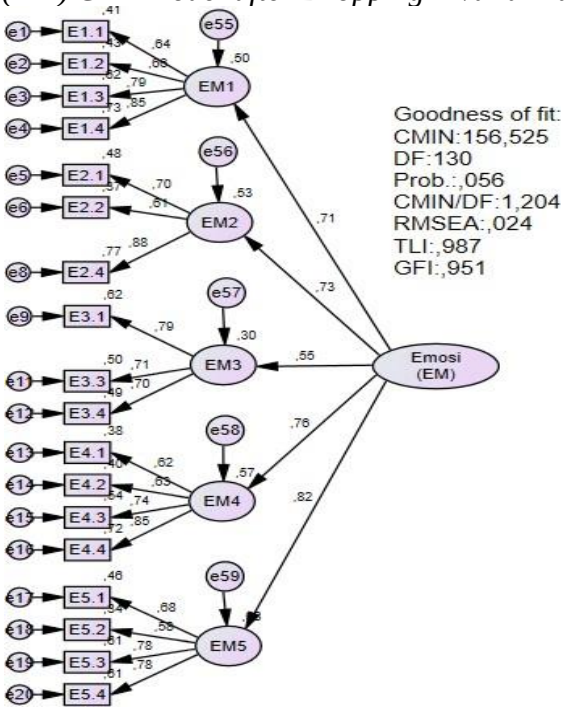

Table 4 and Figure 2 depict that each indicator of the Emotional Competency (EM) CFA had standardized loading estimate scores greater than 0.5 after the two invalid indicators had been dropped. Thus, it can be concluded that each indicator in the Emotional Competency (EM) CFA was valid. The CR score was greater than 0.7, and the AVE score was greater than 0.5, indicating that the Emotional Competence (EM) CFA was reliable. See Table 5.

**Table 5**
*Loading Factor Table*

| Dimension | Indicator | λ | CR | $\lambda^2$ | $\sum \lambda^2$ | VE |
|---|---|---|---|---|---|---|
| Identification | iden 6 | 0.79 | 0.844 | 0.624 | 2.30 | 0.575 |
| | iden 20 | 0.71 | | 0.504 | | |
| | iden 11 | 0.75 | | 0.563 | | |
| | iden 17 | 0.78 | | 0.608 | | |
| Understanding | und 10 | 0.80 | 0.828 | 0.640 | 2.19 | 0.549 |
| | und 16 | 0.76 | | 0.578 | | |
| | und 1 | 0.62 | | 0.384 | | |
| | und 3 | 0.77 | | 0.593 | | |
| Expression | exps 5 | 0.77 | 0.829 | 0.593 | 2.20 | 0.550 |
| | exps 9 | 0.79 | | 0.624 | | |
| | exps 8 | 0.79 | | 0.624 | | |
| | exps 18 | 0.60 | | 0.360 | | |
| Regulation | reg 4 | 0.85 | 0.865 | 0.723 | 2.47 | 0.618 |
| | reg 14 | 0.80 | | 0.640 | | |
| | reg 13 | 0.66 | | 0.436 | | |
| | reg 19 | 0.82 | | 0.672 | | |
| Use/utilization | utilz 2 | 0.89 | 0.908 | 0.792 | 2.85 | 0.713 |
| | utilz 7 | 0.74 | | | | |
| | utilz 12 | 0.86 | | | | |
| | utilz 15 | 0.88 | | | | |

The following is the formula to measure CR score:

$$CR = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i) \pm \sum (1 - \lambda_i)}$$

The λ is the loading factor for each indicator. After carrying out calculations using the formula above, the CR value for each construct is presented in Table 6.

**Table 6**
*Composite Reliability (CR)*

| Construct | Indicator | λ | $\lambda^2$ | e | Reliability |
|---|---|---|---|---|---|
| | EM1 | 0.713 | 0.508 | 0.492 | 0.840 |
| Emotional | EM2 | 0.733 | 0.537 | 0.463 | |
| Competence | EM3 | 0.547 | 0.299 | 0.701 | |
| (EM) | EM4 | 0.750 | 0.563 | 0.438 | |
| | EM5 | 0.821 | 0.674 | 0.326 | |
| $\sum\lambda$ | | 3.564 | 2.581 | 2.419 | |
| $\sum\lambda^2$ | | 12.702 | | | |

Based on Table 6, the construct of Emotional Competence (EM) shows a CR value of 0.840. A CR value greater than 0.7 indicates that the construct was reliable.

## Discussion

The study aimed to adapt and test the validity of Brasseur's PEC scale for Indonesian adolescents. The result showed that two unfavourable indicators were invalid "I often need clarification about understanding other people's emotional responses" and "I find it difficult to explain my feelings to others even if I want to". A standardized loading estimate value lower than 0.5 on both indicators indicates that the sentence in the indicator is invalid (Wijanto, 2015), meaning that the sentence can be ambiguous so that participants have very varied answers. On this indicator, the data pattern was not evenly distributed, showing an inconsistent pattern of answers from respondents.

The subjects in this research were adolescents studying in high school, aged 15-18 years. Good emotional competence is necessary for them because as these abilities progress during childhood and adolescence. Santrock (2017) explains that social interactions with peers are essential in adolescence, and success in friendships is one of their developmental tasks. Obstacles in socializing for adolescents include understanding other people's emotional responses and expressing one's emotions so that others can understand them. These abilities are not commonly observed in adolescents. Adolescents who have problems understanding the emotions of themselves and others can be shown to be apathetic, close themselves off and experience failure in social adjustment (Ross et al., 2019). Some adolescents experience academic failure due to obstacles in social interactions (Oberle et al., 2014). Another impact of adolescents' difficulties in understanding their own and other people's emotions is intenal and external conflict, which can be the perpetrator or victim of bullying (Espejo-Siles et al., 2020).

The Second Order Confirmatory Factor Analysis test was performed on a scale by omitting two invalid indicators based on the loading factor. The loading factor is the correlation between variables (indicators) and their latent constructs (factors). The loading factor cutoff is 0.5. If the loading factor value is > 0.5, convergent validity is met; if the value is < 0.5, then the construct must be dropped from the analysis (Ghozali, 2016). The results show a standardized loading estimate value that is greater than 0.5 (Jöreskog & Sörbom, 1996), so it is concluded that each indicator in the 18-indicator Emotional Competence (EM) CFA is valid.

A test is considered valid if it measures what it intends to measure (Mohajan, 2017). Validity measures how accurately a measuring instrument performs its measuring function. This time, the validity test of the emotional competence scale showed that the scale correctly reflects the emotional competence state of the participants, namely teenagers. Adolescents need emotional competence as one of the fundamental basis for achieving lasting success in academics, personal life, and social interactions while also contributing to mental health and overall well-being (Housman, 2017).

The importance of interpersonal and intrapersonal emotional competence means that individuals are required to have the ability to understand, regulate and express their own emotions as well as the emotions of others (Mikolajczak, 2015). For adolescents, it is not enough to understand one's own emotions. Understanding other people's emotions is also essential so that teenagers are not hampered in their social interactions to be able to successfully complete developmental tasks in terms of social skills (Santrock, 2017). Adolescents must be able to understand other people as unique individuals, whether

regarding personal traits, interests, values, or feelings, encouraging adolescents to socialize more closely with peers or the community through friendship (Espejo-Siles et al., 2020).

The results of the measurement of the emotional competency scale show that the Construct Reliability (CR) value is 0.840 or greater than 0.7, and the Average Variance Extract (AVE) value is 0.516 or greater than 0.5, meaning that the results of the Confirmatory Factor Analysis test of the Emotional Competency scale are reliable.

Construct reliability is a measure of the internal consistency of the indicators of a variable, which shows the levels of the variable being formed (emotional competence). The AVE value describes the variance or diversity of manifest variables in a latent construct. Thus, the greater the variance or diversity of manifest variables in a latent construct, the greater the representation of the manifest variables in the latent construct (Iapichino et al., 2016). In other words, the emotional competence scale (Brasseur et al., 2013) having 18 items shows good reliability, meaning that the test measurements remain consistent after being carried out repeatedly on subjects under the same conditions, that is, adolescent subjects.

This study has limitations in terms of the technique of distributing the scale because the scale is distributed in large quantities at once and this has the possibility of subjects not understanding the items due to the limited number of companions. Apart from that, limitations lie in the research subjects, where the subjects are only female which may limit generalization. Future research may involve more varied data sources both in terms of gender and residence coverage.

## Conclusion

The study was purpose to adapt the Emotional Competency Scale from Brasseur et al. (2013) to Indonesian, with adolescents as the subjects. Using Second Order Confirmatory Factor Analysis (CFA), the results show that 18 indicators were valid. Also, each indicator in the Emotional Competency CFA is classified as valid and reliable. Thus, it can be used in various studies related to high school teenagers in Indonesia

## Declarations

**Author contribution.** The main author conducted research from preparation, and implementation, data processing and discussion, as well as drafting articles. The second author assisted in data scoring and discussion and participated in compiling the article.
**Funding statement.** This research was funded by the Faculty of Psychology, Diponegoro University
**Conflict of interest.** No conflict of interest of the research.
**Additional information.** No additional information is available for this paper.

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