Reslaj: Religion Education Social Laa Roiba Journal
Volume 6 Nomor 6 (2024) 3089 – 3104 P-ISSN 2656-274x E-ISSN 2656-4691
DOI: 10.47476/reslaj.v6i6.2360

Psychometric Properties of The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) Indonesian Version

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ABSTRACT

Emotion regulation refers to the process of how one's emotions are formed and how individuals express these emotions. Research on measuring emotion regulation strategies is still focused on managing everyday problems, and there is no measurement of emotion regulation for children and adolescents in Indonesia that can be used. Therefore, valid and reliable measurements are needed. The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) is a standard measurement instrument developed by Gullone and Taffe from the adult version to the child and adolescent version to measure the difference in the use of emotional regulation strategies. This study was conducted to evaluate the psychometric properties of the adapted ERQ-CA instrument for Indonesian children and adolescents. Data were collected with a convenience sampling technique. Ten items were administered to 140 children and adolescents between 12 and 18 years of age, of whom 69.3% were female and 35.7% were in the first year of high school. ERQ-CA uses a 5 point likert scale consisting of two dimensions: cognitive reappraisal and expressive suppression. The results of CFA showed that 9 of 10 ERQ-CA items showed a good goodness of fit model (CFI = .970; GFI = .846; SRMR = .024; NFI = .962). The ERQ-CA instrument had good internal consistency reliability with Cronbach's alpha ranging from 0.45 to 0.98, and acceptable test-retest reliability with the item discrimination all greater than 0.22. It can be concluded that the Indonesian version of the ERQ-CA has good psychometric properties, so that it can be used to measure the emotion regulation strategies of children and adolescents in Indonesia.

Keywords: *emotion regulation scale, confirmatory factor analysis, validity, reliability, child and adolescents*

ABSTRAK

Regulasi emosi adalah proses bagaimana emosi seseorang terbentuk dan bagaimana individu mengalami dan mengekspresikan emosinya. Penelitian pengukuran strategi regulasi emosi masih terfokus pada pengelolaan masalah sehari-hari, bukan bagaimana individu mengatur emosinya. The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) merupakan instrumen pengukuran standar yang dikembangkan oleh peneliti sebelumnya dari versi dewasa ke versi anak dan remaja untuk mengukur perbedaan penggunaan strategi regulasi emosi. Studi ini dilakukan untuk mengevaluasi properti psikometri instrumen ERQ-CA yang diadaptasi untuk anak dan remaja Indonesia. Data dikumpulkan dengan menggunakan teknik convenience sampling. Sepuluh item diberikan kepada 140 anak dan remaja antara usia 12 dan 18 tahun, di antaranya 69,3% adalah perempuan dan 35,7% berada di tahun pertama sekolah menengah atas. ERQ-CA menggunakan skala Likert 5 poin yang terdiri dari dua dimensi: cognitive reappraisal dan expressive suppression. Hasil CFA menunjukkan bahwa 9 dari 10 item ERQ-CA menunjukkan

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model goodness of fit yang baik (CFI = .970; GFI = .846; SRMR = .024; NFI = .962). Instrumen ERQ-CA memiliki reliabilitas konsistensi internal yang baik dengan alpha Cronbach mulai dari 0,45 hingga 0,98, dan reliabilitas test-retest yang dapat diterima dengan item discrimination seluruhnya lebih besar dari 0,22. Dapat disimpulkan bahwa ERQ-CA versi bahasa Indonesia memiliki sifat psikometrik yang baik, sehingga dapat digunakan untuk mengukur strategi regulasi emosi anak dan remaja di Indonesia.

Kata kunci: skala regulasi emosi, analisis faktor konfirmatori, validitas, reliabilitas, anak dan remaja

INTRODUCTION

Emotion regulation is defined as a reaction that arises from an event that occurs, a process by which individuals influence what emotions they have, how a person's emotions are formed, when they have them, and how they experience and express them (Gross 2015). By regulating emotions, there will be changes in the dynamics of responses and consequences of these emotions in the form of behavior and physiology (intensity and duration) by involving a series of cognitive processes, such as attention, interpretation, and evaluation (Sabatier et al., 2017). In living daily life, individuals need emotion regulation as a skill to regulate and change emotions when under pressure. Emotion regulation can be aimed at reducing, strengthening, or maintaining the experience of either positive or negative emotions depending on the current needs or goals of an individual (Gross, 2015). According to several research, emotional regulation can become dysfunctional when negative and painful emotions are not effectively balanced by pleasurable ones, which makes it difficult to tolerate strong, unpleasant, and recurrent emotional states (Waugh, 2020; Beveren et al., 2019), and it can lead to an increased overall risk for all types of psychopathology (Young et al., 2019).

Emotion regulation strategies are distinguished between antecedent-focused and response-focused emotion strategies. Antecedent-focused strategies refer to things we do before our emotional responses become fully active and have changed our behavior and physiological responses. While the response-focused strategy refers to what we do when an emotional response is in progress (Ochsner & Gross, 2014). Then, these two strategies are further divided into two aspects, namely cognitive reappraisal and expressive suppression (Gross, 2015). The majority of studies have contrasted the potency of these two tactics. Reappraisal, the adaptive one, is an antecedent-focused method used to change the emotional significance and impact of an emotionally charged scenario (Gross & John, 2003). In contrast, suppression is a maladaptive, response-focused plan of action implemented after an emotional response has fully developed; it is conceptualized as inhibiting the behavioral expression of the emotion. Furthermore, cognitive reappraisal has been suggested to be correlate negatively with personal distress and alexithymia, whereas expressive suppression has shown to correlate positively (Haga et al., 2009; Preece et al., 2020).

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Research on evaluating emotion regulation strategies in children and adolescents through self-report was initially dominated by response measures in dealing with stress. For example, based on the differences between problem-focused and emotion-focused ways of dealing with stress, and on the differences between approach and avoidance approaches to dealing with stress (Folkman & Lazarus, 1988). First, The Coping Strategies Checklist for Children (CCSC) developed by Ayers et al. (1996) to measure stress coping strategies in responding to problems. However, this instrument is more focused on measuring how children and adolescents manage daily problems rather than how they manage their emotions. To address this, another questionnaire has been developed that focuses on how children and adolescents regulate negative emotions, namely The Cognitive Emotion Regulation Questionnaire (CERQ) developed by Garnefski et al. (2007), which measures 5 adaptive and 4 non-adaptive cognitive emotion regulation strategies that children and adolescents use when they experience negative life events. However, this instrument exclusively measures what the child thinks after going through a negative or stressful event.

Another self-report measuring tool for emotional regulation in children and adolescents that measures the strategies that are commonly used in everyday life is ERQ-CA. This measuring tool has 2 dimensions, namely cognitive reappraisal that has minimum score 6 and maximum score 30, and expressive suppression that has minimum score 4 and maximum score 20. Higher scores on each scale indicate greater use of these emotion regulation strategies. Previous study conducted by Gullone and Taffe (2012) revised the adult version to the child and adolescent version on 827 children and adolescents aged 10-18 years in Australia showed a good reliability score for the 6-item cognitive reappraisal scale ($\alpha = 0.83$), and for the 4 items of the expressive suppression scale ($\alpha = 0.75$). These values are generally comparable to those reported on the ERQ for young adults in Gross and John's (2003) study and in Balzarotti et al. (2010) study for the Italian version. The Confirmatory Factor Analysis (CFA) performed on 10 items met the fit criteria fairly well. Thus, the ERQ-CA measurement tool can be used to measure emotion regulation strategies in children and adolescents quite well. However, given that the research sample's features are distinct from those of other studies, particularly in Indonesia, it is necessary to readjust and modify the use of the ERQ-CA scale.

ERQ-CA is a self-report test that is easy to use as screening instruments for emotional regulation disturbances. This measuring tool for emotion regulation is needed to identify and assess dysfunctional and maladaptive emotional regulation in children and adolescents (De Berardis et al., 2020). Although related to adult research, emotion regulation is a long process-oriented one (Gross, 1998). The ERQ-CA can be used as a screening tool to predict the long-term consequences that accumulate when individuals use ER or CS strategies in everyday emotion regulation strategies, thereby preventing the appearance of psychiatric sequelae in adulthood. So it is also important to look at emotion regulation in children and adolescents, because adolescents experience emotions more frequently and intensely than

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younger individuals or older, and the prevalence of various disorders increases markedly during adolescence (Silk et al., 2003).

In Indonesia itself, research on child and adolescents' emotion regulation is currently expanding. However, no one has ever adapted this measuring tool in Indonesia. There are many reasons for the variations in this sample's characteristics, including variations in educational background, social, and cultural background. Therefore, this study aims to evaluate the measurement properties of the Indonesian version of the ERQ-CA and to examine whether this measurement tool can be used to assess emotion regulation strategies in children and adolescents in Indonesia.

METHODS

Procedure

The ERQ-CA adaptation process was carried out according to The International Test Commission (ITC) Guidelines for Translating Adapting Tests (ITC, 2016). It begins with obtaining the permission for adapting The ERQ-CA. Researchers asked permission by email from the compilers of The ERQ-CA, namely Gullone and Taffe. After receiving written consent on 24th September 2021, the researchers started to do the forward and backward translation. The original ERQ-CA was translated from English to Indonesian by two translators with a TOEFL score above 600, and having a background in English Literature and Psychology. The aim of this step is to verify the accuracy of measuring instruments during translation and determine whether the findings of the translation are equivalent to those of the original measuring instrument (Tyupa, 2011).

After forward translation, researchers do the peer review, and then synthesize. Since the results of the translations by the two experts did not differ significantly, the researchers performed the next step, translation into English (back-translation). The characteristics of the translator for the backward translation are the same as the forward translation, but with the addition of having lived for at least 5 years outside Indonesia, as suggested by the ITC (2016). Back-translation results were found to be similar, with no fundamental differences.

Next, the expert review process is carried out at a Psychology bureau called Charisma Consulting. The assessment was carried out by three psychologists who have clinical backgrounds and have knowledge of the development of measurement tools. The expert reviewer gives a rating for each item with a score range of 1 to 5. A score of 1 indicates that the item is not very relevant to the indicator, while a score of 5 means that the item is very relevant. Some suggestions were obtained from expert reviews, for example like item 2 ("I keep my feelings to myself") which has been translated into "Aku hanya menunjukkan perasaanku ke diriku sendiri" getting suggestions that there is no indication of showing feelings, but prefer to feel them myself without showing them on others. So then the item was fixed to "Aku memendam perasaanku sendiri".

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A cognitive interview was conducted after all items were assessed and corrected by expert review. Cognitive interviewing is a method used to assess questionnaire items (Willis, 2015). A commonly used model in cognitive interviews is the cognitive model of Tourangeau (2003). Based on this model, cognitive interviews were conducted to examine her four processes followed by the respondent: understanding, remembering relevant information, decision-making, and responding (Willis, 2015). This trial involved 20 participants who had similar criteria to the target study participants. The test results showed that respondents could easily understand each item presented. Respondents only need to repeat several times to read the items, but there are no statements that cannot be understood, so researchers no longer need to change statements on existing items. Respondents also said that the answer choices represented the respondent's experience, and the respondent had no difficulty recalling this experience.

The trial was conducted by filling out a questionnaire to participants who had the appropriate criteria. All items in the questionnaire are required and need to be filled in based on the actual conditions experienced at this time. The filling out of the questionnaire will take about 10 minutes. The complete list of translated items can be seen in Table 1.

Table 1. List of ERQ-CA Items and The Indonesian Adaptation

No	ERQ-CA	Indonesian ERQ-CA
1	When I want to feel happier, I think about something different	*Ketika aku ingin merasa lebih bahagia, aku memikirkan hal lain yang membuatku merasa lebih baik*
2	I keep my feelings to myself	*Aku memendam perasaanku sendiri*
3	When I want to feel less bad (e.g., sad, angry or worried), I think about something different	*Ketika aku ingin mengurangi perasaan buruk (misalnya merasa sedih, marah, atau khawatir), aku memikirkan hal lain yang membuatku merasa lebih baik*
4	When I am feeling happy, I am careful not to show it	*Ketika aku sedang merasa bahagia, aku berusaha untuk tidak menunjukkannya*
5	When I'm worried about something, I make myself think about it in a way that helps me feel better	*Ketika aku merasa khawatir akan sesuatu, aku memikirkan hal tersebut dengan cara yang dapat membantuku merasa lebih baik*
6	I control my feelings by not showing them	*Aku mengendalikan perasaanku dengan tidak menunjukkannya*
7	When I want to feel happier about something, I change the way I'm thinking about it	*Ketika aku ingin merasa lebih bahagia tentang suatu hal, aku mengubah caraku memikirkan hal tersebut*
8	I control my feelings about things by changing the way I think about them	*Aku mengendalikan perasaanku terhadap sesuatu dengan mengubah caraku memikirkannya*

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9	When I'm feeling bad (e.g., sad, angry, or worried), I'm careful not to show it	*Ketika aku merasa buruk (misalnya merasa sedih, marah, atau khawatir), aku berusaha untuk tidak menunjukkannya*
10	When I want to feel less bad (e.g., sad, angry, or worried) about something, I change the way I'm thinking about it	*Ketika aku ingin mengurangi perasaan buruk (misalnya perasaan sedih, marah, atau khawatir) akan sesuatu, aku mengubah caraku memikirkan hal tersebut*

Source : Personal Data

Sample and Participants

This study used a quantitative approach, which focuses on collecting and analyzing numerical data and testing hypotheses using the gathered empirical data, to answer the research objectives (Goodwin, 2017). The type of sampling used was convenience sampling, a technique based on willingness from the sample (Scheaffer et al., 2011). This research involved 140 Indonesian adolescents aged 12 to 18 years. Respondents who took part in this study were spread across Indonesia. Table 2 presents the proportion of gender that indicates this study was dominated by women, amounting to 97 people (69.3%), and the majority of respondents were 15 years old (24.3%). The age of the respondents ranged from 12 to 19 years, and had a mean of 15.2 years (SD = 1.51).

Table 2. Demographic Characteristics of the Sample

	Category	**Total**	**Percentage (%)** **N= 140**
Age	Mean = 15.2 (SD = 1.51)		
Gender	Woman	97	69.28
	Man	43	30.71
Level of Education	Junior High School	49	35
	Senior High School	91	65

Instruments

The Indonesian Version of the ERQ-CA

The Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA) consisted of 10 items divided into two dimensions (cognitive reappraisal and expressive suppression). ERQ-CA is a self-report scale using a 5-point Likert scale where 1 means strongly disagree, 2 means disagree, 3 means neutral, 4 means agree and 5 means strongly agree according to the current state of the individual. The cognitive reappraisal dimension consists of 6 items (1, 3, 5, 7, 8, 10) and expressive

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suppression consists of 4 items (2, 4, 6, 9). The range of scores for each scale is 6 to 30 for cognitive reappraisal and 4 to 20 for expressive suppression, with higher scores on each scale indicating greater use of appropriate emotion regulation strategies. The grid of the ERQ-CA instrument is listed in **Table 3**.

Table 3. The ERQ-CA Instrument Specification

Dimensions	Definition	Total Item	Item Number	Item Sample
Cognitive Reappraisal	A form of cognitive change that involves construing a potentially emotion-eliciting situation in a way that changes its emotional impact. *Bentuk perubahan kognitif terhadap sebuah situasi.*	6	1, 3, 5, 7, 8, 10	1. When I want to feel happier, I think about something different. *1. Ketika aku ingin merasa lebih bahagia, aku memikirkan hal yang membuatku merasa lebih baik.*
Expressive Suppression	A form of response modulation that involves inhibiting ongoing emotion-expressive behavior. *Bentuk modulasi respon yang melibatkan penghambatan perilaku ekspresif emosi yang sedang berlangsung.*	4	2, 4, 6, 9	6. I control my feelings by not showing them *6. Aku mengendalikan perasaanku dengan cara tidak menunjukkannya*
	Total	10		

DATA ANALYSIS

Validity

By examining the measurement model and factor loading test, confirmatory factor analysis (CFA) was performed to search for the construct validity. The maximum likelihood is used by the estimator. The measurement model test was used to ascertain whether a measuring device complies with the requirements of a good model fit (goodness of fit) as a multidimensional construct (two-factor model).

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Version 0.15 of the JASP program was used to process the data. Hair et al. (2018) mentioned some of the fit index criteria that are acceptable: Chi-square; $p > 0.05$, Root Mean Square Error of Approximation (RMSEA) < 0.08 , Goodness of Fit Index (GFI) ≥ 0.90, Comparative Fit Index (CFI) > 0.90, Tucker-Lewis Index (TLI) > 0.90, Normal Fit Index (NFI) > 0.90.

According to Hair et al., (2014) factor loading is the correlation between indicators (observed variables) and factors (latent variables). Factor loadings in the range of 0.30 to 0.40 are considered to meet the minimal level for interpretation of structure. Loadings >0.50 or greater are considered practically to measure the construct better. If there are items with a loading factor of <0.30, deletion will be carried out so that the goodness of fit test results are better. After deletion, repeated factor analysis was performed. In addition, it is also seen that the p-value if <0.01 means that the item is significant in measuring the construct.

Reliability

A reliability analysis for this instrument was performed using an internal consistency method aimed at ensuring consistency between items when measuring the same structure (Kaplan & Saccuzzo, 2018). To see the internal consistency of a measuring instrument, one of the tests that can be used is Cronbach's alpha. Cronbach's alpha test is done by correlating all answers on the measuring instrument. Kaplan and Saccuzzo (2018) found that the higher the value of the Cronbach alpha coefficient, closer to 1, the stronger the relationship between items. The value that indicates an acceptable level of reliability is 0.6 to 0.7 (Ursachi et al., 2015). Referring to Gullone and Taffe (2011), the reliability test of the ERQ-CA measuring instrument was carried out on each dimension. Correlation between items (inter-item correlations) was also tested using the SPSS 25 to determine the level of correlation between items and to determine that items within the instrument measure the same construct, in this case emotion regulation.

The item discrimination index is defined as the correlation between the item score and the rest score, and used to define the relationship between an item's total score and the total score on the other items. The discrimination index value obtained for each item can be interpreted based on the criteria from Zijlmans et al. (2018). Within a test, stronger item discrimination results in a higher coefficient. For maximum-performance tests, the minimum needed values of item discrimination are 0.20, 0.30, or 0.40 (Zijlmans et al., 2018). In this study, JASP software was used to obtain Cronbach's alpha coefficients and item discrimination index across the two subscales and overall ERQ-CA instrument.

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RESULT AND DISCUSSION

Results

Construct Validity

Confirmatory Factor Analysis (CFA) was conducted on 10 ERQ-CA items. This test was done using a two-factor model. The results of the validity test analysis referring to using CFA are shown in the following table:

Table 4. Model Fit Index

	Index	Accepted Criteria	Test Result	Description
Absolute Fit	Chi-square	p > 0.05	p = 0.368	Good fit
	Goodness Fit Index	≥ 0.90	0.997	Good fit
	Standardized Root Mean Square Residual	< 0.08	0.054	Good fit
	Root Mean Square Error of Approximation (RMSEA)	<0.08	0.022	Good fit
Incremental Fit Indices	Normed Fit Index	≥ 0.90	0.910	Good fit
	Comparative Fit Index	≥ 0.90	0.993	Good fit

Based on the results obtained, all model fit criteria used have been met. Thus, it can be said that the ERQ-CA measuring instrument model tested was fit. CFA analysis produces a factor loading value that shows the relationship between indicators (observed variables) and factors (latent variables). The result of the factor loading of the Indonesian ERQ-CA shown in **Table 5**.

Table 5. Item Selection Based on CFA

Dimension		Item	Factor Loading	p-value
Cognitive Reappraisal	(1)	Ketika aku ingin merasa lebih bahagia, aku memikirkan hal lain yang membuatku merasa lebih baik	0.44	< 0.001
	(3)	Ketika aku ingin mengurangi perasaan buruk (misalnya merasa sedih, marah, atau	0.59	< 0.001

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		khawatir), aku memikirkan hal lain yang membuatku merasa lebih baik		
	(5)	Ketika aku merasa khawatir akan sesuatu, aku memikirkan hal tersebut dengan cara yang dapat membantuku merasa lebih baik	0.50	< 0.001
	(7)	Ketika aku ingin merasa lebih bahagia tentang suatu hal, aku mengubah caraku memikirkan hal tersebut	0.53	< 0.001
	(8)	Aku mengendalikan perasaanku terhadap sesuatu dengan mengubah caraku	0.59	< 0.001
	(10)	Ketika aku ingin mengurangi perasaan buruk (misalnya perasaan sedih, marah, atau khawatir) akan sesuatu, aku mengubah caraku memikirkan hal tersebut	0.86	< 0.001
Expressive Suppression	(2)	Aku memendam perasaanku sendiri	0.61	< 0.001
	(4)	Ketika aku sedang merasa bahagia, aku berusaha untuk tidak menunjukkannya	0.47	< 0.001
	(6)	Aku mengendalikan perasaanku dengan tidak menunjukkannya	0.59	< 0.001
	(9)	Ketika aku merasa buruk (misalnya merasa sedih, marah, atau khawatir), aku berusaha untuk tidak menunjukkannya	0.61	< 0.001

Judging from the results, all items have a significant factor loadings values (p-value <0.001), which all valued >0.30 means still acceptable. It can be said that the Indonesian ERQ-CA items have an adequate and significant relationship with each measured dimension. It could be concluded that emotion regulation can be measured through these two dimensions and to measure each dimension, 6 items of CR

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(cognitive reappraisal) and 4 items of ES (expressive suppression) can be used. These findings also confirmed the initial model hypothesized by Gullone and Taffe (2012).

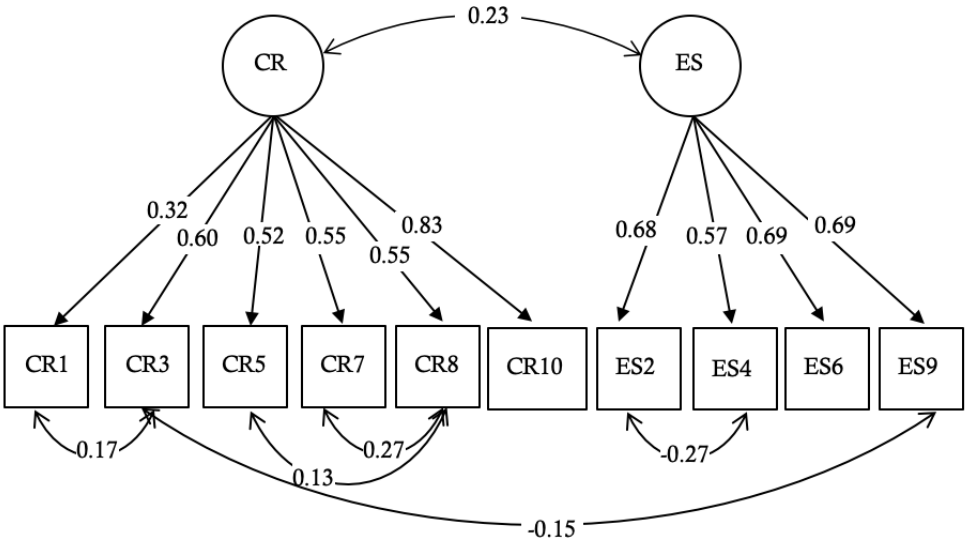

Figure 1. Confirmatory Factor Analysis Models
Sources: Personal data (2021)

Reliability

The Cronbach's alpha reliability value for Cognitive Reappraisal was 0.79 and Expressive Suppression was 0.62, whereas the Cronbach's alpha for the total scale was 0.70. All values obtained are above 0.6, it can be said that the ERQ-CA measuring instrument adapted for children and adolescents in Indonesia has an acceptable reliability, so that there would be consistency if the measurements were repeated. Coefficients for item-discrimination are shown in **Table 6**.

Table 6. Item Discrimination Result

	Item	Test Result
Cognitive Reappraisal	CR1	0.24
	CR3	0.40
	CR5	0.44
	CR7	0.43
	CR8	0.52
	CR10	0.56
Expressive Suppression	ES2	0.26
	ES4	0.22

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	ES6	0.38
	ES9	0.25

Source : Personal Data

It can be seen that the ERQ-CA measuring instrument adapted for adolescents in Indonesia has good items, consisting of 10 items that are good at differentiating individuals with emotional regulation scores with reappraisal or suppression techniques. Correlation analysis between items therefore showed that the most significant correlation coefficients between mean CR, mean ES, and items were 0.39, 0.42, and 0.53. All coefficients were significantly correlated ($p<0.05$). This indicates that each reconciled item of the ERQ-CA dimension measures the same structure and dimension.

Discussion

The purpose of this study was to adapt the Emotion Regulation Questionnaire for Children and Adolescents by Gullone and Taffe (2012) to the Indonesian population. This study assessed the measurement model, validity, and reliability of the ERQ-CA. It was found that the adapted ERQ-CA has good psychometric properties, including reliability and validity, in a sample of adolescents aged 12 to 18 years in Indonesia. This illustrates that this measuring instrument can indeed measure what it is intended to measure, namely how children at this age regulate their emotions using the two strategies, cognitive reappraisal and expressive suppression.

This study found that Cronbach's alpha reliability value for Cognitive Reappraisal was 0.79 and Expressive Suppression was 0.62, whereas Cronbach's alpha for the total scale was 0.70. Where the coefficients of the English version ranged between 0.82 to 0.86 for the Cognitive Reappraisal scale, and between 0.69 to 0.79 for the Expressive Suppression scale. Due to the smaller number of items in the ES scale, it is not surprising that the reliability coefficients are smaller than those for the CR scale. It showed that this reliability test has a comparable value to Gullone and Taffe (2012).

All coefficients of Cronbach's alpha Inter-Class Correlation (ICC) exceed the recommended standard, which is above 0.60 (Ursachi et al., 2015), and indicate that the Indonesian version of ERQ-CA has acceptable internal consistency reliability. To assess the degree of correlation and agreement between measurements, ICC reliability was also performed (Kaplan & Saccuzzo, 2018). The ICC scores assess the instrument's ability to differentiate between different people as well as the degree of agreement between repeated measurements (Schober et al., 2021).

The Confirmatory Factor Analysis was conducted to examine the construct validity of this scale. This research and previous research by Gullone and Taffe (2011), both found that the p-value for Chi-Square is < 0.001. Gullone and Taffe (2012) mentioned the CFI was 0.94 and RMSEA was 0.07. This research also found a slightly

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higher result on CFI = 0.99, and lower result on RMSEA = 0.02. Additionally, the findings demonstrate that every item has a factor loading above 0.30, proving that every item contributes to the construct. According to Hair et al. (2018), a factor loading between 0.30 and 0.40 is considered to be the minimum level for interpreting structure, a factor loading between 0.50 and 0.70 is considered to be practically necessary, and a factor loading between 0.70 and 0.90 is considered to be well-defined structure and is expected from factor analysis.

However, there are several limitations in this study. This study only collected participants from the age of 12 to 18 years, where this measuring tool can be used from the age of 10 years. Therefore, further studies with broader participants are needed. This study also not the study also did not measure emotion regulation by gender as Gullone and Taffe (2012) did. Researchers also did not carry out convergent validity in this study, unlike what was done by Gullone and Taffe (2012), therefore it can be a suggestion for further research to carry out convergent validity.

CONCLUSION

The measuring instrument Emotion Regulation Questionnaire for Children and Adolescents which was adapted into Indonesian and given to children and adolescents of junior high and senior high school students in Indonesia shows a multidimensional nature in measuring the emotional regulation of children and adolescents, with two dimensions, namely cognitive reappraisal and expressive suppression. The process of adapting measuring instruments is very important in order to get items that are quite valid before being given to research subjects. Validity testing using CFA shows that this scale has a high value of validity and item reliability. The calculation results show that the emotional regulation construct model is declared fit. Thus, it is concluded that the Indonesian version of ERQ–CA is a valid age-appropriate measure for investigating the use of two specific strategies of emotion regulation during the childhood and adolescence developmental periods in Indonesia.

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