Research Article

European Cyberbullying Intervention Project Questionnaire (ECIPQ) instrument adaptation for adolescents

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Article Info	Abstract
	Cyberbullying is an unjustified act of aggression to hurt or harass through electronic media which creates an imbalance of power between the perpetrator and the victim. This problem can occur in any country regardless of the level of socio-economic development of a region. Cyberbullying has a negative impact on the psychological and psychosocial aspects of adolescents. Considered to be a widespread problem among children and adults, it is attracting increasing research interest with a distinct focus on cyberbullying and the similarities and differences between countries and cultures. The purpose of this study was to adapt the European Cyberbullying Intervention Project Questionnaire (ECIPQ) instrument to adolescents in Indonesian. The subjects in this study involved 1.567 teenagers in junior high schools. Confirmatory Factors Analysis (CFA) was used for the European Cyberbullying Intervention Project Questionnaire (ECIPQ). The results of this study are of the 22 items in the measurement found fit model 16 items consisting of 8 items of cyber-victimization and 8 items of cyber-aggression, ECIPQ fulfills the factor loading requirements with a value of more than 0,5, and its reliability has a higher from 0,7. The ECIPQ instrument is needed to detect the involvement of adolescents who are victims or aggressions so that researchers and those who apply ECIPQ can handle cyberbullying at school or university.

To cite this article

Introduction

In recent years, society has shown increasing interest in the phenomenon of *cyberbullying* that often appears in relationships on social media among young people and adolescents (Fenaughty & Harre, 2013). *Adolescence* is a period that often experiences biological changes such as secondary sexual development, changes in psychosocial behavior in behavior, attraction to the opposite sex, and also social relationships with the environment. These changes can occur with dimensions in the development process. Its dimensions are cognitive, behavioral, and affective (Zimmer Gembeck et al., 2008). Adolescence is characterized by a significant increase in negative emotions, higher sensitivity regarding social

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interactions with peers, the search for greater rewards, and greater involvement aimed at the long term and more socially complex (Nelson et al., 2005).

Based on the Digital 2023 analysis reported in *We Are Social and Hootsuite* by Kemp (2023), around 212.9 million internet users in Indonesia and as many as 191.4 million active social media users. Around 77% of the human population in Indonesia has used the internet. This year, internet users are 3.85% higher than last year. The data explains that the widely used social media are Youtube, TikTok, Instagram, and *WhatsApp.* A study by the Faculty of Nursing, Universitas Airlangga students found that 83% of adolescents could not be separated from social media (Social et al. Week Team, 2016).

Along with the development of technology, the innovation of these media as a means of electronic communication or correspondence in the computerized world also developed. With the progress of this innovation, it also has positive and negative impacts. In the era of digitalization, technology is very beneficial for adolescents and humans because it can be used to learn, share information, and facilitate communication between humans. However, there is a phase where the negative impact that makes adolescents experience sexual violence and *cyberbullying when using social networks so that they are vulnerable to becoming victims or perpetrators* of cyberbullying *(Sartana &; Afriyeni, 2017).*

Problems in *cyberbullying* are often associated with victims and perpetrators. In a literature study, there is much research on *cyberbullying*, but what is studied by most perpetrators or victims only rarely found research that discusses victims and perpetrators in one study.

The results of the *Discussion Group Forum* with 10 teenagers, 7 out of 10 children have experienced *cyberbullying* with media used *Whatsapp* and *Instagram*. Teenagers are often bullied through *chats,* WhatsApp stories*, and* Instagram direct messages with anonymous accounts. One of the teenagers talked bad things without the knowledge of the person concerned with his *circle* of friends via *WhatsApp,* insulted through social media, in *Instagram direct messages* with an anonymous account. Cyberbullies *are* mostly teenage girls because they are afraid to bully directly.

Cyberbullying is a deliberate, aggressive act of intimidation using electronic media that creates an imbalance of power between the perpetrator and the victim (Herrera-Lopez et al., 2017). Bullying acts using social media from instant messaging, *chat* on social media, text messages, and others. Kowalski and Limber (2013) suggest that cyberbullying *is a continuation* of traditional bullying *carried out in a new way; 75 out of 284 (26%) victims of bullying are also victims of* cyberbullying. From the study results, it was explained that *cyberbullying* through the use of images/video clips or electronic messages has a greater effect than *bullying*. Juvonen and Gross (2008) suggest that higher levels of social anxiety among victims of *bullying* at school and *cyberbullying* occur, revealing individual secrets and deceiving friends through social media.

Cyberbullying instruments in Indonesia do many constructs using Williard's theory (2007) which proposes seven aspects of *cyberbullying. Williard's theory explains* cyberbullying behavior *or cyberbullying perpetrators*. Research on cyberbullying *is very limited to the adaptation and testing of* cyberbullying instruments, but instruments used to measure victims or perpetrators *of* cyberbullying are indispensable. Taufiq and Herdi (2020) suggest that instrument adaptation and testing must be carried out to obtain standard and useful measuring instruments in providing interpretation according to research objectives.

Elipe et al. (2017) explained that *the cyber victimization emotional impact scale* (CVEIS) could measure the emotions of victims and the perceptions of people around them. The emotions measured in this instrument are negative and positive. In foreign research, many measure a person's involvement in *cyberbullying,* both perpetrators and victims. Several instruments involve someone who is a perpetrator or perpetrator, including *the Cyberbullying and Online Survey Instrument, Revised Cyberbullying Inventory (RCBI), European Cyberbullying Intervention Project Questionnaire, and Cyberbullying Questionnaire (CBQ).* Of several instruments that measure *cyberbullying*, both perpetrators and victims, this study chose *the European Cyberbullying Intervention Project Questionnaire* because it has been conducted in several

European countries and the subjects are more than 10,000, and variable tests and reliability tests have been carried out so that the ECIPQ instrument is expected to be used in Indonesia

In a previous study on the European Cyberbullying Intervention Project Questionair instrument, *Del Ray et al. (2015) examined the structural validation of* the European Cyberbullying Intervention Project Questionair. The subjects in the study were 5679 secondary school teenagers from six European countries (Spain et al.). In this study, validation focused on two main dimensions: victims of cyberbullying *and perpetrators of* cyberbullying. The results showed a CFI value greater than 0.90 and an ECVI index value not exceeding 0.6. Based on the low ECVI value and the CFI value's adequacy, the model's suitability for different samples can be assumed. These two indices measure the close fit between two or more models, so the smaller the value obtained, the greater the match (Bandalos, 1993). *Cyber-aggression* and *cyber-victimization* become part of cyberbullying, not only from a theoretical angle (Vollink et al., 2013) but also with practical experience supporting. This has strengthened the conception *of cyberbullying* as a dynamic phenomenon that states that attacking and being attacked is relevant in the field (Casas et al., 2013).

Herrera-Lopez et al. (2017) examined ECIPQ validation for Colombian adolescents. The subjects in the study involved 3,830 adolescents (1,931 Colombian adolescents and 1,899 Spanish adolescents) grouped into two countries, namely Colombia and Spain. The results of this study show the suitability of the instrument and the advantages of using the instrument can be used to evaluate and integrate psychoeducational interventions aimed at preventing *cyberbullying* in countries with little research.

Zhu Yuhong et al. (2020) made adaptations in Chinese and validated instruments. The Chinese version of the ECIPQ instrument consists of 14 items (seven *cyber-aggression* items and seven *cyber-victimization items*). The instrument is developed based on relevance and conformity to Chinese culture, cultural and linguistic adaptation, and norm measures with adolescent Chinese language samples. Subjects in the previous study were 452 samples of adolescents randomly, and this study was divided into two subsamples, namely exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). The EFA results show that the Chinese version has good results from divergent and discriminant validity. The CFA results show the suitability of measurement models in *cyber-aggression* and *cyber-victimization* assessments. Based on this explanation, this study aimed to adapt the European Cyberbullying Intervention Project Questionnaire (ECIPQ) instrument to adolescents in Indonesia.

Problem of Study

Adolescence is a period that often experiences biological changes such as secondary sexual development, changes in psychosocial behavior in behavior, attraction to the opposite sex, and also social relationships with the environment. Researchers should continually seek to develop and evaluate all cyberbullying instruments. Various instruments developed and used to measure cyberbullying previously are mostly limited to measuring perpetrators in cyberspace (Calvete et al., 2010) or only to measuring victims of cyberbullying in cyberspace (Muller et al., 2014). Based on this, this study aims to adapt to ECIPQ to obtain a valid and reliable ECIPQ that can be used in Indonesia.

Method

Participants

The study was conducted on adolescents. There were 1567 teenagers aged 12 to 18 years or from junior high school to college students, consisting of girls (50.9%) and boys (49.1%). The duration of social media use was between 3 to 6 hours a day, most had wifi networks, and all had mobile phones. This research is done by filling in the adapted ECIPQ instrument. The sampling of this study used *non-probability sampling* with *incidental sampling techniques*.

Instruments

European Cyberbullying Intervention Projects Questionnaire

In this study using the *European Cyberbullying Intervention Projects Questionnaire* instrument, this scale was validated by Herrera-Lopez et al. (2017) developed by Brighi et al. (2012) consisting of 2 dimensions (*Cyber-*

victimization &; *Cyber-aggression*) with 22 items. ECIPQ uses five options i.e. never (0), once or twice (1), once or twice a month (2), about once a week (3), and more than once a week (4). An example of an item on this scale is "Someone threatened me via text message or online". The validity of this study was tested using confirmatory factor analysis or CFA. The reliability for this instrument uses construct reliability.

Research Procedure

This research adapts to the stages, namely initial translation, translation synthesis, reverse translation, expert assessment, pre-final version test, and submission of documents to the developer or coordination committee to assess the adaptation process (Beaton et al., 2000).

The stages carried out include:

➢ Initial translation, *doing the original scale translation of English to Indonesian by* translator *1 (T1) and* translator *2 (T2),* translator *one is done by translators who understand the concept of the scale to be used. In contrast,* translator *2 (T2) is done by translators who understand English or literature.*

➢ Synthesis of the translations *is synthesizing or equalizing the meaning of the results of T1 and T2 translation with adjustments to theoretical concepts and Enhanced Spelling.* Back translation, *translating the results of T1 and T2 synthesis into English so that they can be compared with similarities with the original item.*

➢ Expert judgment, after a *back translator is* carried out, a discussion is carried out with experts who understand the measuring instrument. *The expert judgment in this study is a psychologist.*

➢ Test of the pre-final version, the *researcher conducted an instrument readability test with five respondents. The readability test was given as a measuring instrument to the respondents. The readability test aims to see the extent of the respondent's understanding of items and see unambiguous statements (Periantalo, 2015). Then the readability test results are used for evaluation materials in improving the item, and then the field trial stage is carried out.*

➢ Submit documentation to the developers or coordinating committee to appraise the adaptation, *submitting the adaptation results to the original developer—the second implementation stage, in schools and universities through Google form. The last stage of the research tested the suitability of the measurement model on each dimension* of the Indonesian version of the cyberbullying *instrument using confirmatory factor* analysis (*CFA). In this study, reliability analysis uses* Composite Reliability.

Data Analysis

The validity of this study was tested using confirmatory factor analysis or CFA with the help of JASP 0.17.1.0. CFA is used to confirm indicator variables that can be used to confirm a factor (Ferdinand, 2014). Evaluation with the CFA model uses two criteria, namely (1) *Model convergence* and (2) *Fit indices.*

➢ *Model convergence and acceptable range of parameter estimate*

In the maximal *likelihood estimation (*MLE) model, this involves an iterative process in which matric covariance is observed and compared with theoretical matrices to reduce differences (residues)

➢ *Fit indices* are seen from the *goodness* of fit data CFA. The fit criteria are classified into *absolute fit indices, comparative or incremental,* and *parsimony.*

Results

Table 1 shows that the measurement model, in general, still needs to be fit. The amateur fit values of GFI, RMSEA, NFI, IFI, CFI, and TLI are still below the established criteria (Hair et al., 2010). The model *of cyberbullying* and *the* factor loadings of each item can be shown in Figure 1.

In this initial result, many criteria still need to be met to show model fit, so researchers make modifications to get a better model by removing items whose factor loading is below 0.5. Like ECIPQ 1 (Someone says bad things to me or insults me via text message or online.), ECIPQ 2 (Someone says bad things about me to others online or via text message),

ECIPQ 10 (I am ostracized or ignored by others on social media or *chat* rooms on the internet), ECIPQ 12 (I say bad things to someone or insult them using text messages or online messages), ECIPQ 13 (I say bad things about someone to others online or via text message), and ECIPQ 21 (I ostracize or ignore someone on social media or *internet chat* rooms). So that the final model does not use the six items above, the final model's precision parameters can be seen in Table 2 after removing the eight items.

Table 1. ECIPQ Model Precision Parameters before modification

Category	Parameter fit	Output	Criterion	Information
Absolur Fit				
	Goodness of fit index (GFI)	0,846	≥ 0,90	Not fit
	Root mean square error of approximation (RMSEA)	0,096	≤ 0,08	Not fit
	Normal fit index (NFI)	0,796	≥ 0,9	Not fit
	Incremental fit index (IFI)	0,806	≥ 0,9	Not fit
Incremental Fit	Comparative fit index (CFI)	0,806	≥ 0,9	Not fit
	Tucker-Lewis Index (TLI)	0,785	≥ 0,90	Not fit
Parsimonious Fit	Parsimonious Normal Fit Index (PNFI)	0,716	0,60-0,90	Fit

Chi-square = 3180,749
df = 208
p = < 0,001
GFI = 0,846
RMSEA = 0,096
NFI = 0,796
IFI = 0,806
CFI = 0,806
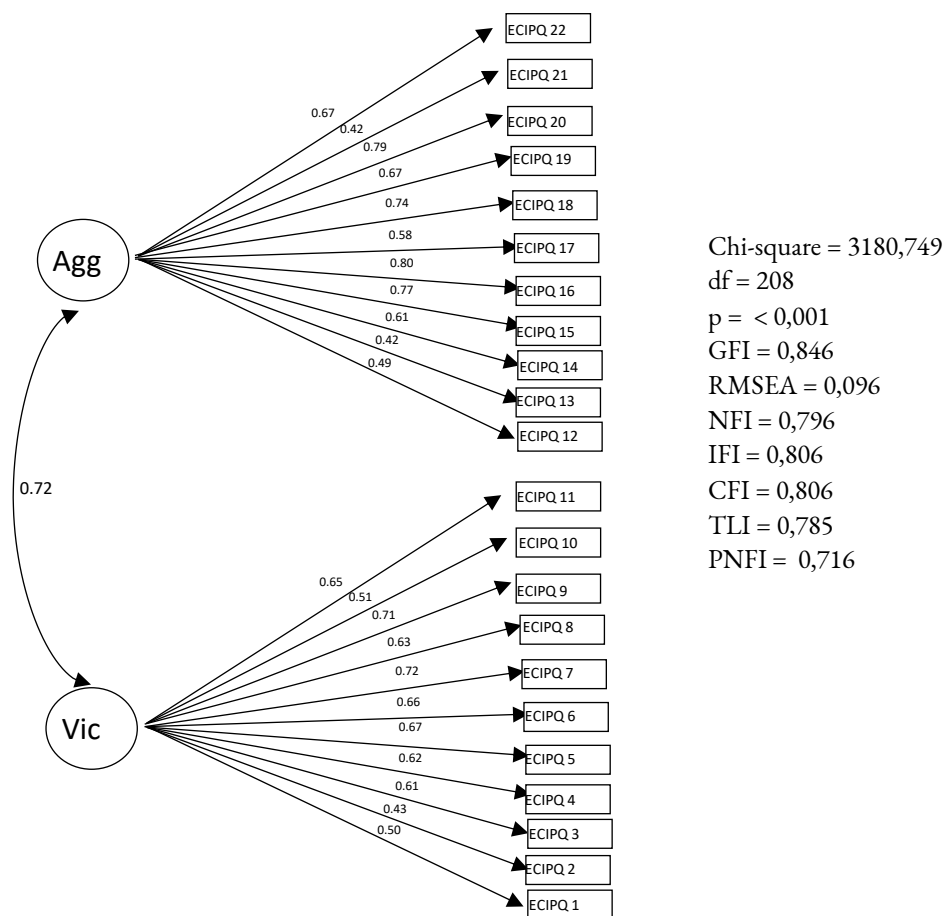TLI = 0,785
PNFI = 0,716

Figure 1. *ECIPQ Instrument Initial Measurement Model1*

The results of the model modification in Table 2 show the fit parameters. In other models, such as GFI, RMSEA, NFI, IFI, CLI, TFI, and PNFI, the value has met the criteria set to get a fit model (Hair et al., 2010). The complete model fit and factor loading of each item can be seen in Figure 2.

Table 2. *Modified ECIPQ Model Precision Parameters*

Category	Parameter fit	Output	Criterion	Information
Absolur Fit				
	Goodness of fit index (GFI)	0,943	≥ 0,90	Fit
	Root mean square error of approximation (RMSEA)	0,065	≤ 0,08	Fit
	Normal fit index (NFI)	0,935	≥ 0,9	Fit
	Incremental fit index (IFI)	0,943	≥ 0,9	Fit
Incremental Fit	Comparative fit index (CFI)	0,943	≥ 0,9	Fit
	Tucker-Lewis Index (TLI)	0,932	≥ 0,90	Fit
Parsimonious Fit	Parsimonious Normal Fit Index (PNFI)	0,787	0,60-0,90	Fit

Chi-square = 766,071
df = 101
p = < 0,001
GFI = 0,923
RMSEA = 0,080
NFI = 0,919
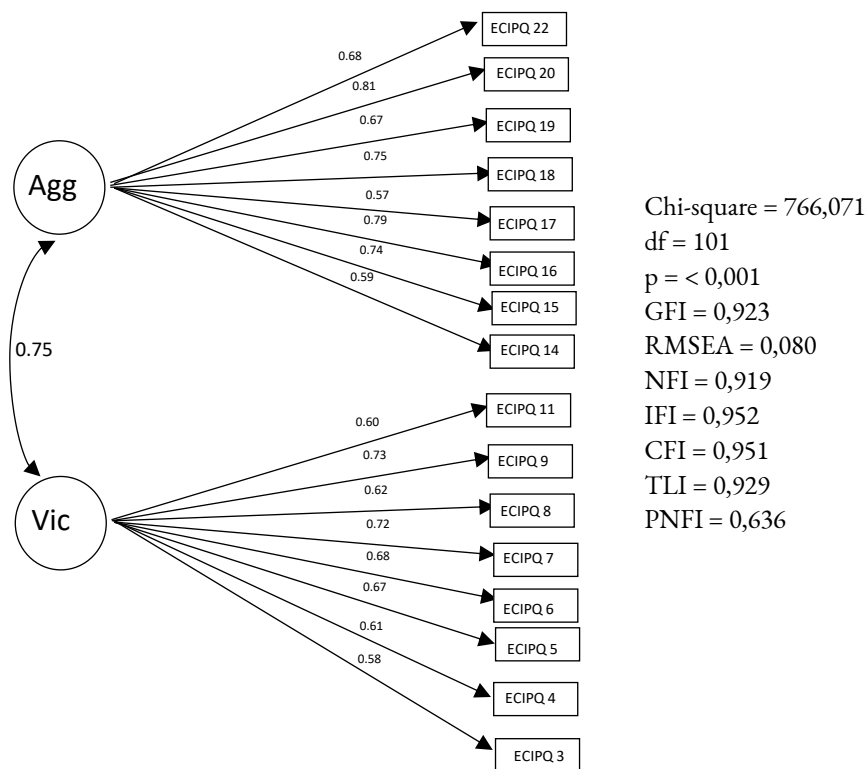IFI = 0,952
CFI = 0,951
TLI = 0,929
PNFI = 0,636

Figure 2. *ECIPQ Instrument Fit Measurement Model2*

After analyzing the model and factor loading, they conducted reliability tests. *Reliability* is a consistent internal instrument measured based on an item's homogeneity level. Hair et al. (2010) suggest that reliability tests in CFA analysis include *construct reliability* (CR) and *average variance extracted* (AVE). CR values ≥ 0.7 are interpreted as good reliability, while CR values of 0.6 to 0.7 are interpreted as acceptable reliability, provided that the indicator record has factors that meet the criteria. Internal consistency can be measured using the recommended Average Variance Extracted (AVE) of > 0.5. Based on the data in Table 3. It is known that the measurement result in the ECIPQ instrument have good reliability.

$$\text{Construct Reliability} = \frac{(\sum \text{Standardized Loading})^2}{(\sum \text{Standardized Loading})^2 + (\sum \text{Measurement Error})}$$

Table 3. *CR values and loadings of the scale items*

Variabel Indikator	λ	Error	λ²	CR
Cybervictimation				
ECIPQ-3	0,58	0,67	0,34	
ECIPQ-4	0,61	0,63	0,37	
ECIPQ-5	0,67	0,55	0,45	
ECIPQ-6	0,68	0,53	0,46	
ECIPQ-7	0,72	0,48	0,52	0,86
ECIPQ-8	0,62	0,61	0,38	
ECIPQ-9	0,73	0,47	0,53	
ECIPQ-11	0,60	0,63	0,36	
Total	5,21	4,57	3,41	
Cyberaggresion				
ECIPQ-14	0,60	0,64	0,36	
ECIPQ-15	0,74	0,45	0,55	
ECIPQ-16	0,80	0,39	0,64	
ECIPQ-17	0,57	0,67	0,32	0,89
ECIPQ-18	0,75	0,43	0,56	
ECIPQ-19	0,67	0,54	0,45	
ECIPQ-20	0,81	0,35	0,66	
ECIPQ-22	0,68	0,53	0,46	
Total	5,62	4	4	

Discussion

This study is the first to validate the Indonesian version of ECIPQ with Indonesian adolescents. The ECIPQ instrument provides preliminary evidence supporting the reliability and validity of the scale in assessing the experiences of *cyberbullying victims* and cyberbullies. ECIPQ Indonesia consists of 16 items generated from the original ECIPQ containing 22 items, including eight on *cyberbullying* victims and eight on *cyber bullies*. The CFA results support a two-factor structure and have a multidimensional model. The Indonesian version of ECIPQ provides a comprehensive profile of adolescents' *cyberbullying* experiences and is essential for developing future interventions and training programs. The CFA results show that the Indonesian version of ECIPQ is reliable and internally consistent in assessing *cyberbullying victims* and cyberbullies. Multidimensional models add to the benefits of being able to measure together the two main dimensions *of cyberbullying*. The findings of the ECIPQ instrument can be applied in the Indonesian context to deepen the scale application. The ECIPQ instrument has two factors: cyber *victimization* and *cyber aggression*. *Cybervictimization items* include ECIPQ 3, ECIPQ 4, ECIPQ 5, ECIPQ 6, ECIPQ 7, ECIPQ 8, ECIPQ 9 and ECIPQ 11. *Cyberaggression* items include ECIPQ 14, ECIPQ 15, ECIPQ 16, ECIPQ 17, ECIPQ 18, ECIPQ 19, ECIPQ 20, and ECIPQ 22. So that the first hypothesis is fulfilled with the results of the model on ECIPQ in the form of multidimensional.

Several previous studies (Del Ray et al., 2015; Herrera-Lopez et al., 2017; Zhu et al., 2020) found that *cyberbullying* consists of two factors and dimensions. This study also found that two factors and dimensions match the data and scale with good internal consistency. With this, it can be affirmed that *cyber victimization* and *cyberaggression* become part of *cyberbullying* from a theoretical point of view (Vollink et al., 2013) and with empirical support. This reinforces *cyberbullying* as a dynamic phenomenon in which attacking and being

attacked is relevant (Casas et al., 2013). This instrument has the advantage that the approach to present concrete actions clearly shows the conceptual limitations of the phenomenon of *cyberbullying* so that there is a possibility of involvement *of cyberbullying victims,* cyberbullying perpetrators, or even both (Del Ray et al., 2015). The ECIPQ instrument, according to Del Ray et al. (2015), is useful for developing knowledge about the phenomenon of cyberbullying in two directions (victims and perpetrators), and this instrument has been well-validated. It has been proven in Indonesia with the validity of the contract and the reliability of the contract. This instrument can also be used to implement adolescents who will have further interventions in cyberbullying prevention and also measure victims, perpetrators, or both in cyberbullying to determine the percentage of cyberbullying and can be used in the field of education in fighting cyberbullying.

ECIPQ was also adapted in Chinese. The difference between the Chinese and the Indonesian version of ECIPQ is the number of items. The Chinese version contains 14 items, two factors totaling seven items each. Meanwhile, the Indonesian version consists of 15 items, eight cyber-victimization items, and eight cyberaggression items. The similarity between ECIPQ China and ECIPQ Indonesia is adapting instruments, using CFA psychometrics, and adjusting instruments according to the culture in each country. Bornstein (2012) suggests that each culture has differences from each other due to deep-rooted ideas related to feelings, thoughts, and behaviors different in each culture. A culture is a form of difference in beliefs and behaviors between one group and another used to regulate daily life. As with *cyberbullying behavior*, cultural differences influence it, so some items are not in Indonesian culture.

Conclusion

This study aims to adapt the ECIPQ instrument so that it can be used in Indonesia. Based on the results of the CFA analysis, it can be concluded that the ECIPQ model consists of 2 dimensions, namely *Cyber-Victimization* and *Cyber-Aggresion*. The items in ECIPQ that have been adapted and modified consist of 8 cyber-victimization items *and eight* cyber-aggression *items.* On validity using CFA analysis, it is explained that this instrument is valid in general because of the item fit model. The ECIPQ instrument is needed to detect the involvement of adolescents who are victims or perpetrators so that researchers and parties who implement ECIPQ can handle *cyberbullying* at school or on campus. To carry out this handling, it is expected to involve the surrounding environment, not only *self-reporting,* so it is measurable and increases awareness and awareness about *cyberbullying*.

Recommendations

There are similar items in this study, so some items are factor loadings/criteria that still need to be met. So it is necessary to avoid similarities that cause redundant or repetitive items. Taking samples in general and more broadly is better because the number of samples affects the results obtained more comprehensively.

Acknowledgment

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