

THE VALIDITY AND RELIABILITY OF MALAY VERSION CHILD
EXPOSURE TO DOMESTIC VIOLENCE SCALE (CEDV-M)

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LIST OF SYMBOLS, ABBREVIATIONS OR NOMENCLATURE

CEDV	Child Exposure to Domestic Violence
CEDV-M	Malay version of Child Exposure to Domestic Violence
ICC	Intraclass correlation
TISH	Things I've Seen and Heard
CEDV-SL	CEDV in source language
CEDV-TL	CEDV in target language
CEDV-PI-TL	CEDV in target language after reconciliation
CVI	Content validity index
I-CVI	Item level content validity index
FVI	Face validity index
I-FVI	Item level face validity index
SVR	Sample to variable ration
EFA	Exploratory factor analysis
KMO	Kaiser-Meyer-Olkin

GLOSSARY OF TECHNICAL TERMS

Intraclass correlation	A descriptive statistic that measure reliability by quantify the degree of correlation and agreement between measurements. Reference : Koo TK (2016) (24)
Test-retest reliability	It reflects the variation in measurements taken by an instrument on the same subject under the same conditions. It is generally indicative of reliability in situations when raters are not involved or rater effect is neglectable, such as self-report survey instrument. Reference : Koo TK (2016) (24)
Content validity	Content validity is defined as the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose. Reference : Yusoff (2019)(20)
Face validity	Face validity is used to evaluate in the form of clarity and comprehensibility of instructions and language used in the assessment tool by the raters. The clarity of instructions and language refers to whether there were ambiguities or multiple ways to interpret the items, whereas the comprehensibility of instructions and language refers to whether words and sentences of the constructed items can be understood easily by raters. Reference : Yusoff (2019)(21)
Exploratory factor analysis	One of a family of multivariate statistical methods that attempts to identify the smallest number of hypothetical constructs (also known as factors, dimensions, latent variables, synthetic variables,

	or internal attributes) that can parsimoniously explain the covariation observed among a set of measured variables. Reference: Watkins, M.W. (2018) (27)
Kaiser-Meyer-Olkin	Kaiser-Meyer-Olkin measure of sampling adequacy is the ratio of correlations and partial correlations that reflects the extent to which correlations are a function of the variance shared across all variables rather than the variance shared by pairs of variables. KMO values range from 0.00 to 1.00 and can be computed for the total correlation matrix as well as for each measured variable. Reference: Watkins, M.W. (2018) (27)
Bartlett's test of sphericity	Bartlett's test of sphericity statistically tests the hypothesis that the correlation matrix contains ones on the diagonal and zeros on the off diagonals. This test should produce a statistically significant chi-square value to justify the application of EFA. Reference: Watkins, M.W. (2018) (27)

ABSTRAK

Latar belakang : Keganasan domestik memberikan impak yang besar kepada kanak-kanak yang sedang membesar. Tetapi malangnya, data dan laporan yang sedia ada adalah terhad dan kebanyakan kes tidak dilaporkan. Justeru, skala *Child Exposure to Domestic Violence* (CEDV) telah dicipta dan digunakan secara meluas di peringkat antarabangsa. Kajian ini bertujuan untuk menyediakan instrumen CEDV versi Bahasa Melayu yang telah diterjemah dan disahkan untuk digunakan di Malaysia dan juga di kalangan penutur Bahasa Melayu. **Kaedah** : CEDV melalui proses penterjemahan dari Bahasa Inggeris ke Bahasa Melayu. Proses pengesahan kandungan dan bahasa telah dijalankan sebelum kajian lapangan diadakan di sebuah sekolah menengah. Borang kaji selidik yang telah diterjemah ini kemudiannya akan diuji untuk pengesahan konstruk, konsistensi dalaman dan kestabilan. **Keputusan** : Skala CEDV versi Bahasa Melayu telah diedarkan melalui platform atas talian, *Google Form* dan telah mendapat maklum balas yang tinggi daripada 235 orang kanak-kanak berusia 13 hingga 16 tahun. Skala CEDV versi Bahasa Melayu mempunyai kebolehpercayaan kestabilan yang baik berdasarkan nilai *intra-class correlation* untuk semua item, iaitu di antara 0.659 hingga 1.00. *Exploratory Factor Analysis* untuk semua item menunjukkan kebarangkalian 5 atau 6 faktor domain, akan tetapi 5 faktor didapati lebih bersesuaian. Skala CEDV versi Bahasa Melayu boleh dipercayai (*reliability*) dengan jumlah *Cronbach alpha* yang tinggi, iaitu 0.87. **Kesimpulan** : CEDV versi Bahasa Melayu adalah instrumen yang sah dan boleh dipercayai untuk mengukur pengalaman kanak-kanak yang mengalami keganasan domestik melalui sudut pandang mereka. Ujian *Confirmatory Factor Analysis* dan pembinaan sistem pemarkahan yang standard adalah disyorkan untuk kajian akan datang.

ABSTRACT

Background: Domestic violence possess a significant impact on growing children, however, the available evidence is limited and most likely underreported. Thus, Child Exposure to Domestic Violence (CEDV) scale was developed and had been used internationally. This study is intended to provide a cross-cultural translation, adaptation and validation of CEDV into Malay language **Methods:** CEDV was translated from the original version in English to Malay. The content and face validity were examined prior to field-testing conducted at a secondary school. The translated tool was tested for construct validity, internal consistency and stability. **Results:** CEDV-M was administered via an online platform with a high response rate by a total of 235 children aged 13 to 16 years old. The CEDV-M has good stability reliability, evidenced by the intra-class correlation (ICC) value for all of the items ranging from 0.659 to 1.00. The Exploratory Factor Analysis of the 36 items of CEDV revealed possibilities of 5 or 6 factors domains, but 5 factors domains were most conceptually relevant. The CEDV-M was reliable with total Cronbach alpha of 0.87. **Conclusion:** CEDV-M is a valid and reliable tool to measure the child's experience of domestic violence from their perspective. Confirmatory factor analysis and standard setting for the scoring system are recommended for future study.

PART 2: THE TEXT

2.1 INTRODUCTION

Domestic violence is regarded as the violence occurring among intimate partners who are either spouses or ex-spouses of a legal relationship, as stated in Malaysia's Domestic Violence Act 521 (1994). The impact of the violence is usually followed by consequences, not only for the victims but also for their children, families, and surrounding people. Studies have found that children exposed to domestic violence or who live in an abusive relationship may also directly be abused and develop behavioural issues that may affect their emotional and social functions. They are also likely to demonstrate attitude problems, academic impairment, and problems with temperament. The exposure of children to domestic violence is not only by witnessing the assaults but also by seeing the physical injuries or other manifestations of violence such as broken furniture and overhearing the arguments.

Globally, it is estimated that up to 1 billion children aged 2-17 years old have experienced physical, sexual, or emotional violence or neglect in the past year. While in our country, based on the Social Welfare Statistic Annual Report, in 2019 more than 6000 children were reported to require protection because of abuse. In Malaysia, there is no consistent data on domestic violence and trends, the only available data are from reported cases compiled from Royal Malaysia Police, Welfare Department and Ministry of Health respectively. There has only been one comprehensive study published in 2014 by Rashidah Shuib et.al, that found three quarters of 10 to 12 years olds children in Selangor have experienced at least one form of child maltreatment.

Upon any violence or abuse inflicted on children, the parents and caretakers are the responsible ones to report to the authority. The children are too young to understand and maybe fear of being separated from their family as a consequence from the report made. Thus, most of the cases are likely to be under-reported as child abuse cases are regarded to be a sensitive issue among communities, especially in Asian countries, like Malaysia. SL Hamby *et al.* (2001) have stated that the identification of incidents of victimization and the development of effective interventions are greatly enhanced via using a self-reported questionnaire. This type of questionnaire can elicit more instances of victimization and yield more accurate reports than official police or child protective services statistics. Several questionnaires that utilized children's self-report of exposure to domestic violence are available at the current moment. Some may only focus on a single form of violence or victimization such as the Parent-Child version of the Conflict Tactics Scales (Straus *et al.*, 1998), which exclusively identify child maltreatment by the parent. While the Survey of Children's Exposure to Violence by Richters and Martinez, 1993 includes more items such as community violence, property crimes, and witnessing violence.

However, most of the existing questionnaires measure the impact of exposure to violence but are unable to directly examine their individual experience with the violence that could potentially affect their reaction to the event (Edleson *et. al*, 2007). Thus a comprehensive assessment is needed given the nature and complexity of children's exposure to domestic violence (Mohr and Tulman, 2000). Further studies can be done, once a validated tool is available for a comprehensive assessment of children's exposure to domestic violence. The evidence can assist to provide good data for future intervention or prevention programmes in battling violence among children. Nevertheless, it may also

help to create awareness and to draw attention to the community in preventing suffering from the violence experiences.

Unfortunately, at the present moment, there is no validated Malay self-reported universal assessment tool available to measure child exposure to domestic violence in Malaysia. Jeffrey L. Edleson and his colleague in 2007 developed the Child Exposure to Domestic Violence (CEDV) Scale in an attempt to address the lack of measures specific to children's experience of domestic violence. Thus, this study intended to provide a cross-cultural translation of a validated assessment tool in Malay language, to assess the level of exposure to domestic violence from a child's perspective. The permission for translation and examination of psychometric properties for this scale has already been granted by the corresponding author, Dr. Jeffrey L. Edleson.

2.2 STUDY PROTOCOL

2.2.1 Document submitted for ethical approval



**RESEARCH PROPOSAL FOR MASTER OF MEDICINE
PREPARED IN PARTIAL REQUIREMENT FULFILLMENT
FOR MASTER OF MDICINE (PAEDIATRIC)
UNIVERSITI SAINS MALAYSIA**

TITLE:

**THE VALIDITY AND RELIABILITY OF MALAY VERSION
CHILD EXPOSURE TO DOMESTIC VIOLENCE SCALE
(CEDV-M)**

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1. INTRODUCTION

Domestic violence is regarded as the violence occurring among intimate partners who are either spouses or ex-spouse of a legal relationship, as stated in Malaysia's Domestic Violence Act 521 (1994). The impact of the violence usually followed by consequences, not only for the victims but also for their children, families, and surrounding people.

Studies have found that children exposed to domestic violence or live in an abusive relationship may also directly being abused^{1,2} and develop behavioural issue that may affect their emotional and social functions³. They are also likely to demonstrate attitude problems, academic impairment, and problem with temperament⁴. The exposure of children to domestic violence is not only by witnessing the assaults, but also including seeing the physical injuries or other manifestation of violence such as broken furniture and overhearing the arguments⁵.

In Malaysia, there is no consistent data on domestic violence and trends, the data are only available from reported cases compiled from Royal Malaysia Police, Welfare Department and Ministry of Health respectively. There has only been one comprehensive study published in 2014 by Rashidah Shuib et.al⁶, that found 8% of ever-partnered women in Peninsular Malaysia have been abused by their partner.

Globally, it was estimated that up to 1 billion children aged 2-17 years old, had experienced physical, sexual, or emotional violence or neglect in the past year⁷. While in our country, based on the Social Welfare Statistic Annual Report, in 2018 more than 6000 children were reported to require child protection in view of abuse cases.

Evidence in the past had shown that violence against children could be prevented. One of 2030 Agenda for Sustainable Development (Target 16.2) is to end abuse, exploitation, trafficking, and all forms of violence against, and torture of the children. To

dive deeper into this issue, we need to hear from them first. An article written by Dr Linda Chamberlain in 2016, provided an update of a review of assessment tools for children's exposure to violence, with the purpose to identify specific tools for the assessment of children's exposure to violence. Among the tools listed was Child Exposure to Domestic Violence (CEDV) Scale, which was developed by Edelson et al. in 2007.

2. PROBLEM STATEMENT & STUDY RATIONALE

Data and prevalence study on domestic violence and abuse among children are limited, and most likely these events are under-reported due to sensitive subject among the local communities especially in Asian countries, like Malaysia. Most of the available data came from the Social Welfare Department and the Royal Malaysia Police. Cases which involved children, most of the time, the parents or caretakers were those who reported the violence or abuse that was inflicted on them or their children. Children are too often young to comprehend and they might have fear of being separated from family members.

Thus, a child-centred approach such as Child Exposure to Domestic Violence (CEDV) Scale, is needed to fulfill this gap. At the moment, no validated Malay self-reported universal assessment tool available to do the measure. Thus, this study intended to provide a cross-cultural translation of a validated assessment tool in Malay language to assess level of exposure to domestic violence from a child's perspective. The permission for translation and examination of psychometric properties for this scale is already granted by the corresponding author, Dr Jeffrey L. Edleson.

Once validated, the tool should be beneficial for a comprehensive assessment of children's exposure to domestic violence. The evidence can assist to provide good data

for future intervention or prevention programmes in battling violence among children. Nevertheless, it may also help to create awareness among the community members and draw authorities attention on children suffering from violence.

3. RESEARCH QUESTION

Is the Malay version of Child Exposure to Domestic Violence (CEDV-M) Scale reliable and a valid tool to measure exposure to violence in the home and the community among 10 to 16 years old children in Malaysia?

4. OBJECTIVES

4.1 GENERAL :

To translate the Child Exposure to Domestic Violence Scale to Malay and validate the translated version.

4.2 SPECIFIC :

1. To perform translation of Child Exposure to Domestic Violence Scale to Malay language (CEDV-M)
2. To determine the face validity of CEDV-M
3. To determine the content validity of CEDV-M
4. To determine the construct validity of CEDV-M by using exploratory factor analysis (EFA)
5. To determine the reliability of CDEV-M based on Cronbach's alpha
6. To determine the stability of CEDV-M by using intra-class correlation coefficient (ICC)

5. RESEARCH HYPOTHESIS

Malay version of Child Exposure to Domestic Violence (CEDV-M) Scale is reliable and a valid tool to measure exposure to violence in the home and the community among 10 to 16 years old children in Malaysia.

6. LITERATURE REVIEW

Data from the official reports regarding child maltreatment in Malaysia have shown a persistent increase in numbers throughout the last decade. However, the actual numbers of involvement in maltreatment and domestic violence among children are far beyond the fact. The latest published 2019 Social Welfare Statistics Report, revealed a total of 6382 children in need of care and protection under section 17 of Child Act 2001. Thus, there is a need for standardized questionnaires as the tool to accurately measure this condition.

SL Hamby et al. (2001) has stated that identification of incidents of victimization and the development of effective interventions were greatly enhanced via using self-reported tool. This tool can also elicit more instances of victimization and yield more accurate report than the official police or child protective services statistics. Several questionnaires that utilised children's self-report of exposure to domestic violence available at the current moment. Some may only focus on a single form of violence or victimization such as Parent-Child version of the Conflict Tactics Scales (Straus et al.,1998), exclusively identify child maltreatment by parent. While the Survey of Children's Exposure to Violence by Richters and Martinez, 1993 includes more items such as community violence, property crimes and witnessing violence.

However, most of the existing questionnaires measure the impact of exposure to violence but unable to directly examine their individual experiences with the violence

that could potentially affect their reaction to it (Edleson et. al, 2007). Thus a comprehensive assessment is needed in view of the nature and complexity of children's exposure to domestic violence (Mohr and Tulman, 2000). Dr Jeffrey L. Edleson and his colleague in 2007 has developed the Child Exposure to Domestic Violence (CEDV) in an attempt to address the lack of measures specific to children's experience of domestic violence.

6.1 Translation

CEDV scale is well accepted internationally whereby it has been translated to multiple languages, including Spanish (Diez et al, 2018), Urdu (Khatoon et al, 2014), Kurdish (Jumma et al., 2017) and Persian (Sajadi et al., 2014) for cross-cultural research to cater the need for accurate assessment and understanding of the individual's cultural, linguistic, and ethnic background.

6.2 Validity

There are various studies done to test for validity of the CEDV scale, and the most frequent types of validity testing reported are content, concurrent, convergent, discriminant and construct validity. During development of CEDV scale, Edleson et al. (2008) gathered a panel of 9 international experts who work with children exposed to domestic violence to review each item online to establish content validity of the scale and tested it on 10 children for face validity. Edleson et al (2008) also establish convergent validity by administering the Things I've Seen and Heard (TISH) concurrently with CEDV scale and revealed positive correlation existed in 2 subscales, which are violence at home and violence in community. Meanwhile, Sajadi et al (2014)

found positive correlations in between CEDV scale and Exposure to physical aggression questionnaire in the subscale of level of exposure to home violence.

Edleson et al (2008) attempted to examine construct validity but failed to generate subscales via factor analyses most likely due to small samples. Meanwhile, in Sajadi et al (2014), 7 subscales were reported after conducting an exploratory factor analysis (EFA), however no details were provided in the study.

6.3 Reliability

Edleson et al (2008) reported relatively high overall and subscales Cronbach's alpha coefficients, which were $\alpha = 0.84$ for overall and $\alpha = 0.5$ to 0.76 for subscales. Similarly, in a study conducted by Shin (2013) in Minnesota, α for total scale was 0.85 , and α of 0.62 to 0.88 for subscales. Another study done by Katz et al. (2016) that used 12 items from the CEDV scale showed a high level of internal consistency, with $\alpha = 0.97$. The studies that used the translated version of CEDV also reported a good level of internal consistency

7. METHODOLOGY

7.1 CEDV Scale

Child Exposure to Domestic Violence (CEDV) scale is a child self-administered assessment tool designed for children ages 10 to 16 years old. It takes approximately 30 minutes for the youth to complete the measure. The scale consists of 42 items that are divided into 3 sections with 6 subscales. Part I and Part II of the CEDV scale contains 6 subscales, that measure; (1) level of violence in the home, (2) level of exposure to home violence, (3) level of exposure to community violence, (4) level of involvement in violent

events, (5) risk factors in the home life and (6) other victimisations the child has experienced at home.

For each subscales, they are represented by 4 to 10 items. Part I has total of 10 items with 2 sections each. The first section specifically target the types or level of home violence (subscale 1) whereby each of the children was asked to rate using a four-point Likert-type scale which assigned with the following values: Never = 0, Sometimes = 1, Often = 2 and Almost Always = 3. The second section of part I required the child to indicate how he or she knew regarding the home violence (subscale 2). If the child answers “Never” to the item asked, he or she will move onto the next item. However, if he or she indicated exposure to the violence, the child will be led to an additional set of option to choose to elaborate how he or she was exposed to it.

Part II of the CEDV included 23 items, that will be also answered using the similar four-point Likert-type scale. This part will examine regarding community violence exposure (item 22-29), involvement in violence (item 11-17), risk factors (item 18-21) and other type of victimisation that the child had experience (item 30-33).

Each question in the first two parts (except Exposure to home violence) are answered using a four-point Likert-type scale and assigned with the following values: Never = 0, Sometimes = 1, Often = 2 and Almost Always = 3. Response values to all items within a subscale are then added together. Higher scores indicate more, and lower scores indicate less violence, exposure, involvement, risk factors or other victimization depending on the subscale content. The level of Exposure to Home violence subscale requires the child to choose one or more types of exposure. The child is asked to check off all the ways s/he knew about the violence, and then the number of boxes checked are simply added up. Questions in Part III are regarding the child’s demographic characteristics.

7.2 Research Design

The study design used for this research is cross sectional study, and divided into 2 phases:

- 1) Translation Phase
- 2) Validation Phase

Translation Phase

The Child Exposure to Domestic Violence Scale (CEDV) will be translated to Malay language. The steps for translations process will be based on 2 references, which are:

- i. Census Bureau Guideline for the Translation of Data Collection Instruments and Supporting Materials by Yuling P, Manuel dP (2014)
- ii. Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: a clear and user-friendly guideline by Sousa, V. D., & Rojjanasrirat, W. (2011)

Translation phases involve 3 important steps: forward translation, backward translation and finalisation of translated version. For forward translation, CEDV scale in the source language, which is English (CEDV-SL) will be translated to Malay as the target language (CEDV-TL). The translators are two bilingual experts, paediatrician and Malay language lecturer who are knowledgeable about the content of the scale, cultural and linguistic nuances in the desired language.

Following that, a committee will be formed that included the researchers and translators for the process of reconciliation, to compare and merge both forward translated CEDV to become one forward translation version (CEDV-PI-TL). Another 2 translators, a paediatric medical officer and a paediatrician will be identified for backward translation. The CEDV-PI-TL will be translated back to English language, then both will be reviewed and merged into a single backward translated version (CEDV-

BTL). The committee will reconcile and harmonise to develop the finalised version of the CEDV scale (CEDV-FTL). This finalised version will be used in the study for the validation process.

Validation Phase

The initial tests are face validity and content validity. Face validity will involve a small group of target users of the questionnaire. The aim of the test is to evaluate clarity and comprehensibility of instruction and language for each item using response process validation form. They will score based on clarity and comprehensibility rating scale. For content validity, it is to evaluate relevant and representativeness of each item by scoring in the content validation form. Content validity will be conducted among a panel of experts who are familiar with handling domestic violence cases in children.

CEDV scale developed by Dr Jeffrey L. Edleson et.al is a valid tool for 10 to 16 years old children. Due to current pandemic situation and to adapt our new norm, we selected a secondary school in Kangar, Perlis for the subsequent psychometric testing. SMK Derma is one of the Cluster School Of Excellence located in Kangar, Perlis with total almost 1000 students from all over Perlis and nearby northern state.

Exploratory factor analysis will be done to determine the construct validity of CEDV-M. For reliability testing, we include evaluation of internal consistency and stability. Internal consistency is to measure the coherence of CEDV-M by testing the strength of association among items, reflected by Cronbach's alpha coefficient. For stability testing, a portion of subjects need to answer the questionnaire twice, in 14 days apart. Aim to portray that similar results will be received from the same subjects.

7.3 Study area

A secondary school in Perlis

7.4 Study population

Source population : Student aged 13 to 16 years old in the secondary school in Perlis

References population : Children aged 13 to 16 years in Malaysia

7.5 Subject criteria

- Inclusion Criteria:
 - Form 1 to Form 4 students (13 years to 16 years old) in a secondary school
 - Consented for the study (taken from parent) and assent of the student involved
 - Able to speak and write in Malay
- Exclusion Criteria:
 - Illiterate

7.6 Sample size estimation

Sample size calculation is done based on each objective, which are:

Objective 2 : To determine the content validity and face validity of CEDV-M

- a) Face validity¹ : 10 raters who are children among 10 to 16 years old
- b) Content validity² : 6 panel of expert among Paediatric Medical Officers (2), General Paediatricians (3) and Family Medicine Specialist (1).

References: 1. Yusoff (2019)

2. Yusoff (2019), Polit & Beck (2006), Polit et al. (2007)

Objective 3: To determine the construct validity of CEDV-M by using exploratory factor analysis

By using rule of thumb, a minimum of 5 samples for each item in the scale.

The scale has 42 items, thus making total samples would be 210.

Considering 10% of drop out, the total sample size required for this objective is 231.

Reference : Costello, A.B., Osborne, J.W. (2005)

Objective 4 : To determine the reliability of CDEV-M based on Cronbach's alpha

F1

Cronbach's alpha – Hypothesis Testing

Cronbach's alpha (H_0)	0.60	The lowest acceptable Cronbach's alpha value
Cronbach's alpha (H_1)	0.85	The expected Cronbach's alpha value from your study
Significance level (α)	0.050	Two-tailed
Power ($1-\beta$)	0.800	
Number of items (k)	42	
Drop-out	10%	
Sample size	19	
Sample size (with drop-out)	22	

Reference : Bonett, D. G. (2002)

Objective 5 : To determine the stability of CEDV-M by using intra-class correlation (ICC)

D1	Intraclass Correlation	
Observation/Subject (n)	2	Number of repeated observations by different judges per subject, replicates
Significance level (α)	0.050	Two-tailed
Power ($1-\beta$)	0.800	
Minimum acceptable reliability (ρ_0)	0.60	The lowest limit of reliability you would accept
Expected reliability (ρ_1)	0.85	The level of reliability you can expect from the study
Drop-out	10%	
Sample size	26	
Sample size (with drop-out)	29	

Reference : Walter, S.D., Eliasziw, M., Donner, A. (1998)

7.7 Sampling method and subject recruitment

For the validation process, study will be conducted in SMK Derma using purposive sampling; to include a balance of numbers for each group of age and also snowball sampling with the help of teachers in order to avoid ceiling and floor effect.

Total of 231 students will be selected from Form 1 to Form 4, whereby about 60 students per batch will be purposively included in the study. 7-8 students from each batch will be randomly selected to repeat the questionnaire 2 weeks later.

7.8 Data collection method

7.8.1 Translation process

Translation phases will be done in 3 important steps which are forward translation, backward translation and finalisation of translated version. First, the forward translation process (from English to Malay) will be conducted by two bilingual translators, who are a paediatrician and Malay Language lecturer. The two translations will be synthesized into one document after a thorough discussion in a committee which

addressed any gaps or differences between the two reports. Then, backward translation will be done by the another two bilingual translators, which are another Paediatrician and a medical officer. Both the backward translated version will be compare with the original version, to discuss and resolve through consensus among the committee members to derive to the pre final version that will be used for pilot and psychometric testing.

We have identified few items in the questionnaire that will not be directly translated to adopt our culture and community. In Part III, question regarding race and ethnicity (Item no 38), will be replaced with Malaysian's ethnics/race instead. The word "mother's partner" that extensively used in this questionnaire will be replaced by father/step-father.

7.8.2 Reliability and Validation process

Face validity

Face validation testing, which aims to assess the clarity and comprehensibility of the translated items, was conducted by 10 raters. The raters will be selected from students from different schools in Perlis after having consent from the respective parents. The raters were asked to give a score for each item in the translated questionnaire using rating scale of clarity and comprehension, from 1 (item not clear and not understandable) to 4 (item very clear and understandable). The face validity index (FVI) was computed by calculating the scale average.

Content validity

Content validation of the CEDV-M questionnaire will be conducted by 6 panel of experts who were asked to give a score of 1 (item not relevant) to 4 (item highly relevant), based on the relevancy of the translated items in the CEDV. The content

validity index (CVI) was computed by calculating the scale average. The content validity will be done by 2 paediatric medical officers, 3 general paediatricians and a Family Medicine Specialist.

Validity of the CEDV - M

For the validation of the Malay version of CEDV (CEDV-M), study will be conducted at SMK Derma in Kangar, Perlis. The principal investigator will meet the school authority and teachers where a briefing and presentation will be done to help them understand further regarding this research study. The confidentiality and absolute voluntary participation will be emphasized to the school authority and the students involved.

Total of 4 teachers each representing Form 1 to Form 4 students who agree to participate in conducting this study will be contacted by the researcher for a serial meeting. The teachers will be trained for research procedure and approved study protocol will be given to them for reference at any time during the study period. The researcher will be readily available to contact for any questions pertaining to the study.

The Participant Information Sheet, Parental/Participant Consent and Assent form will be given to the teachers for distribution to the students. Both teachers and students involved in this study will be thoroughly explained and emphasized on the confidentiality and absolute voluntary participation. This is to avoid any possibility of feeling being forced to participate among the students. Using purposive sampling, about 60 students from each form will be enrolled for the first part of the study. Approximately 2 weeks will be used to disseminate information regarding the study to allow an ample time to gain voluntary consent and participation from parents and students.

The questionnaire is self-administered through an online platform, Google Form. Once the consent and assent forms from the parents and students who agree to involve in the study are collected, a link to the CEDV-M questionnaire will be given to them individually. A written instruction on how to answer the questionnaire will be provided together with the link. The researchers' contact information will be included if any questions or concern arise. The students also may discussed with the trained teacher for guidance.

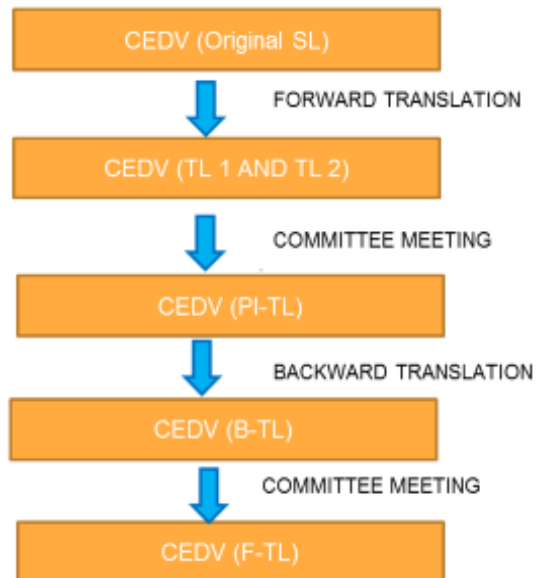
Google Form is an online questionnaire tool that is very user friendly and widely used thus the students must be already familiar on how to use it. They can choose to answer at their own time within 3 days of link given. Through google form, only completed questionnaire can be submitted and they need to answer accordingly.

For the second part of the study, selected 29 students will answered the CEDV-M after 2 weeks apart for stability testing. The format on answering the questionnaire is remained the same. As an act of gratitude, a certificate of appreciation will be given for those who successfully completed the questionnaire.

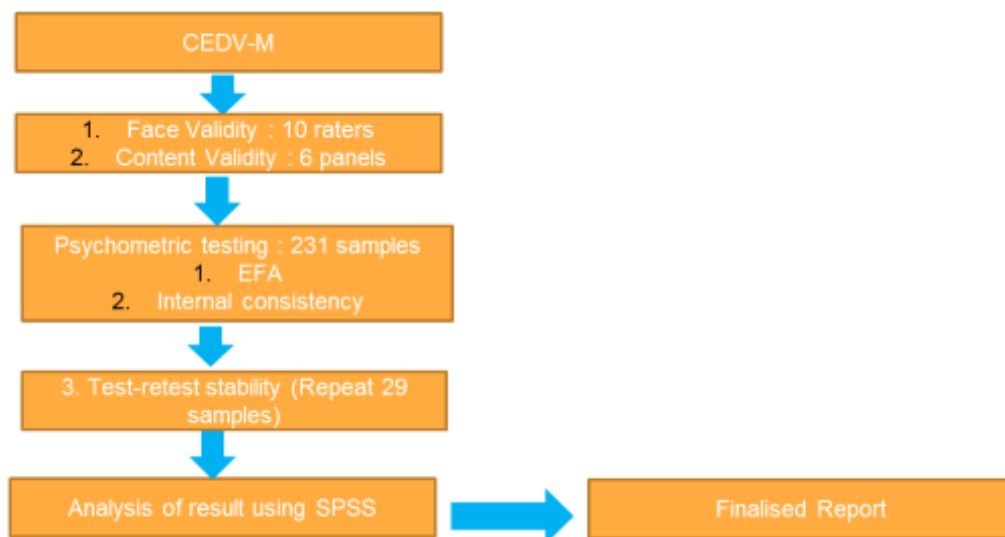
Each of student will be assigned with a unique code number to link to the completed questionnaire. List of names and corresponding code number will be kept by in-charged teachers for 2 weeks and destroyed once all questionnaires are completed.

7.9 Study flowchart

Translation Phase



Validation Phase



7.10 Data analysis

Data will be entered and analysed using SPSS version 22. Descriptive statistics will be used to summarise the socio-demographic characteristics of subjects. Numerical data will be presented as mean (SD) or median (IQR) based on their normality distribution. Categorical data will be presented as frequency (percentage).

For content validity, we will be using rating, then calculating the Content validity index (CVI). Almost similar to face validity, also using rating and calculating Face validity index (FVI). The psychometric testing used to evaluate reliability of the questionnaire are, via Cronbach's alpha for internal consistency and inter-class correlation for stability. Exploratory factor analysis will be used to determine the construct validity.

8. EXPECTED RESULTS

Table 1: Demographic data

Data	N	mean	%
Age			
Gender			
Race			
Where child lives			
People child lives with			

Table 2: Frequency of items/subscale

Data	Never (%)	Sometimes (%)	Often (%)	Almost Always (%)	Missing (%)
Level of violence Q1. Adults in your family disagree Q2. Mom's partner hurt her feeling Q3. Mom's partner stopped her from doing something Q4. Mom's partner stopped her from eating/sleeping Q5. Mom and her partner argue about you Q6. Mom's partner hurt pet in the home Q7. Mom's partner broke/destroyed something Q8. Mom's partner hurt her body Q9. Mom's partner threatened to use weapon Q10. Mom's partner hurt her with gun, knife, object					

Table 3: Face Validity Index

	Rater 1	Rater 2 -----Rater 10					Raters in Agreement	I-FVI	UA
Item									
Q1									
							S-FVI/Ave		
							S-FVI/UA		
Q42									

Table 4: Content Validity Index

	Expert 1	Expert 2 -----Expert 6					Experts in Agreement	I-CVI	UA
Item									
Q1									
Q42							S-CVI/Ave		
							S-CVI/UA		

Table 5: Exploratory Factor Analysis

Items	Rotated Factor Loadings				
Q1	1	2	3	4	5
Q42					

Table 6: Internal Consistency

Data	N of items	Cronbach's alpha
Level of violence		
Community exposure		
Involvement		
Risk factors		
Victimisations		
Total		

Table 7: Test-Retest Analysis

Data	Test 1 (mean)	Test 2 (mean)	r	t
Level of violence				
Community exposure				
Involvement				
Risk factors				
Victimisations				