



Translation and cross-cultural adaptation of the children's exposure to domestic violence scale (CEDV) from English to Swahili

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ABSTRACT

Most scales developed to assess childhood developmental outcomes are western-based and are written in the English language. This study aimed at translating and cross-culturally adapting the CEDV scale from English to Swahili to meet the social-cultural context of Tanzania and to enable Tanzanian children to effectively associate their exposure to inter-parental violence. The study was conducted in Iringa, Southern Tanzania, involving a sample of 247 i.e., 236 children (9–12-year-olds) and 11 adult participants. The adults comprised seven translators, a clinical psychologist, a childhood assessment expert, and two primary school teachers who were involved in translation work and adaptation evaluation workshops; selected using purposive and snowball techniques. Furthermore, a sub-final Swahili CEDV version was pretested with 10 purposively selected bilingual school-based child participants using cognitive interviews; while a survey with 210 randomly selected school children pilot tested a final CEDV Swahili measure. A 40-item Swahili CEDV scale, with good internal consistency ($\Omega = 0.89$) emerged. Further testing of the Swahili CEDV for its validity is warranted to allow researchers and clinicians to be availed a measurement scale that is culturally relevant, reliable and valid for assessing Swahili speaking children's exposures to inter-parental violence.

1. Introduction

1.1. An overview of Children's exposure to Inter-parental violence

As many as 275 million children worldwide are being exposed to violence in the home (Unicef, 2006). Children experience inter-parental violence through direct witnessing (seeing or hearing), or perceiving violent events e.g., the sound of yelling, crying or hearing terrifying screams, sensing the smell of blood, the feel of being shoved against the wall when trying to intervene, fear, direct involvement or experiencing the aftermath (e.g., noticing the mother's injuries) or hearing about it from others (Rossman, et al., 2000; Ponzetti, 2003; Edleson et al., 2007; Mbilinyi et al., 2007). Effects of the exposure to inter-parental violence include psychopathology, neurobiological changes, poor growth, and nutrition in prenatal stage and during the first 36 months of life, internalizing problems like insecurity, sadness, and anxiety, and externalizing problems e.g., adjustment problems like disobedience and aggression, poor physical and mental health, and lower academic achievement (Evans et al., 2008; Ghazarian & Buehler, 2010; Yount

et al., 2011; Lourenço et al., 2013; Jouriles & McDonald, 2014; Tsavoussis et al., 2014; Campo, 2015; Izaguirre & Calvete, 2015; McDonald et al., 2016; Vu et al., 2016; Coe et al., 2017; Sharp et al., 2020; Carter et al., 2022). Most studies on the magnitude and effects of child exposures to inter-parental violence are from high income countries with limited information from the lower income contexts of sub-Saharan African countries.

1.2. Children's exposure to Inter-parental violence in Africa, East Africa, and Tanzania

Intimate partner violence is one of the most reported types of violence in Africa. A systematic study on the global prevalence of intimate partner violence reports higher estimates from Sub-Saharan Africa with highest rates in Central Africa (65.6%) and lowest in Southern Africa (29.6%) (Devries et al., 2013). The prevalence is said to be higher in low- and middle-income countries like Africa due to the high social acceptance of violence and poor socioeconomic status (Kebede et al., 2022). The overall magnitude of all forms of intimate partner violence in

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East African countries is reported to be about 33%, with the highest intimate partner violence occurring in Uganda (14.9%) and the lowest in Comoros (0.87%) (Kebede et al., 2022). Despite the prevalence of intimate partner violence in Sub-Saharan Africa, there is limited evidence of children's exposure to inter-parental violence. However, Hillis et al., (2016) report in a systematic review that at least 50% of children in Africa between the ages of 2 and 17 years experienced one or more forms of violence (excluding spanking, slapping, and shaking) in the past year and 82% when all forms of violence disciplines are included. This study does not clearly indicate the prevalence of children's exposure to inter-parental violence in particular. Traditions, cultural beliefs, and normative values can contribute to the perpetration of inter-parental violence that children are exposed to. There is limited insight on child exposure to inter-parental violence in East Africa and the effects of the same, Tanzania included. However, a survey on violence against children in Tanzania based on a national representative sample of respondents aged 13 to 24 years who were asked about their childhood experiences showed that nearly 28% of girls and over 13% of boys had experienced sexual violence, over 70% of girls and boys experienced physical violence while more than a quarter experienced emotional violence, but did not clearly establish the types of violence, prevalence, and which were directly perpetrated by parents. (Unicef, Centers for Disease Control [CDC] & Muhimbili University of Health and Allied Sciences [MUHAS], 2011). Reported implications of exposure to violence in East Africa include anxiety disorders, stunting, and underweight, revictimization, perpetration, distress, newborn deaths, infant and children under five years' deaths, adverse child nutritional and physical developmental problems, violation of child rights, and destructive negative behavior (Roman & Frantz, 2013; Mbuti, 2017; Neamah et al., 2018; Slopen et al., 2018; Memiah et al., 2021).

1.3. Measurements of children's exposure to Inter-parental violence

To understand the dynamics and prevalence of children's exposure to inter-parental violence, standardized methods examining different dimensions of exposure are usually used (Edleson et al., 2008). Some scales designed to measure childhood exposure to domestic violence include Things I Have Seen and Heard (Richters & Martinez, 1990) – a child self-report tool assessing the frequency of exposure to home and community violence, the Children's Perception of Inter-parental Conflict Scale (CPIC), a 48-item self-report measure designed to understand children's perspectives and the extent to which they are exposed to parental conflict (Grych et al., 1992), and the 42 items self-report Children's Exposure to Domestic Violence (CEDV) Scale (Edleson et al., 2008). Others are The Violence Exposure Scale for Children-Revised (VEX-R); a 25 items self-report scale measuring childhood violence experiences and witnessing using drawings and pictures to visualize response options (Fox & Leavitt, 1996), and the Juvenile Victimization Questionnaire (JVQ) measuring direct and indirect victimization and a few items on domestic violence (Finkelhor et al., 2005).

1.4. Limitations of children's exposure to domestic violence measurements

These measurement scales are useful for scoring children's and adolescents' exposure to various forms of violence in families, schools, and communities. However, most of them focus on general violence while examining different encounters and developmental outcomes of children's exposure to domestic violence (Edleson et al., 2008). The Children's Exposure to Domestic Violence (CEDV) scale is exceptional as it asks directly about a child's exposure to adult domestic violence, the manner in which the child has been exposed, the actions of the child in the violent situation and involvement in violence incidences (Edleson et al., 2008). All of these scales, their originality in English linguistic and cultural orientation (Ringwalt, 2008; Chamberlain, 2016) makes them less relevant to most non-western cultures like those in Africa. Items

translated into a different language or cultural context different from the target group's usually retain the contextualized ideas and meaning (Mason, 2005). This shortcoming also applies to the CEDV despite its validity and reliability in measuring dimensions of children's exposure to inter-parental violence (Khattoon et al., 2014; Sajadi et al., 2014; Pinto Junior et al., 2017; Díez et al., 2018). While the CEDV was developed in the cultural context of the United States of America (USA) (Edleson et al., 2008), a recent systematic review of studies that have used the CEDV across the globe, except in sub-Saharan Africa, shows studies which translated or adapted the CEDV scale maintain an acceptable internal consistency across diverse populations, of above 0.70 (Ravi & Tonui, 2020). This review did not, however, identify studies that had adapted the measure for use in an East African context.

In some East African countries, using a measure worded in English would not allow comprehension by children in middle childhood. For example, children in Iringa Region in Tanzania, whom this study focuses on, predominantly speak local ethnic languages as well as Swahili. A Swahili translation and adaptation of the tool will better enable their comprehension of items aiming to capture Tanzanian children's experiences with inter-parental violence. First, an adapted translation of the scale from English to Swahili creates a tool that can capture social-cultural nuances more effectively and increase children's ability to relate to the items when assessing their exposure to inter-parental violence. It will also bridge a gap in assessing exposure to inter-parental violence for the large family of Swahili speakers in Eastern Africa as well as Comoros, Mozambique, parts of Somalia, Malawi, Zambia, South Africa, Madagascar, Yemen, Oman, and the Gulf region, mainly the descendants of migrants from Eastern Africa, just to mention a few (Lodhi, 1993; Okombo & Muna, 2017). Consequently, an adapted and translated version of the CEDV based on data from a Swahili speaking community of children would give the region a relevant measure without requiring skilled human resources if it were to be developed from scratch (Rode, 2005).

1.5. The current study

Considering the African estimates for violence against children, several countries across the region including Tanzania have developed national frameworks, policies, or guidelines recognizing the impact of violence against children (Network, 2017). However, interventions and childhood assessment tools for children's exposure to inter-parental violence, in particular, are limited. One of the interventions is the Stepping Stones and Creating Futures intervention in South Africa targeting intimate partner violence reduction among 18–24-year-olds (Jewkes et al., 2014), and the SASA community mobilization intervention in Uganda to reduce intimate partner violence and HIV among 18–49-year-olds (Kyegombe et al., 2015). The current study is important as it unravels the need for studies on the prevalence of children's exposure to inter-parental violence per country in Africa, developing childhood interventions and childhood assessment measures; newly developed or translated. This study aims to: a) Describe the translation and cultural adaptation of the CEDV scale from English to Swahili b) Pilot test the final Swahili version of the CEDV and c) Determine its preliminary psychometric properties.

2. Methods

This measure adaptation study adheres to the idea of full disclosure, including sharing materials developed (e.g., translation appendices from <https://osf.io/ng574/>) during the process of adaptation. This will enforce effective inquiry and replication in future studies (Peters et al., 2012). The materials are shared as [supplementary files](#) to this study.

2.1. The CEDV scale

The CEDV is a 42-items self-administered scale assessing children's

exposure to domestic violence for those aged 10–16 years (Edleson et al., 2008). It has three sections: The first ten questions assess children's experiences to types of adult domestic violence; each with response options organized in a 4-point Likert-type scale, with choices: "never", "sometimes", "often" and "almost always". If "never" is selected, the child moves to the next question. If options "sometimes, often or almost always" are chosen, the child is also required to indicate how he or she knew about the domestic violence. If options "sometimes, often or almost always" are chosen, the child is also required to choose from options which portray how he or she knew about the domestic violence e.g., "I heard about the fight after it happened" or "I heard about the fight as it was happening". Section two has 23 questions on exposure rates, particularly involvement in violence, risks, and other forms of victimization with similar response options of never, sometimes, often, and almost always. Section three includes socio-demographic information with nine questions including gender, age, race, and ethnicity, current living situation, and family composition. Find the original scale's details at <https://www.jedleson.com/cedv-scale>.

2.2. Participants

A total of 247 participants in Iringa Region (11 adults and 236 children aged 9–12 years) were engaged in different stages of the study. Iringa was a selected study site because previous reports indicated a high rate (54%) of community and gender-based violence in the region (Simmons et al., 2016). Children aged 9–12 years were randomly selected from government primary schools ($n = 210$). For instrument translation and evaluation workshops, professional translators ($n = 7$), a clinical psychologist ($n = 1$), a childhood assessment development expert ($n = 1$) and primary school teachers ($n = 2$) were selected using purposive and snowball sampling techniques. Proficiency in English and Swahili languages was the selection criteria and each participant was assigned a specific role.

2.3. Research Ethical approval

Ethical approval was obtained in 2018 from the National Ethics Review Committee (NATREC) Institute for Medical Research (NIMR) under reference NIMR/ HQ/R.8a/Vol.IX/28.34. Iringa Municipal Council, through the Regional Administrative Secretary's Office, granted permission to access study participants. Heads of primary schools where children were sampled gave access to children in their schools and their parents and guardians for their consent for child participation. Parents and guardians who were ready for their children to be engaged in the study gave their written consent. Only children whose parents or guardians signed consent forms were engaged in the study. Children were informed about the nature of the study and an informed assent was verbally sought from them. Reactivation of trauma was anticipated thus a clinical psychologist was present throughout data collection to attend to children referred for psychological support.

2.4. Procedure

2.4.1. Study design

A sequential exploratory mixed methods design was used i.e., qualitative data collection and analysis, followed by the collection and analysis of the quantitative data (Creswell, 2014). The qualitative approach explored conceptual and cultural nuances, comprehension, and identification of relevant adaptable scale items through focus group discussions (FGDs), in-depth interviews (IDI), and cognitive interviews. A quantitative survey was used to gain children's insights on the Swahili translated and adapted scale during pilot study for generalization i.e., to be used by Swahili speaking children. Data collection occurred in three main steps (see Table 1).

Literature was reviewed to explore the existing CEDV translations; Spanish (Díez et al., 2018), Portuguese (Pinto Junior et al., 2017),

Table 1

Translation and Cultural Adaptation Procedure.

Step 1: Forward translation and Back-Translation:	
Translation of the original text (American English)	
Generating three independent Swahili translations from three independent translators	
Evaluation Committee for the three independent Swahili translations	
Focus group discussions with children on a single merged Swahili Version	
Translation of the Swahili Version to English (Tanzanian context)	
Evaluation Committee for the English Version	
Focus group discussions with children on the English Version	
Step 2: Pretesting through Cognitive Interviews	
Forward translation of the English Version to Swahili version II	
Evaluation Committee for the Swahili Version II	
Cognitive Interviews and analysis of the Swahili Version II	
Pre-testing the Swahili Version II	
Revision and Adjustments	
Revised Swahili Version	
Step 3: Cross-Sectional Quantitative Survey	
A survey with 210 children using the Revised Swahili Version	
Revision and adjustments based on field observations	
Final Swahili CEDV scale	

Persian (Sajadi et al., 2014), and URDU (Khatoon et al., 2014) translations were found. The original scale's author i.e., Professor Jeffrey Edleson was consulted through electronic mail, confirming the absence of a Swahili CEDV translation (Van Widenfelt et al., 2005) and granted permission to translate and culturally adapt the CEDV scale into Swahili.

2.4.2. Translation and cultural adaptation procedures

2.4.2.1. Forward and Back- translation. Three translators from academic institutions translated the original English CEDV scale into Swahili. Conceptual equivalence for each item or phrase, simplicity of terms, Swahili cultural and linguistic adaptation for easy comprehension for 9–12-year-old children were emphasized. Three independent Swahili translations were produced, assessed by an evaluation committee comprising the three translators, an expert in childhood assessment scales and the research team (principal investigator and two research assistants). Qualitative descriptions of linguistic discrepancies and cultural relevance of the scale items were discussed and consensus reached producing a single CEDV Swahili version. An FGD with ten children (six boys and four girls), aged 9 and 12 years discussed it item by item and the construct supposed to be measured by the scale. Discrepancies, ambiguities, item irrelevance, and alternative terms were noted producing a single Swahili Version.

The single Swahili version after the FGD was independently translated back into English by a different translator providing conceptual and cultural equivalence of the scale's items in the Swahili culture. Swahili language nuances were taken into consideration. An evaluation committee of the back-translator, a child clinical psychologist, two primary school teachers and the research team provided qualitative descriptions about whether expressions of each item in the English version (Tanzanian context) were conceptually equivalent to the original text (American context). Semantic and cultural discrepancies were noted and the English version items were refined producing the English version evaluation committee version, assessed by a FGD of six bilingual (Swahili and English) children (three boys, three girls) from a public English Medium primary school. Items' comprehension was improved and alternative terms for problematic items were suggested. English nuances were noted and adjustments were made creating the FGD English version.

2.4.2.2. Pretesting through cognitive interviews. Prior to pretesting the CEDV scale, the FGD English version was translated back into Swahili by two linguistics lecturers (unfamiliar with the original text) from the Tanzanian culture as opposed to the source text which is contextualized in the American culture, producing Swahili version II. A committee of two translators and the research team assessed the Swahili version II items and selected the final scale's items for pretesting i.e., the Swahili version II of the evaluation committee. *Cognitive interviews* facilitated by four RAs and the study PI were conducted with 10 children to pre-test the Swahili version II of the evaluation committee examining whether children's interpretation of each item was consistent with the intended meanings (Ryan et al., 2012). A refined Swahili version II of the cognitive interviews was produced. Probing and think-aloud techniques were used where children verbalized their thoughts and elicited how they understood each item (Mehrotra, 2007). Children's comprehension difficulties, misinterpretations, irrelevant responses, and proposed alternative terms for asking questions were noted, and an aggregation of field notes from cognitive interviews produced a Swahili revised version.

2.4.2.3 Cross-sectional quantitative survey for validation of the revised Swahili CEDV scale. A total of 210 children were engaged in the validation of the revised Swahili CEDV scale. The sample size estimate was based on Gorsuch's (1983) proposition that the ratio be at least five participants per item for valid findings. Pretesting the 42 CEDV items involved 210 schoolchildren. Children filled in the Swahili revised version scale under the supervision of five RAs, reporting their experiences of domestic violence exposure and indicating how they knew about the violence occurring at home. The culturally adapted scale was fine-tuned by accommodating adjustments from field observations, generating the final Swahili version of the CEDV scale (see Appendix A).

2.5. Data analysis procedures

Content data analysis was a technique used to analyze qualitative data. Translation field notes were examined on the basis of the meaning beyond sentences i.e., making sense of language used per respective culture (American vs Tanzanian), comprehension level of 9–12-year-olds, and cultural relevance. Data from FGDs were reviewed and analyzed based on emerging suggestions from children's generated meanings and cultural relevance of the scale items resulting to modification of scale items for easy comprehension. Cognitive interviews were reviewed then analyzed i.e., producing summaries and recommendations from data and sources of cognitive error, comparing responses across participants, and reaching conclusions (Willis, 2015). Individual interviewer's and team observations and aggregation of data were also incorporated in participants' summaries and recommendations as additional insights to reaching conclusions. Scale reliability was determined by measures of internal consistency of the Swahili CEDV scale using IBM SPSS statistics 24, calculated from Cronbach's alpha statistics to compare with the previously published psychometrics. Alpha scores were used to test how strong the relationship between and among the scale's items was between the Swahili and English versions. Exploratory Factor analysis (EFA) was then performed to first determine whether the Swahili CEDV scale had the same dimensions to those reported in the original scale and to remove items with low reliabilities in order to increase internal consistency. To enhance reliability scores that measured only one underlying construct (unidimensionality) i.e., connectedness with the Swahili CEDV established subscales, omega estimates were used (Peters, 2014).

3. Results

3.1. Participants' characteristics

Child participants (N = 210) aged between 9 and 12 years with a mean age of 10.4 (standard deviation (SD) = 1.090) years, were engaged in the cross-sectional quantitative survey for piloting the revised Swahili CEDV scale. They were evenly distributed by sex with 49.5% (n = 104) being girls and 50.5% (n = 106) boys; overall 28.6% (n = 60) were 10 years old, and 27.6% (n = 58), 23.8% (n = 50) and 20% (n = 42) were 9-, 11- and 12-year-old respectively.

3.2. Forward and back translation

Forward and back translation field notes suggested the Swahili translation was quite close to the original CEDV scale. Discrepancies between the English and final Swahili version per translation stages were identified and adjusted. Consensus reaching about the discrepancies was based on considering cultural and study relevance, children's age (9–12 years) and their comprehension levels. We encountered difficulties in translating the title of the scale, particularly the term exposure. We relied on discussions with the author, translators, and sampled populations to work out Swahili equivalents.

Some items were deleted while some words were replaced for conceptual and cultural equivalence. Item 6 and 38 were deleted during forward translation as they lacked semantic and contextual relevance i.e., item 6 "How often has your mom's partner hurt or tried to hurt a pet in your home on purpose?" and item 38 "What race or ethnicity do you consider yourself?" Options 6, 7, 8, and 9 were deleted from question 41 "Who are the people you live with?"; options 7 and 8 portrayed same sex relationships and item 6 and 9 were redundant. The word gun was replaced with "panga" i.e., the machete while community was rephrased as society.

3.3. Children's comprehension during cognitive interviews

Children had difficulty comprehending certain terms during cognitive interviews. Misunderstood terms and recommendations are indicated in Table 2. They were also challenged by the think aloud cognitive interviewing process, evidenced by frequently giving direct responses to questions rather than explaining *how* their understanding was formed. For instance, instead of explaining the understanding of what "every day" meant one child said, "every single 'GOD's day' (used as a term of emphasis) I do the dishes, I have never skipped unless my mother helps me or for example, I go to school from Monday, Tuesday, Wednesday, 'every day,' till Saturday." Note the repetition of the phrase every day in the course of meaning making processes, yet the interpretation is correct.

3.4. Validation of the revised Swahili CEDV scale

3.4.1. Comprehension of instructions and scale administration

Children's difficulties to comprehend instructions and scale items during the survey were noted. During self-administration of the scale, children raised several queries (see Table 3). It was evident that self-administration was a burden particularly for children aged 9 and 10 years as they spent between 60 and 90 min completing the questionnaire, whereas children aged 11 to 12 years spent between 20 and 30 min doing the same exercise.

3.4.2. Swahili CEDV Scale's content

The final Swahili CEDV scale has 40 items. Part I contains nine items, and Part II has 23 items having five subscales that measure (1) Violence, (2) Exposure to Violence at Home, (3) Exposure to Violence in the Community, (4) Involvement in Violence, (5) Risk Factors and (6) Other Victimization. Part III contains eight demographic items. Each item in

Table 2
Cognitive Texts and Recommendations for Repairing CEDV Scale Items.

Scale Items	i. Text summary	• Recommendations
“Umiza hisia” i.e., hurt feelings- from Qn 2, 14, 21, 22, 29	<p>ii. Hurt feelings was interpreted as: “kujisikia vibaya” i.e., feeling bad, “kuwa na wasiwasi” i.e., being worrisome “kuwa na huzuni kila muda” i.e., being sad all the time.</p> <p>Comprehension error from a participant e.g., “hisia ni maneno kama vile amenichokoza, amenipiga, ametukana, kuzusha uongo” i.e., feelings are provoking words, when someone beats or insults me, or fabricates a lie”</p> <p>Response error e.g., “Waligombana mpaka wakawa hawaelewani” i.e., they fought to a point of disagreement.</p>	<ul style="list-style-type: none"> Use children’s interpretation to adjust the phrase “hurt feelings” Combine the phrase hurt feelings (umiza hisia) with “Kumfanya ajisikie vibaya” i.e., ‘make (her-your mother) feel bad’ to aid comprehension and interpretation
Qn 10. “...from another room different from where the fight was taking place”? Qn 11. “...from the same room where the fight was taking place”?	<p>i. Questions seemed too long that they affected comprehension</p> <p>Participants found “Question 10 and 11 to be the same” (from the Swahili version of the cognitive interviews)</p>	<ul style="list-style-type: none"> Bold key parts of the questions to maintain focus and aid comprehension, and interpretation Slightly increase font size for the location where the child is at during the fight to aid recall, distinguish the two questions, and help prime the participant’s attention and response to QN.11.
Qn 13. “...gotten physically involved trying to stop the fighting”?	<p>i. The forward and back translations are correct though under translated</p>	<ul style="list-style-type: none"> Accommodate “...gotten physically involved trying to stop the fighting”, using children’s suggestions. Retranslate the phrase to capture the original scale’s meaning
Qn 28. “video games”	<p>i. Interpretations were; “Michezo ya video ni wale watu wanaoigiza ili wafurahishe watu wengine” i.e., “video games are those people who act to entertain others”.</p> <p>“Mikanda ya TV au video” i.e., Video cassettes. “Ni kama mchezo tu ambao unachezea simu, TV au rimoti” i.e., “it’s just a game played using a mobile phone, the TV or a remote”.</p>	<ul style="list-style-type: none"> Rephrase by indicating the modes through which video games are played as elicited in participants’ responses to aid correct comprehension and interpretation of the question”
The phrase “watu wazima” i.e., adults in Qn 1, 12, 29 and 30	<p>i. Multiple meanings in Swahili i.e., adults and healthy people, the latter interpreted by children as not being sick.</p>	<ul style="list-style-type: none"> Use children’s suggested alternative Swahili phrase “watu wakubwa” which also means adults.
Qn 31. “kujamiiana” i.e., having sex	<p>i. A very sensitive question, participants were shy and uncomfortable</p>	<ul style="list-style-type: none"> Add a directive instruction to make children at ease to respond to the questions

Table 2 (continued)

Scale Items	i. Text summary	• Recommendations
	<p>Silence, shy smiles and “I don’t know” were noticeable feedbacks</p> <p>The interpretations given were: “kubaka au kulawiti” i.e., rape or sodomy, “kufanya ngono” i.e., having sex and “kulazimishwa kimapenzi” i.e., forced sexual intercourse</p>	<p>about sexual violence</p> <p>Provide alternatives for translations accommodating participant’s words</p> <p>Replace the phrase “amekulazimisha kujamiiana nae” i.e., forced you to have sex with him/her to accommodate children’s commonly used terms i.e., “amekulazimisha kimapenzi / kufanya ngono” which all connote forced sexual intercourse.</p>

the first two parts was answered using a 4-point Likert-type scale. Answer options changed to “It has never happened, Few times, Many times, and Every day” from the original text options of “Never, Sometimes, Often, and Almost Always.” The pronoun “it” in the answer options for the item “How did you know?” was replaced with phrases from the main parts of the question for clarity. E.g., Qn.3. “I heard about it as it was happening changed to I heard about my father stopping my mother from doing something as it was happening.”

Instructions were adjusted while examples for item illustrations were blended in the items, enabling children to select one answer only from the items and not from the examples in bullet points as well. Bullet points for Item 2 for example were replaced by commas i.e., calling her names, swearing, yelling, threatening her, screaming at her. The Swahili CEDV scale maintained the phrase “baba yako” i.e., ‘your father’ in the items presented as your mother’s partner in the original scale for consistency. Question 8 in the original scale was a duplicate; the duplicated question no.8 was changed to 9. Ticking answers was replaced with circling. Answer options for item 33, which is item 34 in the original scale changed to: 1. “I don’t remember if they have ever fought, 2. They started fighting this year, 3. They started fighting since when I was in standard___ 4. They have been fighting for a long time that I can’t remember when they started fighting and 5. It has never happened.

3.5. Swahili CEDV reliability scores

The Swahili and English CEDV scales and their subscales in comparison with the original scale are shown in Table 4. The 32 items of the Swahili CEDV scale were factor analyzed to determine the underlying factor structure of the translated scale. An exploratory factor analysis with oblim rotation was performed, with Eigen values greater than one.

These factors were examined in terms of item content and underlying dimensions that were loaded at 0.40 or higher on multiple factors. After the factor analysis of the Swahili CEDV scale was performed, some subscales were saturated in other variables of which two subscales emerged as the most consistent and culturally relevant sub-scales i.e., 16 items for the exposure to home violence ($\Omega = 0.88$) and 10 items were loaded on the second factor which reflected a child’s involvement in violence ($\Omega = 0.78$) (accommodating community violence, sexual violence, physical and verbal violence respectively), and a total Swahili CEDV measure ($\Omega = 0.89$). Omega was opted to estimate reliabilities for the current study so that each item measures each variable with the same degree of precision (Hayes & Coutts, 2020). A logarithmic transformation was applied to both the CEDV subscales to minimize skewness and increase linearity (Tabachnick & Fidell, 2013). These factor analysis findings are contrary to the original measurements’ total factors i.e., five subscales for the CEDV including exposure to violence, involvement in violence, community violence, risk factors, other victimization (Edleson et al.,

Table 3
Observations from the Pilot Survey.

i. Items	Observations
ii. Qn 1–9: answer option “It has never happened”	Selected yet the “how did you know” part was answered instead of being skipped to the next question
iii. Only chose “other” if Few times, Many times or Every day is chosen	<ul style="list-style-type: none"> Chosen despite having selected “It has never happened”. <p>Same examples used in the question are paraphrased as an answer for “Other” or a negative response was written e.g., My father has never threatened my mother nor verbally abused her. Note, the selected answer given was “A few times”.</p>
iv. Answer option 11 for Qn. 39 i.e., “... for any other person that you live with”	<ul style="list-style-type: none"> One person or more mentioned in options 1–10 are repeated. Add “...who is not listed above...” to the sentence for clarity.
v. Numbering of answer options in Qn. 33,34,36,37,38,39	<ul style="list-style-type: none"> Replace numerical numbers with roman numbers to differentiate questions from answer options.
vi. Response irrelevance for Qn 33	<ul style="list-style-type: none"> Inconsistency between Qn 33 responses and options in part 1 and 2. E.g., it has never happened was selected yet children responded about the time when parental fighting had begun.
vii. The instruction for Qn. 39	<ul style="list-style-type: none"> Answers are both circled and ticked while putting a tick is the instruction indicated in the questionnaire
viii. Qn. 40 the phrase “shughuli ya kifamilia” i.e., family activity.	<ul style="list-style-type: none"> Use an alternative word related to the majority of responses i.e., “kazi za nyumbani” i.e., “house chores” <p>Generated responses are unrelated to the intended meaning e.g., “baba na mama” i.e., “father and mother”</p>
ix. Participants characteristics	<ul style="list-style-type: none"> Only one child could not read and write <p>Typographical and grammatical errors were elicited in the questionnaires which were difficult to comprehend</p> <p>Illegible handwritings; completely incomprehensible</p> <p>Physical discomfort after the first hour of administration which was resolved through a couple of breaks for a snack and play time especially for 9- and 10-year-olds</p> <p>Children’s carelessness in handling of the questionnaires (dusted, torn, scribbled on)</p>
x. Comments on the self-administration of the scale	<ul style="list-style-type: none"> Enough time and resources are recommended for effective researcher administration especially with bigger samples. <p>Little attention was paid in adhering to instructions</p> <p>Answer options seemed complicated especially to children aged 9 and 10, particularly on part one</p> <p>Self-administration was difficult for 9 and 10-year-olds. Researcher administration is highly recommended.</p>

2008).

4. Discussion

4.1. Reliability of the Swahili CEDV scale

The Swahili CEDV is a reliable scale which can be useful for measuring children’s exposure to domestic violence and violence in community settings. Translation of the CEDV scale from English to Swahili was completed with 40 items i.e., 32 items on violence exposure

Table 4
Alpha Reliability Coefficients of Total and Subscale of the Swahili and English CEDV Scale.

Subscale	No of Items	α Swahili version (Current study)	No of Items	α English version (Edleson et al., 2008)
Home violence	Q1-9	0.77	Q1-10	0.74
Involvement in violence	Q10-16	0.79	Q11-17	0.71
Community violence	Q17-20	0.36	Q18-21	0.50
Risk factors	Q21-28	0.66	Q22-29	0.60
Other victimization	Q29-32	0.42	Q30-33	0.70
TOTAL CEDV	32	0.87	33	0.84

*Note that the Swahili CEDV scale has 32 items instead of 33 as from the original version as items 6 was deleted during translation phases for cultural relevance. Cronbach’s alpha was used to estimate reliabilities for comparison since the English CEDV scale was estimated using alpha.

and involvement and eight on the demographic information. The study contributed to increasing confidence in children’s understanding of scale items adapted to Swahili culture. The culture and language used were familiar to children enabling them to relate easily with forms of violence.

4.2. Cultural and conceptual equivalence

Item 6 “How often has your mom’s partner hurt or tried to hurt a pet in your home on purpose?” was found relevant to the USA where over 3/4 of children live with pets (Walsh, 2017) who are considered members of the family, loyal friends, possessing therapeutic and affection roles (Johnson, 2009). Harming a pet during violence episodes would thus have significant meaning in the scale’s items. However, it is not a norm to keep pets in Tanzania. Dogs are usually kept for security purposes against home intruders, and are not kept indoors. Item 38 “What race or ethnicity do you consider yourself?” was removed because the racial and ethnic divisions have been suppressed in Tanzania since independence, emphasizing civic peace and harmony based on a national identity (Lofchie, 2013). Tanzanian citizens regard themselves as being Tanzanian first, while racial and ethnic identities follow. Children would have experienced difficulty to relate to the item particularly in the context of multi-ethnic and multi-race partnerships (Manyama, 2017).

Only 11 items from question 41 were retained as items 6, 7, 8, and 9 were deleted. Item 6 was about “Mother’s boyfriend or partner”, 7 about “Mother’s girlfriend or partner”, 8 about “Father’s boyfriend or partner”, and 9 about “Father’s girlfriend or partner”. Such adjustments changed the sequence of numbering of questions in the Swahili CEDV version. Items 7 and 8 were deleted because same-sex relationships are illegal (Tanzanian Penal Code, CAP 16) and culturally unacceptable. Items 6 and 9 were deleted to avoid duplication because culturally, any parent’s partner to a child is considered to be a child’s mother or father. The choice for “father” to replace “mother’s partner” is more normative. Gun was replaced with the machete as it is commonly used weapon in the course of interpersonal violence in Tanzania, than a gun.

4.3. Comprehension of scale items

Children were challenged by the think-aloud process during the cognitive interview (Willis, 2005). They had difficulties in explaining how their understanding was formed but were able to show an appropriate understanding of items through examples and elaborations. Children are active agents of narrative understanding i.e., they are involved in the construction of meaning through thought processes (Lyle, 2000). Their understanding is also influenced by the collective culture i.e., a more socially inclusive way of thinking contrary to the more individualistic way of thinking portrayed in the original text. They

suggested the use of “familia yenu” (i.e., your family (family they and others belong to) instead of “familia yako” i.e., your family (family they will start when they get married and have children of their own) saying they do not have a family of their own” yet. The primary education system in Tanzania encourages rote learning, with greater emphasis on content than skills and competencies (Mkonongwa, 2011; Wedgwood, 2015). This may explain why some children had difficulty in grasping the originally phrased items. Greater elaboration with more words and examples in the items was thus necessary for clarity.

4.4. Difficult words to translate

It was difficult to translate the term “exposure”. Exposure is defined in the Swahili English dictionary as to uncover “weka/achawazi, funua”, to endanger “hatarisha”, to disclose “fichua; kashifu”, and to display “onyesha” (Taasisi ya Uchunguzi wa Kiswahili [TUKI], 2000) none of which adequately reflected the intended meaning. Exposure was therefore translated as ‘to experience’ which seemed under translated. It was alternatively translated as direct or indirect witnessing and involvement in violence to have an allusive meaning to the meaning in the original text. The term exposure was retained in the back-translated version whose meaning in the original text accommodates witnessing or seeing violence but also hearing and seeing the aftermath of violence like bruises and wounds on the body of a child’s parent (Edleson et al., 2008).

4.5. Swahili scale Content: Items and instructions

The Swahili CEDV scale gave more confidence to the children for whom English is not their first or second language. For instance, the CEDV administration time was reduced from 60 – 90 min for self-administration for 9- and 10-year-olds and 20–30 min for 11- and 12-year-olds, to 5–15 min for researcher administration. Researcher administration yields more appropriate responses as per field observations. Some children raised concerns about portraying the father as a frequent perpetrator in the scale’s items as from their experience; the mother was also a frequent perpetrator. For example, in item six, How many times has your father broken or destroyed something on purpose? Some children elicited strong verbal opinions about their fathers being victims indicating their fathers would not do that, even before they could select an option for the question. We chose to portray the father as the main perpetrator throughout the scale (originally indicated as your mother’s partner), although we were fully aware of possible reverse incidences where the mother was the perpetrator. Our decision relies on the high level of reported prevalence and etiology of male in comparison with female perpetrators (Devries, et al, 2013; Yimer et al., 2014; Roberts & Harden, 2015). Such studies report that women and children particularly girls face substantial burdens and effects of violence more than men do. Excluding mothers in the items requires further exploration in future studies. Father was used throughout the study for simplicity and consistency to participants.

Directional instruction was added before items 31 and 32 on sexual abuse i.e., *We would like to know children’s experiences whether good or bad. Sometimes, children do things without knowing they are bad or are forced to do such bad things. In the following questions, please tell me what does happen. Whatever you tell me will only be used to understand your experiences.* The instruction aimed at making the child at ease to disclose experiences of sexual abuse which seemed sensitive and uncomfortable to children during the cognitive interviews.

4.6. Limitations and recommendations

Studies reporting children’s exposure to inter-parental violence in Africa, East Africa, and Tanzania in particular are limited. It was thus difficult to estimate the magnitude of children’s exposure to inter-parental violence in Tanzania. Also, the study sample was only drawn

from one region (Iringa) and among children aged 6–12 years. Thus, careful consideration should be made when generalizations are to be made. The current study established the reliability of the Swahili CEDV scale but did not aim to test its validity. Future studies may want to examine the internal and external validity of the Swahili CEDV scale to enhance its accurate application. Translators were ethnically heterogeneous. Slight linguistic errors from their ethnic backgrounds were inevitable; they were adjusted through discussions in the evaluation committees and the author of the original scale. Swahili scale users should note the possible need for some adaptations depending on the culture of different ethnic groups.

Training practitioners, researchers, and students in the development, application, validation, and evaluation of childhood assessment scales is recommended; they would also be able to determine indicators associated with children’s multiple experiences of adversity, its magnitude, and develop interventions.

Children’s exposure to inter-parental violence is a sensitive and private topic. The objectives of the study should be made clear and a good rapport built with children before scale administration to gain their trust and make them feel free to disclose their experiences. Continuous reminders of having being granted consent from an adult (the teacher or parent) and privacy are also crucial as it puts the child at ease during scale administration. The study also recommends training scale administrators like researchers, clinicians, psychology and social work students, practitioners, and policymakers working with children in Swahili speaking countries on the scale content, scope, and application for proper reporting.

5. Conclusion

Translation and cultural adaptation of the CEDV scale was a rigorous, systematic, and scientific procedure. Semantic and conceptual discrepancies and cultural equivalences were noted and thoroughly discussed among the target population and a team of experts. The results indicate a 40-item adaptable and reliable Swahili CEDV scale. The Swahili CEDV can be used in clinical settings, in research, and by practitioners working with children and families to assess the exposure to home violence, estimate its prevalence and plan for relevant interventions. It was vital to translate the CEDV scale to enhance Swahili speaking children’s understanding and thus expression of their experiences of exposure to inter-parental violence. The Swahili CEDV scale has the potential to be used in Eastern Africa to assess exposure to inter-parental violence in Swahili with relevance to the Swahili culture and language. It also has the potential to be used by other Swahili speaking countries with minor dialectical and cultural alterations.

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CRediT authorship contribution statement

Chitegetse Archangela Minanago: Conceptualization, Methodology, Writing – review & editing, Data curation, Formal analysis, Investigation, Project administration. **Rik Crutzen:** Conceptualization, Methodology, Writing – review & editing, Supervision. **Hubertus W. van den Borne:** Conceptualization, Methodology, Writing – review & editing, Supervision, Funding acquisition. **Sylvia F. Kaaya:** Conceptualization, Methodology, Writing – review & editing, Supervision.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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Appendix A. Supplementary material

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