

**Child abuse and neglect and associated mental health outcomes: A large, population-based survey among children and adolescents from Jamaica and Uganda**

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## Abstract

**Background:** Few studies assess how CAN affects adolescents' mental health. Further, the majority of studies conducted to date discount the individual CAN items and report overall prevalence rates for different types of abuse and neglect.

**Objective:** We examined the levels of and gender differences in CAN subtypes, lifetime prevalence of individual CAN items, and the contribution of different CAN subtypes for explaining depression, anxiety, and irritability.

**Participants and Setting:** The sample included Jamaican ( $n = 7,182$ , 60.8% female) and Ugandan ( $n = 11,518$ , 52.4% female) youths.

**Methods:** We used a population-based cross-sectional study design. Youths completed an anonymous survey in school settings.

**Results:** We found some gender differences in the levels of CAN subtypes in each country. Maltreatment behaviors of lesser severity were more commonly endorsed by the youths than those of greater severity. Neglect and emotional abuse were the strongest correlates of depression (e.g., neglect:  $\beta = .23$ ,  $p < .001$  among Jamaican youths; emotional abuse outside the home:  $\beta = .23$ ,  $p < .001$  among Ugandan girls), anxiety (e.g., neglect:  $\beta = .17$ ,  $p < .001$  among Ugandan girls; emotional abuse outside the home:  $\beta = .27$ ,  $p < .001$  among Ugandan girls), and irritability (e.g., emotional abuse in the home:  $\beta = .17$ ,  $p < .001$  among Jamaican boys; emotional abuse outside the home:  $\beta = .17$ ,  $p < .001$  among Ugandan girls) in most samples.

**Conclusions:** These findings will inform policy makers and professional working with youths in Jamaica and Uganda.

**Keywords:** Child abuse and neglect; Depression; Anxiety; Irritability; Adolescents; Developing countries

## **Child maltreatment in Uganda and Jamaica**

Child abuse and neglect (CAN) prevalence figures indicate that approximately 36% of children worldwide have suffered emotional abuse, 22% have suffered physical abuse, 16% have suffered neglect and 18% of girls and 8% of boys have suffered sexual abuse (World Health Organization [WHO], 2014). Notwithstanding the usefulness of worldwide statistics, CAN rates should be considered at country level rather than globally. This is because, in line with the ecological/transactional model of community violence and child maltreatment (Cicchetti & Lynch, 1993), the prevalence and expression of CAN differs across societies. These differences may be affected, among others, by the level and acceptability of violence in general, gender inequality, traditional gender roles, negative attitudes towards women, and acceptability of violent disciplinary behaviors (Krug et al., 2002).

In post-conflict Uganda, for example, the global CAN rates do not seem to reflect the magnitude of the problem. A study conducted in one Ugandan district among 3706 primary school children (age range: 7-18 years, *M* age – 13 years) found that 93% of boys and 94% of girls have experienced physical abuse by school staff. Violence perpetrated by individuals other than school staff was also common. The prevalence of lifetime physical violence perpetrated by such individuals was found to be more common among girls (54.8% vs 43.7% of boys) and sexual violence victimization was also more common among girls (11.8% vs 2.5%). Prevalence of emotional violence and neglect was similar in girls and boys (48.6% vs 49.4%) (Devries et al., 2014). In 2018, UNICEF published the findings from a major survey of violence against children in Uganda. The study interviewed 5,804 children and young people (CYP) about their experiences of sexual, physical, and emotional abuse, and scrutinized prevalence by gender and age. Younger respondents (aged 13-17) were asked to report violence experienced in the previous year and late adolescents (aged 18-24) were asked to report any abuse suffered before the age of 18. Among adolescents, 35% of women,

and 17% of men, reported at least one instance of childhood sexual abuse, with women more likely than men (11% versus 2%) to have been raped before the age of 18 (UNICEF, 2018). Among children, 25% of girls and 11% of boys, reported suffering sexual violence during the previous year, with girls (20%) found to be four times more likely than boys to have been forced into their first sexual experience. Physical violence was prevalent among all groups and, in line with Devries et al.'s (2014) findings, was most frequently experienced outside of the home, perpetrated by school staff in the form of corporal punishment. However, adolescent men (68%) experienced physical abuse more frequently than adolescent women (59%), as did boys (59%) compared to girls (44%). Regarding emotional abuse, one third of adolescents and one fifth of children had experienced this type of violence, most often in the home by a primary caregiver. Importantly, the majority of children (80% of girls; 70% of boys) who reported emotional abuse had experienced multiple incidents in the previous year. Overall, these data suggest 75% of Ugandan adolescents had suffered some form of abuse during childhood, with polyvictimisation evident in one third of those who took part. Whilst detailed data on the psychosocial outcomes were not recorded in the UNICEF (2018) study, unsurprisingly the prevalence of mental distress was found to be significantly higher for almost all CYP who suffered one or more variants of abuse when compared to their peers lacking these abuse experiences. These findings are corroborated by recent studies that found experiences of abuse during childhood were associated with suicide ideations (Culbreth et al., 2021) and a reduction in executive functioning (Ainamani et al., 2021) among Ugandan CYP. Though, a lack of research examining specific mental health outcomes emerging from CAN experiences among Ugandan CYP is evident in the literature.

Child maltreatment is also of high concern in Jamaica, which represents a traditional, patriarchal Caribbean society (Imbusch, 2011). Whilst accurate recent crime statistics are difficult to access in Jamaica, affected by vast under-reporting, available data revealed 8,726

formal reports of child abuse and neglect were received by child welfare authorities in 2012 (Smith, 2016). In one study involving 2,118 Jamaican children (50.5% boys) (data collected in the year 2005), 75.9% and 70.6% of children reported to have experienced psychological abuse and moderate physical abuse respectively in the month preceding completion of the questionnaire (Akmatov, 2011). In a large survey of 15,695 students 10 to 18 years old from nine Caribbean nations (including Jamaica), 47.6% of females and 31.9% of males described their first intercourse as forced or coerced and attributed blame to family members or individuals otherwise known to their family (Halcón et al., 2003). Based on data collected in 2011 from 5,960 household surveys, UNICEF found 85% of Jamaican children under 15 years old report abuse experiences in the home, often in the form of caregiver punishment. Specifically, 72%, and 68%, experienced psychological and physical abuse in the home. Boys (71%) experienced physical abuse more often than girls (65%) and were most frequently the recipients of severe forms of physical abuse (7% of boys versus 5% of girls) (UNICEF, 2013). Another study among Jamaican children aged 11-12 years found more than 97.2% of the sample had experienced intrafamilial physical or psychological abuse by adults in the home, with 84.8% reporting at least one experience of 'severe violence' perpetrated by a primary caregiver (Samms-Vaghan, 2004). More recent estimates suggest 95% of children are still vulnerable to physical abuse in the home and 53% at school, given the persisting acceptance of physical violence against children in Jamaica as a form of corporal punishment (Smith, 2016). Data regarding the prevalence of child sexual abuse (CSA) also suggest CYP are particularly at risk on the island. According to data extracted from the Office of Children's Registry, 6,683 cases of CSA against girls were reported to authorities between 2008-2011 - a large proportion of which involved rape of a child aged 12-15 years (see Miller, 2014). In 2010 alone, 68% of all sexual assault victims in Jamaica were reported to be children and adolescents aged 10-19 years (Smith, 2016) and by 2015, 83% of rapes recorded

by police were committed against adolescent women and girls under the age of 24 - the vast majority of who were aged 10-17 years (UNICEF, 2019). A larger scale crime survey conducted in 2016 found that 20% of adolescent girls (aged 15-19 years) reported having experienced sexual abuse, with 10% reporting that they had been raped at least once during their lifetime (UNICEF, 2019).

As discussed above, several studies have found evidence of widespread CSA among both girls and boys in Jamaica, both inside and outside of the home. Culturally embedded beliefs surrounding male sexual entitlement, poverty, and gang violence are all factors found to contribute to widespread sexual abuse of girls in the home and boys and girls outside of the home. Family members were often found to be perpetrating the abuse against children in the home (UNICEF, 2006) or facilitating their sexual abuse outside of the home, either to avoid retribution by gang members (Immigration and Refugee Board of Canada, 2007) or in exchange for money, food, education, and travel by other men in the community (Amnesty International, 2006; Samms & Cholewa, 2014). Despite these findings, limited contemporary research has investigated population level CAN experiences on the island or the influence of these experiences on children and adolescents' mental health. This is despite some commentators hypothesizing a link between high rates of childhood exposure to violence and abuse and the prevalence of mental disorders in Jamaica (see Hickling, 2020).

Noteworthy, the majority of studies in the area of CAN discount the individual maltreatment items, some of which also reflect maltreatment severity, and report overall prevalence rates for different types of abuse and neglect (Negriff, 2020). In fact, many studies, including those using self-report, record CAN using single item "label questions". Different forms of maltreatment are therefore recorded as either present or absent, with few studies examining abuse chronicity and severity (Norman et al., 2012; Stoltenborgh et al., 2011). These approaches substantially limit our understanding of CAN behaviors and events

that children experience most frequently, as well as cultural manifestations of CAN. A clear presentation of the types of situations that constitute abuse and neglect that children and adolescents are exposed to would allow for developing more effective, population-specific prevention efforts.

### **Consequences of child maltreatment in childhood and adolescence**

Different forms of CAN have been widely documented as significant predictors of internalizing (such as depression and anxiety) and externalizing (such as antisocial and aggressive behavior, risky sexual behavior) problems in adulthood (e.g., Boduszek et al., 2012; Debowska & Boduszek, 2017; Gardner et al., 2019; Hildyard & Wolfe, 2002; Norman et al., 2012). However, while numerous studies show the detrimental effects of CAN on mental health in adulthood, far fewer studies examine these effects in childhood and adolescence (Elmore & Crouch, 2020; Lowthian et al., 2021; Priebe & Svedin, 2008). Studies conducted to date demonstrate that child maltreatment has an adverse effect on youths' internalizing and externalizing symptoms and disorders (Bolger & Patterson, 2001; English et al., 2005; Kukoyi et al., 2010; Li & Godinet, 2014; Oshri et al., 2011). Internalizing problems as a function of CAN include major depressive disorder (Brown et al., 1999) and anxiety disorders (Cohen et al., 2001).

Even fewer studies with youth samples assessed the unique contribution of CAN subtypes for explaining different types of outcomes. Indeed, one of the major limitations of prior research in the area is that adverse childhood experiences (ACEs) were studied cumulatively (a count of exposures) (Liming & Grube, 2018). In a notable exception, Petrenko et al. (2012) found that maltreated children who experienced physical or sexual abuse were at highest risk for caregiver-reported externalizing behavior problems, and those who experienced physical abuse and/or physical neglect were more likely to have higher levels of caregiver-reported internalizing problems. Additionally, Negriff's (2020) study

among adolescents using a self-report ACEs questionnaire showed that all forms of maltreatment (physical abuse, sexual abuse, emotional abuse, and neglect) were associated with symptoms of depression. In a meta-analysis of eight cohort studies from the United States, Australia, and New Zealand mostly relying on official records of CAN, physical abuse, sexual abuse, and neglect increased the risk of depression and anxiety disorders (Li et al., 2016). In another study conducted among 171 Jamaican adolescents aged 12-18 years ( $M = 15.14$  years), Smith and Moore (2012) sought to investigate whether experience of verbal aggression and physical punishment in the home may be associated with adverse psychosocial functioning. The authors reported that experience of parental verbal aggression, though not physical punishment, was positively associated with depression-anxiety and anger-irritability scores, alongside other adverse outcomes including substance misuse and suicide ideations. In this study, however, participants were recruited from one secondary school in Kingston and so its findings cannot be generalized to a larger population of adolescents living in Jamaica. Despite the small scale nature of the study, findings offer early insights into the potential negative impact of specific forms of intrafamilial aggression upon adolescent psychosocial functioning in Jamaica.

Interestingly, Elmore and Crouch (2020), using a large U.S. dataset from the 2016-2017 National Survey of Children's Health, revealed that two internalizing disorders, anxiety and depression, form differential associations with ACE categories. More specifically, associations for almost all ACEs were stronger with depression. This result indicates that different internalizing disorders should *not* be clustered together when studied in relation with childhood traumatic events. This study, however, did not include any direct victimization items. All in all, our current understanding of the impact of ACEs on childhood mental health is limited by studying ACEs cumulatively, not assessing more extreme ACE categories (such as physical, emotional, and sexual abuse) among community-based



individuals, the need to rely on caregiver or caseworker report of ACEs, and recruiting mostly high-risk samples (Liming & Grube, 2018).

Assessing CAN effects in childhood and adolescence can also lead to a better understanding of CAN outcomes in adulthood. One way in which pathways from CAN exposure to both externalizing and internalizing problems in adulthood could be ascertained would be to examine the role of irritability. Described as being easily annoyed and characterized by anger and outbursts of temper, irritability cuts across psychopathology and is a risk marker for the development of psychiatric disorders (Humphreys et al., 2019; Stringaris, 2011). Although irritability features in the criteria for 15 disorders included in the DSM-5, studies focusing on the causes of irritability in children are scarce (Toohey & DiGiuseppe, 2017). Research evidence indicates that childhood irritability predicts suicidality, social impairment, aggression, depression, and anxiety in adulthood (Leibenluft & Stoddard, 2013; Stringaris et al., 2009) and may be an outcome of parent-to-child verbal aggression (Smith & Moore, 2012). If exposure to CAN is found to be associated with increased irritability in children, it may explain the relationship between CAN and both internalizing and externalizing problems in adulthood. To our knowledge, however, no prior research has assessed the effects of a wide array of CAN subtypes on irritability among youths. On the theoretical level, research linking CAN exposure with irritability can be guided by a neuroscience-based formulation according to which irritability is a response to threat (Leibenluft, 2017).

### **Limitations associated with child maltreatment research among youths**

CAN research among youth samples is crucial for preventing long-term mental health and behavioral problems, however, such research bristles with difficulties. Firstly, studies tend to rely on caregiver accounts of children's CAN exposure (e.g., Bentley et al., 2017) or data from Child Protection Services (CPS) (e.g., Petrenko et al., 2012), both of which may

underreport abuse. Although the latter approach may allow for a more objective recording of severity and chronicity of abuse, perpetrator type, as well as child's age at the onset of abuse, CPS data represent the more extreme cases of abuse and thus may produce biased findings (Bolger & Patterson, 2001). Indeed, maltreatment that children actually experience is not matched by adequate disclosure and response services (Shiva Kumar et al., 2017). Recruiting a representative sample of youths from the general population (e.g., school-based children) to self-report on their abuse experiences could counter this problem (Priebe & Svedin, 2008). However, the application of such methodology is challenging due to the sensitivity of the topic and issues around informed consent, which is typically required at different levels (i.e., institutional/governmental consent, parental consent, consent from the participating youths). These studies also usually consist of small samples (Trickett & McBride-Chang, 1995) and measure CAN using questionnaires that are not widely used or validated (Debowska et al., 2017, 2018; Stoltenborgh et al., 2011). Self-report studies using large, representative samples of children and adolescents with high response and completion rates are needed in particular for estimating the prevalence of CAN at the population level.

Yet another limitation pertains to the nature of the samples used. Namely, the majority of previous research has been conducted in Western, high-income societies, mostly in the United States (Shiva Kumar et al., 2017). Research also tends to group all maltreatment experiences from the same CAN subtype together, regardless of whether abuse was perpetrated by a household member or an adult from outside the home. This is a serious restriction because the relationship a child has with the perpetrator may influence the meaning of the abuse for the child (Debowska et al., 2018; Manly et al., 1994). Abuse experienced in the home instigates the feeling of powerlessness and betrayal (Finkelhor & Browne, 1985), which can moderate the association between abuse and mental health problems. Further, as mentioned above, few studies focus on the impact of separate CAN

subtypes, as opposed to child maltreatment as a unitary construct, in relation to internalizing and externalizing problems in youths (Duprey et al., 2019; Elmore & Crouch, 2020).

### **The current study**

Considering that early detection and treatment are crucial for preventing long-term problems, more research among diverse child and adolescent samples is needed to better understand the prevalence and effects of CAN (Negriff, 2020). Using data from a population-based study conducted with Ugandan and Jamaican youths who self-reported their experiences, our aim is to examine the levels of and gender differences in different maltreatment subtypes, as well as the prevalence of specific CAN behaviors, as represented by individual items of the Child Victimization Experiences Questionnaire (Choo et al., 2011). The prevalence of all situations/events is reported by their chronicity (never, 1-2 times, many times) and perpetrator type (adult living with the child vs. adult not living with the child), separately for Jamaican girls, Jamaican boys, Ugandan girls, and Ugandan boys. In this study, we also focus on the contribution of CAN subtypes for explaining three mental health sequelae (depression, anxiety, and irritability) among the four samples of youths, including covariates such as sleep problems (see Zhang et al., 2018), age (see Bongers et al., 2003), and location (urban/rural) (see Solmi et al., 2017). Based on prior research (e.g., Li et al., 2016; Negriff, 2020; Smith & Moore, 2012), we predicted that CAN subtypes would be significantly associated with depression, anxiety, and irritability. Due to the paucity of research in the area, we did not make any predictions as to which CAN subtypes would form the strongest associations with mental health outcomes.

## **Method**

### **Participants**

In Jamaica, we surveyed youths from 7 primary (grade 6; aged 10-11 years) and 13 secondary schools (grade 7 to 13; aged 11-18 years). The sample consisted of 7,182 (60.8%

female) youths ( $M$  age = 13.74 years,  $SD$  = 1.97) and the completion rate was 94%. The majority of participants ( $n$  = 4344, 68.7%) self-reported to be living in the rural areas (such as, a village or in the countryside), whereas the remaining participants self-reported to be living in urban areas (such as, a town or city;  $n$  = 1977, 31.3%). As for living arrangements, 2257 (31.4%) participants reported to be living with both parents. In Uganda, we surveyed youths in 37 primary (grade 5 to 7; aged 10-13 years) and 34 secondary schools (senior grade 1 to 4; aged 13-17 years). The sample consisted of 11,518 (52.4% females) youths ( $M$  age = 14 years,  $SD$  = 1.95) and the completion rate was 92%. As for location, 7241 (65.6%) of youths came from urban areas and 3804 (34.4%) came from rural areas of the country. Nearly half of all participants (49.9%,  $n$  = 5744) reported to be living with both parents.

## **Procedure**

We conducted a population-based cross-sectional survey among school-based children and adolescents (aged between 9-17 years) from Jamaica and the Northern and Central regions of Uganda. Ethical approval for the study was granted by the ethics committee at the UK university leading the research as well as the partner institutions' ethics boards in both participating countries. Ethical approval was also sought and granted by the Ministry of Education in Jamaica and National Council for Science and Technology in Uganda. Researchers obtained a complete list of all schools from the Ministries for Education in both countries before systematically selecting schools to be locally and nationally representative. Schools were clustered based upon (1) district/region and (2) rural-urban classification. From each of these clusters, primary and secondary schools were then chosen at random to participate in the study. The research team approached the school administration within selected schools and explained the purpose of the study. Groups of students within the target age range within participating schools were then opportunistically invited to take part (i.e., convenience sampling method of data collection was applied). All survey

documentation were provided in English. Participants provided anonymous self-report information on their social and environmental circumstances, lifetime history of child abuse and neglect, and mental health. Participants had parental consent to take part in the study and also provided informed consent themselves. Parents received information about the study and were asked to return a signed form within a week of receiving it only if they did not want their child to participate. Consent was signed off at government level and by individual schools, which provided consent for the children under their care to take part, subject to the parental consent (Uganda = 100%; Jamaica = 86%) and youths' own consent (Uganda = 98%; Jamaica = 97%). Adolescent consent was obtained after verbally explaining the purpose of the research in a group classroom setting followed by written information provided in participant information sheets and consent forms. Participants were assured about the confidentiality of their participation and informed that they could withdraw from the study at any time. Participation was voluntary without any form of reward. Students completed paper and pencil questionnaires in classroom settings. The questionnaires were compiled into a booklet along with a description of the study as well as an information and instruction sheet attached to the front of the booklet. Total completion times ranged between 20 - 60 minutes in both countries. To facilitate completion of the survey and answer any questions that the students or teachers may have, a researcher was present during the data collection. To ensure safety of participating youths, there was a school guidance counselor on hand, fully briefed that the study was taking place and on standby to deal with an increased need for support within each school/country. Participants were also informed of appropriate school services and a licensed referral psychological/counselling clinic where they could be provided with assistance should they self-identify as abuse survivors or experience any emotional discomfort because of their participation in the study. The data were collected in 2019. Study and participant recruitment procedures were the same in both participating countries.

## Measures

*Child maltreatment* was measured using a slightly modified version of the Child Victimization Experiences Questionnaire (Choo et al., 2011). For cultural specificity, words and terminology that was not understood by children during piloting were replaced with comparable words with the same meaning, more commonly used in both countries. Specifically, for item 5 in the physical abuse subscale, children were asked whether an adult put their hands around their throats and choked them, instead of asking whether an adult has choked them. For item 6 in the same subscale, children were asked whether an adult burned their skin with a flame or something hot, instead of asking whether an adult burned or scalded them. Instead of asking whether a child's family were not source of strength, children in the current study were asked whether an adult did not offer enough support and encouragement to the child (e.g., they did not motivate or help the child to do best they could). The scale questions inquired into participants' lifetime experiences of physical abuse in the home (7 items; total scores range from 7 to 21 with higher scores indicating more symptoms of physical abuse; Cronbach's alpha: Uganda = .69, Jamaica = .70), sexual abuse in the home (8 items; total scores range from 8 to 24 with higher scores indicating more symptoms of sexual abuse; Cronbach's alpha: Uganda = .74 Jamaica = .78), emotional abuse in the home (6 items, total scores range from to 18, with higher scores indicating more symptoms of emotional abuse; Cronbach's alpha: Uganda = .79 Jamaica = .83), neglect (8 items, total scores range from 8 to 24 with higher scores indicating more symptoms of neglect; Cronbach's alpha: Uganda = .82, Jamaica = .79), physical abuse outside the home (7 items; total scores range from 7 to 21 with higher scores indicating more symptoms of physical abuse; Cronbach's alpha: Uganda = .71, Jamaica = .70), sexual abuse outside the home (8 items; total scores range from 8 to 24 with higher scores indicating more symptoms of sexual abuse; Cronbach's alpha: Uganda = .82, Jamaica = .79), and emotional abuse outside the home (4 items, total

scores range from 4 to 12 with higher scores indicating more symptoms of emotional abuse; Cronbach's alpha: Uganda = .75, Jamaica = .80). Participants were asked to indicate how often (Likert scale 1-3: never, once or twice, many times) they experienced each of the listed behaviors by a parent, guardian, or other adult in the house as well as an adult who was not a part of their household. The division of items into subscales has been in line with Choo et al.'s original publication.

*Anxiety* was assessed using the 13-item Patient-Reported Outcomes Measurement Information System (PROMIS) Anxiety Short Form measure (PROMIS Health Organization and PROMIS Cooperative Group, 2012a). The scale was developed for children aged 8 years and above. Respondents were asked to indicate how often they have thought certain thoughts or felt certain feelings in the past seven days. Sample items include: "I felt like something awful might happen" and "I felt scared". The items were scored on a 5-point scale, ranging from 1 (never = symptom not present) to 5 (almost always = symptoms strongly present). The total scores range from 13 to 65, with higher scores indicating more symptoms of anxiety (Cronbach's alpha: Uganda = .89, Jamaica = .91).

*Depression* was assessed using the 14-item Patient-Reported Outcomes Measurement Information System (PROMIS) Depression Short Form measure (PROMIS Health Organization and PROMIS Cooperative Group, 2012b). The scale was developed for children aged 8 years and above. Respondents were asked to indicate how often they have thought certain thoughts or felt certain feelings in the past seven days (sample items: "I could not stop feeling sad" and "I felt lonely"). The items were scored on a 5-point Likert scale, ranging from 1 (never = symptom not present) to 5 (almost always = symptoms strongly present). The total scores range from 14 to 70, with higher scores indicating more symptoms of depression (Cronbach's alpha: Uganda = .92, Jamaica = .95).

***Irritability*** was measured using the 7-item Patient-Reported Outcomes Measurement Information System (PROMIS) Irritability measure (PROMIS Health Organization and PROMIS Cooperative Group, 2012c). The scale was developed for children aged 6 years and above. Respondents were asked to indicate how well each statement describes their behavior and feelings in the past seven days. Sample items include: “Often lose my temper” and “Stay angry for a long time”. The items were scored on a 3-point Likert scale (1 = not true; 2 = somewhat true; 3 = certainly true). The total scores range from 7 to 21 (Cronbach's alpha: Uganda = .80, Jamaica = .88).

***Sleep problems*** were assessed using a shortened version of the Patient-Reported Outcomes Measurement Information System (PROMIS) Sleep Disturbance Short form measure (PROMIS Health Organization and PROMIS Cooperative Group, 2012d). The scale can be administered to children aged 8 years and above. Of the eight scale items, three items were administered in the current study. Two items (“My sleep was restless” and “I had difficulty falling asleep”) were rated on a 5-point Likert scale ranging from 1 = not at all to 5 = very much. One item (“My sleep was...”) was rated using a 5-point Likert scale ranging from 1 = very good to 5 = very poor. Scores range from 3 to 15, with higher scores indicating increased sleep problems (Cronbach's alpha: Uganda = .59, Jamaica = .71).

### **Analytic procedure**

Data analysis was performed using IBM SPSS Statistics for Windows, Version 26. First, we obtained the number and percentages of participants who reported to have never, once or twice, or many times experienced different maltreatment behaviors by an adult in the home and an adult outside the household. Second, total scores for different maltreatment subscales (physical abuse in the home, sexual abuse in the home, emotional abuse in the home, neglect, physical abuse outside the home, sexual abuse outside the home, and emotional abuse outside the home) were calculated by adding up scores obtained on the



relevant subscale items. Next, descriptive statistics were performed by obtaining means (*M*) and standard deviations (*SD*) for all continuous variables (depression, anxiety, irritability, sleep problems, physical abuse in the home, sexual abuse in the home, emotional abuse in the home, neglect, physical abuse outside the home, sexual abuse outside the home, and emotional abuse outside the home) included in the regression models. Girls and boys within each country were then compared on the levels of all these variables using Bonferroni corrected t-tests. Cohen's *d* was an effect size calculated for all significant t-test results. Finally, multivariable regression models were used to examine the unique contributions of the seven CAN subtypes for explaining three mental health outcomes (depression, anxiety, and irritability). In all models, we included covariates such as child's age, location (urban/rural), and sleep problems. Given that the prevalence and experience of child maltreatment may differ by gender and cultural setting, all analyses in this study were performed separately among four groups of youths (Ugandan girls, Ugandan boys, Jamaican girls, Jamaican boys).

## **Results**

### **The prevalence of specific CAN behaviors in and outside the home**

The number and percentages of Ugandan boys, Ugandan girls, Jamaican boys, and Jamaican girls who reported to have never, once or twice, or many times experienced different maltreatment behaviors by an adult in the home and an adult outside the household are presented in Table 1 and Table 2, respectively. Abuse, but not neglect, subscale items start with the less severe behaviors related to the specific type of abuse and tend to increase in severity further down each subscale. Overall, the present results indicate that the less severe behaviors were reported to have been experienced by the youths more frequently than the more severe abuse behaviors. There were also more participants indicating to have experienced specific abuse and neglect behaviors once or twice, rather than many times. The

most frequently reported behaviors by all samples were those belonging in emotional abuse categories.

INSERT TABLE 1 ABOUT HERE

INSERT TABLE 2 ABOUT HERE

### **Descriptive statistics and t-tests**

Descriptive statistics, including means and standard deviations, together with t-test results for all continuous variables (depression, anxiety, irritability, sleep problems, physical abuse in the home, sexual abuse in the home, emotional abuse in the home, neglect, physical abuse outside the home, sexual abuse outside the home, and emotional abuse outside the home) are shown in Table 3.

INSERT TABLE 3 ABOUT HERE

### **Multivariable linear regression models**

Multivariable regression analyses were performed separately for the four samples of youth to examine whether CAN subtypes, sleep problems, age, and location (urban/rural) were significantly associated with depression, anxiety, and irritability (see Table 4).

Preliminary analyses revealed no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. All models were statistically significant.

In the sample of Ugandan boys, the 10 independent variables explained 40% ( $R^2 = .40$ ) of variance in depression, 39% ( $R^2 = .39$ ) of variance in anxiety, and 18% ( $R^2 = .18$ ) of variance in irritability. Seven variables made a statistically significant contribution to each of

the three models. Sleep problems, neglect, and emotional abuse outside the home recorded the highest beta values in the models for depression and anxiety. Physical abuse outside the home correlated significantly with anxiety, but not with depression. Higher age, in turn, associated significantly with depression, but not with anxiety. The strongest correlates of irritability were sleep problems, emotional abuse outside the home, and emotional abuse in the home. Sexual abuse outside the home was a weak but statistically significant correlate of all three mental health outcomes.

Among Ugandan girls, all independent variables included in the analyses explained 48% ( $R^2 = .48$ ) of variance in depression, 47% ( $R^2 = .47$ ) of variance in anxiety, and 21% ( $R^2 = .21$ ) of variance in irritability. The models for depression and anxiety recorded eight significant associations, whereas the model for irritability had seven significant associations. Similarly to Ugandan boys, independent variables with the highest beta values for depression and anxiety among Ugandan girls were sleep problems, emotional abuse outside the home, and neglect. Living in an urban area was a statistically significant correlate of depression. Irritability was most strongly associated with sleep problems and emotional abuse outside the home. Physical abuse outside the home correlated significantly with anxiety and irritability, but not with depression.

As for Jamaican boys, the independent variables explained 39% ( $R^2 = .39$ ) of variance in depression, 31% ( $R^2 = .31$ ) of variance in anxiety, and 16% ( $R^2 = .16$ ) of variance in irritability. Depression and anxiety had six, whereas irritability had seven significant correlates. As above, sleep problems, emotional abuse outside the home, and neglect recorded the highest beta values for depression and anxiety. Sleep problems and emotional abuse in the home were the strongest correlates of irritability. Higher age was significantly associated with depression, while lower age correlated with irritability.

In the sample of Jamaican girls, the 10 independent variables explained 53% ( $R^2 = .53$ ) of variance in depression, 39% ( $R^2 = .39$ ) of variance in anxiety, and 21% ( $R^2 = .21$ ) of variance in irritability. Depression and anxiety had five statistically significant correlates each. Irritability had six statistically significant correlates. The strongest correlates of depression were sleep problems, neglect, and emotional abuse in the home. The strongest correlates of both anxiety and irritability were sleep problems, emotional abuse outside the home, and emotional abuse in the home.

INSERT TABLE 4 ABOUT HERE

### **Discussion**

In the present study we focused on lifetime CAN experiences in and outside the home self-reported by Ugandan and Jamaican youths as a part of a population-based study conducted in the two developing countries. We found gender differences in the levels of maltreatment subtypes in each country, which can be partly explained by the varying chronicity of certain abuse behaviors among girls and boys. Further, less severe maltreatment events, compared with those of greater severity, were more commonly reported by the youths. We also found differential associations between CAN subtypes and depression, anxiety, and irritability. However, emotional abuse and neglect were the strongest correlates of the outcomes in most samples.

As for the levels of different CAN subtypes in Uganda, girls scored significantly higher than boys on neglect and emotional abuse in the home. Boys, in turn, scored significantly higher than girls on physical abuse outside the home. There were no statistically significant gender differences in the levels of physical abuse in the home as well emotional abuse outside the home in the Ugandan sample. Although it is difficult to discuss these

findings in light of prior research results due to the paucity of such studies and use of different CAN assessment methods, one previous investigation reported similar levels of physical abuse by school staff among Ugandan boys and girls (Devries et al., 2014). The discrepancy between the present and prior research could be due to the focus on all adults outside the family, rather than just the teachers, as likely perpetrators of abuse outside the home in the current study. Therefore, it could be that the two genders experience similar levels of physical abuse in the school, as indicated by Devries et al. (2014), but boys experience more physical abuse in the community. Another factor contributing towards the increased levels of physical abuse outside the home in boys is greater chronicity of certain behaviors associated with this type of abuse. For example, when looking at individual CAN items, it is clear that although a similar percentage of boys (32.3%) and girls (30.2%) reported being slapped in the face, head, or ears once or twice in their lifetime, the same situation was experienced many times by 18.4% of boys and 13.1% of girls.

As for the Jamaican sample, girls scored significantly higher than boys on emotional abuse in and outside the home as well as neglect. Boys, in turn, recorded significantly higher levels of physical abuse in the home and outside the home. These findings are partly in line with data from a UNICEF (2013) household survey conducted in Jamaica and a recent study with children and adolescents from two other Caribbean nations, Barbados and Grenada (Debowska et al., 2018). Specifically, Debowska et al. (2018) found that physical abuse in the home was reported by 40.6% of boys and 31.1% of girls. Physical abuse outside the home was reported by 50.2% of boys and 38.9% of girls. The differences in emotional abuse in the home, however, were less pronounced (39.3% for boys vs. 42.1% for girls). Outside the family, Barbadian and Grenadian boys and girls experienced nearly identical levels of emotional abuse (65.4% for boys vs. 65.5% for girls). Again, as was the case among Ugandan youths, gender differences in abuse chronicity may partly account for those

inconsistencies in past and recent research findings. For instance, we found that as far as emotional abuse in the home is concerned, a comparable percentage of boys (27.8%) and girls (31.4%) were made to feel like a bad person or guilty once or twice in their lifetime. However, the same situation was experienced many times by 20.2% of girls and 13.8% of boys. As for emotional abuse outside the home, girls more often than boys endorsed all listed behaviors at both levels of frequency. To explain this inconsistency, it must be mentioned that Debowska et al. (2018) assessed abuse using a single item “label question” for each subtype. This approach does not allow for capturing the myriad expressions of abuse that children may experience and hence may produce biased findings. Measuring abuse with numerous items, as was the case in the present study, produces a clearer picture of the ways in which abuse is perpetrated and hence provides crucial information for developing effective CAN prevention efforts.

An interesting and unexpected finding is that we found no statistically significant gender differences in the levels of sexual abuse in and outside the home among samples from both countries. The lack of gender differences is also evident when looking at most individual sexual abuse subscale items as well as chronicity of these behaviors. In fact, it appears that the only substantial gender difference was in the number of girls and boys who reported that an adult outside the home said or wrote something sexual about them or their body, with more girls than boys experiencing this type of behavior in both countries and at both frequency levels. This result is surprising in light of both global statistics suggesting that sexual abuse is more common among females (WHO, 2014) as well as country-level information (Devries et al., 2014; Halcón et al., 2003; Neufville, 2011; UNICEF, 2018, 2019). However, it is widely acknowledged that male victims are less likely to disclose sexual abuse, which may be due to the social stigma, macho stereotypes, and perceived loss of masculinity associated with being victimized and subsequent disclosure (Finkelhor &

Browne, 1985; Johnson et al., 2006). If this discrepancy can be explained by the fact that the present study elicited more honest and reliable responses among boys, there are two ways in which this could be achieved. Firstly, unlike in Devries et al.'s (2014) study in which abuse data were collected by the means of face-to-face interviews, our data came from self-report surveys. Research indicates that respondents are more honest about abuse experiences in studies utilizing self-report surveys compared with face-to-face interviews (Rumble et al., 2017). Secondly, participants in Halcón et al.'s (2003) study were asked directly about whether they had experienced physical and sexual abuse, as opposed to asking about certain events and behaviors without labelling them as abuse. Halcón et al.'s approach to capturing CAN is problematic because some abusive behaviors may not be construed by respondents as abusive, leading to under-reporting. Yet another possible explanation is that certain societal changes which took place in the time between the prior and current research impacted on sexual abuse experiences being perceived as less shameful by boys.

Prior research among youth samples found significant associations between CAN subtypes (including physical abuse, sexual abuse, emotional abuse, and neglect) and depression and anxiety disorders (e.g., Li et al., 2016; Negriff, 2020; Petrenko et al., 2012; Smith & Moore, 2012). Our findings are partly consistent with these past results. Specifically, physical abuse in the home was associated with depression, anxiety, and irritability among boys and girls from Uganda and boys from Jamaica. Physical abuse outside the home correlated significantly with anxiety and irritability in most samples, but most of these correlations were very weak. Emotional abuse in and outside the home as well as neglect were most strongly associated with depression, anxiety, and irritability in all four samples, which concurs the argument that emotional abuse is an important risk to health and psychosocial adjustment (Norman et al., 2012; Smith & Moore, 2012). Indeed, our findings underscore the importance of these two least studied and understood types of maltreatment.

Both emotional abuse and neglect pertain to the failure to provide a developmentally appropriate and supportive environment by, for example, threatening a child, not caring for the child, or not showing them enough love. It appears that experience of such behaviors is especially detrimental to children's emotional regulation and self-worth, which can manifest in increased depression, anxiety, and irritability scores (see Zafar et al., 2021). Surprisingly, emotional abuse in the home was not more harmful than emotional abuse outside the home, which can indicate that context in which emotional abuse is experienced does not change its meaning for the child. It may also be that emotional abuse in the home is more damaging at early stages of development. Experiences outside the home may become more momentous in adolescence, when the influence of other children and adults outside the home becomes more prominent.

Further, although some associations between sexual abuse and depression, anxiety, and irritability were also found in the present study, these were very weak. This is in contrast to studies among both adult and youth samples, where sexual abuse was often reported as one of the strongest predictors of anxiety and depression (Gardner et al., 2019; Li et al., 2016). These results are difficult to interpret, but prior research tended to rely on samples with an officially substantiated abuse history, which typically indicates greater severity of abuse (Gilbert et al., 2009). Additionally, in line with Feiring et al.'s (2002) research, crucial to understanding this finding may be the role of adjustment following sexual abuse. Specifically, the authors found that shame and pessimistic attribution style explained variation in adjustment (depressive symptoms and self-esteem) following sexual abuse. In the Caribbean, where, according to Halcón et al.'s (2003) study, 47.6% of females and 31.9% of males described their first intercourse as forced or coerced, shame at unwanted sexual encounters may be lessened by the commonality of such occurrences. While theoretically a possibility, this aspect requires further testing.



The study findings should be interpreted in light of certain limitations. First, information about child maltreatment and mental health outcomes was obtained by self-report without verification. As long as self-report methods tend to elicit honest responses about CAN experiences (Rumble et al., 2017), future research should consider a more objective assessment of mental health problems. Second, all assessment was completed at a single time point and so the relationship between CAN subtypes and mental health outcomes cannot be shown to be causal. It is also worth noticing that sleep disturbance measure showed lower than established cut-off point (.70) for internal consistency score.

Notwithstanding the above-listed limitations, the current study provides unique information about the prevalence and chronicity of specific CAN behaviors in and outside the home among under-researched populations of youths from two developing countries. It is envisaged that this information will be of benefit to policy makers and non-government agencies concerned with children's health and well-being by, for example, informing the development of universal CAN prevention strategies and stronger safeguarding procedures. To our knowledge, ours represents the first study to examine the associations between CAN subtypes grouped by perpetrator type (adult living with the child vs. adult not living with the child) and three mental health outcomes (depression, anxiety, and irritability). Results pertaining to irritability in particular can guide future research aiming to elucidate pathways from CAN to adult mental health problems. Lastly, considering that diagnosis and treatment for mental health disorders is a vital component of pediatric care, these findings will inform pediatric care practices and school counsellors in Jamaica and Uganda.

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**Table 1**

*Prevalence of Different Physical Abuse, Sexual Abuse, Emotional Abuse, and Neglect Behaviours in the Home (by Frequency of Occurrence: Never, Once or Twice, Many Times)*

		Uganda		Jamaica	
		Boys N (%)	Girls N (%)	Boys N (%)	Girls N (%)
<b>Physical abuse in the home</b>					
Slapped your face, head, or ears	never	2882 (54.8)	3172 (51.5)	1605 (58.6)	2551 (59.2)
	1-2	1730 (32.9)	2296 (37.3)	836 (30.5)	1361 (31.6)
	many	646 (12.3)	686 (11.1)	299 (10.9)	397 (9.2)
Beaten or physically hurt you with something like a belt, stick, or some hard objects	never	3127 (59.4)	3644 (59.3)	1240 (45.2)	1944 (45.2)
	1-2	1481 (28.2)	1888 (30.7)	988 (36.0)	1638 (38.1)
	many	653 (12.4)	615 (10.0)	518 (18.9)	721 (16.8)
Hit you with a fist or kicked	never	4438 (84.5)	5242 (85.3)	2194 (80.6)	3593 (83.6)
	1-2	555 (10.6)	656 (10.7)	363 (13.3)	508 (11.8)
	many	256 (4.9)	244 (4.0)	166 (6.1)	197 (4.6)
Locked you in a small place, tied or chained with something	never	4938 (93.9)	5846 (95.0)	2666 (97.1)	4235 (98.1)
	1-2	240 (4.6)	222 (3.6)	59 (2.1)	61 (1.4)
	many	80 (1.5)	87 (1.4)	22 (0.8)	19 (0.4)
Put their hands around your throat and choked (or stangled) you	never	4962 (94.4)	5831 (94.7)	2564 (93.4)	4046 (94.0)
	1-2	227 (4.3)	241 (3.9)	140 (5.1)	206 (4.8)
	many	70 (1.3)	83 (1.3)	42 (1.5)	53 (1.2)
Burned your skin with a flame or something hot	never	5018 (95.3)	5880 (95.3)	2658 (96.6)	4223 (97.8)
	1-2	211 (4.0)	233 (3.8)	72 (2.6)	83 (1.9)
	many	38 (0.7)	58 (0.9)	22 (0.8)	14 (0.3)
Stabbing you with knife or other sharp object	never	5027 (95.4)	5893 (95.6)	2689 (97.6)	4243 (98.3)
	1-2	184 (3.5)	203 (3.3)	45 (1.6)	60 (1.4)
	many	57 (1.1)	67 (1.1)	22 (0.8)	13 (0.3)
<b>Sexual abuse in the home</b>					
Said or wrote something sexual about yourself and your body	never	4905 (93.1)	5611 (91.0)	2685 (97.6)	4115 (95.5)
	1-2	227 (4.3)	388 (6.3)	46 (1.7)	137 (3.2)
	many	134 (2.5)	166 (2.7)	21 (0.8)	58 (1.3)
Forced you to see sexual scenes/pornography on video, porn, magazines, and photos	never	4727 (89.6)	5537 (89.9)	2593 (94.5)	4140 (96.0)
	1-2	388 (7.4)	459 (7.5)	110 (4.0)	124 (2.9)
	many	161 (3.1)	165 (2.7)	42 (1.5)	49 (1.1)
Forced you to see sexual scenes in reality	never	5064 (96.1)	5976 (96.8)	2666 (97.1)	4222 (98.0)
	1-2	148 (2.8)	141 (2.3)	51 (1.9)	64 (1.5)
	many	60 (1.1)	56 (0.9)	29 (1.1)	24 (0.6)
Exposed their private part to you or forced you to expose your private parts	never	5089 (96.4)	5986 (97.0)	2671 (97.3)	4121 (95.7)
	1-2	132 (2.5)	136 (2.2)	51 (1.9)	124 (2.9)
	many	56 (1.1)	52 (0.8)	24 (0.9)	63 (1.5)
Forced you to pose naked in front of the person	never	5120 (97.1)	6039 (97.9)	2699 (98.3)	4282 (99.4)
	1-2	115 (2.2)	100 (1.6)	28 (1.0)	15 (0.3)
	many	37 (0.7)	28 (0.5)	19 (0.7)	12 (0.3)
Forced you to pose naked for taking photos, video, or internet	never	5087 (96.5)	6016 (97.4)	2709 (98.6)	4279 (99.2)
	1-2	129 (2.4)	112 (1.8)	27 (1.0)	22 (0.5)
	many	56 (1.1)	50 (0.8)	12 (0.4)	13 (0.3)
	never	5097 (96.7)	5980 (96.8)	2673 (97.4)	4143 (96.2)
	1-2	129 (2.4)	148 (2.4)	49 (1.8)	130 (3.0)

Touched or fondled your private parts or forced you to touch or fondle their private parts	many	46 (0.9)	48 (0.8)	21 (0.8)	34 (0.8)
Forced you to have sexual intercourse	never	5080 (96.5)	5890 (95.8)	2646 (96.6)	4184 (97.4)
	1-2	131 (2.5)	188 (3.1)	65 (2.4)	74 (1.7)
	many	54 (1.0)	72 (1.2)	29 (1.1)	39 (0.9)
<b>Emotional abuse in the home</b>					
Insulted you including calling you names	never	3324 (63.2)	3578 (58.3)	1630 (59.6)	2225 (52.0)
	1-2	1259 (23.9)	1736 (28.3)	730 (26.7)	1230 (28.7)
	many	674 (12.8)	820 (13.4)	376 (13.7)	826 (19.3)
Made you feel like a bad person or guilty	never	3471 (66.0)	3645 (59.4)	1589 (58.3)	2063 (48.4)
	1-2	1223 (23.2)	1695 (27.6)	758 (27.8)	1340 (31.4)
	many	567 (10.8)	798 (13.0)	377 (13.8)	862 (20.2)
Embarrassed or shamed you in front of other people	never	3792 (72.1)	4185 (68.1)	1600 (58.8)	2136 (50.0)
	1-2	1005 (18.9)	1315 (21.4)	779 (28.6)	1410 (33.0)
	many	466 (8.9)	644 (10.5)	344 (12.6)	730 (17.1)
Said they wish you were never born	never	4250 (80.7)	4665 (75.8)	2272 (82.8)	3255 (75.9)
	1-2	679 (12.9)	967 (15.7)	297 (10.8)	622 (14.5)
	many	337 (6.4)	521 (8.5)	174 (6.3)	409 (9.5)
Threatened to abandon you or throw you out of the house	never	4499 (85.6)	5289 (86.1)	2299 (84.0)	3466 (80.8)
	1-2	519 (9.9)	594 (9.7)	328 (12.0)	584 (13.6)
	many	240 (4.6)	261 (4.2)	111 (4.1)	240 (5.6)
Threatened to hurt or kill you	never	4773 (90.6)	5559 (90.3)	2378 (87.1)	3667 (85.4)
	1-2	338 (6.4)	426 (6.9)	255 (9.3)	422 (9.8)
	many	156 (2.9)	169 (2.7)	96 (3.5)	206 (4.8)
<b>Neglect</b>					
Did not give you enough food even when they had enough to share	never	4648 (88.2)	5503 (89.4)	2490 (91.4)	3928 (91.5)
	1-2	417 (7.9)	440 (7.1)	157 (5.8)	260 (6.1)
	many	203 (3.9)	214 (3.5)	76 (2.8)	105 (2.4)
Made you wear dirty clothes	never	4814 (91.5)	5680 (92.1)	2638 (96.7)	4212 (98.0)
	1-2	302 (5.7)	317 (5.1)	62 (2.3)	61 (1.4)
	many	145 (2.8)	170 (2.8)	28 (1.0)	24 (0.6)
Did not take you to a doctor when sick	never	4527 (85.8)	5062 (82.3)	2219 (81.6)	3411 (79.5)
	1-2	459 (8.7)	664 (10.8)	324 (11.9)	600 (14.0)
	many	289 (5.5)	427 (6.9)	178 (6.5)	280 (6.5)
Did not provide a place where you felt safe to stay	never	4649 (88.1)	5341 (86.6)	2474 (91.5)	3941 (92.3)
	1-2	380 (7.2)	491 (8.0)	95 (3.5)	180 (4.2)
	many	249 (4.7)	336 (5.4)	135 (5.0)	147 (3.4)
Treated your brothers and sisters better than you	never	4137 (78.6)	4638 (75.3)	2020 (74.4)	2923 (68.4)
	1-2	694 (13.2)	913 (14.8)	484 (17.8)	894 (20.9)
	many	435 (8.3)	609 (9.9)	210 (7.7)	454 (10.6)
Did not care about you	never	4376 (83.3)	4865 (79.1)	2054 (75.8)	2769 (65.0)
	1-2	563 (10.7)	819 (13.3)	469 (17.3)	958 (22.5)
	many	316 (6.0)	469 (7.6)	187 (6.9)	536 (12.6)
Did not offer enough support and encouragement	never	4073 (77.3)	4634 (75.1)	2167 (79.9)	3116 (72.9)
	1-2	676 (12.8)	886 (14.4)	327 (12.1)	702 (16.4)
	many	522 (9.9)	653 (10.6)	219 (8.1)	456 (10.7)
Do not show you enough love	never	4023 (76.6)	4437 (72.1)	2103 (77.8)	2944 (69.1)
	1-2	701 (13.3)	986 (16.0)	375 (13.9)	807 (18.9)
	many	528 (10.1)	734 (11.9)	225 (8.3)	510 (12.0)

**Table 2**

*Prevalence of Different Physical Abuse, Sexual Abuse, and Emotional Abuse Behaviours Outside the Home (by Frequency of Occurrence: Never, Once or Twice, Many Times)*

		Uganda		Jamaica	
		Boys N (%)	Girls N (%)	Boys N (%)	Girls N (%)
<b>Physical abuse outside the home</b>					
Slapped your face, head, or ears	never	2584 (49.4)	3470 (56.6)	2396 (88.7)	3941 (91.9)
	1-2	1690 (32.3)	1854 (30.3)	246 (9.1)	286 (6.7)
	many	962 (18.4)	804 (13.1)	58 (2.1)	61 (1.4)
Beaten or physically hurt you with something like a belt, stick, or some hard objects	never	3340 (63.4)	4298 (69.7)	2393 (88.9)	3920 (91.4)
	1-2	1164 (22.1)	1224 (19.9)	232 (8.6)	285 (6.6)
	many	761 (14.5)	644 (10.4)	66 (2.5)	84 (2.0)
Hit you with a fist or kicked	never	3622 (68.9)	4877 (79.2)	2453 (91.5)	4091 (95.8)
	1-2	1101 (20.9)	941 (15.3)	178 (6.6)	145 (3.4)
	many	533 (10.1)	343 (5.6)	51 (1.9)	35 (0.8)
Locked you in a small place, tied or chained with something	never	4856 (92.2)	5862 (95.1)	2626 (97.4)	4247 (99.0)
	1-2	286 (5.4)	212 (3.4)	56 (2.1)	35 (0.8)
	many	127 (2.4)	87 (1.4)	14 (0.5)	6 (0.1)
Put their hands around your throat and choked (or strangled) you	never	4668 (89.5)	5669 (92.6)	2591 (96.3)	4154 (97.0)
	1-2	381 (7.3)	329 (5.4)	83 (3.1)	101 (2.4)
	many	169 (3.2)	123 (2.0)	16 (0.6)	27 (0.6)
Burned your skin with a flame or something hot	never	5012 (95.1)	5864 (95.0)	2630 (97.7)	4240 (98.9)
	1-2	172 (3.3)	233 (3.8)	46 (1.7)	34 (0.8)
	many	88 (1.7)	74 (1.2)	16 (0.6)	12 (0.3)
Stabbing you with knife or other sharp object	never	4857 (92.2)	5760 (93.5)	2638 (98.0)	4227 (98.5)
	1-2	303 (5.8)	292 (4.7)	41 (1.5)	46 (1.1)
	many	106 (2.0)	108 (1.8)	13 (0.5)	17 (0.4)
<b>Sexual abuse outside the home</b>					
Said or wrote something sexual about yourself and your body	never	4285 (81.4)	4484 (72.7)	2442 (90.8)	3296 (77.0)
	1-2	603 (11.5)	1052 (17.1)	150 (5.6)	563 (13.2)
	many	375 (7.1)	632 (10.2)	97 (3.6)	422 (9.9)
Forced you to see sexual scenes/pornography on video, porn, magazines, and photos	never	3756 (71.2)	4766 (77.4)	2374 (88.4)	3805 (88.9)
	1-2	922 (17.5)	964 (15.6)	213 (7.9)	320 (7.5)
	many	598 (11.3)	431 (7.0)	99 (3.7)	157 (3.7)
Forced you to see sexual scenes in reality	never	4627 (87.8)	5559 (90.1)	2515 (93.6)	4108 (95.9)
	1-2	385 (7.3)	396 (6.4)	101 (3.8)	112 (2.6)
	many	255 (4.8)	212 (3.4)	71 (2.6)	63 (1.5)
Exposed their private part to you or forced you to expose your private parts	never	4762 (90.3)	5686 (92.2)	2425 (91.9)	3935 (92.6)
	1-2	323 (6.1)	322 (5.2)	134 (5.1)	232 (5.5)
	many	187 (3.5)	156 (2.5)	79 (3.0)	82 (1.9)
Forced you to pose naked in front of the person	never	5008 (95.0)	5963 (96.8)	2574 (97.6)	4216 (99.1)
	1-2	163 (3.1)	133 (2.2)	42 (1.6)	24 (0.6)
	many	99 (1.9)	65 (1.1)	22 (0.8)	14 (0.3)
Forced you to pose naked for taking photos, video, or internet	never	4985 (94.5)	5912 (95.8)	2584 (98.1)	4200 (98.8)
	1-2	172 (3.3)	177 (2.9)	33 (1.3)	36 (0.8)
	many	116 (2.2)	82 (1.3)	18 (0.7)	17 (0.4)

Touched or fondled your private parts or forced you to touch or fondle their private parts	never	4741 (89.9)	5453 (88.5)	2467 (93.8)	3907 (92.1)
	1-2	333 (6.3)	524 (8.5)	100 (3.8)	266 (6.3)
	many	201 (3.8)	187 (3.0)	64 (2.4)	69 (1.6)
Forced you to have sexual intercourse	never	4747 (90.1)	5530 (89.7)	2448 (93.6)	4100 (96.9)
	1-2	306 (5.8)	447 (7.2)	96 (3.7)	86 (2.0)
	many	216 (4.1)	190 (3.1)	71 (2.7)	44 (1.0)
<b>Emotional abuse outside the home</b>					
Insulted you including calling you names	never	2758 (52.4)	2935 (47.6)	1904 (72.5)	2723 (64.2)
	1-2	1447 (27.5)	2044 (33.2)	495 (18.8)	974 (23.0)
	many	1060 (20.1)	1181 (19.2)	227 (8.6)	543 (12.8)
Made you feel like a bad person or guilty	never	3235 (61.3)	3450 (55.9)	1985 (75.6)	2745 (64.9)
	1-2	1280 (24.3)	1723 (27.9)	447 (17.0)	975 (23.0)
	many	761 (14.4)	1004 (16.3)	192 (7.3)	511 (12.1)
Embarrassed or shamed you in front of other people	never	3352 (63.7)	3943 (64.0)	1999 (76.1)	3013 (71.3)
	1-2	1181 (22.4)	1418 (23.0)	459 (17.5)	831 (19.7)
	many	732 (13.9)	796 (12.9)	170 (6.5)	383 (9.1)
Threatened to hurt or kill you	never	4511 (85.5)	5361 (86.9)	2289 (87.2)	3643 (86.0)
	1-2	447 (8.5)	506 (8.2)	244 (9.3)	399 (9.4)
	many	315 (6.0)	301 (4.9)	93 (3.5)	196 (4.6)

**Table 3**

*Descriptive Statistics, Means (M) and Standard deviations (SD), for All Continuous Variables by Study Sample (Ugandan Boys, Ugandan Girls, Jamaican Boys, Jamaican Girls)*

	Uganda			Jamaica		
	Boys <i>M (SD)</i>	Girls <i>M (SD)</i>	<i>t</i> value (Cohen's <i>d</i> )	Boys <i>M (SD)</i>	Girls <i>M (SD)</i>	<i>t</i> value (Cohen's <i>d</i> )
Depression	25.12 (11.36)	27.86 (12.73)	11.57* (.23)	24.64 (12.13)	31.21 (15.24)	18.09* (.48)
Anxiety	23.10 (9.77)	24.88 (10.46)	8.84* (.18)	23.00 (9.68)	27.40 (11.58)	15.64* (.41)
Irritability	10.45 (3.37)	10.89 (3.52)	6.63* (.13)	11.09 (4.00)	12.09 (4.22)	9.48* (.24)
Physical abuse (home)	8.55 (1.93)	8.50 (1.86)	1.16	8.70 (1.98)	8.56 (1.83)	2.97* (.07)
Sexual abuse (home)	8.48 (1.40)	8.46 (1.29)	.86	8.27 (1.12)	8.29 (1.13)	.56
Emotional abuse (home)	7.86 (2.49)	8.10 (2.56)	5.01* (.10)	8.22 (2.64)	8.83 (3.00)	8.49* (.22)
Neglect	9.78 (2.85)	10.03 (3.03)	4.61* (.08)	9.72 (2.58)	10.17 (2.88)	6.56* (.16)
Physical abuse (outside)	8.98 (2.34)	8.51 (2.00)	11.40* (.22)	7.49 (1.29)	7.32 (.97)	5.99* (.15)
Sexual abuse (outside)	9.36 (2.59)	9.26 (2.34)	2.20	8.70 (1.97)	8.78 (1.75)	1.84
Emotional abuse (outside)	5.91 (2.13)	5.99 (2.09)	1.81	5.14 (1.79)	5.52 (2.04)	7.76* (.20)
Sleep problems	6.07 (2.91)	6.08 (3.00)	.29	5.57 (2.73)	6.18 (3.20)	6.98* (.21)

*Note.* \* Bonferroni correction applied ( $p < .005$ ). Cohen's  $d = 0.2$  small effect size,  $d = 0.5$  medium effect size, and  $d = 0.8$  large effect size.

**Table 4**

*Multiple Regression Models of Factors Influencing Depression, Anxiety, and Irritability Among Ugandan Boys, Ugandan Girls, Jamaican Boys, and Jamaican Girls*

	Depression				Anxiety				Irritability			
	Uganda		Jamaica		Uganda		Jamaica		Uganda		Jamaica	
	Boys $F_{(4564)} =$ 304.03; $R^2 = .40$	Girls $F_{(5224)} =$ 486.59; $R^2 = .48$	Boys $F_{(1675)} =$ 107.24; $R^2 = .39$	Girls $F_{(3230)} =$ 366.39; $R^2 = .53$	Boys $F_{(4533)} =$ 294.23 $R^2 = .39$	Girls $F_{(4997)} =$ 448.90; $R^2 = .47$	Boys $F_{(1675)} =$ 75.37; $R^2 = .31$	Girls $F_{(3230)} =$ 207.89; $R^2 = .39$	Boys $F_{(4755)} =$ 103.26 $R^2 = .18$	Girls $F_{(5452)} =$ 143.55; $R^2 = .21$	Boys $F_{(1675)} =$ 28.33; $R^2 = .16$	Girls $F_{(3230)} =$ 84.48; $R^2 = .21$
	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)	$\beta$ (95% CI)
Physical abuse (home)	.08*** (.05/.11)	.06*** (.03/.09)	.08*** (.03/.13)	.03 (0/.06)	.10*** (.07/.13)	.08*** (.05/.11)	.09*** (.04/.14)	.03 (0/.06)	.08*** (.05/.11)	.03* (0/.06)	.02 (- .03/.07)	.03 (0/.06)
Sexual abuse (home)	-.02 (- .05/.01)	-.01 (- .04/.02)	-.03 (- .08/.02)	-.02 (- .05/.01)	-.02 (- .05/.01)	.001 (- .03/.03)	.001 (- .05/.05)	-.01 (- .04/.02)	-.02 (- .05/.01)	-.01 (- .04/.02)	-.01 (- .06/.04)	-.04* (- .07/-.01)
Emotional abuse (home)	.13*** (.10/.16)	.14*** (.11/.17)	.15*** (.10/.20)	.20*** (.17/.23)	.11*** (.08/.14)	.08*** (.05/.11)	.10*** (.05/.15)	.15*** (.12/.18)	.11*** (.08/.14)	.08*** (.05/.11)	.17*** (.12/.22)	.16*** (.13/.19)
Neglect	.21*** (.18/.24)	.22*** (.19/.25)	.23*** (.18/.27)	.23*** (.20/.26)	.16*** (.11/.17)	.17*** (.14/.20)	.11*** (.06/.16)	.13*** (.10/.16)	.06*** (.03/.09)	.06*** (.03/.09)	.09** (.04/.14)	.06** (.03/.09)
Physical abuse (outside)	.03 (0/.06)	.01 (- .02/.04)	.01 (- .04/.06)	-.01 (- .04/.02)	.10*** (.07/.13)	.08*** (.05/.11)	.07** (.02/.12)	.03 (0/.06)	.06*** (.03/.09)	.08*** (.05/.11)	-.01 (- .06/.04)	.001 (- .03/.04)
Sexual abuse (outside)	.06*** (.03/.09)	.04** (.01/.07)	.001 (- .05/.05)	.03 (0/.06)	.05*** (.02/.08)	.05*** (.02/.08)	.01 (- .04/.06)	.04* (.01/.07)	.04* (.01/.07)	.01 (- .02/.04)	.06* (.01/.11)	.06** (.03/.09)
Emotional abuse (outside)	.17*** (.14/.20)	.23*** (.20/.26)	.19*** (.14/.24)	.17*** (.14/.20)	.21*** (.18/.24)	.27*** (.24/.30)	.21*** (.16/.26)	.20*** (.17/.23)	.12*** (.09/.15)	.17*** (.14/.20)	.07** (.02/.12)	.14*** (.11/.17)
Sleep problems	.25*** (.22/.28)	.24*** (.21/.27)	.19*** (.14/.24)	.30*** (.27/.33)	.22*** (.19/.25)	.22*** (.19/.25)	.22*** (.17/.26)	.28*** (.25/.31)	.20*** (.17/.23)	.20*** (.17/.23)	.13*** (.08/.18)	.20*** (.17/.23)
Age	.08*** (.05/.11)	.12*** (.09/.15)	.10*** (.05/.15)	.12*** (.09/.15)	.01 (- .02/.04)	.06*** (.03/.09)	-.05 (- .10/0)	-.01 (- .04/.02)	-.01 (- .04/.02)	.04** (.01/.07)	-.06* (- .11/-.01)	-.03 (- .06/0)
Location (urban)	.02 (- .01/.05)	.07*** (.04/.10)	.04 (- .01/.09)	.01 (- .02/.04)	.001 (- .03/.03)	.01 (- .02/.04)	.02 (- .03/.07)	.02 (- .01/.05)	.01 (- .02/.04)	.01 (- .02/.04)	.07** (.02/.12)	.02 (- .01/.05)

Note. CI = Confidence Interval. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

