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**Article:**

Debowska, A., Boduszek, D., Sherretts, N. et al. (2 more authors) (2018) Profiles and behavioral consequences of child abuse among adolescent girls and boys from Barbados and Grenada. *Child Abuse & Neglect*, 79. pp. 245-258. ISSN 0145-2134

<https://doi.org/10.1016/j.chiabu.2018.02.018>

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**Profiles and behavioral consequences of child abuse among adolescent girls  
and boys from Barbados and Grenada**

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*Paper accepted for publication in **Child Abuse & Neglect***

ACKNOWLEDGEMENTS

The authors thank Drs Ena Trotman Jemmott and Hazel Da Breo for their significant efforts to organize and supervise data collection in Barbados and Grenada.

This research has been supported financially by the European Union (EuropeAid/136243/DD/ACT/Multi – Towards a Future Free from Domestic Violence). The funding source was not involved in the preparation of this paper.

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### Abstract

The current study used latent class analysis to uncover groups of youths with specific abuse (physical, emotional, and sexual) profiles in and outside the family, and identify how membership in each abuse group is associated with behavioral outcomes. Data were collected among a sample of male ( $n = 662$ ;  $M_{\text{age}} = 13.02$  years) and female ( $n = 689$ ;  $M_{\text{age}} = 12.95$  years) children and adolescents (9 – 17 years old) from Barbados and Grenada. Self-report surveys were completed by participants in school settings. Three latent classes of child abuse were distinguished among boys, including ‘low abuse’ (39.2% of the sample), ‘physical and emotional abuse high outside/medium in the family’ (43.2%), and ‘high overall abuse’ (17.6%). Among girls, four unique classes were recovered: ‘low abuse’ (40.7%), ‘high physical and emotional abuse outside the family’ (7.6%), ‘high emotional and moderate physical abuse’ (33.9%), and ‘high overall abuse’ (17.8%). Compared with members of low abuse groups, youths who reported having experienced high/moderate levels of various forms of violence, including those who were abused in multiple ways and across the two settings (‘high overall abuse’), were significantly more likely to engage in violent and hostile behavior. Abused and non-abused youths did not differ on non-violent conflict resolution skills. The significance of present findings for future research and practice is discussed.

**Keywords:** Child abuse profiles; Youths from Barbados and Grenada; Violence perpetration; Hostility; Non-violent conflict resolution; Latent class analysis

## **Introduction**

### **Child Abuse in Barbados and Grenada**

Although research interest in the scope and consequences of child abuse has significantly increased in the past three decades, most epidemiological studies conducted to date utilized North American and Western European samples, whereas the majority of prevention studies were based in North America (Holt, Buckley, & Whelan, 2008; WHO, 2006). This is problematic because, in line with the ecological model of violence, the extent, causes, and correlates of child maltreatment appear to be population specific. Indeed, cultural values, beliefs, practices, and social structures, which in Cicchetti and Lynch's (1993) ecological/transactional model of community violence and child maltreatment are represented as the macro- and exosystem, can have the effect of condoning certain expressions of violence. This, in turn, provides a framework through which people act and justify their actions as morally right (Wood, 2007). Cultural explanations for violence against women and children tend predominantly to be discussed in relation to non-Western contexts. Nevertheless, it is the case that violence is not only widespread in some Caribbean countries, but that it is also reinforced through the various manifestations of culture (Imbusch, 2011; Krug, Dahlberg, & Mercy, 2002), to the extent that its reduction has been presented as an urgent challenge (UNICEF, 2006). Despite its low visibility, domestic violence, including child maltreatment (CM), seems to be the most prevalent type of violence in the region (Imbusch, 2011). Considered from a wide socio-historical perspective, family violence among contemporary Caribbean societies appears to be a function of the oppressive and patriarchal culture, gender inequality, violent history of the colonization process, slavery, as well as insufficient political and legal frameworks which would guard against such violence (Jeremiah, Quinn, & Alexis, 2017; Jones, Trotman Jemmott, Maharaj, & Da Breo, 2014).

Barbados and Grenada are English-speaking nations located in the Eastern Caribbean region. According to data extracted from the Child Care Board, 3519 cases of child abuse involving 4868 children were reported in Barbados in 2008-2013. The most common form of maltreatment was neglect ( $n = 1471$  cases; 41.8%), followed by physical abuse ( $n = 861$ ; 24.5%). As for sexual abuse, there were 836 cases recorded (23.8% of all cases), with the majority (86.5%) of perpetrators being known to the victim. A total of 342 (10%) cases were those involving emotional abuse. Of the total number of reported cases, 57.6% ( $n = 2803$ ) involved female victims. The disparity between the two sexes was especially high for sexual abuse, with 88.6% ( $n = 782$ ) of victims being female (UNICEF, 2015a). It must be noted here, however, that male survivors are less likely to report experiences of sexual abuse than their female counterparts, which may be due to the perceived loss of masculinity associated with this form of victimization (Finkelhor & Browne, 1985; Johnson et al., 2006). In Grenada, official data on child abuse are collated by the Child Protection Authority. During the period 2009-2013, there were 1503 reported cases of child victimization, with physical abuse being the most prevalent type of maltreatment ( $n = 524$ ; 34.9%), followed closely by neglect ( $n = 497$ ; 33.1%) and sexual abuse ( $n = 438$ ; 29.1%) (UNICEF, 2015b). When the above incidence rates are converted into period prevalence, it seems that in 2008-2013 approximately 1-2% of children and adolescents in Barbados and Grenada experienced abuse.

Notwithstanding the importance of those official reports, survey studies demonstrate a much higher proportion of children with a history of maltreatment than officially recorded by child protection services (CPS) (Gilbert et al., 2009). Although such research is sparse in the Eastern Caribbean, some studies have attempted to fill this critical knowledge gap. For instance, James et al. (2016), in a study among 1227 young adults in Barbados, Grenada, and Jamaica, revealed that 13.4% of females and 8.7% of males have experienced either physical

or sexual abuse in childhood. These results, however, should be tempered by the fact that prevalence of physical and/or sexual abuse was reported as a single value. In a qualitative study into perceptions and attitudes to child sexual abuse in the Eastern Caribbean, it was demonstrated that although girls are more vulnerable victims than boys, abuse of boys, including sexual abuse, is a significant problem (Jones & Trotman Jemmott, 2009). Male victims in the region are unlikely to divulge abuse, which may be due to social ostracism that such a disclosure may entail, as well as the fear of being branded homosexual (Jones & Trotman Jemmott, 2009; UNICEF, 2013). Of note, high abuse rates among boys were also reported in studies conducted in other non-Western societies, including India (Charak & Koot, 2014) and Malaysia (Choo, Dunne, Marret, Fleming, & Wong, 2011). This suggests that study findings conducted in the West are not reflective of the situation of children embedded in different cultural contexts and that more research with non-Western populations across geographical locations is needed to obtain a clearer picture of abuse rates and patterns worldwide. Finally, although a recent WHO (2014) study revealed that 36% of adults worldwide were emotionally abused in childhood and emotional abuse has been recognized as an important risk to health (see Norman et al., 2012 for a systematic review and meta-analysis), studies examining the rates and consequences of this form of ill-treatment in Barbadian and Grenadian context are missing.

### **Youth Violence as a Function of Child Abuse**

Youth violence is of great concern in Barbados and Grenada. In a report on juveniles in Barbados, the National Task Force on Crime Prevention (2010) indicated that 21% of primary school and 43% of secondary school children used force to obtain what they wanted from someone at school. Additionally, 50% of primary school and 64% of secondary school students admitted to having been in a fist fight at school. As for more serious offenses, 5% of primary school and 18% of secondary school children admitted to taking a weapon (other

than a gun) to school with an intention to harm someone. Finally, 10% of primary school and 19% of secondary school students reported that they were a member of a gang. Key offenses for arrest among Barbadian and Grenadian juveniles included assault, wounding, and serious bodily harm (UNICEF 2015a, b).

In line with the cycle of violence hypothesis, youth violence may be a consequence of direct victimization experiences (Jaffee, Caspi, Moffitt, & Taylor, 2004; Lahey, Moffitt, & Caspi, 2003; Margolin & Gordis, 2000). Indeed, in one study, a history of childhood abuse among mothers was found to be predictive of the use of physical and verbal punishment toward own children (Ferrari, 2002), suggesting that abused children may grow to perceive violence as a viable conflict resolution strategy. Of the rare studies into the effect of domestic violence on Barbadian children, Marshall-Harris (2011) found that of the 274 juveniles brought before the District A Juvenile Court during February 2006 and July 2010, 79 were documented to come from violent families. Of the 79 youths, 19 were charged with violent crimes (such as assault and wounding), providing evidence for the cyclical pattern of abusive behavior. In another study, Barbadian children raised in violent families were noted for frequently fighting at school, as well as being withdrawn and aggressive (CADRES, 2009). Although youth violence and crime has been noted as a serious problem in Caribbean countries (World Bank, 2003), the association between child maltreatment and violence perpetration remains underexplored in Barbados and Grenada. This in turn impedes the development of effective, population-specific preventive and treatment strategies, which may have a harmful effect on the region's economic and social development.

### **Interactive Effects of CM Types**

Prior studies into the occurrence and effects of CM could have overestimated the importance of particular child abuse and neglect (CAN) types in explaining behavioral problems due to *not* controlling for the intercorrelations between maltreatment types. CAN

types are likely to co-occur and interact, resulting in more damaging consequences than exposure to one type of victimization (Green et al., 2010). Therefore, most recent research has utilized person-oriented procedures, such as latent class (LCA) and latent profile analysis (LPA), to uncover permutations of CM types within a given population and examine how the resultant profiles correlate with external criteria (De Fruyt & De Clercq, 2014).

Profiling studies conducted to date revealed that the majority of children do not experience maltreatment. Members of no/low abuse groups are also the least likely to evidence any behavioral or mental health related problems (Aebi et al., 2015; Armour, Elklit, & Christoffersen, 2014; Berzenski & Yates, 2011; Davis et al., 2015; Nooner et al., 2010; Villodas et al., 2012). Individuals exposed to high levels of physical and emotional abuse, by contrast, were noted for poor behavioral outcomes and conduct-related problems, including aggressive behavior, risky sexual behavior, and intimate partner violence perpetration (e.g., Berzenski & Yates, 2011; Davis et al., 2015; Debowska & Boduszek, 2017; Villodas et al., 2012). Poly-victimized individuals, i.e., those exposed to various forms of maltreatment including sexual abuse, were consistently reported to represent the smallest proportion of the population (approx. 2-10%) and suffer the most adverse internalizing (e.g., depression and anxiety) and externalizing (e.g., aggression and violent offending) consequences (e.g., Aebi et al., 2015; Armour et al., 2014; Davis et al., 2015; Debowska & Boduszek, 2017; Lin et al., 2016; Nooner et al., 2010; Vaughn, Salas-Wright, Underwood, & Gochez-Kerr, 2015; Villodas et al., 2012; Witt et al., 2016). Further, four studies recovered a latent class characterized by high endorsement of sexual abuse only, with being a female significantly increasing the odds of this class membership (Armour et al., 2014; Berzenski & Yates, 2011; Vaughn et al., 2015; Witt et al., 2016). Vaughn et al. (2015), for example, recovered two classes characterized by increased levels of sexual abuse, one of which incorporated predominantly (98.59%) and one exclusively female participants. Indeed, prior research



indicates differences in percentages of boys and girls exposed to certain forms of maltreatment. For instance, in a global study by WHO (2014), sexual victimization experiences were reported by 20% of women and 5-10% of men. What remains unexplored, however, are possible gender differences in the co-occurrence between maltreatment types – information that appears crucial for the efficient functioning of CPS.

In considering the above as well as the overall paucity of CM profiling studies, Debowska, Willmott, Boduszek, and Jones (2017), in a recent review of such literature, recommended further research utilizing more diverse samples, especially those drawn from non-Western societies and exclusively female samples, to build a better understanding of CM and its consequences worldwide. Additionally, to enable the development of more targeted preventive measures, Debowska et al. suggested that future profiling studies should account for the setting in which victimization was experienced (e.g., within and outside the family).

### **The Present Study**

Acting within the framework of the Convention on the Rights of the Child (The United Nations, 1989), many governments and agencies worldwide have committed themselves to take all necessary steps to reduce the rates of CM, including appropriate legal reform and policy implementation (WHO, 2016). Nonetheless, the effectiveness of any CM prevention efforts is heavily dependent upon gaining the awareness of where and how maltreatment takes place, the patterns of co-occurrence between different abuse types, as well as what consequences such victimization involves. Moreover, in line with the ecological model of violence, it is crucial that such investigations account for and are conducted across different cultural settings because patterns and rates of violence may depend, among others, on macro- and exosystemic characteristics of a given environment (Cicchetti & Lynch, 1993; Debowska et al., 2017; WHO, 2006). To our knowledge, no study to date has comprehensively investigated the above issues in Barbados and Grenada, where violence is

widespread (Imbusch, 2011; Krug et al., 2002; UNICEF, 2006), embedded in the socio-historical context of the region (Jeremiah et al., 2017; Jones et al., 2014), and where societal willingness to tolerate violence remains high (see Sutton & Ruprah, 2017). Consequently, the aims of the study were threefold. First, we examined the rates of different types of child abuse (physical, emotional, and sexual) experiences across two different settings (in and outside the family) among children and adolescents in Barbados and Grenada. Second, we used LCA to elucidate patterns of co-occurrence between child abuse types among males and females. The third aim was to explore the associations between child abuse profiles and age as well as behavioral problems (violence perpetration, hostility, and non-violent conflict resolution). To account for the varying rates of childhood victimization between the two sexes (see UNICEF 2015a, b) and to address limitations identified in prior profiling research (see Debowska et al., 2017), all analyses were conducted separately for male and female participants. Based on prior studies, we predicted higher rates of all forms of child abuse for girls than boys, with the most prominent differences on sexual abuse. We also expected that most abuse would occur within the family. In considering the paucity of LCA research with exclusively male samples and the lack of such research with exclusively female samples, we did not make any specific hypotheses with regard to the number of latent classes. However, since past research with a variety of samples has consistently uncovered a class characterized by multiple types of abuse experiences (see Debowska et al., 2017), we predicted that such a class would also emerge among girls and boys in the current sample.

## **Method**

### **Sample and Procedure**

The study was conducted among 1351 children and adolescents from two Eastern Caribbean countries – Barbados ( $n = 891$ ) and Grenada ( $n = 460$ ). Response rate in the current study was 68.9%, which is satisfactory by present survey research standards (Kohut,

Keeter, Doherty, Dimock, & Christian, 2012). Participants ranged in age from 9 – 17 years old. As for gender distribution, there were 662 boys ( $M_{\text{age}} = 13.02$  years,  $SD = 2.16$ ) and 689 girls ( $M_{\text{age}} = 12.95$  years,  $SD = 2.19$ ). Of the total sample, 74.8% of participants came from rural areas and 25.2% from urban areas. Barbadian youths were recruited from six primary schools ( $n = 265$ ), five secondary schools ( $n = 576$ ), and a youth offender center ( $n = 50$ ). Grenadian youths came from four primary schools ( $n = 130$ ), four secondary schools ( $n = 311$ ), and a youth offender center ( $n = 19$ ). In Barbados, permission for conducting the project was granted by the Ministry of Education, Science, Technology and Innovation, and in Grenada – by the Ministry of Education and Human Resource Development. Ethical approval was granted by the University of Huddersfield Ethical Board. Participating establishments were purposively selected based on geographic location by the research team and directors of all institutions agreed to take part. Printed self-reported anonymous surveys were delivered by local researchers to all selected institutions and distributed opportunistically among youths. Data collection occurred in classroom settings and was monitored by local researchers and teachers. Parental consent was gained prior to participation. Participating youths were provided with both verbal and written summary of the informed consent, along with verbal instructions on how to complete the questionnaire. In addition, youths were informed verbally that they should not participate in the study if they did not want to, but that they did not have to inform anyone of the specific reason for not participating. All participants were provided with information about how to access support services in the event of distress, re-traumatization, or the need to report concerns about risk of harm. Upon completion, surveys were collected by a local researcher and participants were debriefed. Participation was voluntary and without any form of reward.

## Measures

**Child abuse** was measured dichotomously using a 6-item checklist. The present measure inquired into physical, emotional, and sexual abuse perpetrated by adults. To date, there is no international consensus on the definition of child maltreatment (Rumble, Ramly, Nuryana, & Dunne, 2017). For the purpose of the present study, we used conceptual definitions of the three forms of abuse proposed by Butchart et al. (2006, p. 10). More specifically, physical abuse is operationalized as the use of physical force that may result in child's health, survival, development, or dignity. Emotional abuse pertains to the failure to provide a developmentally appropriate and supportive environment by, for example, threatening the child. Sexual abuse is defined as the involvement of a child in sexual activity that he or she does not fully understand, or is unable to consent to, or is developmentally unprepared for. Since child maltreatment can take many forms, the purpose of this brief questionnaire was not to provide an exhaustive list of abusive behaviors (for a detailed list of abusive acts upon which this measure is based see Leeb, Paulozzi, Melanson, Simon, & Arias, 2008). In the present questionnaire, two questions measured physical abuse experienced in childhood in and outside the family (being hurt by grabbing, slapping, punching, kicking, or beating up); two questions measured emotional abuse experienced in and outside the family (hurting feelings by making fun, calling names, threatening, or saying things to make the child feel bad); and two questions measured sexual abuse experienced in and outside the family (touching private parts without child's consent, forcing the child to touch abuser's private parts, or forcing a child to do something sexual that they didn't want to do). Participants were asked whether they had ever experienced such acts.

**Violence perpetration** was assessed with eight items inquiring into fighting and bullying behaviors (both verbal and physical expressions of violence were measured). The specific items were: "I hit back when someone hit me first"; "I pushed, shoved, slapped, or

kicked others”; “I got into physical fight because I was angry”; “I threatened to hit or hurt another person”; “I encouraged others to fight”; “I teased others”; “I made fun of someone to make others laugh”; “I called another person names”. Respondents were asked to report particular behaviors during the previous 30 days which were measured on a 4-point Likert scale (never, 1-2 times, 3-4 times, 5 or more times). Items were adapted from Espelage and Holt (2001). Scores ranged from 8 to 36, with higher scores indicating increased levels of violence perpetration. Good construct validity (CFI = 0.96, TLI = 0.95, RMSEA = 0.08) as measured using confirmatory factor analysis and composite reliability (0.89) was established.

**Hostility** was measured using a 6-item scale reflecting symptoms of underlying hostility, including qualities such as aggression, irritability, rage, and resentment (“How often do you feel annoyed or irritated?”; “How often do you lose your temper and cannot control it?”; “How often do you want to beat, injure, or harm someone?”; “How often do you want to break, smash, or throw things?”; “How often do you get into arguments?”; “How often do you shout at other people?”). Youths were asked to indicate on a 4-point Likert scale how often they felt irritable or engaged in these behaviors (never, once in a while, fairly often, most of the time). Items were adapted from Dahlberg, Toal, Swahn, and Behrens (2005). Scores ranged from 6 to 24, with higher scores suggesting heightened hostility levels. Fit indices indicate good construct validity (CFI = 0.96, TLI = 0.94, RMSEA = 0.09) and composite reliability of the scale (0.84).

**Non-violent conflict resolution** was measured using six items inquiring into intentions to use non-violent strategies to control anger and conflict. Respondents were asked to indicate on a 4-point Likert scale (from very unlikely to very likely) how likely they would be to adopt certain non-violent behaviors the next time they get angry. The six strategies included: ignoring the situation, talking it out, directing anger into school work or music, directing anger into sporting activities, laughing it off, seeing the other person’s point of view

before reacting. Scores ranged from 6 to 24, with higher scores indicating a greater probability of intending to use non-violent conflict resolution strategies. Fit indices indicate acceptable construct validity (CFI = 0.93, TLI = 0.92, RMSEA = 0.09) and good composite reliability of the measure (0.71).

### **Plan of Analyses**

Construct validity of violence perpetration, hostility, and non-violence conflict resolution measures was tested using confirmatory factor analysis with weighted least squares means and variance adjusted (WLSMV) estimation, in *Mplus* version 7.4 (Muthén & Muthén, 1998-2015). The overall fit of each model was assessed using the Comparative Fit Index (CFI; Cronbach, 1990), the Tucker Lewis Index (TLI; Tucker & Lewis, 1973), and the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990). CFI and TLI values above 0.90 and 0.95 indicate an acceptable and good model fit respectively. RMSEA values of 0.9 and 0.5 indicate an acceptable and good model fit respectively (Bentler, 1990; Hu & Bentler, 1999). Further, Cronbach's alpha coefficient as indicators of internal consistency have been criticised due to their reliance on both the number of items tested as well as correlations between them (see Cortina, 1993; Raykov, 1998). Therefore, internal reliability of the three afore-mentioned measures was tested using composite reliability (for procedure see Raykov, 1997; for application see Boduszek & Debowska, 2017). Values greater than 0.60 are considered acceptable (Diamantopoulos & Sigauw, 2000). Descriptive statistics, including frequencies, percentages, *M*, *SD*, *Mdn*, and Mode were calculated using SPSS version 23. Differences between males and females were examined using chi-square test for independence (categorical data) and independent samples *t*-test (continuous data) with Bonferroni correction.

Two latent class analyses (LCA) with covariates performed separately for males and females were utilized to investigate the second and third objective of the present study. Data

were analyzed using *Mplus* version 7.4 (Muthén & Muthén, 1998-2015). LCA is a statistical technique used to determine the number of homogeneous groups (or classes) from categorical multivariate data. LCA assumes that associations among a set of observed categorical variables can be explained by a finite number of mutually exclusive classes. Additionally, assignment to latent classes is probabilistic. This means that each case is grouped to one class only but the model recognizes that there may be uncertainty in the classification. Since LCA is a data-driven and exploratory technique, it was well suited to the context of the current study. Of note, in considering the varying abuse rates among males and females reported in past research and the current prediction that patterns of abuse will also differ for the two sexes, a multi-group LCA was not deemed appropriate.

A number of goodness-of-fit indices are examined when selecting the optimal number of classes (see Nylund, Asparouhov, & Muthén, 2007). These include: Akaike Information Criterion (AIC; Akaike, 1974); Bayesian Information Criterion (BIC; Schwarz, 1978); sample size adjusted BIC ( $ssABIC$ ; Sclove, 1987); Lo–Mendell–Rubin’s adjusted likelihood ratio test (LMR; Lo, Mendell, & Rubin, 2001); and entropy (Ramaswamy, DeSarbo, Reibstein, & Robinson, 1993). AIC, BIC and  $ssABIC$  are goodness of fit indices used to compare competing models. Lower values indicate better-fitting models and extraction of latent classes should cease when these indices reach their lowest values. Recent simulation studies suggest that BIC is one of the most reliable indicators of the correct number of latent classes (Nylund *et al.*, 2007). Another useful statistic for class enumeration is the LMR, which assesses the improvement in fit between alternative models. A non-significant value ( $p > 0.05$ ) suggests that the model with one fewer latent class provides a more parsimonious fit to the data. Based on the posterior class membership probabilities, entropy evaluates how well each of the classes is separated and represented by the data. Values range from 0 to 1, with high values preferred.

We specified models with a successive number of classes through an iterative process. Extraction of latent classes ceased when there was little empirical or substantive support for the inclusion of a further class. Selection of the best-fitting models was based on the above-listed goodness-of-fit indices as well as parsimony and theoretical considerations. As per prior recommendations, a profile plot of victimization items, highlighting the nature of differences (quantitative vs. qualitative) between latent classes, was provided to facilitate the interpretation of findings (see Debowska et al., 2017; Nylund et al., 2007).

Following identification of the best-fitting latent class solution, covariates (age, violence perpetration, hostility, and non-violent conflict resolution) were included in the model to help describe the heterogeneity in child abuse and to substantiate the validity of the emergent classes/subtypes. These associations were evaluated using odds ratios (ORs), along with accompanying confidence intervals (CIs). Odds ratios reflect the proportionate change in odds of membership of a given class, relative to the reference class, associated with a one-unit change in the covariate.

## **Results**

### **Descriptive Statistics and *t*-tests**

Descriptive statistics, including means (*M*), standard deviations (*SD*), medians (*Mdn*), modes, and minimum and maximum observed scores, for all continuous variables are presented in Table 1. All statistics are presented separately for male and female participants. Independent samples *t*-test results revealed statistically significant differences between the two sexes on violence perpetration and non-violent conflict resolution. Differences on age and hostility were statistically non-significant (see Table 1).



Table 1. *Descriptive Statistics for All Continuous Variables for Boys and Girls and Differences Between the Sexes*

Variable	Males				Females				<i>t</i> value (Cohen's <i>d</i> )
	<i>M</i> ( <i>SD</i> )	<i>Mdn</i>	Mode	Observed Scores Min- Max	<i>M</i> ( <i>SD</i> )	<i>Mdn</i>	Mode	Observed Scores Min- Max	
Age	13.02 (2.16)	13	13	9-17	12.95 (2.19)	13	13	9-17	.64 (.03)
Violence perpetration	16.82 (5.99)	16	12	8-32	15.14 (5.45)	14	11	8-32	5.09* (.29)
Hostility	13.79 (4.31)	14	14	6-24	14.25 (4.51)	14	12	6-24	-1.78 (.10)
NVCR	14.36 (3.70)	14.5	12	6-24	14.90 (3.86)	15	15	6-24	-2.43* (.14)

*Note.* NVCR = Non-violent conflict resolution; Bonferroni correction (\*  $p < .013$ )

### Child Abuse Rates

The proportion of males and females endorsing each of the six child abuse items (physical abuse [PA] in the family, PA outside the family, emotional abuse [EA] in the family, EA outside the family, sexual abuse [SA] in the family, and SA outside the family) is presented in Table 2. The most common maltreatment type encountered by all participants was EA outside the family, with no difference between the two sexes (boys - 65.4%; girls - 65.5%). Boys reported higher rates of abuse than girls on four items, with the highest rates recorded for PA outside the family (boys - 50.2%; girls – 38.9%), followed by PA in the family (boys – 40.6%; girls – 31.1%), SA outside the family (boys – 25.1%; girls – 15.4%), and SA in the family (boys – 20.5%; girls – 11.5%). Chi-square tests of independence showed statistically significant differences between the two sexes on all four forms of abuse; however, the effect size (Phi) was small. Girls (42.1%) and boys (39.3%) reported similar levels of EA in the family.

Table 2.  
*Endorsement Rates of Child Abuse Items for Boys (n = 662) and Girls (n = 689), and Chi-Square Test for Independence*

Item	Males	Females	$\chi^2$ (Phi)
	Frequency (%)	Frequency (%)	
PA in the family	269 (40.6)	214 (31.1)	13.48* (.10)
PA outside the family	332 (50.2)	268 (38.9)	17.32* (.11)
EA in the family	260 (39.3)	290 (42.1)	1.11 (.03)
EA outside the family	433 (65.4)	451 (65.5)	.00 (.001)
SA in the family	136 (20.5)	79 (11.5)	20.79* (.12)
SA outside the family	166 (25.1)	106 (15.4)	19.72* (.12)

*Note.* EA = Emotional abuse; PA = Physical abuse; SA = Sexual abuse; Bonferroni correction (\*  $p < .008$ ); Phi = effect size statistic

### **Estimation of the Number of Latent Classes**

Given significant differences on two continuous covariates and four abuse items between the two sexes, subsequent analyses were performed separately for girls and boys. A series of latent class models, ranging from two to five classes, were specified and estimated for both sexes. Based on fit indices and the practical meaning of the latent classes, the three-class solution was considered the best fitting model for boys (Table 3). The AIC, BIC, and  $SSA$ BIC were markedly lower for the three-class model compared with the two-class model. Although AIC and  $SSA$ BIC were lower for the four-class model than the three-class model, there was a considerable overlap in terms of the within-class conditional probabilities between class 1 and class 2 in this solution (both had low scores on all abuse items). Moreover, class 2 was characterized by a very small class membership (1.9%). According to Hipp and Bauer (2006), classes with membership of less than 5% should be considered spurious and, following an inspection of their properties, can be discarded as a statistical anomaly. Moreover, BIC was lower for the three-class model compared with the four-class solution and this fit index was previously recognized as one of the most reliable indicators of the correct number of latent classes (Nylund et al., 2007). Finally, the entropy measure (0.78) also suggests that the data was well captured by a three-class solution.

In the female sample, the four-class solution was identified as the best fitting model. AIC was lower and BIC was higher for the four-class model than the three-class model, however, the model with three latent classes recorded a non-significant LMR value. Further, BIC was lower for the four-class model compared to the five-class model. The non-significant LMR confirmed that the five-class model was not a significant improvement over the four-class model. Although the two-class model indicated a reasonable model fit and, as such, should be favored in line with the principle of parsimony, there were no qualitative differences between the two classes (the difference was only quantitative based on the

probability of endorsement of abuse items). The four-class model, on the other hand, revealed interesting profiles of children within each class based not only on the probability of item endorsement but also overall qualitative properties. From a practical standpoint, a solution which provides information about qualitative differences between subgroups of individuals “can more readily lend itself to drawing prevention and treatment implications” (Lanza & Rhoades, 2013, p. 158). Finally, in comparison to the other class solutions, the four-class solution had a higher entropy (0.77), further suggesting the superiority of the four-class solution in this sample.

Table 3.

*Fit Indices for the Latent Class Analysis of Child Abuse for Boys and Girls*

<b>Model</b>	<b>AIC</b>	<b>BIC</b>	<b>SSA BIC</b>	<b>LMR</b>	<b><i>p</i></b>	<b>Entropy</b>
<b>Boys</b>						
2 classes	3331.37	3404.23	3350.27	459.59	< .001	.73
<b>3 classes</b>	<b>3239.67</b>	<b>3359.67</b>	<b>3270.79</b>	<b>112.08</b>	<b>.001</b>	<b>.78</b>
4 classes	3204.87	3372.03	3248.23	122.09	< .001	.77
5 classes	3197.13	3411.43	3252.71	34.39	.42	.70
<b>Girls</b>						
2 classes	3267.42	3340.78	3286.82	305.22	< .001	.70
3 classes	3243.68	3364.51	3275.62	45.09	.25	.59
<b>4 classes</b>	<b>3236.60</b>	<b>3404.90</b>	<b>3281.09</b>	<b>28.66</b>	<b>.02</b>	<b>.77</b>
5 classes	3213.16	3428.92	3270.20	30.63	.24	.72

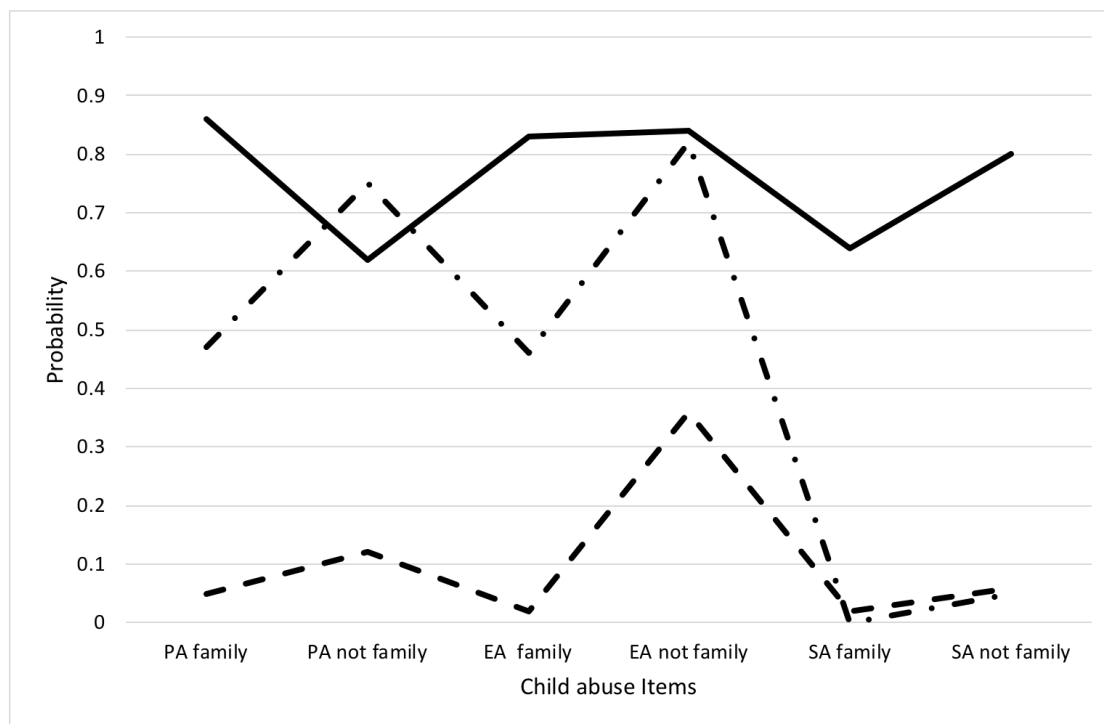
*Note.* AIC = Akaike information criterion; BIC = Bayesian information criterion; LMR = Lo-Mendell-Rubin’s adjusted likelihood ratio test; SSA BIC = sample size adjusted BIC. **Boldface** type suggests the best-fitting model for that particular sample.

### Latent Classes

A comparison of profile plots suggested that the three-class solution among boys and the four-class solution among girls were conceptually meaningful. All participants were assigned

to a latent class on the basis of their response profile and the estimated probabilities of endorsing the six child abuse items. The endorsement probabilities associated with the three-class model (boys) are presented in Figure 1, whereas those associated with the four-class model (girls) are presented in Figure 2.

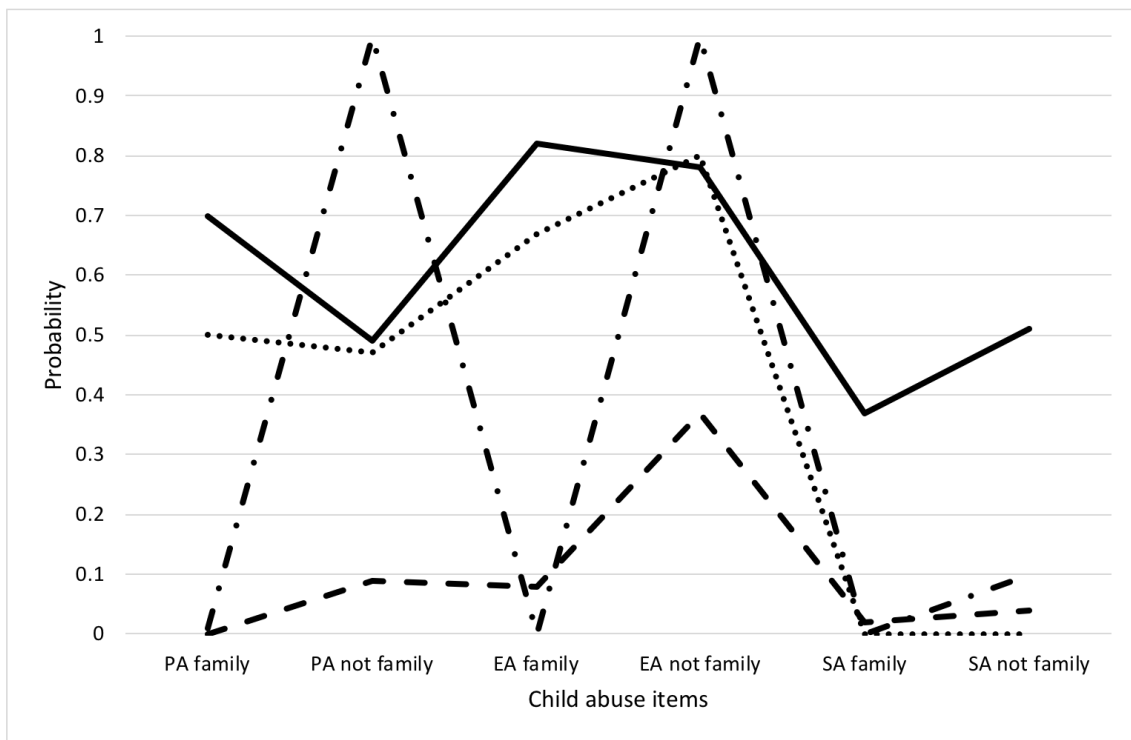
**Child abuse classes among boys.** The three latent classes are primarily characterized by qualitative differences, indicating that they do not simply reflect a spectrum of severity of abuse. Latent class 1 (17.6% of the sample) comprised individuals with a high probability of endorsing all child abuse items, with the highest item-response probability for PA in the family (0.86), followed by EA outside the family (0.84), EA in the family (0.83), SA outside the family (0.80), SA in the family (0.64), and PA outside the family (0.62). Item-response probabilities are the probability of a particular observed response on a specific variable conditional on latent class membership. Consequently, this class is best characterized as a ‘high overall abuse’ class. Next, members of class 2 (43.2% of the sample) had high item-response probabilities of endorsing EA (0.82) and PA outside the family (0.75), moderate probability of endorsing PA (0.47) and EA in the family (0.46), and very low probability of endorsing SA both in (0.00) and outside (0.05) the family. As such, the group was labelled the ‘physical and emotional abuse high outside/medium in the family’ class. Lastly, class 3 (39.2% of the sample) reported very low endorsement of five abuse types, including PA outside the family (0.12), SA outside the family (0.06), PA in the family (0.05), EA in the family (0.02), and SA in the family (0.02). Endorsement for EA outside the family was low-moderate (0.36). This class was labelled the ‘low abuse’ group.



*Figure 1.* Latent profile plot of child abuse among boys. Class 1 (solid line) = 17.6% of participants; Class 2 (dash-dot line) = 43.2% of participants; Class 3 (dashed line) = 39.2% of participants. PA family = Physical abuse in the family; PA not family = Physical abuse outside the family; EA family = Emotional abuse in the family; EA not family = Emotional abuse outside the family; SA family = Sexual abuse in the family; SA not family = Sexual abuse outside the family.

**Child abuse classes among girls.** Qualitative differences between the four classes were also noted for the female sample. In the latent class 1 (17.8%), girls evidenced high endorsement rates for EA in the family (0.82), EA outside the family (0.78), and PA in the family (0.70); moderate endorsement rates for SA outside the family (0.51) and PA outside the family (0.49); as well as low-moderate endorsement rates for SA in the family (0.37). In considering the characteristics of this class, it was labelled the ‘high overall abuse’ group. Class 2 (33.9%) was distinguished by high endorsement rates for both EA items (outside the family – 0.80; in the family - 0.67), moderate endorsement rates for the two PA items (in the family - 0.50; outside the family - 0.47), and lack of endorsement for SA items (0.00 for both). This class was considered as the ‘high emotional and moderate physical abuse’ group.

Members of class 3 (7.6%) were characterized by extremely high item-response probabilities for PA (1.00) and EA (1.00) outside the family, as well as very low endorsement for the remaining items (PA in the family – 0.01; SA outside the family – 0.10; EA in the family – 0.00; SA in the family – 0.00). To reflect this pattern of victimization, the group was termed the ‘high physical and emotional abuse outside the family’ class. Finally, class 4 (40.7%) was the most numerous group in the current analysis. Girls in this class reported a low-moderate probability of endorsing EA outside the family (0.37) and very low probability of endorsing the remaining five victimization items (PA outside the family – 0.09; EA in the family – 0.08; SA outside the family – 0.04; SA in the family – 0.02; PA in the family – 0.00). Thus, this class was named the ‘low abuse’ group.



**Figure 2.** Latent profile plot of child abuse among girls. Class 1 (solid line) = 17.8% of participants; Class 2 (dotted line) = 33.9% of participants; Class 3 (dash-dot line) = 7.6% of participants; Class 4 (dashed line) = 40.7% of participants. PA family = Physical abuse in the family; PA not family = Physical abuse outside the family; EA family = Emotional abuse in the family; EA not family = Emotional abuse outside the family; SA family = Sexual abuse in the family; SA not family = Sexual abuse outside the family.

### Validity of the Latent Classes

To validate the measurement model and describe the heterogeneity in type of abuse, associations between the emergent latent classes and covariates (age, violence perpetration, hostility, and non-violent conflict resolution) were examined. This was done separately for the best fitting models retrieved for boys and girls. All comparisons were made against the low abuse groups.

**Associations between latent classes and covariates among boys.** Results indicate that members of class 1 ('high overall abuse') were significantly more likely to have increased violence perpetration (OR = 1.12, CI = 1.04/1.20) and hostility (OR = 1.16, CI = 1.06/1.26) scores than members of class 3 ('low abuse'). Similarly, violence perpetration (OR = 1.09, CI = 1.03/1.15) and hostility (OR = 1.15, CI = 1.05/1.25) was also higher for members of class 2 ('physical and emotional abuse high outside/medium in the family') compared with class 3.

Table 4.

*Associations Between Child Abuse Classes and Covariates (Comparisons with Class 3 = reference group) for Boys*

Variable	Class 1	Class 2
	OR (95% CI)	OR (95% CI)
Age	1.00 (.94/1.06)	1.00 (.96/1.04)
Violence perpetration	1.12** (1.04/1.20)	1.09** (1.03/1.15)
Hostility	1.16** (1.06/1.26)	1.15** (1.05/1.25)
Non-violent conflict resolution	1.03 (.93/1.13)	1.08 (.98/1.18)

*Note.* Class 1 = high overall abuse (17.6% of participants); class 2 = physical and emotional abuse high outside/medium in the family (43.2%); class 3 = low abuse (39.2%)



**Associations between latent classes and covariates among girls.** Members of class 1 ('high overall abuse') were older (OR = 1.28, CI = 1.14/1.42) and had higher ratings on violence perpetration (OR = 1.15, CI = 1.07/1.23) and hostility (OR = 1.12, CI = 1.02/1.22) than members of class 4 ('low abuse'). Further, compared with class 4, girls in class 2 ('high emotional and moderate physical abuse') scored significantly higher on violence perpetration (OR = 1.11, CI = 1.03/1.19) and hostility (OR = 1.07, CI = 1.00/1.15). No significant differences were detected between members of class 4 and 3 ('high physical and emotional abuse outside the family').

Table 5.

*Associations Between Child Abuse Classes and Covariates (Comparisons with Class 4 = reference group) for Girls*

Variable	Class 1	Class 2	Class 3
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age	1.28*** (1.14/1.42)	1.11 (.99/1.23)	.78 (.43/1.13)
Violence perpetration	1.15*** (1.07/1.23)	1.11** (1.03/1.19)	1.08 (.98/1.18)
Hostility	1.12* (1.02/1.22)	1.07* (1.00/1.15)	1.02 (.92/1.12)
Non-violent conflict resolution	.97 (.89/1.05)	1.01 (.93/1.09)	.98 (.90/1.06)

*Note.* Class 1 = high overall abuse (17.8% of participants); class 2 = high emotional and moderate physical abuse (33.9%); class 3 = high physical and emotional abuse outside the family (7.6%); class 4 = low abuse (40.7%)

## Discussion

Despite violence being widespread in the Eastern Caribbean (Imbusch, 2011; Krug et al., 2002), studies assessing the rates of child maltreatment in the region are limited. In considering that informed awareness of the scope of the problem is crucial for designing targeted, population-specific prevention interventions, the main objective of the current study was to assess the rates of emotional, physical, and sexual abuse across two different contexts (in and outside the family) among children and adolescents from Barbados and Grenada.

Another aim was to uncover child abuse typologies. Based on latent class analysis (LCA), we identified three meaningful child abuse classes for boys and four for girls. Differential associations between class membership and external criteria were demonstrated for both sexes.

Abuse rates presented in the current study were considerably higher than those officially recorded by CPS in Barbados and Grenada. While data from these two sources are not easily comparable due to varying recording strategies (i.e., incidence rates provided by CPS vs. lifetime rates reported in the current study), when official statistics are converted into period prevalence, it seems that in 2008-2013 approximately 1-2% of children and adolescents in Barbados and Grenada suffered from abuse. By contrast, in the present investigation, 40.6% of boys and 31.1% of girls reported having experienced physical abuse in the family. These rates were roughly 10% higher for physical abuse experienced outside the family. Considering research evidence that each year only 1% of children in the population come into the attention of CPS (Gilbert et al., 2009), this disproportion was not entirely unexpected. Additionally, the current results indicate that emotional abuse outside the family is the most common type of abuse experienced by girls and boys (65.5% and 65.4% respectively). These significantly increased rates as compared with the worldwide prevalence of emotional maltreatment (36%; WHO, 2014), may indicate that this form of victimization is not understood or regarded as unacceptable in Barbados and Grenada (UNICEF, 2006). This supposition is further substantiated by the lack of emotional abuse cases recorded by the Child Welfare Authority in Grenada in 2009, 2010, and 2012 (UNICEF, 2015b), as well as studies conducted in other Caribbean countries where as many as 80-97% of children reported having experienced verbal aggression (see UNICEF, 2006 for a review). Rates of physical and sexual abuse in the current sample are also heightened when compared with James et al.'s (2016) data retrieved by means of a self-report survey (13.4%

for females and 8.7% for males). One possible explanation of the discrepancy is the use of adult retrospective accounts in this past research. Finally, disconfirming our initial predictions, abuse was more common outside than within the family, and rates of physical and sexual abuse were higher for boys than girls. The latter finding, however, is in line with studies in other non-Western societies where males reported higher sexual abuse than females (Charak & Koot, 2014; Choo et al., 2011), as well as qualitative research results suggesting that abuse of boys in the Eastern Caribbean is a significant problem and that boys may underreport victimization due to social stigma experienced following disclosure (Jones & Trotman Jemmott, 2009). Indeed, although official statistics suggest that sexual abuse is predominantly experienced by girls, in a World Bank (2003) study with youths from the Caribbean, a marginal difference in the percentage of boys and girls with experiences of such abuse was noted. Additionally, according to the UNICEF (2013) report on child sexual violence in the Caribbean, child sexual abuse cases with female victims are more vigorously investigated than those involving male victims, which may discourage boys from reporting sexual abuse. Given that violence against women is widespread in the Caribbean (Bott, Guedes, Goodwin, & Mendoza, 2012), it may also be that girls raised in families in which such violence occurs, do not construe the way they are treated as abusive. To gain a better understanding of these issues, future CM research in the Eastern Caribbean should not only explore children's abuse history but also inquire into their self-reporting behavior and experiences with CPS and other relevant authorities, with a specific focus on possible gender differences. It is also advisable that longer and more specific measures of child abuse are utilized in future research (such as the one proposed by Choo et al., 2011), to ensure that children report abuse experiences even if they do not interpret them as abuse.

Further, as in past profiling research (e.g., Armour et al., 2014; Villodas et al., 2012), we recovered child abuse classes characterized by low endorsement of all abuse items among

both sexes. Interestingly, item-response probabilities for abuse variables among males largely mirrored those noted for females. Similarly to prior studies, members of low abuse groups were less likely to experience adverse behavioral consequences in comparison with most of the remaining classes. Nonetheless, as opposed to previous investigations among samples drawn from the general population where approximately 80% of respondents belonged in low victimization typologies (e.g., Armour et al., 2014; Davis et al., 2015; Nooner et al., 2010), membership in corresponding classes identified here amounted to 39.2% among boys and 40.7% among girls. This more closely resembles results of a study carried out with Indian adolescents, in which 28.9% participants were classed in the minimal abuse or neglect typology (Charak & Koot, 2015). These findings combined indicate an urgent need to address the issue of CM in non-Western societies.

Past research among a variety of samples also recovered a class characterized by high endorsement of all abuse items (e.g., Debowska & Boduszek, 2017; Villodas et al., 2012). As hypothesized, the current findings are in keeping with the above. Specifically, we retrieved a high overall abuse class within both sexes, with similar item-response probabilities for abuse items among girls and boys. Members of these groups, compared with youths in low abuse classes, were more likely to engage in violence perpetration and hostile behaviors. In support of this finding are prior studies suggesting that individuals reporting accumulated experiences of victimization are at an increased risk for conduct-related problems, including violent and aggressive behavior, contributing to perpetuating the cycle of violence (e.g., Álvarez-Lister, Pereda, Abad, & Guilera, 2014; Ford, Elhai, Connor, & Frueh, 2010). Girls in the high overall abuse group were also older than their non-victimized counterparts. One possible explanation of this is that there is simply more opportunity across the years for more types of victimization. Moreover, prior research among samples drawn from the general population found poly-victimized group membership to oscillate between 2-10% (see Debowska et al.,

2017). By contrast, the current findings indicate that in excess of 17% of boys and girls in the two Eastern Caribbean nations experienced multiple forms of abuse. Although comparisons with prior studies are difficult due to varying abuse experiences being modelled, increased membership rates in high abuse classes were previously recorded in research with non-Western samples (e.g., Charak & Koot, 2015), adults engaging in non-suicidal self-injury (Vaughn et al., 2015), and participants with a known history of maltreatment (e.g., Witt et al., 2016).

We also found latent classes characterized by heightened physical and emotional abuse. Endorsement rates and patterns of abuse items in these groups differed for girls and boys. Boys recorded high item-response probabilities for physical and emotional abuse outside the family, as well as moderate item-response probabilities for the two forms of abuse within the family. This was the most numerous class in the model (43.2%) and its members evidenced significantly increased violence perpetration and hostility compared with low abuse classes. Among girls, two classes in which physical and emotional abuse predominated were recovered. Class 2 (33.9%) was characterized by high emotional and moderate physical abuse in and outside the family. Members of class 3 (7.6%), in turn, scored extremely high on physical and emotional abuse outside the family and very low on the remaining items. Compared with low abuse typology, membership of class 2, but not class 3, was related with increased odds of violence perpetration and hostility, indicating that intrafamilial victimization results in most adverse behavioral outcomes. It may be that violence experienced in the home instigates the feeling of powerlessness and betrayal (Finkelhor & Browne, 1985), which can moderate the association between abuse and externalizing problems.

Although prior research demonstrated that being a female significantly increases the odds of ‘sexual abuse only’ group membership (e.g., Armour et al., 2014; Vaughn et al., 2015; Witt et al., 2016), such a group was not retrieved in the current study for either sample. Past scholarship, however, regressed victimization items on participants’ gender, rather than testing separate child abuse models for males and females.

Past research revealed differing prevalence rates of CM for males and females (Gilbert et al., 2009; UNICEF 2015a, b). The present results contribute to the current knowledge base by highlighting some important similarities and differences in abuse patterns across the sexes, revealing the need for more comparative profiling studies using male and female samples from the same population. Building a better understanding of patterns of co-occurrence between different abuse types across the two sexes, may inform the development of targeted prevention and intervention strategies which, in turn, will allow for a more effective allocation of resources “to subgroups that promise to show the maximum treatment response” (Lanza & Rhoades, 2013, p, 157). Our findings demonstrate when it may and may not be appropriate and efficient to offer similar intervention programs to girls and boys.

The present study should be interpreted in light of several limitations. Firstly, all measures used here were based on self-report. Although research evidence in the area of child abuse indicates that self-report surveys elicit more honest responses than face-to-face interviews (Rumble et al., 2017), future research should aim to use multi-rater evaluations (e.g., a combination of self-report, parent and/or teacher ratings), especially when assessing aggressive behavior. Secondly, we did not use a standardized assessment of child abuse. Although it is advisable to use such measures to facilitate comparisons between studies, in considering that our sample would consist of children and adolescents, our aim was to design a short questionnaire with items which would be clear to respondents of all ages and literacy levels. A similar population-specific approach to CM questionnaire construction was adopted

by Debowska and Boduszek (2017). Although abuse experiences can be captured using single-item questionnaires, the use of longer scales with more specific questions could tackle the problem of under-reporting when a child does not interpret abuse experiences as abuse. Next, the current research did not measure neglect (which, based on official records, appears to be common in the Barbados and Grenada) or control for socio-economic status (SES), abuse severity/frequency, and age at onset of abuse. Since earlier onset of abuse was previously associated with more symptoms of depression and anxiety, whereas later onset was predictive of behavioral problems in adulthood (Kaplow & Widom, 2007), future studies should address this limitation. Information on SES, in turn, could help better recognize children at an increased risk of abuse for more targeted prevention.

### **Wider Implications and Recommendations**

We suggest that these findings provide new urgency to improve child maltreatment assessment and prevention methods in Barbados and Grenada. As highlighted by the WHO (2006), the effectiveness of any child maltreatment prevention efforts is dependent upon gaining the awareness of the extent and seriousness of abuse in the context of a specific culture. To our knowledge, the current study was the first to collect data on the issue using survey methodology and a large sample of children and adolescents from Barbados and Grenada. As such, it is recommended that further studies assessing child abuse rates in the region are conducted. Given that very young children's experiences were not assessed here, the need for such an investigation appears especially salient. The absence of similar studies commissioned by local institutions may be due to the lack of understanding of the seriousness and monetary costs of abuse and its sequelae. Despite the lack of immediate returns of research funding on public investment, studying the extent of abuse and assessing the effectiveness of preventive strategies, appears to be an important long-term investment to all economies. Indeed, the average lifetime cost per child maltreatment victim in the United

States has been estimated at \$210,012 in 2010, including childhood health care and welfare costs, adult medical costs, criminal justice costs, and productivity losses (Fang, Brown, Florence, & Mercy, 2012). The possible criminal justice costs of child maltreatment incurred by Barbadian authorities have already been implied in Marshall-Harris' (2011) study, where it was noted that nearly 30% of youths charged with an offense came from violent families. To explicitly demonstrate how financially burdensome child abuse can be in the context of both countries, it is recommended that an analysis of monetary cost of abuse is conducted.

The current study highlighted a considerable difference between the rates of officially recorded child abuse cases and abuse experiences reported by children. This, in line with UNICEF (2006) suggestions, may be due to the lack of awareness of what constitutes and how to recognize maltreatment by parents, childcare professionals, and other adults, undermining any prevention efforts. Moreover, physical punishment of children is still commonly used in the Eastern Caribbean households, with the majority of adults and children being against its abandonment (CADRES, 2014). This suggests that "milder" expressions of physical maltreatment are unlikely to be reported to the authorities. The general acceptance of corporal punishment seems to be reflected in the high rates of physical abuse reported here. Moreover, children in the present sample have been found to experience very high levels of abuse outside the home. Although we did not control for the specific settings in which such violence occurred (this should be addressed in future research), an earlier Jamaica based study revealed that older children can be physically, emotionally, and sexually victimized by strangers whilst using public transport (UNICEF, 2006). This reveals the need to involve all adults in the society in child abuse prevention. Thus, it is recommended that an awareness-raising campaign which would (a) challenge violence-accepting attitudes, (b) elucidate what constitutes maltreatment and how to identify it, (c) clarify damaging outcomes of such violence, including the tenets of cycle of violence, and (d) explain what steps should



be taken if a child is suspected to be victimized is urgently created. The ‘Break the Walls of Silence’ (BWS) campaign based on research carried out by the University of The West Indies, Trinidad, and Tobago (Reid, Reddock, & Nickening, 2014) and adopted by UNICEF (Eastern Caribbean) in 2012 for regional implementation is, in part, an answer to this call. However, for the BWS campaign to address the concerns raised by this study, greater attention to the different forms of child abuse and the differential experiences of boys and girls is needed.

Finally, in considering that abuse has been significantly related to violence perpetration and hostility in the present and past research (e.g., Álvarez-Lister et al., 2014; Ford et al., 2010; Jaffee et al., 2004; Lahey et al., 2003; Margolin & Gordis, 2000) and that youth violence is considered to be a serious problem in the Caribbean region (World Bank, 2003), children and adolescents should also be targeted for prevention. Although non-abused children reported less violent behavior, non-violent conflict resolution skills did not appear to be a function of abuse and youths in the current sample scored relatively low on the intention to use non-violent tactics. We therefore suggest that such programs are aimed at all youths in Barbados and Grenada irrespective of maltreatment history. Key to reducing the occurrence of violence among youths appear to be innovative educational and social strategies which provide a new repertoire of prosocial behaviors (WHO, 2016). Such programs should become incorporated into the formal educational curricula in both countries. In recent years, researchers and educators have become aware of the potential benefits of prosocial video games, which scaffold children’s experience using narrative and audio-visual content. A growing body of empirical evidence reveals a significant association between playing a prosocial video game and positive social outcomes (Greitemeyer & Mügge, 2014). This provides a new promising avenue for violence prevention to be explored in the Eastern Caribbean context.

## **Conclusion**

The findings revealed that violence against children and adolescents is widespread in Barbados and Grenada. Compared with girls, boys reported significantly increased levels of physical and sexual abuse both in and outside the family, supporting prior research with Caribbean and other non-Western populations indicating that abuse of boys is an underestimated problem (Charak & Koot, 2014; Choo et al., 2011; Jones & Trotman Jemmott, 2009; World Bank, 2003). In spite of the fact that emotional abuse is rarely reported to authorities in both countries (see UNICEF 2015a, b), the most common form of abuse irrespective of gender was emotional abuse outside the family. Using LCA, we found three meaningful classes of child abuse for boys and four for girls. The results also highlighted some important qualitative differences in the patterns of abuse across the sexes, providing crucial information for future intervention strategies. Additionally, male and female members of high overall abuse and high physical/emotional abuse classes, in comparison with members of low abuse groups, displayed increased odds of violence perpetration and hostility. This is in line with previous research providing evidence for the cyclical pattern of violent behavior (e.g., Álvarez-Lister et al., 2014; Ford et al., 2010; Jaffee et al., 2004; Lahey et al., 2003; Margolin & Gordis, 2000). Interestingly, among girls, physical/emotional violence experienced intrafamilially, but not extrafamilially, was associated with poor behavioral outcomes, drawing attention to the possible role of betrayal of trust in the relationship between abuse and violent behavior in girls. Altogether, these data, while in need of replication, suggest an urgent need for a comprehensive, society-wide approach to prevention, which would also account for gender differences in patterns of abuse.

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