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Emotional violence in childhood and health conditions, risk-taking behaviors, and violence perpetration among young adults in Nigeria

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Abstract

Background: Globally, over 1 billion children are victims of violence against children annually. Studies examining the health consequences of childhood violence have mostly focused on childhood physical violence (PV) and sexual violence (SV). Recent evidence suggests that childhood emotional violence (EV) may also be deleterious to the health and wellbeing of victims.

Objective: This study examines the independent association between EV and some health conditions, risk taking behaviors, and violence perpetration among Nigerian young adults ages 18–24 years.

Participants and Setting: Data from 2014 Nigeria Violence Against Children Survey (n=4,203), a nationally representative cross-sectional survey of individuals ages 13–24 were used.

Methods: Childhood EV was defined as EV victimization before age 18 perpetrated by a parent, adult caregiver or other adult relative. Logistic regression analyses assessed the association between EV in childhood and mental distress in the past 30 days, ever self-harm behaviors and history of sexually transmitted infections; risk behaviors such as having multiple sex partners in the past 12 months; and ever violence perpetration.

Results: After controlling for study covariates, EV in childhood was associated with mental distress in both males and females, and self-harm behaviors in females; excessive alcohol use and infrequent condom use in males, and multiple sexual partners in females; and PV perpetration in males and SV perpetration in females.

Conclusion: EV in childhood is associated with some health conditions, risk taking behaviors, and violence perpetration. Implementing programs that address all forms of violence in childhood, including EV may benefit children.

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Keywords

Violence against children; emotional violence; psychological violence; child violence

Introduction

Violence against children is a global public health problem, with more than 1 billion children estimated to be victims of violence each year (Hillis, Mercy, Amobi, & Kress, 2016). Experience of violence in childhood has been associated with negative health consequences that span from physical and behavioral to psychological and mental health (Anda, Butchart, Felitti, & Brown, 2010; Danese & McEwen, 2012; Moeller, Bachmann, & Moeller, 1993). Similarly, childhood experience of violence has been associated with perpetration of violence later in life (L. Chiang et al., 2018; Eriksson & Mazerolle, 2015; Taft, Schumm, Marshall, Panuzio, & Holtzworth-Munroe, 2008), creating what has been termed ‘a cycle of violence’ (L. Chiang et al., 2018). Despite the documented negative health consequences of all forms of childhood violence later in life, the majority of studies examining those health consequences have mostly focused on physical violence (PV) and sexual violence (SV) with limited emphasis on emotional violence (EV) (Crow, Cross, Powers, & Bradley, 2014; Lee, 2015). Therefore, a study that examines the independent relationship between childhood EV and health consequences is timely and important in filling some gaps in the literature.

EV has been defined as an isolated incident or pattern of behavior over time that fail to provide developmentally appropriate and supportive environment to the child and that has a greater likelihood of damaging a child’s mental, physical, spiritual, moral, or social development (Norman et al., 2012). EV is relatively common compared to other forms of violence (Meinck et al., 2017; Shin, Lee, Jeon, & Wills, 2015; Sorbo, Grimstad, Bjorngaard, Schei, & Lukasse, 2013). The few studies that have examined the health consequences of EV in childhood have demonstrated that EV in childhood has a deleterious effect on the health and wellbeing of children (Meinck et al., 2017; Shin et al., 2015), that EV may in fact underlie other forms of childhood violence, and that it may pose a serious developmental consequences such as neurophysiological, behavioral and cognitive problems (Chamberland, Fallon, Black, Trocmé, & Chabot, 2012; Vachon, Krueger, Rogosch, & Cicchetti, 2015). Consequences of childhood EV have been documented and include suicide, anxiety, depression, alcohol abuse, lower self-esteem, post-traumatic stress disorder, and decreased quality of life (Bruce, Heimberg, Blanco, Schneier, & Liebowitz, 2012; Crow et al., 2014; Dube et al., 2006; Gibb, Chelminski, & Zimmerman, 2007; Mersky & Reynolds, 2007; Teicher, Samson, Polcari, & McGreenery, 2006). Although prior studies have found associations between EV in childhood and poor health outcomes, those studies have relied on clinical, small and/or non-representative samples, or population from mostly developed countries (Baker, 2009; Mersky & Reynolds, 2007; Shin et al., 2015; Waxman, Fenton, Skodol, Grant, & Hasin, 2014).

The purpose of this study is to examine the independent relationship between EV in childhood (before age 18) and 1) some negative health conditions, 2) risk-taking behaviors,

and 3) perpetration of violence among young adults ages 18–24 years old in Nigeria while addressing some of the limitations in previous studies. The findings from this study will increase our understanding of the negative impact associated with EV in childhood.

Methods

Data from the 2014 Nigeria Violence Against Children Survey (VACS) were used for this study. Details about the sampling strategy and psychometric properties of the 2014 Nigeria VACS have been reported elsewhere (Nguyen, Kress, Villaveces, & Massetti, 2018). In summary, the 2014 Nigeria VACS was a cross-sectional household survey of adolescents aged 13–24 years designed to produce national estimates for childhood physical, sexual, and emotional violence. Led by the National Population Commission (NPopC) of the Federal Government of Nigeria and supported by the U.S Centers for Disease Control and Prevention (CDC), the survey used a three-stage cluster sampling technique. A three-step weighting procedure was applied to calculate the survey weight: (1) computation of base weight for each sample respondent; (2) adjustment of the base weights for differential non-response in the sample; and (3) calibration of the adjusted weights to known population totals. In total, a nationally representative sample of 1,766 girls and young women and 2,437 boys and young men completed interviews. The 2014 Nigeria VACS response rate was 93.7% for both males and females (*Violence against children in Nigeria: Findings from a National Survey 2014*, 2016). For this study, all analyses were restricted to young adults aged 18–24 years (females, 947; males, 1363) who responded to the EV questions. Both CDC IRB and the Nigeria Ethics Board approved the 2014 Nigeria VACS study protocol. Due to sex differences in the prevalence and effect of EV in childhood, all analyses were stratified by sex (Iwaniec et al., 2006; Waxman et al., 2014).

Measures/variables

Independent variable: *EV* in childhood (before age 18) was assessed by asking participants if a parent, adult caregiver or other adult relative ever "(a) told you that you were not loved, or did not deserve to be loved; (b) said they wished you had never been born or were dead; or (c) ever ridiculed you or put you down, for example said that you were stupid or useless?" Those who answered yes to one or more of these questions and who reported the first incident was before age 18 were considered to have experienced EV in childhood. In Nigeria, only EV from a parent, adult caregiver or other adult relative was assessed. EV from other perpetrator type such as intimate partner, peer, or other adults in the neighborhood/community were not assessed.

Outcome variables: *Health conditions* in the 2014 Nigeria VACS included mental distress, self-harm behaviors, and a history of sexually transmitted infection (STI). Mental distress was assessed using the Kessler scale (Kessler et al., 2002), asking respondents how often in the past 30 days they felt (a) nervous; (b) hopeless; (c) restless; (d) so sad that nothing could cheer them up; (e) that everything was an effort; and (f) worthless. Response options 'all the time', 'most of the time', 'some of the time', 'a little of the time', and 'none of the time' were coded 4, 3, 2, 1, and 0 respectively and summed across all items, with respondents scoring 5 or higher being considered as having moderate to serious mental

distress (Prochaska, Sung, Max, Shi, & Ong, 2012). The Kessler scale used for assessing mental distress in the study has demonstrated excellent internal consistency and reliability (Cronbach $\alpha = 0.89$) (Kessler et al., 2002) and in this study, the six items had high internal consistency and reliability as well (Cronbach $\alpha = 0.83$). Self-harm behaviors was defined as having answered 'yes' to any of the following three questions; (a) ever intentionally hurt self in any way; (b) ever thought about killing self; and (c) ever tried to kill self. STI history was determined by an affirmative answer to either; (a) ever been diagnosed with a sexually transmitted infection or (b) ever had a genital sore or ulcer?

Risk taking behaviors included: (a) the use of drugs (such as marijuana, pills, codeine, cocaine, or sniffed any chemical such as petrol or glue), at least once in the past 30 days; (b) excessive alcohol use, defined as drinking to the point of becoming drunk, at least once in the past 30 days; (c) cigarette smoking in the past 30 days; (d) multiple sexual partners in the past 12 months, defined as 2 or more sexual partners; (e) early sexual debut, defined as first sex at or before age 15 (Ihongbe, Cha, & Masho, 2017); and (f) infrequent condom use, defined as sometimes or never use of condom when had sex with partners other than spouse in the previous 12 months.

Violence perpetration included ever perpetrating physical violence or forced sex against an intimate partner or someone else. For physical violence perpetration, respondents were asked if they had done any of the following to a current or previous boyfriend/girlfriend, romantic partner/husband/wife or someone who is not a current or previous boyfriend/girlfriend, romantic partner/husband/wife: (a) punched, kicked, whipped, or beat them; (b) choked, suffocated, tried to drown or intentionally burned them; (c) used or threatened to use a knife, gun, or other weapon against them? Those who answered 'yes' to any of these questions were coded as having ever perpetrated any PV. For forced sex perpetration, questions asked included – Have you ever done any of the following: (a) forced a current or previous partner/husband/wife at the time to have sex with you when they did not want to; (b) forced someone who was not your partner/husband/wife at the time to have sex with you when they did not want to? Those who answered 'yes' to either question were coded to have ever perpetrated any SV.

Covariates: *PV* in childhood was defined as having ever been punched, kicked, whipped, or beaten with an object; choked, suffocated, tried to drown, or burned intentionally; used or threatened with knife, gun or other weapon before age 18 years. Participants were asked about PV perpetrated by intimate partners, peers, parents, adult caregivers, and other adult relatives, and adults in the neighborhood. *SV* in childhood was defined as unwanted sexual touching, unwanted attempted sex, physically forced sex, and pressured sex (through harassment or threats) before age 18 years by any perpetrator type. *Witnessing violence* was defined as witnessing physical violence in the home or outside of the home environment.

Socioeconomic status (SES) was estimated using the household poverty scorecard for Nigeria(Schreiner, 2015). Scoring SES variables according to the poverty scorecard guidelines, poverty likelihood was estimated for each respondent and grouped into three categories: less than 25% poverty likelihood, 25–50% poverty likelihood, and 50% or higher poverty likelihood. *Marital status* (defined as married or not married) at the time of the

survey and *level of education* completed or attending at the time of the survey were also included as covariates. These covariates were included because of their association with EV and/or some of the outcome indicators from previous studies (Lee, 2015; Meinck et al., 2017; T. L. Taillieu et al., 2016).

Statistical analyses

Descriptive statistics of demographic variables and prevalence of the various forms of childhood violence were assessed. Unadjusted and adjusted relationships were assessed between EV in childhood and health conditions, risk behaviors, and violence perpetration using logistic regression. Three hierarchical models were run: model 1 was the unadjusted relationship, model 2 adjusted for demographic variables often associated with EV (level of education, household poverty status, and marital status), and model 3 adjusted for witnessing violence, PV and SV in childhood, in addition to the covariates in model 2. All analyses were conducted in SAS version 9.4 software, taking into account the complex survey design (including survey weight, strata and cluster) of the 2014 Nigeria VACS. Using listwise deletion, individuals missing data on variables for a given model/analyses were excluded. Missing data were not imputed due to the complex skip pattern of the VACS. All data analyses were performed in 2018. For prevalence comparison, statistical significance was determined using non-overlapping confidence interval.

Results

There were 1,363 males and 947 females ages 18–24 who responded to the EV questions and who were included in this study. Mean age for males was 21.3 years (SD = 2.0) and that for females was 21.2 years (SD = 2.1). Greater proportion of respondents were attending or had graduated from high school (males=75%), females=64%) and about a third each of males and females had poverty likelihood of 50% or higher (Table 1). Significantly more females were married (43%) than males (15%). The prevalence of childhood violence, health outcomes, risk-taking behaviors, and violence perpetration are in Table 2. Among males, 20.3%, 52.3%, and 10.9% experienced EV, PV, and SV in childhood, respectively. Similarly, among females experience of EV, PV and SV in childhood were 17.0%, 49.0%, and 24.9%, respectively. The prevalence of mental distress, self-harm behaviors, and STI in males were 30.8%, 9.7%, and 5.1% respectively whereas in females, the prevalence were 33.6%, 9.7%, and 11.0% respectively. The prevalence of risk-taking behaviors ranged between 3.9% (for drug use) and 47.1% (for infrequent condom use) in males and 0.2% (for drug use) and 26.0% (for early sexual debut) in females. Males had significantly higher prevalence for each of these risk-taking behaviors than females except for early sexual debut (Table 2). Any physical violence and forced sex perpetrations were significantly more common in males than in females. There was high prevalence of witnessing violence in both sexes (66.0% in males and 71.9% in females).

The results from the logistic regression analyses are presented in Table 3. In the fully adjusted model (Model 3), EV in childhood was associated with mental distress among both males (adjusted odds ratio (AOR=1.50; 95% CI=1.02–2.19) and females (AOR=1.77; 95% CI=1.13–2.76). Furthermore, females who experienced EV in childhood had significantly

higher odds of ever having had self-harm behaviors (AOR=2.56; 95% CI=1.54–4.26). EV in childhood was also associated with excessive alcohol use in the past 30 days (AOR=1.62; 95% CI=1.10–2.37) and infrequent condom use (AOR=1.84 (95% CI=1.02–3.30) in males and having had multiple sexual partners in the past 12 months in females (AOR=3.80; 95% CI=1.52–9.51) after controlling for demographic characteristics and experience of other forms of childhood violence. EV in childhood was significantly associated with perpetration of physical violence in males (AOR=1.62; 95% CI=1.07–2.46). EV in childhood was also associated with the perpetration of forced sex in females (AOR=4.18; 95% CI=1.25–13.93); however, with such a wide confidence interval, results need to be interpreted with caution.

Discussion

In this nationally representative study of young adults ages 18–24 years in Nigeria, we observed a significant association between EV in childhood (before age 18) and health conditions, risk taking behaviors, and violence perpetration after controlling for level of education, marital status, SES, other forms of childhood violence, and witnessing violence in childhood. EV in childhood was associated with mental distress in young adulthood for both males and females. Among males, EV in childhood was also associated with excessive alcohol use, infrequent condom use, and physical violence perpetration. In females, EV in childhood was associated with self-harm behaviors, having multiple sexual partners in the past 12 months, and forced sex perpetration.

The findings that EV in childhood is associated with mental distress is consistent with prior literature that has documented an association between EV in childhood and a number of mental health problems such as anxiety, depression, post-traumatic stress disorders, and psychotic disorders (Hamilton et al., 2013; Iram Rizvi & Najam, 2014; Kuo, Goldin, Werner, Heimberg, & Gross, 2011; Norman et al., 2012; Tamara L. Taillieu & Brownridge, 2013; T. L. Taillieu et al., 2016). Previous research has suggested that negative self-association, such as low self-worth and dysfunctional attitudes (i.e. maladaptive beliefs about oneself such as ‘my value as a person depends on what others think about me’), may explain the association between EV in childhood and mental health problems later in adulthood (Conway, Slavich, & Hammen, 2015; Gibb et al., 2007; van Harmelen et al., 2010).

The association observed between EV in childhood and self-harm behaviors in females is also consistent with the literature (de Araujo & Lara, 2016; Seff & Stark, 2019). Using VACS data from Tanzania, Kenya and Haiti, Seff and Stark observed that ever-exposure to EV was significantly associated with suicidal ideation (Seff & Stark, 2019). In a study among Brazilians, de Araujo and Lara found that even low levels of EV in childhood were also associated with suicidal ideation after controlling for other forms of violence (de Araujo & Lara, 2016). Christoffersen and colleagues also noted that after controlling for other forms of child abuse, emotional abuse was associated with higher rates of suicidal behaviors and that when emotional abuse was reduced, the rate of suicidal behaviors also diminished (Christoffersen, Diane, & Trauma, 2010). However, this relationship was not significant in males in the current study. It is possible that these findings are being driven by the higher prevalence of suicidal ideation in females than in males(6.2% of females had ever

experienced suicidal ideation whereas only 3.6% of males had), an observation that has been recognized in the literature (Miranda-Mendizabal et al., 2019). Another possibility could be the gendered societal context which could have an implication on suicidal behaviors among females (Nowotny, Peterson, & Boardman, 2015) or how females externalize emotional violence with regards to suicidal behaviors in Nigeria. Readers may benefit from future studies that examine the gendered context of suicidal behaviors among Nigeria youth.

Consistent with the previous studies (Negriff, Schneiderman, & Trickett, 2015; Norman et al., 2012; Shin et al., 2015; T. L. Taillieu et al., 2016; Thompson et al., 2017), EV in childhood was associated with risk taking behaviors including alcohol misuse, infrequent condom use in males and multiple sexual partners in the past 12 months in females after controlling for other forms of childhood violence. The association between EV in childhood and excessive alcohol use observed in males may be explained by the self-medication hypothesis, which posits that people consume alcohol to temporarily reduce the intensity of a negative emotional/psychological state (Jackson & Sher, 2003; Shin et al., 2015). Alcohol may have been used as a coping tool to ‘escape’ psychological distress. For females, it is unclear why excessive alcohol use was not associated with EV in childhood. The association between EV in childhood and sexual risk taking behaviors such as multiple sexual partners in the past 12 months in females and infrequent condom use in males is also consistent with findings from previous studies that have documented a higher risk of engaging in behaviors that may set victims of EV in childhood up for problematic sexual behaviors (Negriff et al., 2015; Norman et al., 2012; VanderEnde et al., 2018). These problematic sexual behaviors associated with EV in childhood imply that EV may indirectly increase the risk of HIV and STI infection through multiple sexual partnerships and infrequent condom use.

Finally, previous studies have demonstrated that victims of physical and sexual violence in childhood are more likely to perpetrate violence later in life. Findings from the current study suggest that EV in childhood is also an independent predictor of violence perpetration. The finding of significant relationship between EV and forced sex perpetration among females was unexpected. In general, research examining female perpetration of sexual violence are uncommon, particularly, in relationship with emotional violence. However, a study by Anderson and colleagues using data from ten southern African countries reported that 4.7% of females ages 11–16 had perpetrated forced sex and that risk factors for forced sex perpetration included being victims of forced sex in the past (Andersson et al., 2012). Thus, our finding suggest that other forms of violence victimization may also be risk factors for forced sex perpetration in females. Therefore, addressing childhood EV may be beneficial to breaking the ‘cycle of violence’ through the prevention of other consequences of childhood EV such as dating violence during adulthood (Berzenski & Yates, 2011; Lieberman, 2004).

The results in this study suggest potential opportunities to leverage primary prevention of violence for long-term impact on a range of health conditions. The links between EV and key risk factors for HIV transmission – multiple sex partners for females and infrequent condom use for males – indicate the need to address EV as a potential driver of the HIV epidemic in Nigeria. Epidemic control efforts could benefit from integration of primary prevention of EV to reduce sexual risk behaviors among young adults, a population at-risk for HIV transmission. Reducing EV could also result in long-term impacts on reduced

alcohol misuse and its associated health conditions among males (Norman et al., 2012). Preventing EV could also result in improved mental health for both males and females, and lower risk for self-harm behaviors for females. Finally, results suggest that preventing EV could interrupt the “cycle of violence” and reduce risk for violence perpetration. Evidence-based strategies – such as those covered in INSPIRE: Seven Strategies to Prevent Violence Against Children (INSPIRE: Seven Strategies for Ending Violence Against Children) – have the potential to reduce risk for violence and its health consequences. Parenting programs that strengthen family relationships can reduce EV and build nurturing, protective relationships between parents and children (INSPIRE: Seven Strategies for Ending Violence Against Children).

The main strength of this study is the use of nationally representative data from a developing country to examine the independent association between EV in childhood and a number of health conditions, health risk taking behaviors, and violence perpetration. Another strength of the study is the use of data that were collected from individuals ages 18–24 years, which may be subject to less recall bias than other studies relying on data from adults of older age. Limited data exists on the prevalence and consequences of childhood violence, especially EV, from low- and middle-income countries (Massetti, Mercy, Bellis, & Hughes, 2019). Despite the strength of the study, there are some limitations worth noting, including the cross-sectional design of the study with its limitation in determining cause and effect. Also, for the health conditions that were assessed in participants lifetime such as early sexual debut, self-harm behaviors, and history of STI, it is possible some of these conditions may have occurred before the experience of childhood EV or after – this study could not determine the order in which they may have occurred. In addition, we recognize the regional and state differences of violence in Nigeria, but we did not have large sample size to estimate these relationships at the regional or state levels. Another limitation is the fact that only EV perpetrated by a parent or other adult caregivers was included. Although the VACS questionnaire has been cognitively tested with multiple diverse populations and the questions are consistent with those in validated instruments (Kidman,Smith, Piccolo, & Kohler, 2019;World Health Organization, 2018;Zolotor et al., 2009), some of the violence measures in the present study, such as perpetration, rely on single-item assessment rather than a validated instrument. Lastly, as with many behavioral studies, there is the possibility for under or over reporting of experiences and behaviors. However, in order to minimize biased reporting, VACS interviewers undergo in-depth training on interview techniques to build rapport, interview in a neutral way, and ensure the protection of privacy and confidentiality of the participants (L. F. Chiang et al., 2016).

In conclusion, childhood EV is common and has an independent association with a mental distress, self-harm behaviors, excessive alcohol use, having multiple sex partners, and perpetrating physical or sexual violence. EV survivors may benefit from prevention strategies that address childhood EV which recognize different conditions by sex, while addressing the shared impact on mental distress. Programs that improve the self-worth and self-esteem of youth who have experienced EV may help mitigate some of the long-term effects of childhood EV.

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Table 1.

Demographic Characteristics of Nigeria youth aged 18–24, Nigeria VACS, 2014

Variable	Male		Female	
	n[a]	% 95% CI	n[a]	% 95% CI
Educational level				
Less than HS	331	24.1 (18.3 – 29.9)	324	36.1 (29.9 – 42.3)
HS Graduate	759	56.2 (51.2 – 61.2)	472	48.3 (43.1 – 53.5)
Beyond HS	270	19.8 (16.1 – 23.4)	148	15.6 (11.3 – 19.9)
Marital Status				
Married	253	15.0 (11.4–18.7)	415	42.7 (37.4–48.0)
Widowed/Divorced/Separated	7	0.4 (0.1–0.8)	35	3.9 (2.4–5.3)
Never been married	1103	84.5 (80.9–88.2)	495	53.4 (48.1–58.8)
Household Poverty Score Card				
50% or higher poverty likelihood	346	33.0 (27.8 – 38.2)	214	29.8 (24.8 – 34.7)
25%−50% poverty likelihood	389	28.0 (24.5 – 31.5)	290	30.7 (26.9 – 34.5)
Less than 25% poverty likelihood	572	39.0 (34.4 – 43.6)	434	39.5 (34.2 – 44.8)

Please note that all statistical analyses took into account the complex survey design of the 2014 Nigeria VACS.

[a]Sample n are unweighted and represent the numerator

Table 2.

Prevalence of childhood violence, health outcomes, risk-taking behaviors, violence perpetration, and witnessing violence among Nigeria youth aged 18–24, Nigeria VACS, 2014

Variable	Male		Female	
	n[a]	% (95% CI)	n[a]	% (95% CI)
Violence in childhood				
Experienced any EV before age 18	282	20.3 (17.1 – 23.5)	167	17.0 (13.6 – 20.4)
Experienced any PV before age 18	693	52.3 (48.2 – 56.4)	494	49.0 (44.1 – 53.9)
Experienced any SV before age 18	152	10.9 (8.8 – 13.1)	248	24.9 (21.0 – 28.8)
Health Conditions				
Serious mental distress in the last 30 days*	454	30.8 (27.0 – 34.7)	344	33.6 (29.4 – 37.8)
Ever had self-harm behaviors**	122	9.7 (7.5 – 11.8)	99	9.7 (7.2 – 12.3)
Ever diagnosed with STI	82	5.1 (3.7 – 6.5)	106	11.0 (8.7 – 13.3)
Risk-Taking Behaviors				
Used drugs in the last 30 days	61	3.9 (2.7 – 5.2)	3	0.2 (0.0 – 0.4)
Excessive alcohol use in the past 30 days	294	22.2 (19.0 – 25.5)	85	9.0 (6.8 – 11.3)
Smoked cigarette in the last 30 days	255	18.5 (15.5 – 21.5)	43	4.3 (2.6 – 6.0)
Had multiple sexual partners in the last 12 months	143	18.5 (14.7 – 22.3)	21	3.3 (1.6 – 5.0)
Had sex at or before age 15	112	8.3 (6.3 – 10.3)	242	26.0 (21.3 – 30.7)
Infrequent condom use	254	47.1 (41.6 – 52.6)	159	25.9 (20.8 – 31.0)
Violence Perpetration				
Perpetrated any physical violence	219	16.1 (13.3 – 18.8)	129	12.1 (8.9 – 15.2)
Perpetrated any forced sex	86	6.6 (4.6 – 8.6)	18	1.5 (0.8 – 2.2)
Witnessed violence				
Witnessed violence	877	66.0 (62.2 – 69.8)	695	71.9 (67.1 – 76.8)

STI - Sexually transmitted infection.

Please note that all statistical analyses took into account the complex survey design of the 2014 Nigeria VACS.

[a]Sample n are unweighted and represent the numerator

*Serious mental distress – Assessed using Kessler scale by asking respondents series of questions about their mental health during the previous 30 days. Score of 5 or greater was considered serious mental distress.

**This included those who responded yes to any of the following - (a) ever intentionally hurt self in any way; (b) ever thought about killing self; and (c) ever tried to kill self

Table 3.

Relationship between emotional violence in childhood and health conditions, risk- taking behaviors, and violence perpetration among Nigeria youth aged 18–24, Nigeria VACS, 2014[¥]

Variable	Male			Female		
	Model 1 OR (95% CI)	Model 2 AOR (95% CI)	Model 3 AOR (95% CI)	Model 1 OR (95% CI)	Model 2 AOR (95% CI)	Model 3 AOR (95% CI)
Health Conditions						
Serious mental distress[*]	**1.77 (1.21–2.59)**	**1.75 (1.19–2.58)**	**1.50 (1.02–2.19)**	**2.05 (1.30–3.22)**	**2.02 (1.28–3.19)**	**1.77 (1.13–2.76)**
Ever had self-harm behaviors[**]	1.08 (0.65–1.79)	1.07 (0.65–1.76)	0.92 (0.55–1.52)	**3.51 (2.12–5.82)**	**3.04 (1.82–5.06)**	**2.56 (1.54–4.26)**
Ever diagnosed with STI	1.20 (0.66–2.18)	1.26 (0.69–2.31)	1.14 (0.62–2.1)	1.73 (0.94–3.19)	1.71 (0.91–3.23)	1.31 (0.71–2.45)
Risk-Taking Behaviors						
Used drugs in the past 30 days	**2.02 (1.02–4.01)**	**2.16 (1.06–4.4)**	1.62 (0.74–3.57)	***	***	***
Excessive alcohol use in the past 30 days	**1.63 (1.12–2.36)**	**1.65 (1.12–2.42)**	**1.62 (1.10–2.37)**	1.14 (0.59–2.23)	1.07 (0.53–2.15)	0.99 (0.5–1.98)
Smoked cigarette in the past 30 days	1.46 (0.98–2.17)	1.50 (0.99–2.28)	1.41 (0.94–2.11)	1.47 (0.63–3.42)	1.30 (0.54–3.15)	1.28 (0.54–3.01)
Had multiple sexual partners in past 12 months	1.29 (0.86–1.93)	1.17 (0.76–1.8)	0.91 (0.53–1.58)	**5.73 (1.86–17.68)**	**4.15 (1.41–12.2)**	**3.80 (1.52–9.51)**
Had sex at or before age 15 years	1.22 (0.56–2.66)	1.27 (0.56–2.86)	1.07 (0.45–2.52)	0.85 (0.55–1.33)	1.54 (0.87–2.7)	1.31 (0.73–2.34)
Infrequent condom use	**2.23 (1.41–3.53)**	**2.22 (1.33–3.72)**	**1.84 (1.02–3.3)**	**2.49 (1.48–4.21)**	**2.29 (1.16–4.52)**	1.82 (0.86–3.87)
Violence Perpetration						
Perpetrated any physical violence	**2.26 (1.54–3.40)**	**2.35 (1.58–3.5)**	**1.62 (1.07–2.46)**	1.68 (0.98–2.89)	1.54 (0.88–2.67)	1.09 (0.62–1.91)
Perpetrated any forced sex	**2.10 (1.26–3.52)**	**2.07 (1.18–3.65)**	1.35 (0.73–2.51)	**4.47 (1.54–12.97)**	**5.03 (1.69–14.97)**	**4.18 (1.25–13.93)**

STI - Sexually transmitted infection.

Please note that all statistical analyses took into account the complex survey design of the 2014 Nigeria VACS.

[¥]Table is based on logistic regression analyses.

[*]Serious mental distress – Assessed using Kessler scale by asking respondents series of questions about their mental health during the previous 30 days. Score of 5 or greater was considered serious mental distress.

[**]This included those who responded 'yes' to any of the following - (a) ever intentionally hurt self in any way; (b) ever thought about killing self; and (c) ever tried to kill self.

[***]Unstable estimates. Estimates suppressed.

Model 1 – unadjusted association.

Model 2 – controlled for level of education completed, household poverty, and marital status.

Model 3 – controlled for model 2 covariates + witnessing violence, childhood physical violence and childhood sexual violence

Boldface indicates statistical significance ($p<0.05$)