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Prevalence of and factors associated with peer emotional and physical violence among youth ages 13–17 in Cote d'Ivoire

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Abstract

Background: Peer violence during childhood is associated with negative outcomes. Data are limited on its associated factors in sub-Saharan Africa.

Objective: This study assesses the prevalence and factors associated with peer emotional and physical violence among children and adolescents aged 13–17 years in Côte d'Ivoire.

Participants and setting: Data from the 2018 Côte d'Ivoire Violence Against Children and Youth Survey (VACS) were used to examine peer emotional and physical violence victimization. VACS is a national cross-sectional household survey of females and males aged 13–24 years.

Methods: Data included physical, emotional, and sexual violence and socioeconomic, demographic, and relationship factors. We computed the adjusted odds ratios (AOR) and confidence interval (CI) for associated factors adjusted for food insecurity and rural or urban setting.

Results: Thirty-one percent of females and 46.7 % of males experienced lifetime peer physical violence and 36.8 % of females and 40.2 % of males experienced peer emotional violence in the past 12 months. Witnessing violence in the home towards the mother (female AOR 1.2, CI 1.0–1.3); male AOR 1.4, CI 1.2–1.6) and witnessing violence in the home towards a sibling (female AOR 1.2, CI 1.1–1.3; male AOR 1.3, CI 1.12–1.4) increased the odds of ever experiencing peer physical violence. In males, not living with their biological mother (AOR 1.2, CI 1.0, 1.4) or biological father (AOR 1.2, CI 1.1–1.3) was associated with ever experiencing peer physical violence.

Conclusion: Interventions for children and adolescents living without parents and programming focused on education and skills-building may help to reduce peer violence against children in Côte d'Ivoire.

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Keywords

Violence prevention; Violence against children; Peer violence

1. Introduction

Violence against children is an urgent public health issue globally. At least 1 billion children experience violence annually (Hillis, Mercy, Amobi, & Kress, 2016). Violence experienced before age 18 is associated with lifelong and severe adverse health outcomes, although many studies are based on child abuse (where the perpetrator is a parent, adult caregiver, or other custodial adult) as the form of violence (Danese & McEwen, 2012; Felitti et al., 1998).

Children experience violence in various forms, in multiple settings, and by different perpetrators (UNICEF, 2017). Although epidemiologic evidence of violence against children in general is growing, research on violence perpetrated by peers in sub-Saharan Africa remains scarce. Peer physical and emotional violence during childhood can significantly impact children and has been associated with adverse health outcomes later in life. Bullying in childhood including physical and verbal abuse, may affect children's health and education (Armitage, 2021). A study of adults in North Carolina showed an association between bullying during childhood (i.e., "child is a particular object of mockery, physical attacks, or threats by peers or siblings") and psychiatric disorders in adulthood (Copeland, Wolke, Angold, & Costello, 2013).

Little is known about the prevalence of and factors associated with peer emotional and physical violence in sub-Saharan Africa. A study conducted in Uganda reported that 34 % and 29 % of primary school students had ever experienced peer emotional and physical violence, respectively (Wandera et al., 2017). The authors found that exposure to violence between parents, school staff with attitudes that support violence against children, children not living with biological parents working for payment, and a higher Strengths and Difficulties Questionnaire score, indicating more symptoms of common mental disorders, were associated with both emotional and physical peer violence. In another study, nationally representative data from 1342 adolescents from a school in Ghana showed that bullying victimization prevalence was 41.3 %, including emotional, physical, and sexual types (Aboagye et al., 2021). Bullying victimization was associated with being younger, marijuana use, suicidal attempts, having been physically attacked, and being lonely. Witnessing violence is linked to peer victimization. Studies have shown that interparental violence is associated with children in the household experiencing peer victimization (Hong et al., 2021; Knous-Westfall, Ehrensaft, Watson MacDonell, & Cohen, 2012). These results have been mostly reported from developed countries.

The primary purpose of this study is to examine the independent relationship between experiencing either emotional or physical peer violence and associated factors among children aged 13–17 years old in Côte d'Ivoire. The secondary purpose is to describe the context of peer physical violence in Côte D'Ivoire including its prevalence. Analysis was limited to survey participants aged 13–17 to help interpret survey questions about parental involvement, work, and school attendance. Research on the factors associated with peer

emotional and physical violence is limited in Côte d'Ivoire and in sub-Saharan Africa more broadly. Findings may inform policy and interventions for preventing peer violence against children in Côte d'Ivoire.

2. Methods

2.1. Study procedures

The 2018 Côte d'Ivoire Violence Against Children and Youth Survey (VACS) is a nationally representative household interviewer-administered survey of 13–24-year-old males and females that was conducted in Côte d'Ivoire among those who spoke French and had the capacity to respond to the survey questions. The Ministry of Women, Family and Children led the survey with the coordination of the National Program for Orphans and Other Children made Vulnerable by HIV/AIDS, in collaboration with the Ministry of Health and Public Hygiene, UNICEF and the Centers for Disease Control and Prevention (CDC). The National Institute of Statistics implemented the survey in 2018. The VACS sought to understand the nature and magnitude of violence against children and youth, risk and protective factors, and other contextual information, by producing estimates of childhood and youth experiences of physical, emotional and sexual violence.

The CDC Institutional Review Board and Côte d'Ivoire National Ethics Committee independently reviewed the Côte d'Ivoire VACS protocol prior to executing the survey ensuring that it met strict ethical guidelines. Furthermore, carefully screened and experienced interviewers were extensively trained on the methodology and ethical procedures of the VACS before deployment and were closely monitored during field work.

Survey participants completed a thorough consent process. Independent participants (ages 18 to 24; emancipated or married minors) self-consented to the interviews. Parents or guardians granted their consent to allow dependents (ages 13 to 17; non-emancipated nor married) to participate in the study; these dependents then also provided their assent before the interviews. Per the protocol, the survey was described in the community and when seeking parental permission for a dependent to participate in the survey, as a survey about young people's health, educational, and life experiences. This was done to protect the confidentiality and ensure the safety of survey participants.

The 2018 Côte d'Ivoire VACS enumeration areas (EAs) were sampled separately for males and females using a split sample design. The survey had a three-stage cluster sample design. One-hundred and ninety-seven enumeration areas were selected in the first stage. Thirty households were selected from each of those EAs. Finally, one participant was identified in each selected household. In total, 1200 females and 1208 males completed the survey with individual response rates of 95 % for female participants and 91.2 % for male counterparts. Data collection methods and protocols, and analysis methods are described in greater detail in the 2018 Côte d'Ivoire VACS final report (Ministry of Women, National Institute of Statistics, & U.S. Centers for Disease Control and Prevention, 2019).

2.2. Measures

The sociodemographic variables used in this study included age, school enrollment, employment, living with biological mother or father, close friendships, food insecurity, and an urban or rural household. Age was the participant's age at the time of the interview. School enrollment was reported by participant as currently enrolled in school or not. Employment was based on having reported working in the last year. Not living with the biological mother or father was based on whether the biological mother or father was living away from the participant at the time of the survey. Close friendships was based on the response to the question, "How much do you talk to friends about important things: a lot, some, not too much, not at all?" The responses were dichotomized with "a lot" and "some" as yes and "not very much" and "not at all" as no. Food insecurity was based on a no response to the question, "Do you think your household has enough money for food?" Households were defined as urban or rural in the sampling frame based on national data.

The two study outcomes were whether peer physical violence was ever experienced and whether peer emotional violence was experienced in the past 12 months as a lifetime measure of peer emotional violence was not collected on this survey. Peer physical violence includes any physical violence that was perpetrated by someone a similar age as the victim. Such violence includes being slapped, pushed, shoved, shook, or something intentionally thrown at the participant to hurt them; punched, kicked, whipped, or beat with an object; choked, smothered, or someone trying or attempting to drown or burn the participant intentionally; and use or threatened use against the participant with a knife, gun or other weapon. Peer emotional violence in the past 12 months included any emotional violence by someone with a similar age as the victim. Such violence includes the survey participant being made to feel scared or really bad because they were being called names, having mean things said to them, or having someone say they did not want them around; being told lies or having rumors spread about them or someone trying to make others dislike them; and the participant being kept out of things on purpose, excluded from their group of friends, or completely ignored. Perpetrators of peer violence could include siblings, schoolmates, neighbors, or strangers but did not include a boyfriend/girlfriend, spouse, or romantic partner.

Witnessing violence and experiencing violence were also included as covariates. Witnessed violence to a sibling in the home was based on the participant seeing or hearing a parent punch, kick, or beat their brothers or sisters one or more times. Witnessed the mother or step-mother being treated violently in the home was based on the participant seeing or hearing their mother or step-mother being hit, punched, kicked, or beaten by their father or step-father one or more times. Witnessed violence in the community was based on the participant seeing someone being attacked outside of their home and family one or more times.

Experiencing violence was a combination of three different types of violence by any perpetrator: lifetime physical violence, lifetime emotional violence, and lifetime sexual violence. Each type of lifetime violence is dichotomized as "yes" or "no." Violence experience sums up the three violence types for each participant, identifying who has experienced either 0, 1, 2, or 3 different types of violence in their lifetime. The violence

experience variable for the analysis on peer emotional violence uses both physical and sexual violence, but only non-peer emotional violence. Similarly, for the lifetime peer physical violence analyses, violence experience includes lifetime non-peer physical, sexual, and emotional violence. The distinction between the violence experience variable within each separate analysis allows for no overlap between the outcome and the independent variable. Answer choices for some questions that include either “don’t know” or “declined” were counted as missing values as they do not provide any significant information about the person’s experience of violence.

2.3. Statistical analysis

Analysis was restricted to participants who were aged 13–17 years old. Data for females and males were analyzed separately. Frequencies were calculated for demographic variables (age, currently enrolled in school, worked in last year, not living with biological mother, not living with biological father, close friendships, food insecurity, and urban household) and violence covariates (witnessed violence to a sibling in the home, witnessed the mother or step-mother being treated violently in the home, and witnessed violence in the community). They were also calculated for types of violence experiences (lifetime physical, emotional, and sexual violence). Means and standard deviations were calculated for the continuous variables, while percentages and 95 % confidence intervals (CIs) were calculated for categorical variables. Although the frequencies for these covariates and demographic variables were based on all available data, we used sampling weights to compute the means, standard deviations, percentages, and CIs.

Because 96.5 % of observations were complete cases, models assessing lifetime peer physical violence and peer emotional violence within the past 12 months were based on complete cases. The peer physical violence analysis included 471 females and 567 males and the peer emotional violence analysis included 473 females and 571 males. Logistic regression models were fit to the data. The logistic regression models accounted for the sampling weights from the complex survey design and they produced odds ratios (OR) for each independent variable using the sampling weights. We computed unadjusted odds ratios from a separate simple logistic regression assessing peer physical or emotional violence as functions of individual covariates. We computed adjusted odds ratios (AOR) where the models were modified for food insecurity and rural or urban setting. We computed 95 % CIs to assess the uncertainty for all ORs and AORs. R version 4.1.1 was used for this analysis (R Core Team, 2022).

3. Results

The sociodemographic characteristics included in this analysis are reported in Table 1. The average age for both males and females was 15 years old. Most males (77.3 %) and females (71.7 %) were enrolled in school. Slightly >50 % (53.7 %) and 40 % (43.1 %) of the females and males lived in urban households, respectively. Food insecurity was reported by 36.8 % of persons aged 13 to 17. More than 60 % of females (63.9 %) and 67.6 % of males experienced lifetime physical violence. Twenty-four percent (24.3 %) of females compared to 10.7 % of males experienced lifetime sexual violence.

About 1 in 4 females and 1 in 5 males experienced lifetime emotional violence (24.6 % and 21.3 %, respectively). Thirty-one percent of females and 46.7 % of males experienced lifetime peer physical violence. For females, the first perpetrator was female 57.1 % of the time and male 42.9 % of the time. The first perpetrator for males experiencing peer physical violence was male 98.9 % of the time. One third of the children who ever experienced peer physical violence sustained an injury from the encounter. Thirty-six percent (36.8 %) of females and 40.2 % of males experienced peer emotional violence in the past 12 months.

The results of logistic regression analyses for the factors associated with peer emotional violence in the past 12 months and ever experiencing peer physical violence are presented in Tables 2 and 3. For both females and males, witnessing their mother or stepmother being treated violently, and experiencing two or three types of violence was associated with both peer emotional and physical violence. Witnessing violence towards a sibling in the home was associated with peer physical violence for both females and males and peer emotional violence for males only. Among males, not living with the biological mother or father was associated with peer physical violence, while witnessing violence in the community was associated with peer emotional and peer physical violence. Close friendships showed a significantly positive association to peer physical violence for females.

The results from multivariable logistic regression to assess the association between peer violence and the factors of interest, controlling for food insecurity and urban or rural household are presented in Tables 2 and 3. Findings on factors associated with peer violence are similar to that of bivariate analyses. Among females, witnessing their mother or step-mother being treated violently in the home (AOR 1.2, 95 % CI 1.0–1.3) and witnessing violence in the home towards a sibling (AOR 1.2, 95 % CI 1.1–1.3) increased the odds of experiencing peer physical violence. Among males, witnessing their mother or step-mother being treated violently in the home (AOR 1.4, 95 % CI 1.2–1.6), witnessing violence in the home towards a sibling (AOR 1.3, 95 % CI 1.1–1.4), and witnessing violence in the community (AOR 1.2, 95 % CI 1.1–1.4) increased the odds of experiencing peer physical violence. Among males, peer emotional violence elevated the odds of having witnessed their mother or step-mother being treated violently in the home (AOR 1.2, 95 % CI 1.0–1.4), witnessing violence in the home towards a sibling (AOR 1.2, 95 % CI 1.1–1.4), and witnessing violence in the community (AOR 1.3, 95 % CI 1.2–1.5). Compared to those with no experience of violence, those who experienced three types of violence had increased odds of peer physical violence (females AOR 1.6, 95 % CI 1.3–2.0; males AOR 2.0, 95 % CI 1.7–2.2) and peer emotional violence (females AOR 1.7, 95 % CI 1.4–1.9; males AOR 1.7, 95 % CI 1.4–2.0). Males not living with their biological mother (AOR 1.2, 95 % CI 1.1–1.4) or biological father (AOR 1.2, 95 % CI 1.1–1.3), or witnessing violence in the community (AOR 1.2, 95 % CI 1.1–1.4) were more likely to experience peer physical violence. School enrollment and having close friendships was not associated with peer physical or emotional violence among either females or males in multivariable analysis.

4. Discussion

Peer violence against children and adolescents in Côte d'Ivoire is common. Approximately one third of females and almost one-half of males experienced lifetime peer physical

violence. More than one-third of females and 40 % of males experienced peer emotional violence in the past 12 months. These prevalence data for peer violence are comparable to the prevalence reported from Uganda and Ghana-although those studies were school-based rather than household-based. This study sought to understand which factors were associated with lifetime peer physical violence and emotional violence in the past 12 months among female and male 13–17-year-old youth in Côte d'Ivoire.

Understanding risk and protective factors associated with peer violence has policy and programmatic implications. The current study showed increased odds of peer physical violence for both male and female youth if they witnessed violence in the home or community and increased odds of peer physical violence for males when they did not live with their biological mother or father. Similarly, witnessing violence was associated with a higher odds of peer emotional violence. Youth witnessing violence can lead to psychological difficulties, including mental distress (Kieselbach, Kress, MacMillan, & Pernerger, 2021), violence perpetration, and violence victimization (Buka, Stichick, Birdthistle, & Earls, 2001). The externalizing behavior that occurs after witnessing violence may lead to future victimization (Lynch & Cicchetti, 1998). Finally, both males' and females' AORs rose significantly for youth exposed to one, two, or three types of violence compared to not experiencing violence. The increased odds of experiencing peer physical violence among females with close friendships is unclear.

Côte d'Ivoire experienced a military political crisis that resulted in sustained and violent conflict in most of the country from 2002 to 2011. The literature, especially that focused on gender-based violence, shows that conflict and post-conflict settings often have higher rates of violence in homes and communities compared to non-conflict settings and that the violence does not immediately dissipate when the conflict is resolved (VanderEnde, Yount, Dynes, & Sibley, 2012). Researchers have begun to document that adolescents may be particularly vulnerable to the influence of such conflicts on other forms of violence they may experience in their homes, schools, and communities and the consequences of this interplay between broader political conflict and endemic violence (Browne et al., 2019; Stark et al., 2017; Stark & Landis, 2016). Specifically, in Côte d'Ivoire, UNICEF researchers have argued that current child protection policies and systems do not appropriately account for the roles of shifting economics, urbanization, and political conflict which exacerbate violence in social interactions; furthermore, the existing policy and legal framework does not mitigate the cultural norms and acceptance of such violence (Ballet, Konaté, Kouamé, Maternowska, & Olié, 2021).

Côte d'Ivoire became a Pathfinder Country through the Global Partnership to End Violence against Children in 2018 and subsequently released a national action plan to address violence against children. As a Pathfinder Country with recent VACS data, Côte d'Ivoire stakeholders used the INSPIRE technical package (World Health Organization, 2016) as a basis for their violence prevention and response policy and programming framework. INSPIRE is a technical package to prevent and respond to violence and reflects the best-available evidence comprised of seven core strategies: 1) implementation and enforcement of laws, 2) norms and values, 3) safe environments, 4) parent and caregiver support, 5) income and economic strengthening, 6) response and support services, and 7) education and

life skills. The current study showed that witnessing violence in the home or community or in non-peer forms increases the risk of peer violence. Hence, the entire technical package is relevant to reducing such violence.

Violence is likely normalized in Côte d'Ivoire given its high prevalence and the long history of political conflicts and may have become strategy for overcoming social disagreements and navigating personal relationships. Thus, programs aimed at changing norms that support or are sympathetic towards violence may be particularly beneficial. Since 2018, Côte d'Ivoire has implemented DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). DREAMS is a multicomponent HIV prevention approach that targets adolescent girls and young women and addresses norms change and both high-risk sexual behavior and violence prevention (Saul et al., 2018). Safe spaces are also critical for protecting youth from violence, including that from peers.

Côte d'Ivoire has Women and Girls Safe Spaces (WGSS) programming that would benefit from addressing peer violence specifically and scaling up nationally given that such violence happens where youth interact, particularly in schools. The WGSS programming aims to provide safe places where women and girls are supported through processes of empowerment (Megevand & Marchesi, 2019). Safe spaces are currently implemented in four districts in the country (Man, Daloa, Cocody-Bingerville, and Abobo-Est). Strengthening awareness and providing education sessions to adolescent girls and young women through adolescent friendly services can improve peer violence prevention. While reductions in exposure to or incidence of violence against women and girls has not been documented due to WGSS in a systematic review, improvements in psychosocial well-being, social support, and attitudes towards rites of passage were found (Stark et al., 2021).

The current study showed the increased risk of peer physical and emotional violence for boys who do not live with their mother or father. Separation from parents is an adverse experience with physical and behavioral consequences for children (Lacey et al., 2020; Stadelmann, Perren, Groeben, & Von Klitzing, 2010). The death of a parent may be associated with internalized and externalized distress (Thompson et al., 1998). These consequences could result in peer violence as psychiatric diagnosis increases risk of victimization (Cuevas, Finkelhor, Ormrod, & Turner, 2009). A study of children in Namibia found that children who were orphaned were more likely to experience peer violence compared to children who were not orphaned (Gentz, Zeng, & Ruiz-Casares, 2021). Applying parent and caregiver support strategies can reduce these risk factors and curb peer violence in Côte d'Ivoire. Evidence-based programs such as Families Matter! have already been implemented and have resulted in positive outcomes (Miller, Lasswell, Riley, & Poulsen, 2013). Ensuring that relevant parenting programs in Côte d'Ivoire addressing peer violence are scaled up and evaluated could be important next steps.

Continued investment in education and life skills strategies are warranted given the results of the current study that show the high prevalence of peer violence faced by the youth in Côte d'Ivoire. These strategies help to empower girls and boys, reduce violence against children, and to ensure safe spaces for them. The focus can start on two approaches: 1)

establish safe and enabling school environments that foster a positive culture of respect and camaraderie between the students and their teachers and among the students themselves; and 2) provide life and social skills training for adolescents teaching them conflict management, anti-bullying, and problem-solving skills, and guide them to develop positive peer-peer relationships. These approaches have shown strong positive effects such as reductions in violent, aggressive, and bullying behaviors in school.

This study has several limitations that should be considered. First, the 2018 Côte d'Ivoire VACS is a retrospective survey based on self-reports. While the survey has extensive protection mechanisms to ensure participant confidentiality and safety, recall bias and social desirability could have affected participants' disclosure. Underreporting of violence may occur in conflict or post-conflict settings where violence is normalized. Post-conflict settings may have decreased trust in political authorities which could impact the willingness to participate in the survey (Wong, 2016). Physical violence was underreported in a study in Cameroon in a study conducted after the conflict (Filiatreau et al., 2021). This effect could reduce our reported prevalence of peer violence. Second, the survey is cross-sectional; therefore, the causal relationship between exposure and outcome variables could not be determined. However, the current study used recent emotional violence to allow for temporal separation while peer physical violence was ever experienced. We did not have a lifetime measure of emotional violence, which may have led to an underestimate of experiences of emotional violence. Finally, the 2018 Côte d'Ivoire VACS was a national survey. Sample size may be a factor in detecting meaningful relationships between the variables of interest. Further, regional differences may exist in risk factors for peer violence in Côte d'Ivoire that are not detected in the 2018 Côte d'Ivoire VACS. A repeat Côte d'Ivoire VACS with regional estimates could be beneficial in the future, allowing for a larger sample size to detect regional differences.

5. Conclusion

We reported the sociodemographic factors and other forms of violence associated with peer violence among children and youth in Côte d'Ivoire. Future research should explore the causal relationships between these factors and peer violence. Additional research may also explore the impacts of peer violence during and beyond childhood. These areas of research could inform effective interventions to mitigate and prevent the effect of such violence in Côte d'Ivoire and everywhere it has become a public health burden.

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DisclaimerThe findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Data availability

The authors do not have permission to share data.

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Table 1

Background characteristics and prevalence of lifetime violence among females and males aged 13–17 years, Côte d'Ivoire, 2018.

| | Female | | Male | |
|------------------------------|----------------|--------------------------|----------------|--------------------------|
| | n ^a | % (95 % CI) ^b | n ^a | % (95 % CI) ^b |
| Mean age | 497 | 14.96 (14.8, 15.1) | 591 | 15.02 (14.8, 15.2) |
| Currently enrolled in School | 348 | 71.7 (66.5, 76.9) | 446 | 77.3 (71.9, 82.7) |
| Urban household | 232 | 53.7 (41.5, 65.9) | 259 | 43.1 (31.7, 54.5) |
| Food Insecurity | 197 | 36.6 (29.9, 43.3) | 248 | 40.8 (32.4, 49.1) |
| Physical Violence | 303 | 63.9 (57.4, 70.4) | 375 | 67.6 (60.5, 74.7) |
| Sexual Violence | 118 | 24.3 (19.4, 29.1) | 64 | 10.7 (7.2, 14.3) |
| Emotional Violence | 121 | 24.6 (19.4, 29.1) | 118 | 21.3 (15.6, 27.0) |

SD = standard deviation.

CI = confidence interval.

^aBased on unweighted sample population.

^bBased on weighted values representing the whole population.

Table 2

Associations between background characteristics and lifetime peer physical violence victimization among females and males aged 13–17, Côte d'Ivoire 2018.

| | Female | | | Male | | |
|--|--------------------|-----------------------|----------------|--------------------|-----------------------|----------------|
| | OR (95 % CI) | Adjusted OR (95 % CI) | Standard Error | OR (95 % CI) | Adjusted OR (95 % CI) | Standard Error |
| Age (in years) | 0.98 (0.94, 1.01) | 0.97 (0.94, 1.01) | 0.02 | 0.99 (0.95, 1.03) | 1.00 (0.96, 1.03) | 0.02 |
| Currently enrolled in school | 1.09 (0.95, 1.25) | 1.10 (0.95, 1.26) | 0.08 | 1.07 (0.91, 1.27) | 1.06 (0.90, 1.24) | 0.09 |
| Worked in last year | 1.00 (0.86, 1.16) | 0.99 (0.85, 1.14) | 0.07 | 1.16 (0.99, 1.36) | 1.17(1.01, 1.35)* | 0.09 |
| Not living with biological mother | 0.99 (0.87, 1.14) | 0.98 (0.85, 1.12) | 0.07 | 1.19 (1.04, 1.36)* | 1.19 (1.05, 1.35)* | 0.08 |
| Not living with biological father | 1.05 (0.93, 1.18) | 1.02 (1.00, 1.17) | 0.07 | 1.18 (1.05, 1.33)* | 1.19 (1.06, 1.33)* | 0.09 |
| Close friendships ^{3a} | 1.12 (1.00, 1.25)* | 1.10 (0.98, 1.24) | 0.06 | 1.04 (0.89, 1.20) | 1.01 (0.89, 1.16) | 0.07 |
| Witnessed violence in the home to step/mother ^b | 1.18 (1.04, 1.34)* | 1.18 (1.03, 1.34)* | 0.08 | 1.40 (1.21, 1.63)* | 1.41 (1.23, 1.60)* | 0.09 |
| Witnessed violence in the home to a sibling ^c | 1.19 (1.07, 1.33)* | 1.21 (1.09, 1.34)* | 0.06 | 1.27 (1.11, 1.44)* | 1.26 (1.12, 1.42)* | 0.08 |
| Witnessed violence in the community ^d | 1.09 (0.91, 1.31) | 1.08 (0.90, 1.30) | 0.10 | 1.24 (1.11, 1.39)* | 1.24 (1.10, 1.39)* | 0.07 |
| Violence experiences ^e | | | | | | |
| One type of violence experience | 1.19 (1.04, 1.35)* | 1.19 (1.06, 1.36)* | 0.08 | 1.23 (1.10, 1.38)* | 1.22 (1.09, 1.36)* | 0.07 |
| Two types of violence experience | 1.24 (1.09, 1.40)* | 1.26 (1.11, 1.42)* | 0.08 | 1.56 (1.40, 1.74)* | 1.54 (1.37, 1.72)* | 0.09 |
| Three types of violence experience | 1.63 (1.34, 1.10)* | 1.61 (1.31, 1.98)* | 0.17 | 1.96 (1.71, 2.24)* | 1.96 (1.72, 2.23)* | 0.13 |

Adjusted odds ratio adjusted for food Insecurity and urban/rural household.

OR = odds ratio.

CI = confidence interval.

* Indicates $p < 0.05$ for the p value.

^aClose Friendship: How much do you talk to friends about important things: a lot, some, not too much, not at all? Dichotomized as close = 1 (a lot, some) and not close = 0 (not very much, not at all).

^bWitnessed violence in the home to step/mother: The participant seeing or hearing their mother or step-mother being hit, punched, kicked, or beaten by their father or step-father one or more times.

^cWitnessed violence in the home to a sibling: The participant seeing or hearing a parent punch, kick, or beat their brothers or sisters one or more times.

^dWitnessed violence in the community: The participant seeing someone being attacked outside of their home and family one or more times

^eViolence experiences: The sum of how many violence types a child ever experienced (physical, emotional, and sexual), not including peer physical violence. Reference group is victim of zero violence experiences.

Table 3

Associations between background characteristics and peer emotional violence victimization in the past 12 months among females and males aged 13–17, Côte d'Ivoire 2018.

| | Female | | | Male | | |
|--|--------------------|-----------------------|----------------|--------------------|-----------------------|----------------|
| | OR (95 % CI) | Adjusted OR (95 % CI) | Standard Error | OR (95 % CI) | Adjusted OR (95 % CI) | Standard Error |
| Age (in years) | 1.04 (0.99, 1.08) | 1.03 (0.99, 1.07) | 0.02 | 1.02 (0.98, 1.05) | 1.02 (0.98, 1.05) | 0.02 |
| Currently enrolled in school | 1.08 (0.96, 1.23) | 1.12 (0.99, 1.27) | 0.07 | 1.08 (0.95, 1.23) | 1.08 (0.95, 1.23) | 0.07 |
| Worked in last year | 0.99 (0.86, 1.13) | 0.96 (0.84, 1.09) | 0.06 | 1.05 (0.91, 1.22) | 1.05 (0.91, 1.22) | 0.08 |
| Not living with biological mother | 0.94 (0.83, 1.07) | 0.92 (0.81, 1.04) | 0.06 | 1.12 (1.00, 1.27) | 1.12 (0.99, 1.27) | 0.07 |
| Not living with biological father | 1.04 (0.91, 1.20) | 1.00 (0.87, 1.16) | 0.07 | 1.00 (0.88, 1.14) | 1.00 (0.88, 1.14) | 0.07 |
| Close friendships ^a | 1.14 (0.99, 1.31) | 1.11 (0.98, 1.27) | 0.07 | 0.95 (0.85, 1.07) | 0.94 (0.84, 1.058) | 0.05 |
| Witnessed violence in the home to a step/mother ^b | 1.18 (1.03, 1.36)* | 1.16 (1.00, 1.34)* | 0.08 | 1.19 (1.02, 1.38)* | 1.19 (1.03, 1.37)* | 0.09 |
| Witnessed violence in the home to a sibling ^c | 1.05 (0.93, 1.18) | 1.06 (0.96, 1.17) | 0.05 | 1.22 (1.06, 1.39)* | 1.22 (1.07, 1.38)* | 0.08 |
| Witnessed violence in the community ^d | 1.07 (0.92, 1.24) | 1.06 (0.91, 1.23) | 0.08 | 1.32 (1.16, 1.51)* | 1.34 (1.17, 1.52)* | 0.09 |
| Violence experiences ^e | | | | | | |
| One type of violence experience | 1.29 (1.10, 1.52)* | 1.28 (1.10, 1.49)* | 0.10 | 1.10 (0.96, 1.24) | 1.09 (0.96, 1.24) | 0.07 |
| Two types of violence experience | 1.40 (1.23, 1.60)* | 1.40 (1.24, 1.59)* | 0.09 | 1.38 (1.16, 1.65)* | 1.40 (1.18, 1.67)* | 0.12 |
| Three types of violence experience | 1.73 (1.48, 2.01)* | 1.68 (1.44, 1.95)* | 0.13 | 1.65 (1.32, 2.06)* | 1.67 (1.35, 2.06)* | 0.18 |

Adjusted odds ratio adjusted for food insecurity and urban/rural household.

OR = odds ratio.

CI = confidence interval.

* Indicates $p < 0.05$ for the p value.

^aClose Friendship: How much do you talk to friends about important things: a lot, some, not too much, not at all? Dichotomized as close = 1 (a lot, some) and not close = 0 (not very much, not at all).

^bWitnessed violence in the home to step/mother: The participant seeing or hearing their mother or step-mother being hit, punched, kicked, or beaten by their father or step-father one or more times.

^cWitnessed violence in the home to a sibling: The participant seeing or hearing a parent punch, kick, or beat their brothers or sisters one or more times.

^dWitnessed violence in the community: The participant seeing someone being attacked outside of their home and family one or more times.

^eViolence experiences: The sum of how many violence types a child ever experienced (physical, emotional, and sexual), not including peer emotional violence. Reference group is victim of zero violence experiences.