# Relationship between Exposure to Community Violence and Depressive Symptoms and Aggressive Behavior among Youth in Kenya

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### Abstract

While most of the research on the link between exposure to community violence and psychosocial challenges among youth has traditionally focused on samples from Western countries, the past decade has witnessed a notable rise in studies conducted in non-Western regions, with a particular emphasis on sub-Saharan African countries. These studies have revealed that rates of witnessing community violence and their associations with psychosocial problems in non-Western regions, notably sub-Saharan African countries, are comparable to findings from research conducted in Western contexts. This study examined the rates of witnessing community violence and its associations with depressive symptoms and aggressive behavior among Kenyan youth. Participants included 269 youth aged 13 to 19 years (55% male; mean of 16.49 years) who were students at a lower-tier private school in Ngong, Kenya (35 miles from the capital Nairobi). Youth completed measures that assessed the types and amount of community violence they witnessed (Survey of Exposure to Community Violence), their depressive symptoms (Revised Children's Anxiety and Depression Scales), and their aggressive behavior problems (Youth Self-Report). Kenyan youth witnessed high rates of community violence; 85% witnessed at least one type of community violence exposure. There were no significant statistical differences in the rates of witnessing community violence by gender. Path analyses indicated that witnessing community violence was strongly and positively associated with depressive symptoms ( $\beta = .27, p < .001$ ) and aggressive behavior problems ( $\beta = .47, p < .001$ ) .001). Gender did not moderate the associations. The sample of Kenyan youth witnessed community violence at rates comparable to Western youth, especially youth residing in U.S. inner cities. Results demonstrated similar associations with problematic outcomes. Findings add to the growing body of evidence that youth's violence exposure is a global concern.

*Keywords*: witnessing community violence, depressive symptoms, aggressive behavior problems, Kenyan youth, sub-Saharan youth

# **Introduction and Background**

While many of the youth who witness violent and potentially traumatic events in their communities reside in less developed countries, much of the research examining violence exposure has been conducted primarily in the U.S. and other Western countries (Fowler et al., 2009). The past decade, however, has witnessed a growing body of literature examining the rates and impacts of community violence among youth in developing parts of the world, including sub-Saharan African societies (Collings, 2011; O'Donnell, Roberts, & Schwab-Stone, 2011; Shields, Nadasen, & Pierce, 2009; van der Merwe, & Dawes, 2000). The current study seeks to add to this literature by examining the rates of witnessing community violence and their associations with psychosocial problems among Kenyan youth.

Kenya is one of the fastest developing countries in sub-Saharan Africa (World Bank, 2015). Kenya has experienced a robust economic growth over the past decade leading to high rates of modernization, migration, and urbanization (Population Reference Bureau, 2011; World Bank, 2015). While beneficial in many ways, these factors also increase the ecological risks and the probability that youth may be exposed and negatively impacted by community violence (Urdal & Hoelscher, 2009). Additionally, Kenya is surrounded by several countries that are socially, politically, and economically unstable and marked by violence (U.S. Department of State – Bureau of Consular Affairs, 2023). Occasionally, this violence crosses Kenyan borders and creates additional vulnerabilities among the exposed Kenyan youth (Aronson, 2013). It is therefore imperative to better understand the extent to which Kenyan youth are exposed to violence and the impacts this has on their development, as well as their ability to engage in effective learning and other socioeconomic activities.

## Rates of witnessing

Several studies have demonstrated high rates of community violence witnessed among Kenyan youth (Collings, 2011; Karsberg & Elkit, 2012; Seedat et al., 2004). Seedat and colleagues found that 69% of Kenyan youth had witnessed at least one form of community violence during their lives (Seedat et al., 2004). Researchers investigating community violence within various sub-Saharan populations have reported rates ranging from 58% to as high as 99% of sampled

youth who have witnessed at least one form of community violence during their lifetime (Collings, 2011; Kaminer et al., 2013).

Comparatively, the rates of witnessing community violence among Kenyan and other sub-Saharan African groups resemble the experiences of youth living in inner cities in the United States, as indicated in studies such as Kennedy (2008) and Margolin et al. (2009). Furthermore, gender differences in the rates of community violence exposure in sub-Saharan African and Western literature have been found to be similar with most cross-cultural research among youth suggesting that males witness community violence at higher rates than females, as observed in studies like Karsberg & Elkit (2012), Seedat et al. (2004), and van der Merwe et al. (2000). It is worth noting that a few sub-Saharan studies have found no differences in rates of witnessing between males and females, as seen in studies like Kaminer et al. (2013) and O'Donnell et al. (2011).

Witnessing community violence and psychosocial problems

Since a significant portion of research on violence exposure has primarily focused on Western populations, our understanding of the connections between witnessing community violence and psychological issues in developing regions has likewise been constrained. However, established literature has consistently found that witnessing community violence is strongly and positively associated with various internalizing problems, including depression and depressive symptomatology (Cody-Wilson & Rosenthal, 2003; Fowler et al., 2009). While limited in quantity, the extant Kenyan and sub-Saharan literature supports these Western findings (Araya et al., 2007; du Plessis et al., 2015; Karsberg & Elkit, 2012; Shields et al., 2009; van der Merwe & Dawes, 2000). Additionally, the established literature base has demonstrated that the associations between witnessing community violence and depressive symptoms are moderated by gender. Western studies consistently reveal these associations to be significantly stronger for females than males (Cody-Wilson & Rosenthal, 2003; Fowler et al., 2009). These gender differences have also been observed within the emerging sub-Saharan literature (Sui et al., 2021).

Western literature has also established a connection between witnessing community violence and externalized problems, such as aggressive behavior (Fowler et al., 2009; Kennedy, 2008; Margolin et al., 2009). In fact, across community violence literature, the association with

aggressive behavior has been shown to be one of the strongest consequences of community violence exposure among youth (Fowler et al., 2009). Western researchers have generally found mixed results regarding gender differences in the associations between witnessing community violence and aggressive behavior (Fowler et al., 2009). Most of the studies that found differences have demonstrated that the associations are greater for males than for females (Mrug & Windle, 2009). The sub-Saharan literature has yet to explore differences between gender in these associations, underscoring the need to better understand the associations between witnessing community violence and aggressive behavior among Kenyan youth and whether these associations differ between genders.

The current study built upon the literature examining the rates of witnessing community violence and its associations with psychosocial problems among Kenyan and sub-Saharan youth and examined several hypotheses. First, Kenyan youth witness community violence at rates comparable to sub-Saharan and Western samples. Second, there were gender differences among the Kenyan youth in rates of witnessing community violence. Specifically, males experienced higher rates of witnessing than females. Third, witnessing community violence exposure was significantly and positively associated with youth's depressive symptomatology and aggressive behavior problems. Finally, there were significant gender differences in the associations between witnessing community violence, depressive symptoms, and aggressive behavior problems. Specifically, females would have a stronger association than males between witnessing community violence and depressive symptoms. For males, witnessing community violence would have a stronger association than females between witnessing community violence and aggressive behavior problems.

### Methodology

Participants included 269 Kenyan youth who were students at a lower-tier private school near Nairobi, Kenya. The school was selected because of its ongoing collaboration in humanitarian initiatives with the second author's academic affiliation. The school provides both primary and secondary education. Students in the current sample were enrolled in secondary school (Forms 1-4). Females comprised 45% (n = 120) of the sample while males comprised 55% (n = 149). The youth had a mean age of 16.49 years (SD = 1.64, range 13-19 years). A range of ethnic

affiliations was indicated by the youth with Kikuyu being the majority (51%). Demographics are summarized in Table 1. This study was intended as a pilot to inform the design and implementation of a larger study.

Witnessing community violence was assessed using a subset of the Survey of Exposure to Community Violence (SECV) (Richters & Martinez, 1993). Youth were asked on a 7-item scale whether they had, within the past three to four years, seen someone being victimized in their community. Youth were instructed to indicate that they had witnessed an event if it occurred in the community surrounding their home or school. Youth indicated whether they experienced the instance using a three-point scale (0, never; 1, sometimes; 2, all the time). Cronbach's alpha for the full sample of Kenyan youths was .821.

Youth's depressive symptoms were measured using 10 items from the Revised Children's Anxiety and Depression Scales (RCADS) (Chorpita et al., 2000). Youth were asked to indicate how often they experienced depressive symptoms over the past six months using a three-point scale (0, never; 1, sometimes; 2, always). Reliability for the full sample was relatively high ( $\alpha = .811$ ).

Youth's aggressive behaviors were assessed using 20 items from the Youth Self-Report (YSR) (Achenbach & Rescorla, 2001). Youth indicated how true various aggressive behaviors were for them over the past six months using a three-point scale (0, not true; 1, somewhat true; 2, very true). Reliability for the current sample of Kenyan youth was high ( $\alpha = .813$ ).

Means, standard deviations, and frequencies for sample characteristics and study variables were examined. Differences on sample characteristics and study variables between males and females were explored using t-tests and chi-square tests. Latent variables were constructed for witnessing community violence, depressive symptoms, and aggressive behavior problems according to Muthen's (1992) strategy. Latent variable path analyses were used to examine the associations among the study constructs using Mplus 8 (Muthen & Muthen, 1999-2017). Model fit was evaluated using three indicators of fit: the ratio of chi-square to degrees of freedom ( $\chi^2$ /df) (Newcomb, 1994), the comparative fit index (CFI) (Bentler, 1990), and the root mean square error of approximation (RMSEA) (Steiger & Lind, 1980). A chi-square to degrees of freedom ratio less than 3.00 indicates good fit (Newcomb, 1994). Additionally, a CFI values above .95

and RMSEA values less than .08 represent acceptable fit (Hu & Bentler, 1999); RMSEA values equal to or less than .05 represent good fit (Browne & Cudeck, 1993). Multiple group models were used to test gender as a moderator. Models were fitted simultaneously across groups. An unconstrained model, with paths freely estimated across groups, were compared to a model in which the paths were constrained to be equal. If the fit of the constrained model was significantly worse than the unconstrained model (as determined by a chi-square difference test) then evidence for moderation was expected to be present. If there was evidence for moderation, researchers would conduct a series of models in which each path would be constrained, in turn, to be equal across the groups; a significant decrement of the fit (as determined by a chi-square difference test) between the single path constrained model and the unconstrained model will indicate that path is moderated by gender.

## Results

### Descriptive analyses

Variable	Full	Males	Females	<i>t</i> or $\chi^2$
N	269	149	120	
Age				
Range in years	13-19	13-19	13-19	
Mean, $M(SD)$	16.49 (1.64)	16.97 (1.55)	15.88 (1.55)	5.74*
Ethnic affiliation, $n$ (%) <sup>a</sup>				
Kikuyu	112 (50.7)	61 (53.5)	51 (47.7)	
Maasai	41 (18.5)	25 (21.9)	16 (15.0)	
Luhya	18 (8.2)	6 (5.3)	12 (11.2)	
Luo	16 (7.2)	8 (7.0)	8 (7.5)	
Kisii	8 (3.6)	2 (1.8)	6 (5.6)	
Other	26 (11.8)	12 (10.5)	14 (13.0)	

Table 1: Demographic information for the Kenyan youth participating in the study

*Note.* Differences between males and females were examined using t-tests and chi-square tests.

<sup>a</sup>48 youth (35 males and 13 females) did not indicate ethnic affiliation.

\**p* < .001.

Descriptive statistics for the sample are summarized in Table 1. Males (M = 16.97; SD = 1.55) were statistically significantly older than females (M = 15.88; SD = 1.55) (t(267) = 5.74, p < .01). There were no significant differences between males and females regarding ethnic-tribal affiliations.

Table 2: Means and standard deviations of the study variables for the full sample of Kenyan youth and separately for males and females

	Full	Males	Females	
Variable, M (SD)	(N = 269)	( <i>n</i> = 149)	( <i>n</i> = 120) <i>t</i>	
Witnessing community violence	4.73 (3.60)	4.66 (3.58)	4.82 (3.64)	
Aggressive behavior problems	8.99 (6.10)	8.65 (6.39)	9.42 (5.60)	
Depressive symptoms	4.83 (3.40)	4.07 (3.14)	5.77 (3.49) -4.18*	

*Note.* Differences between males and females were examined using independent samples t-tests.

\**p* < .001.

Means and standard deviations for witnessing community violence, depressive symptoms, and aggressive behavior problems are presented in Table 2 for the full sample of Kenyan youth and separately for males and females. Mean scores of witnessing community violence did not differ significantly between males (M = 4.66; SD = 3.58) and females (M = 4.82; SD = 3.64). There were also no significant differences between males (M = 8.65; SD = 6.39) and females (M = 9.42; SD = 5.60) in respect to the mean levels of aggressive behavior problems. Females (M = 4.07; SD = 3.14) (t(267) = -4.18, p < .001).

	Full	Males	Females
Item, <i>n</i> (%)	(N = 269)	( <i>n</i> = 149)	( <i>n</i> = 120)
Seen someone			
chased by gang or dangerous person	131 (48.7)	76 (51.0)	55 (45.9)
threatened with serious harm	138 (51.3)	73 (49.0)	65 (54.2)
beaten up or mugged	190 (70.6)	104 (69.8)	86 (71.7)
attacked or stabbed with a knife or sharp object	105 (39.0)	63 (42.3)	42 (35.0)
seriously wounded from an act of violence	167 (62.1)	90 (60.4)	77 (64.2)
threatened or harmed because of ethnicity/gender	127 (47.2)	63 (42.3)	64 (53.3)
shot or shot at with a gun	74 (27.5)	42 (28.2)	32 (26.7)
No witnessing during previous three to four years	40 (14.9)	23 (15.4)	17 (14.2)

Table 3: Numbers and percentages of Kenyan youth witnessing community violence during the previous three to four years for the full sample and separately for males and females

Note. Differences between males and females were examined using chi-square tests.

Rates of witnessing community violence during the previous three to four years are presented in Table 3. Of the 269 youth, 131 (48.7%) witnessed someone chased by a gang or dangerous person, 138 (51.3%) witnessed someone threatened with serious harm, 190 (70.6%) witnessed someone beaten up or mugged, 105 (39.0%) witnessed someone attacked or stabbed with a knife or sharp object, 167 (62.1%) witnessed someone seriously wounded from an act of violence, 127 (47.2%) witnessed someone threatened or harmed because of ethnicity/gender, and 74 (27.5%) witnessed someone shot or shot at with a gun. There were no significant differences between males and females on the rates of witnessing the various acts of community violence. Only 40 (14.9%) of the Kenyan youth reported not witnessing an act of community violence over the previous 3 to 4 years.

#### Latent variable models

Confirmatory factor analysis (CFA) was used to test a measurement model representing the relations between the observed variables and the latent variables they were assumed to measure. The CFA was conducted on groups of items, or parcels, rather than on individual items. According to conventions in structural equation modeling (SEM), there should be a minimum of 5-10 participants per parameter to achieve accurate model estimates (Loehlin, 2004). This

consideration is important not only when examining models with the full sample, but especially when examining multiple group models. To reduce the number of parameters in the model and improve the accuracy of model estimates, a parceling strategy was utilized. Parceling has been advocated as a means of avoiding potential issues with item-level modeling, which can compromise reliability, has a larger ratio of unique-to-common factor variance, and is more likely to result in distributional violations (Bandalos & Finney, 2001; Yang et al., 2010; Little et al., 2002). Little and colleagues (2002) suggest that when the researcher is interested in examining the relationships between latent constructs, as in the current investigation, the obscuration of "nuisance" factors at the item level does not impact the interpretability of the parceled results.

The parcels were created by randomly assigning items from each scale to parcels and calculating the average of the sum of the items within each parcel. There were two to five items per parcel and three to four parcels served as indicator variables for each scale. The reliability of the parcels were .788, .819, and .833, for witnessing community violence, depressive symptoms, and aggressive behavior problems, respectively. The individual measurement models for witnessing community violence ( $\chi^2$ /df = 1.02; CFI = .993; RMSEA = .012), depressive symptoms ( $\chi^2$ /df = 1.11; CFI = .991; RMSEA = .016), and aggressive behavior problems ( $\chi^2$ /df = 1.32; CFI = .989; RMSEA = .017) fit the data well. The parceled indicators loaded strongly and significantly on their respective latent variable (witnessing community violence: .72-.86; depressive symptoms: .74-.86; aggressive behavior problems: .69-.86).

Multiple group analyses were used to examine whether the measurement models were structurally invariant across gender. This involved comparing the fit of a model in which model parameters (i.e., factor loadings and co-variances) were constrained to be equal for males and females to an unconstrained model in which the parameters could vary across gender. Although the fit of the unconstrained model was slightly better than that of the constrained model, the difference in fit between the models was not significant (witnessing community violence:  $\Delta \chi^2 = 2.26$ , p = .25; depressive symptoms:  $\Delta \chi^2 = 2.15$ , p = .22; aggressive behavior problems:  $\Delta \chi^2 = 2.51$ , p = .36) indicating structural invariance in the measurement models between males and females; thus, gender differences in the associations between study variables were explored in subsequent analyses.

Witnessing community violence, depressive symptoms, and aggressive behavior problems. A latent variable path analysis was conducted for the full sample of Kenyan youth to examine the associations between witnessing community violence, depressive symptoms, and aggressive behavior problems. Age, ethnic-tribal affiliation, and gender served as covariates in the model. The model fit the data well ( $\chi^2$ /df = 1.52; CFI = .972; RMSEA = .046). Results of the latent path analysis indicated that witnessing community violence was strongly and positively associated with both depressive symptoms ( $\beta$  = .27, *p* < .001) and aggressive behavior problems ( $\beta$  = .47, *p* < .001). Results are illustrated in Figure 1.



*Figure 1:* Path analysis examining the associations between witnessing community violence, aggressive behavior problems, and depressive symptoms for Kenyan youth

*Note*. Values represent standardized parameter estimates. Manifest indicators of the latent variables and the covariates (age, ethnicity, and gender) have been removed from the illustration for ease of interpretation. Model fit:  $\chi^2 / df = 1.52$ ; CFI = .975; RMSEA = .044. \**p* < .001.

Gender as a moderator. Multiple group analyses were used to examine whether there were significant gender differences in the associations between witnessing community violence, depressive symptoms, and aggressive behavior problems (Figure 2). Age and ethnic-tribal affiliation were included in the model as covariates. The unconstrained model, in which paths were freely estimated for males and females, fit the data well ( $\chi^2$ /df = 1.24; CFI = .978; RMSEA = .036). The results indicated that for both Kenyan males and females, witnessing community violence was strongly and positively associated with depressive symptoms ( $\beta_{males} = .34$ , p < .001;  $\beta_{females} = .24$ , p < .01) and aggressive behavior problems ( $\beta_{males} = .58$ , p < .001;  $\beta_{females} = .31$ , p < .05). To examine whether gender moderated the associations, the fit of the unconstrained model was not significantly

different from the unconstrained model ( $\Delta \chi^2 = 2.81$ , p = .27), indicating that the groups were not different. These results indicate that gender did not moderate the associations.



Figure 2: Multiple group path analysis examining the associations between witnessing community violence, aggressive behavior problems, and depressive symptoms for Kenyan males and females

*Note*. Values represent standardized parameter estimates. Manifest indicators of the latent variables and the covariates (age and ethnicity) have been removed from the illustration for ease of interpretation. Fit for unconstrained model:  $\chi^2 / df = 1.24$ ; CFI = .978; RMSEA = .030. Fit of constrained models were not significantly different from the unconstrained model; associations were not moderated by gender.

\*\*\*\*p < .001. \*\*p < .01. \*p < .05.

## Discussion

This study is one of the first to examine the rates of witnessing community violence, its associations with psychosocial problems among Kenyan youth, and whether gender moderates the associations. The results of this study could aid in the development and delivery of prevention and intervention programs to help Kenyan youth who are impacted negatively by

violence. Additionally, results of this study could help inform social policies aimed at bettering the lives of youth throughout our world.

### Rates of witnessing community violence

The first hypothesis was supported. Kenyan youth in the present study witnessed high rates of community violence. In fact, 85% witnessed at least one form of community violence during the previous three to four years. These rates are comparable to other studies examining Kenyan and other sub-Saharan youth (Collings, 2011; Kaminer et al., 2013; Seedat et al., 2004). These rates are also comparable to what has been found among samples of U.S. inner-city youth (Kennedy, 2008; Margolin et al., 2009). Youth's rates of witnessing individual forms of community violence were also high, ranging from 27% (seen someone shot or shot at) to 71% (seen someone beaten up or mugged). While Kenyan youth report higher rates of witnessing someone being shot at or shot, the rates for the other forms of witnessing are comparable to youth in other Kenyan, sub-Saharan, and Western samples (Collings, 2011; Kaminer et al., 2013; Karsberg & Elkit, 2012; Kennedy, 2008; Margolin et al., 2009; Seedat et al., 2004).

The second hypothesis was not supported. There were no significant differences between Kenyan males and females on the rates at which they witnessed community violence. These results are inconsistent with most studies examining violence exposure among sub-Saharan youth (Karsberg & Elkit, 2012; Seedat et al., 2004; van der Merwe & Dawes, 2000). However, these results are like a few studies in Gambia and South Africa which found no differences between males and females in rates of witnessing community violence (Kaminer et al., 2013; O'Donnell et al., 2011). Additionally, these results are contrary to most Western studies which have found that males witness community violence at higher rates than females (Cody-Wilson & Rosenthal, 2003; Fowler et al., 2009; Kennedy, 2008; Margolin et al., 2009). It is probable that the lack of differences between genders could be an artifact of sampling problems inherent in examining a sample of Kenyan and sub-Saharan youth within a school setting (O'Donnell et al., 2011). In Western countries, representative samples of youth can be obtained by sampling from schools; the same is not true for Kenyan youth. In 2009, approximately 78% of the youth eligible for primary education were enrolled in school (UNESCO, 2009). These rates dropped precipitously for secondary education; only 48% of eligible youth were enrolled (UNESCO, 2009). There could be significant differences in the rates of exposure between youth who attend

school and those who do not. Another likely scenario is differential dropout rates among males and females due to cultural practices of feeder communities. Regardless, the rates found among the current sample of school-going youth are quite high and underscore that community violence is a societal problem faced by Kenyan youth.

Associations between witnessing community violence, depressive symptoms, and aggressive behavior problems

The third hypothesis was supported. Latent path analysis indicated that witnessing community violence was positively and strongly associated with depressive symptoms among the Kenyan youth. These findings support the sub-Saharan and Western literature (Araya et al., 2008; Cody-Wilson & Rosenthal, 2003; Fowler et al., 2009; Karsberg & Elkit, 2012; Shields et al., 2009). Path analysis also indicated that witnessing community violence was positively and strongly associated with aggressive behavior problems for Kenyan youth. As stated previously, there is limited understanding of witnessing community violence and aggressive behavior among Kenyan and sub-Saharan youth. The results of these analyses demonstrated that witnessing community violence has similar impacts on Kenyan youth's aggressive behavior as has been documented among Western youth (Fowler et al., 2009; Kennedy, 2008; Margolin et al., 2009). These findings also lend support to Western findings and demonstrate that there are cross-cultural consistencies in the associations between youth's exposure to witnessing community violence and psychosocial problems (du Plessis et al., 2016). This is one of the first studies to examine these associations among Kenyan youth; much more work needs to be done.

## Gender as a moderator

The fourth hypothesis was not supported. Multiple group analyses indicated the association between witnessing community violence and depressive symptoms was not moderated by gender, even though females indicated significantly more depressive symptoms than males. These results are contrary to the majority of U.S. and Western studies that have found females are more likely to exhibit depressive symptoms because of witnessing community violence (Cody-Wilson & Rosenthal, 2003; Fowler et al., 2009). Additionally, gender did not moderate the associations between witnessing community violence exposure and aggressive behavior problems. While gender differences have been routinely examined in the Western literature, this is the first study to examine whether gender moderated the association between witnessing

community violence and aggressive behavior problems with either Kenyan or sub-Saharan youth. As stated previously, regardless of what part of the world the samples are drawn from, the literature itself has been mixed regarding gender differences in the associations. In addition to further understanding the associations between these variables, more attention is needed to better understand how these associations might differ for males and females.

These data were drawn from a sample of youth at one school in Kenya and should not be viewed as being representative of all youth in Kenya. It is possible that there are significant differences between the youth attending the school examined in the current study and youth attending other schools throughout Kenya, which could present regional factors outside the scope of the current study. As stated previously, this study was intended to serve as a pilot that would inform a larger study. Kenya is comprised of 43 different ethnic communities, and this might account for this variability as cultural, and socioeconomics vary greatly by region and ethnic community. Additionally, youth who do not attend school could be exposed to violence at varying rates (O'Donnell et al., 2011). As discussed previously, a large percentage of Kenyan youth do not attend school and thus may have different experiences related to violence exposure. It is also possible that the levels of violence in the communities and neighborhoods students originate from varying levels, impacting the overall generalizability of the sample due to geographic factors.

The current study also relied on the use of self-report for the variables of interest. Therefore, the relationships between the variables could have been inflated due to shared method variance; in other words, the associations may be overestimated because youth reported on both independent and dependent variables (Lindell & Whitney, 2001). Another aspect to consider is that the study employed a cross-sectional in design. While assertions as to how the variables relate to one another at the specific time of measurement can be made, nothing certain can be said about how witnessing community violence relates to emotional and behavioral well-being over time. Additionally, the use of parcels in the SEM analyses could pose limitations to the generalizability of the results. While justified, they could lead to overfitting and may limit replication of the results with other samples.

It is also important to acknowledge that the associations between witnessing community violence and emotional and behavioral well-being may operate in both directions. Recent studies have established that youth's emotional and behavioral problems may also increase the probability of violence exposure across various contexts (Mrug & Windle, 2009; Stevens & Mennen, 2018). Sixth, the current study did not account for other forms of violence youth may have been exposed to. Youth exposed to one form of violence are more likely to be exposed to other forms of Violence (Finkelhor, Ormrod, & Turner, 2007). If researchers do not account for these other forms of violence, the associations between the variables of interest may be inflated and not representative of the actual associations (Finkelhor et al., 2008).

Finally, data utilized in the current study were collected prior to the COVID-19 pandemic. The pandemic has been a significant source of stress and distress for many people, and some have experienced trauma as a result. Data have suggested that the pandemic can be understood as a traumatic stressor event that can elicit trauma related stress responses and exacerbate other mental health problems such as anxiety, depression, and psychosocial functioning; this is especially true for youth who had preexisting psychosocial problems (depression, trauma related stress, aggressive behavior) prior to the societal stressor (Gershoff & Aber, 2004).

## Future directions

Despite these limitations, this study is one of the first to examine rates of witnessing community violence and the associations with emotional and behavioral problems among Kenyan youth. The rates of witnessing community violence and associations with emotional and behavioral wellbeing found among the current sample are similar to established literature in other sub-Saharan and Western countries. Future directions include examining the relationships between various forms of violence exposure (e.g., community violence, political violence, school violence, physical abuse) and youth's psychosocial well-being over time and with a larger, more representative sample of Kenyan youth. The results of this study and future studies could inform prevention and intervention efforts for Kenyan and other sub-Saharan youth exposed to violence. Perhaps, given similarities in rates and patterns of exposure between Kenyan, other sub-Saharan and Western youth, existing and effective treatment protocols could be culturally adapted and readily used. These findings may also help inform policies that could better the lives of Kenyan youth, as well as societies throughout the world.

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