The lifetime prevalence of exposure to community violence among Lebanese university students: association with behavioural and mental health correlates

Taha Itani, Florian Fischer and Janet Junqing Chu

Department of Public Health Medicine, School of Public Health, Bielefeld University, Bielefeld, Germany

ABSTRACT

Studies that examine the exposure to community violence (CVE) among young adults in developing countries are limited. This study aimed at estimating the prevalence and types of CVE and its behavioural and mental health correlates among Lebanese university students. In this cross-sectional study, a total of 450 university students were sampled using proportionate sampling design. Overall, 70.3% of the sample reported witnessing violence and 49.1% violence victimization. The most common type of witnessing community violence was hearing gunfire, while the highest reported type of violence victimization was being threatened. After adjusting for potential socio-demographic confounders, alcohol binge drinking was the strongest correlate of CVE. Regarding mental health, psychological distress was significantly associated with both forms of CVE after accounting for relevant variables. The prevalence of CVE appears to be high among Lebanese young adults. Universities in Lebanon are encouraged to increase students’ awareness about community violence.

Introduction

Youth exposure to community violence (CVE) is a major public health problem (Scarpa, 2003). It is defined as any deliberate act intended to cause physical harm against an individual or group of people in the community (Cooley, Turner, & Beidel, 1995). Its occurrence is characterized by witnessing or experiencing certain violent acts, such as physical assault, mugging, stabbing or gun shooting (Wilson & Rosenthal, 2003).

Socio-demographic factors that have been linked to increased rates of CVE included being male and having low socio-economic status (Cooley-Strickland et al., 2009). CVE may result in internalizing outcomes, such as psychological distress (PD) (Cooley-Quille, Boyd, Frantz, & Walsh, 2001) and post-traumatic stress disorder (PTSD) (Fitzpatrick & Boldizar, 1993; Khan et al., 2016). Additionally, it has been related to externalizing behaviour such as cigarette smoking, alcohol abuse and risky sexual behaviour (Cooley-Strickland et al., 2009).

PD is characterized by depression and anxiety. Persons affected by this disorder may feel worried, irritable, lonely and hopeless (Mirowsky & Ross, 2003). A meta-analysis of 27 studies found that youth CVE was associated with PD (Wilson & Rosenthal, 2003). The association between CVE and PTSD among youth is also documented (Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009; Turner, Shattuck,
For instance, a study conducted among young adults (aged 18–22 years old) found that CVE predicted increased scores of PTSD (Scarpa, Haden, & Hurley, 2006). A similar study among college students reported a positive association between community violence (CV) victimization and depressed mood (Haden & Scarpa, 2008). Additionally, a study conducted among university students in Pakistan showed that CVE was associated with probable PTSD (Khan et al., 2016). The hypothesized link between CVE and mental health could be explained by the stress theory, which designates CV as a ‘stressor’ predicting maladaptive outcomes (Trickett, Durán, & Horn, 2003). Relevant confounders of the association between CVE and mental health, such as gender, income and current employment have been previously reported (Kadra, Dean, Hotopf, & Hatch, 2014).

Lebanon, a middle-income country in the Middle East, has been ravaged by civil war and occupation by neighbouring countries. More recently, the ramifications of the Syrian civil war has spilled into Lebanon as the country is witnessing a huge influx of Syrian refugees in additions to acts of terror (multiple bombings targeting civilians in Beirut and other areas). Given this violent history, the prevalence of mental health disorders in the Lebanese community is alarming. It is estimated that 25% of the Lebanese adult population suffer from at least one lifetime mental disorder. Furthermore, there are considerable delays for those affected by mental health conditions in seeking treatment (Karam et al., 2008).

For these reasons, Lebanon could be considered as an important setting to investigate CVE and its mental health outcomes. Nevertheless, to our knowledge, studies about CVE and the potential behavioural and mental health correlates are still lacking in Lebanon. Until now, violence has been mostly addressed within the context of domestic violence or physical fighting (El Hajj, Afifi, Khawaja, & Harpham, 2011; Usta, Farver, & Zein, 2008). Hence, the aims of this study were (1) to estimate the lifetime prevalence of CVE (both witnessing and victimization) by socio-demographic characteristics and its types stratified by gender, (2) to determine the behavioural and mental health correlates associated with CVE and (3) to investigate the association between CVE and behavioural and mental health correlates after adjusting for relevant socio-demographic confounders.

**Method**

**Study population**

This research is based on a cross-sectional survey conducted among university students in Beirut, Lebanon, in 2013. Ethical approval was granted by the Committee on Human Subjects in Research (ID code: TI1.8/Jul/2013).

**Data collection**

The sample of university students \( n = 450 \) was selected using a proportionate cluster sampling technique to ensure representativeness by faculty. After the approval of professors and lectures, the research team accessed the classes and asked the students for their verbal approval to participate in the study. Information about the background and objectives of the study was provided. Anonymity, confidentiality and voluntary participation were clearly stressed. Self-administered anonymous questionnaires were distributed to students who agreed to participate. None of the professors or lecturers refused to allow recruitment in their classrooms. The response rate among students enrolled in sampled classes was 96%.

**Survey measures**

The questionnaire included sections related to socio-demographic characteristics, behavioural factors, mental health and violence. The main dependent variable considered for these analyses was CVE. This was measured using an adapted version of the Exposure to Community Violence (SECV) scale (Richters & Saltzman, 1990). This scale has been structured to measure lifetime CVE. The adapted version has been shortened based on feedback from the pilot study. The SECV is a commonly used measure of CVE with adults and had acceptable estimates of internal consistency with diverse samples (DeCou & Lynch, 2017).
The SECV measures the lifetime frequency of exposure (both as a victim and a witness) to different types of CV. To ascertain direct CVE as victims, students were asked how many times ‘they themselves’ had experienced each of the following violent events: chased by gangs or individuals, break-in, while at home, threatened with serious physical harm, punched or hit by a family member, punched or hit by a non-family member, beaten/mugged, sexually assaulted, stabbed and shot. Indirect CVE (witnessing) was assessed by asking the students to report how many times they have ‘seen someone else’ experience the following violent events: chased by gangs or individuals, break-in, while not at home, threatened with serious physical harm, punched or hit by a family member, punched or hit by a non-family member, beaten/mugged, sexually assaulted, stabbed, shot, exposed to a weapon, seriously wounded by violence, killed, exposed to a dead body (excluding wakes and funerals) and suicide. Additionally, students were asked about the frequency of hearing outside gunfire. Each item was rated according to the following scale to reflect increasing frequency: (0 = never, 1 = one time, 2 = two times, 3 = three to four times, 4 = five to six times, 5 = seven to eight times, 6 = once per year, 7 = once per month, 8 = once per week 9 = almost every day). The SECV was then recoded to determine the extent of the lifetime CVE in this sample.

The socio-demographic variables considered in this analysis were age, gender, citizenship, residence, household income and current employment. Furthermore, the survey included questions about current tobacco smoking, alcohol drinking in the course of the last three months, binge drinking, and ever having sexual intercourse. Binge drinking was assessed using the following question: ‘During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?’ This was recorded into ‘no days’ and ‘one or more days’.

Regarding the correlates of mental health, PD and PTSD were considered. PD was measured using the 12 items of the General Health Questionnaire (GHQ-12). This questionnaire was originally developed by Goldberg with 60 items and used in diverse settings as a screening tool to improve the detection of depression and/or anxiety (Goldberg & Williams, 1988). The short GHQ-12 version has been validated in Arab speaking populations. Its sensitivity, specificity and discriminatory power are high in primary care settings (83, 80 and 86%, respectively) (el-Rufaie & Daradkeh, 1996). The GHQ-12 score ranges from 0 to 12. A score of 3 or more indicates PD.

PTSD was measured using the PTSD Symptom Scale-Self Report (PSS-SR) (Foa, Riggs, Dancu, & Rothbaum, 1993). It contains 17 items, reflecting the DSM-IV symptoms of PTSD, which are rated on a 3-point Likert scale, ranging from ‘not at all’ to ‘5 or more times/week – almost always’. The highest possible score on the PSS-SR is 51. A score of 14 or more indicates probable PTSD. This scale showed high internal consistency (α = .91) and good one month test–retest reliability (r = .74) (Foa et al., 1993).

**Statistical analyses**

The distribution of the socio-demographic, behavioural and mental health correlates of CVE was examined using univariate statistics. In the bivariate analyses, a series of Chi-squared tests were performed to assess socio-demographic, behavioural and mental health associations with CVE. Then bivariate logistic regression models for both outcome variables were conducted separately for each behavioural and mental health variable and crude odds ratios (ORs) were generated. Afterwards, multivariable logistic regression models were fitted for both outcome variables and each behavioural and mental health variable, while adjusting for all socio-demographic variables and adjusted ORs and their 95% confidence intervals were reported. A significance level of α = 0.05 was used. Data were analysed using IBM SPSS version 23.

**Results**

Students were almost equally distributed according to age categories and gender. The majority of the students were Lebanese citizens (81.3%), resided in Beirut (74.7%), and were not working in parallel to their studies (79.3%) at the time of data collection. The overall prevalence i.e. all types of witnessing CV
and being victimized by it was 70.3% and 49.1%, respectively. The rates of witnessing CV did not significantly differ by socio-demographic variables. On the other hand, male students reported significantly more CV victimization as compared to female students (55.3% vs. 43.3%, \( p = 0.011 \)). Additionally, the rate of CV victimization was significantly lower for employed students as compared to those with no additional job at the time of data collection (46.5% vs. 59.1%, \( p = 0.030 \)) (Table 1).

The prevalence of the different types of violent events related to CVE and the corresponding differences by gender are presented in Table 2. Hearing gunfire was the most common violent event witnessed by the students. This kind of CVE was significantly more frequent in males compared to females (46.5% vs. 35.2%, \( p = 0.014 \)). One-third of the students reported witnessing someone else being hit by a family member. Male students reported more often to have witnessed one of the following violent events: break-in, while not being at home, being threatened, beaten/mugged, stabbed or shot, and someone being killed (Table 2). Regarding CV victimization, almost one quarter of the students reported being threatened (25.8%), with males showing a higher likelihood of being affected than females (33.6% vs. 18.5%, \( p < 0.001 \)). Male students were significantly more frequently victimized by the following violent events: threatened, hit by family members, stabbed and shot (Table 2).

The prevalence of behavioural and mental health correlates as well their associations with CV are summarized in Table 3. About one-third of the students were current smokers and had consumed alcohol within the last 3 months. The overall prevalence of PD and PTSD was 47.3% and 38.1%, respectively. Binge drinking had the strongest association with both witnessing CV (OR = 3.66, 95% CI: 1.87–7.15) and CV victimization (OR = 3.56, 95% CI: 2.13–5.95), respectively. Additionally, the other unadjusted models suggest that smoking, alcohol consumption and PD were significantly associated with CVE. Students who potentially suffered from PTSD had significantly higher odds of witnessing CV (OR = 1.83, 95% CI: 1.17–2.85). This result is not that clear for CV victimization (OR = 1.35, 95% CI: 0.92–1.99).

The association between the different behavioural and mental health correlates with CVE at the multivariable level is presented in Table 3. After adjusting for gender, citizenship, residence, monthly household income and current employment, each of current tobacco smoking, alcohol drinking, binge drinking, PD and PTSD remained significantly associated with witnessing CV in their respective models. Binge drinking had the strongest adjusted association with witnessing CV (aOR = 3.82, 95% CI: 1.89–7.75). After
controlling for gender, citizenship, residence, monthly household income and current employment, each of current tobacco smoking, alcohol drinking, binge drinking and PD were significantly associated with CV victimization in their respective models. Binge drinking had also the strongest association with CV victimization (aOR = 3.66, 95% CI: 2.11–6.36).

Discussion

This study reported on the prevalence and types of CVE, both witnessing and victimization, among Lebanese university students. Additionally, this research investigated the behavioural and mental health correlates related to CVE. The findings indicate that CVE is prevalent among Lebanese university students with males being more affected. The study also found that CVE was significantly associated with behavioural exposures, such as current tobacco smoking, alcohol drinking and binge drinking. Furthermore, PD was significantly associated with both witnessing CV and CV victimization, whereas PTSD was only correlated with witnessing CV.

The overall prevalence of witnessing CV and CV victimization was 70.3% and 49.1%, respectively. Comparing prevalence rates of CVE is challenging due to the variations in its definitions and the limited number of studies that investigated CVE in adults (DeCou & Lynch, 2017). The prevalence estimates of CVE among Lebanese university students appear lower than that reported by a similar study conducted among university students in the United States. Overall, 93.2% of students in that study reported witnessing CV and 76.4% reported CV victimization (Scarpa et al., 2002). Since the security measures in Beirut (where most of the students were residing) are particularly strict (to protect governmental and diplomatic entities and maintain general order in the capital city), this may limit violent events in the
community which in turn might explain the lower rates of CVE in Lebanon as compared to that in the United States. Studies about CVE in the Eastern Mediterranean region among young adults are lacking. One study that examined the CVE among Palestinian adolescents (aged 12–19 years) found a lifetime witnessing prevalence of 87.4% and a lifetime victimization prevalence of 72.8% (Haj-Yahia, Leshem, & Guterman, 2013).

The results of this study indicate that the two highest rates of witnessing CV were hearing gunfire and seeing someone being seriously wounded. The two highest rates of victimization were being threatened and being chased. This was similar to findings from other studies (Haj-Yahia et al., 2013; Scarpa, 2001; Scarpa et al., 2002).

Our study found that more males reported CVE than females. One exception was the exposure to sexual assault; however, this difference was not statistically significant. This was consistent with findings from other studies (Björklund, Häkkänen-Nyholm, Sheridan, & Roberts, 2010; Haj-Yahia et al., 2013; Scarpa, 2001; Scarpa et al., 2002). Higher prevalences of CVE among males may be explained by the lifestyle exposure theory of victimization (Hindelang, Gottfredson, & Garofalo, 1978). This theory stipulates that a person’s exposure to violence is influenced by lifestyle routines, such as recreational activities and the nature of occupation. As mentioned earlier, Lebanese university students in this study reported the highest CVE outside their homes. In Arab societies, females typically spend more time at homes than males (Haj-Yahia et al., 2013). Furthermore, a previous study conducted among Lebanese university students concluded that female students demonstrated better perception of risks than their male counterparts (Salameh et al., 2014). It could be argued that Lebanese young male adults are more exposed to CV than females since they spend more time outside their homes and are less sensitive to risk perception.

Table 3. Bivariate and multivariable logistic regression models of the association between CVE and behavioural and mental health factors.

| Independent variables | N  | %   | Witnessing Unadjusted OR (95% CI) | Witnessing Adjusted OR (95% CI) | Victimization Unadjusted OR (95% CI) | Victimization Adjusted OR (95% CI) |
|-----------------------|----|-----|----------------------------------|---------------------------------|--------------------------------------|-----------------------------------|
| Behavioural factors   |    |     | Unadjusted OR (95% CI)          | Adjusted OR (95% CI)            | Unadjusted OR (95% CI)              | Adjusted OR (95% CI)              |
| Current tobacco smoker|
| Yes                   | 151| 33.6| 1.72 (1.09–2.72) n = 441         | 1.71 (1.03–2.82) n = 441        | 2.65 (1.76–3.98) n = 448            | 2.61 (1.66–4.09) n = 448          |
| No                    | 299| 66.4| 2.60 (1.63–4.17) n = 441         | 2.66 (1.60–4.45) n = 441        | 2.18 (1.47–3.23) n = 448            | 2.20 (1.43–3.39) n = 448          |
| Consumed any alcohol in the last 3 months|
| Yes                   | 164| 36.4| 3.66 (1.87–7.15) n = 441         | 3.82 (1.89–7.75) n = 441        | 3.56 (2.13–5.95) n = 448            | 3.66 (2.11–6.36) n = 448          |
| No                    | 286| 63.6| 1.48 (0.92–2.38) n = 441         | 1.49 (0.86–2.58) n = 441        | 1.86 (1.23–2.83) n = 448            | 1.58 (0.97–2.58) n = 448          |
| Binge drinking in the last 30 days|
| Yes                   | 90 | 20.0| 1.74 (1.14–2.64) n = 439         | 1.72 (1.12–2.65) n = 439        | 1.59 (1.09–2.31) n = 446            | 1.62 (1.10–2.38) n = 446          |
| No                    | 360| 80.0| 1.83 (1.17–2.85) n = 435         | 1.74 (1.11–2.74) n = 435        | 1.35 (0.92–1.99) n = 441            | 1.34 (0.90–1.99) n = 441          |
| Ever had sexual intercourse|
| Yes                   | 128| 28.4| 1.48 (0.92–2.38) n = 441         | 1.49 (0.86–2.58) n = 441        | 1.86 (1.23–2.83) n = 448            | 1.58 (0.97–2.58) n = 448          |
| No                    | 322| 71.6| 1.74 (1.14–2.64) n = 439         | 1.72 (1.12–2.65) n = 439        | 1.59 (1.09–2.31) n = 446            | 1.62 (1.10–2.38) n = 446          |
| Mental health factors |
| PD                    | 212| 47.3| 1.74 (1.14–2.64) n = 439         | 1.72 (1.12–2.65) n = 439        | 1.59 (1.09–2.31) n = 446            | 1.62 (1.10–2.38) n = 446          |
| No                    | 236| 52.7| 1.83 (1.17–2.85) n = 435         | 1.74 (1.11–2.74) n = 435        | 1.35 (0.92–1.99) n = 441            | 1.34 (0.90–1.99) n = 441          |
| PTSD                  | 169| 38.1| 1.83 (1.17–2.85) n = 435         | 1.74 (1.11–2.74) n = 435        | 1.35 (0.92–1.99) n = 441            | 1.34 (0.90–1.99) n = 441          |
| No                    | 274| 61.9| 1.83 (1.17–2.85) n = 435         | 1.74 (1.11–2.74) n = 435        | 1.35 (0.92–1.99) n = 441            | 1.34 (0.90–1.99) n = 441          |

Note: Multivariable logistic regression models were adjusted for gender, citizenship, residence, monthly household income, and current employment.
The current study found that current tobacco smoking was associated with CVE after adjusting for socio-demographic confounders. Based on a previous review of the literature, smoking was associated with exposure to violent events in young adults (Crane, Hawes, & Weinberger, 2013). Smoking has been attributed to attempts to cope with the experience of negative affect such traumatic events (Baker, Piper, McCarthy, Majeskie, & Fiore, 2004). More specifically, smoking may act temporarily to reduce the anxious symptoms of traumatic events through the calming effects of nicotine (Pomerleau & Pomerleau, 1984).

This study found that CVE was strongly associated with risky behaviour such as binge drinking after adjusting for socio-demographic confounders. This association was also evident in previous studies among youths (Björklund et al., 2010; Brady, 2006; Cooley-Strickland et al., 2009). The relationship between substance abuse (alcohol) and CVE could be elucidated by the general strain theory, whereby people tend to resort to substance use and other delinquency as a coping mechanism for dealing with strain such as CVE (Agnew, 1992).

The results that CVE was associated with PD and PTSD is in line with previous research conducted among urban youth (Fitzpatrick & Boldizar, 1993; Kadra et al., 2014; Löfving–Gupta, Lindblad, Stickley, Schwab-Stone, & Ruchkin, 2015). CVE is regarded as a stressful experience that requires psychological adaptation. Some individuals affected by CVE may become too overwhelmed by this stressor and hence, may develop PD as well as other adverse internalizing behaviours such as negative emotions (Trickett et al., 2003). However, it is noteworthy to underline that not all of those exposed to CV will develop mental health issues because protective factors may have a buffering effect. For instance, parental communication, parental concern and parental supervision were found to support resilience in youth exposed to CV (McDonald, Deatrick, Kassam-Adams, & Richmond, 2011).

Strengths and limitations

The present study is the first attempt at estimating the prevalence of CVE and its association with behavioural and mental health correlates among Lebanese young adults. The study sampled the students using a proportionate sample design which may have improved its representativeness. Moreover, the instrument used to estimate CVE has been previously used among university students and proved to have reliable psychometrics (Scarpa et al., 2002).

There are several limitations to this study. First, the cross-sectional design of this study hinders establishing causality. For instance, it is not possible to ascertain that CVE caused mental health disorders. Additionally, the adverse effects of CVE may have been potentiated by some other traumatic experiences. Second, estimates of CVE may have been under- or overestimated due to reporting bias. Third, the majority of the students in this sample resided in urban areas and hence the observed results may not be generalizable to youth living in rural areas. Fourth, PD and PTSD were assessed using symptoms screener rather than a structured psycho-diagnostic interview.

Conclusion

Given the high prevalence of CVE among Lebanese young adults, they would benefit from services at university level that aim to provide support and potentially prevent revictimization. Additionally, the association between CVE and elevated mental health issues found in this sample merit raising awareness of CVE and its potential harmful effects on mental well-being. Thus, universities in Lebanon are encouraged to offer information aimed at increasing mental health awareness and to facilitate services for individuals at risk. In order to address the inherit limitations of the cross-sectional design the literature on CVE may be strengthened by examining its occurrence more specifically using longitudinal studies.

Author contributions

Taha Itani conceived and designed the study; Taha Itani collected and analyzed the data; Taha Itani; Florian Fischer; and Janet Junqing Chu wrote the paper together.
Acknowledgements

The authors wish to thank the students who participated in the study.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

**Taha Itani** is a research associate in the Department of Public Health Medicine at Bielefeld University, Germany. He mainly researches the field of youth violence and mental health.

**Florian Fischer** is a research project coordinator in the Department of Public Health Medicine at Bielefeld University, Germany. His research work is mainly about refugee health in Germany.

**Janet Junqing Chu** is a research associate in the Department of Public Health Medicine at Bielefeld University, Germany. She has published numerous papers about students’ health.

References

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology, 30*, 47–88. doi:10.1111/j.1745-9125.1992.tb01093.x.

Baker, T., Piper, M., McCarthy, D., Majeskie, M., & Fiore, M. (2004). Addiction motivation reformulated: An affective processing model of negative reinforcement. *Psychological Review, 111*, 33–51. doi:10.1037/0033-295X.111.1.33.

Björklund, K., Häkkänen-Nyholm, H., Sheridan, L., & Roberts, K. (2010). Coping with stalking among university students. *Violence and Victims, 25*, 395–408.

Brady, S. S. (2006). Lifetime community violence exposure and health risk behavior among young adults in college. *Journal of Adolescent Health, 39*, 610–613. doi:10.1016/j.jadohealth.2006.03.007.

Cooley, M. R., Turner, S. M., & Beidel, D. C. (1995). Assessing community violence: The children’s report of exposure to violence. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*, 201–208. doi:10.1097/00004583-199502000-00015.

Cooley-Quille, M., Boyd, R. C., Frantz, E., & Walsh, J. (2001). Emotional and behavioral impact of exposure to community violence in inner-city adolescents. *Journal of Clinical Child & Adolescent Psychology, 30*, 199–206. doi:10.1207/S15374424JCCP3002_7.

Cooley-Strickland, M., Quille, T. J., Griffin, R. S., Stuart, E. A., Bradshaw, C. P., & Furr-Holden, D. (2009). Community violence and youth: Affect, behavior, substance use, and academics. *Clinical Child and Family Psychology Review, 12*, 127–156. doi:10.1007/s10567-009-0051-6.

Crane, C. A., Hawes, S. W., & Weinberger, A. H. (2013). Intimate partner violence victimization and cigarette smoking. *Trauma Violence Abuse, 14*, 305–315. doi:10.1177/1524838013495962.

DeCou, C. R., & Lynch, S. M. (2017). Assessing adult exposure to community violence: A review of definitions and measures. *Trauma Violence Abuse, 18*, 51–61. doi:10.1177/1524838015590590.

El Hajj, T., Affif, R. A., Khawaja, M., & Harpham, T. (2011). Violence and social capital among young men in Beirut. *Injury Prevention, 17*, 401–406. doi:10.1136/ip.2010.029124.

el-Rufaie, O. F., & Daradkeh, T. K. (1996). Validation of the Arabic versions of the thirty- and twelve-item General Health Questionnaires in primary care patients. *The British Journal of Psychiatry, 169*, 662–664.

Fitzpatrick, K. M., & Boldizar, J. P. (1993). The prevalence and consequences of exposure to violence among African-American youth. *The American Academy of Child & Adolescent Psychiatry, 32*, 424–430. doi:10.1097/00004583-199303000-00026.

Foa, E. B., Riggs, D. S., Dancu, C. V., & Rothbaum, B. O. (1993). Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *Journal of Traumatic Stress, 6*, 459–473. doi:10.1002/jts.2490060405.

Fowler, P. J., Tompsett, C. J., Braciszewski, J. M., Jacques-Tiura, A. J., & Baltes, B. B. (2009). Community violence: A meta-analysis on the effect of exposure and mental health outcomes of children and adolescents. *Development and Psychopathology, 21*, 227–259. doi:10.1017/S0954579409000145.

Goldenberg, D., & Williams, P. (1988). *A user's guide to the general health questionnaire*. Windsor: NFER-Nelson.

Haden, S. C., & Scarpa, A. (2008). Community violence victimization and depressed mood: The Moderating effects of coping and social support. *Journal of Interpersonal Violence, 23*, 1213–1234. doi:10.1177/0886260508314297.

Haj-Yahia, M. M., Leshem, B., & Guterman, N. B. (2013). The rates and characteristics of the exposure of palestinian youth to community violence. *Journal of Interpersonal Violence, 28*, 2223–2249. doi:10.1177/0886260512475309.

Hindelang, M., Gottfredson, M., & Garofalo, J. (1978). * Victims of personal crime: An empirical foundation for a theory of personal victimization*. Cambridge, MA: Ballinger.
Kadra, G., Dean, K., Hotopf, M., & Hatch, S. L. (2014). Investigating exposure to violence and mental health in a diverse urban community sample: Data from the south east London community health (SELCoH) survey. *PLoS One*, 9, e93660. doi:10.1371/journal.pone.0093660.

Karam, E. G., Mneimneh, Z. N., Dimassi, H., Fayyad, J. A., Karam, A. N., Nasser, S. C., … Kessler, R. C. (2008). Lifetime prevalence of mental disorders in Lebanon: First onset, treatment, and exposure to war. *PLoS Medicine*, 5, e61. doi:10.1371/journal.pmed.0050061.

Khan, A. A., Haider, G., Sheikh, M. R., Ali, A. F., Khalid, Z., Tahir, M. M., … Saleem, S. (2016). Prevalence of post-traumatic stress disorder due to community violence among university students in the world’s most dangerous megacity: A cross-sectional study from Pakistan. *Journal of Interpersonal Violence*, 31, 2302–2315. doi:10.1177/0886260515575605.

Löfving-Gupta, S., Lindblad, F., Stickley, A., Schwab-Stone, M., & Ruchkin, V. (2015). Community violence exposure and severe posttraumatic stress in suburban American youth: Risk and protective factors. *Social Psychiatry and Psychiatric Epidemiology*, 50, 539–547. doi:10.1007/s00127-014-0965-2.

McDonald, C. C., Deatrick, J. A., Kassam-Adams, N., & Richmond, T. S. (2011). Community violence exposure and positive youth development in urban youth. *Journal of Community Health*, 36, 925–932. doi:10.1007/s10900-011-9391-5.

Mirowsky, J., & Ross, C. E. (2003). *Social causes of psychological distress*. New York, NY: Aldine de Gruyter.

Pomerleau, O., & Pomerleau, C. (1984). Neuroregulators and the reinforcement of smoking: Towards a biobehavioral explanation. *Neuroscience & Biobehavioral Reviews*, 8, 503–513.

Richters, J., & Saltzman, W. (1990). *Survey of exposure to community violence: Self report version*. Rockville, MD: National Institute of Mental Health.

Salameh, P., Salamé, J., Waked, M., Barbour, B., Zeidan, N., & Baldi, I. (2014). Risk perception, motives and behaviours in university students. *International Journal of Adolescence and Youth*, 19, 279–292. doi:10.1080/02673843.2014.919599.

Scarpa, A. (2001). Community violence exposure in a young adult sample: Lifetime prevalence and socioemotional effects. *Journal of Interpersonal Violence*, 16, 36–53. doi:10.1177/0886260502016003002.

Scarpa, A. (2003). Community violence exposure in young adults. *Trauma, Violence & Abuse*, 4, 210–227. doi:10.1177/1524838003004003002.

Scarpa, A., Fikretoglu, D., Bowser, F., Hurley, J. D., Pappert, C. A., Romero, N., & Van Voorhees, E. (2002). Community violence exposure in university students: A replication and extension. *Journal of Interpersonal Violence*, 17, 253–272. doi:10.1177/0886260502017003002.

Trickett, P. K., Durán, L., & Horn, J. L. (2003). Community violence as it affects child development: Issues of definition. *Clinical Child and Family Psychology Review*, 6, 223–236.

Turner, H. A., Shattuck, A., Hamby, S., & Finkelhor, D. (2013). Community disorder, victimization exposure, and mental health in a national sample of youth. *Journal of Health and Social Behavior*, 54, 258–275. doi:10.1177/0022146513479384.

Usta, J., Farver, J. A., & Zein, L. (2008). Women, war, and violence: surviving the experience. *Journal of Women's Health*, 17, 793–804. doi:10.1089/jwh.2007.0602.

Wilson, W. C., & Rosenthal, B. S. (2003). The relationship between exposure to community violence and psychological distress among adolescents: A meta-analysis. *Violence and Victims*, 18, 335–352.