

Cross-Cultural Findings on Community Violence Exposure and Internalizing Psychopathology: Comparing Adolescents in the United States, Russia, and Belgium

Mary Schwab-Stone · Roman Koposov ·
Robert Vermeiren · Vladislav Ruchkin

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Abstract The study aimed to investigate cross-cultural differences in the relation between community violence and psychopathology. A self-report survey was conducted in a representative sample of 3,309 14–17 year old adolescents from urban communities in the US ($N = 1,343$), Belgium ($N = 946$) and Russia ($N = 1,009$). In all three countries, boys reported higher prevalences of violence exposure and more victimization by community violence than girls. Controlling for involvement in antisocial behavior, levels of psychopathology increased along with severity of exposure to community violence (from no exposure to witnessing to victimization). The associations between community violence and internalizing problems were similar across countries and gender. Current findings suggest that the relationships between community violence

and adolescent mental health are not culture bound and that they follow similar dynamics in different populations. Clinical implications and directions are discussed.

Keywords Violence exposure · Psychopathology · Cross-cultural · Adolescents

Introduction

Previous research has demonstrated that exposure to community violence is related to an array of problems. These effects include a wide range of internalizing psychopathology, such as posttraumatic stress [1], anxiety and depression [2–5] as well as externalizing problems, such as aggressive and delinquent behavior [4–8]. Also, children exposed to community violence are significantly more likely to report such problems as decreased self-esteem [2], pessimistic expectations for the future [4, 9], impaired social relationships [10], alcohol and drug use [4, 11] and poor academic performance [4, 12].

These psychological and behavioral problems have been shown to relate to different levels of community violence exposure, such as witnessing of a violent event and direct victimization by violence [1, 3, 13]. Generally, witnessing is related to less pronounced levels of internalizing psychopathology than victimization (for a review of the literature on the effects of exposure to community violence see [14]). The number of traumatic experiences also increases the risk for maladjustment, with multiple episodes of victimization holding a greater jeopardy to development in youth, as opposed to single episodes [15]. A less examined, but no less important, dynamic of violence exposure is illustrated by those youth who report higher levels of violence exposure because of their own involvement in

M. Schwab-Stone · V. Ruchkin
Child Study Center, Yale University Medical School,
New Haven, CT 06520, USA

R. Koposov
Regional Centre for Child and Adolescent Mental Health,
University of Tromsø, Breivika, 9037, Tromsø, Norway

R. Vermeiren
Section of Child Psychiatry, Free University Medical Center,
Amsterdam, The Netherlands

R. Vermeiren
Department of Law, University of Leiden, Leiden,
The Netherlands

V. Ruchkin (✉)
Division of Neuroscience, Department of Child and Adolescent
Psychiatry, Uppsala University, 751 85 Uppsala, Sweden
e-mail: vladislav.ruchkin@yale.edu

V. Ruchkin
Säter Forensic Psychiatric Clinic, 783 27 Säter, Sweden

violence [7]. Although it has been suggested that different types of violence exposure—witnessing of violence, victimization by violence, and own participation in violence—may lead to different levels and classes of psychopathology [5, 13], these findings have not been extensively pursued in the scientific literature. In addition, a child's own antisocial behavior may increase the chances of witnessing violence, or even being victimized, which, at least partially can explain higher rates of internalizing problems among antisocial youth, compared to their non-antisocial peers (e.g. [16]) including high levels of depression, hopelessness, anxiety and posttraumatic stress (e.g. [17, 18]). Hence, for a better understanding of the direct effects of community violence on internalizing problems in youth, it is important to adjust for the degree of their own involvement in severe antisocial behavior.

Although research examining the impact of violence has traversed a wide array of contexts and countries, the vast majority of community violence research has focused on inner-city populations of the United States, with findings suggesting that one-third or more of all US inner city children have been directly victimized and that a great proportion of inner city children have been exposed to community violence [19]. Although community violence may affect all cultural and ethnic groups [10], some authors (e.g. [20, 21]) have suggested that prevalence of community violence exposure and mental health sequelae may differ by culture/ethnicity. Some ethnic groups may be disproportionately affected [12, 22], and even experience more distress symptoms as a result of exposure [23, 24]. Yet, other studies have suggested that culture is not related to vulnerability when youth are exposed and the effect size of the relationship between exposure to violence and distress appears to be robust across variations in culture, amount of exposure, and level of distress [25]. Similarly, two major perspectives have emerged concerning the cultural expression of trauma in children. Some studies have indicated that signs of emotional distress are expressed similarly by children of different cultures and that these traumatic expressions surmount the barriers of culture and language [26]. However, other authors have argued that responses to suffering are determined by social, cultural, and political aspects of unique contexts [27] and, thus, that a homogenized definition of distress does not adequately address local forms of response.

While there is now a plethora of reports examining the effects of community violence exposure in the US, few studies have examined its impact on youth outside of North America. Those studies that have attempted to look at this problem from cross-cultural perspective (e.g. [20]) suggested significant differences in the levels of symptoms in relation to community violence in different cultural/ethnic groups (e.g. [21]), but also demonstrated certain

similarities in symptom expression (e.g. [25, 28]). Large-scale cross-cultural comparisons of youth community violence exposure and associated internalizing problems are lacking. Hence, in order to provide better, culturally sensitive assessment and treatment, the use of cross-cultural community-based studies is critical.

Research on violence exposure and psychopathology suggests different relationships for boys and girls. Several studies have demonstrated that males are more likely to be exposed to different types of traumatic events than females [29, 30]. At the same time, a substantial body of literature has suggested that those females who have been exposed to trauma are more likely than males to report posttraumatic stress symptoms [1, 8, 31] or to have more significant psychosocial impairment (e.g. [31, 32]). Reports on gender differences in the rates of exposure to community violence however have varied across studies. Some studies reported that males are more likely to be exposed to different kinds of traumatic events [29, 30], whereas others find that girls are equally exposed [31]. Hence, further investigation of gender effects is warranted, particularly from a cross-cultural perspective.

This study sought to replicate previous findings from the American studies and aimed to investigate cross-cultural differences (here represented by the US, Russia and Belgium) in the relation between community violence and psychopathology. The study hypothesized that increased severity of exposure (from no exposure to witnessing to victimization) relates to increased levels of internalizing psychopathology. An additional hypothesis was that involvement in antisocial behavior would increase with reported severity of exposure, and thus, the effects of these problem behaviors need to be controlled for, in order to establish an accurate portrayal of the relationships between violence exposure and internalizing problems. We further hypothesized that these relationships may be gender-specific, with higher levels of internalizing problems in relation to community violence exposure among girls.

Methods

Study Groups

The project was approved by appropriate institutional review boards in all three countries. In this study, which represents part of an ongoing multi-site international project that assesses risk and protective factors for adolescent adjustment, surveys were administered to three community samples of adolescents (14–17 years old) in New Haven (United States), Arkhangelsk (Russia), and Antwerp (Belgium). New Haven is a medium-sized city (125,000 inhabitants) in the northeastern United States (Connecticut)

with a high proportion of minority inhabitants who are of low socio-economic status. Arkhangelsk is a large city (360,000 inhabitants) in the north of Russia. The socio-economic status of the majority of the population is estimated to be similar to the (low) Russian average, and inter-individual differences in socio-economic status at the time of the study were minimal. Antwerp is also a large city with an inner-city population of 400,000, situated in the north of the Flanders (Dutch speaking Belgium). With respect to unemployment rate and education level, inhabitants of Antwerp are, on average, below the general socioeconomic level for that part of Belgium. Minorities are also highly represented in the Belgian sample. A total of 3,309 subjects were eligible for comparison, 1,343 from the US [644 (48.0 %) boys], 1,014 from Russia [390 (38.5 %) boys] and 952 from Belgium [555 (58.3 %) boys]. From the original three-nation sample, 6.7 % (US), 2.4 % (R) and 1.0 % (B) respectively, were excluded because of inconsistent or incomplete reporting on the scales of interest. Participants in the US sample were younger ($15.0 \pm .97$) than those in the Russian ($15.5 \pm .90$) or the Belgian samples (15.6 ± 1.12) [$F(2,3,306) = 95.62$; $p < .000$] The US and Belgian samples had a substantial proportion of ethnic minorities, with ethnic distribution as follows: US sample: 58.7 % African-American, 24.6 % Hispanic, 14.3 % white, and 2.3 % others; Belgian sample: 73.5 % Belgian origin, 11.4 % Moroccan, 4.9 % Turkish, and 10.3 % other origin; Russian sample: all of the Slavic nationalities with 98 % being ethnically Russian.

Instruments

Social and Health Assessment

The social and health assessment (SAHA), a survey (self-report questionnaire) developed by Weissberg et al. [33] and adapted by Schwab-Stone et al. [5], served as the basis for this study. All instruments, described below, were used as parts of the survey, and included both new scales developed specifically for the survey and scales available from the literature that has been used with similar populations.

Witnessing and Victimization

Items assessing witnessing and victimization were derived from the Screening Survey of Exposure to Community Violence, developed by Richters and Martinez [34]. The students were asked “about things that may happen to people in some neighborhoods”. Using yes/no response format the students described whether they had in the past year witnessed or been victimized by six types of violence (been beaten up or mugged, threatened with serious

physical harm, shot or shot at with a gun, attacked or stabbed with a knife, chased by gangs or individuals, or seriously wounded in an incident of violence). Three groups were formed according to the reported severity of exposure. Those who did not report any witnessing and victimization episodes were considered as the *non-exposed group*. Those, who reported at least one episode of witnessing, but no episodes of victimization were considered as the *witnessing group*. Finally, those, who reported at least one episode of victimization were considered the *victimization group*.

Severe Antisocial Behavior

Eight items describing different types of severe antisocial behavior (starting a fistfight; participating in gang fights; hurting someone badly in a fight; carrying a gun; having been arrested by police; carrying a blade, knife or gun in school; suspension from school; being high at school from smoking marijuana) were adapted from Jessor et al. [35], the NASHS survey [36] and added by the developers of the survey [33]. The respondents were asked to report on a 5-point scale how many times (ranging from 0 times to 5 or more times) they had been involved in those behaviors during the past year. The scale provides a total score ranging from 0 to 40. This scale had Cronbach α values of .79 (US); .73 (Russia) and .82 (Belgium). Considering that the study involved youth from the general population, the scale showed relatively low prevalence of such behaviors, even though it has the potential 0–40 range. Considering that the scores were skewed, we have used a logarithmic normalization of the scale scores before analyses.

Internalizing Psychopathology

Three scales from the behavior assessment system for children (BASC) [37] were used in this study to assess *depression* (score range 0–13), *anxiety* (score range 0–14) and *somatization* (score range 0–11). The reliability and validity of this instrument has been widely documented, providing age-appropriate norms for each scale, and it is being increasingly used internationally for assessment of psychopathology in children and adolescents. In the present study the raw scores for the scales were used in all analyses. Cronbach α 's for depression were: .83 (US); .78 (Russia) and .80 (Belgium); for anxiety: .83 (US); .71 (Russia) and .75 (Belgium); and for somatization: .65 (US); .57 (Russia) and .55 (Belgium).

Procedure

The translation of these scales into Russian and Dutch followed established guidelines, including independent

back translations [38]. The translations were made by the working groups in Russia and Belgium, followed by discussion of the translated questionnaires with colleagues. Finally, an independent interpreter made back translations, which were compared with the originals, and inconsistencies were analyzed and corrected. All questionnaires were also pre-tested in samples of youths.

In the US the survey was administered to all 8th and 10th grade students in the local public school system who were present in schools at the time of survey (except for refusals). In both Belgium and Russia, schools were randomly selected from lists of schools in the area to represent typical administrative school systems and different levels of education. Several weeks prior to administration, students and their parents were informed of the planned date of the survey and that participation would be voluntary, with the option for either parent or youth to decline (parent and youth refusals <1 %). Students completed the survey in 45-min sessions during a regular school day. Trained administrators read questions aloud while students followed along with their copies of the survey, reading questions to themselves and marking responses in the booklets.

Statistics

Data were analyzed using the statistical package for social sciences (SPSS-17.0).

Although direct between-country comparisons of the prevalence of violence exposure may seem unjustified, due to differences in culture, ethnicity, socioeconomic status, size of the city and other parameters, we nevertheless provide the basic rates of exposure to violence (both by the type of exposure and a summary table) for each study group, as we hypothesized that in spite of expected differences in the levels of exposure and psychopathology, there would be specific patterns of relationships, potentially generalizable across the three contexts.

Multivariate analyses of covariance (MANCOVA) were performed in order to assess differences in the levels of internalizing psychopathology (as assessed by the anxiety, depression, and somatization scales) in boys and girls, who had experienced violence exposure of different severity (no violence exposure, witnessing and victimization). Hence, we used 3 (violence exposure) \times 3 (country) \times 2 (gender) design for the three internalizing problems.

Because demographic characteristics, such as age and single-parent families influence children's developmental process and outcomes variables, all analyses were conducted controlling for age and single-family status. In addition, a total score of involvement in antisocial behavior was used as a covariate, since its prevalence increased along with severity of exposure (Table 3), suggesting that

youths own antisocial behavior may put them at greater risk for exposure to community violence, thus, potentially distorting the picture of relationships between degree of exposure and level of internalizing psychopathology. Also, antisocial youth generally report higher prevalence of psychopathology than their non-antisocial peers, and thus, the effects of commission of antisocial behavior on psychopathology were controlled for.

Results

Tables 1 and 2 show the prevalence of violence exposure by country and gender. Students from all three countries reported relatively high prevalence of exposure to community violence. Within each study group, more boys were exposed to episodes of violence than girls. The proportion of boys and girls in Russia and Belgium who witnessed at least one episode of violence was similar within country, but in the US a higher proportion of girls than boys reported witnessing violent events. In all three countries, more boys reported episodes of victimization by violence than girls (Table 2).

Table 3 presents the results of univariate analyses of variance (ANOVA) regarding differences in involvement in antisocial behavior according to the degree of severity of violence exposure. The results demonstrate that in all three countries involvement in severe problem behaviors increases along with reported severity of exposure. This finding supports our decision of controlling for the level of severe antisocial behavior in the analyses of associations between violence exposure and internalizing psychopathology that follow.

Table 4 presents the descriptive statistics [M (SD)] for MANCOVA regarding differences in internalizing problems according to the degree of severity of violence exposure for boys and girls in three countries. Table 5 presents effect sizes for each dependent variable (anxiety, depression and somatization), as well as the summary statistics. The main effect for the degree of exposure for the total group was significant, with increasing internalizing psychopathology for increasing exposure to community violence. The main effect for gender was significant, with higher levels of internalizing psychopathology in girls. The main effect for country was significant, suggesting differences in baseline levels of psychopathology in these three samples. However, the interaction effect for Degree of exposure \times gender was not significant, suggesting that patterns of internalizing problems in response to varying degree of violence exposure were not gender-specific. Also, the interaction effect for country \times gender was not significant, suggesting that gender differences in internalizing problems followed similar patterns in different

Table 1 Prevalence of different types of witnessing and victimization by country and by gender [*N* (%)]

In the past year	US (New Haven)		Russia (Arkhangelsk)		Belgium (Antwerp)	
	Boys	Girls	Boys	Girls	Boys	Girls
Witnessing (I have seen ...)						
Someone else getting beaten up or mugged	358 (55.6)	341 (48.8)	126 (32.3)	174 (27.9)	299 (53.9)	153 (38.5)
Someone else get threatened with serious physical harm	411 (63.8)	382 (54.6)	150 (38.5)	165 (26.4)	158 (28.5)	49 (12.3)
Someone else get shot or shot at with a gun	293 (45.5)	250 (35.8)	20 (5.1)	22 (3.5)	58 (10.5)	18 (4.5)
Someone else being attacked or stabbed with a knife	197 (30.6)	166 (23.7)	29 (7.4)	34 (5.4)	123 (22.2)	62 (15.6)
Someone else being chased by gangs or individuals	416 (64.6)	327 (46.8)	81 (20.8)	59 (9.5)	198 (35.7)	76 (19.1)
A seriously wounded person after an incident of violence	308 (47.8)	317 (45.4)	68 (17.4)	67 (10.7)	139 (25.0)	61 (15.4)
Victimization (I have been ...)						
Beaten up or mugged	65 (10.1)	21 (3.0)	53 (13.6)	27 (4.3)	80 (14.4)	25 (6.3)
Threatened with serious physical harm by someone	152 (23.6)	105 (15.0)	72 (18.5)	72 (11.5)	51 (9.2)	17 (4.3)
Shot or shot at with a gun	102 (15.8)	35 (5.0)	4 (1.0)	4 (.6)	16 (2.9)	1 (.3)
Attacked or stabbed with a knife	54 (8.4)	39 (5.6)	11 (2.8)	6 (1.0)	43 (7.7)	3 (.8)
Chased by gangs or individuals	137 (21.3)	52 (7.4)	83 (13.3)	53 (13.6)	133 (24.0)	75 (18.9)
Seriously wounded in an incident of violence	52 (8.1)	34 (4.9)	–	2 (.3)	22 (4.0)	–

Table 2 Within-country comparisons of community violence exposure rates by gender [*N* (%)]

	US		Russia		Belgium	
	Boys	Girls	Boys	Girls	Boys	Girls
No exposure	84 (13.0)	133 (19.0)	143 (36.7)	303 (48.6)	153 (27.6)	162 (40.8)
Witnessing	259 (40.2)	384 (54.9)	116 (29.7)	179 (28.7)	202 (36.4)	136 (34.3)
Victimization	301 (46.7)	182 (26.0)	131 (33.6)	142 (22.8)	200 (36.0)	99 (24.9)
Statistics	$\chi^2 = 69.70, p < .001$		$\chi^2 = 18.90, p < .001$		$\chi^2 = 20.31, p < .001$	

Table 3 Involvement in severe problem behaviors by degree of violence exposure [*M* (*SD*)]

Country	Non-exposed	Witnessing	Victimization	<i>F</i> (<i>df</i>), <i>p</i>
US				
Boys ^{b,c}	1.00 (2.06)	2.40 (3.49)	6.19 (6.25)	<i>F</i> (2; 641) = 60.41; <i>p</i> = .000
Girls ^{a,b,c}	.59 (1.33)	1.59 (2.70)	3.87 (4.97)	<i>F</i> (2; 696) = 44.89; <i>p</i> = .000
Russia				
Boys ^{a,b,c}	1.32 (2.72)	3.15 (2.83)	4.70 (5.11)	<i>F</i> (2; 387) = 24.84; <i>p</i> = .000
Girls ^{a,b,c}	.52 (1.52)	1.01 (1.76)	2.07 (2.76)	<i>F</i> (2; 621) = 31.26; <i>p</i> = .000
Belgium				
Boys ^{a,b,c}	1.14 (2.13)	3.59 (4.44)	6.60 (6.71)	<i>F</i> (2; 552) = 53.46; <i>p</i> = .000
Girls ^{a,b,c}	.45 (1.10)	1.25 (1.82)	1.98 (2.58)	<i>F</i> (2; 394) = 22.51; <i>p</i> = .000

Bonferroni post hoc tests: ^a Significant difference between non-exposed and witnessing, ^b significant difference between non-exposed and victimization, ^c significant difference between witnessing and victimization

cultures. Finally, the interaction effects for degree of exposure \times country and for degree of exposure \times country \times gender were not significant, suggesting that despite substantial differences in the levels of internalizing psychopathology by country, by gender, and by varying degree of exposure to violence the patterns of response to community violence exposure were similar across the three

samples and they were not gender-specific. As shown in Tables 4 and 5, in the three samples, levels of psychopathology increased with severity of violence exposure and, as demonstrated by the follow-up univariate effects for Degree of Exposure, those who were victimized by violence reported the highest levels of depressive symptoms, anxiety and somatization.

Table 4 Descriptive statistics regarding internalizing psychopathology scores [M (SD)] in the US, Russia and Belgium by degree of exposure in boys (B) and girls (G)

	Non-exposed	Witnessing	Victimization
Depression			
US			
B	2.05 (2.63)	1.96 (2.38)	2.95 (2.88)
G	1.84 (2.68)	2.62 (3.10)	4.05 (3.52)
Russia			
B	1.71 (2.04)	2.34 (2.65)	2.75 (2.69)
G	2.26 (2.62)	2.69 (2.66)	2.94 (2.81)
Belgium			
B	1.77 (2.23)	2.09 (2.24)	2.60 (2.50)
G	1.62 (2.62)	2.02 (2.62)	3.06 (3.06)
Anxiety			
US			
B	4.21 (3.32)	4.35 (2.23)	5.60 (3.58)
G	5.23 (3.61)	6.00 (3.64)	6.87 (2.76)
Russia			
B	4.83 (2.88)	5.38 (2.85)	5.91 (3.14)
G	6.25 (2.64)	6.77 (2.76)	7.08 (2.86)
Belgium			
B	4.83 (2.92)	4.78 (2.97)	5.82 (2.91)
G	6.58 (3.37)	6.68 (3.44)	7.24 (3.04)
Somatization			
US			
B	1.54 (1.89)	1.70 (1.57)	2.11 (1.98)
G	1.77 (1.74)	2.18 (1.90)	2.90 (2.13)
Russia			
B	1.37 (1.31)	1.54 (1.36)	1.94 (1.53)
G	2.00 (1.83)	1.99 (1.95)	2.59 (1.89)
Belgium			
B	1.31 (1.46)	1.52 (1.51)	2.27 (1.82)
G	1.59 (1.66)	2.02 (1.62)	2.68 (1.92)

The values presented are not adjusted for the list of covariates

Considering that the differences by outcome, country and gender could have been masked by use of the MANCOVA analysis (i.e. by simultaneously assessing all three outcomes in one model), we have also attempted to examine each outcome separately in order to determine whether the patterns that are reported from the MANCOVA hold up with each outcome individually. The results obtained have been largely similar.

Discussion

This cross-national community study investigated the relationship between exposure to community violence and psychopathology in a sample of 14–17 year old students. This is the first study that has systematically assessed the relationship between community violence exposure and internalizing psychopathology outside of North America in large samples of youth drawn from the general population. The findings demonstrate that the main patterns of these relationships are similar to those reported in US samples. In all three countries, more boys were exposed and victimized by violence. Across countries and genders, even after controlling for level of youths’ involvement in antisocial behavior, levels of internalizing problems increased similarly with increasing severity of violence exposure (from no exposure to witnessing to victimization).

Participants in both Belgium and Russia reported relatively high rates of exposure to community violence, comparable to those reported by upper- and middle-class American youth, but considerably lower than those reported by American inner-city youth (e.g. [26]). Such comparisons, however, should be considered cautiously, as they were provided mainly as a basis for demonstrating patterns of relationships between violence exposure and internalizing problems that could be generalizable across the

Table 5 Effect sizes for each dependent variable and summary statistics (η^2, p)

	Depression	Anxiety	Somatization	Summary statistics
Age	.000, ns	.000, ns	.000, ns	.001, ns
Single parent	.000, ns	.001, ns	.000, ns	.001, ns
Antisocial behavior	.015, <.001	.001, ns	.003, <.05	.022, <.001
Violence exposure	.009, <.001	.010, <.001	.018, <.001	.011, <.001
Country	.001, ns	.003, ns	.008, <.05	.009, <.001
Gender	.007, <.001	.026, <.001	.013, <.001	.029, <.001
Violence exposure by country	.003, ns	.002, ns	.003, ns	.004, ns
Violence exposure by gender	.001, ns	.000, ns	.002, ns	.002, ns
Country by gender	.001, ns	.001, ns	.000, ns	.002, ns
Violence exposure by country by gender	.003, ns	.001, ns	.002, ns	.002, ns

cultures. Furthermore, levels of exposure should not be generalized to any particular country, considering within-country differences in culture, ethnicity, socioeconomic status, size of the city and other parameters.

Several longitudinal studies have demonstrated an increase in the levels of externalizing behaviors after exposure to violence [7, 32, 39]. However, it has also been suggested that those youth who report high levels of exposure, are likely to have been exposed because of their own involvement in fighting, or in other activities that put them at greater risk for exposure [7]. As demonstrated in the present study, these assumptions are justified and the youths' own involvement in severe antisocial behavior does indeed increase along with the reported severity of exposure. The effects and outcomes of violence exposure are likely to differ for innocent bystanders and delinquents who commit acts of violence. Hence, in order to establish a more accurate portrayal of the relationships between exposure and psychopathology, the level of own severe antisocial behavior was controlled for. Also, since antisocial youth tend to have higher levels of internalizing problems than other youth from the general population, in looking specifically at the relationship between violence exposure and psychopathology, effects of antisocial behavior on internalizing symptoms should be controlled for. Interestingly, in all three countries, even when controlling for antisocial involvement, levels of internalizing psychopathology steadily increased with increase in exposure severity. Prospective studies are needed to clarify issues of causality in these relationships.

It has been reported that traumatic response usually correlates with the degree of exposure, measured by both physical and emotional proximity [40]. Furthermore, both witnessing and victimization, as different levels of violence exposure, have been shown to relate to psychological and behavioral problems [1, 3]. However, very few studies (e.g. [5]) have attempted to show differences in effects associated with witnessing and victimization, and to our knowledge there has been no study that compares non-exposed youth to those who only witnessed and to those who were directly victimized. This study clearly shows that witnessing violence is related to increased levels of psychopathology, but the levels of symptoms are less pronounced than in those who were directly victimized.

Reports on gender differences in the rates of exposure to community violence tend to vary from study to study (e.g. [29–31]). The present findings suggests that boys were more commonly exposed to community violence in the Russian and Belgian samples and more often victimized in all three samples. The relatively high number of girls who witnessed violence in the US sample probably reflects the generally higher levels of violence exposure in the US group, which came from an inner-city setting.

Some controversy surrounds the gender-specific effects of violence exposure. Most studies have suggested that females exposed to trauma are more likely to be diagnosed as having posttraumatic stress [29, 31], or at least to report more posttraumatic stress symptoms [1, 8]. In the present study, although girls were less often victimized than boys, they have generally reported higher levels of internalizing problems. Yet, those who were exposed (witnessing or victimization), didn't demonstrate any greater increases in internalizing problems than boys, as reflected by the non-significant interaction effect for degree of exposure \times gender. These findings suggest that in spite of substantial differences in the levels of exposure and of prevalence of internalizing problems, both boys and girls tend to demonstrate similar symptom increase in relation to increased levels of exposure.

Previous studies (e.g. [20, 21]) have suggested that prevalence of community violence exposure and mental health sequelae may differ by culture/ethnicity even within the same country. Some ethnic groups may be disproportionately affected [12, 22], and tend to experience more distress symptoms as a result of exposure [23, 24]. In accord with some other studies (e.g. [25, 28]), the present study suggests that culture is not related to vulnerability when youth are exposed and that patterns of relationship between exposure to violence and internalizing problems appear to be largely similar across variations in culture.

Several conclusions may be drawn from these results. First, increased exposure to violence tended to be associated with greater psychopathology, a finding supported by several studies in American inner-city youth (e.g. [5, 7, 32, 39]). Second, greater psychopathology was found associated to more frequent involvement in situations where violence may occur, a conclusion supported by the findings of higher levels of antisocial behavior in those who had been victimized, as compared to those who only witnessed, or were not exposed to violence. Third, the associations between violence exposure and internalizing psychopathology in the present samples tended to be not gender-specific, and the findings were likely to be generalizable across different cultural settings.

The strengths of the current study include the assessment of cross-national community samples from diverse socio-economic and ethnic regions with different levels of violence exposure and psychopathology. Similar trends within each study group, regardless of geographical location, suggest that exposure to violence has similar effects in different cultures, with higher severity accompanied by higher levels of psychological problems.

Some limitations of the current study should also be noted. All data were obtained through self-report questionnaires. Other sources of information would be useful for the assessment of the relationships between violence exposure

and psychopathology [41]. Use of self-reports is also associated with the potential reporting bias, as increased psychopathology could lead to more reporting of violence, for instance due to anxiety symptoms. Using the data based solely on a self-report questionnaire format may also lead to the potential bias due to the shared method variance. It has been demonstrated, however, that self-report surveys in youth tend to be a valid source of information [42], especially when one assesses exposure to violence and problem behaviors, as adults may be unaware of the range of social contexts that their children encounter, as well as the behaviors in which they engage. The study was school based and hence a number of youth have potentially been missing because they have dropped out or did not attend that day. This fact is particularly important given that involvement in violence is related to lack of involvement with school. The research team made a substantial effort to assure that the instruments were translated appropriately, however some of the scales items might not have been equally culturally appropriate across these three countries. For example, the gangs were a lesser issue for Belgium and Russia, and hence the term was replaced by “groupings”, as in many cases juveniles from different districts had a tendency to form groups that fight with each other. Finally, the study has a cross-sectional design, and thus does not allow conclusions about causal relationships.

The clinical implications of the current findings are straightforward. These findings suggest that inner-city adolescents from different regions endure frequent exposure to violence which is related to a wide range of internalizing problems, and the pattern of this association is not gender-specific. Youth who are victimized should receive clinical attention as they are at risk of developing a range of psychological problems.

Summary

The present study aimed to investigate potential similarities and differences in psychopathology associated with community violence exposure of differing severity (no exposure, witnessing, victimization) in adolescents from a cross-cultural perspective. A self-report survey, the SAHA was conducted in a representative sample of 3,309 14–17 year old adolescents from urban communities in the US ($N = 1,343$), Belgium ($N = 946$) and Russia ($N = 1,009$). In all three countries, boys reported higher prevalence of violence exposure and more victimization by community violence than girls. Even after controlling for adolescents' involvement in antisocial behavior, levels of psychopathology increased along with severity of exposure to community violence (from no exposure to witnessing to victimization). Trends for associations between community

violence exposure and internalizing problems were similar across countries and gender.

These findings suggest that inner-city adolescents from different regions endure frequent exposure to violence which is related to a wide range of psychopathology, and the pattern of this association is not gender-specific. Youth who are victimized should receive clinical attention as they are at risk of developing a range of psychological problems. Although cultural differences should be taken into account when devising these programs, the psychological effects of community violence on adolescents may be fairly universal.

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