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What have adolescents in Rio de Janeiro city, Brazil, done to reduce their community violence exposure?

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Abstract *This study aims to identify the individual community strategies to avoid violence exposure most used by adolescents from public and private schools in the IX Administrative Region of Rio de Janeiro and investigate the profile of co-occurrence and its prevalence in specific population subgroups. This is a cross-sectional study with 693 individuals. A multidimensional questionnaire collected information regarding strategies to avoid community violence exposure and was self-completed in the classroom. The most used strategies were avoiding walking close to armed people (55.5%), avoiding walking alone (30.5%), and avoiding returning home at dawn (24.7%). Girls adopt more of all (concurrently) the four limiting behaviors to reduce their community violence exposure (53% vs. 32%). Notably, the adoption of such strategies differed by socioeconomic indicators and was higher among adolescents from lower-income households. These findings point to the high frequency of use of such strategies by adolescents, which may hinder and limit the full development of their social and cultural skills.*

Key words *Exposure to violence, Community violence, Adolescent, Health surveys*

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Introduction

Community violence (CV) is a public health problem in many high-, medium- and low-income countries, including Brazil[1]. This type of violence generally includes adolescents and young people as one of the most vulnerable groups to the problem[2]. These are the primary victims of the lethal and non-lethal manifestations[3]. The relevance of the issue in this population segment is evident when we find that, in the global setting, a quarter of the victims of homicide are adolescents, and boys aged 15-19 are the most vulnerable[4].

Latin America and the Caribbean have the highest homicide rates among adolescents, and Brazil is one of the five countries with the highest rates in this age group[4]. Approximately 628 thousand homicides were reported in the country from 2008 to 2018, with 91.8% male victims and 55.3% aged 15-29[5]. The situation in Rio de Janeiro is even more alarming. The rate in the State was 183 per 100 thousand in 2018, about 63% above the Brazilian average[5].

Concerning non-lethal violence, a 2005 study focusing on this type of violence in school adolescents from São Gonçalo, Rio de Janeiro, estimated that half had already seen someone be seriously injured, one in three had already faced danger and insecurity in the neighborhood, and 12.7% had had their homes broken into or robbed[6]. Another study conducted in São Paulo in 2017 revealed that 15.3% of respondents had been victims of theft with violence in the 12 months before the interview. Firearm-associated physical violence victimization also caught the authors' attention, at 7.6%[7].

While male adolescents and young people are more vulnerable to interpersonal violence linked to drug trafficking, CV in urban centers, and land disputes in rural areas, sexual violence perpetrated by non-intimate partners is one of the leading human rights violations against girls and women[8]. In 2018, the worldwide prevalence of sexual violence perpetrated by non-intimate partners against women aged 15-49 throughout life was 6%[8].

Sexual violence also seems to be relevant in Brazil despite the few available studies. According to Cerqueira et al.[9], rape notifications grew 66.1% nationwide from 2011 to 2014. Analyzing the victim-perpetrator bond, the main perpetrators of this type of violence against adolescents aged 14-17 are strangers (30.6%), followed by friends/acquaintances (26.0%).

In 2014, the Notifiable Diseases Information System (SINAN) recorded 20,085 suspected rape cases in Brazil, and 1,369 cases were in the State of Rio de Janeiro. Population studies also reveal essential characteristics of this community violence type. Data from the 2015 National School Health Survey (PeNSE), a national inquiry involving 102,072 school adolescents from the five regions of Brazil, revealed a lifelong sexual violence prevalence of 4.0%, with the highest values found in girls aged 15 or older, self-declared non-white, and from public schools[10].

Besides the several adverse repercussions on the health of its victims, CV exposure is a significant social experience and interaction limitation in this age group, harming the proper development of their social skills, namely, their ability to express desires, feelings, and opinions and interacting with other people[11]. Adolescence involves many emotional, social, and physical changes[12]. These transformations occur jointly with increasing autonomy, individualization, identity development, more significant peer influence, the need for affirmation before the group, and exploration of the environment in which they live and experience risks[12-14]. Greater autonomy, freedom, social interaction among peers, and reduced parental supervision are crucial for the comprehensive development of adolescents. However, note that the resultant changes can have a "two-way street" effect. On the one hand, they provide adolescents with an opportunity to grow and mature, but on the other hand, these changes increase the likelihood of boys and girls being exposed to different forms of CV[4].

Faced with the need for independence, being among friends, and living new experiences and the risks of exposure to violence that this naturally imposes, many adolescents and their families develop individual strategies to reduce victimization. Such actions involve restrictions at home, avoiding relationships with certain groups, not attending certain social events, or even visiting certain territories. These limitations are not always well accepted by adolescents since these actions result in restriction of newly achieved freedom or even fear of discrimination by peers due to excessive family zeal[11,15]. Furthermore, despite aiming to reduce the risk of exposure to violence, when they cover different aspects of adolescents' lives, such protection strategies can lead to isolation and impair the social development of individuals.

Unfortunately, the literature on individual strategies for coping with CV in the daily lives of

adolescents and young people is still scarce despite the high Brazilian violence rates, especially in Rio de Janeiro and other large Brazilian cities. Little is known about the most adopted strategies, whether there are differences between boys and girls or they differ by sociodemographic characteristics. It seems relevant to us to shed more light on the subject since these measures can be heterogeneous depending on the characteristics of those involved, the community violence levels and social contexts involved, and that these predicates are related to the quality of life of adolescents. Therefore, this study aims to identify the individual strategies most used by adolescents who attended high school in public and private schools in a specific Administrative Region of the municipality of Rio de Janeiro to avoid exposure to community violence, investigate the co-occurrence profile of these strategies, and examine their prevalence in specific population subgroups, from their demographic characteristics and households' socioeconomic indicators.

Methods

Study design and location

This cross-sectional study is nested in a larger research project entitled "Rape of the vulnerable and other violence against female adolescents and young people" and was conducted with second-year High School students from public and private educational institutions in the IX Administrative Region (AR) of Rio de Janeiro, Brazil. The IX AR includes approximately 191,000 inhabitants with an average per capita monthly income of R$1,836 in 2010. Although this region has the fifth highest Human Development Index (HDI) in the municipality, the location is marked by a population of different socioeconomic levels. The region has fully urbanized areas (middle- and upper-class houses, buildings, and condominiums) surrounded by slums (e.g., Borel, Macacos, and Complexo do Andaraí), places with poorer housing and no basic sanitation conditions [16].

Participants

In 2016, the IX AR comprised five public and 15 private schools, covering 29 and 23 classes in the second High School year. These classes included 1,470 students. Participants were selected through a complex sampling procedure, stratified under three groups: private schools with daytime classes, public schools with daytime classes, and public schools with evening classes. Twenty-six classes were selected with a probability proportional to the school's size. All students from the drawn classes were invited to participate in the research. The sample size of the background study was 721 students, with a response rate of 96.1%. This sampling scheme implied different sample weights for each school and respective student. Only adolescents aged 15-19 were included in this study, resulting in a sample of 693 students.

Data collection and measurement tools

A previously trained team collected data from October 2016 to February 2017. Information was obtained through self-completion of a multi-thematic questionnaire in the classroom and an active search for missing identification and sociodemographic information through telephone calls.

Individual strategies to avoid CV exposure were measured using ten closed-ended questions from module II of a tool developed in Brazil for a previous survey on Youth, Violence, and the Police[17]. The questions referred to adopting behaviors to self-protect from community violence or feel safer.

Students were asked whether they avoided leaving home at night, leaving their community or neighborhood, not returning home at dawn, going to parties, visiting a group of friends, walking alone, not using specific bus lines, going to school, walking close to armed people and near the police.

Three responses related to the frequency with which they used such strategies in their daily lives were allowed for each question (never, sometimes, and often). The three responses were considered in the analysis of prevalence in the sample aggregate and by gender. The variables of central interest ("No" *vs* "Yes") were dichotomized in the subgroup and co-occurrence analyses focusing on the adoption of different strategies by the same individual, grouping the last two categories.

The questionnaire included demographic, socioeconomic, household context, and school variables. Most of the variables are self-explanatory and described in the first table of the results section. The household's economic position was assessed using the 2015 Brazilian Economic Classification Criteria (CCEB)[18]. The CCEB is

built from a scoring system formed by the education of the head of the family in years of study, access to public services, ownership of durable goods, and contracts with domestic servants. Households are classified into seven socioeconomic strata: A; B1; B2; C1; C2; D-E. Stratum A has the highest purchasing power, while stratum E has the lowest[18].

Data analysis

Data analysis included a first stage of a description of the sample studied taken together and second stratification by sex to characterize the population profile and identify the frequency of use of different strategies to avoid CV. Then, the prevalence of each adopted strategy was estimated by demographic (age, ethnicity, and with whom the adolescent lives) and socioeconomic (maternal education, socioeconomic stratum, and school management) variables. Null independence hypotheses were evaluated using the chi-square test with a significance level (α) of 0.05 as a demarcation of rejection of H_0.

The profile of co-occurrence of strategies was graphically represented by Venn Diagrams, grouping the experiences into four sets: the limited right to come and go (avoiding leaving home at night, leaving the community or neighborhood and returning home at dawn), limited interaction with peers (avoids going to parties, visiting a group of friends and going to school), prudent or cautious attitudes (avoid walking alone and using specific bus lines), and avoiding being near armed people (avoid walking close to armed people and passing near the police). All analyses used the Stata 16 *svy* suite to handle the complex sampling structure.

Ethical aspects

The study was approved by the Research Ethics Committee of the State University of Rio de Janeiro (CAAE nº 48107514.2.0000.5282) and by the State Education Secretariat. The Informed Consent Form was signed by the students, and the Assent Form by the parents/guardians.

Results

Table 1 presents the profile of participating adolescents. The sample as a whole is homogeneous regarding age (mean: 16.9 years, SD: 0.9). Just over 50% self-declared white. Most adolescents reported not living with both parents (55.6%), and almost a third lived with their mother only. About 11% of the mothers have less than eight schooling years. Most students belonged to economic stratum B and were enrolled in the private school system. There is a higher proportion of younger girls than boys.

The frequencies of individual strategies used by the participants to avoid CV exposure are shown in Table 2. The most common ones were: avoiding walking close to armed people (55.5%), avoiding walking alone (30.5%), and avoiding returning home at dawn (24.7%).

We observed statistically significant differences between boys and girls. Girls more often avoid leaving home at night (28.2% *vs* 10.4%); returning home at dawn (31.4% *vs* 16.8%); going to parties (10.5% *vs* 5.3%); walking alone (43.3% *vs* 15.5%); using specific bus lines (22.7% *vs* 17.0%); and avoid going near the police (12.4% *vs* 11.5%).

The co-occurrence profile of the strategies by gender is shown in Figure 1. We observed that 32% and 53% of boys and girls, respectively, tend to adopt all (concurrently) of the four types of limiting behavior (limited right to come and go, limited contact with peers, prudence or care, and avoiding walking close to armed people) to reduce their exposure to community violence. When we analyzed the individual strategies adopted in each group separately (limited right to come and go, limited interaction with peers, conservative attitudes, and avoiding walking close to armed people), we also observed more critical use of such attitudes by girls in all groups studied (data not shown in tables and figures), reinforcing the situation found.

Table 3 presents the prevalence of using each strategy to prevent CV victimization by some socioeconomic indicators and disaggregated by sex. We observed that both girls and boys from the lowest socioeconomic strata are the ones who most avoid passing near the police. In contrast, higher-strata adolescents avoid going to places close to armed people. Trying not to use specific bus lines was more frequent among all adolescents who had more educated mothers, belonged to higher socioeconomic strata households, and students from the private school network.

Avoiding leaving the community or neighborhood and returning home at dawn was more frequent among boys and girls who had less educated mothers. Boys from strata C, D, and E avoided leaving home more. Like boys, public school girls were more likely to avoid attending school.

Table 1. Demographic, socioeconomic, household, and school profile of IX AR adolescent students in Rio de Janeiro, RJ, 2017.

	Total			Boys			Girls		
	n	%	(95%CI)	n	%	(95%CI)	n	%	(95%CI)
Age group (years)									
15-16	281	49.0	(41.2 – 56.8)	118	44.8	(36.1 – 53.8)	163	52.5	(44.4 – 60.5)
17-19	412	51.0	(43.3 – 58.8)	198	55.2	(46.2 – 63.9)	214	47.5	(39.5 – 55.6)
Ethnicity									
White	318	52.1	(44.5 – 59.5)	136	47.8	(39.6 – 56.2)	182	55.7	(46.8 – 64.2)
Black	114	14.5	(11.8 – 17.8)	46	12.7	(9.1 – 17.4)	68	16.1	(12.0 – 21.3)
Brown	236	31.0	(25.4 – 37.3)	122	36.7	(29.1 – 45.0)	114	26.1	(20.1 – 33.2)
Asian descent	7	0.8	(0.3 – 2.0)	3	0.8	(0.2 – 2.9)	4	0.8	(0.2 – 2.4)
Indigenous	14	1.6	(0.9 – 2.7)	7	2.0	(1.0 – 4.1)	7	1.3	(0.6 – 2.9)
Adolescent living with									
Father and mother	301	44.4	(4.1 – 48.0)	139	43.7	(37.4 – 50.3)	162	45.0	(38.6 – 51.6)
Only with mother	195	29.6	(26.2 – 33.2)	86	29.7	(24.8 – 35.1)	109	29.5	(24.3 – 35.2)
Only with father	32	5.0	(3.5 – 7.0)	15	4.4	(2.5 – 7.6)	17	5.5	(3.2 – 9.2)
With mother and stepfather	99	13.1	(11.0 – 15.7)	47	14.2	(10.1 – 19.4)	52	12.2	(9.4 – 15.8)
With father and stepmother	15	2.1	(1.2 – 3.6)	8	2.4	(1.2 – 4.7)	7	1.9	(0.8 – 4.2)
Other	48	5.8	(4.2 – 7.8)	21	5.6	(3.9 – 8.1)	27	5.9	(3.9 – 8.9)
Maternal schooling									
Illiterate/Up to 5th grade incomplete	23	2.6	(1.6 – 4.2)	11	2.8	(1.3 – 6.3)	12	2.4	(1.4 – 4.0)
5th grade/Up to 9th grade incomplete	63	7.9	(5.8 – 10.6)	29	8.2	(5.2 – 12.8)	34	7.6	(5.1 – 11.1)
9th grade/High School incomplete	142	18.0	(15.4 – 21.0)	53	14.1	(10.6 – 18.5)	89	21.4	(16.4 – 27.5)
High School/Higher Education incomplete	264	39.7	(34.3 – 45.4)	129	42.6	(35.9 – 49.4)	135	37.3	(31.0 – 44.1)
Higher Education	163	31.8	(24.9 – 39.4)	76	32.3	(24.8 – 40.7)	87	31.3	(26.6 – 40.2)
Economic stratum of households (CCEB)									
A	90	17.4	(13.5 – 22.0)	48	19.9	(14.6 – 26.7)	42	15.2	(10.8 – 21.0)
B	327	54.8	(51.4 – 58.3)	148	56.2	(50.1 – 62.1)	179	53.7	(48.1 – 59.3)
C	209	26.6	(22.5 – 31.3)	88	23.5	(18.9 – 28.7)	121	29.3	(23.6 – 35.8)
D and E	11	1.2	(0.6 – 2.3)	2	0.4	(0.1 – 1.5)	9	1.8	(0.8 – 4.1)
Management									
Public	388	37.2	(32.0 – 42.6)	173	35.5	(29.8 – 41.6)	215	38.6	(30.4 – 47.5)
Private	305	62.8	(57.4 – 68.0)	143	64.5	(58.4 – 70.2)	162	61.4	(52.5 – 69.6)

Source: Authors.

The profile of individual strategies used to reduce community violence exposure by demographic characteristics of adolescents is shown in Table 4. Avoiding going home at dawn was more frequent among boys and girls aged 15-16, non-white girls, and boys living with fathers and mothers. Not going to parties was more frequent among girls aged 15-16. Avoiding visiting a group of friends was more frequent among boys who did not live with both parents. Missing school was more frequent among boys aged over 16 and among girls who did not live with their father and mother. Non-white boys were likelier to avoid walking close to armed people, and boys over 16 were likelier to avoid going near the police.

Discussion

The findings of this study indicate that most adolescents adopt a diverse range of protective attitudes and behaviors to reduce their CV exposure, which restricts freedom and threatens the full enjoyment of their fundamental rights. The need to protect oneself from violence promotes behaviors and attitudes that curb adolescents' urban mobility, reduce social contact with their peers, and even threaten access to school and other social facilities, which is necessary for their citizen development. A large number of adolescents, especially females, engaging in several of these strategies concomitantly is also noteworthy. Note that despite being present in all groups

Table 2. Adoption of behaviors to prevent CV victimization by adolescent students in the IX region of Rio de Janeiro, RJ, 2017.

Strategies used	Total			Boys			Girls			p-value
	n	%	(IC95%)	n	%	(IC95%)	n	%	(IC95%)	
Avoids going out at night										
Never	291	42.4	(38.0 – 46.9)	181	58.9	(52.3 – 65.1)	110	28.1	(20.1 – 37.8)	***
Sometimes	266	37.7	(32.9 – 42.8)	101	30.7	(25.6 – 36.4)	165	43.7	(36.8 – 50.9)	
Often	125	19.9	(15.0 – 25.8)	30	10.4	(7.0 – 15.1)	95	28.2	(22.1 – 35.1)	
Avoids leaving the community or neighborhood										
Never	438	65.7	(61.2 – 69.9)	211	69.8	(65.6 – 73.7)	227	62.1	(54.9 – 68.9)	
Sometimes	180	25.7	(21.7 – 30.1)	77	21.6	(17.8 – 26.1)	103	29.2	(22.7 – 36.7)	
Often	62	8.6	(6.6 – 11.2)	25	8.6	(5.6 – 12.9)	37	8.7	(5.9 – 12.5)	
Avoids returning home at dawn										
Never	264	39.1	(34.5 – 44.0)	145	48.3	(39.8 – 57.0)	119	31.3	(26.6 – 36.4)	***
Sometimes	253	36.2	(31.6 – 41.0)	110	34.9	(27.5 – 43.1)	143	37.3	(32.3 – 42.6)	
Often	165	24.7	(19.9 – 30.2)	55	16.8	(13.5 – 20.7)	110	31.4	(23.8 – 40.2)	
Avoids going to parties										
Never	402	58.5	(54.4 – 62.5)	214	68.5	(61.2 – 74.9)	188	49.9	(45.3 – 54.6)	***
Sometimes	229	33.4	(30.2 – 36.7)	86	26.2	(20.4 – 33.0)	143	39.6	(35.3 – 44.1)	
Often	53	8.1	(5.9 – 11.1)	14	5.3	(2.9 – 9.7)	39	10.5	(7.9 -13.8)	
Avoids visiting a group of friends										
Never	475	69.9	(65.0 – 74.4)	226	72.9	(68.6 – 76.8)	249	67.4	(59.8 – 74.2)	
Sometimes	169	23.9	(20.6 – 27.7)	75	21.8	(18.2 – 25.8)	94	25.8	(20.2 – 32.4)	
Often	37	6.2	(4.3 – 8.6)	12	5.3	(3.1 – 9.0)	25	6.8	(4.8 – 9.5)	
Avoids walking alone										
Never	137	19.3	(15.8 – 23.5)	102	31.3	(26.4 – 36.6)	35	9.0	(5.7 – 13.8)	***
Sometimes	343	50.2	(45.0 – 55.5)	162	53.2	(46.7 – 59.5)	181	47.7	(41.7 – 53.8)	
Often	207	30.5	(26.3 – 34.9)	50	15.5	(11.2 – 21.1)	157	43.3	(38.2 – 48.6)	
Avoid using specific bus lines										
Never	341	48.0	(44.2 – 51.9)	184	56.9	(52.0 – 61.6)	157	40.3	(34.3 – 46.7)	***
Sometimes	218	32.0	(28.2 – 35.9)	82	26.1	(21.3 – 31.6)	136	37.0	(31.4 – 43.0)	
Often	124	20.0	(15.8 – 25.0)	47	17.0	(13.1 – 21.8)	77	22.7	(17.1 – 29.4)	
Avoids going to school										
Never	617	91.3	(88.8 – 93.2)	284	92.6	(88.1 – 95.5)	333	90.1	(85.6 – 93.3)	
Sometimes	59	7.7	(5.8 – 10.2)	22	5.6	(3.0 – 10.2)	37	9.6	(6.4 – 14.1)	
Often	10	1.0	(0.6 – 2.0)	8	1.8	(0.9 – 3.7)	2	0.3	(0.0 – 2.6)	
Avoids walking close to armed people										
Never	178	24.1	(20.8 – 27.7)	86	25.0	(21.5 – 29.0)	92	23.3	(18.7 – 28.7)	
Sometimes	162	20.4	(16.4 – 25.1)	82	23.0	(18.3 – 28.6)	80	18.1	(14.0 – 23.1)	
Often	345	55.5	(49.6 – 61.2)	146	52.0	(45.2 – 58.6)	199	58.6	(52.1 – 64.8)	
Avoids passing near the police										
Never	300	44.7	(39.5 – 50.1)	153	49.4	(44.2 – 54.6)	147	40.7	(33.6 – 48.3)	*
Sometimes	296	43.3	(37.8 – 48.9)	119	39.1	(33.5 – 45.0)	177	46.9	(39.6 – 54.4)	
Often	88	12.0	(9.3 – 15.3)	41	11.5	(8.2 – 16.0)	47	12.4	(8.5 – 17.6)	

* < 0.05; ** < 0.01; *** < 0.001.

Source: Authors.

studied, adolescents with less educated mothers, belonging to the lowest economic strata, and who attend public school are the ones who most adopt such strategies, reinforcing the social nature of the problem. Also relevant are the findings that indicate differences in the frequencies and nature of the strategies used between boys and girls.

CV is part of everyday life for many adolescents worldwide, including Brazil. Some studies show that direct (when the violence is directed at

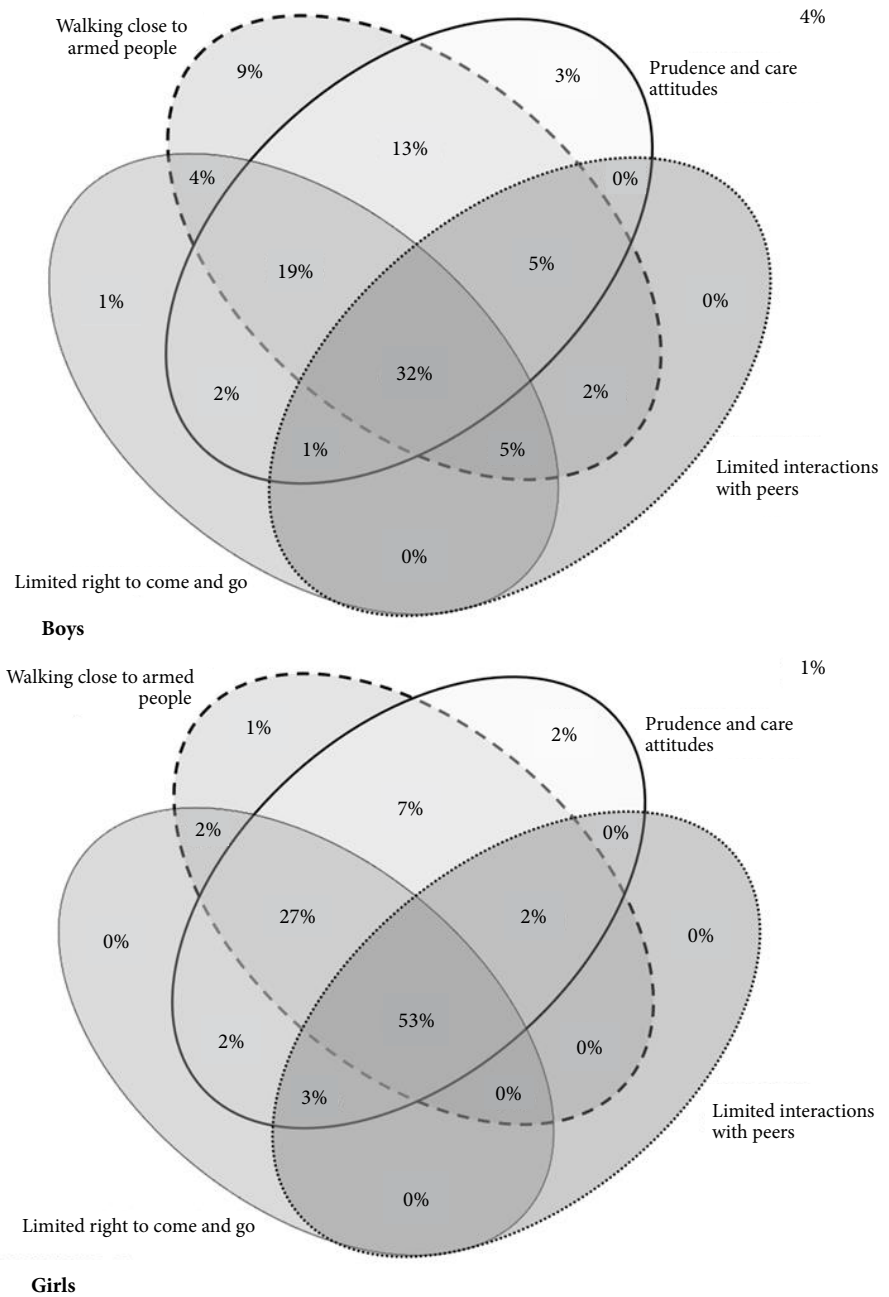

Figure 1. Co-occurrence of individual strategies to avoid exposure to community violence in male and female adolescent students.

Source: Authors.

the individual) and indirect (when the individual is not the direct target of violence) exposure to this type of violence can negatively influence the mental health of individuals[19,20]. Faced with this setting, adolescents seek different ways of dealing with and trying to avoid exposure to violence to maintain their physical integrity, reduce stress, and ensure their mental health. Adopting

Table 3. Frequency of behaviors to prevent community violence victimization by socioeconomic indicators of households of adolescent students from the IX AR in Rio de Janeiro, RJ, 2017.

Strategies used	Boys						Girls					
	Maternal schooling		Socioeconomic stratum		School management		Maternal schooling		Socioeconomic stratum		School management	
	< 8 years	≥ 8 years	A and B	C, D, and E	Public	Private	< 8 years	≥ 8 years	A and B	C, D, and E	Public	Private
'I avoid..."												
Going out at night	48.0	39.6	37.3	49.3*	45.1	39.0	70.2	72.7	73.7	68.6	69.7	73.2
Leaving the community or neighborhood	48.0	27.4**	27.7	32.1	38.9	25.5**	31.4	37.9	37.4	36.1	44.9	33.6
Returning home at dawn	68.1	49.1*	50.4	51.9	56.6	49.0	75.5	67.9	68.9	67.6	68.0	69.1
Going to parties	34.5	31.1	31.3	33.0	31.1	31.8	52.7	49.7	50.2	50.4	49.7	50.3
Visiting a group of friends	25.2	27.3	27.9	24.7	29.9	25.5	31.5	33.3	31.4	34.4	36.4	30.3
Walking alone	70.2	68.6	69.6	66.6	65.5	70.4	89.6	90.9	90.6	92.3	89.6	91.9
Using specific bus lines	42.9	42.3	45.7	37.2	39.8	44.9	41.1	62.5**	65.8	43.5**	57.3	61.2
Going to school	5.5	7.6	6.6	10.7	12.5	4.6*	17.0	9.2	9.2	10.3	15.3	6.6**
Walking close to armed people	67.4	77.1	77.0	68.5	68.3	78.6***	67.5	76.7	79.4	68.7	69.8	81.0**
Passing near the police	68.5	46.9**	48.9	51.1	54.4	48.6	59.7	59.8	55.4	65.3**	65.0	55.7

* p < 0.1; ** p ≤ 0.05; ***p ≤ 0.01.

Source: Authors.

Table 4. Frequency of behaviors to prevent community violence victimization by demographic indicators of the households of IX AR adolescent students in Rio de Janeiro, RJ, 2017.

Strategies used	BOYS						GIRLS					
	Age		Ethnicity		Living with		Age		Ethnicity		Living with	
	15/16 years	≥ 17 years	Whites	Non-whites	Father and mother	Other	15/16 years	≥ 17 years	Whites	Non-whites	Father and mother	Other
'I avoid..."												
Going out at night	43.3	39.4	39.0	43.5	41.5	40.8	76.2	67.0*	75.5	67.3	75.7	69.1
Leaving the community or neighborhood	31.5	29.2	28.5	32.1	29.4	30.9	40.4	34.9	40.9	33.9	41.3	34.7
Returning home at dawn	58.5	46.1**	48.3	55.2	57.4	47.2*	72.7	64.2**	65.5	73.2**	70.2	67.5
Going to parties	30.3	32.6	31.1	32.3	32.7	30.7	55.6	44.0**	48.5	52.7	50.9	50.0
Visiting a group of friends	27.0	27.3	23.3	30.9	21.3	31.5**	32.7	32.6	33.6	31.8	32.5	33.0
Walking alone	70.5	67.3	71.5	66.2	72.8	65.5	90.7	91.3	91.4	90.4	90.3	92.3
Using specific bus lines	45.2	41.4	46.5	40.5	47.2	40.0	59.6	59.8	63.2	55.3	61.3	58.2
Going to school	3.0	10.9**	7.4	7.5	6.2	8.3	10.2	9.6	9.3	10.9	5.7	13.6**
Walking close to armed people	81.0	70.1	79.3	70.8*	75.0	75.0	80.0	73.0	77.9	75.6	79.5	74.5
Passing near the police	44.5	50.6*	50.2	50.5	44.4	55.4	57.6	61.1	57.8	60.6	63.4	55.7

* p < 0.1; **p ≤ 0.05; ***p ≤ 0.01.

Source: Authors.

individual strategies to manage or reduce such exposure can reduce its direct consequences. However, as previously mentioned, such actions can bring severe limitations to the lives of these adolescents due to the reduced free and safe relationships with their peers. Interaction plays a fundamental role in the development of individuals during adolescence. In this way, adopting strategies that restrict freedom and reduce social interaction can be extremely harmful. Adopting these strategies also interferes directly with how adolescents experience the urban space and life in the community. Besides already having their right to safety violated, many of the strategies adopted to reduce violence exposure (e.g., avoiding leaving the community or neighborhood, going out at night, returning home at dawn, or using specific bus lines) harm other fundamental rights, such as the right to move freely within the national territory guaranteed by the Brazilian Federal Constitution in its article 5, item XV [21].

The COVID-19 pandemic has recently shown us some behavioral, emotional, and mental health consequences from social distancing, lack of social interaction, and confinement in small spaces in adolescents[22-25]. In a recent systematic review and meta-analysis to estimate the prevalence of mental health problems in children and adolescents during the COVID-19 pandemic, Ma et al.[26] estimated a prevalence of depression, anxiety, and post-traumatic stress of 29%, 26%, and 48%, respectively. Two other systematic reviews corroborate the high prevalence found in the meta-analysis study[27,28]. Even recognizing the multiple determinants of these high rates of mental suffering, all these authors attribute significant importance to social distancing in this process. While the social distancing stemming from strategies implemented to avoid CV may not be equivalent in nature or magnitude to the restrictions imposed during the pandemic, it is plausible to speculate that such strategies may lead to some degree of mental health harm for those involved. This hypothesis is reinforced when realizing that most of the sample habitually uses different strategies that restrict adolescents' right to come and go, confining them to their place of residence.

Besides the mental health problems already highlighted, adopting strategies to avoid CV exposure can also have negative consequences in the short, medium, and long term in other spheres of adolescents' lives. Article 58 (1989)[29] of the Child Rights Convention recognizes the right of children and adolescents to participate in the cultural and artistic life of their place of residence, emphasizing that the State should encourage the provision of cultural, artistic, sports, recreational, and leisure activities for children and young people. The importance of adolescents attending places of cultural dissemination such as museums, art galleries, libraries, cinemas, theaters, science centers, and sports practice is fundamental for learning and cultural exchanges in this age group[30,31]. The lack of experience in such activities adversely affects adolescent growth, development, and formation. The restrictions imposed by community violence and behaviors that aim to avoid it, associated with the small supply and access to social facilities offering cultural and leisure activities, threaten such rights.

The different co-occurrence profile of the several actions between boys and girls also deserves debate. The percentage of girls who adopted different strategies concomitantly was about 65% higher than observed among boys (53% vs. 32%). The literature has shown that the escalation of violence in urban centers and the fear of experiencing CV situations leads parents to restrict the movement of their children[32,33]. However, such restrictions do not have the same intensity and frequency in male and female children. Reflecting on the role of the Brazilian family in establishing different rules and recommendations depending on the adolescent's gender can help us understand these differences.

As emphasized by several authors, the households' gender social representations influence how their children socialize[34]. Such representations are translated into parental education, interaction, and control attitudes and strategies[34,35]. Although the differences have been shrinking, parents educate, create expectations, and distribute different activities for boys and girls since their children's birth, reproducing socially constructed gender roles throughout history[34-36]. According to Trindade (2005)[37], we observe that boys are still educated to dominate the public space, while girls are educated to take more responsibility for the private space (the home) and all its related tasks: housework and providing care to children and older adults, to the detriment of encouraging education and professionalization. These differences are very noticeable in sexist and patriarchal societies such as Brazil. Given the rigid gender roles, which culminate in different parental education strategies per the child's gender, it is unsurprising that girls have adopted more strategies and limitations than their male peers. To minimize these gender differences, Beauvoir[38]

mentions that the family and society should encourage girls to manifest themselves, to have the same curiosity, initiative, and daring as boys, and to exercise more of their freedom in order to understand, apprehend and discover their surrounding world – that is, girls need to be raised and educated in a similar way to boys.

Finally, we should emphasize the social and demographic inequalities identified when analyzing the prevalence of the use of each strategy by different population strata. Adolescents from more socially vulnerable families adopted more strategies to reduce their CV exposure. When considering the demographic characteristics of individuals, we also observed that the most vulnerable are those who endure the most restrictions. Indeed, this group's greater use of strategies is directly related to the State's absence and the lack of public security in the places these adolescents visit.

Our results are consistent with the high rates of lethal violence, robberies, and abuse, among other types of violence to which Black adolescents and young people with low schooling and residing in suburban areas are exposed as perpetrators or victims[39].

The results of our study must be interpreted in light of their limitations and strengths. A possible limitation is that the study only included adolescents who were enrolled and attended school during the data collection period. Restricting the sample to those in school may have underestimated the frequency of adopting the strategies, since missing classes may have been an action to curb exposure to CV situations. Generalizing this study's findings to the population of adolescents in Rio de Janeiro must also be done with caution. Despite including adolescents enrolled in public and private schools in a heterogeneous area of the city, our sample could not reproduce Rio de Janeiro's socioeconomic profile. Compared to these populations, our sample included a more significant number of middle-class adolescents, to the detriment of the population from disadvantaged economic classes. Adopting strategies to reduce CV exposure would have been even more frequent had the study included more impoverished city areas with higher violence rates. Finally, another possible limitation is the need for more data for some variables included in the study. However, the percentage of "missing" ranged from 0.4% to 8.0%, which is considered a low value. Thus, the absence of such information did not impact our results.

The theme's originality stands out among the positive aspects. Few studies focused on individual community violence prevention strategies, especially in low- and middle-income countries, where community violence is more prevalent. Studies like this complement previous evidence that already highlighted the population of adolescents and young people as the main groups at risk of community violence in Brazil and the rest of the world, shedding light on the individual strategies adopted to protect this population. By focusing on the strategies used by this public and their families, emphasizing their possible adverse effects on the full development of adolescents, we aimed to sensitize government officials and society to the immediate need for the State and society to face all types of violence. Finally, we should look beyond the individual when seeking alternatives to protect adolescents in the face of escalating violence plaguing the big Brazilian cities, including Rio de Janeiro. Individual actions restricting the movement of adolescents, which are so common in the daily lives of research participants, are insufficient responses to solve the problem, as they do not aim to prevent violence.

Moreover, as discussed in the previous lines, when very present in the lives of adolescents, they can have severe repercussions on mental health, restrict the social development of individuals, and threaten the fundamental rights of any citizen. Therefore, we should include other actors in this process. Undoubtedly, the State's role in its public security policy to qualify the structure, training, and police actions is fundamental. However, it is necessary to go further, adding other sectors. Community violence is a complex issue and needs to be faced with public policies that reduce social inequalities through equitable actions in health, income, education, transportation, housing, and employment. Families, the community, and schools are also required[40-42]. Fostering a peace culture has been recommended by UNESCO as a strategy for preventing violence and promoting resilience among adolescents in the school environment[43,44]. In light of identifying violence prevention alternatives, it is possible to develop activities for the development of adolescents based on the development of autonomy, critical awareness, and a comprehensive view, which enhance their resilience to overcome difficulties and strengthen them to fight for their rights[45].

Conclusion

The research findings indicate that most of the adolescents studied use different individual strategies to avoid CV victimization. Notably, these strategies were higher among adolescents with socioeconomic indicators, showing the inequality in this restriction and how these adolescents' socialization may be impaired due to their individual responses to the fear of experiencing violent events. The study of strategies to avoid CV in all its forms can evaluate the implementation and effectiveness of public policies to combat this type of violence. Therefore, further research is necessary to comprehend the potential effects of reduced social interaction resulting from adopting strategies to avoid exposure to violence on adolescents' health and overall well-being. However, we should emphasize that, given the complexity of violence in all its facets and its vast repercussions on society, it will be necessary to consider it a problem of all State sectors and not just an issue at the level of individuals in order to reduce the problem.

Collaborations

ES Marques, ME Reichenheim, and CL Moraes were responsible for the article's study design, data analysis, writing, and critical analysis. EB Santos and SR Taquette drafted the article and performed the final critical review.

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References

1. Dahlberg LL, Krug EG. Violence a global public health problem. *Cien Saude Colet* 2006; 11(2):277-292.
2. David-Ferdon C, Simon TR. *Preventing youth violence: opportunities for action*. Atlanta: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2014.
3. Guterman NB, Cameron M, Staller K. Definitional and measurement issues in the study of community violence among children and youths. *J Community Psychol* 2000; 28(6):571-587.
4. United Nations Children's Fund (UNICEF). *A familiar face: violence in the lives of children and adolescents*. New York: UNICEF; 2017.
5. Cerqueira D, Bueno S, Alves PP, Lima RS, Silva ERA, Ferreira H, Pimentel A, Barros B, Marques D, Pacheco D, Lins GOA, Lino IR, Sobral I, Figueiredo I, Martins J, Armstrong KC, Figueiredo TS. *Atlas da violência 2020*. Rio de Janeiro: IPEA; 2020.
6. Assis SG, Pesce RP, Avanci J. *Resiliência: enfatizando a proteção na adolescência*. Porto Alegre: Artmed; 2006.
7. Peres MFT, Eisner M, Loch AP, Nascimento A, Papa CHG, Azeredo CM, Silva LAM, Santos LA, Leite MA, Esposito MP, Astolfi R. *Violência, bullying e repercussões na saúde: resultados do Projeto São Paulo para o desenvolvimento social de crianças e adolescentes (SP -PROSO)*. São Paulo: USP; 2018.
8. World Health Organization (WHO). *Violence against women prevalence estimates, 2018: global, regional and national prevalence estimates for intimate partner violence against women and global and regional prevalence estimates for non-partner sexual violence against women*. Geneva: WHO; 2021.
9. Cerqueira D, Coelho DSC, Ferreira H. Estupro no Brasil: vítimas, autores, fatores situacionais e evolução das notificações no sistema de saúde entre 2011 e 2014. *Rev Bras Segur Publica* 2017; 11(1):24-48.
10. Terribele FBP, Munhoz TN. Violência contra escolares no Brasil: Pesquisa Nacional da Saúde do Escolar (PeNSE, 2015). *Cien Saude Colet* 2021; 26(1):241-254.
11. Pinto LW, Assis SG. Violência familiar e comunitária em escolares do município de São Gonçalo, Rio de Janeiro, Brasil. *Rev Bras Epidemiol* 2013; 16(2):288-300.
12. O'Donohue WT, Benuto LT, Tolle LW, Payne L, Davis R. Introduction and the Wellness Imperative with Adolescent Behavioral Health. In: O'Donohue WT, Benuto LT, Tolle LW, editors. *Handbook of Adolescent Health Psychology*. Berlin: Springer; 2013. p. 3-12.
13. Steinberg L, Morris A. Adolescent Development. *J Cognitive Education and Psychology* 2001; 2(1):55-87.
14. Steinberg LD. *Adolescence*. New York: McGraw-Hill; 1993.
15. Kliewer W, Parrish KA, Taylor KW, Jackson K, Walker JM, Shivy VA. Socialization of coping with community violence: influences of caregiver coaching, modeling, and family context. *Child Develop* 2006; 77(3):605-623.
16. Prefeitura do Rio de Janeiro. Dados do Rio [Internet]. 2020. [acessado 2021 jun 4]. Disponível em: https://apps.data.rio/armazenzinho/#DadosdoRio
17. Musumeci L, Ramos S, Paris LL, Ribeiro E, Alvadia Filho A. *Juventude, violência e polícia: resultados da pesquisa amostral*. Rio de Janeiro: Centro de Estudos de Segurança e Cidadania (CESeC); 2012.

18. Associação Brasileira de Empresas de Pesquisa (ABEP). Critério Brasil 2015 e atualização da distribuição de classes para 2016 [Internet]. 2016. [acessado 2021 jun 4]. Disponível em: https://www.abep.org/Servicos/Download.aspx?id=12
19. Foell A, Pitzer KA, Nebbitt V, Lombe M, Yu M, Villodas ML, Newransky C. Exposure to community violence and depressive symptoms: eExamining community, family, and peer effects among public housing youth. *Health Place* 2021; 69:102579.
20. Lopes CS, Moraes CL, Junger WL, Werneck GL, Ponce de Leon AC, Faerstein E. Direct and indirect exposure to violence and psychological distress among civil servants in Rio de Janeiro, Brazil: a prospective cohort study. *BMC Psychiatry* 2015; 15:109.
21. Brasil. *Constituição da República Federativa do Brasil de 1988*. Brasília: Presidência da República; 1988.
22. Figueiredo CS, Sandre PC, Portugal LCL, Oliveira TM, Chagas LS, Raony I, Ferreira ES, Araujo EG, Santos AA, Bomfim PO. COVID-19 pandemic impact on children and adolescents' mental health: Biological, environmental, and social factors. *Prog Neuro-psychopharmacol Biol Psychiatry* 2021; 106:110171.
23. Fundação Oswaldo Cruz (Fiocruz). *Saúde mental e atenção psicossocial na pandemia covid-19: crianças na pandemia covid-19*. Rio de Janeiro: Fiocruz; 2020.
24. Mangueira LFB, Negreiros RAM, Diniz MdFFM, Sousa JK. Saúde mental das crianças e adolescentes em tempos de pandemia: uma revisão narrativa. *Rev Eletr Acervo Saude* 2020; 12(11):e4919.
25. Singh S, Roy D, Sinha K, Parveen S, Sharma G, Joshi G. Impact of COVID-19 and lockdown on mental health of children and adolescents: a narrative review with recommendations. *Psychiatry Res* 2020; 293:113429.
26. Ma L, Mazidi M, Li K, Li Y, Chen S, Kirwan R, Zhou H, Yan N, Rahman A, Wang W, Wang Y. Prevalence of mental health problems among children and adolescents during the COVID-19 pandemic: a systematic review and meta-analysis. *J Affective Disorders* 2021; 293:78-89.
27. Jones EAK, Mitra AK, Bhuiyan AR. Impact of COVID-19 on mental health in adolescents: a systematic review. *Int J Environ Res Public Health* 2021; 18(5):2470.
28. Nearchou F, Flinn C, Niland R, Subramaniam SS, Hennessy E. Exploring the Impact of COVID-19 on mental health outcomes in children and adolescents: a systematic review. *Int J Environ Res Public Health* 2020; 17(22):8479.
29. Organização das Nações Unidas (ONU). *Convenção das Nações Unidas sobre os Direitos da Criança*. Nova York; 1989.
30. Massarani L, Reznik G, Rocha JN, Rowe SF, Martins AD, Amorim LH. A experiência de adolescentes ao visitar um museu de ciência: um estudo no museu da vida. *Ens Pesqui Educ em Cienc* 2019; 21:e10524.
31. Lopes ACB, Berclaz MS. A invisibilidade do esporte e da cultura como direitos da criança e do adolescente. *Rev Direito Praxis* 2019; 10(2):1430-1460.
32. Carver A, Timperio A, Crawford D. Playing it safe: the influence of neighbourhood safety on children's physical activity. A review. *Health Place* 2008; 14(2):217-27.
33. Letiecq BL, Koblinsky SA. Parenting in violent neighborhoods: African American fathers share strategies for keeping children safe. *J Family Issues* 2004; 25(6):715-734.
34. Nascimento CRR, Trindade ZA. Criando meninos e meninas: investigação com famílias de um bairro de classe popular. *Arq Bras Psicol* 2010; 62(2):187-200.
35. Sampaio ITA. Práticas educativas parentais, gênero e ordem de nascimento dos filhos: atualização. *Rev Bras Crescimento Desenvolv Hum* 2007; 17(2):144-152.
36. Piccinini C, Gomes A, Moreira L, Sobreira Lopes R. Expectativas e sentimentos da gestante em relação ao seu bebê. Psicologia: *Teor Pesq* 2004; 20(3):223-232.
37. Trindade ZA. Masculinidades, Práticas Educativas e Risco Social. Simpósio Nacional de Psicologia Social e do Desenvolvimento e X Encontro Nacional PROCAD-Psicologia/CAPES: Violência e Desenvolvimento Humano. *Textos Completos* 2005:123-127.
38. Beauvoir S. Infância. In: Beauvoir S. *O segundo sexo: a experiência vivida*. Rio de Janeiro: Nova Fronteira; 2016. p. 11-74.
39. Wanzinack C, Signorelli MC, Reis C. Homicides and socio-environmental determinants of health in Brazil: a systematic literature review. *Cad Saude Publica* 2018; 34(12):e00012818.
40. Aisenberg E, Herrenkohl T. Community violence in context: risk and resilience in children and families. *J Interpers Violence* 2008; 23(3):296-315.
41. Esposito C, Bacchini D, Eisenberg N, Affuso G. Effortful control, exposure to community violence, and aggressive behavior: exploring cross-lagged relations in adolescence. *Aggress Behav* 2017; 43(6):588-600.
42. Jackson V, Chou S, Browne K. Protective factors against child victimization in the school and community: an exploratory systematic review of longitudinal predictors and interacting variables. *Trauma Violence Abuse* 2017; 18(3):303-321.
43. Organização das Nações Unidas para a Educação, a Ciência e a Cultura (UNESCO). *Cotidiano nas escolas: entre violências*. Brasília: MEC; 2006.
44. Organização das Nações Unidas para a Educação, a Ciência e a Cultura (UNESCO). *Cultura de paz: da reflexão à ação; balanço da Década Internacional da Promoção da Cultura de Paz e Não Violência em Benefício das Crianças do Mundo*. Brasília: Associação Palas Athena; 2010.
45. Pesce RP, Assis SG, Avanci JQ. *Proteção e atenção às crianças e adolescentes em meio à violência comunitária*. Rio de Janeiro: Fiocruz/ENSP/CLAVES/CNPq; 2013.

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