Relationship between school bullying and non-suicidal self-injurious behaviours among rural adolescents[1]

Relación entre intimidación escolar y conductas autolesivas no suicidas en adolescentes rurales

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Abstract

This is a correlational descriptive study, whose objective is to identify the relationship between school bullying and non-suicidal self-injury (NSSI) among adolescents enrolled in a rural institution in the Department of Boyacá. The sample consisted of 272 adolescents with the consent of their legal guardians, and the assent of the minors to participate in the research. Among them, 51.5% are female and the remaining 48.5% are male. The participants were between 12 and 18 years of age, with an average age of 14 years. The data was collected through the application of a sociodemographic datasheet, the abbreviated school bullying questionnaire CIE-A (Moratto, Cárdena & Berbesí; 2012), and the self-harm certificate (Tejada, 2013). The statistical results of the relationship between school bullying and self-injurious behaviour made it possible to conclude that there is interdependence between the variables studied; 43% of the total sample reported having self-harmed at some point in their lives, and 91% of the participants reported having been involved in some of the forms of bullying.

Keywords: school bullying, adolescence, self-injurious behaviours.

Resumen

Estudio descriptivo correlacional, cuyo objetivo es identificar la relación existente entre

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intimidación escolar y conductas autolesivas no suicidas (CAL) en adolescentes escolarizados en una institución rural del departamento de Boyacá. La muestra estuvo conformada por 272 adolescentes, previo consentimiento de sus tutores legales y asentimiento de los menores para participar en la investigación, entre ellos 51.5% pertenecen al sexo femenino y el 48.5% restante al masculino, los participantes se situaron en edades entre 12 a 18 años, con una media de 14 años. Los datos se recolectaron a través de la aplicación de una ficha sociodemográfica, el cuestionario de intimidación escolar abreviado CIE-A (Moratto, Cárdena & Berbesí; 2012) y la cédula de autolesión (Tejada, 2013). Los resultados estadísticos de relación entre la intimidación escolar y la conducta autolesiva permitieron concluir que existe dependencia entre las variables estudiadas; el 43% del total de la muestra refiere haberse autolesionado alguna vez en la vida y el 91% de los participantes refieren haber estado involucrados en alguna de las formas de intimidación escolar.

Palabras clave: intimidación escolar, adolescencia, conductas autolesivas.

Introduction

Adolescence is a phase that varies from person to person when it comes to physical growth, and biological, psychological, and social development (UNICEF, 2002; Marquillas, 2013). It is a period that is marked by significant changes; therefore, it brings with it diverse risk factors as part of the transition process from childhood to adulthood, among which are: irresponsible sexual acts, difficulties in family and personal relationships, deficits in support networks, and negative feelings (Rosabal, Romero, Gaquín & Mérida, 2015). At the same time, other issues may arise; for example, alcohol, nicotine and hallucinogenic drug consumption; school situations related to school absenteeism, suspension, and vandalism; and mental health alterations, such as behavioural disorders related to eating,

depression and low self-esteem, among others (Páramo, 2011). Additionally, it has been demonstrated that behaviours such as school bullying and non-suicidal self-injuries occur more frequently among adolescents.

Toscano, Jaramillo, Vega, Fuentes & Martínez, (2010) found that adolescence is the phase where bullying increases, given that out of 109 individuals between 11 and 16 years of age, 69% reported having suffered this type of ill-treatment, it being a high indicator of violence among peers. At the same time, the perpetrators are between 13 and 16 years of age, and they tend to be male; as academic training advances this conduct decreases. Concerning victimization, it is reported to be higher among women and more frequent between 12 and 13 years of age, this being the critical period of victimization. However, it has been found that there is a peak in the prevalence of these behaviours between 12 and 16 years of age, which shows that the adolescent population is the most vulnerable (Ibáñez, Costa, del Real Peña, & del Castillo; 2012).

School bullying is defined as exercising violence towards a peer or group of peers. It occurs when an individual is intimidated by a peer by addressing them disrespectfully, laughing at them, or calling them names (bothersome or hurtful), ignoring or excluding them from a group, hitting, kicking, pushing or threatening them, making up lies or false rumours about them, sending hurtful messages, and trying to convince others to not interact with them (Olweus & Limber 2010), creating hostile environments among adolescents in educational centres (Silva, 2007).

One of the characteristics that differentiates school bullying from other types of violence is the existence of a domination-submission relationship, where the victim is weak and one or several of the aggressors are generally

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stronger physically as well as psychologically or socially, and the aggression is reiterated (Uribe, Orcasita & Gómez, 2012; Álvarez, 2013). One of the main factors that has a direct impact on school bullying is that students come from dysfunctional homes and witness verbal and physical aggression (Carrillo & Martínez, 2013). Andrade, Bonilla & Valencia (2011) claim that the number of bullying cases in Colombia is alarming, considering that at a national level, at least one in three students has been the victim of bullying. Also, the authors mention that said aggressions represent a power imbalance, which occur frequently and with the intention of harming the other person.

Additionally, non-suicidal self-injurious behaviours are defined as deliberate acts meant to physically harm oneself without the intention of causing death (Nock, 2010). According to Villarroel et al. (2013), this conduct can be defined as self-inflicted actions without the assistance of a third party and with the aim of causing mild or moderate physical self-harm, without the intention of committing suicide. Throughout history, many studies have shown a diverse number of reasons why people harm themselves, indicating that it is related to a functional component. When experiencing intense emotional states, such as anger, frustration, shame, and emptiness, the person takes refuge in this behaviour to alleviate this emotional pain, as physical pain is easier to control (Favazza 2006; Valencia 2014; Suárez, Hurtado & Betancurt, 2016; Zaragozano, 2017). These feelings may be derived from diverse interactions between stressing factors such as sexual abuse, physical and psychological ill-treatment, negligence, abandonment, or school bullying (Carballo & Gómez, 2017).

Colombia has information systems to report self-injurious behaviours and suicide, with the institutions of Legal Medicine and the Ministry of Health and Environmental Protection being in charge of their systematization. However, the existing reports refer to the act of suicide, including both completed suicides and suicide attempts; therefore, there are no specific figures for the self-injurious behaviours that individuals carry out without the intention of causing death. For that reason, there is no government data indicating the magnitude of the problem at a national level. The existing information comes from studies conducted by researchers interested in the topic. Also, there is no record of research projects in Colombia that relate the variables of school bullying and self-injury.

At an international level, there are studies from educational institutions in the states of Wisconsin and Florida, which relate school bullying and self-injury. They report that victimization seems to have a significant effect on self-injury and suicidal thoughts. Thus, individuals who reported undergoing high levels of bullying were more prone to injure themselves than those who reported low levels of bullying. The students who were bullied were significantly and positively associated with self-injuries and suicidal ideation (Bakken & Gunter, 2012; Hay & Meldrum, 2010).

In Colombia, studies on bullying (Álvarez, 2013; Rodríguez, Patiño, & Tobón, 2014; Paredes, Álvarez, Lega & Vernon, 2008; Clareth, Mendoza, Gomez, Urzola & Córdoba, 2015) and on non-suicidal self-injurious behaviours (Echeverría, 2017; Escobar, 2018) have been carried out. Nevertheless, both variables have been studied separately. For this reason, the aim of this investigation focused on identifying the relationship between non-suicidal self-injury and school bullying among a rural teenage population from the Department of Boyacá, to establish empirical foundations that could provide for mental health promotion and prevention programmes that involve the variables which

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are the object of this study. Concerning this assumption, Trautmann (2008) infers that if bullying decreased, the coping and communication strategies of the victims would improve, their self-esteem would increase, and their shame would be reduced. At the same time, the probability of developing some kind of disorder would be reduced and, for their part, the perpetrators would decrease their violent and irritable conduct.

Methodology

Design and type of research. A cross-sectional methodological design of a correlational descriptive type was used, which indicates that data are collected only at one stage, at a certain moment, and to describe the variables and analyse their incidence and interrelation at a particular time (Sampieri, Fernández & Baptista, 2014). It is a non-experimental quantitive study where phenomena are observed as they happen, in their natural context (Sampieri, Fernández & Baptista, 2014).

Population and sample. The participants were 317 students from a rural educational institution in the Department of Boyacá, between 12 and 18 years of age, male and female, from sixth to eleventh grade, enrolled in 2018. The selection of the sample was carried out through random sampling by convenience. The students that were selected were between 12 and 18, and presented no cognitive or sensorial disability. Thus, 272 adolescents participated, out of which 51.5% are female and 48.5% are male. Out of the total sample, 68.8% were between 12 and 14 years of age, and the remaining 31.3% were between 15 and 18.

Instruments. Sociodemographic datasheet. This was designed by Buitrago, Pulido & Güichá-Duitama (2017), and is composed of the elemental aspects related to the identification characteristics of the participants, including ID, date of birth, gender, level of schooling, municipality and area (urban or rural), type of dwelling, socioeconomic strata, social security, household income, and the people who they live with. This last point is to identify the type of family the student comes from.

School bullying questionnaire CIE-A. For the present study, the abbreviated version validated in Colombia was used, created by Moratto, Cárdenas & Berbesí in 2012. It was applied to schoolchildren between 8 and 18 years of age. It is a screening instrument which consists of 36 questions to determine bullying characteristics, and is divided into three sections of 12 questions each. The first, called Victimisation Situations of Intimidation, identifies the student's perception of having been a victim of bullying and violence, be it physical, verbal, social, or coercion. The second is titled Intimidation by the Respondents, which identifies situations of harassment to intimidate other students through physical, verbal or social violence, or coercion. The third, named Symptoms, identifies characteristics of anxiety, depression, post-traumatic stress, and also negative effects on self-esteem.

Out of the 36 questions, 24 correspond to the dimensions of victimisation and respondents, and are presented on a Likert scale with the following options: many times (2), if it occurs several times a week; few times (1), if it occurs a maximum of 3 times a month; never (0), if it does not occur at all. For the case of symptoms, there is a Yes (1) - No (0) dichotomic scale, where the individual chooses an answer according to their usual behaviour or way of thinking. It is worth mentioning that the three dimensions that make up the instrument are independent and each one is scored individually, permitting their classification in one of the four risk

levels. For the subscales of Victimisation and Respondents, if the score is equal to 0, the person is classified as "without risk", from 1 to 5 as "low risk", from 6 to 11 the risk is "medium", and above 12 the risk is "high". For the subscale of Symptoms, a score of 0 is classified as "without risk", from 1 to 3 "low risk", from 4 to 6 "medium risk", and above 6 "high risk". Finally, the scores of the scale are added to obtain a global bullying index (60 being the maximum score), which is also classified in one of the 4 risk levels: a score of 0 (without risk), from 1 to 14 (low risk), from 15 to 29 (medium risk), and 30 and above (high risk). In general, the questionnaire has a Cronbach's Alpha of approximately .87.

Self-Harm Certificate (CAL, by its acronym in Spanish). This questionnaire by Tejada (2013) has 13 items to identify non-suicidal self-injuries. Questions 1 to 12 exemplify the different types of injuries and the response can be "present" or "not present". If the answer is affirmative, the individual has to select the frequency with which these behaviours occur, with a range from 1 to more than 20 times. Afterwards, the period in which the behaviour took place is represented on a scale of one day up to one year. Question 13 refers to the age at which the adolescent began the self-injurious behaviour.

Regarding the grading, the data are transformed by addition, obtaining scores on a continuous scale, where a higher score indicates a greater severity and frequency of the self-injury, with 25 being the highest score. Only questions 1, 3, 9, 10 and 12 are taken into account, which refer to significant self-injury. Questions 2, 4, 5, 6, 7, 8, and 11 are considered to be minor self- injuries, given that additional information is needed to confirm a positive diagnosis. The questionnaire has a Cronbach's Alpha of .80.

Procedure. The instruments applied were chosen in accordance with the theory proposed in relation to the difficulties found in adolescents in the face of self-injurious behaviour and school bullying. The sample was chosen by convenience as it was easy to access the population, considering the type of study. The informed consent was provided and signed at the school, emphasizing the objectives of the research and the variables to be measured. Next, the application of the instruments was carried out, followed by the analysis of the results. This research implemented the current norms for research with human beings (Law 1090 of 2006, Law 1098 of 2006 Code of Infancy and Adolescence, and Law 8430 of 1993 Ministry of Health and Protection).

Results

The analysis of the results was carried out using the programme SPSS. In this way, the variables were compared through a Kendall rank correlation in order to establish the possible relationship between behaviours. The Kendall correlation between two variables will be high when the observations have a rank similar or identical to a 1 correlation, and low when the observations have a different or completely different rank for a -1 correlation between two variables. In addition, a multinomial regression model was implemented to explain the categorization of self-injury (Absence, Severe, Not severe).

The results obtained from the data analysis are presented as follows: first, there are the analyses corresponding to the sociodemographic characterization of the total sample. Then, the information about self-injuries is presented as well as the level of severity. After that, there is an analysis of each scale which is part of the school bullying instrument, including the characterization of each type of violence, and the symptoms evaluated by the scale. Finally, the findings

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from Kendall's statistical correlation and the multinomial regression model can be observed.

The sample was composed of 51.5% girls and 48.5% boys, showing that the groups are even according to gender. Also, most of the participants were between 12 and 14 years of age (68.8%), with a μ of 14 years of age. At the same time, it is shown that most of the participants were in 7th grade with 70 individuals, and 8th grade with 57 individuals. Concerning social security, it is reported that 93.88% belong to the subsidised scheme, and 92.3% are from the socioeconomic strata 1 and 2. Out of the total sample, 89.3% live in their own home, and 90.1% live in rural areas. Lastly, it is reported that most students, 75.4%, come from a family nucleus (see Table 1).

Table 1. *Sociodemographic characterization of the sample*

Sociodemographic variable		N	%	Sociodemographic variable		N	%
Sex	Female	140	51.5%	Social security	Contributive	17	6.3%
	Male	132	48.5%		Subsidized	255	93.8%
Age	12 to 14 years old	187	68.8%	Area of residence	Rural	245	90.1%
	15 to 18 years old	85	31.3%		Urban	27	9.9%
Socioeconomic strata	Strata 1	134	49.3%	Type of housing	Rented	29	10.7%
	Strata 2	117	43%		Owned	243	89.3%
	Strata 3	16	5.9%				
	Strata 4	5	1.8%				
Schooling	Sixth grade	29	10.7%	Family type	Nucleus	205	75.4%
	Seventh grade	70	25.7%		Only mother	37	13.6%
	Eighth grade	57	21%		Only father	5	1.8%
	Ninth grade	43	15.8%		Extended	19	7%
	Tenth grade	44	16.2%		Reconstituted	6	2.2%
	Eleventh grade	29	10.7%				

Fuente: elaboración propia

In Table 2, it can be observed that 57% of the sample claim not to have demonstrated self-injurious behaviours at any time in their lives, while the remaining 43% report having engaged in such conduct at some point in their lives. Of those who admit to having done self-harm, 26% are classified as minor self-injuries, and 17% as severe self-injuries.

Additionally, there are no differences between gender when it comes to severe self-injuries, given that 9% are girls and 8% are boys, while with minor self-injuries 17% of boys and 9% of girls report this conduct. Thus, it is found that this conduct is more common in the range between 12 and 14 years old.

Table 2. *Non-suicidal self-injury descriptive statistical data*

	Absence	Minor	Severe
	N (%)	N (%)	N (%)
Total	154 (57)	71 (26)	47 (17)
Sex			
Female	92 (33)	24 (9)	24 (9)
Male	62 (23)	47 (17)	23 (8)
Age			
12-14 years old	107 (39)	48 (17)	32 (12)
15-18 years old	47 (17)	23 (9)	15 (5)

Fuente: elaboración propia

In Table 3, it can be seen that regarding the global scale of school bullying, 9% of the sample report not being involved in any of the forms of bullying measured by the instrument. It is found that 84% of the participants are at low risk, which implies that even when this percentage of the sample perceives that they are part of some of the forms of bullying, the frequency is low. Only 7% are at medium risk, indicating more frequent participation in some of the forms of bullying measured by this instrument. There are no participants that were considered high-risk.

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Table 3. School bullying statistical data on a global scale

	No risk	Low risk	Medium risk
	N (%)	N (%)	N (%)
Total	24 (9)	229 (84)	19 (7)
Sex			
Female	14 (5)	119 (44)	7 (3)
Male	10 (4)	110 (40)	12 (4)
Age			
12-14 years old	18 (7)	158 (58)	11 (4)
15-18 years old	6 (2)	71 (26)	8 (3)

Fuente: elaboración propia

Using the Kendall rank correlation coefficient as a measurement of association to study ordinal variables (see Table 4), it can be seen that higher relationships are present for global bullying with bullying by victimization and symptoms. The others show relationships, but they are mild.

Table 4. *Kendall rank correlation*

	Bullying by victimization	Bullying by respondents	Symptoms	Global bullying	Self-injury
Bullying by victimization	1	0.35	0.28	0.54	0.26
Bullying by respondents		1	0.28	0.38	0.16
Symptoms			1	0.53	0.27
Global bullying				1	0.20
Self-injury					1

Fuente: elaboración propia

The results in Table 4 show associations, and therefore tests of independence were carried out among the variables which have values of 0.5. The results can be observed in Figures 1 and 2, determining that the associations are significant and not independent; that is to say, if global bullying presents a high value, the same will be true for symptoms and bullying by victimization.

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Fisher's Exact Test for Count Data

data:  Base$intimivic and Base$intiglo
p-value < 2.2e-16
alternative hypothesis: two.sided
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Figure 1. Fischer's test of independence – bullying by victimization with global bullying
Fuente: elaboración propia.

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Pearson's Chi-squared test with simulated p-value (based on 2000
replicates)

data:  Base$sintomas and Base$intiglo
X-squared = 180.78, df = NA, p-value = 0.0004998
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Figure 2. Test of independence - chi-square symptoms with global bullying
Fuente: elaboración propia.

Taking the above into account, and to explain self-injury from bullying by victimization (intimivic), respondents (intimires), and global bullying (intiglo), a regression model is suggested to explain the categorization of self-injury (absence, severe, not severe). As there are several categories of self-injuries a multinominal regression is proposed, obtaining the results presented in Table 5.

Table 5. *Multinomial regression model. Risk ratios of the estimated model.*

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                        Dependent variable:
                  ------------------------------
                    No severa        Severa
                       (1)             (2)
------------------------------------------------
intimivic            1.822*        3.074***
                    (0.314)        (0.392)

intimires            1.210          1.590
                    (0.309)        (0.354)

intiglo              1.441          1.332
                    (0.501)        (0.607)

Constant            0.060***       0.011***
                    (0.832)        (0.995)

------------------------------------------------
Akaike Inf. Crit.   519.853        519.853
================================================
Note:            *p<0.1; **p<0.05; ***p<0.01
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Fuente: elaboración propia.

In Table 5, it can be observed and ratified that the most influential variable for the assessment of self-injury is bullying by victimization, and that it is positive (when presenting values above 1.0). In addition, taking into account that the reference for self-injury is its absence, it can be concluded that the increase in the assessment of bullying increases the probability of self-injury, be it severe or not. Also, it can be observed that the value of the constant is negatively significant, meaning that when there is no bullying, the probability of self-injury tends to decrease.

Discussion

The aim of this research focuses on determining the possible relation between school bullying and non-suicidal self-injuries. For this, an abbreviated CIE-A and the Self-Harm Certificate were used. Additionally, sociodemographic data were collected from the sample of a sociodemographic datasheet. The results show that there is a significant relationship between the variables, given that the statistical analysis according to the model of multinomial regression shows significant results. With the increase of the bullying value, the probability of self-injury-severe or not- increases too. In other words, being a victim of school bullying, a perpetrator, or presenting emotional and affective symptoms related to school bullying, are closely related to self-injury.

The results described in the previous paragraph match the results of studies carried out in educational institutions in the United States, more specifically in the states of Wisconsin and Florida, which found a link between self-injuries and school bullying. The results reported that victimisation seems to have a significant effect on self-injuries and suicidal thoughts. Therefore, individuals who reported having been victims of high levels of bullying were more prone to injure themselves than those who reported low levels of bullying. To sum up, the students who were bullied were significantly and positively associated with self-injuries (Bakken & Gunter, 2012; Hay & Meldrum, 2010).

Also, Carballo and Gómez (2017) reviewed 12 articles that connect longitudinal studies on suicidal and non-suicidal self-injurious behaviours and their possible link to being the victim of bullying throughout childhood. The authors report that there is a relationship between bullying and the later appearance of suicidal ideas, autolytic attempts, or of non-suicidal self- injury thoughts or actions. In this way, it was found that there is a strong association between these two variables. Results suggest that bullying is a public health risk factor which requires preventative interventions that involve other social and sanitary agents, as they are modifiable behaviours that could have a large impact on educational centres.

The fact that there is a high prevalence of school bullying at some point during the life of a child is concerning, given that as Cerezo (2008) puts it this type of bullying has a direct impact on a person's health, emotional well-being, and school performance. Adolescents who suffer the consequences of bullying may find a refuge to reduce acute stress in harming themselves (Nock & Prinstein, 2004).

The results of this research show that 43% of the sample reported having harmed themselves at least once in their lives, data that match the results obtained by Tejada (2013) in their study with 455 students (46%). At the same time, Kirchner et al. (2011) claim that the percentage of adolescents who have reported self-injuries is high, with a prevalence of 11.4%. Also, 23% of the sample have shown this behaviour at least once in their lives. Ulloa et al (2013) conclude that the most common motives for incurring

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self-injuries are associated with a low tolerance to frustration. So self-injuries have a functional component for those who have that behaviour, given that it manages emotional states which are particularly strong, such as anger, frustration, shame, and emptiness, and its function is to somehow regulate them (Favazza 2006; Valencia 2014).

Concerning gender differences, Zaragozano (2017) says that in general self-injuries are more common in women than in men, especially among adolescents. However, the study does not show meaningful differences between men and women regarding severe self-injuries. It is worth remembering that the term "self-injuries" refers to producing cuts and burns on oneself, using sharp objects and acid, which are results that match those obtained in research carried out in Barcelona with 1171 secondary school students by Kirchner, Ferrer, Forns and Zanini (2011). In this sample, it was observed that there are no differences between men and women in the manifestation of this behaviour. This may be caused by the existence of personal and environmental characteristics that have an impact on the fact that adolescents, in general, tend to harm themselves (Cornellà, 2015). However, Rodriguez (2017) says that although non-suicidal self-injuries are more common in women, this phenomenon is not exclusive to them, as men also present self-injurious thoughts and behaviours.

Moreover, it should not be overlooked that adolescence is a phase that involves different risk factors that affect individuals directly (Rosabal, et al. 2015). In terms of age, although in the present study most participants were within the range of 12 to 14 years, it is not possible to make a comparison with those who were in the 15 to 18 range. It is important to take into account that studies show that the period in which self-injuries start is 11 to 13 (Suárez, Hurtado & Betancurt,

2016). Ibáñez, Costa, del Real Peña, & del Castillo (2012) claim that there is a peak of prevalence in self-injuries between 12 and 16, showing that the adolescent population is the most vulnerable in the face of this type of behaviour. The study shows that 12% of the adolescents who reported severe self-injuries are within the range of 12 to 14 years of age. Marquillas (2013) mentioned that throughout adolescence there is opposition and rebelliousness, and that during this phase several changes take place which are determined by adaptation and the resources the teenager has to face their environment, having an impact on certain behaviours such as self-injuries (Musitu & Cava, 2003).

Favazza (2006) says that self-injuries tend to take place repeatedly in the form of cuttings and contusions on the limbs and abdomen, data that match what was found in the present study, which showed that cutting oneself was the most common severe self-injury. In research conducted in Guanajuato by Chávez et al. (2015) with 450 university students, out of the total sample, 37.9% claimed to have had some self-harming behaviour and the most used method was by cutting oneself (87%). Burning oneself with cigarettes or other objects was more common among men (58.33%) than among women (41.66%). Concerning the age when it begins, it was recorded that this type of conduct started during adolescence. Tejada (2013) reports that the most common forms of self-harm among women and men are cutting themselves and marking the skin. The data found in the present study, regarding severe self-injuries, follow the same line in relation to the results described previously, as the most common self-injuries reported by both boys and girls were cutting themselves, followed by rubbing themselves with sharp objects, and burning themselves.

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Madge et al. (2008) conducted a multinational study in Europe and Australia finding that 8.9% of the girls who participated and 2.6% of the boys declared having self-injured themselves the year before. Also, 13.5% of the girls and 4.3% of the boys admitted to having engaged in self- harming behaviours at some point in their lives. The data about severe self-injuries show that for girls, 90% of the behaviour had taken place during that year or the previous year, and 10% during that same week. For boys, (8%), it is observed that 75% of these behaviours took place within that year or the previous year, and 25% during the week and/or month of the application of the questionnaire.

Moving on to the characterisation of school bullying, it was found that 91% of the total sample perceived having been involved in some form of bullying, with 84% being at medium risk and 7% at low risk; Toscano, Jaramillo, Vega, Fuentes and Martínez (2010) conducted a study in Montería, Colombia with 120 students aged between 11 and 16 years, and found that the prevalence of bullying is 62.9%, which is a significant indicator that demonstrates the high frequency of the situation. Likewise, Martínez et al. (2014) report that, out of 101 participants from a public school in Chile, the prevalence of bullying reached 30%, indicating that this problem affects a large proportion of the student population, which again is an indicator that demonstrates the high frequency of the situation. Giraldo et al. (2016) report that there are several risk factors that influence school bullying, including the consumption of psychoactive substances, suffering from some type of mood disorder, and family dysfunctionality.

Regarding the situation of victimisation, Donohue & Achata (2007) conducted a study in Lima, Peru with 185 students in 4th and 5th year of primary school, in order to find the incidence of bullying behaviours among adolescents. It was found that 54.7% had been the victims of some type of bullying at some point, and that the predominant type of violence was verbal, with 38.7%. Similarly, UNICEF (2015) reports that bullying in general occurs mainly through acts of verbal and psychological violence, rather than physical aggression, and that it also occurs repeatedly among peers. This is consistent with the results found in the present research, where 61% of the total sample perceive themselves to be at low risk of victimisation, indicating that the level of frequency of bullying and violence is low; 7% reported perceived victimisation at medium risk, and 1% at high risk. Cuervo & Caicedo (2012) report that personal characteristics influence the role of the victim, as these individuals generally experience poor social and emotional adjustment, low self-esteem, and higher levels of loneliness, anxiety, depression, and suicidal ideation.

Toscano et al. (2010) reported that 30% of their sample expressed having been a victim, and both men and women in the sample tended to be assaulted at similar rates. These results support those found in the current research, since out of the 61% of victims at low risk, 29% are female and 32% are male; however, of the 7% who were at medium risk of victimisation, 2% are female and 5% are male. Regarding this, Continente, Giménez & Adell (2010) report that out of 25,000 students in compulsory education in Barcelona, males presented slightly higher percentages of bullying compared to females. On the other hand, Montes & Camargo (2015) found that males have a higher predominance in the role of victim. Toscano et al. (2010) report that the highest concentration of victims is located within the age range of 12 to 13 years, with 61.11%, and define it as the critical period of victimisation. In the same way, they claim that the highest number

of victims is reported in the first years of educational training.

On the other hand, the results obtained in the current study indicate that in the situation of respondents at medium risk, all belong to the male gender, and 19% at low risk are male. In this sense, Oñate & Piñuel, (2005), report that boys are indicated as aggressors in more than twice as many cases as girls, 26% and 13%. Romera, Alamillo & Ruiz (2011) found that there are gender differences due to the fact that men are placed to a greater extent in the role of aggressors, exercising physical and psychological violence. Martínez et al. (2014) report that the number of individuals who are perceived as aggressors is lower and is more frequently linked to the male gender. Cerezo (2008) states that this may be more of a cultural issue, given that aggressive behaviour in men is approved as a virile trait, while submissive behaviour is expected of women.

Castillo & Pacheco (2008) applied a series of questionnaires to 136 girls (52.3%) and 121 boys (47.7%), aged between 13 and 19, finding that verbal aggressions were the most common form of ill-treatment. This includes calling names and insults. At the same time, Toscano et al (2010) claim that one of the most common behaviours of the aggressors is to insult the victims, showing that the most common type of violence is verbal, an aspect that is in agreement with this research. The type of violence that was most reported was verbal (31%). The authors report that age does not show a significant relationship with the condition of being an aggressor. Nevertheless, the number of aggressors rises among those who are older, in the range of 13 to 16.

On the other hand, Carrillo & Martínez (2013) state that those students who live in a family environment where verbal and physical violence prevail are more vulnerable to school bullying. Therefore, children from violent families may be involved in violent acts with

their peers. In other words, being present when acts of violence take place makes the individual more prone to having violent behaviours. García, Del Rio, Castaño, Del barco & Bullón (2013) suggest that there are more victims and aggressors among extended and single-parent families than among family nucleus. In the present study, 3% are part of a family nucleus, 1% come from single-parent families where the mother is the caregiver, 1% come from single-parent families where the father is the caregiver, and another 1% are part of extended families, which is the same percentage as that of families with a step-parent. The data comes from the global bullying scale and places said individuals at medium risk

Arroyave (2012) states that the lower the socioeconomic strata, the higher the risk of being an aggressor. Carrillo & Martínez (2013) claim that most of the victims come from strata 1 and 2. For the present study, it is evidenced that 5% of the participants come from strata 1 and 2, and 2% from 3 and 4, which on the global bullying scale represents medium risk. However, a deep analysis of this point cannot be made as the sample can only be compared in terms of gender.

To conclude, according to the results it can be seen that there is a high presence of symptoms from those evaluated on the school bullying scale. Out of the total sample, 40% had 1 to 3 symptoms, placing them at low risk, 27% presented 4 to 6 symptoms, indicating medium risk, and 13% reported more than 6 symptoms, establishing a high risk. It should be noted that for medium as well as high risk, the symptoms are more common in girls. Said symptoms are: anxiety (65%), stress (49%), negative effects on self-esteem (41%), and depression (37%). It is highlighted that there are more symptoms in girls. Regarding this, Villota &Velázquez (2015) say that the purpose of school bullying consists of humiliating and

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suppressing a vulnerable individual in an abusive way, thus affecting their self-esteem and confidence, and causing the individual to suffer from depression, anxiety, adaptation difficulties, poor academic performance and, possibly, suicide.

At the same time, Martínez, et al. (2014) refer to diverse studies showing that having emotional issues is related to individuals taking part in school bullying, in any role. Additionally, it is mentioned that bullying has shown a relationship with the development of depression, self- injuries, and suicidal ideation. For their part, the perpetrators are related to the development of delinquent behaviour.

According to the results of the study, it is evident that self-injury, as well as school bullying, are public health issues. However, it is necessary to approach individual aspects that may influence the appearance of these behaviours as coping strategies, and social skills as well as environmental or social aspects such as family contexts which foster violence. In this way, it is indispensable to carry out multidisciplinary interventions with the aim of reducing this type of behaviour in the adolescents who suffer from it.

As this is a cross-sectional study, a limitation is suggested, as it is important that in future investigations there are longitudinal measurements to corroborate the dependence of non-suicidal self-injurious behaviours on school bullying. In the same way, it is suggested that a probabilistic sampling be applied to examine the behaviour of these conducts in populations different from the rural. Another limitation was found in that the sample was only comparable in terms of gender, this being the reason for which the statistical analysis was carried out under this condition. Finally, a causal relationship cannot be established given that it is not evident that

the self-injuries occur as a consequence of school bullying alone.

Finally, it is highlighted that this study serves as an important asset at a contextual as well as a disciplinary level, given that it opens up a new panorama concerning the relationship between non-suicidal self-injury and school bullying in a rural educational setting, and may contribute to the construction of programmes and tools for the prevention and intervention of the phenomena studied.

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Notes

1   Research article.

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