

Bullying/Cyberbullying in Secondary Education: A Comparison Between Secondary Schools in Rural and Urban Contexts

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Abstract

The aim of the study us to analyze the difference of bullying (traditional bullying and cyberbullying) in rural and urban contexts. A total of 1094 junior and senior high school students (62.5% from urban areas, 37.6% from rural areas) from the region of Castile-La Mancha (Spain) took part herein. The results showed a similar proportion of intervention in all bullying roles and in polybullying in urban and rural context schools. However, victimization and physical bullying perpetration is more frequent in schools in urban areas. In rural schools, aggression is normally aimed at schoolmates. Regression showed the link between context and perpetration role. Victims in rural settings expressed greater distress than victims in schools in urban areas. These results indicate that the size of the population where the schools are located may be a relevant factor for the intervention, as well as the need for intervention at individual, group and community level in collaboration between schools and social services.

Keywords Cyberbullying · Bullying · School environment · Rural school · Urban school · Secondary school

Victimization in bullying and cyberbullying has been shown to be a risk factor for well-being (Gonzalez-Cabrera et al., 2020; Savahl et al., 2018). Bullying is a group phenomenon that always takes place within a socio-cultural context. Garmy et al. (2018) point out the relevance to investigate its sociodemographic antecedents to prevent risk factors and promote health and well-being in adolescents. Among these, Llorent et al. (2016) state that the size of the population where schools are located is a key aspect to be considered. However, the effects of school location (rural/urban) on bullying behavior have rarely investigated and studies here reported contradictory findings.

Spanish Ministry of Education, Culture and Sport has launched the Strategic Plan for School Coexistence (https://sede.educacion.gob.es/publiventa/d/21878/19/0) with the aim of making schools safe and non-violent spaces. Its fifth line of action highlights the importance of coordination between the areas of Education and Social Services. It

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would be important to analyze the differences in cyberbullying between rural and urban areas (Kowalski et al., 2017) to be able to properly plan coordinated actions against bullying.

Bullying Concept

Since the first studies conducted by Olweus in 1970, bullying is considered a worldwide problem, affecting students in the school context. Traditional bullying is defined as an intentional and repeated aggression over time by one or more individuals towards a victim who cannot easily defend himself (Olweus, 1999). Cyberbullying refers to the use of electronic communication technologies to bully others (Giumetti & Kowalski, 2016; Kowalski & Limber, 2007). Like traditional bullying, cyberbullying is frequently defined as an aggressive act that is often repeated over time and that reflects an imbalance of power between the parties involved. One of the issues surrounding the definition and conceptualization of cyberbullying is whether it should be viewed as an extension of traditional bullying, or whether it represents a unique type of aggression, and thus, a construct independent of traditional bullying. The former perspective is shared by Smith et al. (2008), who stated that "to be cyber bullied or to cyber bully other students seems to a large extent to be



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part of a general pattern of bullying, where use of the electronic media is only one possible form" (p. 767). Thus, bullying can be under different forms including physical, verbal, relational or cyber (Smith et al., 2008). Physical bullying includes hitting, kicking, and pushing. Verbal aggression includes teasing, taunting and threats. Exclusion is aimed at isolating the victim and damaging his relationships within the peer group (Smith, 2007). Smith et al. (2006) identify the need to consider cyberbullying in relation to traditional forms of bullying, understanding that the manifestation of any of them is part of the same general phenomenon. We place ourselves in this conceptualization, understanding that bullying can take different forms, with cyberbullying being a new form that has emerged with the emergence of ICT development. Therefore, when we refer generically to bullying throughout this paper, we include all forms of bullying (both traditional bullying and cyberbullying).

In fact, several studies have found correlations between traditional and ICT-based bullying (Herrera-López et al., 2017; Ortega et al., 2008; Waasdorp & Bradshaw, 2015), identifying an overlap between students involved in traditional bullying and cyberbullying (Chudal et al., 2021; Garmendia et al., 2019). Perpetrators and victims may extend (or alternate) their roles from the face-to-face world to cyberspace or vice versa (Evangelio et al., 2022; Kowalski et al., 2012). These facts seem to point to the need to collect information on all forms of bullying simultaneously. Nevertheless, research has reported a higher frequency of traditional bullying than bullying through ICTs (Li, 2008; Smith et al., 2008).

On the other hand, research has found a positive relationship between victimization and perpetration (Mitchell et al., 2011; Zhou, et al., 2020), reporting the simultaneity of the roles of victim and perpetrator. As for cyberbullying, some adolescents also play the dual role of cybervictim and cyberperpetrator (Hood & Duffy, 2018; Lozano et al., 2020).

Sociodemographic Antecedents: Context, Sex and Age

The socio-ecological perspective on bullying points out that bullying behaviors respond to a complex set of variables related to the individual and to the context (Espelage & Swearer, 2004).

In reference to the context, studies indicate that it is important to make a comparison between urban and rural areas, because, for both perpetrator and victim, the social context in which they develop and relate to their peers appears as a determining risk factor. (Estévez et al., 2009). Olweus (1993), indicated a higher prevalence of traditional bullying in rural areas of Norway than in urban areas. In other countries, a higher prevalence of traditional bullying

was also found in rural areas than in urban areas (United States: Dulmus et al., 2004; United Kingdom and Germany: Wolke et al., 2001).

More recent studies show contradictory results. Some have indicated a higher prevalence in rural areas than in urban areas (Garmy et al., 2018; Robers et al., 2013; Smokowski et al., 2013). Other studies showed bullying is more common in schools located in an urban environment than in schools located in rural areas (Hernández et al., 2002). Regarding the type of bullying, Leadbeater et al. (2013), reported that victimization is higher in physical bullying and social bullying in the rural context, but no differences were found in cyberbullying. Other studies have reported a lower incidence of cyberbullying in rural schools than in schools located in urban contexts (Bauman, 2010; Gómez et al., 2017). Nevertheless, other research has found no significant differences in the prevalence of bullying, both in its traditional and technological forms, depending on the area where they are located (Laeheem et al., 2009).

A recent study conducted in Spain with Primary School students reported a higher prevalence of victims of verbal, social and cyberbullying in rural schools, while in urban schools more students reported being victims of verbal bullying and social bullying (Rodríguez-Álvarez et al., 2021). Previous research reported less cyberbullying behavior in rural than in urban settings (Álvarez-García et al., 2011). This difference is explained by the difficulties of internet access in rural areas. However, there has been a major development in the implementation of the network, so the situation is different today. Moreover, society is experiencing a continuous increase in the use of ICTs, making it difficult to integrate data from research conducted in different years (Jiménez, 2019). In Spain, for example, mobile ownership among minors has risen from 25.4% in 2016 (Fundación Telefónica, 2016) to over 85% in 2020 (National Institute of Statistics, 2020). Nevertheless, other research has found no significant differences in the prevalence of bullying in adolescents, both in its traditional and technological forms, depending on the area where they are located (Ombudsman-UNICEF, 2007).

Several authors point out the relevance of analyzing cyberbullying behaviors in the context of friendship relationships (Mishna et al., 2008; Wei & Jonson-Reid, 2011). In Mishna's research, (Mishna, 2004; Mishna et al., 2008) most students reported that they had been harassed by classmates and people they knew. With regard to cyberbullying, although it tends to occur outside the educational context, it often also occurs among classmates or peers in the same school. In Spain, the report of the ANAR Foundation (Ballesteros, 2018) pointed out the cohabitation between victims and perpetrators, more than 80% of the cases occurred between schoolmates and 17% of the perpetrators had been friends with the victim. Students from rural primary school



settings reported a higher proportion than students in urban schools that their perpetrators were their schoolmates (Rodríguez-Álvarez et al., 2021).

Moreover, studies have shown that the manifestation of cyberbullying depends on individual socio-demographic variables such as gender and age. However, the results are inconsistent.

Numerous studies do not identify gender as having a moderating effect (Giménez-Gualdo et al., 2015; Holfeld & Mishna, 2019; Hood & Duffy, 2018; Lozano et al., 2020; Smith et al., 2008). In some studies, boys are reported to be perpetrators more often (Larrañaga et al., 2018; Perren & Gutzwiller-Helfenfinger, 2012; Slonje & Smith, 2008) as well as victims/ perpetrators (Chen et al., 2019; Vale et al., 2018); while others show cybervictimization may be more frequent among girls (Baldry et al., 2019; Bauman et al., 2013; González-Cabrera et al., 2018; Moreno-Ruiz et al., 2019; Ortega et al., 2009), as well as the victim/perpetrator role (Fahy et al., 2016; Kowalski & Limber, 2007; Mishna et al., 2012).

As for age, some studies report that there is no difference in the number of children under five years of age (Garaigordobil, 2015; Perren & Gutzwiller-Helfenfinger, 2012). Others have found that age is a mediator of cyberbullying behaviors. Three directions have been reported: cyberbullying increases with age (Bauman et al, 2013; Chen et al., 2018; Ortega et al., 2008); with increasing age, the number of those involved drops (Lonigro et al., 2015; Waasdorp & Bradshaw, 2015); there is a curvilinear relationship with an increase in the average grades of the secondary school period (14–16 years) (Calvete et al., 2010; Gámez-Guadix et al., 2015; Ortega et al., 2009; Tokunaga, 2010).

Distress and Bullying

The problem of bullying and cyberbullying lies in the fact that they can a consequence of different problems that, in most cases, affect the physical and psychological health of those involved. Thus, there is relationship between being a victim and presenting anxiety and/or depression (Pabian & Vandebosch, 2016; Worsley et al., 2019). Children who suffer from bullying have worse school performance and emotional adaptation, and lack of social relationships (Gonzalez-Cabrera et al., 2020; Yubero et al., 2010). Perpetrators are characterized by a higher exposure to aggression and violence, and reduced self-control (Kwak & Oh, 2017).

Peer support can mitigate the effect of bullying victimization on mental health (Castaño et al., 2022). The perception of social support creates a feeling of well-being and emotional health during child and adolescent development (Holt & Spillage, 2007), reduced depression (Colarossi & Eccles, 2003), mitigate the experience of being harassed,

and provide supporting tools (Noret et al., 2019). In this sense, perceived social support is an important protective factor against mental health consequences of bullying victimization (Wright, 2016). Explanations for the differences in bullying between rural and urban areas, may be due to the different relations that occur in one and the other contexts. For Bierhoff (2002), the urban environment is characterized by being more impersonal than the rural environment, favoring anonymity and lack of empathy between people, while the rural environment promotes more prosocial attitudes. However, the study by Leadbeater et al. (2013) indicated that children living in rural school settings have fewer opportunities to participate in extracurricular activities, which limits relationships and support from friends outside school, making them feel more isolated.

The Current Study

The inconsistency in the results obtained by the different studies suggests the need for more extensive research in this regard, to determine the role played by context size in cyberbullying. The objective of this research is to analyze bullying behaviors (traditional bullying and cyberbullying) among students in high schools located in rural and urban areas. It would be interesting to know whether, or not, there are differences depending on the size of the context in which the educational establishment is located, to implement prevention and intervention programs more effectively.

This research proposes the following objectives: (1) to analyze bullying behaviors (traditional bullying and cyberbullying) in adolescents from urban and rural areas and to explore the impact of context, gender and age on bullying; (2) to study the differences on well-being according to bullying roles and the context in which the school is located.

The following hypotheses were put forward:

H1 It is expected that there is a link between traditional bullying and cyberbullying in both contexts.

Regarding bullying behavior, based on the results obtained in Spain with samples of the same age.

H2 There will be no significant differences between high schools located in urban and rural areas in terms of the frequency of victimization or perpetration total, and in terms of the different bullying behaviors assessed in the questionnaire.

H3 There will be no significant differences between high schools located in urban and rural areas in percentages of the roles of participation in bullying.



H4 Differences are expected to be found in those who bully and those who are bullied depending on the context in which the school is located.

H5 Context, gender and age are expected to be related to bullying behaviors.

Finally, focusing on the more personal and restricted relationships among adolescents in the rural environment,

H6 We expect adolescent victims in the rural context to perceive more distress than victimized adolescents in the urban context.

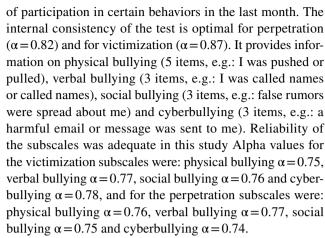
Method

Participants

Participants were selected incidentally in 6 high schools in the Castile-La Mancha region. 1094 junior and senior high school students participated in this study. The National Institute of Statistics of Spain defines an urban nucleus as one with 10,000 inhabitants at least, with a high population density (more than 150 inhabitants/km²) and a high level of infrastructure, while a rural context, by opposition, would be one that does not meet the above conditions. Of the sample, 62.5% live in urban environments (towns with more than 10.000 inhabitants) and 37.6% come from schools located in rural environments (towns with less than 10,000 inhabitants). Homogeneity was shown in the sex distribution in both contexts, 44.8% male, 54.7% female in rural schools; 46% male and 53.7% female in urban schools ($\chi^2 = 0.13$, p = 0.383). Regarding age, the mean comparison test showed the homogeneity of the samples (Rural: M = 15.29, SD = 2.89; Urban: M = 15.06, SD = 2.91; t = 0.36, p = 0.719, d = 0.03). Also, homogeneity was shown in the year distribution in both contexts (Rural: 1°—34.8%, 2°—25.3%, 3°-22.9%, 4°-17.0%; Urban: 1°-41.6%, 2°-26.9%, 3°—17.3%, 4°—14.2%, $\chi^2 = 22.41$, p = 0.376), and in the migrant background (Rural: 5.6%; Urban: 8.8%; $\chi^2 = 3.76$, p = 0.069).

Measure

The Bullying Harassment and Aggression Receipt Measure (Bullyharm, Hall, 2016) was used to measure bullying and cyberbullying. The scale is made up of 14 Likert-type items of perpetration and victimization and also has four answers ranging from 0 to 3: 0 = never happened to me; 1 = it happened to me once or twice; 2 = it happened to me at least once a week; and 3 = it happened to me twice or more times a week. Students were asked to determine their frequency



Subsequently, they were asked to report on the persons who assaulted and by whom they were assaulted. It was measured through two multiple-choice questions (one for those who assaulted and one for those who assaulted them). The alternatives presented were: schoolmates, people outside school, people I have met on the Internet, friends, the boy/girlfriend you like the most, acquaintances from the neighborhood, town, ... and people you don't know.

Psychological distress. *KPDS-10* (*Kessler Psychological Distress Scale K10*) de Kessler et al. (2002) was used. This scale has previously been used to assess distress in bullied adolescents (Thomas et al., 2016). The scale is made up of 10 items and provides an overall index of psychological distress. It is a Likert-type scale with five response options from 1 *-never-* to 5 *-always-*. The internal consistency of this instrument—as measured by Cronbach's alpha—was 0.87.

Design and Procedure

This research had a descriptive, cross-sectional design. Before its application, we obtained the informed consent of the minors' parents. The questionnaire was administered by members of the research team. The questionnaire was distributed in the classrooms by agreement with the headmasters and the teachers of the schools. The objective of the study was explained to the students, and they were informed that their participation was voluntary and that their answers would remain anonymous. Approximate average response time was 20 min. All procedures performed in this study conformed to the ethical standards of the Declaration of Helsinki.

Data Analysis

In first place, we studied the link between cyberbullying and traditional bullying (physical, verbal and exclusion) and calculated Pearson's correlation to that end. In second place, we explored differences in the intensity of victimization and perpetration in bullying as a function of the type of bullying.



A comparison of means analysis was carried out using Student's t-statistic to establish possible differences according to the context in which the schools are located. Students were then classified into exclusionary categories according to their role in bullying during the previous month, employing a restrictive criterion used in previous research (Scheithauer et al., 2006) that emphasizes repetition of aggressive behavior (Slonje & Smith, 2008). Students who reported participating in bullying and cyberbullying behaviors more than once a week on any of the items included in the scale were categorized as victims and/or perpetrators respectively. Students categorized as participants in the two scales were classified as victims/perpetrators: victim role (only reported participating as a victim), perpetrator role (only reported participating as an perpetrator) and victim/perpetrator role (reported participating as both a victim and an perpetrator). Frequencies and percentages of bullying participation in the roles of victim (victims only), perpetrator (perpetrators only) and victim/perpetrator were obtained, calculating the chisquare coefficient to compare the schools in rural and urban contexts. Differences between contexts in polybullying were also analyzed using chi-square. A comparative analysis was carried out on those who report being assaulted and those who assaulted, using the chi-square coefficient. A multinomial logistic regression analysis was carried out to analyze the link between the context in which the schools are located and the roles of participation in bullying, including gender and age. The reference group of the analysis was students not involved in bullying. Finally, adolescents' distress was estimated according to their role in bullying behaviors and context. Subsequently, a 4×2 analysis of variance (nonintervention, victim, perpetrator, victim/perpetrator; rural vs. urban) was performed to analyze possible interaction effects. All the analyses were conducted using the statistical package SPSS (version 25) at a significance level of 0.05.

Results

Relation between Traditional Bullying and Cyberbullying

The results obtained show a positive and statistically significant correlation between cyberbullying and traditional bullying. Results are presented in Table 1. The lowest correlation is found between physical bullying and cyberbullying, both in victimization and perpetration, among students in rural schools.

Traditional Bullying and Cyberbullying Behaviors

The Table 2 presented the means between bullying and cyberbullying behaviors. The mean contrasts show

Table 1 Pearson's correlation between traditional bullying and cyber-bullying behaviors

	Physical	Verbal	Social	Cyber
	$\mathbf{r}_{\mathrm{xy}}\left(p\right)$	$\mathbf{r}_{\mathrm{xy}}\left(p\right)$	$\mathbf{r}_{\mathrm{xy}}\left(p\right)$	$\mathbf{r}_{\mathrm{xy}}\left(p\right)$
Victimizati	on			
Physical		.544 (.001)	.438 (.001)	.344 (.001)
Verbal	.571 (.001)		.635 (.001)	.441 (.001)
Social	.415 (.001)	.597 (.001)		.435 (.001)
Cyber	.284 (.001)	.496 (.001)	.464 (.001)	
Perpetration	n			
Physical		.512 (.001)	.359 (.001)	.302 (.001)
Verbal	.532 (.001)		.426 (.001)	.374 (.001)
Social	.309 (.001)	.543 (.001)		.615 (.001)
Cyber	.207 (.001)	.359 (.001)	.377 (.001)	

 r_{xy} =Pearson's correlation, p=significance. Urban environment line above, rural environment line below

significant differences in total perpetration (t = -2.51, p < 0.05, d = 0.08), with the mean being higher for students in urban schools (M = 0.16) than for students in rural schools (M = 0.12). The analysis of the forms of bullying shows that the difference is found in physical perpetration (Murban = 0.22, Mrural = 0.14, t = -3.62, p < 0.001, d = 0.11). In line with this data, significant difference in physical bullying victimization has also been found in the same direction (Murban = 0.35, Mrural = 0.23, t = -4.11, p < 0.001, d = 0.11). No significant differences were found between students from rural and urban areas in the other behaviors analyzed.

Considering the number of types of bullying perpetrated and suffered, the results show similarities between the two study contexts (see Table 3). Intervention with one form of bullying behavior is superior to intervention with more than one (polybullying), both for the role of the victim and the role of the perpetrator.

Following the categorization presented in the data analysis, the proportion of victims, perpetrators and victims/perpetrators involved in bullying is similar in urban and rural settings (see Table 4).

Behavioral Participants

Regarding the persons involved in these behaviors, presented in Table 5, the highest percentages of victims and perpetrators are schoolmates. More than 3% reported being assaulted by their boyfriend/girlfriend. No significant differences are found in the categories of analysis of the people who attack them. However, in the target of bullying, students in rural schools target their schoolmates more than students in urban schools (p < 0.05).



Table 2 Comparison of means of traditional bullying and cyberbullying victimization and perpetration in urban and rural context

	Rural		Urban		t	p	d
	\overline{M}	SD	\overline{M}	SD			
Total victimization	0.27	0.35	0.31	0.39	- 1.49	.135	.04
Total perpetration	0.12	0.20	0.16	0.25	-2.51	.012	.08
Physical bullying victimization	0.23	0.35	0.35	0.47	- 4.11	.000	.12
Verbal bullying victimization	0.42	0.63	0.42	0.61	0.16	.869	.00
Social bullying victimization	0.13	0.19	0.12	0.19	0.26	.797	.00
Cyberbullying victimization	0.09	0.29	0.08	0.33	0.14	.886	.00
Physical bullying perpetration	0.14	0.29	0.22	0.39	-3.63	.000	.11
Verbal bullying perpetration	0.24	0.40	0.26	0.43	-0.38	.344	.03
Social bullying perpetration	0.07	0.22	0.07	0.22	0.15	.882	.00
Cyberbullying perpetration	0.02	0.12	0.04	0.20	- 1.25	.212	.04

M mean, SD standard deviation, t student's t, p significance, d effect size

Table 3 Frequencies polybullying in urban and rural context

	Rural		Urban		χ^2	p
	\overline{f}	%	\overline{f}	%		
Victim						
Not involved	309	75.2	484	70.9		
One form	54	13.1	105	15.4	2.40	.301
Polybullying	48	11.7	94	13.8		
Perpetrator						
Not involved	367	89.3	86.5	86.5		
One form	29	7.1	9.7	9.7	2.25	.325
Polybullying	15	3.6	3.8	3.8		

f frequency, % proportion, χ^2 chi-square coefficient, p significance

Table 4 Frequencies and proportions of victims, perpetrators, and victims/ perpetrators in urban and rural context

	Rural		Urban		χ2	p	
	\overline{f}	%	\overline{f}	%			
Victim	74	18.0	136	19.9	0.60	.244	
Perpetrator	16	3.9	29	4.2	0.08	.454	
Victim/perpetrator	28	6.8	63	9.2	1.95	.098	

f frequency, % proportion, χ^2 chi-square coefficient, p significance

Relations between Context and Bullying

The Table 6 presented the relation between context and bullying. The results obtained confirm the predictive value of context on the perpetration. Students in urban schools are more likely to report bullying perpetration behaviors. Gender is a predictor of perpetrator and victim/perpetrator roles. Being a boy is associated with greater involvement in both roles. Age is incorporated to the victim model, indicating less participation in younger students.

Distress, Bullying and Context

The interaction model was significant (F = 14.41, p < 0.001, $\eta = 0.29$, $R^2 = 0.09$). Statistically significant differences were found in the effects of bullying roles (F = 30.13, p < 0.001, $\eta = 0.28$) and in the interaction with the context (F = 2.82, p < 0.05, $\eta = 0.02$). According to Table 7, distress is higher among victims in rural schools than in urban schools (see Fig. 1).



Table 5 Frequencies and percentages of those victimized and assaulted in urban and rural context

	Rural		Urban		χ2	p	
	\overline{f}	%	\overline{f}	%			
People who attack them							
High school classmates	183	44.5	322	47.1	0.94	.182	
People outside high school	59	14.4	99	14.5	0.02	.491	
People met on the Internet	2	0.5	8	1.2	1.35	.205	
Former friends	54	13.1	78	11.4	0.62	.243	
Boyfriend	1	0.2	5	0.7	1.15	.269	
Ex-boyfriend	15	3.6	21	3.1	0.24	.373	
Acquaintances	33	8.0	58	8.5	0.09	.426	
Unknown people	18	4.4	37	5.4	0.61	.264	
People assaulted							
High school classmates	177	43.2	258	37.9	2.99	.048	
People outside high school	44	10.8	95	14.1	2.50	.067	
People met on the Internet	3	0.7	8	1.2	0.52	.351	
Former friends	28	6.8	35	5.2	1.30	.157	
Boyfriend	1	0.2	7	1.0	2.18	.131	
Ex-boyfriend	7	1.7	11	1.6	0.01	.548	
Acquaintances	21	5.1	50	7.3	2.13	.090	
Unknown people	4	1.0	12	1.8	1.11	.216	

f frequency, % proportion, χ^2 chi-square coefficient, p significance

Table 6 Regression analysis: link between the context in which schools are located and bullying intervention roles

	Victim			Perpetrator			Victim/Perpetrator					
	β	Wald	OR	IC	β	Wald	OR	IC	β	Wald	OR	IC
Gender	- 0.19	2.33	0.82	0.64, 1.06	- 0.81	10.35	0.44**	0.27, 0.73	- 1.12	31.81	0.33***	0.22, 0.48
Age	-0.43	20.26	0.65***	0.54, 0.78	-0.34	3.62	0.71	0.51, 1.01	-0.20	2.41	0.12	0.63, 1.05
Context Nagelkerke R^2	- 0.07 .03	0.32	0.93	0.73, 1.19	- 0.54	5.54	0,58*	0.37, 0.91	0.02	0.02	0.89	0.70, 1.37

Gender (boy = 1, girl = 2), Context (rural = 1, urban = 2), Age (12–13 = 1, 14–16 = 2, 17 or above = 3) *p < .05, **p < .01, ***p < .001

Table 7 Distress according to bullying roles and context

	Rural		Urban		F	p	η	
	\overline{M}	DT	\overline{M}	\overline{M} DT				
He/she is not involved	1.78	0.65	1.85	0.73	1.89	.169	.05	
Victim	2.45	0.88	2.21	0.75	4.48	.036	.16	
Perpetrator	1.80	0.55	2.05	0.90	1.12	.296	.14	
Victim/perpetrator	2.39	0.90	2.30	0.79	0.21	.649	.04	

Mmean, SD standard deviation, FF Snedecor, psignificance, η effect size

Discussion

The macro-system is crucial in inhibiting or encouraging cyberbullying (Baldry et al., 2015). Research results on the influence of rural/urban context on bullying behaviors are inconsistent. While some found no influence of the size

of the context (Ombudsman-UNICEF, 2007; Leadbeater et al., 2013; Laeheem et al., 2009), others highlighted the existence of more victims in the rural context (Rodríguez-Álvarez et al., 2021), or in the opposite direction (Álvarez-García et al., 2011; Bauman, 2010). The difference in cyberbullying involvement was linked to the difficulties of internet access in rural areas. In Spain, this situation no



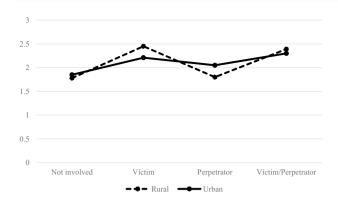


Fig. 1 Interaction between Bullying Roles, Context and Distress

longer exists due to the widespread development of the Internet and the availability of mobile phones connected to the Internet among Spanish adolescents (National Institute of Statistics, 2020). These changes point to the need for further research on the differences, or similarities, of cyberbullying between rural and urban areas (Kowalski et al., 2017) in order to be able to make an appropriate intervention. However, cyberbullying is not separate from traditional bullying, which occurs face-to-face; it can be dealt with as a similar manifestation that has been offered an expansion by the development of virtual space (Smith et al., 2006).

Therefore, the first objective of our research was to analyze traditional bullying and cyberbullying behaviors in high schools located in rural and urban areas of our region. We expected to find a link between traditional bullying and cyberbullying in both contexts (H1). Our results confirm the link between traditional bullying and bullying through ICTs in adolescents reported in another research (Herrera-López et al., 2017; Waasdorp & Bradshaw, 2015). The positive link between traditional bullying behaviors and cyberbullying, both in terms of victimization and perpetration, confirms the extension of bullying behaviors from the face-to-face world to cyberspace (Evangelio et al., 2022; Kowalski et al., 2012). It also highlights the relevance of analyzing all forms of bullying together (Smith et al., 2006). The positive link between victimization and perpetration is also confirmed (Mitchell et al., 2011; Zhou, et al., 2020).

Based on ICT developments, we hypothesize, as a second study hypothesis, that there would not be any significant difference between high schools in urban and rural areas in terms of cyberbullying victimization and perpetration. The results obtained confirm the working hypothesis in line with previous studies (UNICEF Ombudsman, 2007; Laeheem et al., 2009; Leadbeater et al., 2013). As stated above, this result may be due to the strong penetration of technologies and the fact that access to technology has become easier in rural contexts (internet connection),

as well as the use and availability of smartphones among young people (Jiménez, 2019), which has homogenized online relationships among adolescents. The results confirm the lower use of ICTs for peer aggression than faceto-face aggression (Li, 2008; Smith et al., 2008). In line with previous research, traditional bullying behaviors are reported more frequently than cyberbullying behavior (García-Fernández et al., 2015; Smith et al., 2008). It seems important to highlight victimization and perpetration in the form of physical bullying, in both contexts, although higher in the urban context. Several studies confirm that the peak of physical aggressive behavior occurs between the ages of 9 and 11 (Hymel & Swearer, 2015; Merrill & Hanson, 2016). However, the results of this research show adolescents still engage in physical bullying behavior towards their peers. There are no significant differences appear in the other types of bullying that have been reported in previous research (Robers et al., 2013; Rodríguez-Álvarez et al., 2021; Smokowski et al., 2013).

Moreover, previous research highlighted the existence of behaviors through various forms of bullying: polybullying (Bergmann & Baier, 2018). These would be the same students who simultaneously receive and/or carry out bullying through different channels (Chudal et al., 2021; Garmendia et al., 2019). The results of this study point to homogeneity in polybullying among adolescents in urban and rural contexts.

The results obtained confirm the third study hypothesis, indicating that the percentages of victim, perpetrator and victim/ perpetrator of bullying are similar in rural and urban contexts. Findings confirming the simultaneity of victim and perpetrator roles (Hood & Duffy, 2018; Lozano et al., 2020).

In response to H4, we expected to find differences in those who bully and those who are bullied, depending on the context in which the school is located. As reported in previous research, peers stand out as the main victims and perpetrators of their peers (Ballesteros, 2018; Bergmann & Baier, 2018; Mishna, 2004; Mishna et al., 2008; Smith et al., 2008). The results obtained partially confirm the difference between the contexts. There are no differences in the people who attack them, but there are differences in the targets of bullying: in the rural context, the perpetrators are more often directed towards schoolmates. Students from rural primary school settings also reported a higher proportion than students in urban schools that their perpetrators were their schoolmates (Rodríguez-Álvarez et al., 2021). This may be since in the urban context, adolescents' social relations are broader, as they are part of various social peer groups in different extracurricular activities; on the contrary, schools located in rural areas tend to be smaller and with fewer students, so it is more common to share the class group with the group of friends outside the school environment. Mothers in the study by Leadbeater et al. (2013), residents in rural



contexts mentioned that their children had fewer opportunities to participate in activities with children outside school.

The second objective of the research was to explore the impact of context on bullying, along with gender and age. Context, gender and age were expected to be related to bullying behaviors (H5). The results only confirm the association of context and sex with the role of perpetrator. Being a boy and the location of the school in an urban context are related to greater intervention as an perpetrator. In the same vein, previous research had shown that being a boy was linked to bullying perpetration (García-Fernández et al., 2018; Yang et al., 2013) and cyberbullying (Larrañaga et al., 2018; Perren & Gutzwiller-Helfenfinger, 2012; Slonje & Smith, 2008). As reported by Álvarez-García et al. (2011), it can be explained because adolescent relationships in urban contexts are more impersonal than in rural contexts. In the victim/ perpetrator role, being a boy also entered into the equation, confirming the sexual impact on bullying overlapping behaviors (Chen et al., 2019; Vale et al., 2018), but neither the context nor the age is significant. The role of victim has only been associated with age, confirming that with increasing age the number of those involved in victimization decreases (Lonigro et al., 2015; Waasdorp & Bradshaw, 2015) regardless of the context in which adolescents find themselves.

As a last hypothesis of this study, we expected that adolescent victims in the rural context would perceive more distress than adolescents victimized in the urban context (H6). The results have confirmed the starting hypothesis, indicating the effect of the interaction of context and bullying roles on distress. Victims in rural contexts perceive more distress than victims in urban contexts.

This result may be explained by the more restricted nature of relationships among adolescents in rural settings (Leadbeater et al., 2013; Rodríguez-Álvarez et al., 2021), coupled with the smaller size of schools in rural contexts. Being a victim can mean for the adolescent in a rural school being friendless and socially isolated more than for the adolescent in an urban school. We cannot forget that friendship relationships are a relevant factor during adolescence (Pronk & Zimmer-Gembeck, 2010), being their main source of support in the face of bullying (Holfeld & Leadbeater, 2017). This result is relevant for prevention, as we must pay special attention to students in rural contexts because the victim does not have the option of changing schools (Ruíz-Ramírez et al., 2018), which constrains the ability to initiate new friendships. Separating him from his peers is also to remove him from the peer group in his context, running the risk of isolating him.

This study has some limitations, which should be taken into account for further research. In first place, the study was conducted only in high schools located in Castile-La Mancha; so extrapolation to other regions and schools should be done with caution. In second place, the information was

collected with a self-administered questionnaire with the problems of social desirability and subjectivity it entails. The questionnaire applied did not include all types of bullying behaviors. Previous research indicated that the number of items in the measure influences the results obtained (Zych et al., 2016), it is thus difficult to compare the results with other research. On the other hand, measuring the incidence of cyberbullying depends on the behaviors included to study it (Cross et al., 2015a, 2015b; Romera et al., 2016). The fact that only three items were used to measure cyberbullying are used in this study is a constrain. However, the measure we use in this study covers the main types of bullying that are perceived to be relevant at this age (Smith et al., 2008). It would also be interesting to collect information from teachers in order to learn more about the difference between high schools located in urban and rural contexts. On the other hand, a longitudinal methodology could provide information on the evolution of traditional bullying and cyberbullying in both contexts. It might also be interesting to include other contextual variables that have been shown to influence bullying, such as the students' cultural background (Tomé et al., 2019); and individual social construction variables, such as fatalism (Navarro et al., 2018) or moral disengagement (Larrañaga et al., 2018). Not forgetting the influence of gender on bullying behaviors, previous research findings have pointed to the importance of considering the effects of gender stereotypes on bullying behavior (Bjärehed et al., 2020a, 2020b; Villora et al., 2019).

Practical Implications for Social Work

Despite its limitations, this paper contributes to research on bullying. The findings have implications for social work research, practice, and policy. Social work is a field that offers many potential avenues across the social ecology to intervene upon bullying. Also, social workers, thanks to their unique perspective as a person in the setting, are in an optimal position to take an active role in addressing the impact of bullying (DePaolis, 2015).

The spread of new technologies in the rural context has led to uniformity with respect to the urban context of cyberbullying behaviors. This result calls for equal attention to be paid to all schools regardless of their location. Non-intervention increases cyberbullying behaviors (Kowalski et al, 2019; Zych et al., 2019), behavioral problems (Troop-Gordon et al., 2021) and child maladjustment (Troop-Gordon & Quenette, 2010). Cyberbullying intervention is a shared responsibility of the whole community (Cross et al., 2015a, 2015b). In order to be successful, research has shown that programs must be socially integrated to involve families and the community (Bradshaw, 2015). Whitted and Dupper (2005) suggested that any successful anti-bullying strategy requires a continuous intervention in which the general



culture of the school and community is addressed, and parents and teachers are integrated into the intervention. Social workers have the necessary skills to collaborate with students, school staff, family, and administration to implement social policies that can effectively address traditional bullying and cyberbullying behaviors in schools. Indeed, Larson (2008) said that collaboration between school and social services can open up alternative avenues for more effective intervention strategies. By acting as agents of change they can play a vital role in promoting social justice in schools and reducing cyberbullying (Elbedour, et al., 2020).

At the individual level, it is it is imperative to end inappropriate coping strategies through aggression that produce a vicious cycle of perpetrators and victims (Navarro et al. 2018). It is essential to reduce physically aggressive behavior in urban adolescents. Work with the social group in the classroom should also be directed at recognizing the responsibility of all pupils to face cyberbullying behaviors (Bjärehed et al., 2020a, 2020b) and end passive coping strategies that increase the perpetration of violence (Kowalski et al, 2019; Zych et al., 2019). They should recognize the relevance of active coping strategies to intervene effectively against cyberbullying (Mora-Merchán et al., 2021; Xie et al., 2020). Moreover, face-to-face social relations in the school are transferred to the virtual world (Mikami et al., 2010). Therefore, fostering social relationships between peers in the classroom can help prevent the occurrence of cyberbullying (Yubero et al., 2010; Zych et al, 2021). Different antibullying programs have included coping strategies among their contents (Garaigordobil & Martínez-Valderrey, 2018). Working on conflict resolution techniques can be a relevant technique to provide pupils with adequate tools for their psychosocial development. In order for this intervention to be effective, at the institutional level, it is essential to support teachers to have specific training on cyberbullying (Bevilacqua et al., 2017) and are trained to implement anti-bullying rules in their classrooms (Thornberg et al., 2021). School social workers can facilitate trainings for faculty, staff, and students about effective anti-bullying interventions and monitor the enforcement of these policies (Segal et al., 2009).

However, narratives constructed by adolescents about lived events are constructed in social interactions (de Moor et al., 2021). This is why intervention at the community level is relevant. It is necessary that the social context, families, and society change the perspective on cyberbullying and eliminate the underestimation of the seriousness of bullying (Huang et al., 2020); we need dispel the idea that it is a matter joking between minors (Grifoni et al., 2021) and raise awareness of the distress caused to victims (Machackova & Pfetsch, 2016) to awaken involvement the peers, family and society. It is essential that these actions are backed by social actors from outside the school environment to encourage children to develop healthy relationships. Bullying

behaviors need to be studied from a social work perspective in order to generate new strategies and programs for effective social intervention and prevention (Domínguez de la Rosa & Millán-Franco, 2021). Social workers can empower the community with sufficient resources to prevent bullying between students. For example, reading appears to be a helpful intervention strategy, as reading encourages collaborative work with parents and creates social spaces for gathering (Sánchez-García & Yubero, 2015; Yubero et al., 2022).

Reducing adolescent victims' distress should be the main objective of psychosocial intervention to promote their appropriate development. It is important to note that according to the results of longitudinal studies, victimization experienced in the first years of secondary school can be maintained throughout secondary school (Bowes et al., 2013), with a cumulative impact on distress (Evans-Lacko et al., 2017) and sustained over time (Arseneault et al., 2010; Fahy et al., 2016; Wolke & Lereya, 2015). It is urgent to intervene as early as possible to ensure the development of adolescents in a satisfactory well-being situation. In order to provide adequate tools for early prevention, it is necessary to prevent bullying and cyberbullying in adolescents from their entry into school and to plan a follow-up throughout their schooling. For this reason, it is very important to address bullying both within the framework of educational institutions and the social services network (especially through the social work teams).

As professionals specialized in social welfare intervention, social workers can play a key role in the prevention, identification, and intervention in the phenomenon of bullying. The promotion of prevention, intervention and management strategies by social workers is of utmost importance for the well-being and safety of students and the school community (Elbedour, et al., 2020). A considerable portion of education research and interventions focuses on urban environments (Nielsen et al., 2017). it is necessary to reinforce the relevance of providing the necessary resources for intervention in rural environments. We must bolster efforts to ensure that rural areas have the same access to social resources as urban areas. And social workers hold a key role in advocating for funding for the antibullying policy and offering institutional and individual-level interventions to reduce bullying (McGeough, 2022).

Conclusion

This study offers new data about victimisation in urban areas. Firstly, the results found evidence of the association between bullying behaviours and context. Being a male and the location of the school in an urban context are related to greater intervention as an aggressor. The victim role has only been associated with age. Two, the study also confirms



the relationships between context and distress. Victims in rural contexts perceive more distress than victims in urban contexts.

These results indicate that the size of the population where the schools are located may be a relevant factor for intervention. This result is relevant for prevention from Social Work, as we must pay special attention to students in rural contexts. It is necessary to reinforce the relevance of providing the necessary resources for intervention in rural environments. Any successful anti-bullying strategy requires a continuous intervention in which the general culture of the school and community is addressed, and parents and teachers are integrated in the intervention. Social workers have the skills to collaborate with students, school staff, family and administration to implement social policies that can effectively address traditional bullying and cyberbullying behaviours in schools.

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Declarations

Conflict of interest Authors have no conflicts of interest to disclose.

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