

Predictors of Peer Victimization in Peruvian Adolescents

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Abstract

Background: While bullying is recognized as a major public health concern worldwide, little research has been conducted on prevalence and predictors of bullying in Latin American countries such as Peru. Considering the negative effects that may be experienced by bully victims, including poor academic performance, psychological distress and in extreme cases suicide, identifying the factors associated with peer victimization is important to effectively addressing peer bullying. The purpose of this study was to estimate the prevalence of peer victimization in a sample of high school students in Cusco, Peru and to explore the relationship between victimization and potential correlating factors.

Methods: A cross-sectional study of 949 high school aged adolescents from Cusco, Peru was undertaken. Adolescents from Cusco high schools were recruited and required to obtain parental consent to participate. The final sample of students completed a survey to answer questions about demographics, bullying, their parents' parenting behaviors, the status of their home internet connection, and academic performance. Chi-square tests and adjusted logistic regression analysis were calculated using Stata version 12.1 and were used to assess potential risk factors associated with being bullied among boys and girls.

Results: Over 20% of the sample reported being mistreated or bullied by peers. More boys than girls reported being bullied (28.5% vs. 19.5%; $p = 0.002$). Girls whose parents engaged in more positive parenting behaviors were less likely to be bullied, while having a home Internet connection and spending more than 60 minutes on social media during the previous day were associated with an increased risk of being bullied. Among boys, no variables were significantly associated with being bullied.

Conclusions: Health practitioners may want to design bullying interventions that differ for boys and girls. Interventions for girls could benefit from increased parental involvement in particular. The association between time spent on social media and bullying among girls could also be investigated. Further research is needed to understand predictors of being bullied among males in this region.

Keywords: Peru; Adolescent health; Bullying; Peer victimization; Psychological distress; Mental health; Bullying risk factors

Background

There has been an increasing amount of research on peer victimization, including prevalence, associated risk factors, and resultant health and psychological outcomes [1-3] over the past several decades [4]. A summary of the research findings indicates that bullying really became a significant research focus in the 1970s, with the majority of past and current research conducted in North American and Western European countries [4]. Bullying is now considered a critical public health concern [5] inasmuch as it may lead to psychological distress and suicide [6]. Bullying is repeated, deliberate and harmful behavior that includes an imbalance of power between the bully and victim [3,7]. Provided this increase in research on the topic, there are now many, broader definitions of bullying to be more inclusive of less significant types of bullying, which still may be harmful, such as mistreatment by friends and peers or even taunting [8].

Jimerson et al. found that victimization prevalence rates, averaged across many international studies and contexts, were around 26.3% for males and 24.0% for females [1]. Rigby and Smith recently reported that bullying in schools appears to be decreasing in several regions, including North America and Western European countries, in part due to the increase in anti-bullying legislation and the implementation of school-based programs [9]. However, these decreases have not been documented in geographical regions where bullying is still a prominent public health concern, for example in Latin America. Indeed, there is little research on bullying in countries outside the United States and Europe, especially in lower-income and South American countries [1] such as Peru.

Several risk factors are associated with an increased likelihood of peer victimization. Males are more likely to report being involved with bullying and experiencing direct bullying [10,11], while females report more incidences of indirect bullying (e.g., social exclusion and being the subject of rumors) [12,13]. Bullying appears to be most prevalent during middle school years and then decreases in later adolescent years [14,15]. Children and adolescents with even slightly uncouth appearances have been reported to be more likely to be victims [16], including those who are overweight or obese [17,18]. Children from

lower socioeconomic backgrounds are more likely to be bullied as well [19]. In a meta-analysis of predictors of involvement with bullying, Cook et al. reported that there was not a significant association between poor academic performance for victims; however, it appears that bully-victims (individuals who were both perpetrators and victims of bullying) are more likely to report poor academic performance, including low grades in school [14,20].

Family and home environment, including parental behaviors, are also associated with peer victimization [21]. Allison et al. reported that children whose parents experienced bullying in their youth were then at an increased risk for being bullied [22], and children with negative family environments who are also exposed to frequent marital and family disagreements are then more likely to be victims of bullying [14,23]. Parenting styles and parental behaviors are also influential; while parental neglect and abuse is associated with higher risk of victimization [20,24], parental over-involvement can also be a risk factor [25]. Appropriate levels of parental acceptance and involvement are important protective factors for bullying [26], and many anti-bullying interventions and school-based programs promote parental involvement [27], including increased parental supervision [28] and communication [29].

While studies describing bullying prevalence and correlates in Latin America are less common than in other geographical regions, existing studies from this region indicate relatively high prevalence [30-33]. In one 2009 study of bullying prevalence across three regions in Peru, average bullying prevalence was reported to be 50.7 [31]. Bullying studies in Peru also indicate that, consistent with research in other geographical areas, bullying is more prevalent in males and occurs most often during the middle school years, around ages 10-16 [34,35].

Lister et al. found that in Peruvian children ages 8 to 12, predictors of being bullied included having a low BMI, low parental or caretaker education level, poorer health, and low socioeconomic status [36], and Crookston et al. reported that long-term peer victimization for Peruvian school-age children was associated with higher risk of smoking cigarettes, drinking, and having ever had a sexual relationship [37]. Merino et al. reports that the severity of bullying is not often acknowledged in Peruvian schools, and anti-bullying interventions in school are often individual institutional efforts with no long-term commitment [34]. The purpose of this study was to estimate the prevalence of peer victimization in a sample of Peruvian high school students and to explore the relationship between victimization and several other potential correlating factors that have not previously been evaluated in this region. Specific factors assessed included age, gender, socioeconomic status, social media use, parental involvement, and grades in school.

Methods

Study design and sample identification

A cross-sectional study of 949 high-school students, aged 12-18, from Cusco, Peru was undertaken. Both private and public schools were included in the sample, and all-boy, all-girl, and mixed gender high schools were represented.

Procedure

The authors approached school administrators from public and private high schools in urban Cusco, Peru to invite student

participation in this study. Of the schools invited to participate, fifty-three percent agreed to take part in the study. Participating schools were visited twice; the first visit was to recruit students for participation in the study and distribute parental consent forms, and the second visit was to collect parental consent forms and distribute a pencil-and-paper survey. The survey was completed during the second visit. Prior to recruiting schools and distributing the survey, the institutional review board approved the study.

Approximately half of invited students agreed to participate. Common reasons for nonparticipation included lack of parental consent, lack of child assent, or being absent on the day the survey was distributed. The survey was pilot tested with 21 adolescents living in the Cusco region and the measures were modified according to their feedback. Upon gathering the completed surveys during the second school visit, data were entered into an electronic database. The data were then reviewed to identify outliers and correct any data entry errors.

Measurement

All study measures were constructed in English first and then a native Spanish speaker translated them into Spanish. Lastly, the measures were backtranslated into English to ensure that the original meaning and intent of the questions had not changed. During the survey, respondents were asked to report demographic information, the parenting behaviors of their own parents, the status of their home internet connection, academic performance, and their history of being bullied.

Demographic information included age, race/ethnicity (indigenous, moreno, mestizo, mixed, afro-Bolivian, white, black, Asian), year in school, and gender.

To measure bullying, the following question was used: "Have you ever been bullied by your schoolmates (yes/no)?"

Participants were asked to report about their parents' parenting behaviors. Five questions about family life were asked, each with the same response options: "NO!", "No", "YES!", and "Yes". The five questions were as follows: "My parents ask me what I think before most of the decisions affecting the family are taken", "If I had a personal problem, I would ask my parents for help", "My parents give me many opportunities to do fun things with them", "My parents ask me if I've done my homework", and "My parents realize if I'm not home on time." A Cronbach's Alpha was computed to measure inter-item reliability ($\alpha = 0.70$) and responses for each of the five were summed to create a single, average parenting score.

Home internet connection was used as a proxy for income, as literature indicates having home internet is correlated with wealth in Peru and other Latin American countries [38,39]. Time spent on social media was measured with the question "Yesterday, how much time did you spend on social sites like Facebook?". Response options included 0-5 min, 5-30 min, 30 min-1 hr, and >1hr. Academic achievement was measured by asking participants to report their average scores in classes. Response categories included: 91-100%; 81-90%; 71-80%; 65-70%; and 0-64%.

Data analysis

All analyses for this study were done using Stata version 12.1 for Mac (StataCorp LP). Descriptive statistics were computed for each of the study variables. Chi-square test statistics were used to compare

potential risk factors associated with being bullied between boys and girls. Adjusted logistic regression analysis was used separately for boys and girls to explore potential factors associated with being a victim of bullying.

Results

The majority of respondents were female (65.7%). The most common responses for “race” were mestizo (48.8%) and moreno (21.8%). Most respondents attended a mixed gender (54.8%) public school (62.4%). Just over 20% of the sample reported being mistreated/ bullied by peers (Table 1).

Variable	N	%
Type of School		
Public	595	62.4
Private	361	37.76
Gender of Student Body		
All boy	76	8.03
All girl	352	37.17
Mixed gender	519	54.8
Race		
Indigenous	27	3
Moreno	196	21.78
Mestizo	439	48.78
Mixed	77	8.56
Afro-Bolivian	5	0.56
White	133	14.78
Black	1	0.11
Asian	22	2.44
Gender		
Female	623	65.65
Male	326	34.35
Mistreated by schoolmates		
Yes	215	22.85
No	726	77.15

Table 1: Descriptive statistics of study sample.

A comparison of boys and girls (Table 2) revealed that boys reported significantly higher rates of being bullied by peers, compared to girls (28.5% vs. 19.5%; $\chi^2 = 9.7$; $p = 0.002$).

They also reported higher rates of home Internet connections (59.87% vs. 38.88%; $\chi^2 = 37.1$; $p < 0.001$) and spending more time on social networks ($\chi^2 = 28.6$; $p < 0.001$).

Using a multivariate approach, for girls, having a higher overall parenting score was associated with less likelihood of being bullied (OR = 0.61; $p = 0.01$).

Having a home Internet connection (OR = 1.68; $p = 0.046$) and spending more than 60 minutes on social media (during the previous day) (OR = 2.31; $p = 0.005$) were both associated with increased odds of being bullied (Tables 3 and 4).

For boys, none of the variables included in the model were significantly associated with being bullied.

Variable	Boy	%	Girl	%	Significance
Ever been mistreated by schoolmates					
Yes	91	28.53	120	19.54	0.002*
No	228	71.47	494	80.46	
Age					
12	11	3.47	20	3.3	0.036*
13	53	16.72	61	10.07	
14	82	25.87	180	29.7	
15	84	26.5	188	31.02	
16	58	18.3	117	19.31	
17+	29	9.15	40	6.6	
Scores in School					
91-100%	17	5.28	46	7.46	0.451
81-90%	77	23.91	163	26.42	
71-90%	138	42.86	262	42.46	
65-70%	79	24.53	126	20.42	
00-64%	11	3.42	20	3.24	
Home internet					
Yes	191	59.87	236	38.88	0.000*
No	128	40.13	171	61.12	
Time spent on social networks yesterday					
0-5 min	69	23.55	227	40.83	0.000*
5-30 min	60	20.48	108	19.42	
30 min	66	22.53	79	14.21	
1 hour+	98	33.45	142	25.54	
*Significant at the <.05 level					

Table 2: Chi-square comparison of potential factors associated with being bullied between boys and girls.

Variable	OR	St. Error	Z	P	95% CI	
					Low	High
Average parenting score	0.614631	0.117827	-2.54	0.011	4.221202	0.894937
Age	1.159444	0.118606	1.45	0.148	0.948803	1.41685
Grades	0.905496	0.116454	-0.77	0.44	0.703746	1.165086
Home internet	1.679773	0.437092	1.99	0.046	1.008696	2.797311
0-5 min. on social networks yesterday	-	-	-	-	-	-
5-30 min social networks	1.065744	0.369283	0.18	0.854	0.540392	2.101824
30-60 min social networks	1.186892	.4510015	0.45	0.652	.5635948	2.499512
60 min+ social networks	2.310216	.6836449	2.83	0.005	1.29349	4.126124
Cons	0.200634	0.178774	-1.8	0.071	0.03499	1.150438

Table 3: Logistic regression (factors associated with being bullied among girls).

Variable	OR	St. Error	Z	P	95% CI	
					Low	High
Average parenting score	0.725168	0.1884244	-1.24	0.216	0.4357792	1.206733
Age	0.8982584	0.1012304	-0.95	0.341	0.7202348	1.120285
Grades	1.312373	0.2101909	1.7	0.09	0.9587995	1.796331
Home internet	1.060272	0.327433	0.19	0.85	0.5788277	1.942161
0-5 min. on social networks yesterday	-	-	-	-	-	-
5-30 min social networks	0.7079401	0.3105712	-0.79	0.431	0.2996242	1.672692
30-60 min social networks	1.415185	0.5800533	0.85	0.397	0.6337592	3.160109
60 min+ social networks	0.554688	0.2374929	-1.38	0.169	0.239663	1.283795
Cons	0.7128107	0.7795858	-0.31	0.757	0.0835667	6.080161

Table 4: Logistic regression (factors associated with being bullied among boys).

Discussion

The purpose of this study was to estimate the prevalence of peer victimization in a sample of Peruvian high school students and to explore the relationship between victimization and potential correlating factors that have not previously been evaluated in this region. Specific factors assessed included age, gender, socioeconomic status, social media use, parental involvement, and grades in school.

We did not have better indicators of SES in this study, and so used home Internet connection as a proxy indicator of wealth, as home internet use is associated with wealth and parental education both worldwide [40] and in Peru specifically [38,39]. In the current study, reporting to have a home Internet connection was related to bullying victimization in girls, but not boys. The gender disparity is interesting in this study and raises questions about potential differences that might exist. However, it is also interesting to note that the direction of this finding indicates that higher SES girls are more likely to be victimized. Compare these findings with Jansen et al. that reported

that lower parental education levels predicted victimization [39]. Tippett and Wolke also reported findings from a review of 28 studies that victims and perpetrators are more likely associated with high SES [40]. Whereas having a home Internet connection may be an indicator of higher SES, it may also represent a risk factor for bullying victimization, especially in instances where victimization takes on the form of cyberbullying. Cyberbullying and face-to-face bullying were not differentiated in this study, unfortunately. Nevertheless, in an era when adolescents consume close to 7 hours of media per day there appears to be a potential negative effect on aggression related behaviors [41]. This relationship should be explored in greater detail in future studies.

In this study, boys reported significantly higher rates of victimization than girls. Other studies have reported similar findings, a factor which has likely contributed to there being fewer studies exploring correlates of victimization among girls [42]. Merino et al. reports that in Peru, research indicates that bullying is more commonly perpetrated by males, which corresponds with our findings

that boys are also more likely to be bullied [34]. This study found that correlates of victimization in girls included having a home internet connection and spending more than 60 minutes on social media during the previous day, while higher parental involvement was protective against peer victimization. None of the factors selected in the logistic regression were correlated with victimization in boys. As has been noted in Peru and other Latin American countries, there exists pervasive male gender roles and a male culture of dominance, violence, and high risk-taking behaviors [30]. It could be that Peruvian boys perceive mistreatment or victimization differently in that social conflict may be more of a norm than it is for girls and does not seem out of the ordinary or worth reporting. Alternatively, males may underreport being mistreated in an effort to preserve masculine, dominant gender roles [43].

In this study there was an association between positive parental behaviors and decreased likelihood of being bullied for girls. Previous studies have also demonstrated associations between parenting and bullying; for example, Troop-Gordon and Gerardy found that boys with parents who conceptualized bullying as a normal part of growing up were more likely to perpetuate and be victims of peer harassment. Additionally, parental opinions on how to handle bullying (i.e., avoiding aggressors) were associated with higher social withdrawal among girls [43]. It appears that parental involvement impacts bullying behaviors differently among boys and girls; similarly, mothers and fathers may also have differing impacts on children experience of bullying. Shin et al. reported that South Korean children who self-reported as victims or victim-aggressors more often reported both maternal neglect and maternal rejection

44]. Our study did not distinguish between the influence of mothers and fathers on victimization individually, though further studies of this would be beneficial.

Health professionals may want to include parents in anti-bullying interventions, which has indeed been incorporated in many recent bullying interventions and has found to be an important predictor of success in interventions [44,45]. This may be especially salient in Peru, as health professionals have reported few school anti-bullying programs and low levels of support among schools, administrators, and government [34]. Higher parental involvement could help to both mediate this lack of support and motivate schools to provide effective programs.

Several limitations should be taken into account when interpreting the results of this study. First, data were self-reported and respondents may not have reported potentially embarrassing answers accurately. This effect was hopefully minimized by asking respondents to respond via paper/pencil format and not directly to another person verbally. For sensitive or potentially embarrassing questions, respondents may not have accurately reported. Second, results may not be generalizable beyond the Cusco region of Peru. It is difficult to know to what extent the respondents in this study represent adolescents generally in Peru, and to a lesser extent, other Latin American regions. Replicating studies of this nature in other locations will help to address this concern. Furthermore, some of the variables used in this study for analyses were only indicators, and not direct measures. For example, we lacked an ideal measure of SES and used an indicator instead, home internet connection. Whereas there was sufficient justification for this, future studies on this topic may benefit from more direct measures. Lastly, one limitation to this study is the lack of a variable representing school or teacher influences as they may relate to efforts to prevent

bullying. The authors were not aware of any school-wide or teacher efforts to prevent bullying during the time period in which data were collected and therefore no effort was made to measure this influence. However, it is possible that such efforts were underway and that they could have an impact on bullying. Future studies like this may benefit from measuring these influences and including them in analyses.

Conclusion

The results from this study may be useful to public health practitioners and other professionals that work with adolescents to prevent bullying. They should be informed to acknowledge the existence of important disparities in factors associated with bullying between boys and girls. Furthermore, it is essential that professionals recognize the power of and work towards empowering parents to prevent bullying. Parents remain a powerful influence.

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