

Prevalence of School Bullying in Korean Middle School Students

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Background: School bullying is the most common type of school violence. Victimization by or perpetration of school bullying has frequently been associated with a broad spectrum of behavioral, emotional, and social problems.

Objective: To investigate the prevalence and demographic characteristics of victims, perpetrators, and victim-perpetrators in a Korean middle school sample.

Methods: We evaluated 1756 middle school students in this cross-sectional study. Students provided demographic information and completed the Korean-Peer Nomination Inventory. Descriptive statistics and the Pearson χ^2 test were used.

Results: We found that 40% of all children partici-

pated in school bullying. By category, the prevalence of victims, perpetrators, and victim-perpetrators was 14%, 17%, and 9%, respectively. The most common subtypes of victimization were exclusion (23%), verbal abuse (22%), physical abuse (16%), and coercion (20%). Boys were more commonly involved in both school bullying and all 4 types of victimization. The prevalence of bullying was greater in students with either high or low socioeconomic status and in nonintact families.

Conclusions: School bullying is highly prevalent in Korean middle school students. Demographic characteristics can help identify students at greater risk for participation in school bullying.

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SCHOOL BULLYING, THE MOST common type of school violence, comprises a spectrum of aggressive behaviors that involve both perpetrators and victims. Bullying is usually perpetrated by students who seem to have and try to maintain dominance over others. Bullying is intended to cause mental and/or physical pain to another person.¹

Many believe that school bullying is a benign and "normal" part of the childhood and adolescent experience. Furthermore, some people suggest that children learn to manage bullying, resulting in an enhanced character and no adverse consequences.^{2,3} Scientific reports indicate otherwise. Victimization by or perpetration of school bullying is associated with behavioral, emotional, and social problems. It also appears that bullying can lead to serious mental and physical sequelae.⁴⁻⁶

Two methods have been widely used in school bullying research: self-report and peer nomination. Self-report has most commonly been used and has advantages by providing direct access to the feelings

and experiences of children involved in bullying. This is particularly useful because the children are alert to the possibility of peer abuse, have strong emotional reactions to such events, and develop vivid and lasting memories of such experiences.⁷ However, potential bias may limit its validity. These biases include differences in children's interpretations of abusive interactions, variation in ability to encode or reconstruct such events, and variability in willingness to report painful or embarrassing experiences.⁸⁻¹⁰ Peer nomination has distinct advantages compared with self-report. It allows for assessment of an individual's behaviors by peers who are most likely to have witnessed or participated in these behaviors. In addition, it permits the aggregation of peer/classmate judgment about individuals' roles in school bullying. Aggregation mitigates against the biases of a particular person while allowing for the richness of individual reports at the level of the child.

This study uses the Korean-Peer Nomination Inventory (K-PNI) to investigate the prevalence of school bullying

Table 1. Victim and Perpetrator Items on the Korean-Peer Nomination Inventory

Subscale	K-PNI Items
Exclusion victim	Persons who are left out during recess or lunchtime
Verbal abuse victim	Persons who are ignored by others
	Persons to whom others do not talk or answer
	Persons who are called names all the time
	Persons of whom others speak ill
Physical abuse victim	Persons who are threatened by phrases such as "Don't come to school" or "I'll hurt you"
	Persons who get beat up often
Coercion victim	Persons whose money is often taken by others
	Persons who are coerced to do work for other students, such as homework or carrying bags for them
	Persons whose school supplies and snacks are taken by others
Perpetrator	Persons whose belongings are often damaged by others
	Persons who hit and push others
	Persons who make fun of others
	Persons who try to pick fights with others
	Persons who say that they can beat up everybody
	Persons who get others into trouble
	Persons who shove and provoke others

Abbreviation: K-PNI, Korean-Peer Nomination Inventory.¹²

and victimization subtypes. Demographic characteristics are then used to identify groups involved in school bullying.

METHODS

STUDY POPULATION

Middle schools were selected in Seoul and Anyang to represent typical Korean public middle school populations. Administrators and parents in the 2 schools agreed to participate in this cross-sectional study in October 2000. The study population was composed of all students in the seventh and eighth grades. The schools differed in size and class composition. The school in Anyang had more classes for each grade and larger class sizes than the school in Seoul (13 classes and 8 to 10 classes per grade, respectively; 41 to 50 and 34 to 41 students per class, respectively). Additionally, the Anyang school had single-sex classrooms, whereas those in Seoul were coeducational.

The Hallym University College of Medicine (Anyang) institutional review board approved the study. Parent and student consent were obtained. Each student completed a peer nomination questionnaire and provided demographic information with the direction of research assistants in each classroom during school hours. The entire survey took 45 to 60 minutes.

MEASURES

Korean-Peer Nomination Inventory

School bullying was identified using the K-PNI. The K-PNI is based on the Peer Nomination Inventory (PNI) developed by Wiggins and Winder¹¹ to determine implicit or explicit judgments about peers as part of the examination of children's social maladjustment. To complete the questionnaire, children

were asked to name classmates of the same sex who fit the behavioral type described in each item. The nomination of multiple individuals for each item was allowed. The median score on the PNI represents a natural break in the distribution that identifies children as having been nominated in a given category.

Perry et al⁹ adapted the original PNI to create a tool for identifying peer victimization and aggression. The modified PNI is composed of 26 items (7 victimization, 7 aggression, and 12 filter items). The reliability and validity of the modified PNI are well established. The K-PNI is an expansion of the modified PNI that not only identifies victims and perpetrators but also allows for subtyping victimization. It has 28 items: 11 for victims, 6 for perpetrators, and 11 filter items. The 11 victimization items are further subdivided into 4 types: exclusion (3 items), verbal abuse (3 items), physical abuse (2 items), and coercion (3 items). Items from the K-PNI questions appear in **Table 1**. Good to excellent reliability and validity of the K-PNI have previously been reported in Korean children.¹²

To aggregate K-PNI data for individual students, victim and perpetrator scales of the K-PNI were expressed in a standardized percentage nomination (SPN) score. The SPN score was calculated by (1) summing the frequencies of nomination in all items of a scale, (2) dividing the summed frequencies by the total number of items in a scale, and (3) dividing this number by the number of same-sex students in a classroom.

An SPN score of 1 meant that an individual had been nominated more than once on either the victim or perpetrator scale. In a skewed distribution, as with the K-PNI, 1 SD does not accurately characterize the population, and a median cutoff is not appropriate when the median score for most children is 0. Thus, an SPN score of greater than 1 was used as the cutoff point for categorizing victims and perpetrators because it was more conservative and identified a more homogeneous group involved in bullying with less misclassification.

For the purpose of analysis, types of school bullying were categorized into 4 separate groups:

1. None: no involvement in school bullying.
2. Victim: involvement in school bullying only as a victim. This category includes about 40% of bullying.
3. Perpetrator: involvement in school bullying only as a perpetrator. This category includes about 40% of bullying.
4. Victim-perpetrator: involvement in school bullying as both a victim and a perpetrator. This includes about 20% of bullying.

An individual with an SPN score greater than 1 on both the victim and perpetrator scales was categorized as a victim-perpetrator. An SPN score greater than 1 on either scale alone indicated a perpetrator or victim. Victimization was defined as receiving an SPN score greater than 1 on the K-PNI victim scale irrespective of scores on the perpetrator scale, including victims and victim-perpetrators. Finally, an individual with an SPN score of 1 or less on both scales was classified as having no involvement in bullying. Subtyping of victimization was performed with the same cutoff score in each subtype composite.

Demographic Characteristics

Students completed questions about their sex, family members with whom they lived, parents' educational level, and a 5-scale measure of socioeconomic status (SES).

STATISTICAL ANALYSIS

Descriptive statistics and the Pearson χ^2 test were used to examine the prevalence of school bullying and the relationships between bullying and demographic characteristics.

Table 2. Study Subjects*

Characteristic	No. (%)
Residence	
Seoul, Korea	626 (35.6)
Anyang, Korea	1130 (64.4)
Sex	
Male	963 (54.8)
Female	793 (45.2)
Grade	
7th	860 (49.0)
8th	896 (51.0)
Family structure†	
Both parents	1526 (86.9)
Father only	43 (2.4)
Mother only	55 (3.1)
Grandparents only	23 (1.3)
Parental education, y†	
Father	
≤12	764 (43.6)
>12	936 (53.3)
Mother	
≤12	1023 (58.2)
>12	623 (35.5)
SES†	
High	29 (1.7)
Middle-high	300 (17.1)
Middle	1173 (66.8)
Middle-low	176 (10.0)
Low	16 (0.9)

Abbreviation: SES, socioeconomic status.

*The total sample size was 1756.

†Sum of percentages is not 100% owing to missing data.

RESULTS

STUDY POPULATION

Data from 1756 students were used for the final analysis (3 students were excluded owing to lack of validity: 1 form was illegible, and 2 had data entry errors). About one third of the students were from Seoul. Most students came from intact families and were of middle SES. Boys and girls were evenly distributed (**Table 2**). Seoul and Anyang samples differed in parental educational level and SES. Parents from Seoul were more likely than those from Anyang to have completed college (fathers, 56.4% vs 43.6%; mothers, 73.8% vs 26.2%). Students in Seoul were also more likely to be in the highest SES level (2.5% vs 1.3%) and less likely to have the lowest SES (0.3% vs 1.3%). The significance of geographic differences in this student population cannot be analyzed because these are not epidemiological samples and do not represent either of these regions.

PREVALENCE OF SCHOOL BULLYING AND VICTIMIZATION SUBTYPES

A total of 40% of all students were involved in bullying. Bullying classifications were as follows: victim only, 14%; perpetrator only, 17%; and victim-perpetrator, 9%. Victim and perpetrator SPN scores were compared among those who had no involvement in bullying, victims, perpetrators, and victim-perpetrators. Median victim SPN

Table 3. Frequency of School Bullying in the Study Population*

	Boys	Girls	Total	P Value
School bullying				
None	542 (56.3)	509 (64.2)	1051 (59.9)	.005
Victim	156 (16.2)	95 (12.0)	251 (14.3)	
Perpetrator	168 (17.4)	127 (16.0)	295 (16.8)	
Victim-perpetrator	97 (10.1)	62 (7.8)	159 (9.1)	
Victimization				
Exclusion	250 (26.0)	148 (18.7)	398 (22.7)	<.001
Verbal abuse	236 (24.5)	151 (19.0)	387 (22.0)	.006
Physical abuse	216 (22.4)	72 (9.1)	288 (16.4)	<.001
Coercion	228 (23.7)	128 (16.1)	356 (20.3)	<.001

*Data are presented as number (percentage). The Pearson χ^2 test was performed to examine sex differences in each category of school bullying and victimization subtypes. School bullying was a multinomial variable, and victimization subtypes were binary variables. The total sample size was 1756.

scores were 0.00, 2.62, 0.21, and 2.88, respectively, suggesting that victims and victim-perpetrators were victimized to the same magnitude. On the other hand, median perpetrator SPN scores were 0.00, 0.00, 2.50, and 4.63, suggesting that victim-perpetrators bullied other students more severely than did perpetrators.

Significantly more boys than girls experienced school bullying. Classification of victimization subtypes ranged from 16% to 23%, with physical abuse the least frequent (16%) and the other 3 subtypes appearing with similar frequencies (exclusion, 23%; verbal abuse, 22%; and coercion, 20%). Although there were sex differences in all victimization subtypes (more bullying among boys than girls), this difference was greatest with physical abuse, for which boys outnumbered girls by more than 2 to 1 (**Table 3**).

DEMOGRAPHIC CHARACTERISTICS OF STUDENTS INVOLVED IN SCHOOL BULLYING

In terms of demographic characteristics, 2 factors appear to be associated with school bullying: SES and family structure. Bullying was disproportionately represented in the high and low SES groups. Among 29 individuals in the high SES group, 72.4% were involved in school bullying. Similarly, in the low SES group, 81.2% were involved in school bullying. Although the numbers are relatively low in each group, they are in sharp contrast to the 55% to 60% of children in the middle SES categories who had no involvement in school bullying (**Figure 1**).

To further understand the relationship between SES and school bullying, SPN scores were examined. For perpetrators, those with higher SPN scores were more likely to be in the highest SES group. Median perpetrator SPN scores in perpetrators were 6.03, 5.83, 4.55, 3.79, and 3.92, respectively, in the 5 SES categories from highest to lowest SES. Higher SPN scores for victimization were more likely to be found in both the highest and lowest SES categories. Median victim SPN scores in victims were 4.96, 2.53, 2.69, 1.90, and 3.93, respectively. Therefore, participation in school bullying appears to be a bimodal

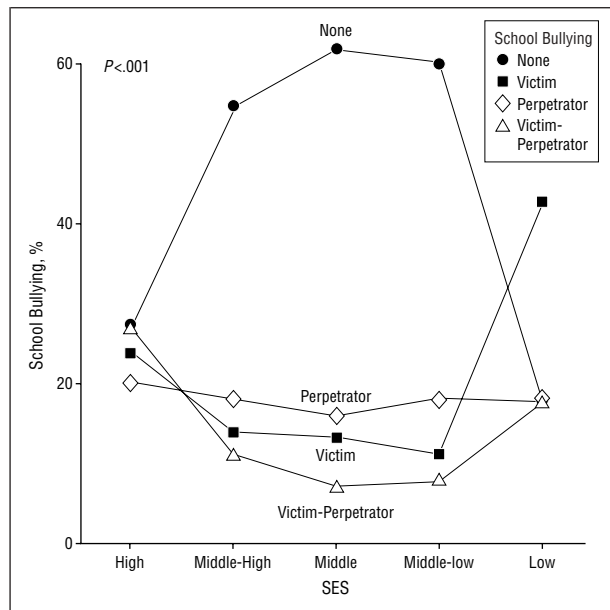


Figure 1. School bullying prevalence by socioeconomic status (SES). The Pearson χ^2 test was used to examine differences in prevalence among 5 levels of SES.

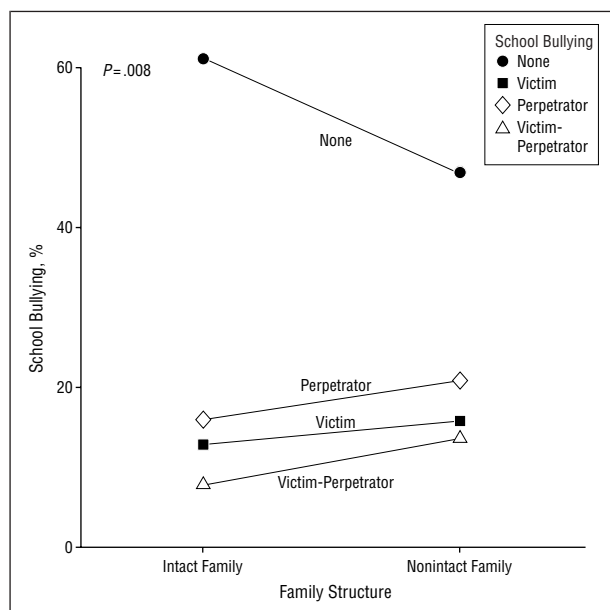


Figure 2. School bullying prevalence by family structure. The Pearson χ^2 test was used to examine differences in prevalence among students from intact and nonintact families.

distribution with a concentration in the highest and lowest SES categories.

Although the numerical differences may be small, family structure also seems to play a role in regard to involvement in school bullying. Children from intact families were significantly less likely to be involved in school bullying (61.8% vs 47.1%). Furthermore, within-group differences were also significant, with children in intact families less likely to be involved in all types of bullying than those from nonintact families (victims, 13.5% vs 16.5%; perpetrators, 16.3% vs 21.5%; victim-perpetrators, 8.4% vs 14.9%) (**Figure 2**).

What This Study Adds

Despite assertions that bullying is a benign or normal character-building behavior, school bullying is a common form of violence directed at youths. Most research on school bullying, including prevalence studies, has been conducted in Western countries using self-report. Few studies use peer nomination and relate bullying to the demographic characteristics of the students involved.

This study found a 40% prevalence of school bullying in Korean middle school students using peer nomination and provides evidence that school bullying is highly prevalent irrespective of the country in which children live. Students with high SES are more likely to be perpetrators, whereas children in the high and low SES categories are more likely to be victims. Children from nonintact families are also more likely to be involved in bullying. Characteristics that can lead to early identification of and intervention in groups at risk for school bullying deserve further investigation. However, the prevalence is sufficiently high and the consequences severe enough to warrant the initiation of large-scale interventions in Korea and the United States.

COMMENT

This study confirms in a Korean population that at a 40% prevalence, school bullying is the most common form of youth violence. Despite years of study by Olweus¹³ and many others,¹⁴ bullying and its many adverse consequences remain a problem for children and adolescents.

Our study adds important information to the literature on school bullying. First and foremost, this study confirms that school bullying is a hazard facing nearly half of our youth, irrespective of the country in which they live. Second, it allows investigators and physicians to examine school bullying through the eyes of the youth. By using the K-PNI, we were able to show that children are well aware of who is a bully and who is a victim. On the basis of children's keen observations, we learn that 40% of children are involved in school bullying with 17% acting as perpetrators, 14% as victims, and 9% as victim-perpetrators.

We have also learned that students of high SES are more likely to be perpetrators and that those of both high and low SES are more likely to be victims. The reasons for this remain unclear. Although one could speculate about the causal effects of SES on school bullying, the size and constitution of this sample make it impossible to arrive at any conclusions.

The lack of an intact family was also associated with an increased risk of participation in bullying. Family structure appears to be a general risk factor for problems in childhood.¹⁵⁻¹⁷ Based on this study, it is unclear whether family structure specifically affects school bullying. A different sample with a broader assessment of family structure would be necessary to answer this question.

Our study has some limitations. Even though the sample size is large, it is not epidemiological. This limits some of the conclusions that can be drawn. How-

ever, despite this study's limitations, such a large sample from 2 diverse Korean communities provides more than ample evidence that school bullying is ubiquitous. School bullying and its consequences occur in the face of empirical evidence for safe and effective interventions that can reduce this problem. Why are these interventions not being used? Is it because children do not matter? We think not; rather, bias against psychiatric and behavioral disorders leads them to be ignored or receive only cursory research and treatment support. Notwithstanding powerful evidence of significant morbidity associated with school bullying, including depression and suicide, professionals in Europe, the United States, Japan, and now Korea let 40% of their children be placed at risk for the adverse consequences of bullying.

Most articles of this sort end with a call for future studies to provide more clarity about treatment and causality. Although we certainly wish for that, it is not how we choose to end this article. Instead, we hope that these findings will add to the compelling burden of proof that demands a public health intervention to dramatically reduce school bullying before yet another 40% of our youth are damaged. More study is good, but action is better.

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