

# Stability of Bullying and Victimization from Childhood through Adolescence in a General Population Sample

Susan D. Mayes\*, Robin Lockridge, Ritika Baweja, Daniel Waschbusch, Susan L. Calhoun, Raman Baweja and Edward O. Bixler

Department of Psychiatry, Penn State College of Medicine, Hershey, PA, USA

**Abstract:** Little is known about the persistence of bullying and victimization from childhood through adolescence and the emergence of new cases, which we investigated in a general population sample. Mothers rated the degree to which their child was a bully and a victim on the Pediatric Behavior Scale in a population-based sample of 376 children. The children were rated at 6-12 years of age ( $M$  9) and again an average of 8 years later ( $M$  16). Bullying was a problem for 14% at baseline, 9% at follow-up, and 4% at both baseline and follow-up. Victimization was a problem for 28% at baseline, 14% at follow-up, and 7% at both baseline and follow-up. Child victims were three times more likely to be adolescent victims than children who were not victims in childhood, and child bullies were five times more likely to be adolescent bullies. Only 26% of children who were victims at baseline continued to be victims at follow-up, and 30% who were bullies at baseline continued to be a bully at follow-up. For children who were neither a bully nor a victim at baseline, 87% remained neither at follow-up. Approximately half of adolescents who were bullies and half who were victims at follow-up were new cases. Although bullying and victimization decreased with time overall, the findings that 30% and 26% were still bullies and still victims and that half were new cases support the need for intervention to eliminate bullying, relieve current suffering, reduce chronicity, and prevent bullying from developing.

**Keywords:** Bullying, victimization, stability over time.

Overall, bullying and victimization decrease from elementary school through high school according to a review of cross-sectional studies [1] and longitudinal research [2-8]. This is the case for both boys and girls [9]. Retrospective self-report by college students [10] shows a decline in bullying and victimization from elementary school to high school to college, but also indicates that bullying still occurs among college students. Although a decline with time is reported across studies, more specific longitudinal research on the persistence of bullying and victimization at various ages and grades over varying lengths of time is needed, as well as data on the emergence of new cases [11].

Ours is the first US general population longitudinal study to assess the persistence of both bullying and victimization and the emergence of new cases from childhood through adolescence. One other study over a comparable period of time was located [7], which reported stability statistics for children in Finland but not new case data or changes in overall group percentages. Six other longitudinal studies over at least a 1 year period (median 3 years) were identified that provided data addressing at least some of our research questions. These studies were conducted in the US [2, 8], Finland [3, 4], United Kingdom [5], and Germany [6].

The research questions guiding our study are (1) Does the overall frequency of bullying and victimization decrease over an 8-year period from childhood through adolescence? (2) To what degree do bullying and victimization in childhood increase the likelihood of bullying and victimization in adolescence? (3) What percent of children persist as bullies, victims, and bully/victims from childhood through adolescence and what percent desist? (4) How common are new cases of bullying and/or victimization in adolescence? (5) Do bullying, victimization, and combined bullying and victimization differ in stability over time?

## METHODS

The study was approved by the Institutional Review Board, and informed consent was obtained from the parents and assent from the children.

## Sample

The sample comprised 376 children evaluated in 2000-2006 at 6-12 years of age ( $M$  8.7,  $SD$  1.6) and again an average of 7.7 years later (range 5-13,  $SD$  1.4) in 2010-2013 at ages 12-23 ( $M$  16.4,  $SD$  2.2). In all, 54.3% were male, 82.2% were white, and 50.3% had a parent with a professional or managerial occupation. IQs on the Wechsler Abbreviated Scales of Intelligence ranged from 78 to 147 ( $M$  107.8,  $SD$  13.1). Children were from a population-based epidemiologic study of the prevalence of sleep disorders in children [12]. Questionnaires were sent home to the parents of every elementary school student in 18 public schools in

\*Address correspondence to this author at the Department of Psychiatry H073, Hershey Medical Center, 500 University Dr. Hershey, PA, 7033, USA; Tel: (717) 531-6201; Fax: (717) 531-6250; E-mail: smayes@psu.edu

three school districts ( $n = 7,312$ ), with a 78.5% response rate. One thousand children were invited for further evaluation in the sleep laboratory using stratified random sampling so that the sample matched the original survey group in age, gender, race, and risk of sleep disordered breathing. Seventy percent of the invited families agreed to participate. An attempt was made to contact these 700 original baseline subjects to participate in the follow-up study. Of the original 700, 13.1% could not be located, 19.5% declined to participate, and 7.2% were not seen because of scheduling conflicts, yielding a response rate of 60.1% of the original sample. The original and follow-up samples did not differ significantly ( $p > .05$ ) in gender ( $\chi^2 = 0.3$ ), race ( $\chi^2 = 0.5$ ), or parent occupation ( $\chi^2 = 0.2$ ). Likewise, there were no differences in baseline bully scores ( $M = .17$  and  $SD = .5$  for both the original and follow-up samples) and baseline victim scores ( $M = .35$  and  $SD = .6$  for both samples).

### Instrument and Variables

Mothers rated their children's behavior during the past 2 months on a 4-point scale (0 = *not at all or almost never a problem*, 1 = *sometimes a problem*, 2 = *often a problem*, and 3 = *very often a problem*) on the 165-item Pediatric Behavior Scale [13]. Bullying was assessed by one PBS item ("threatens, bullies, or picks on other children") and victimization by another item ("gets teased or picked on by other children"). Children were identified as bullies and victims if these items were rated as *sometimes* to *very often* a problem. These two items have been used to assess bullying and victimization in previous research [14-16] and similar single items with the same frequency threshold for the presence of bullying behavior have been used in other studies in the United States, United Kingdom, and Finland [14-19]. The PBS has been used to diagnose and measure psychological problems in several published studies [20-26]. Validity studies show the PBS differentiates diagnostic groups, and PBS scores correspond well with those on established measures of psychological functioning [12, 27].

### Data Analyses

The difference between baseline and follow-up scores was analyzed with dependent  $t$ -tests and Cohen's  $d$ . To determine if age at baseline and duration of time between assessments were related to change in bully and victim scores, bully and victim baseline minus follow-up difference scores were calculated for each child and were correlated with baseline age and length of time between assessments.

The linear relationship between bully and victim scores at baseline and follow-up was determined with Pearson correlations and explained variance. Differences in bully and victim frequencies between the follow-up middle school ( $n = 136$ ), high school ( $n = 169$ ), and post-high school ( $n = 71$ ) groups were ascertained with  $\chi^2$ .

## RESULTS

### Decline in Bullying and Victimization from Childhood to Adolescence

The mean bully score at both baseline and follow-up was below *sometimes a problem*, and was slightly higher at baseline ( $M = 0.17$ ,  $SD 0.5$ ) than at follow-up ( $M = 0.12$ ,  $SD 0.4$ ),  $t = 1.9$ ,  $p = .06$ ,  $d = 0.1$ . The mean victim score at both baseline and follow-up was below *sometimes a problem*, and was higher at baseline ( $M = 0.35$ ,  $SD 0.6$ ) than at follow-up ( $M = 0.18$ ,  $SD 0.5$ ),  $t = 4.8$ ,  $p < .0001$ ,  $d = 0.3$ . The mean baseline minus follow-up bully score was  $.22$  ( $SD = .81$ ,  $d = 0.3$ ) and the mean baseline minus follow-up victim score was  $.16$  ( $SD = .67$ ,  $d = 0.2$ ). Bully and victim change scores were not significantly ( $p > .05$ ) related to age at baseline ( $r = -.01$  and  $.03$ ) or duration of time between assessments ( $r = .03$  and  $.10$ ).

### Bully Stability

Bullying was *sometimes* to *very often* a problem for 14.4% of children at baseline, 9.3% at follow-up, and 4.3% at baseline and follow-up. Baseline bullies were 5.0 times more likely to be a bully at follow-up than children who were not a baseline bully. The correlation between the bully score (*never* to *very often* a problem) at baseline and at follow-up was moderate ( $r = .29$ ,  $p < .0001$ ), explaining 8.4% of the variance between baseline and follow-up scores. Only 29.6% of children who were bullies at baseline continued to be a bully at follow-up, and 70.4% were no longer bullies. For children who were not bullies at baseline, 5.9% became a bully at follow-up. For adolescents who were bullies at follow-up, 45.7% were bullies 8 years earlier and 54.3% were new cases. For adolescents who were not bullies at follow-up, 88.9% were also not bullies at baseline. Bully percentages did not differ significantly between the middle school (11.0%), high school (8.3%), and post-high school (8.5%) follow-up groups ( $\chi^2 = 0.7$ ,  $p = .69$ ).

### Victim Stability

Victimization was *sometimes* to *very often* a problem for 28.4% of children at baseline, 14.4% at

follow-up, and 7.4% at baseline and follow-up. Baseline victims were 2.7 times more likely to be a victim at follow-up than children who were not a victim at baseline. The correlation between the victim score at baseline and at follow-up was moderate ( $r = .27, p < .0001$ ), explaining 7.5% of the variance between baseline and follow-up scores. For adolescents who were victims at follow-up, 51.9% were victims 8 years earlier and 48.1% were new cases. Only 26.2% of children who were victims at baseline continued to be a victim at follow-up, and 73.8% were no longer victims. For children who were not victims at baseline, 9.7% became a victim at follow-up. For adolescents who were not victims at follow-up, 75.5% were also not victims at baseline. Victim percentages did not differ significantly between the middle school (19.9%), high school (10.1%), and post-high school (14.1%) follow-up groups ( $\chi^2 = 5.9, p = .053$ ).

#### Stability of the Four Bully Groups (Bully, Victim, Bully/Victim, and Neither)

As shown in Table 1, bully, victim, and bully/victim percentages decreased from childhood to adolescence. Percentages for children who were victims only and bully/victims decreased by 50%, whereas the percentage for children who were a bully only

decreased by 25%. For children who were neither a bully nor a victim at baseline, 87.0% remained neither at follow-up (Table 2). Most children who were a bully only and a victim only at baseline were neither a bully nor a victim at follow-up (67.7% and 71.4%, respectively). For children who were bullies only, 12.9% became a victim. For children who were victims only, 6.0% became a bully. Therefore, the likelihood of converting was 2.2 times greater for bully to victim than victim to bully. The outcome was poorest for children who were both a bully and victim at baseline, and only 43.5% were neither a bully nor a victim at follow-up. Almost half (45.5%) of adolescents who were both bullies and victims at follow-up were neither at baseline. Adolescents who were neither a bully nor a victim at follow-up were more likely to have been a victim only at baseline (20.1%) than a bully only (7.0%) or bully/victim (3.4%).

#### DISCUSSION

##### Does the Overall Frequency of Bullying and Victimization Decrease Over an 8-Year Period?

The incidence of bullying and victimization was approximately twice as high in our elementary school group as in our 8-year follow-up group. Median

**Table 1: Bully and Victim Percentages at Baseline (Mean Age 8.7) and Follow-up (Mean Age 16.4)**

	Neither	Bully only	Victim only	Bully and victim
Baseline	63.3%	8.2%	22.3%	6.1%
Follow-up	79.3%	6.4%	11.4%	2.9%

**Table 2: Change in Bully and Victim Percentages at Baseline and Follow-up (N = 376)**

	Baseline			
	Neither (n = 238)	Bully only (n = 31)	Victim only (n = 84)	Bully and victim (n = 23)
Follow-up neither	87.0%	67.7%	71.4%	43.5%
Follow-up bully only	3.8%	19.4%	3.6%	26.1%
Follow-up victim only	7.1%	3.2%	22.6%	26.1%
Follow-up bully and victim	2.1%	9.7%	2.4%	4.3%
	Follow-up			
	Neither (n = 298)	Bully only (n = 24)	Victim only (n = 43)	Bully and victim (n = 11)
Baseline neither	69.5%	37.5%	39.5%	45.5%
Baseline bully only	7.0%	25.0%	2.3%	27.3%
Baseline victim only	20.1%	12.5%	44.2%	18.2%
Baseline bully and victim	3.4%	25.0%	14.0%	9.1%

percentages from 1<sup>st</sup> through 12<sup>th</sup> grade across the six longitudinal studies reporting group bully and victim frequency data [2-5, 7, 8] plus our results show an overall decline in bullying (elementary school 21%, middle school 15%, and high school 10%) and victimization (elementary school 33%, middle school 25%, and high school 12%). A host of hypotheses might explain the decline from elementary school to later grades, including maturation, empowered bystanders, effects of anti-bullying programs and campaigns, the changing social climate, increased independence and choice of social activities to avoid bullying situations, and changes in types of bullying (e.g., direct victimization in elementary school vs. relational and cyber victimization and harassment in older age groups).

Our bully percentage at baseline in elementary school (14%) was higher than percentages in our cross-sectional follow-up group (middle school 11%, high school 8%, and post-high school 8%). The three follow-up subgroups did not differ significantly from each other in bully percentages. Our victim percentage in elementary school (28%) was higher than percentages in the follow-up groups (middle school 20%, high school 10%, and post-high school 14%). The similarity in parent reported bully and victim percentages for our high school and post-high school subgroups is noteworthy. Ours is the only longitudinal study to include post-high school age children.

### **To what Degree do Bullying and Victimization in Childhood Increase the Risk in Adolescence?**

In our study and previous longitudinal studies providing relative risk data for bullying and victimization [2, 4, 6], being a victim at baseline increased the risk of being a victim at follow-up and being a bully at baseline increased the risk of being a bully at follow-up. Our child victims were three times more likely to be adolescent victims than children who were not victims in childhood, and our child bullies were five times more likely to be adolescent bullies. In previous studies [2, 4, 6], the mean increased risk for victims was twofold and for bullies, threefold.

### **What Percent Persist and Desist as Bullies and Victims from Childhood to Adolescence?**

Although bullying and victimization increased the risk of later bullying and victimization, only a minority of baseline bullies (30%) and victims (26%) persisted in these roles at follow-up. Previous longitudinal studies

providing persistence data [2, 4-6, 8], all conducted over shorter periods of time, showed a median bully persistence of 30% (consistent with our 30% finding) and a median victim persistence of 53% (greater than our 26% finding). This difference may be explained by our greater duration between baseline and follow-up (mean 8 years) compared with the other studies (mean 3 years). Indeed, victim persistence percentages decreased as follow-up time increased across the five other studies.

### **How Common are New Cases of Bullying and Victimization in Adolescence?**

Although both individual and group data show that bullying and victimization decrease from childhood through adolescence, new cases develop at a concerning rate. Approximately half of adolescents who were bullies and half of adolescents who were victims in our study were new cases. Similarly, across three longitudinal studies providing new case data [2, 4, 7], 50% were new bully cases and 48% were new victim cases. These findings are consistent with research showing that antisocial behavior for many individuals has its onset in adolescence [28].

### **Do Bullying, Victimization, and both Combined Differ in Stability and Prognosis Over Time?**

Absence of involvement as a bully or victim was relatively stable over time, and 87% of the children in our study continued to be neither a bully nor victim in adolescence. Remission was common for both pure bullies and pure victims. Approximately 70% of children who were a bully only or a victim only at baseline were neither a bully nor a victim at follow-up. The outcome was poorest for children who were both a bully and a victim at baseline, and only 43% of these children were neither a bully nor a victim at follow-up. Kumpulainen *et al.* [4] also found that bully/victims had the worst prognosis.

Across most longitudinal studies, the likelihood of bullies becoming victims was a mean of two times greater than the likelihood victims becoming bullies, identical to our findings [2-8]. Furthermore, in our study, children who were victims only at baseline had the same risk of becoming bullies as children who had no bullying involvement at baseline (i.e., were neither a bully nor a victim). In contrast, two longitudinal studies [9, 29] reported that the likelihood of victims becoming bullies was greater than the likelihood of bullies becoming victims.

## LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

We relied on single parent-report items to assess bullying and victimization and did not include self-report or objective observational data. The comparison of our findings with those of previous studies was not based on identical methodologies. Comparison studies used parent, teacher, peer, or self-report or combinations of informants. Future studies need to focus on additional types of bullying not addressed in our study, including relational and cyber bullying. Serial evaluations at shorter intervals between childhood and adolescence are needed to determine interim changes in bully-victim status not captured by single baseline and follow-up assessments. Last, studies show that bullying and victimization decrease with age for both boys and girls [9], but stability findings regarding gender are inconsistent. Some studies show greater bully and victim stability for boys than girls [7], but others do not reveal gender differences [30]. Some studies show boys have greater victim (but not bully) stability than girls [3, 31], whereas the opposite was found in another study [32]. Clearly, potential gender differences need to be investigated further.

## CONCLUSIONS

Results across international studies show consistent findings, even though studies use different instruments, informants, bully and victim definitions, age ranges, and follow-up intervals. Findings indicate that (1) overall, bullying and victimization decrease from elementary school through high school, (2) child victims and bullies have an increased risk of becoming adolescent victims and bullies, (3) most child bullies and child victims are no longer bullies and victims in adolescence, (4) approximately half of adolescent bullies and half of adolescent victims are new cases, and (5) the outcome is poorest for children who are both a bully and a victim at baseline. Although bullying and victimization decrease with time and are relatively unstable from childhood through adolescence, our findings that 30% of children are still bullies and 26% are still victims 8 years later and that half of adolescent bullies and victims are new cases support the need for intervention to eliminate bullying, relieve current suffering, reduce chronicity, and prevent bullying from developing.

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