



Resilience buffers the effect of bullying on suicidal ideation

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Introduction

- Bullying, characterized by repeated, aggressive behaviors that involve a power imbalance, is a common and persistent problem among adolescents.
- Bullying victimization is associated with suicidal ideation, which represents a high clinical and public health priority.
- However, some adolescents may be protected against the negative impact of bullying by support from family members and friends.
- One such protective factor is labeled **internal resilience**, composed of individual-level resources such as sociability, communication skills, self-esteem, and self-efficacy. Internal resilience has been shown to be protective against suicidal ideation in previous studies.
- However, previous studies have not examined the combined and separate impacts of bullying and internal resilience on suicidal ideation among adolescents.



<http://spcsites.com/livewellwyobraska/featured/stand-up-to-bullying/>

Hypotheses

- Increasing frequency of bullying is associated with an increased risk of suicidal ideation
- Increasing levels of internal resilience are associated with decreased risk of suicidal ideation
- The nature of the relation between bullying and suicidal ideation differs by level of internal resilience, such that in adolescents with low levels of resilience, bullying will lead to a greater increase in the risk of suicidal ideation compared to the risk associated with bullying in those with high levels of resilience

Methods

- Used self-report, cross-sectional data from the 2009-2010 California Healthy Kids Survey (CHKS), which measures health-related risk behavior and resilience in schools statewide (total $n = 719,254$)
- The following question was used to measure **suicidal ideation**: "During the past 12 months, did you ever seriously consider attempting suicide?"
- To measure **physical, relational, verbal, and cyber bullying victimization**, 4 separate questions were asked, all beginning with, "During the past 12 months, how many times on school property have you..." and included the answer choices "0 times," "1 time," "2 to 3 times," and "4 or more."
- Bullying victimization frequency** was estimated by summing the responses to the 4 bullying questions to create a 3-level categorical variable: "none" ("0 times"), "low" (at least once but fewer than 4 times), and "high" ("4 times or more")

Methods (continued)

- Internal resilience** was measured by summing responses to 18 items, which were organized into 5 groups: cooperation and communication, self-efficacy, empathy, problem-solving, self-awareness, and goals and aspirations.
- Covariates** included sex; ethnicity; grade; living situation; school of enrollment, lifetime use of marijuana, inhalants, and methamphetamine or any amphetamines; current use of cigarettes, alcohol, and binge drinking; depressive symptoms; external assets in school, home, community, and with peers; and recent grades in school.

Statistical Analysis

- Analyses included students with complete data for all variables
- For each hypothesis, fully adjusted binary logistic regression models were constructed with suicidal ideation as the outcome variable in each case. Each type of bullying (physical, relational, verbal and cyber) and frequency of bullying (none, low, and high) were entered into separate models that included internal resilience.
- To each final bullying model, an interaction term was added composed of internal resilience and the bullying variable.

Results

- Of the 100,719 students with resilience and bullying data, 48,833 in grades 9 and 11 had complete data and were included in the analyses.

Table 1: Adjusted and unadjusted OR for suicidal ideation by types of bullying and internal resilience

	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Type of bullying		
Physical	1.38 (1.30-1.46)***	1.30 (1.22-1.38)***
Relational	1.70 (1.60-1.81)***	1.26 (1.18-1.34)***
Verbal	1.64 (1.55-1.73)***	1.41 (1.33-1.50)***
Cyber	1.75 (1.64-1.86)***	1.31 (1.23-1.40)***
Internal resilience	.964 (.962-.966)***	.986 (.983-.990)***

Table 2: Adjusted and unadjusted OR for suicidal ideation by frequency of bullying and internal resilience

	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Frequency of bullying, %		
None	1	1
Low	2.45 (2.11-2.39)***	1.53 (1.43-1.64)***
High	4.60 (4.32-4.91)***	2.57 (2.39-2.76)***
Internal resilience	.964 (.962-.966)***	.985 (.982-.989)***

Results (continued)

Figure 1: Predicted probability of suicidal ideation by frequency of bullying as a function of internal resilience

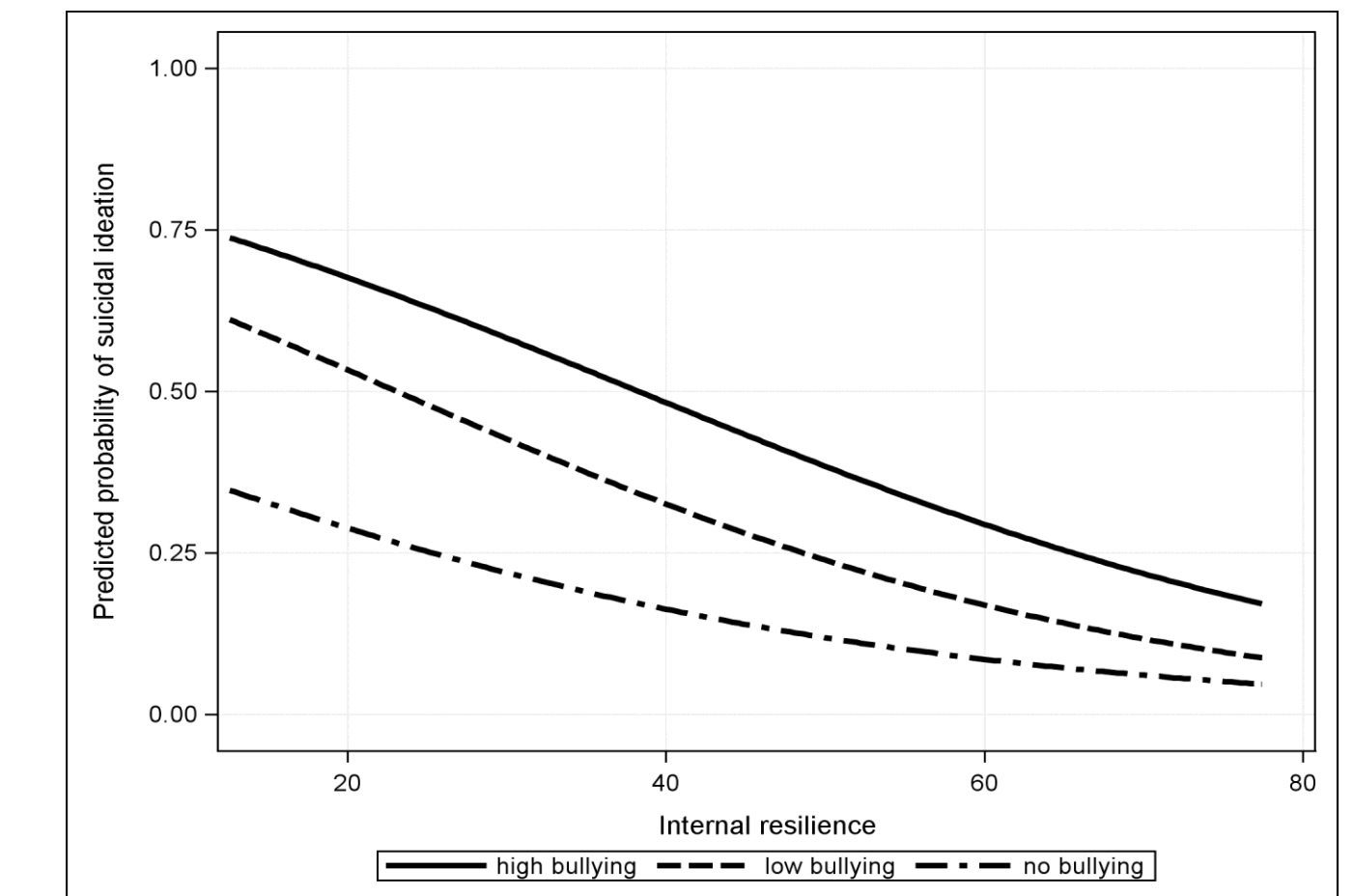
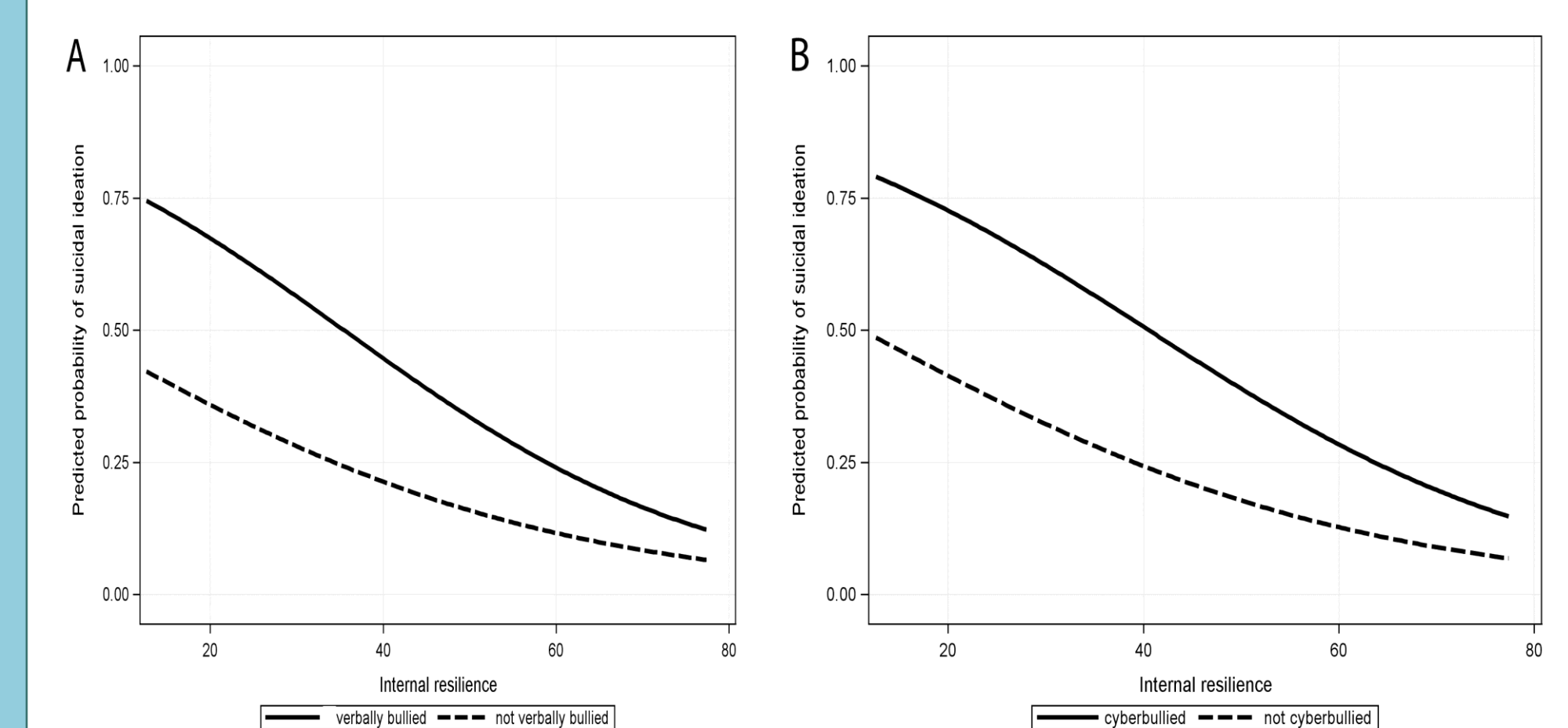


Figure 2: Predicted probability of suicidal ideation by (A) verbal and (B) cyberbullying as a function of internal resilience



Conclusions

- Bullying type and bullying frequency are associated with increased risk of suicidal ideation.
- Higher levels of internal resilience are associated with decreased risk of suicidal ideation, independent of bullying.
- Internal resilience moderates the relation between bullying victimization and suicidal ideation for victims of verbal, cyber, and low-frequency bullying.
- Schools should focus on both bullying prevention efforts as well as interventions designed to increase internal resilience.

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