

Optional ERIC Coversheet — Only for Use with U.S. Department of Education Grantee Submissions

This coversheet should be completed by grantees and added to the PDF of your submission if the information required in this form is **not included on the PDF to be submitted**.

INSTRUCTIONS

- Before beginning submission process, download this PDF coversheet if you will need to provide information not on the PDF.
- Fill in all fields—information in this form **must match** the information on the submitted PDF and add missing information.
- Attach completed coversheet to the PDF you will upload to ERIC [use Adobe Acrobat or other program to combine PDF files]—do not upload the coversheet as a separate document.
- Begin completing submission form at <https://eric.ed.gov/submit/> and upload the full-text PDF with attached coversheet when indicated. Your full-text PDF will display in ERIC after the 12-month embargo period.

GRANTEE SUBMISSION REQUIRED FIELDS

Title of article, paper, or other content

All author name(s) and affiliations on PDF. If more than 6 names, ERIC will complete the list from the submitted PDF.

Last Name, First Name	Academic/Organizational Affiliation	ORCID ID

Publication/Completion Date—(if *In Press*, enter year accepted or completed)

Check type of content being submitted and complete one of the following in the box below:

- ☐ If article: Name of journal, volume, and issue number if available
- ☐ If paper: Name of conference, date of conference, and place of conference
- ☐ If book chapter: Title of book, page range, publisher name and location
- ☐ If book: Publisher name and location
- ☐ If dissertation: Name of institution, type of degree, and department granting degree

DOI or URL to published work (if available)

Acknowledgement of Funding— Grantees should check with their grant officer for the preferred wording to acknowledge funding. If the grant officer does not have a preference, grantees can use this suggested wording (adjust wording if multiple grants are to be acknowledged). Fill in Department of Education funding office, grant number, and name of grant recipient institution or organization.

“This work was supported by U.S. Department of Education [Office name]
through [Grant number] to Institution] . The opinions expressed are
those of the authors and do not represent views of the [Office name]
or the U.S. Department of Education.

Factors Predictive of Being Bullies or Victims of Bullies in U.S. Elementary Schools

Paul L. Morgan¹, George Farkas², Adrienne D. Woods³, Yangyang Wang¹, Marianne M. Hillemeier⁴, Yoonkyung Oh⁵

¹Department of Education Policy Studies, Penn State

²School of Education, University of California, Irvine

³Education Division, SRI International

⁴Department of Health Policy and Administration, Penn State

⁵Department of Pediatrics and Children's Learning Institute, University of Texas Health Sciences Center at Houston

In press, School Mental Health

Author Note

Paul L. Morgan <https://orcid.org/0000-0001-9347-6486>

Adrienne D. Woods <https://orcid.org/0000-0003-1101-6975>

Yangyang Wang <https://orcid.org/0000-0001-9396-7146>

George Farkas and Marianne M. Hillemeier are Emeritus Professors.

Address correspondence to Paul L. Morgan, Department of Education Policy Studies, 310E Rackley Building, Penn State, University Park, PA 16802; (814) 865-9740; paulmorgan@psu.edu.

Funding support provided by the U.S. Department of Education's Institute of Education Sciences (R305A220293) and an infrastructure grant to the Population Research Institute from

the National Institute for Child and Human Health and Development, National Institutes of Health (P2CHD041025).

Abstract

We analyzed a population-representative cohort ($N=13,611$; M_{age} at kindergarten, first, and second grade = 67.5, 79.5, and 91.5 months, respectively) to identify kindergarten to second grade factors predictive of being bullies or victims during third to fifth grade. We did so by estimating a block recursive structural equation model (SEM) with three sets of predictors. These were: (a) individual and school socio-demographics; (b) family distress and harsh parenting; and (c) individual behavior and achievement. Relations between each of the included variables and the bullying outcomes were simultaneously estimated within the SEM. Thus, each variable served as a control for estimating the effects of the other variables. We used robust standard errors to account for student clustering within schools. Results indicated that externalizing problem behavior strongly predicted being a bully ($[ES] = .56, p < .001$) and a victim ($ES = .29, p < .001$). We observed a negative relation between being Hispanic and being a victim ($ES = -.10, p < .001$) and a positive relation between being Black and being a bully ($ES = .11, p < .001$). We also observed statistically significant relations between a family's socioeconomic status and being a bully ($ES = -.08, p < .001$) as well as school poverty and being a victim ($ES = .07, p < .001$). The results advance the field's limited understanding of risk and protective factors for bullying perpetration or victimization during elementary school and provide additional empirical support for assisting young children already exhibiting externalizing problem behaviors.

Keywords: Bullying, victimization, externalizing problem behaviors, academic achievement, longitudinal.

Factors Predictive of Being Bullies or Victims of Bullies in U.S. Elementary Schools

Being a bully or victim of bullying is characterized by frequently engaging in or experiencing unwanted aggressive or negative actions (e.g., hitting, pushing, spreading lies, teasing, calling names) resulting from an observed or perceived power imbalance (Gladden et al., 2014). About one-third of children experience bullying perpetration or victimization (Jansen et al., 2012; Modecki et al., 2014). Children who are bullies or victims are more likely to experience academic, behavioral, and social-emotional struggles during school (Schoeler et al., 2018; Sigurdson et al., 2015) as well as delinquency, depression, anxiety, panic disorders, suicidality, psychotic experiences, antisocial behavior, substance abuse, economic hardship, and poor quality of life during adulthood (Arseneault, 2018; Takizawa et al., 2014; Wolke et al., 2013; Zarate-Garza et al., 2017). Bullying's sequelae result in substantial societal costs including increased mental health service expenditures (Jadambaa et al., 2020). Evidence-based screening and intervention efforts delivered during elementary school may prevent children from experiencing bullying perpetration or victimization's sequelae (Kljakovi & Hunt, 2016; Oncioiu et al., 2020; Wolke et al., 2013; Wolke et al., 2014).

Extant Work's Limitations

Yet empirical evidence of factors predictive of being bullies or victims during elementary school is currently limited and inconsistent (Ettekal & Ladd, 2017; Hemphill et al., 2012; Kljakovic & Hunt, 2016; Oncioiu et al., 2020). The National Academies of Sciences, Engineering, and Medicine ([NASEM], 2016) has called for research using data collected from nationally representative samples of school-aged children and analyses to identify explanatory factors for being bullies or victims. Such research would help inform bullying screening and

prevention efforts. Bullying screening and prevention efforts are more effective when delivered by the elementary or middle school grades (Yeager et al., 2015).

Existing studies analyzing samples of U.S. elementary schoolchildren have examined the transition to middle school (Espelage et al., 2015; Haltigan & Vaillancourt, 2014), used no or minimal statistical controls (Fogler et al., 2020), use cross-sectional or short-term (e.g., one year) longitudinal designs (Lebrun-Harris et al., 2020; Morales et al., 2019), analyzed convenience and/or non-U.S. samples (Ettekal & Ladd, 2017; Jansen et al., 2016; Ladd et al., 2017; Oncioiu et al., 2020; Pouwels et al., 2019; Rambaran et al., 2020), or have been unable to identify risk or protective factors as early as kindergarten (Košir et al., 2019; Zhang et al., 2019). Existing studies of bullying perpetration or victimization have mostly analyzed older samples (Haltigan & Vaillancourt, 2014; Hemphill et al., 2012; Lereya et al., 2015; National Center for Education Statistics, 2019; Zych et al., 2020). Kljakovic and Hunt's (2016) meta-analysis of 19 studies of risk and protective factors for bullying perpetration and victimization were based on a median sample size of 696 adolescents.

Most available studies primarily focus on victimization (NASEM, 2016). About 70% of studies reporting risk and protective factors for bullying and victimization were reported to make no, inadequate, or unclear adjustments for confounding (Kljakovic & Hunt, 2016). Unadjusted risk and protective factor estimates may be misdirecting interventions (Moore et al., 2017). Although there is "a robust association between bullying victimization in childhood or adolescence and poor academic achievement," (Moore et al., 2017, p. 69), nine of 10 (90%) of the meta-analyzed studies were cross-sectional. Whether confounds including lower behavioral self-regulation explain achievement's association with bullying perpetration or victimization is unclear (Nakamoto & Schwartz, 2010). Most available studies also report general associations

between externalizing or internalizing problem behaviors and bullying victimization (Reijntjes et al., 2010; Reijntjes et al., 2011). Whether and to what extent these problem behaviors increase the risks specifically for being bullies or victims is less clear (Kljakovic & Hunt, 2016; NASEM, 2016; Oncioiu et al., 2020). Studies examining parenting's association with bullying perpetration or victimization are mostly cross-sectional (Nocentini et al., 2019).

Structural equation modeling (SEM) of a nationally representative sample of U.S. elementary schoolchildren would clarify whether and to what extent exogenous individual and family socio-demographic and school contextual factors relate to bullying perpetration or victimization directly and indirectly through their associations with parenting, academic achievement, externalizing and internalizing problem behaviors, or self-regulation (Hong & Espelage, 2012; Shetgiri et al., 2010). The few studies currently available that used SEM to analyze data collected from U.S. elementary students have analyzed small convenience samples of limited diversity that constrain generalizability (Brendgen & Poulin, 2018; Dumas & Midgett, 2019). How individual and family socio-demographic characteristics, school contextual factors, parenting, and children's academic and behavioral functioning directly and indirectly predict being bullies or victims across elementary school is currently unclear (Turns & Sibley, 2018).

Theoretical Framework and Hypothesized Explanatory Factors of Being Bullies or Victims

We used social ecological theory (SET) to investigate factors predictive of being bullies or victims in U.S. elementary schools (Hong & Espelage, 2012). Theoretically, children's risks for being bullies and victims are explained by their individual traits, their immediate physical and social environments, and by the interactions of systems within these environments (Hong et al., 2019; Hong & Espelage, 2012). Exogenous socio-demographic factors (e.g., the family's

economic and educational resources) should relate to children's risks for being bullies or victims by influencing the quality of parenting that they receive as well as the children's own academic and behavioral functioning. Within a SET theoretical framework, explanatory factors of being bullies or a victims may include the quality of parenting that children receive, their own academic achievement, externalizing and internalizing problem behaviors, and behavioral self-regulation, and the racial, ethnic, and economic composition of their schools (Cook et al., 2010; Hemphill et al., 2012; Košir et al., 2019; Mundy et al., 2017; Nocentini et al., 2019; Oncioiu et al., 2020; Pouwels et al., 2019). Additional contextual risk factors may include children's exposure to harsh parenting, deviant peers, unsupportive teachers, and household or neighborhood chaos (Lee et al., 2021).

Socio-demographic characteristics including race, ethnicity, language use, and economic resources should predict children's risks for being bullies or victims. Children who are Black have been reported to be at greater risk for being bullies and victims (Peskin et al., 2006), possibly due to greater rates of reactive aggression towards other children engaging in racist acts (Goldbach et al., 2018). Children who are emergent bilinguals may be at lower risk for bullying perpetration and victimization due to their greater bicultural competencies, enhanced flexibility in social-cognitive functioning, and relatively lower assimilation (Smokowski et al., 2009). Children of parents who are economically distressed, abusive, neglectful, or emotionally distant may develop maladaptive behaviors and so be more likely to be bullies and victims in elementary schools (Lereya et al., 2015).

Children's own behavioral and academic functioning may also predict their later risks for being bullies or victims. Children who frequently engage in externalizing problem behaviors are typically more physically or verbally aggressive towards other children and so experience lower

social standing and greater peer rejection and retaliatory behaviors, which should result in greater risks for being bullies or victims over time (Cook et al., 2010; Elliott et al., 2019; Ettekal & Ladd, 2017, 2020; Lebrun-Harris et al., 2019; Oncioiu et al., 2020; Pouwels et al., 2019; Reijntjes et al., 2011). Children who are anxious, lonely, or socially withdrawn may be perceived as timid and fearful and so experience greater victimization by aggressive peers over time (Pouwels et al., 2019; Reijntjes et al., 2010).

Academic struggles may contribute to greater frustration, antisocial behaviors, and lower social standing (Morgan et al., 2012) and so lead to a greater risk for being either bullies or victims (Mundy et al., 2017). Children who are better able to self-regulate their learning-related behaviors (e.g., attention, organization) may be less likely to be bullied (Pratt et al., 2014). Greater financial and emotional resources may help parents engage in more positive parenting behaviors (e.g., warmth, cognitive stimulation, engagement) that lead children to adopt better coping strategies and so lower their risks for being bullies or victims (Shetgiri et al., 2013).

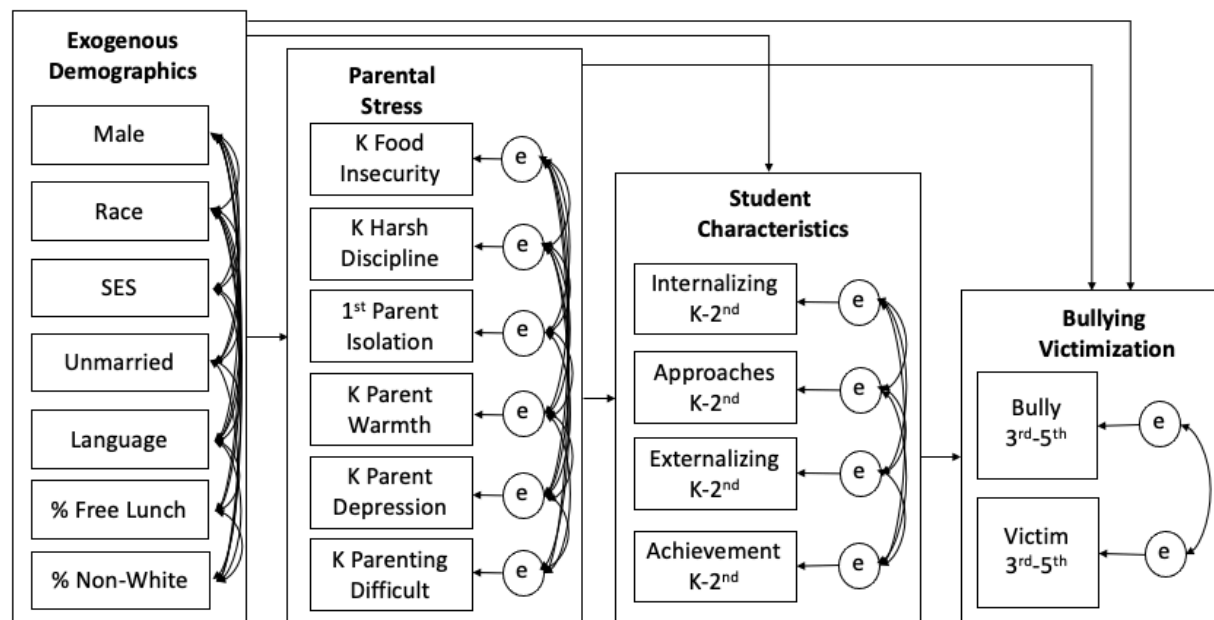
Theoretically, school contexts should predict children's risks for being bullies or victims. Well-resourced and socially supportive schools should promote socialization and so lessen bullying victimization (Hong et al., 2019; Oriol et al., 2017; Yang et al., 2018) including by increasing access to adults who intervene between offenders and targets (Gage et al., 2014; Låftman et al., 2016). Children attending under-resourced schools may be more likely to be bullies to gain status, particularly among deviant peers engaging in abusive behaviors (Grant et al., 2019; Salmivalli, 2010). Children attending under-resourced schools may also be more likely to be victims of bullies because these schools have less effective behavioral management practices and fewer qualified teachers (Azeredo et al., 2015).

Study's Purpose and Structural Equation Model

We examined whether and to what extent individual and family socio-demographic characteristics, parental stress, school contexts, and children's academic achievement, externalizing and internalizing problem behaviors, and behavioral self-regulation in kindergarten

Figure 1.

Study's Conceptual Model



to second grade predicted their risks for being bullies or victims during third to fifth grade.

Figure 1 displays the study's conceptual SEM and hypothesized causal pathways. In this block recursive model, exogenous individual, family, and school socio-demographic characteristics lead to parental stress and harsh parenting during kindergarten to second grade. These in turn explain children's levels of academic achievement, internalizing and externalizing problem behaviors, and behavioral self-regulation, which also increase their risks for being bullies or victims during third to fifth grade.

We estimated Figure 1's conceptual model, in which each variable within each box of the

diagram received an arrow from each of the variables in all the causally prior boxes. (For example, the child's average score on being a bully across third to fifth grade is explained by all the variables in the three antecedent boxes of variables.). We believe that this is the first time that such an extensive set of predictors of bullying perpetration and victimization have been included in a SEM that allows the sign and relative strength of different pathway to be directly and indirectly assessed in analyses of a nationally representative sample of U.S. elementary schoolchildren. Doing so should provide an unusually comprehensive empirical investigation of the individual, family, and school factors within social ecological contexts that explain which children are most likely to be bullies or victims while attending U.S. elementary schools.

Method

Sample and Procedure

We analyzed the Early Childhood Longitudinal Study: Kindergarten Cohort of 2010-2011 (ECLS-K: 2011), a dataset maintained by the National Center for Education Statistics (NCES). The ECLS-K: 2011 followed a nationally representative cohort of more than 18,000 U.S. elementary schoolchildren from the fall of kindergarten until the spring of fifth grade. Up to 23 students were included from each of 1,319 participating kindergarten schools, and annual survey responses were collected about their home, peer, and schooling experiences from parents, teachers, and administrators, and from students themselves beginning in 3rd grade. Additional information about the ECLS-K: 2011's design, procedures, and participation is available at <https://nces.ed.gov/ecls/kindergarten2011.asp>. We used individual and family socio-demographics, parental stress, and children's achievement and behavioral functioning measured across kindergarten to second grade to predict both bullying and victimization scores averaged

across third to fifth grade. We received institutional review board approval for the study's analyses.

Measures

Exogenous Socio-demographic Characteristics

Exogenous individual and family socio-demographics included children's biological sex, race or ethnicity (coded as White, Black, Hispanic, or Other), family's socioeconomic status (SES), unmarried parent, and whether English was not the primary language spoken in the home as an indicator of children's status as English language learners (ELL). The SES variable, which we standardized to $M = 0$ and $SD = 1$, was constructed by ECLS-K: 2011 staff from kindergarten parent/guardian-reported education level, occupation, and household income. We included two measures of school racial, ethnic, and socioeconomic composition. These were percentage of non-White children in a school and the school percentage of children eligible for free or reduced lunch. Both measures were reported by the school administrator in the spring of kindergarten and were standardized to $M = 0$ and $SD = 1$.

Parental Stress

We included six constructed measures capturing a range of parenting attitudes and behaviors using parental self-report.

Parental Warmth. We measured parental warmth using a standardized scale that averaged together four items ($\alpha = .65$) measured in the spring of kindergarten that asked to what extent parents showed affection with their child. Parents indicated that the following statements were completely true, mostly true, somewhat true, or not at all true: "My child and I often have warm, close times together," "Most of the time I feel that my child likes me and wants to be near

me,” “Even when I’m in a bad mood, I show my child a lot of love,” and “I express affection by hugging, kissing, and holding my child.”

Parental Stress. We measured parental stress using a standardized scale that averaged together four items ($\alpha = .56$) in the spring of kindergarten indicating the extent to which parents felt stressed about parenting. Responses to the following questions were evaluated on the same 4-point scale as the parental warmth items: “Being a parent is harder than I thought it would be,” “My child does things that really bother me,” “I find myself giving up more of my life to meet my child’s needs than I ever expected,” and “I often feel angry with my child.” Prior research has separated parental warmth and parental stress into two factors given that positive versus negative parenting attitudes may differentially predict academic or cognitive outcomes (Ogg & Anthony, 2020).

Harsh Parenting. We standardized and summed three items measuring unusually negative discipline practices. The first item was created by summing and standardizing four binary measures asking how the parent would react if their child got so angry that they physically hit their parent (spank them, hit them back, make fun of them, or yell at or threaten them). This variable was then summed with two additional standardized measures indicating whether the parent ever spanked their child (yes/no) and how frequently they had spanked their child in the past week. (We recoded continuous response options to "Not at all," "Once," "2-4 times," or "5 or more times" to reduce skew prior to being *z*-scored.) The final measure can be construed as a standardized index of how often parents engaged in these practices.

Depression. We measured depression using an average of 12 parent-reported items measured in the spring of kindergarten that were derived from the widely used Center for Epidemiologic Studies Depression Scale (CES-D). The original CES-D displayed high internal

consistency in the general population ($\alpha = .85$) and correlated well (.69 to .75) with clinical assessments of treated patients (Radloff, 1977). The 12 items included in shortened CES-D assessment were selected based on a factor analysis conducted in a national U.S. sample (Duarte et al., 2012; Ross et al., 1983). This assessment has been used in other large national studies (e.g., Poulin et al., 2005). The measure assessed depressive symptomology during the past week (e.g., being unusually bothered by trivial things, poor appetite, feeling blue, trouble concentrating). Possible values for this assessment ranged from 0-26, $\alpha = .86$).

Food Insecurity. Food insecurity was measured in the spring of kindergarten and first grade. Parents responded to 18 food security questions developed by the USDA through factor analysis of the 1995 CPS Food Security Supplement (Bickel et al., 2000). The assessment measures household experiences relating to food insecurity and reduced food intake. Affirmative responses to these questions were summed and then Rasch transformed so that higher responses indicated more severe food deprivation (scores ranged from 1.4 to 13, with households not experiencing any food insecurity coded as 0). We averaged responses from kindergarten and first grade using pairwise deletion methods.

Parental Isolation. We assessed for parental isolation using a standardized measure of the average of three items from the spring of first grade parent questionnaire. The three items indicated whether the parent had family or friends who would loan them cash if they needed it, whether there was a friend, relative, or neighbor that the parent could speak to if their child were having problems at school, and whether there was someone the parent could talk to if they have troubles or need advice. Response options were “Never true for you,” “Sometimes true for you,” or “Always true for you.”

Student Characteristics

Academic Achievement. The ECLS-K: 2011 includes individually administered, untimed, and item-response theory-scaled (IRT) assessments of reading and mathematics achievement. The reading measure assessed skills such as print familiarity, letter recognition, beginning and ending sounds, recognition of common words, decoding multisyllabic words, vocabulary knowledge, and reading comprehension. To maximize the validity of the assessment, its content was based on reading frameworks from the National Assessment of Educational Progress (NAEP), selected state standards, and Common Core State Standards (Najarian et al. 2019). Weighted reliability scores for the reading assessments were .92 and .94 in the fall and spring of kindergarten, .95 in both fall and spring of first grade, .91 in the fall of second grade, .90 in the spring of second grade, .86 in the spring of third grade, .87 in the spring of fourth grade, and .86 in the spring of fifth grade (Najarian et al. 2019).

The mathematics measure assessed conceptual knowledge, procedural knowledge, and problem solving. Both measures involved 18 routing items administered to all children. Depending on children's scores on these items, they were subsequently administered questions of either low, middle, or high difficulty. As with the reading assessment, the mathematics assessment was based on recognized external benchmarks including reading frameworks from the National Assessment of Educational Progress (NAEP), selected state standards, and the National Council of Teachers of Mathematics (Najarian et al., 2019). Weighted reliability scores for the mathematics assessments were .92 and .93 in the fall and spring of kindergarten, .93 in both fall and spring of first grade, .93 in the fall of second grade, .94 in the spring of second grade, .92 in the spring of third grade, .91 in the spring of fourth grade, and .92 in the spring of fifth grade (Najarian et al. 2019).

Both reading and mathematics achievement measures were highly correlated at school entry. We recoded two outliers as missing (one reading value and one mathematics value) based on visual inspection of the data. We z-scored the reading and mathematics achievement measures at each grade. We then averaged these scores together using pairwise deletion methods to indicate general kindergarten to second grade academic achievement.

Behavior. Behavioral functioning was measured by a modified version of the psychometrically validated Social Skills Rating System (SSRS; Gresham & Elliot, 1990). The SSRS has been found to have a .85 test-retest correlation across 4 weeks (Gresham & Elliot, 1990). We used subscales of externalizing and internalizing problem behaviors and behavioral self-regulation. Items were rated by teachers on a 4-point scale ranging from “never” to “very often.” The Externalizing Problem Behaviors subscale consisted of five items indicating aggressive or impulsive behaviors (e.g., argues, fights, acts impulsively, gets angry). The Internalizing Problem Behaviors subscale consisted of four items indicating anxious or withdrawal behaviors (e.g., is the child lonely, sad, or anxious). The Approaches to Learning subscale consisted of seven items assessing how often children displayed behavioral self-regulation (e.g., works independently, easily adapts to changes in routine). The internal consistency reliability coefficients for subscales from kindergarten to second grade ranged from $\alpha = .86-.88$ for externalizing, $\alpha = .76-.79$ for internalizing, and $\alpha = .91$ at all timepoints for behavioral self-regulation. We averaged each subscale across kindergarten through second grade using pairwise deletion methods.

Bullying Perpetration and Victimization

Bullying. Consistent with previous bullying research (e.g., Jansen et al., 2016; Elliott et al., 2019), we used teacher ratings to identify children who were bullying others. Children are

believed to be less willing to self-report bullying others on school surveys because of social desirability bias and to avoid being disciplined by their teachers (Totura et al., 2009). They may also fail to perceive relevant experiences as victimization (Connell et al., 2019). Elementary school teachers are considered appropriate assessors of bullying. This is because they spend many hours working with the same children, and are often called upon to identify children who need intervention to improve social and emotional skills in the context of school-wide efforts to promote safety and wellbeing (Elliott et al., 2019).

Four items were adapted for use in the ECLS-K based on a psychometrically validated scale of specific bullying behaviors (Espelage & Holt, 2001). In the spring of third, fourth, and fifth grade, teachers were asked to indicate how often each child had (a) “teased others, made fun of others, or called others names?” (b) “left others out from playing with them on purpose?” (c) “told lies or untrue stories about others?” and (d) “pushed, shoved, slapped, hit, or kicked others?” during this school year. These items measured (a) verbal, (b) social, (c) reputational, and (d) physical bullying. Responses ranged from “never” to “very often” based on a 5-point scale. The four items loaded onto a common factor in both exploratory and confirmatory factor analyses (Cronbach’s $\alpha = .88$; Espelage & Holt, 2001) and had good reliability among middle schoolers (e.g., Cronbach’s $\alpha = .79-.80$; Rose et al., 2015). These items also loaded onto a common bullying factor with high reliabilities at each grade in the ECLS-K: 2011 (.89, .90, and .90 in third, fourth, and fifth grade, respectively). We averaged together all available data for each of the four items across third to fifth grade using pairwise deletion of missing values (i.e., if the child’s teacher responded to items in third and fourth grade but not in fifth grade, the bullying measure averaged together the third and fourth grade responses while ignoring the missing fifth grade items). We then z-scored this general bullying variable to a *M* of 0 and a *SD* of 1.

Victimization. We used self-reports to identify children being victimized. Children are more sensitive to victimization than teachers or parents (Averdijk et al., 2016) and self-report is considered a valid indicator (Bradshaw, 2015). Victimization self-report shows both consistency and predictive validity with cross-informant behavioral measures (Averdijk et al., 2013). Teachers and parents may underreport victimization including of behaviors resulting in social exclusion because “individual experiences at school and with friends are better known to students than to their teachers or parents” (Rupp et al., 2018, p. 464).

In the spring of third, fourth, and fifth grade, children were administered the same four items and self-reported how often they were teased, how often others told lies or untrue stories about them, how often they were pushed, shoved, slapped, hit, or kicked by others, and how often they were intentionally left out from playing with others. The items also displayed good reliability in the ECLS-K: 2011 (Cronbach’s $\alpha = .79-.80$). We averaged together all available data for each of the four victimization items across third to fifth grade using pairwise deletion of missing values and z-scored this measure to create a general victimization variable.

Statistical Analyses

Data were cleaned in Stata v. 14.1 and analyzed in Mplus v. 8.0. We used full information maximum likelihood (FIML) in our analyses to adjust for missing values (sample $N=13,611$). The average amount of missing data of the study’s predictors was 6.8%. Bullying and victimization were missing the most observations at 24.4% and 27.5%, respectively. We would have retained 42% ($n = 5,760$) of the full sample of $N = 13,611$ under listwise deletion methods. We have no reason to believe that the data were not missing at random. Including an extensive set of sociodemographic, achievement, behavioral, and parenting variables such as those included in our analytic model under FIML leads to a reasonable assumption that any bias

due to missingness is reduced for data missing at random. Table 1 displays descriptive statistics for both the analytic sample as well as the sample under listwise deletion methods. We standardized all continuous variables. Binary variables remained dichotomized.

We estimated Figure 1's fully block-recursive SEM in which bullying and victimization were each predicted by blocks of socio-demographic variables, achievement and behavior variables, and parenting variables. Parenting variables also predicted achievement and behavior, and both blocks were predicted by the exogenous socio-demographic variables. We followed standard practice in estimating a model in which endogenous error terms within each block were allowed to correlate (Bollen, 1989). We used sampling weights to ensure the estimates were nationally representative of U.S. schoolchildren entering kindergarten in the fall of 2010 whose parents responded to the kindergarten questionnaires. We accounted for the nesting of students within schools by using cluster-robust standard errors (McNeish et al., 2017). We preregistered our coding and analytic decisions at <https://tinyurl.com/bullysem>. Appendix Tables A1 and A2 displays the full set of estimated coefficients with their standard errors.

Results

Descriptive Statistics

Table 1 displays descriptive statistics and value ranges for the analytic sample under FIML as well as under listwise deletion methods. We would have retained 5,760 cases (42%) from the analytic sample had we only used complete cases. Our sample also would have been skewed toward representing children who experienced less bullying and victimization and who were generally more advantaged (e.g., more children in the complete case sample were White, native English speakers, reported less food insecurity, did not have a single parent, and attended schools with lower proportions of nonwhite students or students receiving free lunch). Under

FIML, our analytic sample was 52% male; 52% White, 13% Black, 25% Hispanic, and 10% another racial or ethnic identity; 17% English language learners; 28% raised by a single parent; and attended schools where, on average, 41% of the student body was non-White and 48% of the student body received free or reduced-price lunch. The constructed SES, parenting variables, behavior variables, and achievement variables were all within .05 *SD* of the full ECLS-K: 2011 sample mean.

Table 2 shows correlations among the variables. The continuous scores for being a bully and a victim of bullying correlated at .39. This correlation suggested that some U.S. elementary schoolchildren were both bullies and victims, consistent with prior work analyzing a non-U.S. sample finding that a bully-victim sub-type emerges by early childhood (Lereya et al., 2015). The largest correlation ($r=.62$) was between externalizing behavior during kindergarten to second grade and being a bully during third to fifth grade. There was also a strong correlation ($r=.37$) between externalizing problem behaviors and being a victim of bullying. These are preliminary indications that engaging in externalizing problem behaviors by kindergarten to second grade may be related to bullying perpetration and victimization during third to fifth grade. The other strong correlation was negative between behavioral self-regulation and bullying perpetration ($r=-.45$). Behavioral self-regulation also correlated negatively with bullying victimization ($r=-.32$).

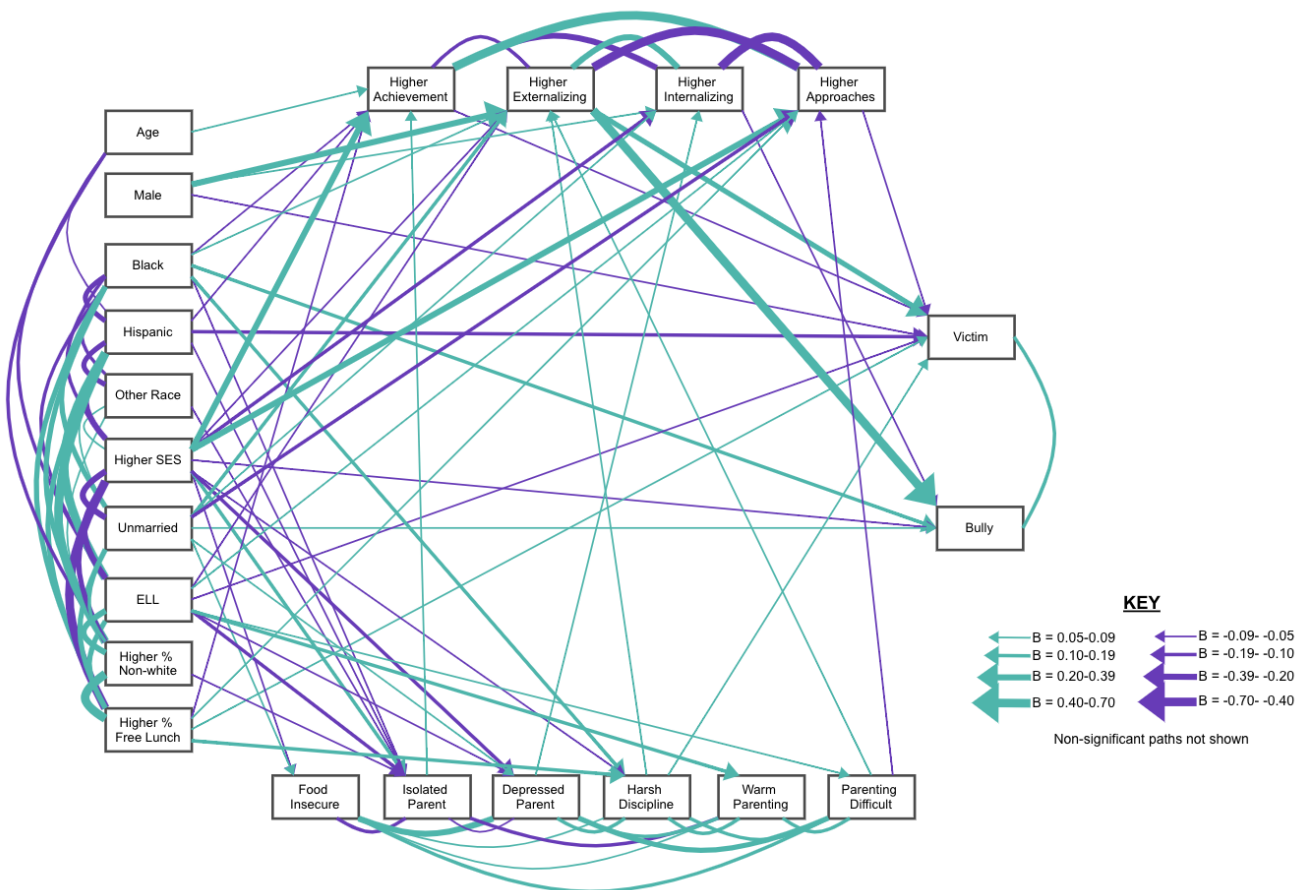
Direct Effects on Being Bullies or a Victims

Figure 2 displays results from our estimation of the fully recursive SEM in which (a) each variable was a function of all causally prior variables, (b) the exogenous variables were allowed to be correlated with one another, (c) and the error terms of all endogenous variables within the same box in the diagram were allowed to be correlated with one another. As indicated in Appendix Table A1, the many significant correlations of error terms within each block of

endogenous variables indicated the importance of allowing for these in the study's conceptual model. Model fit indices demonstrated good fit to the data (BIC = 565291, RMSEA = .034, CFI = .994, TLI = .897, SRMR = .009)

Figure 2

Path Diagram with Estimated Effect Sizes >0.05 and $p < 0.05$



Note: ELL = English Language Learner; SES=socioeconomic status. Larger lines indicate larger effects. Green lines indicate positive relations; purple lines indicate negative relations.

Most of the path coefficients measuring relations between variables are either non-significant or have very small effect sizes (ES). To focus on relatively more meaningful effects, Figure 2

displays results above an ES threshold with an absolute value of .05. An ES of .05 is considered a small effect size in educational research (Kraft, 2020).

The strongest relation was from externalizing problem behaviors during kindergarten to second grade to bullying perpetration during third to fifth grade. This coefficient was .56 ($p < .001$), a very large ES. There was also a strong relation between externalizing problem behaviors and being a victim. This ES was .29 ($p < .001$). Consistent with prior research (Kumpulainen et al. 1998), we observed that children who were already displaying externalizing problem behaviors during the primary grades were at greater risk of being bullies or victims in analyses accounting for many potential confounds.

The next strongest relations were the negative relation between being Hispanic and being a victim ($ES = -.10, p < .001$) and the positive relation between being Black and being a bully ($ES = .11, p < .001$). Additional significant direct effects were between SES and being a bully ($ES = -.08, p < .001$) and between school poverty (i.e., attending a school with a greater percentage of students who were receiving free or reduced-price lunch) and being a victim ($ES = .07, p < .001$). Other relations above .05 in absolute value include that between being a victim and males ($ES = -.06, p < .001$), English language learners (ELL) ($ES = -.06, p < .001$), academic achievement ($ES = -.07, p < .001$), behavioral self-regulation ($ES = -.07, p = .001$), and harsh parenting ($ES = .06, p < .001$). Statistically significant direct effects above .05 in absolute value for being a bully included being an unmarried or single parent ($ES = .06, p < .001$) and internalizing problem behaviors ($ES = -.05, p < .001$).

Indirect Effects on Being Bullies or Victims

Figure 2's SEM yields evidence of indirect paths by which causally prior variables were related to either being bullies or victims. We tested the statistical significance of the largest of

these indirect paths using the *model indirect* statement in Mplus (MacKinnon, 2012). Appendix Table A2 displays these results. The association between males and being bullies was partially mediated through the higher likelihood of males displaying externalizing problem behaviors (indirect ES = 0.13, $p < .001$). Although males were less likely than females to be victims, males who displayed higher externalizing behaviors were more likely to be victimized in U.S. elementary schools (ES = .07, $p < .001$). Children from families with higher SES were less likely to be bullies, which was partially mediated through their lower likelihood of displaying externalizing behavior (ES = -.05, $p < .001$). The association between being ELL and being bullies was partially mediated by the lower likelihood of children who are ELL to display externalizing behavior (ES = -.05, $p < .001$). Children raised by single parents were more likely to be bullies. This relation was partially mediated through their higher likelihood of displaying externalizing behavior (ES = .06, $p < .001$). Children whose parents reported parenting as difficult were more likely to display externalizing behaviors, which fully mediated this association with bullying (ES = .05, $p < .001$). Consistent with Figure 2's direct effect estimates, the indirect effect estimates further indicated that children who engaged in externalizing problem behaviors during kindergarten to second grade were more likely to be bullies or victims of bullies during third to fifth grade.

Discussion

Results from our SEM of a nationally representative sample of U.S. elementary schoolchildren indicated that those who more frequently engaged in externalizing problem behaviors during kindergarten to second grade were especially likely to be bullies during third to fifth grade. We observed an ES of .56 for this relation. Children who frequently engaged in externalizing problem behaviors during kindergarten to second grade were also more likely to be

victims during third to fifth grade. This ES was .29. Thus, an especially strong risk factor for being bullies or victims in U.S. elementary schools during the upper elementary grades is whether children were engaging in externalizing problem behaviors during the primary grades. While other relations within the SEM were statistically significant, none approached the size of these observed ESs for externalizing problem behaviors. We also observed that the strongest indirect paths from prior variables to the third to fifth grade bullying perpetration and victimization were through externalizing problem behaviors.

These findings are consistent with prior work indicating that children who engage in externalizing problem behaviors are more likely to be physically or verbally aggressive and so bully others as well as to be victims due to their lower social status and retaliatory behavior by other children (Cook et al., 2010; Elliott et al., 2019; Ettekal & Ladd, 2017, 2020; Lebrun-Harris et al., 2019; Oncioiu et al., 2020; Pouwels et al., 2019). Our results provide strong support for the importance of identifying and assisting children who are frequently engaging in externalizing problem behaviors by the primary grades. An implication of these findings is that school personnel including teachers, counselors, and administrators should pay close attention to children who are frequently engaging in externalizing problem behaviors by the primary grades. Attempting to address their aggressive or impulsive behavior in the early elementary grades might be guided by the concepts of proactive and reactive aggression to better understand why the aggressive behaviors are occurring and so prevent the bullying-victimization-bullying cycle (Salmivalli & Nieminen, 2002; Samson et al., 2022; Schwartz et al., 1998). Proactive aggressive behaviors are goal-directed towards the acquisition of social positions or objects. Reactive aggressive behaviors are angry and retaliatory to perceived provocations. Proactively aggressive children may be best deterred by clear rules and strong sanctioning whereas reactively aggressive

children may be more effectively deterred by training in anger control accompanied by relationships with caring adults who will intervene to stop bullying (Gage et al., 2014; Låftman et al., 2016).

Strengths and Limitations

Strengths of our study include analyses of a nationally representative sample followed from the beginning of kindergarten to the end of fifth grade. To our knowledge, no prior study has reported on factors during kindergarten to second grade that both directly and indirectly predict being bullies or victims during the upper elementary grades through SEM analyses of a population-based cohort (Ettekal & Ladd, 2017, 2020; Lebrun-Harris et al., 2019; Lereya et al., 2015; Oncioiu et al., 2020). We also extensively adjusted for factors previously identified as potential confounds including other types of behavioral functioning, biological sex, family SES, school demographic composition and parental stress and harsh discipline. We averaged together multi-year measures of bullying perpetration and victimization across third to fifth grade for all children in the sample. Doing so should have better identified kindergarten to second grade factors predictive of persistent bullying and bullying victimization during the upper elementary grades.

Our study also has limitations. We were unable to analyze data from direct observations. We instead analyzed children's self-reports of victimization and teacher reports of bullying perpetration. Although empirical research of bullying and victimization often relies on self-reports, such data can be subject to measurement error (Connell et al., 2019; Oldenburg, 2017). Our measures of bullying and victimization did not assess for intentionality or power differentials. This is a very common limitation of bullying assessments (Hamberger et al., 2011), particularly those designed for young children whose perspective-taking abilities may be less

developed (Vaillancourt et al., 2008).¹ The ECLS-K: 2011's data collection ended in the spring of fifth grade. We were unable to examine whether these predictive relations were evident as children attended middle and high school. Bullying and victimization's predictors may change over developmental time periods (Cillessen & Lansu, 2015) including during transitions to middle or high school (Troop-Gordon, 2017). We sought to identify sociodemographic factors that were plausibly exogenous to bullying and victimization. Consequently, we did not include other factors including disability status that might have been endogenous to children's bullying or victimization and were more likely to occur later in elementary school (Morgan et al., 2015). Other work reports associations between disability status and bullying and victimization including during elementary school (Fogler et al., 2022; Morgan et al., 2022; Wiener & Mak, 2009).

Our results are not causal. We instead report the extent to which specific factors are predictive of bullying perpetration or victimization conditional on the other factors included in the SEM. Measures of bullying victimization were not administered in earlier grades in the ECLS-K: 2011. We were therefore unable to control for prior histories of bullying perpetration or victimization. However, we did include three measures of behavioral functioning as early predictors in the SEM. One of these—externalizing problem behaviors—had by far the strongest relation with both bullying perpetration and victimization. Experimental studies are needed to conclusively establish that intervening upon externalizing problem behaviors results in elementary school-aged children experiencing less bullying perpetration and victimization.

Contributions and Implications

¹ Jia and Mikami's (2018) synthesis reports on difficulties and potential alternatives when assessing for power differentials and intentionality in bullying assessments designed for school-aged children. A meta-analysis by Gaffney and colleagues (2021) details a wide range of interventions designed to prevent or reduce bullying or victimization involving power differentials and intentionality in school-based contexts.

To date, the field's emphasis on victims rather than bullies and on analyses based on convenience samples rather than on nationally representative samples has limited screening and prevention efforts as well as the generalizability of the reported findings (Kljakovic & Hunt, 2016; NASEM, 2016). Risk and protective factor estimates as early as kindergarten that are predictive of later being bullies or victims have been largely unavailable (Jackson et al., 2017; Košir et al., 2019; Lereya et al., 2015; Oncioiu et al., 2020). Our study makes several contributions by helping to address these and additional limitations in extant work's knowledge base. For example, our analyses of a multiyear longitudinal and nationally representative sample with extensive adjustment for potential confounds provides more generalizable and rigorous estimates of victimization and bullying perpetration's modifiable risk and protective factors and so directly responds to calls for such work to advance early screening and prevention efforts during a developmental period when these efforts may be most effective (NASEM, 2016; Yeager et al., 2015).

To our knowledge, no prior study has estimated a SEM using such a large set of potential predictors of bullying perpetration and victimization—eight socio-demographic variables, six parental stress and parenting style variables, three kindergarten to second grade behavioral variables, and one kindergarten to second grade achievement variable. We included both bullying perpetration and victimization as dependent variables in this model, with their error terms correlated. This is an appropriate way to include both dependent variables in a SEM. The finding that the error terms for these variables positively and significantly correlated ($r=.19$, $p<.001$) provides additional empirical support that some U.S. elementary schoolchildren are bully-victims by the elementary grades (Lereya et al., 2015; Walters, 2021).

Our findings are consistent with prior work suggesting that young children who frequently engage in externalizing problem behaviors experience social isolation due to their physical and verbal aggression, which may explain their higher risk for being frequently victimized (Pouwels et al., 2019; Reijntjes et al., 2011). These children's greater risks for being bullies and victims is evident by the primary grades and is not explained by internalizing problem behaviors, lower behavioral self-regulation, being from a lower income family, or by other measured confounds (Nakamoto & Schwartz, 2010; Reijntjes et al., 2011). One implication of this finding for educators and counselors is that children already frequently engaging in externalizing problem behaviors by the primary grades may benefit from the early delivery of school-based mental health services addressing their maladaptive behaviors (Boivin et al., 2013; Oncioiu et al., 2020). Externalizing problem behaviors can be remediated through early intervention in preschool- or school-based settings, particularly those intensively targeting children's social skills (Schindler et al., 2015), and providing specific training to parents or teachers using standardized curricula and trained facilitators (Aldabbagh et al., 2022; Buchanan-Pascall et al., 2018; Carney et al., 2015). School-based interventions have recently been estimated to reduce bullying perpetration and victimization by 15-16% and 18-19%, respectively (Gaffney et al., 2021).

Our results also show that higher academic achievement and greater behavioral self-regulation modestly reduce children's risks of being victims of bullying. However, and consistent with other work (Turunen et al., 2021), these relations are weaker than those between externalizing problems and bullying perpetration or victimization. Our findings provide additional empirical support for prior theoretical and applied work suggesting that greater academic achievement is a protective factor for bullying or victimization (Morales et al., 2019),

possibly as a result of providing children with greater social status and lowering their risk for social-emotional maladjustment (Morgan et al., 2012). Academic achievement is also modifiable through early interventions (Connor et al., 2014). Addressing children's academic struggles may help lower their social isolation (Chong et al., 2014; Morgan et al., 2012) and so decrease their risks for bullying perpetration or victimization (Turunen et al., 2017). Early interventions to assist academically struggling students may also assist their behavioral and social functioning (Morgan et al., 2012; Turunen et al., 2021).

Although some work based on analyses of cross-sectional studies finds that parenting is associated with bullying perpetration or victimization (Nocentini et al., 2019), our results are consistent with other studies suggesting that control for potential confounds helps explain the observed associations between parenting and children's risks for bullying perpetration or victimization (Nocentini et al., 2019; Oncioiu et al., 2020; Zimmerman et al., 2005). The exception was a direct relation between experiencing harsh discipline and a greater risk for victimization. Harsh discipline also was indirectly related to bullying perpetration or victimization through its effect on externalizing problem behaviors. These findings are consistent with prior work suggesting that early interventions to prevent or reduce bullying should include parents and begin before elementary school (Carney et al., 2015; de Vries et al., 2018; Lereya et al., 2013).

Unexpectedly, we did not find that internalizing problem behaviors in kindergarten to second grade predicted a higher risk for victimization during third to fifth grade. Internalizing problems predicted a lower risk of being bullies during this period. This is consistent with recent work finding that elementary schoolchildren who are more withdrawn are *less* likely to be aggressive or be relational aggressive-victims (Ettetal & Ladd, 2020). Overall, our finding that

bullying perpetration and victimization's strongest measured predictor is externalizing problem behaviors during elementary school is consistent with meta-analysis (Cook et al., 2010), which indicated a stronger relation between bullying and externalizing than internalizing problem behaviors including an especially strong relation for externalizing problem behaviors during elementary school ($r = .40$). The previously reported relation (Cook et al., 2010) with internalizing problem behaviors was more evident during middle and high school ($r = .19$) than during elementary school ($r = .03$).

Our study makes additional contributions to the field's knowledge base. Prior findings that Black children are at elevated risk for being bullies and victims were based on cross-sectional designs or analyses of adolescent samples (Goldbach et al. 2018; Lebrun-Harris et al., 2019; Morales et al., 2019). Our longitudinal analyses found that Black children are already more likely to be bullies by the elementary grades both directly and indirectly via increased externalizing problem behaviors. In contrast, the relation between being Black and victimization was not direct, but instead indirect through externalizing and harsh parenting. Historical and on-going racism in the U.S. has led Black children to be over-represented in communities experiencing more violence and family conflict, which could lead to Black children being especially likely to be involved in aggression and victimization involving peers engaging in racial acts (Goldbach et al., 2018). This finding is of concern given that bully-victims are at greatest risk of experiencing adverse sequelae (Lereya et al., 2015; Wolke et al., 2013).

Related work finding that Hispanic children and emergent bilinguals are at lower risk for bullying perpetration or victimization has also been based on cross-sectional designs and analyses of adolescents (Shetgiri et al., 2010). We find that the lower risk for bullying perpetration and victimization attributable to children's status as Hispanic or emergent bilinguals

is also evident by elementary school. Our finding is consistent with theoretical accounts in which children who are Hispanic, bicultural, or recent immigrants are less likely to engage in or experience violence while attending schools (Smokowski et al., 2009). For example, and as stated by Vitoroulos and Vaillant (2018, p. 754), “cultural models about groups from collectivist backgrounds, such as East Asians and Hispanic Americans, suggest that these groups strongly discourage and disapprove of aggressive behavior.” Hispanic children including those who are emergent bilinguals may be at lower risk for victimization due to social networks and cultural values that function to buffer against stressors and adversity (Gallo et al., 2009).

Our findings are consistent with other recent work suggesting the potential importance of intervening early during schooling to prevent or reduce children’s later likelihood of being bullies or victims (Lebrun-Harris et al., 2019; Oncioiu et al., 2020; Walters, 2021). We extend this other work (Ettekal & Ladd, 2017; Haltigan & Vaillancourt, 2014; Leroya et al., 2015; Rodkin et al., 2014; Zych et al., 2020) by establishing that U.S. children’s risks for being bullies or victims during the upper elementary grades can be reliably predicted by their behavioral and academic functioning by the primary grades. Our results are also consistent with prior work including social ecological theory (Hong & Espelage, 2012; Jackson et al., 2017), in which children’s risks for being bully and victims are explained by their individual traits, the children’s immediate physical and social environments, and by interactions of systems within these environments (Cook et al., 2010; Hemphill et al., 2012; Hong & Espelage, 2012; Košir et al., 2019; Lee et al., 2021; Mundy et al., 2017; Nocentini et al., 2019; Oncioiu et al., 2020; Pouwels et al., 2019). We extend this prior work by establishing that U.S. elementary schoolchildren’s social ecologies are directly and indirectly predictive by the primary grades of their risks for being bullies and victims by the upper elementary grades.

References:

- Aldabbagh, R., Glazebrook, C., Sayal, K., & Daley, D. (2022). Systemic review and meta-analysis of the effectiveness of teacher-directed interventions for externalizing behaviors. *Journal of Behavioral Education*. <https://doi.org/10.1007/s10864-022-09491-4>.
- Arseneault, L. (2018). Annual research review: The persistent and pervasive impact of being bullied in childhood and adolescence: implications for policy and practice. *Journal of Child Psychology and Psychiatry*, 59(4), 405-421.
<https://doi.org/10.1111/jcpp.12841>
- Averdijk, M., Eisner, M., & Ribeaud, D. (2013). Method effects in survey questions about peer victimization. In S. Ruiter, W. Bernasco, W. Huisman, & G. J. N. Bruinsma (Eds.), *Eenvoud & Verscheidenheid. Liber Amicorum voor Henk Elffers [Simplicity and Diversity. Festschrift for Henk Elffers]* (pp. 425–440). Amsterdam: NSCR.
- Averdijk, M., Malti, T., Eisner, M., Ribeaud, D., & Farrington, D. P. (2016). A vicious cycle of peer victimization? Problem behavior mediates stability in peer victimization over time. *Journal of Developmental and Life-Course Criminology*, 2, 162–181.
<https://doi.org/10.1007/s40865-016-0024-7>
- Azeredo, C. M., Rinaldi, A. E. M., de Moraes, C. L., Levy, R. B., & Menezes, P. R. (2015). School bullying: A systematic review of contextual-level risk factors in observational studies. *Aggression and Violent Behavior*, 22, 65-76.
<https://doi.org/10.1016/j.avb.2015.04.006>
- Bickel, G., Nord, M., Price, C., Hamilton, W., & Cook, J. (2000). *Guide to Measuring Household Food Security, Revised 2000*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service.

- Boivin, M., Brendgen, M., Vitaro, F., Forget-Dubois, N., Feng, B., Tremblay, R. E., & Dionne, G. (2013). Evidence of gene-environment correlation for peer difficulties: Disruptive behaviors predict early peer relation difficulties in school through genetic effects. *Development and Psychopathology*, 25(1), 79–92.
<https://doi.org/10.1017/S0954579412000910>
- Bollen, K.A. (1989). *Structural equations with latent variables*. New York: Wiley.
- Bradshaw, C. P. (2015). Translating research to practice in bullying prevention. *American Psychologist*, 70, 322–332. <https://doi.org/10.1037/a0039114>
- Brendgen, M., & Poulin, F. (2018). Continued bullying victimization from childhood to young adulthood: A longitudinal study of mediating and protective factors. *Journal of Abnormal Child Psychology*, 46(1), 27-39. <https://doi.org/10.1007/s10802-017-0314-5>
- Buchanan-Pascall, S., Gray, K. M., Gordon, M., Melvin, G. A. (2018). Systemic review and meta-analysis of parent group interventions for primary school children aged 4-12 years with externalizing and/or internalizing problem behaviors. *Child Psychiatry & Human Development*, 49(2), 244-267. <https://doi.org/10.1007/s10578-017-0745-9>.
- Carney, R., Stratford, B., Moore, K. A., Rojas, A., & Daneri, P. (2015, November). *What works for reducing problem behaviors in early childhood: Lessons from experimental evaluations*. Child Trends. <http://www.childtrends.org/wp-content/uploads/2015/10/2015-32WhatWorksProblemBehaviorsNovUpdate.pdf>
- Chong, W. H., Moore, D.W., Nonis, K. P., Tang, H.N. Koh, P, & Wee, S. (2014). Mission I'm possible: Effects of a community-based project on the basic literacy skills of at-risk kindergarteners. *Infants & Young Children*, 27(1), 60-73.
<https://doi.org/10.1097/IYC.0b013e3182a60281>

- Cillessen, A. H. N., & Lansu, T. A. M. (2015). Stability, correlates, and time-covarying associations of peer victimization from grade 4 to 12. *Journal of Clinical Child and Adolescent Psychology*, 44, 456–470. <https://doi.org/10.1080/15374416.2014.958841>
- Connell, N. M., Schell-Busey, N. M., & Hernandez, R. (2019). Experiences versus perceptions: Do students agree that they have been bullied? *Youth and Society*, 51, 394–416. <https://doi.org/10.1177/0044118X18792437>
- Connor, C. M., Alberto, P. A., Compton, D. L., & O'Connor, R. E. (2014). *Improving reading outcomes for students with or at risk for reading disabilities: A synthesis of the contributions from the Institute of Education Sciences Research Centers*. (NCSER 2014-3000). National Center for Special Education Research, Institute of Education Sciences, U.S. Department of Education. <https://files.eric.ed.gov/fulltext/ED544759.pdf>
- Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly*, 25, 65–83. <https://doi.org/10.1037/a0020149>.
- de Vries, E. E., Verlinden, M., Rijlaarsdam, J., Jaddoe, V. W. V., Verhulst, F. C., Arseneault, L., & Tiemeier, H. (2018). Like father, like child: Early life adversity and children's bullying behaviors in elementary school. *Journal of Abnormal Child Psychology*, 46(7), 1481-1496. <https://doi.org/10.1007/s10802-017-0380-8>.
- Doumas, D.M. & Midgett, A. (2019). The effects of students' perceptions of teachers' antibullying behavior on bullying victimization: Is sense of school belonging a mediator? *Journal of Applied School Psychology*, 35(1), 37-51. <https://doi.org/10.1080/15377903.2018.1479911>
- Duarte, C. S., Shen, S., Wu, P., & Must, A. (2012). Maternal depression and child BMI:

- Longitudinal findings from a U.S. sample. *Pediatric Obesity*, 7(2), 124-133.
<https://doi.org/10.1111/j.2047-6310.2011.00012.x>.
- Elliott, S. N., Hwang, Y. S., & Wang, J. (2019). Teachers' ratings of social skills and problem behaviors as concurrent predictors of students' bullying behavior. *Journal of Applied Developmental Psychology*, 60, 119–126. <https://doi.org/10.1016/j.appdev.2018.12.005>
- Espelage, D. L., & Holt, M. K. (2001). Bullying and victimization during early adolescence: Peer influences and psychosocial correlates. *Journal of Emotional Abuse*, 2, 123–142.
https://doi.org/10.1300/J135v02n02_08
- Espelage, D. L., Hong, J. S., Rao, M. A., & Thornberg, R. (2015). Understanding ecological factors associated with bullying across the elementary to middle school transition in the United States. *Violence and Victims*, 30, 470–487. <https://doi.org/10.1891/0886-6708.VV-D-14-00046>
- Ettekal, I., & Ladd, G. W. (2017). Developmental continuity and change in physical, verbal, and relational aggression and peer victimization from childhood to adolescence. *Developmental Psychology*, 53, 1709–1721. <https://doi.org/10.1037/dev0000357>
- Ettekal, I., & Ladd, G. (2020). Development of aggressive-victims from childhood through adolescence: Associations with emotion dysregulation, withdrawn behaviors, moral disengagement, peer rejection, and friendships. *Development and Psychopathology*, 32, 271-291. doi:10.1017/S0954579419000063
- Fogler, J. M., Weaver, A. L., Katusic, S., Voigt, R. G., & Barbaresi, W. J. (2020). Recalled experiences of bullying and victimization in a longitudinal, population-based birth cohort: The influence of ADHD and co-occurring psychiatric disorder. *Journal of Attention Disorders*, 26(1), 15-24. <https://doi.org/10.1177/1087054720969981>.

- Gaffney, H., Ttofi, M. M., & Farrington, D. P. (2021). Effectiveness of school-based programs to reduce bullying perpetration and victimization: An updated systematic review and meta-analysis. *Campbell Systematics Review*, 17(2), e1143. <https://doi.org/10.1002/cl2.1143>
- Gage, N. A., Prykanowski, D. A., & Larson, A. (2014). School climate and bullying victimization: A latent class growth model analysis. *School Psychology Quarterly*, 29(3), 256-271. <http://dx.doi.org/10.1037/spq0000064>
- Gallo, L. C., Penedo, F. J., De Los, E., Monteros, K., & Arguelles, W. (2009). Resiliency in the face of disadvantage: Do Hispanic cultural characteristics protect health outcomes? *Journal of Personality*, 77(6), 1707–1746. <https://doi.org/10.1111/j.1467-6494.2009.00598.x>.
- Gladden, R.M., Vivolo-Kantor, A.M., Hamburger, M.E., & Lumpkin, C.D. (2014). *Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, version 1.0*. Atlanta, GA; National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and U.S. Department of Education. <https://www.cdc.gov/violenceprevention/pdf/bullying-definitions-final-a.pdf>.
- Goldbach, J. T., Sterzing, P. R., & Stuart, M. J. (2018). Challenging conventions of bullying thresholds: Exploring differences between low and high levels of bully-only, victim-only, and bully-victim roles. *Journal of Youth and Adolescence*, 47, 586–600. <https://doi.org/10.1007/s10964-017-0775-4>
- Grant, N. J., Merrin, G. J., King, M. T., & Espelage, D. L. (2019). Examining within-person and between-person associations of family violence and peer deviance on bullying perpetration among middle school students. *Psychology of Violence*, 9(1), 18-27. <http://dx.doi.org/10.1037/vio0000210>

- Haltigan, J. D., & Vaillancourt, T. (2014). Joint trajectories of bullying and peer victimization across elementary and middle school and associations with symptoms of psychopathology. *Developmental Psychology*, 50, 2426–2436. <https://doi.org/10.1037/a0038030>
- Hamburger, M. E., Basile, K. C., & Vivolo, A. M. (2011). *Measuring bullying victimization, perpetration, and bystander experiences: A compendium of assessment tools*. Center for Disease Control and Prevention.
<https://www.cdc.gov/violenceprevention/pdf/bullycompendium-a.pdf>.
- Hemphill, S. A., Kotevski, A., Tollit, M., Smith, R., Herrenkohl, T. I., Toumbourou, J. W., & Catalano, R. F. (2012). Longitudinal predictors of cyber and traditional bullying perpetration in Australian secondary school students. *Journal of Adolescent Health*, 51, 59–65. <https://doi.org/10.1016/j.jadohealth.2011.11.019>
- Hong, J. S., & Espelage, D. L. (2012). A review of research on bullying and peer victimization in school: An ecological system analysis. *Aggression and Violent Behavior*, 17, 311–322.
<https://doi.org/10.1016/j.avb.2012.03.003>
- Hong, J. S., Kim, D. H., & Hunter, S. C. (2019). Applying the social–ecological framework to explore bully–victim subgroups in South Korean schools. *Psychology of Violence*, 9(3), 267–277. <https://doi.org/10.1037/vio0000132>
- Jackson, V., Chou, S., & Browne, K. (2017). Protective factors against child victimization in the school and community: An exploratory systemic review of longitudinal predictors and interacting variables. *Trauma, Violence, & Abuse*, 18(3), 303–321. <https://doi.org/10.1177/1524838015611675>
- Jadambaa, A., Brain, D., Pacella, R., Thomas, H. J., McCarthy, M., Scott, J. G., & Graves, N. (2020). The economic costs of child and adolescence bullying in Australia. *Journal of the*

American Academy of Child and Adolescent Psychiatry.

<https://doi.org/10.1016/j.jaac.2020.05.010>

Jansen, P. W., Mieloo, C. L., Dommisse-van Berkel, A., Verlinden, M., van der Ende, J., Stevens, G., Verhulst, F.C., Jansen, W., & Tiemeier, H. (2016). Bullying and victimization among young elementary school children: The role of child ethnicity and ethnic school composition. *Race and Social Problems*, 8(4), 271-280. <https://doi.org/10.1007/s12552-016-9182-9>

Jansen, P. W., Verlinden, M., Dommisse-van Berkel, A., Mieloo, C., van der Ende, J., Veenstra, R., Verhulst, F. C., Jansen, W., & Tiemeier, H. (2012). Prevalence of bullying and victimization among children in early elementary school: Do family and school neighborhood socioeconomic status matter? *BMC Public Health*, 12, 494-504. <https://doi.org/10.1186/1471-2458-12-494>.

Jia, M., & Mikami, A. (2018). Issues in the assessment of bullying: Implications for conceptualizations and future directions. *Aggression and Violent Behavior*, 41, 108-118. <https://doi.org/10.1016/j.avb.2018.05.004>.

Kljakovic, M., & Hunt, C. (2016). A meta-analysis of predictors of bullying and victimization in adolescence. *Journal of Adolescence*, 49, 134–145. <https://doi.org/10.1016/j.adolescence.2016.03.002>

Košir, K., Klasinc, L., Špes, T., Pivec, T., Cankar, G., & Horvat, M. (2019). Predictors of self-reported and peer-reported victimization and bullying behavior in early adolescents: The role of school, classroom, and individual factors. *European Journal of Psychology of Education*, 35(2), 381-402. <https://doi.org/10.1007/s10212-019-00430-y>

Kraft, M. A. (2020). Interpreting effect sizes of educational interventions. *Educational*

- Researcher*, 49(4), 241-253. <https://doi.org/10.3102/0013189X20912798>.
- Kumpulainen, K., Rasanen, E., Henttonen, I., Almqvist, F., Kresanov, K., Linna, S.L., Moilanen, I., Tamminen, T., & Puura, K. (1998). Bullying and psychiatric symptoms among elementary school-age children. *Child Abuse and Neglect*, 22, 705-717.
- Ladd, G. W., Ettekal, I., & Kochenderfer-Ladd, B. (2017). Peer victimization trajectories from kindergarten through high school: Differential pathways for children's school engagement and achievement? *Journal of Educational Psychology*, 109(6), 826-841. <https://doi.org/10.1037/edu0000177>
- Låftman, S. B., Östberg, V., & Modin, B. (2017). School climate and exposure to bullying: A multilevel study. *School Effectiveness and School Improvement*, 28(1), 153-164. <https://doi.org/10.1080/09243453.2016.1253591>
- Lebrun-Harris L. A., Sherman, L. J., & Miller, B. (2020) State-level prevalence of bullying victimization among children and adolescents, National Survey of Children's Health, 2016-2017. *Public Health Reports*, 135(3), 303-309. <https://doi.org/10.1177/0033354920912713>.
- Lee, J. M., Hong, J. S., Resko, S. M., Gonzalez-Prendes, A. A., & Voisin, D. R. (2021). Ecological correlates of bullying and peer victimization among urban African American adolescents. *Journal of Educational Research*, 1-11. <https://doi.org/10.1080/00220671.2021.1937914>
- Lereya, S. T., Copeland, W. E., Zammit, S., & Wolke, D. (2015). Bully/victims: A longitudinal, population-based cohort study of their mental health. *European Child and Adolescent Psychiatry*, 24, 1461-1471.
- Lereya, S. T., Samara, M., & Wolke, D. (2013). Parenting behavior and the risk of becoming a victim and a bully/victim. A meta-analysis study. *Child Abuse and Neglect*, 37(12), 1091-

1108. <https://doi-org.ezaccess.libraries.psu.edu/10.1016/j.chiabu.2013.03.001>.
- MacKinnon, D. P. (2012). *Introduction to statistical mediation analysis*. Routledge.
- McNeish, D., Stapleton, L. M., & Silverman, R. D. (2017). On the unnecessary ubiquity of hierarchical linear modeling. *Psychological Methods*, 22, 114-140.
<https://doi.org/10.1037/met0000078>
- Modecki, K. L., Minchin, J., Harbaugh, A. G., Guerra, N. G., & Runions, K. C. (2014). Bullying prevalence across contexts: A meta-analysis measuring cyber and traditional bullying. *Journal of Adolescent Health*, 55(5), 602-611.
<https://doi.org/10.1016/j.jadohealth.2014.06.007>
- Moore, S. E., Norman, R. E., Suetani, S., Thomas, H. J., Sly, P. D., & Scott, J. G. (2017). Consequences of bullying victimization in childhood and adolescence: A systematic review and meta-analysis. *World Journal of Psychiatry*, 7, 60. <https://doi.org/10.5498/wjp.v7.i1.60>
- Morales, D. X., Prieto, N., Grineski, S. E., & Collins, T. W. (2019). Race/ethnicity, obesity, and the risk of being verbally bullied: A national multilevel study. *Journal of Racial and Ethnic Health Disparities*, 6(2), 245-253. <https://doi.org/10.1007/s40615-018-0519-5>
- Morgan, P. L., Farkas, G., Hillemeier, M. M., Mattison, R., Maczuga, S., Li, H., & Cook, M. (2015). Minorities are disproportionately underrepresented in special education: Longitudinal evidence across five disability conditions. *Educational Researcher*, 44(5), 278-292. <https://doi.org/10.3102/0013189X15591157>
- Morgan, P. L., Farkas, G., & Wu, Q. (2012). Do poor readers feel angry, sad, and unpopular? *Scientific Studies of Reading*, 16, 360–381. <https://doi.org/10.1080/10888438.2011.570397>
- Morgan, P. L., Woods, A. D., Wang, Y., Farkas, G., Oh, Y., Hillemeier, M. M., & Mitchell, C. (2022). Which children are frequently victimized in U.S. elementary schools?

Population-based estimates. *School Mental Health*, 14, 1011-1023.

<https://doi.org/10.1007/s12310-022-09520-7>

Mundy, L. K., Canterford, L., Kosola, S., Degenhardt, L., Allen, N. B., & Patton, G. C. (2017).

Peer victimization and academic performance in primary school children. *Academic*

Pediatrics, 17, 830–836. <https://doi.org/10.1016/j.acap.2017.06.012>

Najarian, M., Tourangeau, K., Nord, C., Wallner-Allen, K., & Vaden-Kiernan, N. (2019). Early

Childhood Longitudinal Study, Kindergarten Class of 2010-11 (ECLS-K: 2011). Third-grade, fourth-grade, and fifth-grade psychometric report (NCES 2020-123). U. S.

Department of Education Institute of Education Sciences. Washington, D.C.

<https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2020123>

Nakamoto, J., & Schwartz, D. (2010). Is peer victimization associated with academic

achievement? A meta-analytic review. *Social Development*, 19, 221–242.

<https://doi.org/10.1111/j.1467-9507.2009.00539.x>

National Academies of Sciences, Engineering, and Medicine. (2016). *Preventing bullying*

through science, policy, and practice. The National Academies Press.

<https://nap.nationalacademies.org/catalog/23482/preventing-bullying-through-science-policy-and-practice>

National Center for Education Statistics (2019). *Student reports of bullying: Results from the*

2017 School Crime Supplement to the National Crime Victimization Survey. (NCES 2019-

054). U.S. Department of Education, Institute of Education Sciences.

<https://nces.ed.gov/pubs2019/2019054.pdf>

Nocentini, A., Fiorentini, G., Di Paola, L., & Menesini, E. (2019). Parents, family characteristics

and bullying behavior: A systematic review. *Aggression and Violent Behavior*, 45, 41-50.

<https://doi.org/10.1016/j.avb.2018.07.010>

Ogg, J., & Anthony, C. J. (2020). Process and context: Longitudinal effects of the interactions between parental involvement, parental warmth, and SES on academic achievement.

Journal of School Psychology, 78, 96-114.

Oldenburg, B., Bosman, R., & Veenstra, R. (2016). Are elementary school teachers prepared to tackle bullying? A pilot study. *School Psychology International, 37*(1), 64-72.

<https://doi.org/10.1177%2F0143034315623324>

Oncioiu, S. I., Orri, M., Boivin, M., Geoffroy, M.C., Arseneault, L., Brendgen, M., Vitaro, F., Navarro, M.C., Galéra, C., Tremblay, R.E., & Côté, S. M. (2020). Early childhood factors associated with peer victimization trajectories from 6 to 17 years of age. *Pediatrics, 145*(5).

<https://doi.org/10.1542/peds.2019-2654>

Oriol, X., Miranda, R., Amutio, A., Acosta, H. C., Mendoza, M. C., & Torres-Vallejos, T. (2017). Violent relationships at the social-ecological level: A multi-mediation model to predict adolescent victimization by peers, bullying and depression in early and late adolescence. *Plos One 12*(3): e0174139. <https://doi.org/10.1371/journal.pone.0174139>

Peskin, M. F., Tortolero, S. R., & Markham, C. M. (2006). Bullying and victimization among Black and Hispanic adolescents. *Adolescence, 41*, 467-484.

Poulin, C., Hand, D., & Boudreau, B. (2005). Validity of a 12-item version of the CES-D used in the National Longitudinal Study of Children and Youth. *Chronic Diseases in Canada, 26*(2-3), 65-72.

Pouwels, J. L., Hanish, L. H., Smeekens, S., Cillessen, A. H., & van den Berg, Y. H. (2019). Predicting the development of victimization from early childhood internalizing and externalizing behavior. *Journal of Applied Developmental Psychology, 62*, 294-305.

<https://doi.org/10.1016/j.appdev.2019.02.012>

Pratt, T. C., Turanovic, J. J., Fox, K. A., & Wright, K. A. (2014). Self-control and victimization:

A meta-analysis. *Criminology*, 52(1), 87-116. <https://doi.org/10.1111/1745-9125.12030>

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401.

<https://doi.org/10.1177/014662167700100306>

Rambaran, J. A., Dijkstra, J. K., & Veenstra, R. (2020). Bullying as a group process in childhood: A longitudinal social network analysis. *Child Development*, 91(4), 1336-1352.

<https://doi.org/10.1111/cdev.13298>

Reijntjes, A., Kamphuis, J. H., Prinzie, P., Boelen, P. A., Van Der Schoot, M., & Telch, M. J.

(2011). Prospective linkages between peer victimization and externalizing problems in children: A meta-analysis. *Aggressive Behavior*, 37, 215–222.

<https://doi.org/10.1002/ab.20374>

Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and

internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse and Neglect*, 34, 244–252. <https://doi.org/10.1016/j.chiabu.2009.07.009>

Rodkin, P. C., Hanish, L. D., Wang, S., & Logis, H. A. (2014). Why the bully/victim relationship is so pernicious: A gendered perspective on power and animosity among bullies and their victims. *Development and Psychopathology*, 26(3), 689-704.

doi:10.1017/S0954579414000327

Rose, C. A., Simpson, C. G., & Moss, A. (2015). The bullying dynamic: Prevalence of involvement among a large-scale sample of middle and high school youth with and without disabilities. *Journal of Adolescence*, 52, 515-531. <https://doi.org/10.1002/pits.21840>

- Ross, C. E., Mirowsky, J., & Huber, J. (1983). Dividing work, sharing work, and in-between: Marriage patterns and depression. *American Sociological Review*, 48(6), 809–823. <https://doi.org/10.2307/2095327>
- Rupp, S., Elliott, S. N., & Gresham, F. M. (2018). Assessing elementary students' bullying and related social behaviors: Cross-informant consistency across school and home environments. *Children and Youth Services Review*, 93, 458–466. <https://doi.org/10.1016/j.childyouth.2018.08.028>
- Salmivalli, C. (2010). Bullying and the peer group. *Aggression and Violent Behavior*, 15(2), 112–120. <https://doi.org/10.1016/j.avb.2009.08.007>.
- Salmivalli, C., & Nieminen, E. (2002). Proactive and reactive aggression among school bullies, victims, and bully-victims. *Aggressive Behavior*, 28, 30–44. <https://doi.org/10.1002/ab.90004>
- Samson, J. E., Delgado, M. A., Louis, D. F., & Ojanen, T. (2022). Bullying and social goal-setting in youth: A meta-analysis. *Social Development*, 31(4), 945–961. <https://doi.org/10.1111/sode.12595>.
- Schindler, H. S., Kholoptseva, J., Oh, S. S., Yoshikawa, H., Duncan, G. J., Magnuson, K. A., & Shonkoff, J. P. (2015). Maximizing the potential of early childhood education to prevent externalizing problem behaviors. *Journal of School Psychology*, 53(3), 243–263. <https://doi.org/10.1016/j.jsp.2015.04.001>.
- Schoeler, T., Duncan, L., Cecil, C. M., Ploubidis, G. B., & Pingault, J. B. (2018). Quasi-experimental evidence on short-and long-term consequences of bullying victimization: A meta-analysis. *Psychological Bulletin*, 144(12), 1229–1246. <http://dx.doi.org/10.1037/bul0000171>

- Schwartz, D., Dodge, K. A., Coie, J. D., Hubbard, J. A., Cillessen, A. H., Lemerise, E. A., & Bateman, H. (1998). Social-cognitive and behavioral correlates of aggression and victimization in boys' play groups. *Journal of Abnormal Child Psychology*, 26, 431-440. <https://doi.org/10.1023/a:1022695601088>
- Shetgiri, R., Kataoka, S., Ponce, N., Flores, G., & Chung, P. J. (2010). Adolescent fighting: Racial/ethnic disparities and the importance of families and schools. *Academic Pediatrics*, 10, 323-329. <https://doi.org/10.1016/j.acap.2010.06.004>
- Shetgiri, R., Lin, H., & Flores, G. (2013). Trends in risk and protective factors for child bullying perpetration in the United States. *Child Psychiatry and Human Development*, 44, 89-104. <https://doi.org/10.1007/s10578-012-0312-3>
- Sigurdson, J. F., Undheim, A. M., Wallander, J. L., Lydersen, S., & Sund, A. M. (2015). The long-term effects of being bullied or a bully in adolescence on externalizing and internalizing mental health problems in adulthood. *Child and Adolescent Psychiatry and Mental Health*, 9, 1-13. <https://doi.org/10.1186/s13034-015-0075-2>
- Smokowski, P. R., David-Ferdon, C., & Stroupe, N. (2009). Acculturation and violence in minority adolescents: A review of the empirical literature. *Journal of Primary Prevention* 30, 215-263. <https://doi.org/10.1007/s10935-009-0173-0>
- Takizawa, R., Maughan, B., & Arseneault, L. (2014). Adult health outcomes of childhood bullying victimization: Evidence from a five-decade longitudinal British birth cohort. *American Journal of Psychiatry*, 171(7), 777-784. <https://doi.org/10.1176/appi.ajp.2014.13101401>
- Tutura, C. M. W., Green, A. E., Karver, M. S., & Gesten, E. L. (2009). Multiple informants in the assessment of psychological, behavioral, and academic correlates of bullying and

victimization in middle school. *Journal of Adolescence*, 32(2), 193-211.

<https://doi.org/10.1016/j.adolescence.2008.04.005>

Troop-Gordon, W. (2017). Peer victimization in adolescence: The nature, progression, and consequences of being bullied within a developmental context. *Journal of Adolescence*, 55, 116–128. <https://doi.org/10.1016/j.adolescence.2016.12.012>

Turnen, T., Poskiparta, E., Salmivalli, C. (2017). Are reading difficulties associated with bullying involvement? *Learning and Instruction*, 52, 130-138. <https://doi.org/10.1016/j.learninstruc.2017.05.007>.

Turunen, T., Poskiparta, E., Salmivalli, C., Niemi, P., & Lerkkanen, M.-K. (2021). Longitudinal associations between poor reading skills, bullying and victimization across the transition from elementary to middle school. *PLOS ONE*, 16(3). e0249112. <https://doi.org/10.1371/journal.pone.0249112>

Turns, B.A., Sibley, D.S. (2018). Does maternal spanking lead to bullying behaviors at school? A longitudinal study. *Journal of Child and Family Studies*, 27, 2824-2832. <https://doi.org/10.1007/s10826-018-1129-x>.

Vaillancourt, T., McDougall, P., Hymel, S., Krygsman, A., Miller, J., Stiver, K., & Davis, C. (2008). Bullying: Are researchers and children/youth talking about the same thing? *International Journal of Behavioral Development*, 32(6), 486–495. <https://doi.org/10.1177/0165025408095553>.

Vitoroulis, I., & Vaillancourt, T. (2018). Ethnic group differences in bullying perpetration: A meta-analysis. *Journal of Research on Adolescence*, 28(4), 752-771. <https://doi.org/10.1111/jora.12393>

- Vitoroulos, I., & Vaillant, T. (2018). Ethnic group differences in bullying perpetration: A meta-analysis. *Journal of Research on Adolescence*, 28(4), 752-771.
<https://doi.org/10.1111/jora.12393>.
- Walters, G. D. (2021). School-age bullying victimization and perpetration: A meta-analysis of prospective studies and research. *Trauma, Violence, & Abuse*, 22, 1129-1139.
<https://doi.org/10.1177/1524838020906513>.
- Wiener, J., & Mak, M. (2009). Peer victimization in children with attention-deficit/hyperactivity disorder. *Psychology in the Schools*, 46(2), 116-131. <https://doi.org/10.1002/pits.20358>
- Wolke, D., Lereya, S. T., Fisher, H. L., Lewis, G., & Zammit, S. (2014). Bullying in elementary school and psychotic experiences at 18 years: A longitudinal, population-based cohort study. *Psychological Medicine*, 44, 2199–2211.
<https://doi.org/10.1017/S0033291713002912>
- Wolke, D., Copeland, W. E., Angold, A., & Costello, E. J. (2013). Impact of bullying in childhood on adult health, wealth, crime, and social outcomes. *Psychological Science*, 24, 1958–1970. <https://doi.org/10.1177/0956797613481608>
- Yeager, D. S., Fong, C. J., Lee, H. Y., & Espelage, D. L. (2015). Declines in efficacy of anti-bullying programs among older adolescents: Theory and a three-level meta-analysis. *Journal of Applied Developmental Psychology*, 37, 36-51.
<https://doi.org/10.1016/j.appdev.2014.11.005>
- Zarate-Garza, P. P., Biggs, B. K., Croarkin, P., Morath, B., Leffler, J., Cuellar-Barboza, A., & Tye, S. J. (2017). How well do we understand the long-term health implications of childhood bullying? *Harvard Review of Psychiatry*, 25, 89–95.
- Zimmerman, F. J., Glew, G. M., Christakis, D. A., & Katon, W. (2005). Early cognitive

stimulation, emotional support, and television watching as predictors of subsequent bullying among grade-school children. *Archives of Pediatrics and Adolescent Medicine*, 159, 384–

388. <https://doi.org/10.1001/archpedi.159.4.384>

Zhang, H., Zhou, H., & Cao, R. (2019). Bullying victimization among left-behind children in rural China: Prevalence and associated risk factors. *Journal of Interpersonal Violence*, 36(15-16), 8414-8430. <https://doi.org/10.1177/088626051984328>

Zych, I., Ttofi, M. M., Llorent, V. J., Farrington, D. P., Ribeaud, D., & Eisner, M. P. (2020). A longitudinal study on stability and transitions among bullying roles. *Child Development*, 91(2), 527-545. <https://doi.org/10.1111/cdev.13195>.

Table 1

Standardized and Unstandardized Descriptive Statistics Under Full Information Maximum Likelihood (Analytic Sample) and Listwise Deletion Methods

	FIML	Listwise Deletion			Analytic Sample under FIML				
	(N= 13,611)	(N = 5,760)		%	Unique	Standardized Range		Unstandardized Values	
	<i>M</i>	<i>M</i>	<i>SD</i>	<i>Missing</i>	<i>Values</i>	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Victim	0.03	-0.02	1.01	24.40	162	-1.40	3.62	2.10	0.80
Bully	0.02	-0.04	0.94	27.48	81	-0.81	5.76	1.47	0.57
Age	0.01	0.06	0.98	11.7	>500	-6.35	4.82	67.67	4.48
Male	0.52	0.52	0.50	0.00	2	0	1	--	--
White	0.52	0.58	0.49	0.01	2	0	1	--	--
Black	0.13	0.10	0.30	0.01	2	0	1	--	--
Hispanic	0.25	0.23	0.42	0.01	2	0	1	--	--
Other	0.10	0.09	0.28	0.01	1	0	0	--	--
SES	-0.05	0.04	0.82	0.61	>500	-2.33	2.44	--	--
ELL	0.17	0.15	0.36	0.21	2	0	1	--	--
Single	0.28	0.24	0.43	0.96	2	0	1	--	--
% Free Lunch	-0.01	-0.09	0.98	19.99	101	-1.56	1.53	47.63	31.71
% Nonwhite	-0.05	-0.17	0.97	14.88	101	-1.37	1.57	40.79	33.03
Food Insecure	0.01	-0.06	0.88	2.51	103	-0.48	6.98	0.73	1.53
Isolated Parent	0.02	0.08	0.93	4.64	9	-4.05	0.63	2.76	0.40
Depressed Par.	0.02	-0.01	0.96	7.78	63	-0.88	6.30	1.36	0.40
Harsh Discipl.	0.02	0.01	0.99	21.19	22	-0.98	5.35	0.03	2.16
Warm Parent	0.00	0.07	0.88	4.96	18	-5.34	6.67	1.25	0.37

Parenting Diff.	-0.01	-0.06	0.84	5.03	19	-1.35	5.49	-2.06	0.61
Externalizing	-0.01	-0.06	0.91	3.06	>500	-1.22	4.21	1.64	0.50
Internalizing	0.00	-0.03	0.89	3.17	186	-1.35	6.36	1.51	0.35
Approaches	0.02	0.10	0.93	3.02	>500	-3.23	1.61	3.09	0.56
Achievement	0.04	0.13	0.99	0.84	>500	-4.15	4.33	0.10	0.87

Note. FIML=Full information maximum likelihood; SES=socioeconomic status; ELL=English language learner.

Table 2.*Correlation Matrix off Study's Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Victim	1.00												
2 Bully	0.39	1.00											
3 Food Insecure	0.09	0.11	1.00										
4 Isolated Parent	-0.05	-0.07	-0.26	1.00									
5 Depressed	0.11	0.11	0.32	-0.13	1.00								
6 Harsh Disc.	0.14	0.16	0.11	-0.07	0.18	1.00							
7 Warm Parent	0.01	0.02	0.09	-0.15	0.13	0.13	1.00						
8 Parenting Diff.	0.06	0.09	0.12	-0.07	0.25	0.18	0.10	1.00					
9 Externalizing	0.37	0.62	0.08	-0.04	0.10	0.14	0.03	0.11	1.00				
10 Internalizing	0.17	0.18	0.10	-0.04	0.12	0.02	0.01	0.06	0.34	1.00			
11 Approaches	-0.32	-0.45	-0.14	0.10	-0.12	-0.11	-0.03	-0.09	-0.68	-0.43	1.00		
12 Achievement	-0.20	-0.22	-0.20	0.21	-0.12	-0.12	-0.03	-0.05	-0.23	-0.25	0.53	1.00	
13 Age at Assess.	-0.03	-0.03	-0.01	0.06	0.01	-0.01	-0.01	-0.01	-0.03	-0.03	0.11	0.17	1.00
14 Black	0.12	0.24	0.06	-0.07	0.06	0.18	-0.06	0.00	0.14	0.04	-0.12	-0.14	-0.03
15 Hispanic	-0.07	-0.03	0.15	-0.23	0.04	0.01	0.08	0.02	-0.04	-0.02	-0.03	-0.23	-0.09
16 Other	0.00	-0.04	-0.01	-0.05	-0.03	-0.03	0.01	0.02	-0.02	-0.01	0.04	0.08	-0.04
17 Male	0.04	0.19	0.01	0.00	0.00	0.04	0.02	0.02	0.25	0.06	-0.28	-0.02	0.05
18 SES	-0.15	-0.21	-0.34	0.29	-0.18	-0.13	-0.05	-0.03	-0.13	-0.12	0.23	0.47	0.03
19 ELL	-0.07	-0.06	0.14	-0.31	-0.01	0.01	0.12	0.05	-0.07	-0.06	0.02	-0.20	-0.10
20 Single	0.15	0.23	0.19	-0.11	0.16	0.08	-0.03	0.04	0.18	0.13	-0.20	-0.23	-0.01
21 % Free Lunch	0.14	0.17	0.24	-0.24	0.12	0.16	0.02	0.04	0.10	0.06	-0.11	-0.32	-0.04
22 % Nonwhite	0.07	0.12	0.17	-0.27	0.05	0.12	0.02	0.04	0.05	0.01	-0.07	-0.24	-0.15

(continued)

	14	15	16	17	18	19	20	21	22
1 Victim									
2 Bully									
3 Food Insecure									
4 Isolated Parent									
5 Depressed									
6 Harsh Disc.									
7 Warm Parent									
8 Parenting Diff.									
9 Externalizing									
10 Internalizing									
11 Approaches									
12 Achievement									
13 Age at Assess.									
14 Black	1.00								
15 Hispanic	-0.03	1.00							
16 Other	-0.09	-0.22	1.00						
17 Male	-0.04	-0.13	-0.20	1.00					
18 SES	0.05	0.01	-0.01	-0.02	1.00				
19 ELL	0.03	-0.16	-0.34	0.08	0.00	1.00			
20 Single	-0.10	-0.13	0.51	0.10	-0.01	-0.31	1.00		
21 % Free Lunch	-0.01	0.28	0.07	-0.04	0.01	-0.37	-0.02	1.00	
22 % Nonwhite	-0.04	0.23	0.33	-0.05	0.00	-0.57	0.28	0.29	1.00

Note. SES=socioeconomic status; ELL=English language learner.