



CRIME VICTIMS' INSTITUTE

COLLEGE OF CRIMINAL JUSTICE

SAM HOUSTON STATE UNIVERSITY

Executive Director: Mary M. Breaux, Ph.D.

Bullying Victimization, Gender, and the Adolescent Substance Use: The Paradox of School Connectedness

Peter S. Lehmann, Ph.D.

An extensive body of research has documented the many short-and long-term negative consequences associated with bullying victimization in adolescence (e.g., Arseneault et al., 2006, 2010; Gini & Pozzoli, 2013; Moore et al., 2017). One such outcome is involvement with illicit substances, and much prior work has revealed that youth who experience bullying—especially intense and persistent forms of bullying—are at heightened risk of alcohol, tobacco, marijuana, and other drug use (Baiden & Tadeo, 2019; Maniglio, 2017; Sullivan et al., 2006). To explain these relationships, scholars often have used Agnew's (1992, 2001) general strain theory, which expects that individuals can respond to victimization and other stressful experiences by engaging in various deviant and non-deviant coping mechanisms, including drug and alcohol use. Some research also suggests that there are key gender differences in youths' psychosocial responses to strain which may, in turn, produce gendered effects of victimization on substance use (Bouffard & Koeppel, 2017; Connolly, 2017; Cullen et al., 2008).

Although theoretical and empirical linkages between bullying victimization and youth substance use are well established, less attention has been devoted to the ways in which schools might influence these relationships. Researchers have long emphasized the important benefits that stem from a strong sense of connectedness to school (Blum, 2005; McNeely et al., 2002; Shochet et al., 2006), and it has been theorized that prosocial school environments which foster student attachment and engagement might disrupt behavioral patterns whereby adolescents engage in substance use as a form of coping with the strain of victimization (Hong et al., 2014). Given the attention that lawmakers recently have paid to the issue of school bullying in Texas (Heath, 2023) and other jurisdictions (Chuck, 2023; Stefanski, 2023; Torres, 2023), further research on whether school connectedness can mitigate the effect of victimization on substance use, and whether such a buffering effect might vary by gender, represents a line of inquiry that is important and timely. The aim of this study is to examine these issues.

Theory and Prior Research

A recent estimate indicates that approximately 22% of youth experienced bullying at school within the previous school year, with higher rates of bullying reported among female students than males (Irwin et al., 2022). While the prevalence of bullying victimization has declined in the past decade, extensive research has documented a wide range of negative outcomes associated with bullying. The health outcomes associated with bullying from peers include anxiety and depression (Arseneault et al., 2010; Moore et al., 2017; Rigby, 2003), sleep disturbance (Donoghue & Meltzer, 2018; Tang et al., 2023), poor appetite (Gini & Pozzoli, 2013), susceptibility to disease (Wolke et al., 2001), and various other ailments stemming from a heightened stress response (Graham, 2016; Kowalski & Limber, 2013). Further, youth who are bullied are at greater risk of school avoidance (Hutzell & Payne, 2012; Randa & Wilcox, 2010), reduced academic performance (Halliday et al., 2021; Juvonen et al., 2011; Nakamoto & Schwartz, 2010), and in-school misbehavior (Arseneault et al., 2006; Gastic, 2008).

Much prior research on the consequences of bullying victimization also has demonstrated that bullying victimization is a noteworthy risk factor for illicit substance use (Hong et al., 2014; Maniglio, 2017; Moore et al., 2017; Valdebenito et al., 2015; Vrijen et al., 2021). Indeed, this finding emerges even after other predictors of substance use are accounted for, including youths' demographic, school, family, peer, and personality characteristics (e.g., Baiden & Tadeo, 2019; Baker & Pelfrey, 2016; Glassner, 2020; Quinn & Stewart, 2018). Further, some scholarship has revealed that the effects of bullying on substance use can vary by gender, though the direction of the relationship is unclear; in some studies, stronger associations have been observed among males than females (Brady et al., 2020; Cullen et al., 2008; Johnston et al., 2017), but others find the opposite pattern (Bouffard & Koeppel, 2017; Luk et al., 2010) or mixed effects (Carbone-Lopez et al., 2010; Connolly, 2017; Sullivan et al., 2006). Thus, additional inquiry is needed which examines the gendered effects of adolescents' responses to victimization.

To understand these patterns theoretically, scholars frequently have applied Agnew's (1992) general strain theory, which posits that individuals can respond to negative relationships, stressful life events, and traumatic experiences through deviant and/or criminal forms of coping (see also Agnew, 2001). Under this framework, intense and long-lasting forms of bullying victimization are particularly likely to evoke negative emotional responses which, in the absence of alternative prosocial adaptive mechanisms, might lead youth to turn to illicit substance use (Cullen et al., 2008; Hay et al., 2010; Park & Metcalfe, 2020). Gender differences in these responses are particularly salient, as male adolescents may be more likely than females to engage in externalizing, behavioral forms of deviant coping, whereas female youth are typically at greater risk of experiencing anxiety and depression following exposure to strain (Broidy & Agnew, 1997). However, substance use also may represent a coping measure of internalized trauma for female adolescents, thus possibly distinguishing it from other forms of delinquency (Bouffard & Koepfel, 2017; Sullivan et al., 2006).

In light of the robust empirical evidence surrounding the harmful consequences of bullying victimization, enhancing schools' responses to bullying behavior has become a central policy issue. For instance, David's Law in Texas requires school districts to implement several anti-bullying measures, improving schools' cyberbullying response protocols and requiring schools to notify parents when bullying occurs (Bogan, 2017). Additional legislation designed to further improve school staff members' reporting of bullying behavior was proposed in the 2023 Texas legislative session (Health, 2023), but it failed to pass the committee vote. Although these laws target schools' proactive and reactive responses to bullying, research evidence also suggests that students who have a strong attachment to school, enjoy school, get along with their teachers, and are committed to learning have far better health, academic, and behavioral outcomes (e.g., Monahan et al., 2010; Shochet et al., 2006; Weatherson et al., 2018). Not only is it expected that school connectedness can confer direct benefits (Blum, 2005; McNeely et al., 2002), but some scholars have argued that it also might buffer the harmful effects of various negative experiences among adolescents, including bullying from peers (Hong et al., 2014; Loukas & Pasch, 2013).

The goal of this study is to examine whether the benefits of school connectedness might extend to the link between bullying victimization and substance use and if this effect might vary by gender. Accordingly, this study addresses the following four research questions. *Research Question 1:* Are youth who experience greater levels of bullying victimization more likely to use illicit substances? *Research Question 2:* Does the effect of bullying victimization on substance use differ between male and female youth? *Research Question 3:* Is the effect of bullying victimization on substance use weakened among youth who have higher levels of school connectedness? *Research Question 4:* Does the interactive effect between bullying victimization and school connectedness on substance use further vary by gender?

Data and Measures

The current study draws on data from the 2022 Florida Substance Abuse Survey (FYSAS). The FYSAS is a large-scale annual survey of students enrolled in public middle and high schools in Florida, with each year's administration designed to capture a cross-sectional statewide representative sample of youth. The sample is selected using a multi-stage cluster design involving (1) the random selection of schools at the county level, with the probability of selection being proportional to the enrollment size, and (2) the random selection of classrooms within the sampled schools to fulfill each school's survey quota. All educational institutions except for adult education, correctional, vocational, and special education schools are eligible for selection. In 2022, the survey was administered to 50,925 youth, though respondents who failed one or more validation checks (N = 3,353) were removed by the data administrator. The final sample contains 47,572 students enrolled in 735 schools.

Although these data include information on youth in Florida only, comparisons between trends in key behavioral indicators found in the FYSAS and those observed among nationally representative youth cohorts (e.g., Monitoring the Future) reveal closely similar patterns (Florida Department of Children and Families, 2022). Thus, findings from analyses of the FYSAS data have important implications for youths' behaviors and experiences across the country, including in Texas. The descriptive statistics for the study variables are presented in Table 1.

Table 1. Descriptive Statistics: 2022 Florida Youth Substance Abuse Survey (FYSAS)

Variables	<i>N</i>	Mean / %	SD	Range
<i>Dependent Variable</i>				
Substance use				
Yes	8,307	18.11%	—	0, 1
No	37,565	81.89%	—	0, 1
<i>Independent Variables</i>				
Bullying victimization	47,431	0.79	0.83	0–4
Gender				
Male	23,528	50.25%	—	0, 1
Female	23,291	49.75%	—	0, 1
School connectedness	47,533	2.09	0.55	0–5
<i>Control Variables</i>				
Grade level	47,572	8.58	1.87	6–12
Race/ethnicity				
Black	8,294	17.61%	—	0, 1
Hispanic	12,571	26.70%	—	0, 1
Other	6,232	13.24%	—	0, 1
White	19,990	42.45%	—	0, 1
English spoken at home				
Yes	40,292	85.51%	—	0, 1
No	6,830	14.49%	—	0, 1
Urban/suburban				
Yes	35,623	76.21%	—	0, 1
No	11,123	23.79%	—	0, 1
Academic achievement	46,745	3.00	0.99	0–4
Skipped school	47,018	1.28	1.77	0–6
Bullying perpetration	47,311	0.32	0.57	0–4
Low self-control	44,208	1.06	0.68	0–3
Neighborhood context	44,282	0.80	0.60	0–3
Peer substance use	47,164	0.51	0.87	0–4
Attachment to parents	43,412	1.92	0.73	0–3
Parental monitoring/discipline	43,980	2.19	0.69	0–3

Note. *N* (Level 1) = 47,572. *N* (Level 2) = 735. *N* = non-missing sample size before multiple imputation. SD = standard deviation.

Substance Use. While the FYSAS includes questions asking about adolescents' use of a wide array of illicit substances in the prior 30 days, only four forms of substance use were not exceptionally rare in this sample: (1) alcohol use, (2) marijuana use, (3) vaping nicotine, and (4) vaping marijuana. For analytic purposes, these four measures were combined and dichotomized such that respondents who reported using any of these four substances were coded as 1. In these data, 18.1% of youth reported any substance use in the past 30 days.

Bullying Victimization. Three measures of bullying victimization capture the frequency with which respondents (1) were hit, kicked, shoved, physically harmed/injured, or stolen from, (2) were taunted or teased, experienced name-calling, or were excluded or ignored by others in a mean way, and (3) had mean emails, text messages, or IMs sent or hurtful information about them posted on the Internet. Response options range from "Never" (= 0) to "Every day" (= 4), and the three items were combined into an index by taking the average value ($\alpha = 0.71$).

Gender. A binary variable denotes whether the respondents self-identified as male (= 1) or female. No alternative measure of gender identity is available in these data.

School Connectedness. The FYSAS includes an extensive list of questions that measure various dimensions of school connectedness. These items ask whether teachers praise students for hard work, teachers tell students' parents when they have done something well, students help decide on class activities and rules, students feel safe at school, students have chances to talk with their teachers one-on-one, there are opportunities for extracurricular involvement, students feel that school is meaningful and important, and students enjoy being in school. The response options for these questions capture the level of agreement ("NO!" = 1, "no" = 2, "yes" = 3, "YES!" = 4) or the frequency with which they feel a certain way ("Never" = 0, "Almost always" = 5). For this study, 15 such items were combined into an index ($\alpha = 0.85$).

Control Variables. The analyses consider several control variables. These measures include grade level (6th grade = 6, 12th grade = 12), race/ethnicity (Black, Hispanic, Other, and White), the language spoken at home (English = 1), and whether youth live in a city, town, or suburb (= 1) or in the country/on a farm. The analyses also control for students' academic achievement in the past year ("Mostly Fs" = 0, "Mostly As" = 4) and how many school days they skipped in the past four weeks ("None" = 0, "11 or more" = 6). Other control variables include a three-item measure of bullying perpetration ($\alpha = 0.70$), a six-item measure of low self-control ($\alpha = 0.70$) using items derived from the Grasmick et al. (1993) scale, a 10-item composite measure of neighborhood context that captures perceptions of deviant opportunities and values in youths' communities ($\alpha = 0.85$), and a three-item measure of peer substance use ($\alpha = 0.88$). Finally, the analyses account for a seven-item index of attachment to parents ($\alpha = 0.87$) and an eight-item composite measure of parental monitoring/discipline ($\alpha = 0.85$).

Analytic Strategy

The missing data were imputed using multiple imputation by chained equations. The imputation model included all of the study variables, and 20 imputations were used. Following the imputation, cases with data missing on the substance use measure were removed, thus producing a final analytic sample of 45,872 observations nested within the 735 schools. Given the hierarchical structure of the data, a multilevel analytic approach is employed; the appropriateness of this strategy was confirmed through an examination of an unconditional multilevel logistic regression model, which revealed statistically significant variation in substance use across school contexts ($c2 = 1,349.24, p < .001$).

The analyses proceed in the following stages. First, multilevel logistic regression is used to assess the independent effects of bullying victimization, gender, and school connectedness on youths' likelihood of involvement in substance use, net of the controls. Next, multiplicative interaction terms between bullying victimization and gender are introduced to examine whether victimization exerts different effects on substance use across the two gender groups. Similarly, the third research question is addressed by including in the above-described model an interaction term between bullying victimization and school connectedness. Finally, three-way interactions among bullying victimization, school connectedness, and gender on substance use are examined. In the interest of space, only the effects of interest are displayed below, though the full results are available upon request. Given the complexity of this analytic approach as well as the difficulties surrounding the interpretation of coefficients from multiplicative interactions in nonlinear models (Ai & Norton, 2003; Greene, 2010), the discussion of the findings will highlight the average conditional probabilities of substance use that correspond with the variables of interest.

Results

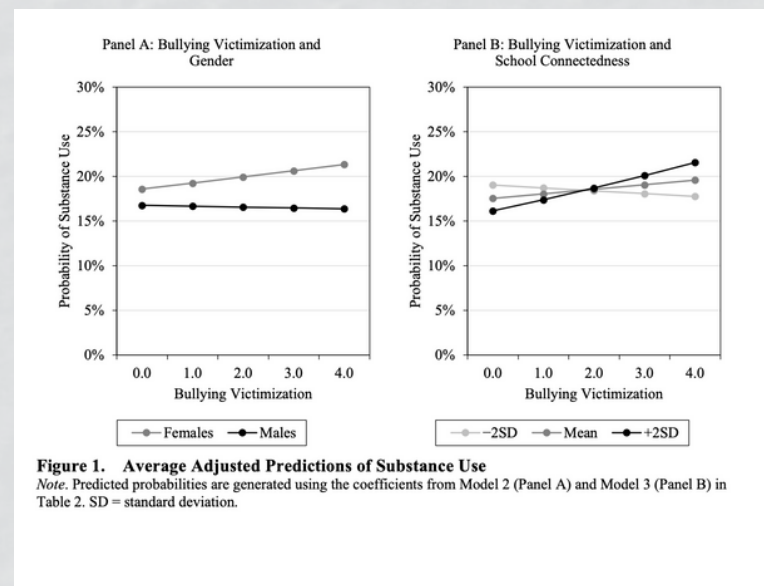
Table 2 presents a summary of the effects of interest from the four multilevel logistic regression models. As anticipated by the first research question, Model 1 presents the main effects of bullying victimization, gender, and school connectedness. The findings indicate that victimization has a positive effect that approaches statistical significance ($b = 0.035, p = .095$). Additionally, male youth are less likely to use illicit substances than females ($b = -0.268, p < .001$), and school connectedness inhibits substance use ($b = -0.070, p = .034$).

Table 2. Multilevel Logistic Regression Models of Substance Use: Summary of Key Effects

Variables	<i>b</i>	SE	OR	<i>p</i>
<i>Model 1</i>				
Bullying victimization	0.035	(.021)	1.036	.095
Male	-0.268	(.033)	0.765	<.001
School connectedness	-0.070	(.033)	0.932	.034
Intercept	-3.976	(.153)	0.019	<.001
<i>Model 2</i>				
Bullying victimization × male	-0.079	(.036)	0.924	.030
Bullying victimization	0.068	(.026)	1.070	.009
Male	-0.198	(.046)	0.820	<.001
School connectedness	-0.071	(.033)	0.932	.032
Intercept	-4.014	(.154)	0.018	<.001
<i>Model 3</i>				
Bullying victimization × school connectedness	0.079	(.032)	1.082	.015
Bullying victimization	-0.112	(.064)	0.894	.080
Male	-0.267	(.033)	0.766	<.001
School connectedness	-0.143	(.045)	0.867	.001
Intercept	-3.840	(.163)	0.021	<.001
<i>Model 4</i>				
Bullying victimization × school connectedness × male	0.014	(.066)	1.014	.837
Bullying victimization × school connectedness	0.078	(.044)	1.082	.077
Bullying victimization × male	-0.091	(.129)	0.913	.480
School connectedness × male	0.103	(.085)	1.108	.224
Bullying victimization	-0.084	(.088)	0.919	.338
Male	-0.410	(.174)	0.663	.018
School connectedness	-0.198	(.064)	0.821	.002
Intercept	-3.762	(.189)	0.023	<.001

Note. *N* (Level 1) = 45,872. *N* (Level 2) = 735. *b* = unstandardized logistic regression coefficient. SE = standard error. OR = odds ratio. *p* = *p*-value.

Corresponding with the second research question, the next stage of the analysis involves examining whether the effect of bullying victimization on substance use varies by gender. As shown in Model 2, the coefficient associated with the interaction term between these two variables is negative and statistically significant ($b = -0.079, p = .030$), suggesting that bullying victimization has a stronger effect among female youth than among males. Using the coefficients from this model, the average adjusted predictions corresponding with this interactive relationship are calculated and displayed graphically in Panel A of Figure 1. As the figure reveals, bullying victimization is positively associated with substance use among female adolescents, but this effect is weakly negative among male youth; an examination of the average marginal effects (AMEs) reveals that only the positive slope among females is statistically significant ($dy/dx = 0.006, p = .008$), and the second difference (Long & Mustillo, 2021) between these effects for males and females is likewise statistically significant ($p = 0.023$).



Model 3 in Table 2 presents the results from the interaction model between bullying victimization and school connectedness. The coefficient associated with the interaction is statistically significant, but it is unexpectedly in the positive direction ($b = 0.079$, $p = .015$). Thus, as bullying victimization represents a risk factor for substance use, youth who are more strongly attached to school have a further heightened risk of using illicit substances. To illustrate this surprising effect, Panel B of Figure 1 shows the corresponding average adjusted predictions; displayed are the slopes of bullying victimization on substance use at the mean value of school connectedness as well as two standard deviations (SDs) above the mean (+2SD) and two SDs below the mean (-2SD). The associated AMEs were likewise calculated, revealing that the slope of bullying victimization is positive and statistically significant at the mean ($dy/dx = 0.005$, $p = .016$) as well as at two SDs above the mean ($dy/dx = 0.013$, $p = .003$).

Finally, as anticipated by the fourth research question, shown in Model 4 of Table 2 is the three-way interaction model examining whether the moderating effects of school connectedness on bullying victimization varies between the two gender groups. The coefficient corresponding with the three-way multiplicative term is non-significant, suggesting no such relationship. It should be noted, however, that an examination of the AMEs from this model revealed that a statistically significant two-way interactive relationship between bullying victimization and school connectedness emerged among female youth but not among males.

Discussion and Implications

Using data on a large, statewide representative sample of youth in Florida, several important findings emerged from these analyses. First, corresponding with some prior work (e.g., Baiden & Tadeo, 2019; Maniglio, 2017; Moore et al., 2017; Schoeler et al., 2018), the findings showed that youth who experience more frequent bullying victimization are more likely to use illicit substances; however, this effect was observed only among female youth. While the gendered effects of bullying on delinquency have been explored in much previous research, only some studies have shown stronger adverse consequences of bullying among female adolescents than males (Bouffard & Koeppel, 2017; Carbone-Lopez et al., 2010; Sullivan et al., 2006). These notable patterns might be explained by gender differences in responses to trauma, abuse, and other forms of strain, as girls more frequently experience depression, anxiety, and reduced self-esteem in response to relational victimization than boys (Broidy & Agnew, 1997). Additionally, in contrast to other forms of delinquent behavior, substance use may be a unique manifestation of these internalizing reactions (Luk et al., 2010).

The second key finding from this study is that school connectedness does moderate the relationship between bullying victimization and substance use, but this effect was in the direction opposite to what was theoretically expected. Indeed, while adolescents who are more strongly connected were less likely to use illicit substances, school connectedness was found to further amplify the harmful effect of bullying on substance use. Although this relationship is surprising in light of the prior research documenting the many benefits of attachment to school for youths' social adjustment and responses to adverse experiences (e.g., Areba et al., 2021; Monahan et al., 2010; Loukas & Pasch, 2013), it is not unprecedented. On the contrary, some research also has shown school connectedness to have paradoxical effects, worsening the effects of school and family difficulties on maladaptive behavioral responses (Duggins et al., 2016; Joo & Lee, 2020; Tao et al., 2022). One possible explanation for this pattern is that, while conferring many benefits, school connectedness also can make youth "vulnerable and reactive" (Luthar et al., 2000, p. 548) in response to adversity such that sensitivity to bullying from peers is heightened for youth who more strongly derive meaning, support, and identity from school.

Although this study's goal was not to assess potential benefits or drawbacks associated with legislative proposals in Texas and elsewhere designed to enhance penalties for bullying and improve parental notification protocols, the results from this study nonetheless may inform schools' approaches to bullying victimization and substance use, particularly among female students. Specifically, given the evidence emerging from these analyses identifying "school connectedness as a double-edged sword" (Tao et al., 2022), school staff should be aware that educational approaches which foster positive connections with students may produce some unintended negative consequences which themselves might need to be addressed. Accordingly, in addition to policies which help reduce bullying and substance use, measures should be taken to ensure that effective supports are implemented to provide victims of bullying with adequate resources to help them cope with and respond to these experiences in prosocial ways.

Peter S. Lehmann, Ph.D., is an Assistant Professor in the Department of Criminal Justice and Criminology at Sam Houston State University. His research interests include juvenile offending and victimization, racial and ethnic disparities in punishment, school discipline and safety, and public opinion on crime and criminal justice policy. His recently published work has appeared in *Justice Quarterly*, *Journal of Research in Crime and Delinquency*, *Crime & Delinquency*, *Punishment & Society*, and other journals.



@cvi_shsu

References

- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 30(1), 47-88. <https://doi.org/10.1111/j.1745-9125.1992.tb01093.x>
- Agnew, R. (2001). Building on the foundation of general strain theory: Specifying the types of strain most likely to lead to crime and delinquency. *Journal of Research in Crime and Delinquency*, 38(4), 319-361. <https://doi.org/10.1177/0022427801038004001>
- Ai, C., & Norton, E. C. (2003). Interaction terms in logit and probit models. *Economics Letters*, 80(1), 123-129. [https://doi.org/10.1016/S0165-1765\(03\)00032-6](https://doi.org/10.1016/S0165-1765(03)00032-6)
- Areba, E. M., Taliaferro, L. A., Forster, M., McMorris, B. J., Mathiason, M. A., & Eisenberg, M. E. (2021). Adverse childhood experiences and suicidality: School connectedness as a protective factor for ethnic minority adolescents. *Children and Youth Services Review*, 120, Article 105637. <https://doi.org/10.1016/j.childyouth.2020.105637>
- Arseneault, L., Bowes, L., & Shakoor, S. (2010). Bullying victimization in youths and mental health problems: 'Much ado about nothing'? *Psychological Medicine*, 40(5), 717-729. <https://doi.org/10.1017/S0033291709991383>
- Arseneault, L., Walsh, E., Trzesniewski, K., Newcombe, R., Caspi, A., & Moffitt, T. E. (2006). Bullying victimization uniquely contributes to adjustment problems in young children: A nationally representative cohort study. *Pediatrics*, 118(1), 130-138. <https://doi.org/10.1542/peds.2005-2388>
- Baiden, P., & Tadeo, S. K. (2019). Examining the association between bullying victimization and prescription drug misuse among adolescents in the United States. *Journal of Affective Disorders*, 259, 317-324. <https://doi.org/10.1016/j.jad.2019.08.063>
- Baker, T., & Pelfrey Jr., W. V. (2016). Bullying victimization, social network usage, and delinquent coping in a sample of urban youth: Examining the predictions of general strain theory. *Violence and Victims*, 31(6), 1021-1043. <https://doi.org/10.1891/0886-6708.VV-D-14-00154>
- Blum, R. W. (2005). A case for school connectedness. *Educational Leadership*, 62(7), 16-20.
- Bogan, R. (2017, December 20). Texas anti-cyberbullying law gives schools more enforcement authority. *Fox News*. <https://www.foxnews.com/us/texas-anti-cyberbullying-law-gives-schools-more-enforcement-authority>
- Bouffard, L. A., & Koeppl, M. D. (2017). Sex differences in the health risk behavior outcomes of childhood bullying victimization. *Victims & Offenders*, 12(4), 549-565. <https://doi.org/10.1080/15564886.2015.1118420>
- Brady, C. M., Baker, T., & Pelfrey Jr., W. V. (2020). Comparing the impact of bullying victimization on drug use and weapon carrying among male and female middle and high school students: A partial test of general strain theory. *Deviant Behavior*, 41(12), 1601-1615. <https://doi.org/10.1080/01639625.2019.1637405>
- Broidy, L., & Agnew, R. (1997). Gender and crime: A general strain theory perspective. *Journal of Research in Crime and Delinquency*, 34(3), 275-306. <https://doi.org/10.1177/0022427897034003001>
- Carbone-Lopez, K., Esbensen, F. A., & Brick, B. T. (2010). Correlates and consequences of peer victimization: Gender differences in direct and indirect forms of bullying. *Youth Violence and Juvenile Justice*, 8(4), 332-350. <https://doi.org/10.1177/1541204010362954>
- Chuck, E. (2023, May 5). Anti-bullying bill named after teen who died by suicide signed into law in Indiana. *NBC News*. <https://www.nbcnews.com/news/us-news/anti-bullying-bill-named-teen-died-suicide-signed-law-indiana-rcna83130>
- Connolly, E. J. (2017). Sex differences in childhood bullying victimization and trajectories of substance use from adolescence to adulthood. *Journal of Drug Issues*, 47(1), 25-49. <https://doi.org/10.1177/0022042616678605>
- Cullen, F. T., Unnever, J. D., Hartman, J. L., Turner, M. G., & Agnew, R. (2008). Gender, bullying victimization, and juvenile delinquency: A test of general strain theory. *Victims & Offenders*, 3(4), 346-364. <https://doi.org/10.1080/15564880802338468>
- Donoghue, C., & Meltzer, L. J. (2018). Sleep it off: Bullying and sleep disturbances in adolescents. *Journal of Adolescence*, 68, 87-93. <https://doi.org/10.1016/j.adolescence.2018.07.012>
- Duggins, S. D., Kuperminc, G. P., Henrich, C. C., Smalls-Glover, C., & Perilla, J. L. (2016). Aggression among adolescent victims of school bullying: Protective roles of family and school connectedness. *Psychology of Violence*, 6(2), 205-212. <https://doi.org/10.1037/a0039439>
- Florida Department of Children and Families. (2022). 2022 Florida Youth Substance Abuse Survey: State report. <https://www.myflfamilies.com/sites/default/files/2022-12/2022%20Statewide%20FYSAS%20Report%20Per%20Section%20C2-2.3.pdf>
- Gastic, B. (2008). School truancy and the disciplinary problems of bullying victims. *Educational Review*, 60(4), 391-404. <https://doi.org/10.1080/00131910802393423>
- Gini, G., & Pozzoli, T. (2013). Bullied children and psychosomatic problems: A meta-analysis. *Pediatrics*, 132(4), 720-729. <https://doi.org/10.1542/peds.2013-0614>
- Glassner, S. D. (2020). Bullying victimization and delinquent involvement: An application of general strain theory. *Children and Youth Services Review*, 116, Article 105099. <https://doi.org/10.1016/j.childyouth.2020.105099>
- Graham, S. (2016). Victims of bullying in schools. *Theory into Practice*, 55(2), 136-144. <https://doi.org/10.1080/00405841.2016.1148988>
- Grasmick, H. G., Tittle, C. R., Bursik, R. J., & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of Research in Crime and Delinquency*, 30(1), 5-29. <https://doi.org/10.1177/0022427893030001002>

References

- Greene, W. (2010). Testing hypotheses about interaction terms in nonlinear models. *Economics Letters*, *107*(2), 291-296. <https://doi.org/10.1016/j.econlet.2010.02.014>
- Halliday, S., Gregory, T., Taylor, A., Digenis, C., & Turnbull, D. (2021). The impact of bullying victimization in early adolescence on subsequent psychosocial and academic outcomes across the adolescent period: A systematic review. *Journal of School Violence*, *20*(3), 351-373. <https://doi.org/10.1080/15388220.2021.1913598>
- Hay, C., Meldrum, R., & Mann, K. (2010). Traditional bullying, cyber bullying, and deviance: A general strain theory approach. *Journal of Contemporary Criminal Justice*, *26*(2), 130-147. <https://doi.org/10.1177/1043986209359557>
- Heath, K. (2023, April 19). Texas lawmakers want to pass bills to tackle bullying in schools. *Austin American-Statesman*. <https://www.statesman.com/story/news/education/2023/04/19/texas-legislature-house-bill-lawmakers-tackle-stop-anti-bullying-in-schools/70127028007/>
- Hong, J. S., Davis, J. P., Sterzing, P. R., Yoon, J., Choi, S., & Smith, D. C. (2014). A conceptual framework for understanding the association between school bullying victimization and substance misuse. *American Journal of Orthopsychiatry*, *84*(6), 696-710. <https://doi.org/10.1037/ort0000036>
- Hutzell, K. L., & Payne, A. A. (2012). The impact of bullying victimization on school avoidance. *Youth Violence and Juvenile Justice*, *10*(4), 370-385. <https://doi.org/10.1177/1541204012438926>
- Irwin, V., Wang, K., Cui, J., & Thompson, A. (2022). *Report on indicators of school crime and safety: 2021 (NCES 2022-092/NCJ 304625)*. National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice. <https://nces.ed.gov/pubsw2022/2022092.pdf>
- Johnston, A. D., Doumas, D. M., Midgett, A., & Moro, R. R. (2017). Gender differences in the relationship between bullying victimization and substance use among high school students. *Journal of Child and Adolescent Counseling*, *3*(1), 30-43. <https://doi.org/10.1080/23727810.2017.1280749>
- Joo, Y. S., & Lee, W. K. (2020). Does living in a chaotic home predict adolescent delinquency? A moderated mediation model of impulsivity and school connectedness. *Children and Youth Services Review*, *119*, Article 105617. <https://doi.org/10.1016/j.childyouth.2020.105617>
- Juvonen, J., Wang, Y., & Espinoza, G. (2011). Bullying experiences and compromised academic performance across middle school grades. *The Journal of Early Adolescence*, *31*(1), 152-173. <https://doi.org/10.1177/0272431610379415>
- Kowalski, R. M., & Limber, S. P. (2013). Psychological, physical, and academic correlates of cyberbullying and traditional bullying. *Journal of Adolescent Health*, *53*(1), S13-S20. <https://doi.org/10.1016/j.jadohealth.2012.09.018>
- Long, J. S., & Mustillo, S. A. (2021). Using predictions and marginal effects to compare groups in regression models for binary outcomes. *Sociological Methods & Research*, *50*(3), 1284-1320. <https://doi.org/10.1177/0049124118799374>
- Loukas, A., & Pasch, K. E. (2013). Does school connectedness buffer the impact of peer victimization on early adolescents' subsequent adjustment problems? *The Journal of Early Adolescence*, *33*(2), 245-266. <https://doi.org/10.1177/0272431611435117>
- Luk, J. W., Wang, J., & Simons-Morton, B. G. (2010). Bullying victimization and substance use among U.S. adolescents: Mediation by depression. *Prevention Science*, *11*, 355-359. <https://doi.org/10.1007/s1121-010-0179-0>
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, *71*(3), 543-562. <https://doi.org/10.1111/1467-8624.00164>
- Maniglio, R. (2017). Bullying and other forms of peer victimization in adolescence and alcohol use. *Trauma, Violence, & Abuse*, *18*(4), 457-473. <https://doi.org/10.1177/1524838016631127>
- McNeely, C. A., Nonnemaker, J. M., & Blum, R. W. (2002). Promoting school connectedness: Evidence from the National Longitudinal Study of Adolescent Health. *Journal of School Health*, *72*(4), 138-146. <https://doi.org/10.1111/j.1746-1561.2002.tb06533.x>
- Monahan, K. C., Oesterle, S., & Hawkins, J. D. (2010). Predictors and consequences of school connectedness: The case for prevention. *The Prevention Researcher*, *17*(3), 3-7.
- 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*(1), 60-76. <https://doi.org/10.5498/wjpv7.11.60>
- Nakamoto, J., & Schwartz, D. (2010). Is peer victimization associated with academic achievement? A meta-analytic review. *Social Development*, *19*(2), 221-242. <https://doi.org/10.1111/j.1467-9507.2009.00539.x>
- Park, Y., & Metcalfe, C. (2020). Bullying victimization as a strain: Examining changes in bullying victimization and delinquency among Korean students from a developmental general strain theory perspective. *Journal of Research in Crime and Delinquency*, *57*(1), 31-65. <https://doi.org/10.1177/0022427819866873>
- Quinn, S. T., & Stewart, M. C. (2018). Examining the long-term consequences of bullying on adult substance use. *American Journal of Criminal Justice*, *43*, 85-101. <https://doi.org/10.1007/s12103-017-9407-5>
- Randa, R., & Wilcox, P. (2010). School disorder, victimization, and general v. place-specific student avoidance. *Journal of Criminal Justice*, *38*(5), 854-861. <https://doi.org/10.1016/j.jcrimjus.2010.05.009>
- Rigby, K. (2003). Consequences of bullying in schools. *The Canadian Journal of Psychiatry*, *48*(9), 583-590. <https://doi.org/10.1177/070674370304800904>
- 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. <https://doi.org/10.1037/bul0000171>
- Shochet, I. M., Dadds, M. R., Ham, D., & Montague, R. (2006). School connectedness is an underemphasized parameter in adolescent mental health: Results of a community prediction study. *Journal of Clinical Child & Adolescent Psychology*, *35*(2), 170-179. https://doi.org/10.1207/s15374424jccp3502_1
- Stefanski, M. (2023, May 22). Illinois lawmakers approve bill requiring schools to notify parents of bullying within 24 hours. *NBC Chicago*. <https://www.nbcchicago.com/news/local/illinois-lawmakers-approve-bill-requiring-schools-to-notify-parents-of-bullying-within-24-hours/3146283/>
- Sullivan, T. N., Farrell, A. D., & Kliewer, W. (2006). Peer victimization in early adolescence: Association between physical and relational victimization and drug use, aggression, and delinquent behaviors among urban middle school students. *Development and Psychopathology*, *18*(1), 119-137. <https://doi.org/10.1017/S095457940606007X>
- Tang, W., Chen, M., Wang, N., Deng, R., Tang, H., Xu, W., & Xu, J. (2023). Bullying victimization and internalizing and externalizing problems in school-aged children: The mediating role of sleep disturbance and the moderating role of parental attachment. *Child Abuse & Neglect*, *138*, Article 106064. <https://doi.org/10.1016/j.chiabu.2023.106064>
- Tao, Z., Zhao, X., Wang, Z., Yu, C., & Zhang, W. (2022). Rejection sensitivity mediates the interparental conflict and adolescent Internet addiction: School connectedness as a moderator. *Frontiers in Psychology*, *13*, Article 1038470. <https://doi.org/10.3389/fpsyg.2022.1038470>
- Torres, M. (2023, June 28). Virginia schools now must notify parents of bullying incidents sooner. *WUSA9*. <https://www.wusa9.com/article/news/local/virginia/new-virginia-laws-july-1-schools-to-notify-parents-of-alleged-bullying-sooner/65-54376b32-2301-4bd1-ac6c-c4d756c9f3e2>
- Valdebenito, S., Tofsi, M., & Eisner, M. (2015). Prevalence rates of drug use among school bullies and victims: A systematic review and meta-analysis of cross-sectional studies. *Aggression and Violent Behavior*, *23*, 137-146. <https://doi.org/10.1016/j.avb.2015.05.004>
- Vrijen, C., Wiertsema, M., Ackermans, M. A., van der Ploeg, R., & Kretschmer, T. (2021). Childhood and adolescent bullying perpetration and later substance use: A meta-analysis. *Pediatrics*, *147*(3), Article e2020034751. <https://doi.org/10.1542/peds.2020-034751>
- Weatherston, K. A., O'Neill, M., Lau, E. Y., Qian, W., Leatherdale, S. T., & Faulkner, G. E. (2018). The protective effects of school connectedness on substance use and physical activity. *Journal of Adolescent Health*, *63*(6), 724-731. <https://doi.org/10.1016/j.jadohealth.2018.07.002>
- Wolke, D., Woods, S., Bloomfield, L., & Karstadt, L. (2001). Bullying involvement in primary school and common health problems. *Archives of Disease in Childhood*, *85*(3), 197-201. <http://dx.doi.org/10.1136/adc.85.3.197>

Crime Victims' Institute Advisory Board

Rep. Andrew Murr, Junction

Texas State Representative
District 53 & Chair of the Texas
House General Investigating
Committee

Hector Villarreal, Alice

Assistant Professor of Criminal
Justice & Interim Site Director,
Coastal Bend College

Libby Hamilton, Round Rock

Victim Liaison, Texas Board of
Pardons and Paroles

**Major Jeffery Robertson,
Wimberley**

Child Abuse Issues

Lindsay Kinzie, Keller

Sexual Assault Issues

Shawn Kennington, Pittsburg

Intoxication Issues

**Senator Joan Huffman,
Houston**

State Senator for District 17
& President Pro Tempore of
the Texas Senate

**Hon. Lee Ann Breading,
Denton**

District Judge, 462nd Judicial
District Court

Erleigh Wiley, Forney
Criminal District Attorney,
Kaufman County

**Abigail Brookshire,
Midlothian**

Student, The University of
Texas at Arlington

Brandi Reed, Amarillo

Director of Education, Family
Support Services of Amarillo,
Inc.

**Chief Emmitt Jackson, Jr.,
Argyle**

Chief of Police, Argyle Police
Department

David E. Schwartz, Bellaire
Pharmacist

**Hillary England,
Pflugerville**

Governor's Designee

**Matthew Ferrara, Ph.D.,
Austin**

Mental Health Professional

Melissa Carter, Bryan
Crime Victims Assistance
Coordinator

Texas State University System Board of Regents

Duke Austin

Chairman
Houston

Alan L. Tinsley

Vice Chairman
Madisonville

Russell Gordy

Regent
Houston

Don Flores

Regent
El Paso

William F. Scott

Regent
Nederland

Stephen Lee

Regent
Beaumont

Sheila Faske

Regent
Rose City

Tom Long

Regent
Frisco

Charlie Amato

Regent
San Antonio

Kelvin Elgar

Student Regent
Beaumont