

Effects of School Connectedness on Mental Health and School Safety

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ABSTRACT

This study investigates the relationship between school connectedness, mental health, and school safety using data from the 2021 Youth Risk Behavior Survey (YRBS). School connectedness, defined as students' sense of belonging and care within the school environment, is a critical protective factor against mental health challenges. The purpose of this study is to examine whether school connectedness is associated with better mental health outcomes and whether this relationship is mediated by perceptions of school safety. Participants included 7,089 high school students from the nationally representative YRBS sample. Binary logistic regression, accounting for the survey's complex sampling design, was employed to estimate adjusted odds ratios (AORs) and interaction effects. Findings revealed that approximately 63% of students reported feeling close to people at their school. Students who experienced safety concerns, bullying, or threats reported significantly lower levels of school connectedness and poorer mental health outcomes. School connectedness was positively associated with reduced levels of anxiety, depression, and suicidal ideation. Notably, perceptions of school safety significantly mediated the relationship between connectedness and mental health, underscoring the importance of fostering safe and inclusive school environments. These findings highlight school connectedness as a vital intervention target for promoting youth well-being. Implications and future directions for research as discussed.

KEYWORDS: School Connectedness, Mental Health, School Safety

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INTRODUCTION

School connectedness plays a pivotal role in fostering youth well-being, serving as a cornerstone for students' emotional and psychological health. Defined as the feeling of being cared for, valued, and supported within the school environment, school

connectedness encompasses a range of factors that collectively influence students' overall experience and sense of belonging (CDC, 2018; Marsh et al., 2019; McCabe et al., 2021). These factors include positive relationships with teachers and/or other school-based adults, peer interactions, engagement in school activities, feelings of safety, academic support, an inclusive school climate, clear and fair

school policies, and parental involvement (Bersamin et al., 2018; Chapman, et al., 2013; Thapa et al., 2013).

Research (Allen et al., 2021; Balfanz et al., 2024; Peng et al., 2024) highlights the profound impact of these variables on students' connectedness to their school. For instance, youth who perceive their teachers as supportive and approachable are more likely to develop a strong attachment to their school. Similarly, positive peer relationships and active participation in school activities further enhance this connection. Furthermore, a safe and inclusive school environment, along with equitable school policies and active parental involvement, significantly contributes to students' overall sense of security and belonging.

The relationship between school connectedness and mental health has been well-documented. Studies demonstrate that youth who experience a high level of connectedness to their school tend to exhibit lower levels of anxiety, depression, and emotional distress. For example, Shochet et al. (2006) found that increased school connectedness is a significant predictor of reduced depressive and anxious symptoms among adolescents. Additionally, Lester et al. (2013) noted that when youth have feelings of connection to their school they report better emotional well-being and fewer mental health issues.

Central to this dynamic is the role of school safety, which serves as a crucial factor in the relationship between school connectedness and mental health. Research by Loukas et al. (2016) reveals that perceptions of safety within the school environment enhance the protective effects of school connectedness on mental health outcomes. Thus, fostering a safe and supportive school climate not only strengthens youths' sense of connection but also promotes better mental health.

Purpose of the Present Study

Understanding the relationship between youths' perceptions of school connectedness, mental health, and school safety is crucial for identifying how schools can foster healthy behaviors, mitigate risks, and support positive developmental trajectories. Additionally, examining school connectedness as a protective factor across diverse racial, ethnic, sexual orientation, and gender identities is essential for evaluating its potential as an effective intervention. Notably, the 2021 Youth Risk Behavior Survey (YRBS) conducted by the Centers for Disease Control and Prevention (CDC) (CDC, 2021) included, for the first time, a single-item measure of school connectedness, allowing for an analysis of these perceptions among a nationally representative sample of U.S. high school students.

This manuscript aims to contribute to the growing literature on the benefits of school connectedness by investigating its role in creating environments that enhance students' sense of belonging and security. Specifically, the research explores the intricate relationships between school connectedness, school safety, and mental health. The study seeks to answer the following question: Is school connectedness related to better mental health and is this relationship explained by feelings of school safety?

LITERATURE REVIEW

School connectedness, though often considered an abstract concept, has been clearly defined in previous research. Building on these studies, this research defines school connectedness as the sense of being cared for and valued within the school environment, a crucial factor in fostering youth well-being. (CDC, 2018; Marsh et al., 2019; McCabe et al., 2021). Several elements contribute to school connectedness,

including positive relationships with teachers and peers, participation in school activities, school safety, academic support, an inclusive school climate, clear and fair policies, and parental involvement (Bersamin et al., 2018; Chapman et al., 2013; Thapa et al., 2013). This research specifically aims to explore the impact of school connectedness on mental health and school safety.

Mental Health

Research consistently shows that strong feelings of school connectedness are linked to lower levels of negative mental health outcomes and provide long-term protective benefits across various health domains. These include reduced emotional distress, suicidal ideation, physical violence, victimization, multiple sexual partners, prescription drug misuse, and other illicit drug use. For example, studies have found that youth who feel connected to their school are less likely to experience emotional distress, such as depression and anxiety, or report suicidal thoughts (CDC, 2018; Eugene et al., 2021; Hertz et al., 2022; Kim, 2020; Langille et al., 2015; Lester et al., 2013; Marraccini & Brier, 2017; Shochet et al., 2006). Additionally, they are less likely to engage in physical violence, risky sexual behaviors, or substance use (CDC, 2018; Eugene et al., 2021; Marraccini & Brier, 2017; Sterner et al., 2019; Weatherson et al., 2018; Wilkins et al., 2023). Moreover, youth with higher levels of school connectedness are more likely to adopt positive health behaviors, such as regular physical activity and healthy eating (Neely et al., 2015; Steiner et al., 2019; Weatherson et al., 2018), and demonstrate better academic outcomes, including higher grades, improved attendance, and increased likelihood of high school graduation (Niehaus et al., 2012; 2016). Finally, Steiner et al. (2019) further highlighted that a sense of school connectedness not only influences immediate well-being but also has long-term benefits, including enhanced life satisfaction. Their findings suggest that the positive effects of feeling

connected at school extend beyond academic performance and mental health, contributing to overall life satisfaction and well-being in youth. This underscores the far-reaching impact of fostering a supportive and inclusive school environment, as the emotional and social bonds formed during these years can shape individuals' quality of life well into the future.

In addition, school connectedness is particularly crucial for marginalized youth, including sexual and gender minorities, racial and ethnic minorities, and those from low socioeconomic backgrounds (Coulter et al., 2021; Fisher et al., 2020; Foster et al., 2017; Mazyeh, 2021; Merritt & Snyder, 2015). For example, Foster et al. (2017) and Merritt and Snyder (2017) found that high school connectedness has been associated with lower levels of peer victimization, experiences of school violence, and poor mental health among youth identifying as lesbian, gay, or bisexual. In addition, school connectedness has been associated with both an increased likelihood of bystander intervention during bullying and increased likelihood of seeking assistance after being bullied.

Similarly, another marginalized group of concern in discussions of school connectedness and mental health are youth with emotional and behavioral disorders (EBD). While most research on school connectedness has focused on youth without EBD, there is limited research specifically examining the experiences of students with disabilities, especially those with EBD (Chapman et al., 2013; Hecker et al., 2014; Marsh et al., 2019). Students with EBD often report low levels of school bonding and attachment, as they typically struggle to form and maintain positive relationships with teachers and peers (Hecker et al., 2014; Kauffman & Landrum, 2013; Kern, 2015; Marsh et al., 2019). These students tend to express greater dissatisfaction with school, their teachers, and their peers compared to other students with disabilities (Hecker et al., 2014).

Finally, Eugene et al. (2021) and Imran et al. (2020) highlighted an increase in cyberbullying during the COVID-19 pandemic, as the reduction in in-person interaction heightened the risk of online victimization. Both in-person and online bullying have been shown to significantly undermine school connectedness, with victims reporting lower levels of connectedness. Additionally, Rothstein and Olympia (2020) reported that many students experienced decreased access to in-person healthcare and mental health resources during the pandemic, which further worsened pre-existing mental health issues. Fisher et al. (2020) found that the COVID-19 pandemic had a harmful impact on the mental health of LGBTQIA+ youth by reducing opportunities to build supportive, identity-affirming relationships at school.

School Safety

Feelings of safety at school are a crucial factor in fostering both school connectedness and positive mental health outcomes for youth. When youth perceive their school environment as safe, they are more likely to feel a sense of belonging, which strengthens their emotional connection to the school. This connection not only enhances academic engagement but also plays a significant role in supporting better mental health outcomes. For instance, studies (Allen et al., 2024; Balfanz et al., 2024; Dias et al., 2024; Tsujimoto et al., 2024) indicate that when students feel safe in their school environment, they are more likely to develop a stronger emotional connection to their school, leading to better engagement in academic activities and improved mental well-being. This sense of safety can foster trust and stability, enhancing students' ability to focus on their studies and participate actively in school life. Additionally, environments that prioritize inclusivity and support from teachers and peers have been shown to contribute positively to school connectedness and overall student success. These factors collectively

highlight how a secure school setting can promote both academic and emotional well-being among students.

Similarly, Loukas et al. (2016) explored the relationship between school safety, connectedness, and mental health outcomes, revealing that perceptions of safety act as a mediator between these factors. Their findings suggested that youth who feel safer at school are more likely to experience the protective benefits of school connectedness, such as reduced anxiety and depression. This underscores the importance of promoting safe school environments to enhance both emotional and psychological well-being in students.

In addition, Aldridge et al. (2020) found that students who perceived their school environment as secure were more likely to feel connected to their peers and school staff. This sense of connection was associated with lower levels of emotional distress and better mental health outcomes, further supporting the idea that a safe and supportive school climate is essential for student well-being. Suldo et al. (2018) demonstrated that school connectedness could buffer the negative effects of stressful life events, but only when students felt safe and supported in their school environment.

Finally, a comprehensive review of school safety by Cohen and Geier (2020) emphasized that schools fostering positive relationships among students, teachers, and administrators, along with clear anti-bullying policies, promote both safety and mental health. The review argued that feelings of safety contribute to students' willingness to engage in school activities, which leads to improved academic and social-emotional outcomes.

The consistent evidence across these studies highlights the critical role that school safety plays in reinforcing school connectedness and, by extension,

mental health outcomes. It reinforces the need for schools to focus on creating environments where students not only feel physically secure but also emotionally supported to optimize their overall development.

Theoretical Perspective

Social Control Theory (SCT), developed by Travis Hirschi (1969), offers a valuable framework for understanding the role of school connectedness in shaping student behavior and development. According to SCT, individuals are naturally inclined toward deviance unless they are bonded to society through four key elements: attachment, commitment, involvement, and belief. These social bonds act as restraints on deviant behavior and encourage conformity to societal norms. Within the school environment, these elements are particularly influential in guiding students toward prosocial development and academic success.

Among these four elements, attachment is considered the most critical, especially in the context of school connectedness. Attachment refers to the emotional bonds students form with significant figures in their lives—such as teachers, counselors, and peers. In schools, when students feel genuinely cared for and understood by adults, they are more likely to experience a sense of emotional security. This secure attachment supports students' psychological well-being, enabling them to navigate academic and personal challenges with resilience and confidence. Yuen and Wu (2024) emphasize the importance of these emotional connections, noting that attachment to supportive school figures lays a strong foundation for both mental health and academic achievement.

Furthermore, SCT explains that the presence of strong social bonds fosters an internalization of school norms and values. When students feel connected to their school community, they are more likely to adopt its expectations and behave in ways

that align with those expectations. Commitment to educational goals, involvement in school activities, and belief in the legitimacy of school rules all work together to reinforce a student's place within the school structure. These bonds not only encourage students to invest in their education but also reduce the likelihood of engaging in behaviors that would jeopardize their standing within the school community.

School connectedness, viewed through the lens of SCT, serves as a powerful protective factor against problematic behaviors such as truancy, bullying, and delinquency. The theory suggests that when students are emotionally invested in the relationships and routines of school life, they have more to lose by acting out. As Hirschi (1969) asserts, the stronger these social bonds, the greater the likelihood that individuals will conform to prosocial norms and resist deviant temptations. Empirical studies have supported this perspective, consistently linking strong school connectedness with lower rates of misconduct and higher levels of academic engagement.

In sum, Social Control Theory provides a compelling explanation for the importance of school connectedness in promoting student well-being and deterring negative behaviors. By fostering strong attachments, encouraging commitment to academic and social goals, and supporting students' belief in the school's mission, educators can create environments where students feel valued and motivated to succeed. These social bonds not only enhance individual development but also contribute to a positive and safe school climate for all.

METHOD

Overview

The methods section outlines the research design and analytical approach employed to investigate the following research question: Is school connectedness related to better mental health and is this relationship explained by feelings of school safety? The following subsections detail the participant selection, data collection procedures, measures employed, and statistical analyses conducted to address the research question effectively.

Data and Sample

The data for this study were drawn from the 2021 Youth Risk Behavior Survey (YRBS), which surveys a nationally representative sample of high school students (grades 9–12) and is conducted by the CDC. The YRBS monitors health-related behaviors that contribute to the leading causes of death, disability, and social problems among youth in the United States. These behaviors are categorized into several key areas, including behaviors that contribute to unintentional injuries and violence, sexual behaviors, alcohol and other drug use, tobacco use, unhealthy dietary behaviors, and inadequate physical activity.

The YRBS uses a self-administered, anonymous questionnaire to collect data on a wide range of risk behaviors. The survey is conducted in school classrooms, and participation is voluntary. The CDC ensures that all participants provide informed consent, and efforts are made to ensure confidentiality and minimize potential biases in responses. The YRBS is conducted biennially in both public and private schools across the United States. It employs a three-stage cluster sampling design to ensure that the results are representative of students in grades 9 through 12 at the national, state, and local levels. The 2021 sample consists of 17,232 students. In the current study, the sample was restricted to only

those who answered the survey question for the outcome of interest (see below for description), resulting in a sample size of 7,089 students in the 2021 national cohort.

MEASURES

Outcome

The outcome measure of interest is feel close to people, which measures students' level of agreement to the question, "Do you agree or disagree that you feel close to people at your school?" In the subsequent analyses we utilized the binary version of the variable provided in the data, which captures the percentage of students who strongly agree or agree that they are close to people at their school (0 = no, 1 = yes).

Key predictors

There are several predictors of interest that capture experiences and behaviors during the 12 months before the survey. Carry weapons measures whether students reported carrying a weapon at school. Safety concerns measures whether students reported not going to school because they felt unsafe at school or on their way to school. Threatened measures whether students reported someone threatening or injuring them with a weapon at school. Physical fight captures whether students reported getting into a physical fight. Bullied at school measures whether students reported being bullied on school property, while cyber bullied measures whether students were electronically bullied. Drugs at school measures whether students reported being offered, sold, or given an illegal drug on school property. All the predictors are binary (0 = no, 1 = yes).

Covariates

Several sociodemographic measures were also included. Sex measures students' biological sex (0 = female, 1 = male). Grade captures which grade the students were in at the time of the survey (0 = 9th grade, 1 = 10th grade, 2 = 11th grade, 3 = 12th grade). Race/ethnicity of the students captures several categories include White (used as the reference), Black, Hispanic, and all other races. Students also reported sexual identity, which was measured as 0 for heterosexual, 1 for gay or lesbian, 2 for bisexual, 3 for describe in other ways, and 4 for questioning sexual identity. Suicidal ideation measures whether students consider or attempted suicide (0 = no, 1 = yes). Two measures of mental health were included. First, current poor mental health measures whether students reported that their mental health was poor during the 30 days before the survey. The second measure, poor COVID mental health, captures whether students reported poor mental health most of the time during the COVID-19 pandemic. Both mental health measures are binary (0 = no, 1 = yes).

Analytical Plan

The primary objective of this study is to examine if there is a relationship between key predictors and whether individuals feel close to people at school. To achieve this, we conducted binary logistic regression, given the binary nature of the outcome variable. Data management and analyses were conducted using Stata 18 (StataCorp, 2023). To account for the complex survey design and ensure that the results are nationally representative, the YRBS data include survey weights, PSU, and stratum variables. Given that the YRBS employs a complex survey design, including stratification, clustering, and unequal probability sampling, all analyses used survey-specific commands to ensure that standard errors, confidence intervals, and significance tests were correctly adjusted. Specifically, we used the `svy` command in Stata 18 (StataCorp, 2023). In the following section,

descriptive statistics are presented as weighted percentages and confidence intervals and unweighted frequencies. To accurately reflect the population while maintaining transparency about the analytic sample, we report unweighted frequencies alongside survey-weighted percentages and 95% confidence intervals. Unweighted counts (n) represent the actual number of participants in the sample who endorsed each response option, providing a clear view of the underlying sample size for each estimate. In contrast, percentages and confidence intervals were calculated using survey weights to adjust for the complex sampling design, including stratification, clustering, and unequal probabilities of selection. These weights allow for population-level inferences that account for design effects and nonresponse, thereby improving the generalizability of the findings. Confidence intervals around each percentage provide a measure of precision for these weighted estimates.

Given our additional interest in examining whether the relationship between safety concerns and the outcome varies by sociodemographic characteristics, we explored interaction effects. After fitting the models, we used the `margins` command in Stata to calculate adjusted predicted probabilities of the outcome across different levels of key predictors and interactions. The `marginsplot` command was then used to graphically display the interaction effects, providing a clearer interpretation of how the predictors impact the outcome at different levels. For the logistic regression model, we report adjusted odds ratios (AOR), robust standard errors (RSE), 95% confidence intervals (CI), and p-values. A p-value of <0.05 was considered statistically significant. We estimated two models (1) with only main effects (not shown) and (2) with both main effects and the interaction terms. All covariates were entered simultaneously. The results for the main effects were consistent across the models, therefore, in the subsequent section we present the only the full

model with both the main effects and interaction terms to conserve space.

RESULTS

Descriptive Statistics

Table 1 presents the sample descriptive statistics as weighted percentages with 95% confidence intervals and unweighted frequencies. About 61.5% of students reported feeling close to people ($n = 5,579$, 95% CI [58.7%, 64.2%]), suggesting that a majority of students have a sense of social connectedness. The proportion of students who reported carrying weapons was 6.12% ($n = 315$, 95% CI [5.84%, 6.40%]). About 5.94% of students reported having safety concerns ($n = 750$, 95% CI [5.67%, 6.22%]). While this figure is relatively low, it still represents a notable portion of the population. Approximately 7.47% of students reported being threatened ($n = 653$, 95% CI [7.24%, 7.71%]), and 11.53% reported involvement in physical fights ($n = 518$, 95% CI [11.16%, 11.91%]). Nearly 19% of students reported being bullied at school ($n = 1,392$, 95% CI [18.44%, 19.53%]), and 15.52% reported being cyber-bullied ($n = 1,233$, 95% CI [15.10%, 15.95%]). The percentage of students who reported encountering drugs at school was 24.53% ($n = 1,239$, 95% CI [23.85%, 25.20%]).

Demographics. About 51.18% of the sample identified as male ($n = 4,818$, 95% CI [50.61%, 51.74%]), indicating an approximately equal gender distribution. Regarding grade level, 27.09% were in 9th grade ($n = 2,321$, 95% CI [26.62%, 27.56%]), 25.51% in 10th grade ($n = 2,314$, 95% CI [25.18%, 25.85%]), 24.00% in 11th grade ($n = 2,311$, 95% CI [23.69%, 24.32%]), and 23.39% in 12th grade ($n = 2,340$, 95% CI [23.00%, 23.79%]).

In terms of race and ethnicity, 60.02% of students identified as White ($n = 4,481$, 95% CI [58.38%, 61.64%]), 13.71% as Black ($n = 1,424$, 95% CI [12.83%, 14.63%]), 16.69% as Hispanic ($n = 2,051$, 95% CI [15.61%, 17.83%]), and 9.58% as all other racial or ethnic categories ($n = 1,203$, 95% CI [8.89%, 10.32%]).

Regarding sexual identity, 75.54% of students identified as heterosexual ($n = 6,727$, 95% CI [73.64%, 77.35%]), 3.24% as gay or lesbian ($n = 303$, 95% CI [2.77%, 3.78%]), 12.11% as bisexual ($n = 1,025$, 95% CI [11.14%, 13.15%]), 3.92% described their identity in other ways ($n = 346$, 95% CI [3.44%, 4.46%]), and 5.20% reported questioning their sexual identity ($n = 435$, 95% CI [4.577%, 5.91%]).

With respect to mental health, 22.06% of students reported having suicidal ideation ($n = 2,225$, 95% CI [21.62%, 22.52%]). 29.26% reported currently experiencing poor mental health ($n = 2,690$, 95% CI [27.78%, 30.79%]), and 36.93% reported poor mental health related to the COVID-19 pandemic ($n = 3,310$, 95% CI [35.00%, 38.90%]).

Multivariate Results

Table 2 presents the binary logistic regression model that examines whether various predictors are associated with the outcome of interest. The odds of feeling close to people at school are 0.69 times lower for those who carried weapons compared to those who did not, though this is not significant ($p = 0.083$). Being bullied in school is significantly associated with lower odds of feeling close to people at school (AOR = 0.68, $p < 0.001$). Being in 10th and 12th grades is associated with significantly lower odds of feeling close to people compared to being in 9th grade. The 12th grade has the largest effect (AOR = 0.68, $p = 0.002$). Black (AOR = 0.55, $p < 0.001$) and Hispanic students (AOR = 0.70, $p < 0.001$) had significantly lower odds of feeling close to people at

Table 1. Summary Statistics

	% ^a	n ^b	95% CI ^a
Feeling Close to People (1 = yes)	61.50%	5,579	[58.7%, 64.22%]
Carry weapons (1 = yes)	6.12%	315	[5.84%, 6.40%]
Safety concerns (1 = yes)	5.94%	750	[5.67%, 6.22%]
Threatened (1 = yes)	7.47%	653	[7.24%, 7.71%]
Physical fight (1 = yes)	11.53%	518	[11.16%, 11.91%]
Bullied at school (1 = yes)	18.98%	1,392	[18.44%, 19.53%]
Cyber bullied (1 = yes)	15.52%	1,433	[15.10%, 15.95%]
Drugs at school (1 = yes)	24.53%	1,239	[23.85%, 25.23%]
Sex (Male)	51.18%	4,818	[50.61%, 51.74%]
Grade			
9th Grade	27.09%	2,321	[26.62%, 27.56%]
10th Grade	25.51%	2,314	[25.18%, 25.85%]
11th Grade	24.00%	2,311	[23.69%, 24.32%]
12th Grade	23.39%	2,340	[23.00%, 23.79%]
Race/Ethnicity			
White	60.02%	4,481	[58.38%, 61.64%]
Black	13.71%	1,424	[12.83%, 14.63%]
Hispanic	16.69%	2,051	[15.61%, 17.83%]
All others	9.58%	1,203	[8.89%, 10.32%]
Sexual Identity			
Heterosexual	75.54%	6,727	[73.64, 77.35%]
Gay or lesbian	3.24%	303	[2.77%, 3.78%]
Bisexual	12.11%	1,025	[11.14%, 13.15%]
Describe in other ways	3.92%	346	[3.44%, 4.46%]
Questioning sexual identity	5.20%	458	[4.57%, 5.91%]
Suicide ideation (1 = yes)	22.06%	2,225	[21.62%, 22.52%]
Current Poor Mental Health (1 = yes)	29.26%	2,669	[27.78%, 30.79%]
Poor COVID Mental Health (1 = yes)	36.93%	3,310	[35.00%, 38.90%]

^a = weight percentages and 95% confidence intervals, ^b = unweighted counts

Table 2
Binary Logistic Regression

Variable	AOR	RSE	95% CI
Carry weapons	0.69	0.13	[0.45, 1.05]
Safety concerns	0.84	0.19	[0.53, 1.24]
Threatened	0.83	0.15	[0.57, 1.20]
Physical fight	0.78	0.15	[0.52, 1.17]
Bullied at school	0.68***	0.07	[0.56, 0.82]
Cyber bullied	0.95	0.11	[0.75, 1.22]
Drugs at school	1.07	0.13	[0.82, 1.40]
Sex (Male)	1.12	0.07	[0.98, 1.28]
Grade (ref = 9th grade)			
10th Grade	0.84*	0.07	[0.71, 0.99]
11th Grade	0.80	0.09	[0.63, 1.02]
12th Grade	0.68**	0.07	[0.55, 0.85]
Race/Ethnicity (ref = White)			
Black	0.55***	0.05	[0.45, 0.67]
Hispanic	0.70***	0.04	[0.63, 0.79]
All others	0.94	0.13	[0.71, 1.24]
Sexual Identity (ref = Hetero)			
Gay or lesbian	0.95	0.15	[0.69, 1.31]
Bisexual	1.03	0.12	[0.80, 1.32]
Describe in other ways	0.73	0.15	[0.47, 1.14]
Questioning sexual identity	0.61**	0.09	[0.46, 0.82]
Suicide ideation	0.64***	0.06	[0.53, 0.78]
Current Poor Mental Health	0.64***	0.05	[0.58, 0.73]
Poor COVID Mental Health	0.90	0.08	[0.75, 1.08]
Interaction Terms			
Gay or Lesbian x Safety Concerns	3.75*	2.14	[1.17, 12.09]
Bisexual x Safety Concerns	1.13	0.46	[0.50, 2.57]
Other x Safety Concerns	1.22	0.86	[0.31, 4.71]
Questioning x Safety Concerns	1.59	0.95	[0.47, 5.35]
Current Mental Health x Safety Concerns	0.58*	0.14	[0.35, 0.97]
N	7089		

school compared to White students. Students who are questioning their sexual identity have significantly lower odds of feeling close to people (OR = 0.61, $p = 0.002$). Other sexual identities do not show significant differences. Those with a history of suicidal ideation (AOR = 0.64, $p < 0.001$) and current mental health issues (AOR = 0.64, $p < 0.001$) have lower odds of feeling close to people at school.

There is a significant interaction between safety concerns and identifying as gay or lesbian (AOR = 3.75, $p = 0.028$), suggesting that the relationship between safety concerns and feeling close to people may vary based on sexual identity. Additionally, there is a significant interaction between safety concerns and current mental health (AOR = 0.58, $p = 0.037$), indicating the combined effect of these variables influences the outcome.

Figures 1 and 2 presents that margins plot for the interaction terms. Figure 1 shows that gay or lesbian students who reported safety concerns have a higher probability of feeling close to people compared to other sexual identities. Among students without safety concerns, gay or lesbian students have a lower probability of feeling close to people compared to students who identify as heterosexual. In Figure 2, those with poor mental health have a lower probability of feeling close to people than their counterparts, and this predicted probability decreases for those with poor mental health who have safety concerns.

Figure 1

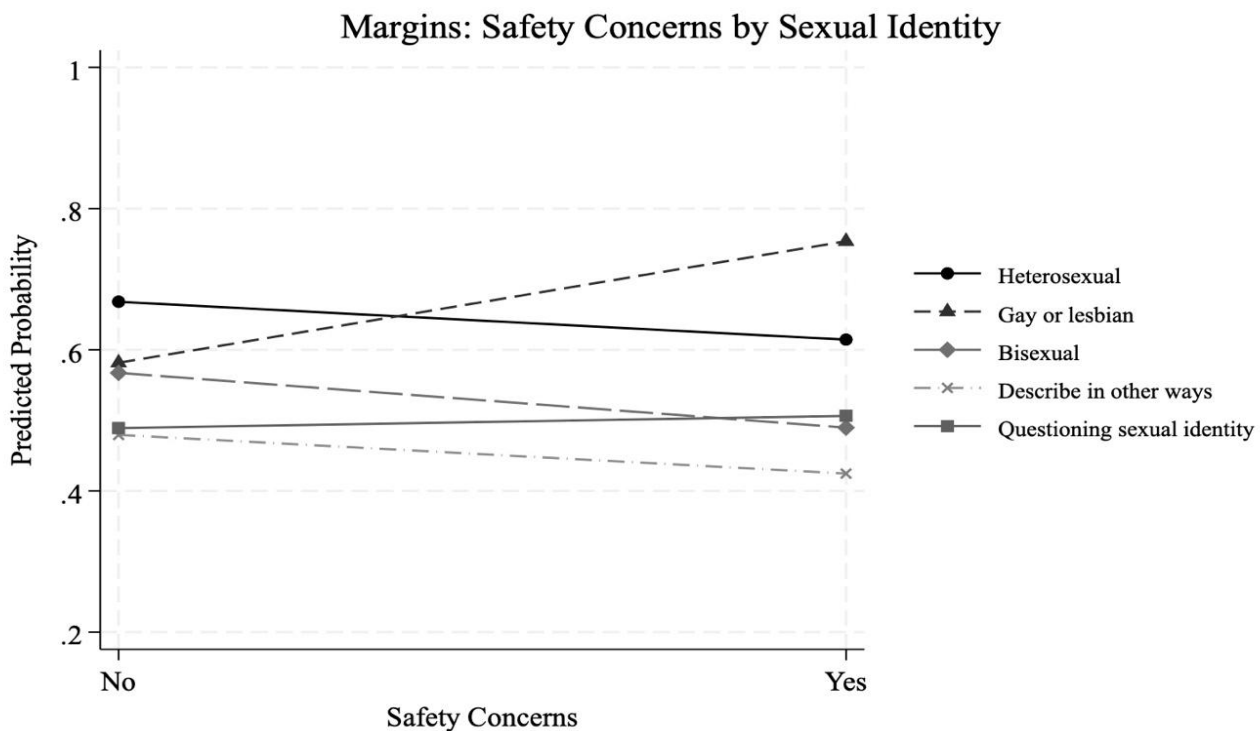
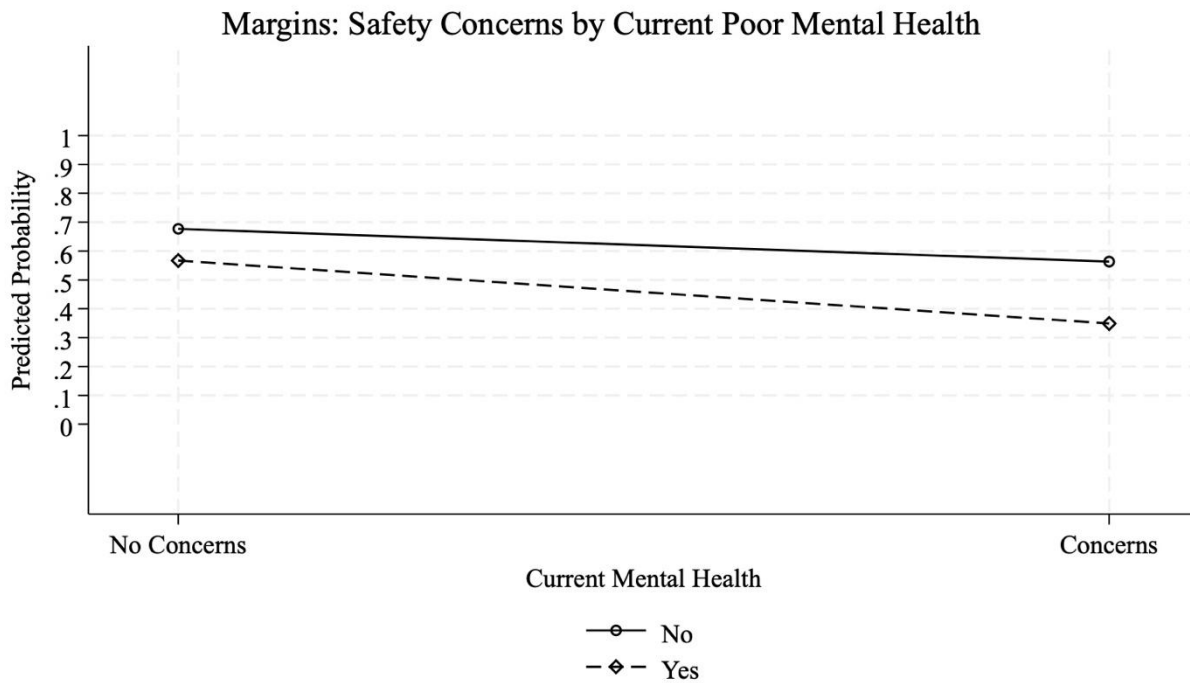


Figure 2



DISCUSSION

The present study examined the relationship between school connectedness and mental health, with particular attention to whether students’ feelings of safety at school influence this connection. Using data from the 2021 Youth Risk Behavior Survey (YRBS) (CDC, 2021), the analysis focused on a nationally representative sample of high school students. Results indicated that many students reported feeling connected to peers; however, this sense of connectedness was significantly affected by risk factors such as bullying, suicidal ideation, and perceptions of safety. Students who reported being bullied at school were significantly less likely to feel close to others, reinforcing existing research on the

harmful effects of bullying on social relationships and mental health. Similarly, students with a history of suicidal ideation or poor mental health also reported lower levels of social connectedness, further illustrating the strong link between emotional well-being and peer relationships. These findings support prior studies suggesting that positive peer relationships can serve as protective factors for mental health.

Social Control Theory (SCT) offers a useful framework for interpreting these findings, highlighting the importance of strong social bonds in guiding behavior and supporting healthy development. According to SCT, students who lack secure connections with peers and school personnel may experience reduced feelings of belonging, increasing the likelihood of emotional distress and

behavioral problems. On the other hand, supportive relationships within the school environment can strengthen students' adherence to shared norms and values, promoting both psychological well-being and positive conduct (Hirschi, 1969).

These findings align well with the principles of SCT, reinforcing its value in understanding how school connectedness impacts student outcomes. A large body of research has shown that students who feel more connected to their school communities tend to exhibit better mental health, engage in prosocial behaviors, and experience academic success. These benefits are often rooted in strong relationships—whether with teachers, peers, or other trusted adults in the school setting. Fostering these relationships is essential to building safe, supportive, and thriving learning environments.

Moreover, the results revealed notable differences in perceived connectedness based on sociodemographic characteristics. Black and Hispanic students were less likely than their White peers to report feeling connected at school. This disparity raises important questions about the systemic barriers contributing to unequal experiences of belonging and highlights the need for targeted strategies to promote inclusivity and support for all students.

The data also suggest that sexual identity intersects with feelings of safety and connectedness. Specifically, gay and lesbian students who expressed concerns about their safety were more likely to report feeling close to their peers. This finding may reflect the buffering effect of peer support within marginalized communities, where strong interpersonal connections can offer a sense of solidarity and protection even in the face of adversity.

The World Health Organization (WHO) defines health as “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (WHO, 2025). Historically,

discussions of school safety have centered on physical violence, disciplinary actions, and external threats. However, growing evidence points to the impact of mental health disorders—such as anxiety and depression—particularly among underrepresented groups and students with intellectual disabilities. For many of these students, schools may feel unsafe not because of overt violence, but due to exclusion, lack of support, and the absence of culturally and developmentally appropriate practices. Therefore, the concept of school safety must evolve to include environments that are inclusive, supportive, and responsive to students' holistic needs.

Traditionally, school interventions have followed a deficit-based model, focusing on what is wrong, what is lacking, and why students are struggling. In contrast, asset-based approaches prioritize student strengths and center the individual. Three leading asset-based frameworks include Positive Youth Development (PYD), trauma-informed approaches, and Critical Youth Engagement (CYE). Each of these models offers effective strategies to support the physical and mental health of vulnerable youth.

Positive Youth Development focuses on promoting strengths and fostering positive identities rather than simply preventing negative outcomes. Developed in the 1990s, PYD emerged as a response to traditional intervention models that concentrated solely on problem behaviors such as substance use, dropout rates, and teen pregnancy (Lerner et al., 2005; 2013). A school-based example is Harlem Lacrosse's (2020) integrated youth development program, which combines academics, mentoring, and athletics to support student growth.

Trauma-informed approaches aim to create safe, nurturing environments that acknowledge and address the impact of trauma, including Adverse Childhood Experiences (ACEs). These approaches equip schools with policies and practices that respond to trauma symptoms while actively avoiding

re-traumatization. Research has shown that trauma-informed schools can increase academic performance, decrease emotional and psychological distress, enhance student-teacher relationships, and reduce disciplinary incidents (Fondren et al., 2020; Wall, 2021). Exemplary models include John T. White Elementary School in Texas, Baltimore City Schools, and the Nānākuli-Wai‘anae Complex Area in Hawaii.

Critical Youth Engagement (CYE), also known as critical youth empowerment, promotes sustained, meaningful participation of youth in civic and community-oriented activities. In school settings, examples include Gender and Sexuality Alliances (GSAs), student-led groups that bring together LGBTQ+ students and allies to build inclusive communities and advocate for social change.

Finally, these frameworks illustrate the importance of shifting away from punitive or deficit-based models and toward inclusive, strength-based strategies that prioritize student well-being and engagement. By cultivating environments where students feel safe, valued, and connected, schools can foster not only academic success but also long-term health and resilience.

Limitations

While this study provides valuable insights, it is essential to acknowledge its limitations. The reliance on self-reported data may introduce biases, as youth may underreport or overreport their experiences due to social desirability or recall bias due to the long recall period. Additionally, the cross-sectional nature of the YRBS limits causal inferences regarding the relationships examined. Several factors are strongly associated with feelings of closeness, but the causal relationships among these factors—such as feelings of safety and mental health status—can be complex. For example, while feelings of safety may enhance feelings of closeness, it is also possible that feelings

of closeness contribute to a sense of safety. Future studies employing longitudinal designs could better elucidate the directionality of these relationships over time. Furthermore, the measures used in this study, while robust, may not capture the full spectrum of experiences that influence school connectedness and mental health, particularly regarding nuanced aspects of safety and identity. School level measures, such the racial and ethnic breakdown of the study body, can help to provide further context about the school experience. For instance, feelings of closeness among Black and Hispanic students may be impacted by how diverse their school (or classroom) is.

Future Research

Future research should explore the mechanisms underlying the relationships identified in this study. Qualitative approaches could provide deeper insights into the lived experiences of students, particularly those from marginalized backgrounds. Additionally, examining the impact of school-level interventions aimed at enhancing connectedness and safety could inform best practices for fostering supportive environments. It would also be beneficial to investigate the role of other factors, such as parental support and community engagement, in promoting school connectedness and mental health.

CONCLUSION

This study underscores the importance of school connectedness as a protective factor for mental health among high school students. The findings highlight the multifaceted nature of this relationship, influenced by experiences of bullying, perceptions of safety, and sociodemographic factors. Addressing these challenges is crucial for educators and policymakers aiming to cultivate supportive school environments that promote mental well-being and

foster a sense of belonging for all students. Continued research in this area is vital for developing effective interventions and enhancing our understanding of the complex dynamics between school connectedness, safety, and mental health.

DECLARATION OF INTEREST

On behalf of all authors, the corresponding author states that there are no conflicts of interest to disclose.

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