THE INTERPLAY BETWEEN GROUP IDENTITY, SUICIDALITY, AND BULLYING IN MIDWESTERN MIDDLE SCHOOL YOUTH

Sarah J. Atunah-Jay, MD, MPH, Susanna N. Basappa, BS, Kristin Fischer, MPH,
Monica Taylor-Desir, MD, MPH, and Sean M. Phelan, PhD, MPH

Abstract: Bullying peaks in middle school and is a risk factor for negative mental health outcomes, including suicidality. Suicide rates are higher in nonmetropolitan/rural areas and for American Indian/Alaska Natives compared to other racial/ethnic groups. Stigma-related bullying, a type of interpersonal discrimination, is increasingly considered an important driver of peer victimization. This study centers on the group identity characteristics of race/ethnicity, weight status, and sex to explore how school-based and electronic-bullying victimization mediate suicidality amongst a cohort of middle school students in North Dakota. Bivariate, multivariate, and structural equation modeling were performed using data from the 2015 North Dakota Middle School Youth Risk Behavior Survey. Minoritized race/ethnicity, very overweight, and female students all experienced statistically higher suicidality than comparison groups, mediated in some instances by bullying. Group identity, stigma, and discrimination may influence suicidality in North Dakota middle school youth. More information is needed on stigma and discrimination, including intersections of identity, as drivers of bullying and suicidality in minoritized youth in nonmetropolitan/rural areas.

INTRODUCTION

Suicide is the second most frequent cause of death amongst 10- to 21-year-olds in the United States, with rates increasing throughout adulthood (Ivey-Stephenson et al., 2017). Suicide rates are higher in nonmetropolitan/rural areas and for American Indian/Alaska Native (AI/AN) persons compared to other racial/ethnic groups, with recent increases observed amongst non-AI/AN minoritized youth (Kann et al., 2018; Kalb et al., 2019; Herne et al., 2014). Between 1999 and 2016, suicide rates in North Dakota, a state with a large rural and AI/AN population, increased by 58%, the largest increase in the United States over that same period and twice the national

average (Stone et al., 2018). Additionally, the prevalence of bullying victimization, a risk factor for suicidality, is amongst the highest in the nation for adolescents aged 12-17 living in North Dakota (Lebrun-Harris et al., 2020).

Since colonists first arrived on Turtle Island, colonist government-led efforts have sought to "erase the Indian and save the child" through investments in germ warfare, reservation systems, government boarding schools, and disproportionate uptake of Native children into child protective systems, amongst other strategies to oppress Indigenous persons (Warne & Lajimodiere, 2015). Warne and Lajimodiere (2015) propose a model for the intergenerational basis for chronic health disparities amongst AI/AN persons, describing the connection between historical trauma, adverse experiences, food systems, and chronic health disparities. Suicidality and racism are presented as adverse experiences significant to Indigenous people.

Non-Indigenous minoritized racial/ethnic groups in the United States also face systemic oppression, which is increasingly acknowledged by the medical community as driving health disparities, including suicide (Trent et al., 2019). Sanders-Phillips et al. (2009) provide a conceptual model that describes the impact of individual- and structural-level racism on psychological and biological responses in children which then impact child health outcomes and disparities. Exposure to racial discrimination is described within microsystems (individual level), such as through teasing and bullying, and macrosystems (structural level), such as normalization of Native-themed mascots in the media (Montoro et al., 2021; Chaney et al., 2011). Discrimination and other experiences not included in initial adverse childhood experiences assessments are increasingly being considered in characterizing stress and trauma experiences of minoritized youth (Wade et al., 2014).

Bullying peaks in middle school and is a risk factor for negative mental health outcomes, including suicidality (Lear et al., 2020; Holt et al, 2014; Arango et al., 2016; Holland et al., 2017). Swearer and Carey relate peaks in middle school bullying to shifts in peer groups and youth need to establish social status (2003). Social identity theory suggests that perceived group memberships are important sources of pride and self-esteem and that in-group members will discriminate against out-group members to enhance self-image (Tajfel & Turner, 1979; Ybarra et al., 2019).

The social devaluation and discrediting of individuals based on out-group characteristics is termed stigma-related bullying. Stigma-related bullying is a significant element of peer victimization (Eisenberg, et al., 2018; Rivara & Le Menestrell, 2016; Trent et al., 2019; Pont et al., 2017). Stigma-related bullying due to race/ethnicity (Rhee et al., 2017); weight (Nabors et al., 2019; Wang et al., 2010); gender and sexual identity (Leaper & Brown, 2008, Eisenberg et al.,

2018; Mittleman, 2019); physical, mental, intellectual, and/or sensory abilities (Pinquart, 2017); and intersectional experiences of discrimination (Ghavami et al., 2020; Byrd & Carter Andrews, 2016; Bucchianeri et al., 2016; Rosenthal et al., 2015; Mueller et al., 2015) have all been tied to negative health outcomes for youth. Amongst Native youth, high levels of racial/ethnic victimization have been previously described and associated with adverse psychological outcomes (Hautala & Sittner, 2019; Gloppen et al., 2018; Walls et al., 2016). Indigenous intragroup peer victimization, a phenomenon born out of Indian Residential Schools, is increasingly being considered in relation to negative impact on the development of healthy Indigenous identities (Truth and Reconciliation Commission of Canada, 2012; Matheson et al., 2016).

There is evidence that stigma-related bullying may be particularly high in rural youth (Bhatta et al., 2014). While friend and family connectedness are important protective factors for youth living in rural settings, rural youth have unique health needs related to remoteness and lower population density including, but not limited to, decreased access to mental health and medical care services, increased gun ownership, increased poverty, and decreased access to healthy food (Ivey-Stephenson et al., 2017; Caldwell et al., 2016; Jernigan et al., 2010; Smokowski et al., 2009).

The AI/AN population has long been the largest racial minority group in North Dakota; however, there have been recent significant increases in the non-Hispanic Black and Hispanic/Latinx populations (North Dakota Census Office, 2017). Given high suicidality amongst AI/AN persons and increases in suicide across other minoritized populations, it is useful to explore the degree to which bullying mediates suicidality amongst socially salient identity groups living in North Dakota. This study explores an a priori conceptual model of how school-based and electronic-bullying victimization mediate the association between stigmatized characteristics and suicidality amongst a cohort of diverse middle school students in North Dakota. Understanding the interplay between group identity, bullying, and suicidality is important to prioritize interventions to support the well-being of AI/AN, rural, and diverse students.

METHODS

Instruments

Secondary data analysis was performed using cross sectional data from the 2015 North Dakota Middle School-Youth Risk Behavior Survey (NDMS-YRBS) which collects data on behaviors related to leading causes of death and disability among youth attending public schools to

assess how risk and protective behaviors change over time (North Dakota Department of Public Instruction, 2015). The NDMS-YRBS was developed by the state health department in collaboration with local health education agencies and other federal agencies and is based on the standard YRBS questionnaire provided by the Division of Adolescent and School Health, located in the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, part of the Centers for Disease Control and Prevention (CDC). Schools must have a minimum of 10 enrolled students to participate and may take part if selected for a representative CDC sample or through voluntarily participation.

Participants

During the 2014-2015 school year, 15,367 7th- and 8th-grade students attended eligible North Dakota public middle schools; of these, during the spring of 2015, 7,469 students from 93 middle schools completed the NDMS-YRBS. Participating students included those attending schools selected for the statewide CDC sample (n = 2047 students) and students from schools/classes that voluntarily participated in the YRBS (n = 5422). Six schools, all located in small towns on or near tribal land, reported majority AI/AN student enrollment (85.2-100%), representing 43% of AI/AN students. The remainder of AI/AN students were primarily concentrated in larger towns located near tribal land and cities (0.8-22.9%).

Measures

Variables applied to the analysis from the NDMS-YRBS included student self-report of the following socially salient characteristics: race, ethnicity, sex, weight status, school year/grade, bullying victimization, and suicidality.

Race/Ethnicity

The NDMS-YRBS race variables include AI/AN, Asian, Black or African American (Black/AA), Native Hawai'ian (NH) or Other Pacific Islander (OPI), and White. A multiracial variable was created for the purpose of this study to reflect students who indicated more than one race. The survey measured ethnicity by asking, "Are you Hispanic or Latino" with a binary yes/no response. Following typical YRBS data analysis methods, students who identified as "Hispanic or Latino" (Hispanic/Latinx) were classified for this study as a stand-alone racial/ethnic category regardless of reported race (e.g., identifying as both Hispanic/Latinx and AI/AN would result in categorization as Hispanic/Latinx).

Sex

Student sex was measured as female or male and analyzed as a binary variable. The 2015 NDMS-YRBS did not include a measure of gender.

Weight

Weight status was assessed with the question, "How do **you** describe your weight?" with response options: "very underweight," "slightly underweight," "about the right weight," "slightly overweight," or "very overweight."

School Year/Grade

The NDMS-YRBS assessed school year/grade through the question, "In what grade are you?" with the option of selecting one of four responses: "6th grade," "7th grade," "8th grade," or "Ungraded or other grade." Only respondents who indicated "7th grade" or "8th grade" were included in the analysis to limit responses to middle school students.

Bullying Victimization

Two NDMS-YRBS measures of peer harassment were included in the study with binary yes/no response options: "Have you ever been bullied on school property" and "Have you ever been electronically bullied?" Each measure was examined separately as binary outcomes in the logistic regression models described below, with each model predicting a "yes" answer (see Appendix Table A2). In the multivariate path models, each measure was included separately as binary mediators (see Figures 1-3).

Suicidality

Three measures of suicidality were included in the survey with binary yes/no response options: "Have you ever **seriously** thought about killing yourself;" "Have you ever made a **plan** about how you would kill yourself;" and "Have you ever **tried** to kill yourself?" Each measure was used separately as a binary outcome, with each model predicting a "yes" answer (see Table A2; Figures 1-3).

Procedure

Youth participation was voluntary with consent implied through survey completion. Passive permission was utilized, meaning that parent/guardians were notified of the study via a

permission denial form and sent back a signed form only if they did not want their child to participate in the survey. Students complete the self-administered questionnaire during one class period, recording their responses directly on a computer-scannable answer sheet.

Approval

This secondary data set analysis was determined to be exempt from review by the Mayo Clinic Institutional Review Board.

Data Analysis

Descriptive data and bivariate associations between all independent and dependent variables were determined using SPSS (IBM Corp, 2013). Logistic regression models were run to further determine how race/ethnicity, weight status, and sex were associated with bullying victimization and suicidality, holding constant the other described socially salient characteristics.

In the multivariate analysis, race/ethnicity was analyzed through two different sub-paths. The first path included AI/AN students compared to White students. The second path compared students who identified as Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx to White students. The second path was constructed to demonstrate impact on minoritized race/ethnicity students who did not identify solely as AI/AN. Examining experiences of minoritized race/ethnicity students provides opportunity to consider concordant and discordant experiences of being a minoritized or oppressed racial/ethnic group in North Dakota (Graham et al., 2011).

In multivariate analysis, responses were collapsed to a binary variable "very overweight" versus a combined "slightly overweight," "about the right weight," and "slightly underweight" variable. "Very underweight" was excluded from multivariate analysis of the impact of weight status based on the a priori study purpose of examining overweight group identity and theoretical differences in experiences of bullying and suicidality between overweight and underweight youth (Lee et al., 2019). Students who identified as underweight were not excluded from models focused on race or sex.

Three path analysis models were constructed to test how bullying mediates suicidality for socially salient identity groups. Path analysis modeling allowed determination of whether the data fit into an a priori conceptual model with independent mediating and dependent variables modeled simultaneously. Mplus 8.1 was used for logistic regression and path analysis (Muthén & Muthén, 1998-2017).

RESULTS

Descriptive Statistics

A total of 7,402 students met study inclusion criteria. Student race/ethnicity included 563 AI/AN (7.6%), 122 Asian (1.6%), 227 Black/AA (3.1%), 568 Hispanic/Latinx (7.7%), 392 Multiracial (5.3%), 29 NH or OPI (0.4%), and 5,353 White (72.3%; see Table A1) youth. Student sex in the study sample was balanced. Most students identified as being "about the right weight" ($n = 4145$, 55.7%) with 3% ($n = 224$) identifying as "very overweight."

Almost half of all students reported ever being bullied on school property ($n = 3536$, 47.8%) and 28% ($n = 2076$) reported ever being bullied electronically. One in five students had ever seriously considered suicide; one in seven students had ever developed a plan to commit suicide; and one in thirteen students had ever attempted suicide.

Bivariate Analyses

Multiracial students, followed by AI/AN, White and Hispanic/Latinx students reported the highest school-based bullying victimization ($p < 0.01$, $X^2 = 34.17$; see Table A1). Electronic bullying was highest among Multiracial and AI/AN students, followed by Hispanic/Latinx and White students ($p < 0.01$, $X^2 = 34.30$). Both types of bullying victimization were highest in students who reported being "very overweight" and "very underweight," whereas students who identified as "about the right weight" reported the lowest levels of bullying victimization ($p < 0.01$, $X^2 = 125.4$ & 76.75). Female students were significantly more likely than male students to report being bullied, both on school property and electronically ($p < 0.01$, $X^2 = 63.76$ & 385.6).

Reporting suicidal thoughts and plans was highest among AI/AN, Hispanic/Latinx, Multiracial, and White students ($p < 0.01$, $X^2 = 62.47$ & 75.63). Suicide attempts were highest among AI/AN, Hispanic/Latinx students, and Black/AA students ($p < 0.01$, $X^2 = 125.09$). Students who reported being "very overweight" reported the highest suicidality ($p < 0.01$, $X^2 = 280.32$, 250.76, 186.44). Female students were significantly more likely than male students to have suicidal thoughts, plans, or attempts ($p < 0.01$, $X^2 = 257.14$, 144.68, 103.43). Suicidal thoughts and plans were higher amongst eighth compared to seventh graders ($p < 0.01$, $X^2 = 12.90$ & 29.99).

Logistic Regression

Five multivariate models were constructed using the following core variables to investigate impact on bullying and suicidality, adjusted for independent variables: AI/AN versus White; Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx versus White; very overweight versus slightly overweight/about the right weight/slightly underweight; female versus male; and eighth versus seventh grade (see Table A2). When AI/AN students were compared to White students, no difference was seen for either type of bullying, yet AI/AN students were significantly more likely to report all types of suicidality ($p < 0.001$). Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx students compared to White students were less likely report experiencing bullying on school property (no difference was seen for electronic bullying) yet significantly more likely to report each type of suicidality ($p < 0.001$).

Very overweight students were significantly more likely than overweight/about the right weight/slightly underweight students to report both types of bullying and all types of suicidality ($p < 0.001$). Identifying as female compared to male was significantly associated with both types of bullying victimization ($p < 0.001$) and all types of suicidality ($p < 0.001$). Eighth graders were significantly more likely than seventh graders to report bullying on school property (p<0.05), suicidal thoughts (p<0.05), and suicidal plans (p<0.001).

Path Analyses

Three path analysis models were used to examine school-based and electronic bullying victimization as mediators of youth suicidality amongst diverse identity groups (see Figures 1-3). Grade was excluded from path analyses to simplify modeling. For all models, identifying as AI/AN compared to White was directly associated with all types of suicidality ($p < 0.001$), mediated by electronic ($p < 0.05$) but not school-based ($p = 0.097-0.102$) bullying victimization. Identifying as Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx compared to White was also directly associated with all types of suicidality ($p < 0.001$), negatively mediated by bullying on school property ($p < 0.05$).

For all models, identifying as very overweight, compared to the combined slightly overweight/about the right weight/slightly underweight students, and as female compared to male students, was directly associated with all types of suicidality ($p < 0.001$), mediated by both types of bullying victimization ($p < 0.001$).

Figure 1. Path analysis of school-based and electronic bullying victimization as mediators of suicidal ideation (N = 5403)
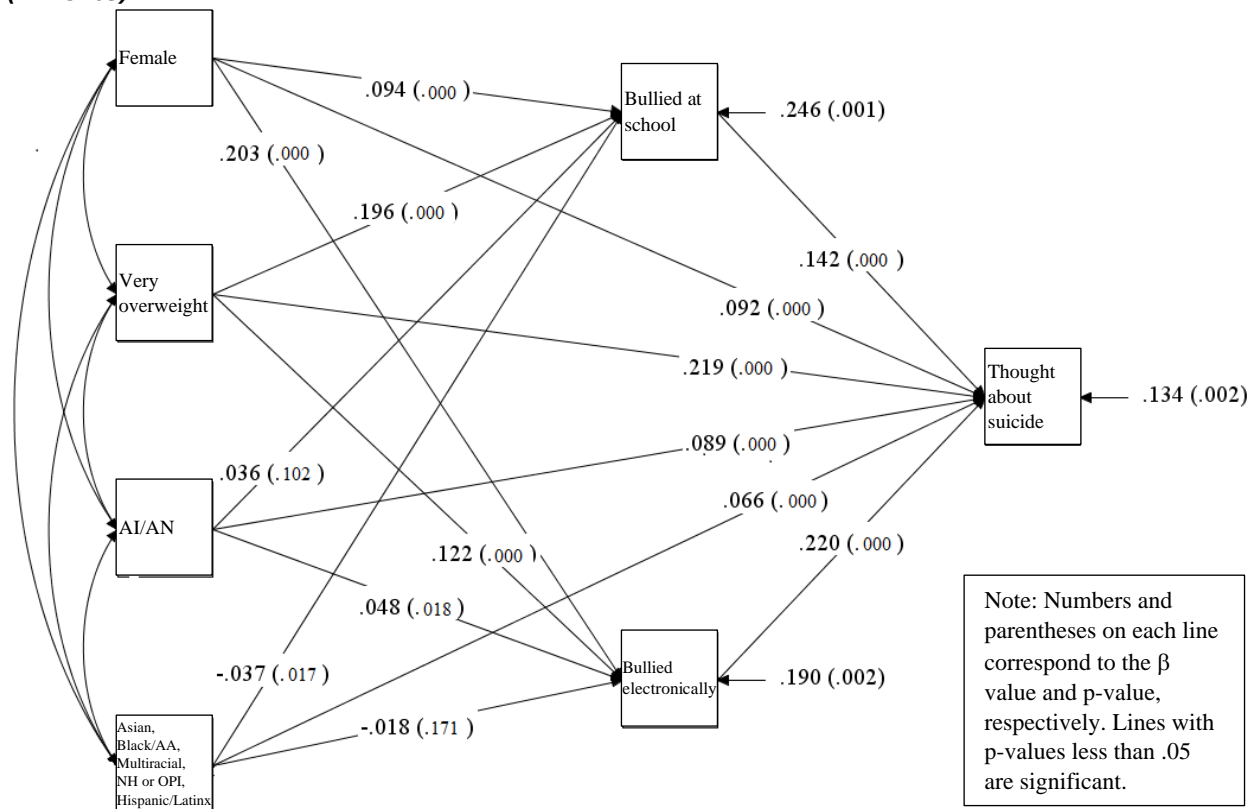

Note: Numbers and parentheses on each line correspond to the β value and p-value, respectively. Lines with p-values less than .05 are significant.

Figure 2. Path analysis of school-based and electronic bullying victimization as mediators of suicide plan (N = 5792)

Note: Numbers and parentheses on each line correspond to the β value and p-value, respectively. Lines with p-values less than .05 are significant.
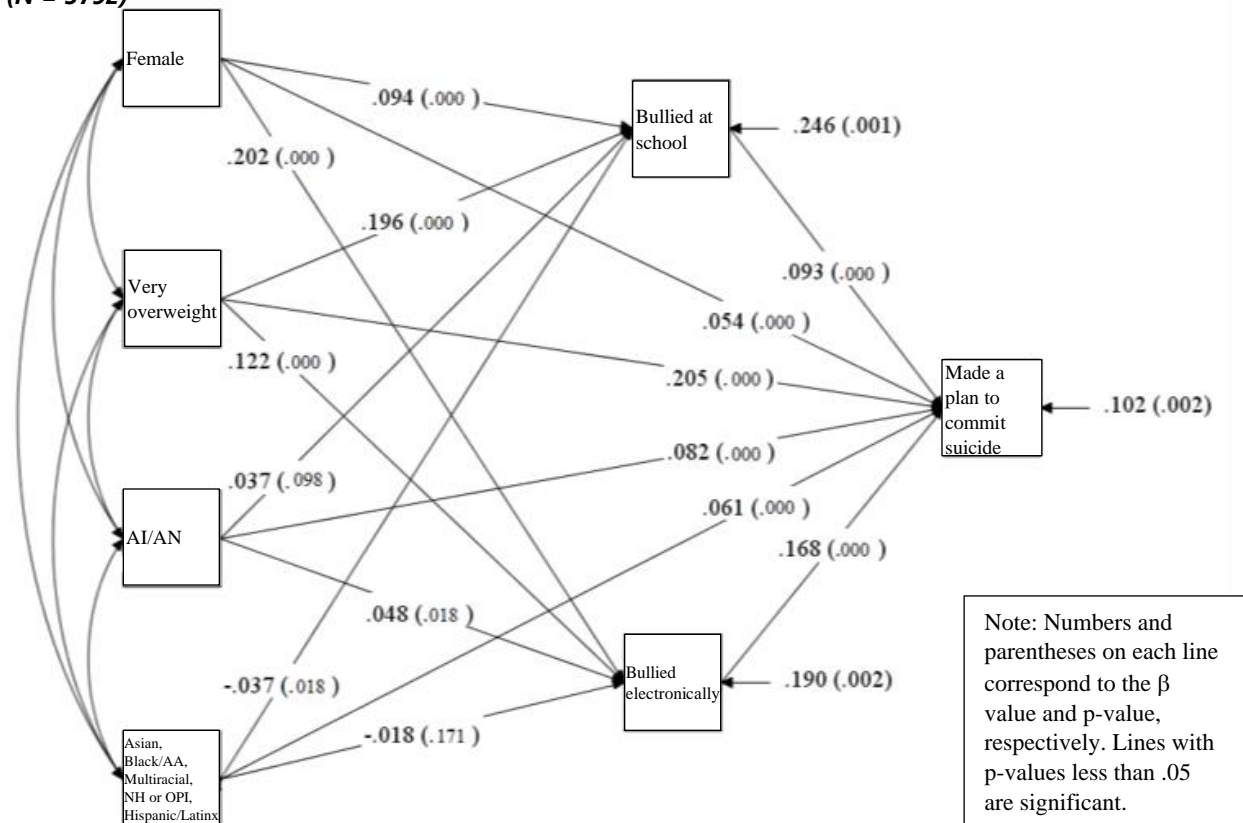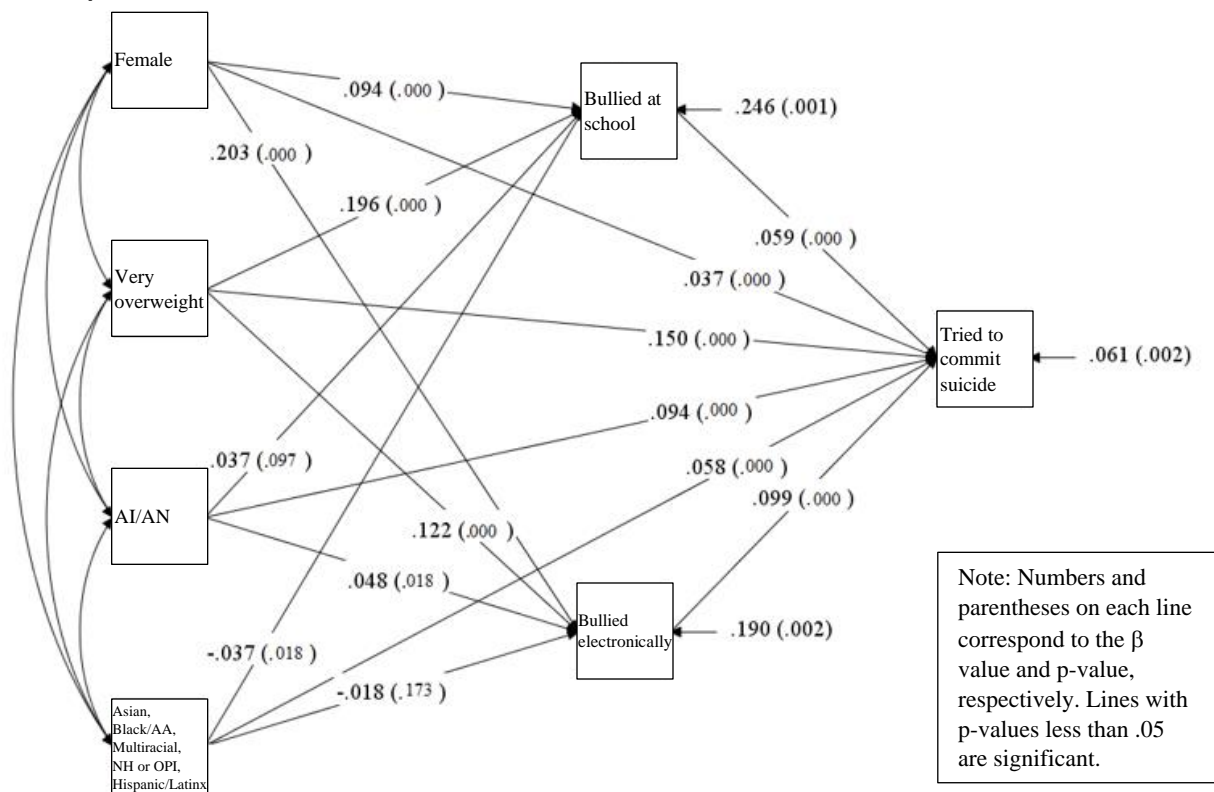
Figure 3. Path analysis of school-based and electronic bullying victimization as mediators of a suicide attempt (N = 5894)

DISCUSSION

It is well established that persons who identify as minoritized race/ethnicity, high weight status, and female sex have increased lived experience of bias, stigma, and discrimination (Trent et al., 2019; Pont et al., 2017; Brown & Stone, 2016). In this study, minoritized race/ethnicity, very overweight, and female middle school students living in North Dakota reported statistically higher suicidality than comparison groups, mediated in some instances by bullying victimization. These data are concerning, novel, and important as they center on youth in North Dakota, a state which leads the country in suicidality and peer victimization but for which there is a paucity of granular data related to youth behaviors.

AI/AN and White students reported similarly high levels of bullying victimization on school property, with Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx students reporting less bullying on school property compared to White students. Yet, minoritized race/ethnicity students reported significantly higher suicidality than White students. High levels of bullying victimization paired with high suicidality amongst AI/AN and other minoritized

race/ethnicity students in this sample is notable and concerning. Bullying victimization amongst youth of minoritized races and ethnicities is multifactorial and impacted by historic and contemporary sociopolitical influences that differ by geopolitical context and school-setting, including but not limited to school climate and composition (Kiang et al., 2016; Seaton et al., 2013). Minoritized race/ethnicity students are more likely than White students to experience race-based bullying, which is as or more harmful than bullying victimization not related to racial prejudice, and more likely to report elevated rates of other forms of harassment (Bowser et al., 2018; Rhee et al., 2017; Bucchianeri et al., 2016; Russell et al., 2012; Carlyle & Steinman, 2007). Underreporting of bullying victimization has been previously described in minoritized youth and may explain the findings of no difference and lower bullying victimization amongst Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx students compared to White students in this sample (Lai & Kao, 2018).

In the current study, electronic bullying victimization mediated suicidality in AI/AN students only. Electronic bullying is a unique form of peer harassment previously found to be high in AI/AN youth (Carlyle & Steinman, 2007). Social media provides Native and other minoritized youth with opportunities to enhance cultural identity and community and family connections, perhaps especially needed in rural and other areas where safe cultural spaces may be less common (Rice et al., 2016). Compared to other forms of bullying, electronic bullying is associated with unique and significant negative mental health concerns, including anxiety, depression, and suicidality (Hoge et al., 2017; Broll et al., 2017; Hamm et al., 2015; Wang et al., 2009; Wang et al., 2011). Intervening against and mitigating the negative impact of electronic bullying victimization is likely to be particularly important amongst youth vulnerable to cyber-racism.

This study is consistent with others in demonstrating a significant association between high weight status, peer victimization, and suicidality (Nabors et al., 2019; Wang et al., 2010; Rosenthal et al., 2015; Eaton et al., 2005; Eisenberg et al., 2003). High weight stigma occurs as early as preschool and is one of the most frequent forms of peer harassment reported by students (Pont et al., 2017). Youth experiencing high weight stigma experience negative psychological impact, including increased mood disorders, substance abuse and self-harm, as well as increased social isolation and poorer academic outcomes compared to peers. High weight stigma is obesogenic, related to stress-response cortisol and stigma-associated unhealthy eating behaviors, decreased exercise motivation, and decreased physical activity (Puhl et al., 2020). A 2013 study found, compared to normalized weight and underweight youth, overweight and obese youth reported

higher rates of racial, socioeconomic, and sexual harassment (Bucchianeri et al., 2013; Bucchianeri et al., 2016). A more recent study found that increased ethnic diversity in school settings offset peer victimization among higher weight adolescents, underscoring the importance of identifying protective factors, including but not limited to perspective taking, against weight stigma (Lanza et al., 2018). Further exploration of the relationship between high weight-stigma, intersectional harassment, and suicidality is needed.

The findings of high bullying victimization and suicidality amongst female students in this sample is consistent with national trends. Similarly, the mediation of suicidality by bullying is consistent with established knowledge regarding the negative impact of gender-based discrimination—which includes both gender-bias and sexual harassment—on girls' social-emotional health, body image, and achievement (Leaper & Friedman, 2007; Wichstrøm, 1999). While this study did not examine bullying victimization across intersectional identities, prior studies show that weight and race-based harassment may be even more prevalent than gender-based harassment amongst female adolescents (Bucchianeri et al., 2013). Increases in female death by suicide and narrowing of the gap in suicide deaths between females and males underscore the importance of intervening upon the unique and intersectional types of bullying victimization experienced by female students (Curtin et al., 2016; Ruch et al., 2019; Nabors et al., 2019).

The patterns of bullying victimization and suicidality found in this study are consistent with previous literature and suggest opportunity to further develop interventions to support youth from stigmatized identity groups (Stone et al., 2018, Ivey-Stephenson et al., 2017; Kann et al., 2018; Kalb et al., 2019; Earnshaw et al., 2018). Mixed evidence exists on the positive impact of bullying intervention programs on middle school youth (Bauer & Rivara, 2007; Cissner & Ayoub, 2014; Espelage et al., 2013; Jenson et al., 2013; Gaffney et al., 2021). Evidence suggests that prosocial bystanders can effectively support adolescent bully victims in racially/ethnically diverse rural settings (Evans & Smokowski, 2015). Sources of Strength, a suicide-prevention program developed for rural and tribal communities in North Dakota, has been shown to reduce suicide by improving peer leader adaptive norms regarding suicide and increasing youth-adult connectedness (Wyman et al., 2010). Leveraging peer leaders as prosocial bystanders may be an opportunity to reduce bullying victimization and suicidality amongst North Dakota minoritized identity groups.

Cultural pride promotion has been shown to mitigate negative outcomes from peer victimization in minoritized youth and should be further explored. Identity-specific affinity groups have been used to reduce hopelessness and suicide attempts in youth experiencing stigma (Davis

et al., 2014; Newman, 2005; Bannon et al. 2009). Efforts within Native communities to apply local knowledge to better understand and address peer victimization and suicide and to catalyze community healing hold promise and should be prioritized (Allen et al., 2021; Trout et al., 2018; Matheson et al., 2016). Increased attention to protective factors, such as social support and healthy sleep habits, should be prioritized when developing interventions to address youth suicide (Ersan & Rodriguez, 2021; Gloppen et al., 2018).

Finally, increased attention in recent years has been given to racial discrimination as a form of toxic stress and the importance of trauma-informed services for minoritized youth (Carter, 2007; Dueweke et al., 2019). Broader application of trauma-informed and restorative practices in educational settings hold promise to prevent, intervene, and provide healing for young people experiencing racialized trauma (Kataoka et al., 2018). Community healing, resilience, and wellness will be best achieved when schools, health systems, and community partners collaborate towards addressing childhood adverse childhood experiences and toxic stressors such as stigma-related bullying (Ellis & Dietz, 2017).

Limitations

Although this study documents trends in bullying victimization and suicidality across specific identity groups, data analysis is based on cross-sectional surveys and can only provide an indication of association, not causality. The NDMS-YBRS does not provide a measure for stigma-specific bullying, therefore this study implies stigma-specific bullying whereas actual bullying experiences may differ and/or be multifactorial. Similarly, the analysis implies temporal order of events; however, it is not known when bullying victimization has occurred in relation to suicidality.

AI/AN student identity may have been underappreciated in this analysis as students who identified as Hispanic/Latinx were not evaluated in any other race/ethnicity category and granular racial identity is not provided within the Multiracial category. Statistical analysis did not explore membership in more than one stigmatized group, which may be associated with worse outcomes. Students in North Dakota, as in the rest of the United States, are highly concentrated between and within schools by racial/ethnic group, and this study does not account for how bullying and suicidality differed by school settings (e.g., racial/ethnic homogenous or heterogenous environments). Due the nature of the secondary data set, a school-specific variable was not part of the public use data set; therefore, adjustment for clustering by school was not possible.

The YRBS has additional limitations. All YRBS data are self-reported, and therefore the extent of underreporting or overreporting of behaviors cannot be determined. As the survey is descriptive, it is not intended to explain reasoning behind trends. Studies have shown that any participation in bullying increases the risk for suicide; therefore, this study is further limited in that it did not look at bullying perpetration. Data are not representative of all persons in this age group as they only include youth who attend school. The study sample includes students from both randomly selected and voluntary schools; therefore, results cannot be extrapolated to represent all middle school students from eligible schools but are limited in representing mainly the students from participating schools. The study is further limited in the absence of additional measures such as sexual orientation, gender, and socioeconomic status, which have been shown to mediate the relationship between bullying and suicidality but were not available in the dataset.

CONCLUSION

Higher suicidality amongst minoritized race/ethnicity, very overweight, and female students, mediated in some instances by bullying, suggest that group identity, stigma, and discrimination may influence suicidality in middle school youth in North Dakota. More information is needed on stigma and discrimination, including intersections of identity, as drivers of bullying and suicidality in minoritized youth in nonmetropolitan/rural areas.

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AUTHOR INFORMATION

Sarah J. Atunah-Jay, MD, MPH, is an Assistant Professor of Pediatrics at the Mayo Clinic Alix School of Medicine in Rochester, Minnesota. Susanna N. Basappa, BS, is a MD/PhD student at the Mayo Clinic Alix School of Medicine in Rochester, Minnesota. Kristin Fischer, MPH, is a Program Manager at the Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery at the Mayo Clinic in Rochester, Minnesota. Monica Taylor-Desir, MD, MPH, is a Senior Associate Consultant in the Department of Psychiatry and Psychology at the Mayo Clinic in Rochester, Minnesota. Sean M. Phelan, PhD, MPH, is an Associate Professor in the Division of Health Care Delivery Research at the Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery.

APPENDIX

Table A1
Descriptive statistics and bivariate analyses

	N	%	Ever been bullied on school property	X2	Ever been bullied electronically	X2	Ever seriously thought about killing self	X2	Ever made plan about how would kill self	X2	Ever tried to kill self	X2
	N=7402		*n = 3536*		*n = 2076*		*n = 1518*		*n = 1025*		*n = 555*	
Sex												
Female	3714	(50.2)	1944 (52.8)	63.76*	1421 (38.3)	385.6*	1040 (28.1)	257.14*	691 (18.7)	144.68*	393 (10.6)	103.43*
Male	3670	(49.6)	1581 (43.5)		650 (17.7)		474 (13.0)		328 (9.0)		160 (4.4)	
School Year												
7th grade	3730	(50.4)	1749 (47.4)	1.98	1009 (27.1)	3.67	703 (18.9)	12.90*	435 (11.7)	29.99*	265 (7.1)	1.74
8th grade	3672	(49.6)	1787 (49)		1067 (29.1)		815 (22.3)		590 (16.1)		290 (7.9)	
Race/Ethnicity												
AI/AN	563	(7.6)	288 (51.4)	34.17*	180 (32.0)	34.30*	161 (28.6)	62.47*	119 (21.2)	75.63*	89 (15.9)	125.09*
Asian	122	(1.6)	43 (35.2)		23 (19.0)		22 (18.0)		15 (12.3)		10 (8.2)	
Black/AA	227	(3.1)	74 (33.0)		33 (14.6)		40 (17.7)		24 (10.7)		26 (11.5)	
Hispanic/Latinx	568	(7.7)	271 (48.2)		163 (28.8)		156 (27.7)		120 (21.3)		80 (14.2)	
Multiracial	392	(5.3)	203 (51.8)		128 (32.7)		106 (27.0)		74 (19.0)		35 (8.9)	
NH or OPI	29	(0.4)	13 (44.8)		6 (21.4)		6 (20.7)		4 (14.3)		2 (6.9)	
White	5353	(72.3)	2577 (48.6)		1503 (28.1)		1001 (18.7)		646 (12.1)		303 (5.7)	
Weight Status												
Very underweight	152	(2.1)	103 (68.2)	125.4*	65 (43.0)	76.75*	59 (38.8)	280.32*	41 (27.2)	250.76*	30 (19.9)	186.44*
Slightly underweight	1095	(14.8)	533 (49.3)		314 (28.7)		200 (18.3)		141 (13.0)		82 (7.5)	
About the right weight	4145	(55.7)	1786 (43.5)		1024 (24.7)		639 (15.5)		401 (9.7)		202 (4.9)	
Slightly overweight	1747	(23.6)	949 (54.8)		572 (32.8)		503 (28.9)		348 (20.0)		181 (10.4)	
Very overweight	224	(3)	148 (66.7)		91 (40.8)		108 (48.4)		86 (38.6)		54 (24.3)	

* $p<0.01$
AI/AN - American Indian/Alaska Native   AA - African American   NH - Native Hawai'ian   OPI - Other Pacific Islander

Table A2
Logistic regression

	Ever been bullied on school property		Ever been bullied electronically		Ever seriously thought about killing self		Ever made plan about how would kill self		Ever tried to kill self	
	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value
Female (vs. male)	1.46 (1.31 - 1.62)	<.001	2.87 (2.54 - 3.24)	<.001	2.70 (2.35 - 3.10)	<.001	2.30 (1.95 - 2.70)	<.001	2.60 (2.08 - 3.24)	<.001
American Indian/Alaska Native (vs. White)	1.14 (.94 - 1.38)	0.18	1.20 (.97 - 1.48)	0.1	1.70 (1.36 - 2.13)	<.001	2.01 (1.57 - 2.58)	<.001	3.20 (2.39 - 4.29)	<.001
Asian, Black/AA, Multiracial, NH or OPI, and Hispanic/Latinx (vs. White)	.87 (.76 - .99)	0.048	.89 (.76 - 1.03)	0.12	1.45 (1.23 - 1.71)	<.001	1.72 (1.43 - 2.07)	<.001	2.44 (1.93 - 3.08)	<.001
Very Overweight (vs. "slightly overweight," "about the right weight," and "slightly underweight")	1.63 (1.46 - 1.82)	<.001	1.50 (1.32 - 1.69)	<.001	2.40 (2.10 - 2.73)	<.001	2.57 (2.20 - 2.99)	<.001	2.48 (2.02 - 3.03)	<.001
8th Grade (vs. 7th grade)	1.13 (1.02 - 1.25)	0.02	1.11 (.99 - 1.25)	0.07	1.23 (1.08 - 1.40)	<0.05	1.45 (1.24 - 1.69)	<.001	1.10 (.90 - 1.35)	0.35

AA - African American   NH - Native Hawai'ian   OPI - Other Pacific Islander