Peer Victimization and Mental Health Problems:

Racial-Ethnic Differences in the Buffering Role of Academic Performance

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Fu, R., Waasdorp, T. E., Randolph, J. A., & Bradshaw, C. P. (2021). Peer Victimization and Mental Health Problems: Racial-Ethnic Differences in the Buffering Role of Academic Performance. *Journal of Youth and Adolescence*, *50*(9), 1839–1855. https://doi.org/10.1007/s10964-021-01483-3

Published in *Journal of Youth and Adolescence*

Funding: The research reported here was supported in part by the Institute of Education Sciences, U.S. Department of Education, through Grant R305H150027 to the University of Virginia. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

Acknowledgements: We thank the Editor and anonymous reviewers for their helpful comments on an earlier version of this manuscript. We also thank the Maryland State Department of Education and Sheppard Pratt Health System for their continued support of this research through the Maryland Safe and Supportive Schools Project.

Abstract

Despite research highlighting the importance of academic performance in reducing youth's bullying involvement, little attention has focused on its role in moderating the association between peer victimization and youth maladjustment, further there have been even fewer studies examining potential racial-ethnic differences in these associations. This cross-sectional study examined the function of academic performance, as a moderator, in the associations between peer victimization and youth mental health problems (i.e., internalizing, externalizing, and substance use problems) and whether and how this function varied by the youth's racial-ethnic background. Self-report data were collected from 69,244 middle and high school youth (45.96% were middle schoolers; 49.7% were females; 25.72% were Black youth, 9.64% Latinx American youth, 5.95% Asian American youth, and 10.47% Bi- and Multi-racial youth, and 48.22% White American youth). Multi-level models indicated that academic performance was negatively related to internalizing problems and substance use more strongly in victimized youth than in non-victimized youth, suggesting itself as a buffering factor. Moreover, this buffering function of academic performance in victimized youth was more pronounced in some ethnic groups (i.e., Asian American) than in others (i.e., Black and Latinx), yet, notably, it was a buffer across all ethnic groups. These findings underscore the importance of academic strength in protecting victimized youth of all ethnicities against mental health difficulties, while recognizing that additional foci on improving academic performance and addressing academic-related norms are needed for racial-ethnic minority subgroups.

Keywords: peer victimization, race-ethnicity, externalizing and internalizing problems, substance use

Introduction

Peer bullying is a pervasive public health issue, affecting a large percentage of school-age students (40% - 72%; Waasdorp et al., 2017). Bullying victims, who are the targets of repeated (or likely to be repeated) intentionally aggressive behavior, are socially, behaviorally, and psychologically impacted (see Casper & Card, 2017 for review). While many scholars have established the associations between peer victimization and youth maladjustment (e.g., McDougall &Vaillancourt, 2015; Troop-Gordon, 2017), less attention is given to examining protective factors that may weaken such associations (e.g., Ttofi et al., 2014). Namely, studies have shown that good academic performance is one of the strongest protective factors against youth's involvement in bullying (e.g., Zych et al., 2019); this competence may also protect victimized youth from maladjustment. In addition, although studies have been conducted in urban contexts where multiple ethnic groups are represented (e.g., Hong et al., 2018; Juvonen & Graham, 2014), few have explored whether and how the function of academic performance as a protective factor may differ across racial-ethnic groups. The current study sought to address these literature gaps, and in turn, inform school bullying prevention efforts that capitalize on positive, protective resources for victimized adolescents, with a particular interest in the unique needs of urban, racial-ethnic minority populations.

Peer Victimization and Mental Health Outcomes

Adolescence (middle and high school aged youth) is a developmental period marked by heightened sensitivity to peer evaluation, coupled with increasing centrality of peer relationships in one's social life (Somerville, 2013) and a marked heightened impact of peer influence. Given this, having negative peer experiences, such as peer victimization, have been associated with a range of youth mental health problems, including externalizing problems (e.g., impulsivity, conduct problems), internalizing problems (e.g., depression, anxiety), and substance abuse (see Casper & Card, 2017 and Troop-Gordon, 2017 for review). Developmentally, peer bullying involvement appears to peak during middle school and decline slightly in high school (e.g., Bradshaw et al., 2015), indicating the importance of examining the consequences of peer victimization for youth during these periods.

Although literature has well documented the negative consequences of peer victimization, a focus on the victimization experiences among youth of different racial and ethnic backgrounds and their association with outcomes is largely understudied (Juvonen & Graham, 2014; Mehari & Farrell, 2015). This is a critical issue given the clear racial and ethnic disparities that exist among youth today across numerous facets of daily living and well-being (Benner et al., 2018). Furthermore, race and ethnicity, are viewed as social constructs that refer to shared

meanings, values, and cultural practices generalized to specific groups, which often contribute to how members of a specific group are perceived and reacted to by others (Rivas-Drake et al., 2014). As suggested by Meyer's minority stress model (2003), racial-ethnic minority status is an additive stressor to peer victimization and they jointly influence children's and adolescents' developmental outcomes. In other words, peer victimization could be more detrimental to racial-ethnic minority youth's wellbeing. This view has been supported by some empirical studies showing that, for example, compared to White (hereafter White) counterparts, victimized Asian American (hereafter Asian) children exhibit more internalizing problems (Kawabata & Crick, 2013), and victimized Black (hereafter Black) and Latinx American (hereafter Latinx) youth show a higher risk of dropping out of school (Peguero, 2011). Linking this to criminological frameworks, these findings are also in line with the general strain theory (GST; Agnew, 1992) that posits that race-and ethnic-related strains produced by peer victimization could have significant explanatory power in clarifying youth's exhibitions of mental-health difficulties (Steele, 2016). Taken together, additional research on the victimization experiences among youth of different racial and ethnic backgrounds that examine the association with outcomes is necessary.

Peer Victimization and Mental Health Outcomes: The Moderating Role of Academic Performance

It is well-documented that experiences of bullying victimization have a negative impact on youth's mental health (see Casper & Card, 2017 for review). Victims of peer bullying are at a heightened risk for internalizing (e.g., anxiety, depression) or externalizing (e.g., conduct disorders, delinquency) symptoms, or for some individuals, both (see Schoeler et al., 2018 for review). Nonetheless, not all bullying victims experience these mental health problems and there is some research focused on individual factors that may "interrupt" the association between victimization and maladjustment (McDougall & Vaillancourt, 2015). Academic performance has been identified as a strong protective factor against adolescents' involvement in peer bullying as a perpetrator (Zych et al., 2019). However, less research has been conducted investigating its role in alleviating the associations between youth victimization and mental health problems (Ttofi et al., 2014). According to the stress-buffering model (Cohen & Wills, 1985), positive cognitive and socioemotional conditions, such as good academic performance, may function as a buffering factor to reduce maladjustment risks associated with peer victimization. Perhaps, adolescents with high academic competence are adept at learning effective strategies to handle their frustration and distress from victimization (Wentzel et al., 2012). Also, these adolescents may exhibit better regulatory abilities to address their relationship difficulties rather than vent their distress by acting out or resorting to substances for "self-medication". From a

different perspective, the resource-potentiating model (Kupersmidt et al., 1995) indicates that positive conditions may enhance the adaptive development of individuals who already have this advantage. This posits that strong academic performance may elevate the strengths of non-victimized adolescents as revealed in fewer problems but does not have a similar elevating effect for victimized adolescents.

Despite some theoretical support of the protective function of academic strength, the few studies that examined this have mixed findings. Some reported that good academic performance was associated with reduced depressive symptoms among bullying victims (Hemphill et al., 2014; Vassallo et al., 2014), rendering it a *risk-based protective* factor (defined as factors that predict a low probability of a negative outcome among an at-risk group; Farrington & Ttofi, 2011), others did not find it to be a significant protective factor (McVie, 2014). Protective factors may function differently in two ways, namely as risk-based protective (described above) and *interactive protective* (defined as factors that predict a low probability of an undesirable outcome within the at-risk category but not or less strongly within the non-risk category) (Ttofi et al., 2014). Unfortunately, the fact that the sample of Hemphill et al. (2014) was composed of victims only (i.e., at-risk category) did not allow the examination of the academic performance as an interactive protective factor which would require both at-risk and non-risk groups to be included. Comparing the associations between peer victimization and adjustment outcomes between academically well-performing and underperforming youth would contribute to a better understanding of the buffering nature of academic strength.

Racial-Ethnic Differences in the Moderating Role of Academic Performance

Studies on academic performance have implied consistent cross-ethnic performance disparities with higher levels of achievement for White and Asian groups relative to achievement levels for Black, Latinx, and other racial-ethnic minority groups (see APA Task Force, 2012 for overview). Compared to the established research on the racial-ethnic differences in the levels of academic performance and the impact of victimization experiences, it is unclear whether the buffering function of academic performance in the victimization-maladjustment association may vary by adolescents' racial-ethnic backgrounds. This line of research is critical as empirical evidence in the wider resiliency literature on whether buffering factors that mitigate the effects of adversity are universal or context-specific is inadequate (Noltemeyer & Bush, 2013). It is believed that the complex interaction between risk and protective factors may vary depending on cultural-specific norms and beliefs (e.g., Schmidt et al., 2019). Thus, the

protective function of good academic performance among victimized youth may be partly regulated by how academic strength is perceived and experienced in different ethnic groups.

Emerging research has suggested that some racial-ethnic minority groups experience greater social costs with academic success than others, primarily attributed to race-based academic stereotypes toward racial-ethnic minority groups, particularly those historically stigmatized groups (Kiang et al., 2016). Research in race-based academic stereotypes shows that Black and Latinx students are perceived to have poor and limited academic capabilities and they are thus at a particular risk for negative consequences when breaking the stereotypes (e.g., Copping et al., 2013). For those with more academic success, they tend to experience higher levels of peer rejection and even victimization (Fuller-Rowell & Doan, 2010; Schwartz et al., 2013). For example, high-achieving Black students were found to be more susceptible to verbal harassment and other derogatory treatment from peers when compared to high-achieving White students, which the authors suggest was largely a result of these high-achievers breaking the cultural stereotypes that Black students have poor academic performance (Peguero & Williams, 2011; Williams & Peguero, 2013). On the contrary, Asian students are often perceived as the "model minority" and thus expected to achieve academic excellence (e.g., Kiang et al., 2016; Peguero & Williams, 2011). Given that, academic achievement may provide Asian victimized youth with social support from teachers and within certain friendship circles to better handle victimization experiences, suggesting itself a stronger buffering factor for the Asian group than for other minorities. For example, high achieving Asian youth are often favored by and in positive relationships with their teachers (Whaley & Noel, 2013), which may increase the odds of teachers intervening in support of victims, such as providing practical advice and emotional support (De Luca et al., 2019). Also, higher achievement is associated with more friendships among Asian youth which, as a source of emotional support and personal validation, is likely to help one cope with stressful bullying incidents (Chen et al., 2020).

Nevertheless, these arguments are speculative and need to be examined as there has been limited research on possible racial-ethnic differences in the influence of risk and protective factors among victimized youth. More importantly, unraveling the moderating role of academic strength across racial-ethnic minority groups may contribute to better understanding the mechanisms by which adolescents of different ethnicities experience resilience despite the exposure to peer bullying, which undergird the development of effective and culturally sensitive school bullying interventions (Kawabata & Crick, 2013; McDougall &Vaillancourt, 2015).

School-level Contextual Factors

Developmentally, ecological systems theory (Bronfenbrenner & Morris, 2006) emphasizes the important role of school contexts in shaping youth's cognitive, social, and behavioral development. A disordered school environment negatively impacts not only students' ability to learn but also their behavioral health outcomes (e.g., Larson et al., 2019). This is further supported by social disorganization theory (See Bradshaw et al., 2015 for a description) which posits that disadvantageous, disordered school contexts, contribute to students' increased risk for involvement in deviant behavior. School disorder signals an unfavorable environment with poor cohesion and control and reflects chronic stress surrounding families in the neighborhood and limited resources and support available to them (Booth & Shaw, 2020). In the literature, these important contextual indicators of school disorder include student-teacher ratio, student out-of-school suspension rates, and poverty level. Specifically, higher student-teacher ratio is associated with greater teacher difficulty with managing students' behavioral problems, which are in turn related to youth's diminished perceptions of school safety and increased experiences of peer victimization (Willits et al., 2013). Similarly, out-of-school suspension rates are suggested to reveal school-wide, disruptive behavior problems and thus, result in school staff burnout and students' negative perceptions of the school disciplinary environment (Pas et al., 2019). The percentage of students receiving free and reduced-price lunch, a valid indicator of school-level poverty, has been shown to exacerbate students' risks for peer victimization and their concerns over school safety issues (Larson et al., 2019). In summary, these contextual aspects of school disorder appear to "normalize" deviant behaviors among youth (Bradshaw et al., 2015) and hereby, likely worsen bullying victims' daily peer experiences and the associated mental health outcomes, which has been understudied in the literature (Coley et al., 2019).

Another contextual factor associated with students' mental health is school racial-ethnic diversity, assessed by school diversity index that captures both the number of different ethnic groups and their relative sizes in the school. Increasing research has shown that school ethnic diversity buffers many of the normative challenges of adolescence and benefit youth's mental health and school adaptation (see Graham, 2018 for an overview). Particularly, it leads to more positive intergroup attitudes and friendships that function as social resources and assets that alleviate perceived vulnerability of being bullied and feeling unsafe and lonely at school (Felix & You, 2011; Juvonen et al., 2018). From the perspective of power dynamic between perpetrator and victim, ethnic diversity reduces vulnerability because of a greater numerical balance of power between different ethnic groups (Graham, 2018). Nevertheless, past research has largely focused on White students or involved one or two ethnic minority

groups, more studies using multiethnic samples are needed to systematically examine the impact of school ethnic diversity. Also, little is known regarding whether and how this contextual-level factor may contribute to victimization-adjustment associations at the individual level. Greater school ethnic diversity helps create a safe and supportive climate in which aggression is discouraged (Juvonen & Graham, 2014), that can thus strengthen the impact of positive individual characteristics (i.e., academic strength) while lessen that of negative characteristics (i.e., victimization). Academically high achievers may benefit more from supportive friendships and a favorable climate provided by more ethnically diverse schools than those in less diverse schools. Likewise, victimized youth who are in these schools may be more capable of developing regulatory strategies to cope with peer relationship difficulties. In addition, school ethnic diversity may impact the interaction effect between academic performance and victimization on mental health outcomes. Such information may indicate whether the buffering role of academic performance among victimized youth may differ by the levels of school ethnic diversity. Taken together, exploring the implications of school ethnic diversity for youth outcomes given its interactions with victimization status and academic performance would provide a more nuanced understanding of the joint contributions of individual-level and contextual-level factors to mental health problems (McDougall & Vaillancourt, 2015).

Current Study

There is a lack of research on the contributions of academic performance to the impact of peer victimization among youth of different racial and ethnic backgrounds, which is critical in developing strength-oriented, anti-bullying programs by addressing the potential ethnicity-specific, buffering mechanism of academic performance against mental health problems. The current study thus aimed to examine the moderating role of academic performance in the association between peer victimization and youth mental health problems and racial-ethnic differences in these associations. In addition, the associations between school-level factors (i.e., school ethnic diversity, percentage of students receiving free and reduced-price lunch, percentage of student out-of-school suspensions, and student-teacher ratio) and adolescents' mental health problems were examined. Given the literature reviewed above, specific hypotheses are as follows: the associations between peer victimization status and mental health problems would depend on the levels of youth's academic performance, serving as an interactive protective factor (Aim 1); the buffering function of academic performance in victimized youth might be more pronounced in some ethnic groups (i.e., Asian American) than in others (i.e., Black and Latinx) (Aim 2). Regarding the school-

level factors, higher levels of school disorder indicators including student-teacher ratio, out-of-school suspension rates, and poverty level were hypothesized to be associated with more mental health problems. Similarly, school ethnic diversity would be negatively associated with these problems. Moreover, the associations between victimization and mental health problems may be stronger in schools with lower diversity whereas the associations between academic performance and mental health problems may be more pronounced in schools with greater diversity. Considering the focus of this study on racial-ethnic differences in the buffering role of academic performance among victimized youth, the impact of school ethnic diversity was also examined. Given that literature suggests no clear evidence that any one ethnic group benefits more or less from being in an ethnically diverse school, there were no specific hypotheses and remained exploratory in nature.

Method

Participants

The current study drew upon data from 69,244 youth attending 114 middle and high schools participating in a statewide survey study of school climate called the Maryland Safe and Supportive Schools (MDS3) Initiative. In the full sample (N = 69,244), 50.30% were male students and 54.04% were in high school. Approximately 8.4% of the full sample reported being bullied in the past 30 days. Regarding ethnicity, 48.22% of youth were White, followed by Black (25.72%), Bi-/Multi-racial (10.47%), Latinx (9.64%) and Asian (5.95%). Among the 114 schools, on average, the percent of racial-ethnic minority students was 48.72%, the percent of students receiving free and reduced-price lunch was 34.95%, the percent of out-of-school suspensions was 10.95%, and the student-teacher ratio was 19.5:1. The means and *SD*s of other variables of interest are presented in Table 1.

Procedure

MDS3 focused on the administration of the MDS3 School Climate Survey (see Bradshaw et al., 2014 for details regarding the survey) across school districts in Maryland. Districts were approached for participation in the MDS3 Project, which focused on the use of a self-report school climate measure. Participation was voluntary for both schools and for individual youth, and a waiver of active consent process for parents and youth assent was used. All of the middle and high schools approached agreed to participate; students not present in school on the day of survey administration were not provided an additional opportunity to participate, resulting in a response rate of 76%, including completions and partials (i.e., RR2 formula; American Association for Public Opinion Research, 2016). The self-report MDS3 School Climate Survey was administered on-line and responses were anonymous. The non-

identifiable data used in the current study were obtained and approved for analysis by the Institutional Review Board at the researchers' institutions.

Measures

Demographics. Youth responded to a series of demographic questions, including sex (0 = *female*, 1 = *male*), grade (middle school is the reference group), and race/ethnicity which was coded with the largest proportion of the sample as the reference group (i.e., White) to the other racial/ethnic groups: Black, Latinx, Asian, and Bi-/Multi-racial. Maternal education was assessed with one item, "How far did your mother go in school?", using a 4-point scale (*did not graduate from high school, graduated from high school, attended some college,* and *graduated from college*). This variable was used as a proxy for SES.

Academic performance. Participants were asked, "On your last report card, you earned" with response options from F to A, with higher scores indicating better self-reported academic performance.

Youth bullying and victimization status. Participants read a definition of bullying: "A person is bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other persons. Bullying often occurs in situations where there is a power or status difference. Bullying includes actions like threatening, teasing, name-calling, ignoring, rumor spreading, sending hurtful emails and text messages, and leaving someone out on purpose" (Gladden et al., 2014). Participants were then asked "During the past 30 days: how often have you been bullied" and "During the past 30 days: how often have you bullied" using a 5-point scale (*several times a week*, *once a week, 2-3 times during the month*, *1 time during the month*, and *not at all*). These items were based on the work of Olweus and were dichotomized in order to categorize youth with a victim or bully status, using a threshold of *2-3 times or more during the month* = 1 to align with the uniform definition that the behavior occurred multiple times or is very likely to be repeated (Gladden et al., 2014).

Externalizing problems. Participants responded to a 4-item measure of externalizing symptoms based on Buss and Perry's (1992) Aggression Scale (e.g., "I have threatened to hit or hurt someone", "I have trouble controlling my temper"; Cronbach's alpha = .81) using a 4-point Likert scale from *never* (1) to *almost always* (4), with a higher score indicating greater externalizing symptoms.

Internalizing problems. Participants responded to a 5-item measure of internalizing symptoms based on the Youth Self-Report (Achenbach & Rescorla, 2001) (e.g., "feel depressed", "feel nervous or anxious", "worried something

bad is going to happen"; Cronbach's alpha = .85) using a 4-point Likert scale from *never* (1) to *almost always* (4), with a higher score indicating greater internalizing symptoms.

Substance use. Substance use was examined utilizing 4 questions, asking "During the past 30 days (month), how often did you 1) have at least one drink of alcohol; 2) smoke cigarettes; 3) use marijuana; and 4) prescription drugs or other medications for non-medical reasons". Responses choices were provided on a 7-point Likert scale, with 0 (*0-days*), 1 (*1 or 2 days*), 2 (*3–5 days*), 3 (*6–9 days*), 4 (*10–19 days*), 5 (*20–29 days*) and 6 (*everyday*). The frequency measure was based on the composite score of the four substance use items with higher scores indicating more substance use. These items were derived from the Youth Risk Behavior Surveillance System (Centers for Disease Control and Prevention, 2011).

School-level factors. School-level demographic variables were obtained from the Maryland State Department of Education for inclusion in the multilevel models. Specifically, student-teacher ratio, student out-of-school suspension rate (i.e., the total number of suspension incidents divided by total number of students enrolled at the school), percentage of students receiving free and reduced-price lunch were included in this study. The student racial-ethnic diversity at the school level was computed using Simpson's (1949) index of diversity, which accounts for both the number of different racial-ethnic groups and the relative size of each group. The index is calculated as a probability from 0 to 1, with higher scores indicating greater school ethnic diversity and this a recommended method for determining diversity of social contexts (Juvonen et al., 2018).

Analytical Strategy

Regarding Aim 1, multilevel modeling was used to examine the effects of youth academic performance in moderating the associations between victimization, externalizing and internalizing problems, and substance use, accounting for the nested nature of data where students were nested in schools. Level 1 predictors were entered hierarchically with youth sex, grade, maternal education, and race/ethnicity being controlled in the first step. In the second step, youth bullying status was entered in the model. Then, victimization status and academic performance were entered in the model to examine their main effects. Finally, a two-way interaction between victimization status and academic performance was entered. At the school level (level 2), school characteristics were entered in the model including percentage of students receiving free and reduced-price lunch (i.e., an indicator of school-level SES), school-level ethnic diversity, student-teacher ratio, and suspension rate. All estimates reported below and in the tables are unstandardized. The analytic sample included 68,975 participants after 269 participants with missing

on all variables being excluded. Descriptive analysis found very little missing data (<7% of each of the included variables) at the individual level and no missing data at the school level. Full-information maximum likelihood (FIML) estimation was used to handle the missing data for youth who had incomplete data on the variables.

To better understand ethnic differences in the associations between academic performance and the mental health outcomes among victimized youth, a subsample (13.22%; n =9,156) was utilized for Aim 2; those who were not victims of bullying according to the cut-off described in the methods were not included in the sample. A multilevel regression model was applied and level 1 predictors were included in a hierarchical manner: covariates including youth sex, grade, maternal education, and bullying status were entered in the first and second steps. Then, ethnicity (first treating White as the reference group and then, Black and Latinx in turn) and academic performance were entered in the model to examine their main effects. Lastly, two-way interactions between academic performance and ethnicity were entered in the model. At level 2, the same school characteristics were included in this model as was done for Aim 1.

Results

Descriptive Data

Boys, bullies and victims showed lower levels of academic performance, B = -.26, -.15, and -.28, SE = .01, .01, and .02, t = -27.50, -12.99, and -14.66, ps < .001, respectively. Compared to White youth, Black, Latinx, and Bi-and Multi-racial groups had lower levels of academic performance, B = -.31, -.36, and -.26, SE = .02, .03, and .02, t = -15.70, -12.86, and -13.62, ps < .001, respectively, whereas the Asian group had higher levels, B = .14, SE = .02, t = 6.49, p < .001. Regarding descriptive differences on mental health problems, boys showed fewer internalizing problems and more substance use than girls, B = -.22 and .07, SEs = .01, t = -26.28 and 9.78, ps < .001; no gender difference was found on externalizing problems, B = .02, SE = .02, t = 1.77, p > .05. Compared to middle schoolers, high schoolers showed more externalizing and internalizing problems and substance use, B = .14, .09, and .28, SEs = .01, t = 21.93, 13.70, and 60.17, ps < .001, respectively. Youth whose mothers had higher educational levels tend to have fewer externalizing and internalizing problems and lower substance use, B = -.09, -.05 and -.03, SEs = .01, t = -14.21, -7.46, and -7.52, ps < .001, respectively. Black and Bi-and Multi-racial youth exhibited more externalizing problems than White, Latinx, and Asian youth, B = .19 to .20, SE = .01 to .02, t = 13.33 to 14.93, ps < .001. Asian youth exhibited more internalizing problems than White and Bi-and Multi-racial youth,

who in turn scored higher than Black and Latinx youth on these problems, B = .04 to .12, SE = .01 to .02, t = 2.46 to 9.70, ps < .05. Black, Latinx, and Bi-and Multi-racial youth showed higher levels of substance use than White and Asian youth, B = .02 to .09, SEs = .01, t = 2.12 to 7.89, ps < .05. Bullies scored higher on all three indices of mental health problems than others, B = .42 to .73, SE = .02 to .03, t = 18.90 to 44.00, ps < .001.

As shown in Table 2, compared to White youth, Black, Latinx, and Asian youth were less likely to report that they were bullied, controlling for their status of bullying others. While, Bi-and Multi-racial youth reported victimization of similar likelihood as White youth. When Black was treated as the reference group, further comparisons revealed that relatively, Asian youth had higher odds of while Latinx youth had lower odds of victimization. Taken together, while White and Bi- and Multi-racial youth reported the highest odds of victimization, followed by the Asian group, Black and Latinx youth reported the lowest odds. Girls and middle school students reported higher odds of victimization than boys and high school students, respectively. At the school level, students in schools with a higher percent of students receiving free and reduced-price lunch were more likely to be a bullying victim.

Moderating Effects of Academic Performance

Results indicated that academic performance was negatively associated with whereas victimization status was positively associated with all three mental health problems. Beyond the main effects, as shown in Table 3, there were significant interactions between victimization and academic performance in predicting externalizing and internalizing problems and substance use. Simple slope tests were conducted to understand the nature of the interactions in predicting the three mental health problems. The simple slope effects were examined on victimization status at low and high values (1 SD below and 1 SD above the mean) of academic performance, as described by Aiken and West (1991). The simple slope results are presented in Figure 1. The results indicated that for youth with low and high levels of academic performance, victimization status was positively associated with externalizing problems, yet the associations were significantly stronger in the latter (ΔB = .05, SE = .02, t = 2.71, p < .01). Victimization status was positively associated with internalizing problems and substance use and the associations were significantly stronger for academically underperforming youth than for well-performing youth (ΔB = .07 and .15, SEs = .02, t = 3.88 and 7.98, ps < .001, for internalizing problems and substance use, respectively). The associations between other individual-level covariates and mental health problems were similar to the descriptive results above.

Racial-Ethnic Differences in the Moderating Effects of Academic Performance

As reported in Table 4, there were significant interactions of academic performance and Black and Latinx group membership on victimized youth's externalizing problems. Simple slope tests indicated that the negative associations between academic performance and externalizing problems were less strong in victimized Black and Latinx youth than in victimized White youth, ΔB = -.07 and -.06, *SE* = .02 and .03, Δt = -3.07 and -2.40, $p < .01$ and < .05 (see Figures 2a and 2b). Using Black youth as the reference group, further analysis showed no difference in the associations between the Black and Latinx groups, ΔB = .004, *SE* = .03, Δt = .13, $p > .05$. The magnitudes of the associations were not significantly different between victimized Asian, Bi-or Multi-racial, and White youth. Regarding internalizing problems, there was a significant interaction between academic performance and Black group membership among victims. Simple slope results showed that, the link between academic performance and internalizing problems was less strong in victimized Black youth than in victimized White youth, ΔB = -.07, *SE* = .02, Δt = -3.12, $p < .01$ (see Figures 2b). The magnitudes of the associations were not significantly different between victimized Asian, Latinx, Bi-or Multi-racial, and White youth.

Concerning the association with victimized youth's substance use, there were significant interactions between academic performance and three racial-ethnic minority groups (i.e., Black, Latinx, Asian). Simple slope results showed that academic performance was negatively associated ΔB = .05, .07, and .19, *SE* = .02, .03, and .04, Δt = 2.22, 2.15 and 5.28, $p < .05$, < .05, and < .001 (see Figures 2c). Using Black youth and then Latinx youth as the reference group, further analyses showed that 1) the negative contribution of academic performance to substance use was stronger in victimized Asian group than in victimized Black and Latinx groups, ΔBs = .15 and .13, *SE* = .04 and .05, Δt = 3.76 and 2.94, $p < .001$ and < .01, respectively. However, this contribution was of equal magnitude between victimized Black and Latinx youth, ΔB = .01, *SE* = .04, Δt = .33, $p > .05$. The negative associations between academic performance and substance use were to the same extent between victimized Bi-or Multi-racial and White youth.

School-level Contextual Factors

At the school level, students in schools with higher school ethnic diversity exhibited fewer internalizing problems and substance use; students in schools with a higher suspension rate displayed more internalizing problems and substance use; students in schools with a higher percent of students receiving free and reduced-price lunch exhibited more externalizing and internalizing problems. There were significant cross-level interactions between

victimization status and school ethnic diversity and between academic performance and school ethnic diversity in predicting internalizing problems, B = -.21 and .08, SE = .05 and .02, t = -4.06 and 3.41, $p < .001$ and $< .01$, and substance use, B = -.31 and .14, SE = .10 and .03, t = -3.15 and 4.48, $p < .01$ and $< .001$. To probe these cross-level interactions, simple slope tests were conducted and the results showed that the positive associations between victimization status and internalizing problems and substance use were significant in schools with low and high levels of diversity, yet these associations were more pronounced in schools with low levels of diversity than in schools with high levels of diversity, ΔB = .15 and .22, SE = .04 and .07, Δt = 4.06 and 3.15, $p < .001$ and $< .01$. Similarly, the negative associations between academic performance and internalizing problems and substance use were significant in schools with low and high levels of diversity, yet these associations were more pronounced in schools with high levels of diversity than in schools with low levels of diversity, ΔB = -.06 and -.09, SEs = .02, Δt = -3.41 and -4.48, $p < .01$ and $< .001$. The three-way cross-level interaction between victimization status and academic performance and school ethnic diversity was nonsignificant in predicting any of the mental health outcomes, B = -.01, .02 and .01, SE = .06, .07, and .06, t = -.09, .28, and .11, ps > .05.

Additional Associations Among Victimized Youth

The results indicated that among victims, 1) boys showed fewer internalizing problems yet more substance use than girls; 2) high school youth and those who also bullied others exhibited higher levels of the three problems than middle school youth and nonbullies, respectively; and 3) youth with higher levels of maternal education showed fewer problems. At the school level, victimized youth in schools with higher ethnic diversity tend to show fewer externalizing problems and substance use. Victimized students in schools with a higher suspension rate displayed more internalizing problems. Victimized students in schools with a higher percent of students receiving free and reduced-price lunch exhibited more externalizing problems. Furthermore, in schools with a higher student-teacher ratio, victimized students exhibited more substance use. In addition, there were significant cross-level interactions between academic performance and school ethnic diversity in predicting externalizing problems among victims, B = -.20, SE = .06, t = -3.20, $p < .01$. Simple slope results showed that for victims who were in schools with great ethnic diversity, academic performance was negatively associated with externalizing problems to a stronger extent than for those in schools with low ethnic diversity, ΔB = -.14, SE = .04, Δt = -3.20, $p < .01$. Other cross-level interactions between ethnicity and school ethnic diversity and the three-way interactions involving academic performance and ethnicity and school ethnic diversity were nonsignificant, suggesting that the ethnic group

differences in the associations between academic performance and mental health problems found at the student/individual level did not vary by school-level ethnic diversity.

Discussion

Peer bullying victimization has been linked to behavioral health problems, yet emerging literature has indicated that not all victimized youth exhibit behavioral health problems to the same extent (McDougall & Vaillancourt, 2015). Researchers have argued that strong academic performance is a protective factor against bullying perpetration (e.g., Zych et al., 2019), yet less is known regarding whether this individual competence could mitigate the negative impact of peer victimization on youth's behavioral health (Ttofi et al., 2014). This study provided supporting evidence that strong academic performance was related to fewer internalizing problems and substance use more strongly in victimized youth. In addition, in response to a dearth of research on racial-ethnic differences in peer victimization and associated mental health problems (e.g., Kawabata & Crick, 2013), this study explored an understudied issue in the bullying research on whether the role of academic performance in lessening victimized youth's mental health problems varied between racial-ethnic groups. Results showed that academic strength was a significant buffer against mental health difficulties across all racial-ethnic groups, yet its buffering role was more pronounced in some ethnic minority groups (i.e., Asian) than in others (i.e., Black and Latinx).These findings call for the continued exploration of ways to promote academic success and address social norms of academic achievement, particularly for those from ethnically minoritized backgrounds.

The Buffering Role of Academic Performance

This study's results supported the hypothesis that academic performance served to mitigate mental health problems in victimized adolescents; however, this buffering role of academic performance may work in different manners. Specifically, academic performance functioned as a stress-buffering factor for internalizing problems and substance use, yet as a resource-potentiating factor for externalizing problems. Consistent with the stress-buffering model, academic excellence was related to fewer internalizing problems and lower involvement in substance use more strongly in victimized youth than in their non-victimized peers. This could be due to the fact that academically high achievers tend to dedicate time to schoolwork and studying, which could serve as a distraction from the distress and frustration from peer bullying experiences (Dubuc et al., 2019). In prioritizing academics (Carmona-Halty et al., 2019), students may devote less thought and energy to social matters, and therefore may be less likely to ruminate

on victimization experiences (Wentzel et al., 2012), which may prevent them from developing negative emotions toward self or turning to substances to "feel better". Also, for students who excel in school, their strong learning skills are likely to translate to abilities to process social cues in unbiased and non-hostile ways (Ttofi et al., 2014), which may help reduce the possibility of these victims attributing others' negative intentions and actions to their own fault (Smalley & Banerjee, 2014). It is also likely that academically high achievers tend to have positive self-perceptions, which may provide them with inner resources to cope with relationship difficulties with peers (Harris & Orth, 2020; Tsaousis, 2016). Taken together, academically high achieving victims appear to be more adaptive in coping with bullying experiences, which may weaken the link between victimization and mental health problems, and future studies should examine this using longitudinal data.

Although significant, the role of academic performance in buffering youth from externalizing problems appears to be weaker among victimized youth than their non-victimized peers. This finding in conjunction with the resource-potentiating model (Kupersmidt et al., 1995), suggests that academic strengths may bolster the adaptive development of individuals who already have an advantage (i.e., they are not bullied). In other words, academic strength may not work as effectively in lowering delinquent behaviors in youth who have problematic peer relationships. Nevertheless, the extent of the protective role of academic performance against victimized youth's externalizing problems is lower than against their internalizing problems and substance use. This difference may be due to the added risk that peer victimization places on youth already at a relatively higher risk for internalizing symptoms and externalizing problems (Schoeler et al., 2018). Therefore, it could be that the "interrupting" strength of academic performance in the link between victimization and externalizing problems is weaker, while other factors, such as hostile attribution, may be jointly involved in interrupting this link. Future studies are needed to replicate and longitudinally examine the current findings concerning the variations in the buffering function of academic performance on different types of mental health problems and to identify other possible buffering factors.

Racial-Ethnic Differences in the Buffering Role of Academic Performance

Emerging research has suggested that racial-ethnic minority status places youth of color at an enhanced risk for maladjustment and peer victimization and calls for more in-depth research on examining these associations (e.g., Hong et al., 2018; Kawabata & Crick, 2013). Yet empirical evidence is still lacking with respect to racial-ethnic differences in the protective role of academic performance, particularly among racial-ethnic minority youth. This line of nuanced research is much needed for designing strength-based, culturally sensitive antibullying programs,

which may benefit from addressing potential ethnic/racial heterogeneity in the intervening role of academic strength among victimized youth (McDougall & Vaillancourt, 2015; Ttofi et al., 2014). In the examination of this issue, the present study showed that the role of academic performance in buffering victimized youth from mental health problems was stronger in some ethnic groups than in others.

Specifically, the buffering role of academic performance against externalizing and internalizing problems was less strong in victimized Black and Latinx youth as compared to victims in other ethnic groups. This finding may be attributed to the influence of academic stereotypes toward different ethnic groups, which include that Black and Latinx students in the U.S. have poor and limited academic capabilities (Phelan & Rudman 2010). When certain racial-ethnic minority students fail to fit academic stereotypes or norms regarding academic skills among their peers, they are likely to encounter rejection, verbal harassment, and derogatory treatment from their peers. More recent research has demonstrated that high-achieving Black and Latinx students are more vulnerable to school bullying than their White peers, suggesting that bullying could be a social penalty for violating academic stereotypes (Peguero & Williams, 2011; Williams & Peguero, 2013). Because of this penalty toward high-achieving Black and Latinx youth, optimal academic performance is unlikely to protect victims of the two ethnicities from externalizing and internalizing problems as strongly as for other ethnic victims. Future studies that assess academic stereotypes toward high-achieving Black and Latinx youth experience are necessary to examine the possibility of perceived race-based stereotypes as a mediator in explaining the association between academic performance and maladjustment among victims from these two groups.

An additional cost of academic success that Black and Latinx adolescents may experience is fewer same-ethnic friendships compared to other ethnicities (Chen et al., 2020). Coupled with victimization experience, a lack of support from same-ethnic peers is likely to elicit frustration, anger, and distress among those high achieving students. These negative emotions may eventually lead to externalizing problems if they are directed toward others, to internalizing problems if they are directed toward the self (Chen & Liu, 2016). Therefore, it is reasonable that in this study, the negative contributions of academic performance to externalizing and internalizing problems among victimized youth was less evident in the Black and Latinx groups than others. This suggests an area that schools could focus on, improving the social norms surrounding academic success for these students. It could thus have an impact on victimized youth and future studies could examine these associations.

The negative impact of academic stereotypes on high-achieving Black and Latinx youth may indeed reflect ethnic minoritized youth's racialized experiences, such as racial microaggressions and ethnic-cultural bullying (De Coster & Thompson, 2017; Rodriguez-Hilgado et al., 2019). Repeated exposure to overt and subtle expressions of racial discrimination, has been found to place ethnic minoritized youth at high risks for negative health behaviors and psychological difficulties (e.g., Benner et al., 2018). It has been further argued that these racialized experiences may render minoritized youth more vulnerable to the impact of other co-occurring life stressors on their involvement in offending (De Coster & Thompson, 2017). Perhaps, the less pronounced role of academic performance as a buffer for victimized Black and Latinx youth reported in the present study is another vulnerability caused by racialized experiences. In addition, the finding could also be attributed to systemic barriers, such as discrimination in education, which could be an overarching factor that shapes academic-related social norms (Heard-Garris et al., 2018). There is a broad consensus that systemic issues, such as academic tracking and ability grouping in schools, can have long-lasting, deleterious implications for youth's educational and socioemotional development (Palardy et al., 2015; Wagner et al., 2017). The experiences of differentiated learning opportunities caused by academic tracking and other systemic issues, not only perpetuate disparities in academic achievement, but also shape academic-related expectations and norms among peers and teachers directed toward ethnic minoritized youth, disproportionately those in Black and Latinx groups (Camacho-Thompson et al., 2019; Henderson et al., 2019). Given that systemic barriers serve as an overarching reinforcement to inequalities in multiple domains, research is necessary to understand and address the impact of systemic-level acts of racial discrimination on victimized Black and Latinx youth

Among victimized youth, better academic performance was associated with less substance use, and this association was stronger in the Black, Asian, and Latinx groups than in the White group. This finding is important for substance abuse prevention efforts targeting ethnic minorities, especially for Black and Latinx youth, as they tend to exhibit more rapid progression for, and are more adversely impacted by, substance use when compared to White youth (e.g., Steele, 2016). Different from abovementioned results on externalizing and internalizing problems, the protective effect of academic performance against substance use was less pronounced in victimized White youth than in the three racial-ethnic minority groups. Researchers have argued that externalizing and internalizing problems may serve as mediators between peer victimization and substance use (Hong et al., 2018). Thus, the buffering role of academic performance on substance use might be enhanced via its cumulative advantages (i.e., indirect effects) in reducing externalizing and internalizing problems among Black, Latinx, and Asian victims.

Nevertheless, this argument is speculative and needs to be tested with longitudinal research, such as, developmental cascade models that link academic performance and subsequent mental health problems among racial-ethnic minority victims.

A closer examination among the three racial-ethnic minority groups (i.e., Black, Latinx, and Asian) indicates that the buffering function of academic performance against substance use appears to be the strongest in victimized Asian youth. This result is consistent with the literature on the cultural emphasis on academic efforts and success in explaining Asian adolescents' scholastic advantages over other ethnic groups (e.g., Hsin & Xie, 2014). Given the weight of academic excellence within Asian communities, strong academic performance is likely to provide Asian youth with heightened self-esteem and self-regulatory abilities to cope with victimization experiences positively, rather than resorting to substances. Taken together, this study extends prior yet limited research on examining the cross-ethnic similarity in the victimization-maladjustment association in suggesting that academic performance, as a significant buffering factor, operates differently according to victimized youth's racial-ethnic backgrounds.

School-level Contextual Characteristics and Mental Health Problems

Concerning school-level characteristics, the results showed that in schools with higher poverty (i.e., higher percentage of students receiving free and reduced-price lunch), higher student-teacher ratio and out-of-school suspensions, students tend to exhibit more mental health problems. This extends previous findings that those school-level indicators of school disorder (e.g., high percentage of students receiving free and reduced-price lunch, high student out-of-school suspension) have a detrimental impact on not only student engagement and academic difficulties but also behavioral and psychological maladjustment (e.g., Coley et al., 2019; Noltemeyer et al., 2015). Furthermore, the associations between the school disorder indicators and mental health problems were also significant among victimized adolescents in this sample, revealing the critical influence of the structural aspects of a school. Although beyond the scope of the present study, future studies need to explore how these structural aspects of a school may interact with individual-level risk factors (e.g., student perceptions of peer connectedness) in predicting victimized youth's maladjustment outcomes.

Findings indicated that in more ethnically diverse schools, in general, students exhibited fewer internalizing and substance use problems. Also consistent with the hypotheses, in schools with greater ethnic diversity, youth victimization was positively associated with internalizing problems and substance use less strongly. This finding

suggests that school ethnic diversity may attenuate the negative impact of victimization on youth's psychological and behavioral wellbeing, which is aligned with existing studies on the benefits of school ethnic diversity in lowering youth's perceived vulnerability of being bullied (e.g., Juvonen et al., 2018). Yet, it extends the past research beyond the direct contribution of school ethnic diversity to the likelihood of being a victim by arguing the role of diversity in buffering victimized youth from internalizing and substance abuse problems. In addition, academic performance was associated with fewer internalizing problems and substance use more strongly in schools with greater diversity, indicating that school ethnic diversity may reinforce the negative links between academic performance and mental health problems. This again adds to the existing literature that greater school ethnic diversity can not only buffer negative peer experiences but also strengthen the impact of desirable, individual competencies on youth (Graham, 2018). Notably, in the subsample of victimized youth, the benefits of school ethnic diversity were reflected in its direct association with fewer externalizing problems only and its role in reinforcing the negative association between academic performance and externalizing problems, suggesting that this contextual aspect of schools may be particularly important in curbing disruptive, aggressive behaviors among victimized youth.

Limitations and Future Directions

Several limitations of the study should be noted. First, this study was cross-sectional, which provides little information about the causal direction in the relations between peer victimization, academic performance, and mental health problems from a developmental perspective. One needs to be careful interpreting these results since it is possible that mental health problems make youth more vulnerable to being bullied because of their lack of socioemotional competencies, such as self-management and relationship skills (e.g., Cross et al., 2015). It is also possible that academic performance may precede victimization status by lowering its likelihood, which in turn is associated with fewer mental health problems, suggesting a mechanism that helps explain how academic strength may protect youth from peer victimization and its consequences for mental health difficulties. To explore these possibilities, longitudinal studies (e.g., using a cascade model) that link the three constructs across time are warranted to better understand the complex patterns of associations in which youth's academic performance may influence the pathway from initial victimization to changes in mental health problems, and how the association patterns may differ across ethnicity. Second, self-report data were used from a voluntary sample of adolescents and therefore, there was no data on the percentage of responses vs non-responders. Because of this non-sampling nature, the data most likely does not reflect the full population of adolescents and the results should thus be interpreted with

caution in terms of generalizability. In addition, despite its large sample size, the present data were gathered from urban schools in Maryland and it is open to question whether the findings can be replicated in other U.S. regions with different racial-ethnic compositions. Third, the forms of peer victimization (e.g., physical, relational, cyber-bullying) were not differentiated. One study showed that the impact of relational victimization on child maladjustment was stronger for Asian youth than their White peers, whereas the overt victimization-maladjustment association was nonsignificant in the Asian group (Kawabata & Crick, 2013). It is thus possible that for Asian youth, the buffering role of academic performance against mental health problems may be more pronounced for victims of relational bullying than for those of overt bullying. Nevertheless, this possibility needs to be examined in future studies. Fourth, in addition to academic performance factors (e.g., academic strength in this study), there are other important individual-level factors such as family socioeconomic status (using family income as an indicator as opposed to the proxy used in this study) that may help explain the racial-ethnic differences in the buffering role of academic performance among victimized youth. The stronger, buffering role of academic performance for victimized youth in certain racial-ethnic groups may be attributed to joint contributions of socioeconomic disparities and race-based social norms for academic strength. Additionally, it would be informative to explore other contextual factors (e.g., social support from friends, parents, and school staff) and how they may contribute to the association between victimization and maladjustment (McDougall & Vaillancourt, 2015).

Conclusion

Research has shown the importance of academic performance in curbing youth's prevalence of bullying others and being bullied yet little attention is given to its potential role in buffering victimized youth from maladjustment. Even fewer studies have examined the buffering function of academic performance among youth of different racial and ethnic backgrounds and their associated developmental outcomes. The present study, using a sample of multiple ethnic groups, sought to fill the gap in the literature focusing on the role of academic strength in alleviating mental health problems among victimized youth and racial-ethnic differences in this role. Results indicate that good academic performance would buffer victimized youth from internalizing, externalizing and substance use problems and more importantly, this buffering function of academic performance appears stronger in some ethnic groups than in others. Given the salience of peer bullying issues and heightened awareness of peer influence during middle and high school years, these findings help inform school bullying efforts of the value of leveraging students' academic strength in attenuating the negative impact of peer victimization. Also, they highlight

the unique needs of racial-ethnic minority youth, particularly those struggling with academic challenges alongside abusive peer relationships. These findings demonstrate a pressing need to address academic-related norms and attitudes are associated with youth's racial-ethnic backgrounds.

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Table 1

Child and School Descriptives

	Full sample (*N* = 69,244) *N%*	Victimized child sample (*N* = 9,156) *N (%)*
Individual characteristics		
Male	50.30	47.67
High school	54.04	48.76
White	48.22	50.47
Black	25.72	23.10
Latinx	9.64	9.21
Asian	5.95	5.83
Bi-/Multi-racial	10.47	11.39
Bullying	8.37	28.18
	M (*SD*)	*M* (*SD*)
Academic performance	4.16(.82)	3.95(1.04)
Externalizing problems	1.96(.60)	2.39(.69)
Internalizing problems	1.89(.55)	2.54(.68)
Substance use	.33(.33)	.50(.79)
School characteristics (*N* = 114 schools)	*M* (*SD*)	
% Racial-ethnic minority	48.72(.07)	----------
% Suspension	10.95(.01)	----------
% Free and reduced meals rate	34.95(.04)	----------
Student-teacher ratio	19.46(.01)	----------

Notes. % Free and reduced meals rate = the percentage of students receiving free and reduced-price lunch.

Table 2

Ethnic Differences in Victimization Probabilities

Predictors	*B (SE)*	*OR*	*B (SE)*	*OR*
Male	-.23(.03)***	.80	----------	----------
High school (vs. middle school)	-.46(.05)***	.63	----------	----------
Bullying	2.12(.05)***	8.31	----------	----------

White	Reference		.39(.04)***	1.47
Black	-.39(.04)***	.68	Reference	----------
Latinx	-.43(.06)***	.65	-.04(.06)	.96
Asian	-.25(.07)**	.78	.32(.05)***	1.38
Bi-/Multi-racial	-.06(.05)	.94	.15(.07)*	1.16

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 3

Moderating Effects of Academic Performance on Relations Between Victimization and Mental Health Problems

	Externalizing problems		Internalizing problems		Substance use	
Predictors	*B (SE)*	*t* value	*B (SE)*	*t* value	*B (SE)*	*t* value
Level 1						
1. Male	-.01(.01)	-.38	-.23(.01)	-18.51***	.03(.01)	9.63***
High school (vs. middle school)	.18(.07)	2.49*	.19(.06)	3.05**	.29(.06)	5.09***
Mother education	-.10(.01)	-14.58***	-.05(.01)	-7.14***	-.03(.01)	-6.54***
Black	.22(.02)	9.51***	-.10(.02)	-6.04***	.04(.01)	4.39***
Latinx	.01(.02)	.35	-.10(.02)	-4.70***	.02(.01)	2.12*
Asian	-.03(.02)	-1.23	.03(.01)	2.02*	-.01(.01)	-.19
Bi-/Multi-racial	.19(.02)	10.07***	.03(.02)	1.42	.06(.01)	6.22***
2. Bullying perpetration	.66(.02)	33.68***	.38(.03)	13.69***	.39(.03)	11.04***
3. Victimization	.33(.01)	31.16***	.68(.01)	65.99***	.14(.01)	12.09***
Academic performance (Acad)	-.18(.01)	-38.11***	-.06(.01)	-11.76***	-.09(.01)	-13.60***
Victimization x Acad	.03(.01)	2.71**	-.04(.01)	-3.88***	-.09(.01)	-7.98***
Level 2						
School ethnic diversity (SED)	-.05(.07)	-.72	-.19(.04)	-4.80***	-.16(.08)	-2.01*
% Suspension	.13(.07)	1.89	.39(.08)	5.02***	.25(.12)	1.99*
% Free and reduced meals rate	.21(.06)	3.30**	.15(.04)	3.94***	-.08(.05)	-1.56
Student-teacher ratio	.16(.32)	.50	.49 (.26)	1.93	.88(.54)	1.63
Cross-Level Interactions						
Victimization x SED	-.11(.06)	-1.75	-.21(.05)	-4.06***	-.31(.10)	-3.15**
Acad x SED	.04(.03)	1.66	-.08(.02)	-3.41**	-.14(.03)	-4.48***
Victimization x Acad x SED	-.01(.06)	-.09	.02(.07)	.28	.01(.06)	.11

Notes. % Free and reduced meals rate = the percentage of students receiving free and reduced-price lunch.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4

Ethnic Differences in the Contributions of Academic Performance to Mental Health Problems Among Victimized Youth

	Externalizing problems		Internalizing problems		Substance use	
Predictors	*B (SE)*	*t* value	*B (SE)*	*t* value	*B (SE)*	*t* value
Level 1						
1. Male	.01(.03)	.15	-.28(.02)	-11.58***	.09(.02)	5.58***
High school (vs. middle school)	.48(.17)	2.89**	.45(.14)	3.17**	.62(.16)	3.80***
Mother education	-.11(.01)	-8.32***	-.06(.01)	-4.39***	-.08(.01)	-6.25***
2. Bullying perpetration	.36(.03)	11.99***	.02(.01)	2.02*	.42(.04)	9.47***
3. Black	.11(.03)	3.91***	-.16(.03)	-5.95***	.01(.03)	.12
Latinx	-.08(.04)	-2.02*	-.05(.03)	-1.82	.03(.03)	1.01
Asian	.08(.05)	1.53	-.02(.04)	-.59	.22(.04)	5.44***
Bi-/Multi-racial (BMR)	.12(.03)	3.91***	-.02(.03)	-.82	.08(.03)	2.94**
Academic performance (Acad)	-.22(.02)	-9.82***	-.13(.01)	-10.08***	-.10(.02)	-6.96***
4. Acad x Black	.07(.01)	3.07**	.07(.02)	3.12**	-.05(.02)	-2.22*
Acad x Latinx	.06(.03)	2.40*	.01(.03)	.02	-.07(.03)	-2.15*
Acad x Asian	.01(.03)	.44	.01(.03)	.12	-.19(.04)	-5.28***
Acad x BMR	.04(.03)	1.28	.02(.03)	.65	-.05(.03)	-1.93
Level 2						
School ethnic diversity (SED)	-.14(.07)	-2.01*	.08(.07)	1.16	-.22(.10)	-2.16*
% Suspension	.12(.13)	.89	.32(.11)	2.86**	.25(.22)	1.17
% Free and reduced meals rate	.12(.05)	1.99*	.03(.07)	.42	.18(.12)	1.46
Student-teacher ratio	.56(.46)	1.22	.81(.52)	1.54	1.95(.90)	2.15*
Cross-Level Interactions						
Acad x SED	-.20(.06)	-3.20**	-.24(.22)	-1.10	-.01(.14)	-.05
Black x SED	-.18(.59)	-.30	.41(.36)	1.16	-.06(.47)	-.13

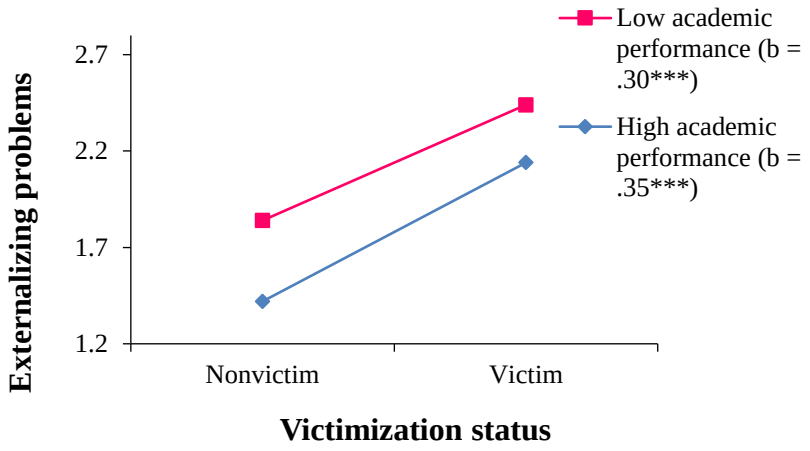
Latinx x SED	.47(.30)	1.54	-.23(.36)	-.64	-.42(.25)	-1.66
Asian x SED	-.38(.34)	-1.13	-.01(.69)	-.02	.44(.27)	1.64
BMR x SED	.22(.89)	.24	-.23(.25)	-.93	-.43(.34)	-1.28
Black x Acad x SED	-.18(.25)	-.72	.32(.66)	.48	-.24(.46)	-.53
Latinx x Acad x SED	-.12(.24)	-.49	-.28(.34)	-.82	.18(.32)	.55
Asian x Acad x SED	.12(.24)	.48	.07(2.41)	.03	-.42(.39)	-1.09
BMR x Acad x SED	-.08(1.22)	.07	-.02(.58)	-.04	-.12(.19)	-.60

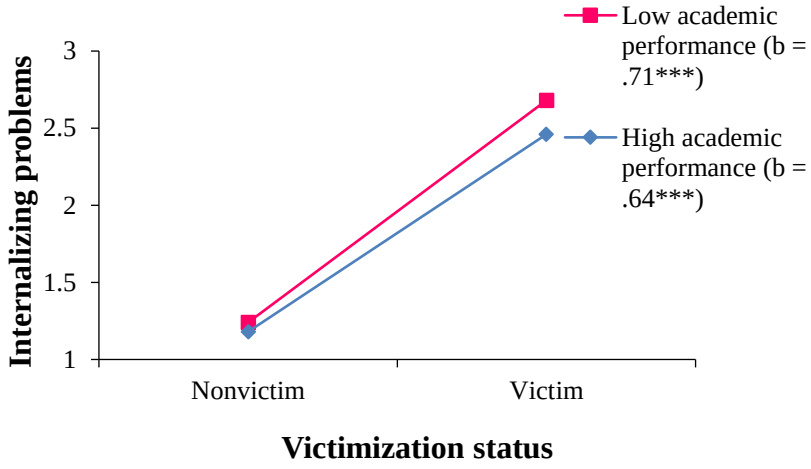
Notes. % Free and reduced meals rate = the percentage of students receiving free and reduced-price lunch.

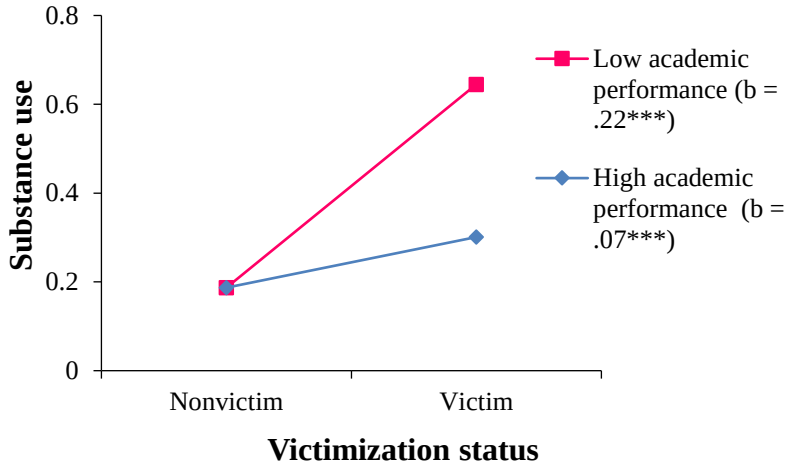
* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1

Simple Slopes for Interactions Between Victimization Status and Academic Performance in Predicting Mental Health Problems



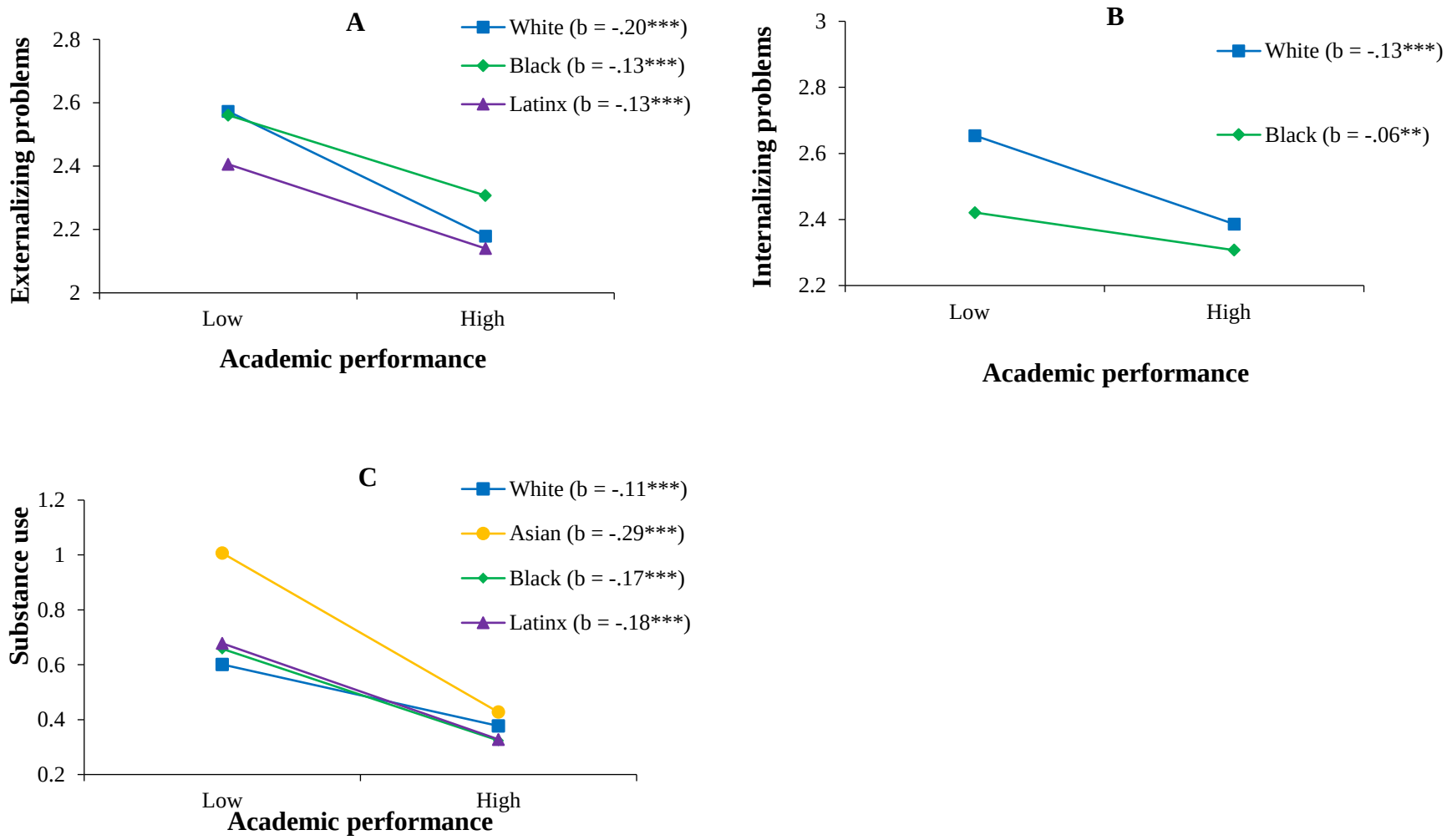




*** p < .001.

Figure 2

Ethnic Differences in the Moderating Roles of Academic Performance in Predicting Mental Health Problems Among Victimized Youth



** $p < .01$. *** $p < .001$.

Acknowledgments

We thank the Editor and anonymous reviewers for their helpful comments on an earlier version of this manuscript. We also thank the Maryland State Department of Education and Sheppard Pratt Health System for their continued support of this research through the Maryland Safe and Supportive Schools Project.

Authors' Contributions

R.F. conceived of the present study questions, performed the statistical analysis, and drafted the manuscript with support from T.E.W., J.A.R., and C.P.B.; T.E.W. co-led the study and interpretation of the data and helped draft the manuscript; J.A.R. performed literature reviews and helped draft the manuscript; C.P. B. is the principal investigator on the larger study and reviewed drafts of the manuscript and analyses. All authors read and approved the final manuscript.

Data Sharing Declaration

The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.

Conflicts of Interest

The authors declare that they have no competing interests.

Compliance with Ethical Standards

Funding

The research reported here was supported in part by the Institute of Education Sciences, U.S. Department of Education, through Grant R305H150027 to the University of Virginia. The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Institutional Review Boards at the Johns Hopkins Bloomberg School of Public Health and University of Virginia, and are consistent with the 1964 Helsinki declaration in order to ensure proper treatment, safety, and confidentiality of all participants.

Informed Consent

Passive consent was obtained from parents of students who participated in the study.