Volume 34, Number 3 | 2021

Society for Research in Child Development

Social Policy Report

COVID-19 and Resilience in Schools: Implications for Practice and Policy

Suniya S. Luthar, Authentic Connections, AC Groups, Columbia University's Teachers College - Emerita

Lisa S. Pao, Authentic Connections

Nina L. Kumar, Authentic Connections

ABSTRACT

This is a mixed-methods study of risk and resilience in a sample of over 14,000 students from 49 schools, assessed during the first 3 months of COVID-19 in the United States. Over a third of students were of color and almost a third received financial aid. Participation rates were typically 90–99%. Overall, rates of clinically significant depression and anxiety were *lower* during distance learning in 2020 as compared to parallel rates documented during 2019, with a few exceptions. Hispanic students did not show reductions in depression rates, nor did gender non-binary youth. Analyses of multiple risk and protective factors showed that in relation to depression, the most potent predictor was *parent support*, with effect sizes at least twice as high as those for any other predictor. Other robust predictors of depression included *efficacy of learning online* and *concerns heard by school adults*. In predicting to anxiety, *parent support* again had the largest effect sizes, followed by *concerns heard* at school, students' *worries about their futures*, and *worries about grades*. In general, the absence of protective factors was more likely to be linked with high distress among youth of color than White students, and among girls and gender non-binary students as compared to boys. At a policy level, the findings call for concerted attention to the well-being of adults charged with caring for youth. Parents' mental health has been increasingly threatened with the protracted stress linked with the pandemic. Thus, all avenues must be considered toward providing them with support—using feasible, community-based interventions—as this is always the most important step in fostering children's resilience through adversity. Additionally, schools' expectations about learning will have to be adjusted. As educators try to make up for academic losses during the pandemic, they must avoid high workloads detrimental for students' mental health (and thus ability to learn). Finally, there must be ongoing

institutional mental health support for teachers, counselors, administrators, and staff. Many of these adults have provided critical safety nets for youth since the start of the pandemic and are themselves at high risk for burnout. In conclusion, findings clearly show that if a central societal goal is to maximize resilience among youth through the continuing pandemic-related challenges, we will have to deliberately prioritize an "upstream" approach, ensuring ongoing support for the adults who take care of them in their everyday lives.

There must be ongoing institutional mental health support for teachers, counselors, administrators, and staff. Many of these adults have provided critical safety nets for youth since the start of the pandemic and are themselves at high risk for burnout.

Correspondence
Suniya S. Luthar (SLuthar@AuthConn.com)

Social Policy Report

Volume 34, Number 3 | 2021
ISSN 1075-7031

Social Policy Report
is published three times a year
by the Society for Research in
Child Development.

FROM THE EDITOR

The COVID-19 pandemic has affected nearly every aspect of our lives and is under study by many researchers for many different reasons. One recurring commentary since the beginning of the lockdowns that spread across the United Stated in March 2020 has been the impact of the pandemic on the mental health of children and caregivers, especially considering the disruption in children's lives due to remote schooling, reduced time with friends, parental stress, economic costs to families, and loss of loved ones. This *Social Policy Report* dives into that recurring concern with evidence from one of the first large-scale studies of children and teens' mental health during the pandemic.

This is a somewhat unusual *Social Policy Report*; while we typically publish reports that draw on years or even decades of research to make the case for needed policy changes, the unprecedented nature of the COVID-19 pandemic necessitated a different approach. This *SPR* is the report of a very large-scale, national study of middle and high school students' mental health during the first several months of the COVID-19 pandemic in spring 2020. Over 14,000 students reported their levels of anxiety and depression, concerns about schooling and their future, their abilities for learning online, and their support from adults at their schools as well as from their parents and their peers. Moreover, because of the large sample, the authors are able to examine differences between various race/ethnicity groups (White, Hispanic, Black, Asian American, multiracial and others), and genders (girls, boys, non-binary).

Authors Suniya Luthar, Lisa Pao, and Nina Kumar provide ample evidence of the stresses that the early days of COVID provided students, especially the high school students in the sample. When compared to national studies of student stress in 2019 before COVID lockdowns, the high school students mostly showed significantly lower levels of stress and depression in 2020 (almost half the rate from 2019 to 2020 for multiracial students) with Hispanic students, gender non-binary students, and middle school students showing no change. Girls showed higher levels of depression and anxiety than did boys, and overall, Hispanic, Black, Asian, and multiracial students showed higher rates of depression and vulnerabilities than did White students, even when the effect sizes were relatively small.

Most importantly, this report provides strong evidence of the importance of caregiver support, especially parental involvement, in helping to reduce mental health risks for adolescents and middle school children. The authors examine the potential risk and protective factors and conclude that the most important protective factors were parental support and the presence of supportive adults at school, with some variations by various subgroups.

Considering that we are still living with the COVID pandemic, this *SPR* has several important policy implications—most importantly, that policies need to be enacted to help parents and caregivers. As the authors note, "it is clear that if children and adolescents are to show resilience in the aftermath of the pandemic, the single most important charge is to ensure that their parents are psychologically healthy, supported through the cumulative strains they have experienced for months related to childcare, health, finances and jobs…there must be increased dissemination of mental health supports for parents." This *SPR* makes a strong case for starting now to help families and children prepare for what we all hope will be an end to our current pandemic-constrained lives.

COVID-19 and Resilience in Schools: Implications for Practice and Policy

With a focus on psychological adjustment among teens in the first few months of the COVID-19 pandemic, this study was based on over 14,000 middle and high school students in the United States, one third of whom were youth of color. The following questions were addressed. First, how did adolescents' rates of clinically significant depression and anxiety compare with those documented in comparable schools during 2019? Second, were there notable differences in the well-being of students during distance learning based on race/ethnicity, gender, developmental stage, or time since the start of school closures? Third, considering multiple potential risk and protective processes, which were the most important *modifiable* influences linked with resilience—that is, low levels of depression and anxiety—and did the relative importance of any of these vary across demographic groups? As stressors resulting from the pandemic continue, evidence on these issues could be valuable for prevention and policy in the months ahead.

COVID-19 and Adults' Mental Health

The COVID-19 pandemic has taken a substantial toll on adults' mental health, with some subgroups in the United States more vulnerable than others. McGinty et al. (2020) reported on levels of serious depression among 1468 individuals aged 18 years or older, assessed between April 7–13, 2020 (approximately 1 month after the United States declared emergency due to COVID-19). Rates were compared with those in 2018 from a different national survey that used the same depression measure. Results showed higher distress rates in 2020, with some subgroups showing pronounced differences: Young adults aged 18–29 years (24.0% vs. 3.7% in 2018), Hispanic adults (18.3% vs. 4.4%), and adults with annual household incomes less than $35,000 (19.3% vs. 7.9%).

Other studies have shown increases across diverse mental health problems, aside from depression. In a Canadian sample of 622 individuals (14–28 years) assessed in April 2020, respondents showed significant deterioration of problems from pre-COVID rates, as assessed by both internalizing and externalizing symptoms. Participants also indicated substantial unmet needs for support during the pandemic (Hawke et al., 2020). National assessments in the United States showed similar trends, as seen in the Centers for Disease Control and Prevention (CDC) report on 5412 adults assessed between June 24–30, 2020 (Czeisler et al., 2020). The prevalence of anxiety and depressive symptoms were respectively about three and four times those reported in 2019 (25.5% vs. 8.1%, and 24.3% vs. 6.5%). As in the McGinty et al. (2020) report, these symptoms were most common among Hispanic respondents and young adults (aged 18–24 years); greater vulnerability was also seen among essential workers and adults with unpaid caregiving responsibilities. The CDC report urged that "Future studies should identify drivers of adverse mental and behavioral health during the COVID-19 pandemic" (Czeisler et al., 2020, p. 1054).

Liu et al. (2020) examined potential moderators of COVID-related stresses, in relation to depression and anxiety in 898 young adults (18–30 years) assessed between April 13 and May 19, 2020. Results showed that emotional support from family—but not from friends and significant others—was associated with low levels of depression and PTSD. As their findings replicated others on the salience of support from families specifically (e.g., Lee et al., 2018), Liu and colleagues (2020) suggested that family support may have been more stable and reassuring during the pandemic, as parents provided emotional and material resources to young adults. Friends and significant others of the same age may themselves have been struggling and thus less capable of providing comfort.

School Age Youth: COVID, Distance Learning, and Psychopathology

As compared to work with adults, there has been less attention to serious psychopathology among U.S. youth in the early months of COVID; one of the first such studies was based on 2196 adolescents from five high schools. All five schools were in the South, all were relatively high-achieving, and all had moved fully to distance learning during the first 8 weeks of school closures (Luthar et al., 2020a). The presence of clinically significant depression and anxiety was assessed by the Well-Being Index (WBI; Luthar et al., 2020b), a measure that has been well-validated against the "gold standard" of youth symptom assessments, the Youth Self-Report (YSR; Achenbach & Rescorla, 2001), in determining cutoffs for levels of symptoms that warrant clinical attention.

During the first 50 days of enforced school closures, salient findings were that adolescents' overall rates of clinically significant symptoms were *lower* as compared to rates in 2019 (Luthar et al., 2020a). These findings were explained as possibly deriving from reduced school pressures. The five schools in the sample had mean standardized test scores in the top 25% of national scores; for many of their students, school closures brought less tightly-packed schedules, lowered academic demands with the move to pass/fail rather than letter grading, more flexible hours for sleep, and also for some, reduced social pressures (e.g., about being excluded from peer gatherings at or outside of school).

The present study extends these early Luthar et al. (2020a) findings, using a much larger sample of students from high performing schools, but before proceeding with details, it it is worth directly addressing the possible value of this body of research. Some might ask why developmental scientists should bother examining risk and resilience among youth at high achieving schools (HASs). Given the ostensible socioeconomic privileges of these students, might there be any real value—for advancing developmental science, practice, or policy—in findings on their adjustment during the pandemic?

We believe that there are at least three considerations that are relevant here. One is that as a group, HAS students have been declared an "at-risk group" in major policy reports, given high and ongoing achievement pressures (Geisz & Nakashian, 2018) National Academic of Science, Education, and Engineering (NASEM, 2019). As with any other vulnerable subgroup, it is important for developmental scientists to

illuminate processes through which risk is conferred, and therefore, potentially minimized in the future. With regard to the conduits implicated in this particular population, accumulated evidence shows that achievement pressures come from all socializing influences in HAS students' lives (for a review, see Luthar, Kumar, & Zillmer, 2020). Their parents, teachers, community members, and school administrators seek high academic scores and extracurricular distinctions; peers are in constant competition to be the best within a generally high-performing group; college admissions policies have become increasingly selective over time; and economic changes, along with globalization, have rendered it more difficult to maintain a middle-class standard of living than was possible in the past.

Besides their at-risk status, a second reason for the potential utility of work with this population is because many "lessons about resilience" can in fact generalize across sociodemographic groups. As long established in child development (García Coll et al., 1996) and developmental psychopathology (Cicchetti, 1984), the study of non-mainstream children can yield important lessons about normative developmental processes, that is, those that generalize to youth in general—as well as those specific to their own subculture.

Besides their at-risk status, a second reason for the potential utility of work with this population is because many "lessons about resilience" can in fact generalize across sociodemographic groups.

Finally, with large enough sample sizes, there is potential to illuminate important differences in adjustment patterns across discrete subgroups. A notable gap in existing findings on social-emotional adjustment following mandatory school closures is the absence of data on *students' symptoms by race/ethnicity*. Previously noted studies of adults over 18 (Czeisler et al., 2020; McGinty et al., 2020) indicated higher rates of serious depression among Hispanic respondents in April and June of 2020; considering youth as well, it is quite possible that problems of depression and anxiety would have differed among groups based on their race/ethnicity.

Pre-pandemic studies involving large samples of students point to the importance of examining well-being patterns separately by race/ethnicity. For example, Konold et al. (2017) surveyed over 52,000 high school students and reported that as compared to Whites, Black students reported lower levels of teacher support and disciplinary structure, and higher levels of academic expectations from adults at school. J. A. Chen et al. (2019) examined cross-sectional survey data from over 67,000 college students across the United States and found that Asian/Pacific Islander and multiracial students had higher levels of depression, anger, anxiety, suicide ideation, and suicide attempts than White students, and at the same time, reported lower utilization of campus mental health services. Taken together, these findings suggest that racial/ethnic minority students may be at higher risk of having undetected mental health problems and may represent a particularly at-risk group (J. A. Chen et al., 2019; Shedding Light, 2020).

Besides stressors directly linked with the pandemic, risks for distress could have escalated further among youth of color due to increases in racist acts across the country, highlighted in late spring of 2020. According to news reports, racism and violence toward Asian students and families reportedly escalated as the virus hit the United States, with references to the "Chinese virus" and accounts of anti-Asian hate crimes, all of which could have exacerbated teens' distress. Additionally, the death of George Floyd on May 25, 2020, brought widespread and prolonged national turmoil. In schools across the country, social media accounts (e.g., "Black @ [School Name]") began to appear, where students and families described their own painful experiences of racism in their school communities (see Lorenz & Rosman, 2020).

Besides stressors directly linked with the pandemic, risks for distress could have escalated further among youth of color due to increases in racist acts across the country, highlighted in late spring of 2020.

Besides variations by race/ethnicity, it is also plausible that there are differences by *developmental status* in rates of serious symptoms during the pandemic as compared to rates before COVID. The preliminary findings of reduced distress found among 9th–12th graders (Luthar et al., 2020a) may not have applied to younger students; in fact, pre- and early adolescents may have experienced increased symptoms during school closures because of their relatively less well-developed coping skills and less cohesive and supportive peer friendships. Supporting this suggestion, in a study with Italian, Spanish, and Portuguese youth during COVID, Orgilés, Morales, et al. (2021) reported that adolescents more often used the relatively adaptive coping strategy of highlighting advantages of being at home instead of at school. Younger children, by contrast, more often coped by seeking affection from others, a strategy linked with high symptom levels.

In terms of absolute rates of serious symptoms (or average symptom scores) rather than those compared with values documented before COVID, it is likely that older youth were more vulnerable during the pandemic. Conceptually, for example, it would make sense that worries about learning and grades would be weightier for students in high school versus middle school, given that the former are closer to the major life milestone of graduation and attendant decisions about their futures. Supporting this suggestion, research in China showed that older adolescents had higher levels of symptoms during the pandemic than did their younger counterparts (F. Chen et al., 2020).

Gender is another dimension which may moderate the relationship between school closures and the prevalence of serious symptoms. In a Canadian sample, Craig et al. (2020) reported that girls were more likely than boys to be concerned about the impact of COVID on their own health and that of family members, and also about family stress due to confinement. Another study in Canada pointed to especially high psychological symptoms among gender-nonbinary individuals during COVID, as well as greater disruptions experienced in services they needed pertaining to their mental health and substance use (Hawke et al., 2021).

Given these prior findings, in the present study, we appraised rates of serious symptoms in the first 2 months of COVID, and compared these with rates documented in similar schools before the pandemic during 2019. With a large sample size of over 14,000 students, we were able to examine whether there were any differences in these *2019–2020 comparative rates of serious distress* as a function of students' race/ethnicity, developmental stage division (i.e., middle vs. high school students), and gender. In addition, we examined *average symptom levels soon after lockdowns* due to COVID, to ascertain if there were any notable differences, during enforced school closures, by race/ethnicity, division, and gender.

Adolescents' Mental Health: Risk and Protective Processes During COVID-19

Besides the abovementioned comparisons involving symptoms and demographic indices, we also examined potentially important modifiable risk and protective processes that could be leveraged to foster resilience during COVID, again, building upon early findings from Luthar et al. (2020a). The constructs selected for study were chosen based on contemporary theory and existing research on resilience among adolescents. They included multiple dimensions of relationships (with peers and adults, at home and at school), various aspects of learning (efficacy of learning and ability to focus), and degree of structure during the day.

In the prior study (Luthar et al., 2020a), the most robust and consistent risk-modifiers for adolescent mental health were found to be aspects of *Relationships with Parents*, including feeling supported by them and feeling low stress around them. In simple correlations, other predictor variables examined showed expected correlations with each other and with both depression and anxiety; however, none showed the same robust, unique associations as did the parent relationship variables. These findings resonate with results reported internationally during the pandemic. A trans-national study by Orgilés, Espada, et al. (2021) showed that children's symptoms of anxiety and depression were positively linked with parents' reports of high stress. Among Australian students, increased conflict with parents was significantly associated with increases in anxiety and depressive symptoms from pre-pandemic levels to those measured 2 months after mandated shutdowns (Magson et al., 2021). In a study of Canadian adolescents, higher rates of mental health problems were associated with family stress due to confinement and with violence at home (Craig et al., 2020). On the positive side, research in China showed that mental health was better among youth who had frequent discussions as a family during COVID (Tang et al., 2021).

In addition to the quality of relationship with parents, there is also evidence for the importance of relationships with *adults at school* and with *peers* for adolescents' well-being during COVID. With regard to relationships with adults, qualitative data (Luthar et al., 2020a) showed that when asked what was going well at their schools, the most commonly mentioned theme across all five schools sampled was *support from teachers* and from other school-based adults. Regarding peers, a survey of 1054 Canadian adolescents showed that students' top concerns included those around feeling disconnected from friends (Ellis et al., 2020). Additionally, a review of 63 articles revealed that feelings of social isolation and loneliness were significantly

linked with increased risk for depression among children and adolescents during the pandemic (Loades et al., 2020).

Apart from these relationship-based themes, mental health during COVID has also been linked with feelings around the *effectiveness of learning* when instruction moved to a virtual or online format (Luthar et al., 2020a). In the previously mentioned Australian study, students who reported difficulties with online learning were at significant risk for increases in mental health symptoms (Magson et al., 2021). Similarly, in their sample of Canadian adolescents, Ellis et al. (2020) found that students' top concerns included worries that their schooling would be negatively affected.

Finally, another factor with implications for mental health early in the pandemic was the degree to which students had clearly separated times of the day for work versus leisure. School closures and distance learning brought greater fluidity of time boundaries demarcating specific class periods during the day, and times for extracurriculars and homework during evenings and weekends. Without such built-in demarcations, there were apparent benefits when students had set aside specific *times designated for leisure activities or fun* (Luthar et al., 2020a).

Subgroup Differences in the Relative Salience of Risk-Modifiers and Shifts Over Time

In an important innovation, the present study also considered the possibility that different sets of risk and protective factors might be most salient for students' distress levels depending on their racial/ethnic backgrounds. Past research indicates the value of considering such *within-group patterns by ethnicity*. In a meta-analysis based on over 91,000 adolescents, the association between perceived discrimination and well-being differed by racial/ethnic subgroups: links with socioemotional distress were strongest among Asian adolescents, whereas associations with academic outcomes was strongest among Latinx/Hispanic students (Benner et al., 2018). Considering positive risk modifiers as well, it has been suggested that in schools with mostly White students, exposure to discrimination may well be attenuated if students of color are buffered by strong relationships, such as feeling close to at least one adult at school, or having close friends with whom they can comfortably be themselves (e.g., Assari et al., 2017; Luthar, Ebbert, & Kumar, 2021).

Similarly, international studies during COVID indicate the value of examining risk-modifiers in relation to symptoms separately in groups based on *students' gender* and on *their developmental level*. With regard to within-gender patterns, for example, Magson et al. (2021) noted that teenage girls are more likely than boys to depend on their social networks for support in coping with life stressors, such that feelings of disconnection during COVID could be more detrimental for their mental health. On the topic of developmental differences, to our knowledge there are no studies that include both middle and high school students during COVID, allowing for illumination of relative salience of different sets of risk and protective factors. However, Magson et al. (2021) commented on prior findings with high school students (Ellis et al., 2020), in conjunction with their own findings with younger children, and noted that

concerns about learning and grades would likely cause more distress among the former given greater temporal proximity to college admissions.

Finally, another possibility addressed in this study was that students' social-emotional adjustment patterns may have shown *changes across time*, as our assessments spanned the first few months of distance learning. As Luthar et al. (2020a) cautioned, the lessened everyday demands may have felt liberating soon after school closures. At the same time, students' distress levels would likely change over time (e.g., Hussong et al., 2021) given concerns about the well-being of their families, for example, and increased loneliness with prolonged social distancing (see Brooks et al., 2020; Loades et al., 2020). Thus, our analyses also tracked levels of symptoms and of risk and protective factors across the first 3 months of school closures.

Summary

To summarize, this study involved assessments of over 14,000 students from U.S. schools during the first eight weeks following mandatory school closures due to COVID-19. Central goals were to (1) ascertain rates of clinically significant distress compared to 2019 rates in similar schools, (2) determine the relative salience of multiple risk and protective factors in modifying distress levels, and (3) examine ways in which overall levels of distress and risk modifiers—as well as the specific risk modifiers found to be most important in predicting to anxiety and depression—might differ by race/ethnicity, gender, developmental level, and time.

Method

Participants

The sample in this study is comprised of 14,603 students at 49 schools across the United States who completed the Student Resilience Survey (SRS; for details, please see Measures) between April and June of 2020.[1] With regard to the overall time frame vis-à-vis mandated distance learning,[2] the initial shutdown of schools across the United States occurred between March 16–25, and schools began SRS assessments in the following month.

Characteristics of the 49 schools assessed are summarized in Table 1. As in the preliminary Luthar et al. (2020a) study with 5 schools (included in the present analyses), all schools in the present study were relatively high performing, with a mix of independent/private day schools (40 schools, $n = 10{,}581$ students), boarding schools (8 schools, $n = 2{,}598$ students), and a public school (1 school, $n = 1{,}424$ students). Across all schools, the mean SAT score ranged from the 65th–98th percentile with most schools in the 80th–89th percentile range. On average, the percentage of students who qualified for financial aid or free/reduced-price lunch ranged from <20% to >60% across schools (with an average of 30%), and median family incomes ranged from <$50,000 to >$200,000, with a modal value of $95,000.[3] Table 1 displays breakdowns of participating schools by other defining characteristics, including geographic region, school size, and month of assessments.

Table 1. **Characteristics of the Schools**

School characteristic	Category	*n* schools	Category	*n* schools	Category	*n* schools	Category	*n* schools
School region[a]	Northeast	20	South	18	Midwest	5	West	6
School size (*N* students)	<300	28	300–599	13	600–1500	7	>2000	1
School type	Private	40	Boarding	8	Public	1		
Grades assessed	6–8 only	9	9–12 only	16	MS and HS	24		
Month assessed	April	9	May	37	June	3		
Average SAT percentile	65th	1	70th–79th	7	80th–89th	25	90th–94th	5
Annual tuition rate	<$20,000	7	$20–29,000	19	$30–49,000	17	>$50,000	6
Median household income	<$50,000	7	$50–100,000	23	$100–200,000	18	>$200,000	1
Financial aid distribution	<20%	7	20–39%	21	40–59%	7	>60%	1
Participation rate	57–69%	4	70–79%	11	80–89%	6	90–99%	28

[a]Number of students per region were as follows: Northeast, 5578; South, 6022; Midwest, 1253; West, 1750.

Table 2. **Demographics of the SRS V1 and SRS V2 Samples**

	Overall sample ($N = 14{,}603$)		V1 sample ($n = 7197$)		V2 sample ($n = 7406$)	
Demographic variable	***n***	**%**	***n***	**%**	***n***	**%**
Ethnicity						
White	9112	62	4528	63	4584	62
Black	1172	8	676	9	496	7
Hispanic	669	5	311	4	358	5
Asian	2114	14	918	13	1196	16
Other	1536	11	764	11	772	10
Gender						
Male	6391	44	3160	47	3231	44
Female	7564	52	3495	52	4069	55
Non-Binary	129	1	55	1	74	1
Grade level						
6th	1401	10	589	8	812	11
7th	1540	11	682	10	858	11
8th	1534	11	663	9	871	12
9th	2818	19	1397	20	1421	19
10th	2778	19	1394	20	1384	18
11th	2783	19	1378	19	1405	19
12th	1740	12	993	14	747	10
Postgrad/other	9	<1	1	0	8	0

Of all students surveyed, about half ($n = 7197$ students at $N = 14$ schools) received the original version of the SRS (V1) as described by Luthar et al. (2020a). The second half ($n = 7406$ students at $N = 35$ schools) received an augmented version of the SRS (V2) which, in addition to all V1 measures, also included quantitative questions on four dimensions of worries that recurrently emerged in early qualitative data (for details, see Measures section).

Table 2 shows the demographic breakdown of the sample overall as well as separately for students completing the V1 and V2 versions of the measurement battery. In the overall sample, less than two thirds of students (62%, $n = 9112$) identified as Caucasian/White; 8% identified as African American/Black ($n = 1172$), 5% as Latinx/Hispanic ($n = 669$), 14% as Asian/Asian American/Pacific Islander ($n = 2114$), 8% as Biracial/Multiracial/Other ($n = 1237$), 2% as Middle Eastern ($n = 234$), and <1% as American Indian/Native American ($n = 65$). Middle Eastern, American Indian/Native American, and Biracial/Multiracial/Other were combined to form a single Other group ($n = 1536$, 11%). In the interest of brevity, the groups defined by racial/ethnic identity as described above are henceforth referred to as White, Black, Hispanic, Asian, and Other, and race/ethnicity will be referred to as ethnicity.[4] With regard to gender, 44% of students in the overall sample were Male ($n = 6391$), 52% Female ($n = 7564$), and 1% identified as Non-Binary ($n = 129$).[5] By grade, approximately one third of students

in the sample were in middle school (34%); the remaining 66% were in high school (grades 9–12). Specific percentages and n's by individual grades are shown in Table 2 and were higher, at 19%, for each of 9th, 10th, and 11th grades, as compared with approximately 10% for each of grades 6, 7, 8, and 12.

Measures: Components of the SRS

Depression and anxiety. The SRS included the two internalizing subscales, *Depression* and *Anxiety*, of the WBI, a psychometrically-validated measure (Luthar et al., 2020a, 2020b) with each symptom measured by five items, each rated on a 5-point scale reflecting frequency of experience (0 = *never*, 4 = *very often*). Among schools assessed here, *Depression* alpha (α) reliability coefficients were 0.81 and 0.84 respectively for males and females, and for *Anxiety*, values were 0.84 and 0.86, respectively.

Risk and protective factors. Luthar et al. (2020a) established acceptable psychometric properties of all SRS risk and protective factors measured in the present study, including those involving single items. The latter all showed expected inter-correlations with conceptually-related constructs (and if an instrument has good validity, this presupposes that it has acceptable reliability of measurement; Drost, 2011; Nunnally, 1978). All quantitative measures were rated on 5-point scales, with higher scores representing higher levels of the construct; α coefficients of the measures (in the overall sample), are noted below in parentheses.

Parent Support was measured based on an average of two questions on the degree to which students' parents (1) understood and helped manage their feelings and (2) were a source of stress for them, reverse-scored ($\alpha = 0.72$). *Concerns Heard* at school was measured as an average of four questions, on the degree to which (1) administrators and (2) teachers were (a) listening to students' concerns about school and learning, and (b) doing something about these concerns ($\alpha = 0.91$). Two variables represented confiding in people at school: satisfaction with how often students confided in (1) adults at school, and (2) their friends. These variables are referred to as *Adults Confide* and *Friends Confide*.

Learning Effectiveness was measured by a single item, "How well are you able to learn new school materials these days?" rated from "Not at all well" to "Extremely well." *Time for Fun* was assessed by asking students if their days had specific time set aside for leisure and activities that were fun or relaxing, rated on a 5-point scale, from "Not at all" to "Very much."

As noted in the Introduction to this article, V2 of the SRS also included 4 single items on how much students worried about four sets of issues frequently mentioned in early qualitative responses. These included concerns about completing school assignments/keeping up their grades (labeled *Worry-Grades*), uncertainty about their personal futures including college/what will happen after high school graduation (*Worry-PostGrad*), parents' jobs or family finances (*Worry-Family Job*), and physical health of their parents/family members (*Worry-Family Health*). These variables were rated from "Not at all" to "Very much."

Qualitative data. As in Luthar et al. (2020a), students responded to three free-response questions: (1) "These days, what are you most worried about?" (2) "In thinking about your school experience, what could your teachers/faculty be doing to improve things for you?" and (3) "What are things that your school is doing well to support your overall school experience and well-being?" The same taxonomy capturing distinct themes used in Luthar et al. (2020a) was applied in analyzing responses within this study. This taxonomy includes nine mutually exclusive categories (themes subsumed within these, along with sample items, are shown in Supplementary Tables 1a–c): (1) *Academic Workload*—the quantity/timing of assignments and ability to complete assignments; (2) *Faculty Flexibility* in grading and exams; (3) *Faculty Support*—emotional and academic; (4) *Family Well-Being*—health and finances; (5) *Future/College*—uncertainties; (6) *Peer Interactions*—mentions of friends; (7) *Distance Learning Efficacy*—ability to learn; (8) *Structure/Schedule*—for school work and leisure; and (9) *Activities,* including athletic and other events. Students' responses could be coded in more than one category.

Inter-rater reliability. Two team members coded all open-ended responses, and Cohen's (1960) κ coefficients were calculated to determine levels of agreement. Coefficients for the questions on *Worries*, *Areas for Improvement*, and *What's Going Well*, respectively were 0.77, 0.76, and 0.72 (Luthar et al., 2020a). These values are in the substantial agreement range of 0.61 and 0.80; values between 0.41 and 0.60 are considered in moderate agreement, and values between 0.81 and 0.99 have almost perfect agreement (Viera & Garett, 2005).

Like all quantitative scores, the open-ended responses were entirely anonymous. Each school's administrators could review their own school's summarized findings in two interactive forms: as a Word Cloud or as a Marimekko chart (Supplementary Figure 1a,b). In the Word Cloud, clicking on any word would allow leaders to view verbatim responses subsumed within that category, allowing them to directly "hear" students' voices.

Importantly, for each school, all data and results were shown for the overall sample as well as separately by gender, ethnicity, and grade, allowing school leaders to pinpoint any subgroups that might consistently show high distress across symptoms as well as major risk/protective factors. Viewing results by subcategories was possible not only for the quantitative data but also for all qualitative data, with one clearly stated caveat. To ensure confidentiality of students, such breakdowns were never shown for any group with fewer than 10 students (on any data within the survey).

Procedures

As part of their ongoing efforts to foster positive youth development and proactively address COVID-related challenges, school officials administered the SRS virtually during regular school hours after the move to distance learning. In line with procedures commonly used with such surveys, school leaders obtained passive consent from parents, describing the survey, providing the option to decline participation, and assuring them of the complete anonymity and confidentiality of the

data (including no transmission of IP addresses). Participation rates across schools, shown in Table 1, ranged from 57% to 99%, with most schools in the range of 90–99%. The number of parents declining consent was one in 7 schools, two in 4 schools, and in one school each, was 3, 4, 5, 6, and 25 (the last was the single public school; *n* participating students = 1712).

After data collection was completed, administrators shared anonymous, de-identified data with the present research team, who analyzed these data and reported back major findings within 1–2 weeks. Presentations were done by the first and third author, using interactive dashboards created with Tableau software, and delivered in Zoom meetings for about 1 hour per school. The dashboards presented rates of clinically significant depression and anxiety relative to other schools in this study (comparisons were updated when all 49 schools had been assessed). Also identified were the top three predictor variables in multivariate regressions—that is, those most strongly associated with distress in that particular school—and for each of these salient predictors, rates of elevated scores in that student body relative to norms were presented. As noted earlier, there was also the option to view results separately by demographic groups, assuming at least 10 students in that group.

There was no charge to the schools for these data analyses and reports. As this study involved analyses of pre-existing, de-identified, anonymous data, this study falls in the category of "exempt" status per the IRB committee at Columbia University's Teachers College, protocol number 20–161. Analyses for the study were conducted using SPSS software (IBM SPSS Statistics, Version 26.0) with listwise deletion methods for missing data, which was negligible (<5% across all variables in the study in the overall sample of $n = 14{,}603$).

Data analytic plan

Given the two versions of the SRS—the second augmented with the four *Worry* variables—two sets of omnibus analyses were conducted both for (a) *between-group* comparisons (multiple analyses of variance, or MANOVA), and (b) *within-group* analyses (hierarchical linear modeling, or HLM). In each case, the first set of analyses involved the overall sample of 14,603 students across 49 schools. The second analysis included only those students who completed SRS V2 ($n = 7406$), which included the four *Worries* questions but had fewer time points (i.e., missing the first 6 of the 12 weeks of data collection, or Weeks 2–4 post school closures).

At the outset, we note that in interpreting all results of this study, we considered not only statistical significance, but also effect sizes. For *between-group* analyses, we report effect sizes (partial η^2), with the following values taken from Cohen (1988) as benchmarks for interpretation: 0.03 is small, 0.06 medium, and 0.11 large. For regression analyses, as recommended by Schäfer and Schwarz (2019), associations were considered noteworthy if β coefficients were equal to or greater than 0.20, the mean effect size in social-psychological research.

The *between-group* MANOVAs included the four main effects of central interest: **Gender** (2 levels: Males and Females[6]); **Ethnicity** (5 levels: White, Black, Hispanic, Asian, and Multiracial); **Division** (2 levels: Middle and High School); and **Time**

(5 levels; Weeks 2–4, 6, 8, 10, and 12 post school closure). Also considered in the MANOVA were two other factors that could have had effects (although none were hypothesized, *a priori*): **Region** (4 levels: Northeast, South, Midwest, and West); and **School Type** (3 levels: Private/Independent (Day), Boarding, and Public). Finally, we included three interaction terms that were specified, a priori, as being of interest based on the existing literature (cited in the Introduction section). Two of these interactions involved ethnicity (**Ethnicity** × **Gender** and **Ethnicity** × **Time**) and one involved middle versus high school (**Division** × **Time**).

With regard to dependent variables (DVs) in the MANOVAs, there were six in the V1 analyses on the whole sample—*Parent Support, Concerns Heard, Adults Confide, Friends Confide, Effective Learning*, and *Time for Fun*. The V2 MANOVA included only the four new *Worries* variables—*Grades, PostGrad, Family Job*, and *Family Health*. In both analyses, when MANOVA main effect and interaction effect findings showed statistically significant differences, follow up univariate analyses of variance (ANOVAs) were used to illuminate significant group differences. When significant ANOVA main effects involved more than two groups, post hoc analyses with Bonferroni corrections were conducted.

In parallel fashion, *within-group* analyses of risk and protective processes began with a stringent, omnibus, HLM analysis. Two-level models were specified to estimate the relationship between *Depression* and *Anxiety* and the risk/protective factors while controlling for the effect of students (Level 1) nested within schools (Level 2). Although the school variable was taken into account via the random intercept, no explanatory independent variables were introduced at the school level because we did not have *a priori* hypotheses about school characteristics.

A stepwise model-building approach was followed where, for each DV, a null intercept-only model was specified to determine the amount of variance in *Depression* and *Anxiety* explained by school (M_0). Next, demographic variables were added in sequential order: **Ethnicity** (M_1), **Gender** (M_2), and **Division** (M_3). In order to evaluate the effect of risk/protective factors on each DV, each of the following V1 variables was sequentially included: *Parent Support* (M_4), *Concerns Heard* (M_5), *Adults Confide* (M_6), *Friends Confide* (M_7), *Effective Learning* (M_8), and *Time for Fun* (M_9). In the final step, each of the following V2 variables was sequentially included: *Worry-Grades* (M_{10}), *Worry-PostGrad* (M_{11}), *Worry-Family Health* (M_{12}), and *Worry-Family Job* (M_{13}).

The null model (M_0) for each outcome variable can be written as follows:

Level 1

$$\gamma_{00} + \mu_{0j}.$$

In the null model, $OUTCOME_{ij}$ represents the *Depression* or *Anxiety* score for student *i* in school *j*. β_{0j} is the mean *Depression* or *Anxiety* score for school *j*, γ_{00} is the grand mean of *Depression* or *Anxiety* across schools, Variance(r_{ij}) is the within-school

variance in *Depression* or *Anxiety*, and Variance(μ_{0j}) is the between-school variance in *Depression* or *Anxiety*.

The model assumes that within schools, the student-level specific residuals (r_{ij}) are normally distributed with variance σ^2, and that between schools, the residuals (μ_{0j}) are normally distributed with variance τ_{00}. For each model, the intraclass correlation (ICC) is computed as $\text{ICC} = \tau_{00}/(\sigma^2 + \tau_{00})$, which indicates the relative value of school-level variance to total variance. Values for ICC are provided in the Results section.

The omnibus model (M_{13}) with all predictors for each outcome variable can be written as follows:

Level 1

$$\begin{aligned} OUTCOME_{ij} = {} & \beta_{0j} + \beta_{1j}(ETHNICITY_{ij}) + \beta_{2j}(GENDER_{ij}) + \beta_{3j}(DIVISION_{ij}) + \beta_{4j}(PARENT\ \ SUPPORT_{ij}) \\ & + \beta_{5j}(CONCERN\ \ SHEARD_{ij}) + \beta_{6j}(ADULT\ \ SCONFIDE_{ij}) + \beta_{7j}(FRIENDS\ \ CONFIDE_{ij})) \\ & + \beta_{8j}(EFFECTIVE\ \ LEARNING_{ij}) + \beta_{9j}(TIME\ \ FOR\ \ FUN_{ij}) + \beta_{10j}(WORRY\ \ GRADES_{ij}) \\ & + \beta_{11j}(WORRY\ \ POSTGRAD_{ij}) + \beta_{12j}(WORRY\ \ FAMILY\ \ HEALTH) \\ & + \beta_{13j}(WORRY\ \ FAMILY\ \ JOB_{ij}) + r_{ij}. \end{aligned}$$

Level 2

$$\begin{aligned} & \beta_{0j} = \gamma_{00} + \gamma_{0j};\ \ \beta_{1j} = \gamma_{10};\ \ \beta_{2j} = \gamma_{20};\ \ \beta_{3j} = \gamma_{30};\ \ \beta_{4j} = \gamma_{40}; \\ & \beta_{5j} = \gamma_{50};\ \ \beta_{6j} = \gamma_{60};\ \ \beta_{7j} = \gamma_{70};\ \ \beta_{8j} = \gamma_{80};\ \ \beta_{9j} = \gamma_{90};\ \ \beta_{10j} = \gamma_{100}; \\ & \beta_{11j} = \gamma_{110};\ \ \beta_{12j} = \gamma_{120};\ \ \text{and}\ \ \beta_{13j} = \gamma_{130}. \end{aligned}$$

As in the null model and in all preceding models generated in the stepwise model-building process, $OUTCOME_{ij}$ in the omnibus model represents the *Depression* or *Anxiety* score for student *i* in school *j*, β_{0j} is the mean *Depression* or *Anxiety* score for school *j*, γ_{00} is the grand mean of *Depression* or *Anxiety* across schools, Variance (r_{ij}) is the within-school variance in *Depression* or *Anxiety*, Variance (μ_{0j}) is the between-school variance in *Depression* or *Anxiety*. In all models including predictors, each of β_{1j} through β_{13j} represents the slope of a Level 1 predictor variable treated as a fixed effect, and each of γ_{10} through γ_{130} is the mean of the slopes across schools for each Level 1 predictor.

Following the omnibus HLM, a series of hierarchical multiple regression analyses were conducted to appraise potential variations in the relative importance of different predictors depending on subgroups, beginning with those defined by **Ethnicity**. Besides main effects, we also considered possible differences in the relative magnitude of risk modifiers' links with outcomes among youth of color versus White students, via interaction terms with White students used as the comparison group. Four hierarchical regressions were conducted, each predicting to *Depression* and *Anxiety*, respectively, for Black, Hispanic, Asian, and Other students. After entering all main effects (6 variables for V1 analyses and 10 for V2 analyses), interaction terms were entered involving each main effect and the dummy-coded contrasts with

Whites. Findings for individual interaction terms were not considered unless the block as a whole had a statistically significant change in R^2 (Aiken & West, 1991).

Parallel hierarchical regressions were conducted for the **Gender** groups—females and gender non-binary students, using males as the dummy-coded reference group for both in interaction terms. Finally, hierarchical regressions considered the possibility of differences in associations by **Division**, using a dummy-coded contrast for high school versus middle school in the interaction terms. As noted earlier, in all cases, individual interaction effects were not interpreted unless the block as a whole had a statistically significant increase in R^2. Furthermore, in interpreting results, all coefficients were appraised for statistical significance as well as effect sizes, with β coefficients of 0.20 and above considered noteworthy.

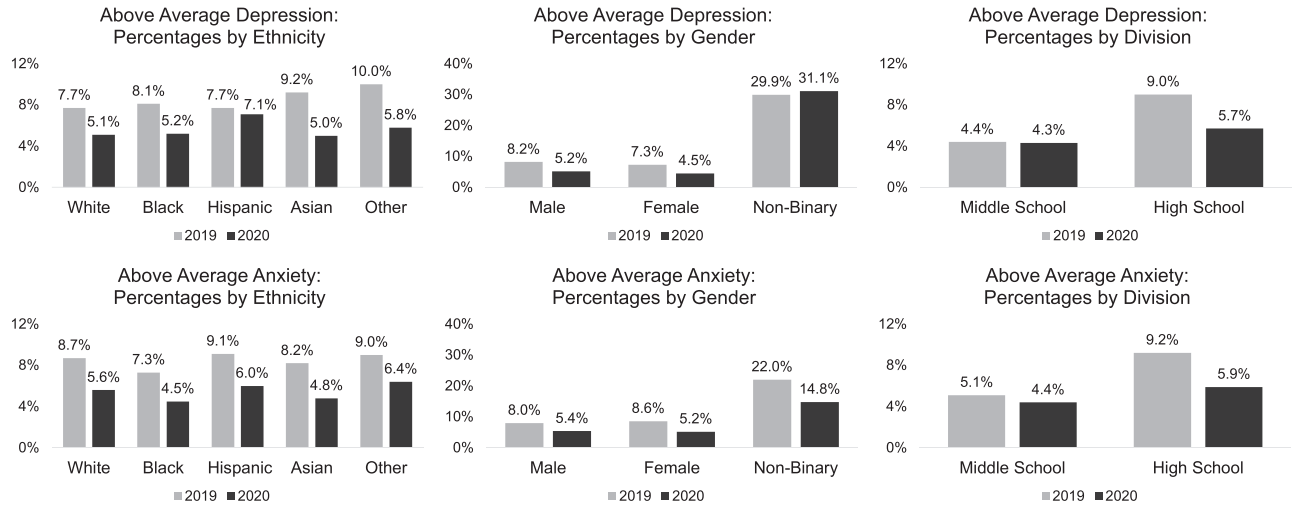
Results

Rates of clinically significant symptoms, relative to norms and over time

Figure 1 presents the percentage of students falling above clinical cutoffs or scoring "Above Average" on WBI symptoms of *Depression* and *Anxiety* at +1.5 SDs as compared to norms. As in Luthar et al. (2020a), norms considered were based on a total of 9025 students from 14 schools who had been assessed in 2019, including 11 private schools, two public schools, and one boarding school (Authentic Connections, 2020).[7] All of these schools had mean SAT scores above the 65th percentile as did the 49 schools in the present study.

χ^2 analyses were conducted to determine if 2019–2020 rates of clinically significant symptoms differed by the three demographic indices considered (**Ethnicity**, **Gender**, and **Division)**. Results showed that all were significant, with values as follows: **Year**

Figure 1. **Percentage of students reporting clinically significant depression and anxiety (+1.5 SDs) in the present sample compared with a similar sample assessed in 2019, separately by Ethnicity, Gender, and Division.**



(2019 vs. 2020) × **Ethnicity**, *Depression*: $\chi^2(1, 4) = 17.07$, $p = 0.002$; *Anxiety*: $\chi^2(1, 4) = 12.58$, $p = 0.014$; **Year** × **Gender**, *Depression*: $\chi^2(1, 2) = 438.54$, $p < 0.001$; *Anxiety*: $\chi^2(1, 2) = 128.37$, $p < 0.001$; **Year** × **Division**, *Depression*: $\chi^2(1, 1) = 80.13$, $p < 0.001$; *Anxiety*: $\chi^2(1, 1) = 74.98$, $p < 0.001$.

As shown in Figure 1, overall, Hispanic students had the lowest difference between 2019 and 2020 rates of serious *Depression*: 7.7–7.1% = –0.6%; they also had the highest rates of *Depression* during the time of school closures. The greatest reductions in 2019–2020 rates were for Asian and Other students, both at –4.2%, with the pairs of values being 9.2% versus 5.0% for Asian and 10.0% versus 5.8% for Other students. The reductions for White and Black students were in between, at –2.6% and –2.9%, respectively.

On *Anxiety*, again, the greatest reductions in 2019 versus 2020 rates were for Asian students, 8.2% versus 4.8% for a change of –3.4%, along with White and Hispanic students, values of –3.4% and –3.1%, respectively. Lower reductions were seen for Black and Other students (–2.8% and –2.6%, respectively); of all five ethnic groups, Black students had the lowest rates of *Anxiety* in both 2019 and 2020. Overall, in considering clinically significant symptom rates across ethnic groups, negative effects of the pandemic seemed most pronounced for Hispanic students on *Depression*, with the lowest reduction in these rates from 2019 to 2020, and the highest overall rates during 2020.

In terms of differences by **Gender**, rates of severe symptoms among both males and females decreased between 2019 and 2020 by approximately the same percentage points for *Depression* (–3.0% vs. –2.8%) and *Anxiety* (–2.6% vs. –3.4%). Non-binary students were the only ones to increase in *Depression*, with a gain of +1.2%; their rates of *Anxiety*, however, went down considerably, by –7.2%.

With regard to differences by **Division**, 2019 rates of clinically significant *Depression* and *Anxiety* among high school students were about twice the rates observed among their middle school counterparts. However, from 2019 to 2020, high school rates showed notable reductions of both symptoms (–3.3% in both cases), with *Depression* going from 9.0% to 5.7% and *Anxiety* from 9.2% to 5.9%. By contrast, middle school rates showed trivial changes of –0.1% and –0.7%.

In summary, considering both changes in time (reductions overall between 2019–2010) and rates during the pandemic, Hispanic and gender non-binary students stood out as the most vulnerable on *Depression*. High school students had higher overall rates of both symptoms during the pandemic but notable reductions in these compared to rates in 2019. By contrast, middle school students showed almost no reduction from 2019 to 2020 on either *Depression* or *Anxiety*.

Descriptive data: Means, standard deviations, and correlations

Means and standard deviations of all variables are shown in Tables 3a, 3b, and 3c, respectively, by **Ethnicity**, **Gender,** and **Division**, and **Time**. Table 4a presents simple correlations among all predictor and outcome variables in the overall sample;

Table 3a. **Descriptive Statistics for all Predictor and Outcome Variables Separately by Ethnicity**

	White N = 9112/4584*		Black N = 1172/496*		Hispanic N = 669/358*		Asian N = 2114/1196*		Other N = 1536/772*	
Variables	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Depression	5.6	4.2	5.9	4.1	6.3	4.4	6.1	4.0	6.4	4.3
Anxiety	7.1	4.6	6.6	4.5	7.5	4.9	6.7	4.3	7.5	4.8
Parent Support	3.3	1.2	3.1	1.2	3.1	1.2	3.2	1.2	3.2	1.2
Concerns Heard	3.1	1.0	3.0	1.0	3.2	0.9	3.3	0.9	3.1	1.0
Adults Confide	3.4	1.0	3.3	1.0	3.4	1.0	3.4	1.0	3.4	1.0
Friends Confide	3.8	1.1	3.9	1.1	3.8	1.1	3.9	1.1	3.8	1.2
Effective Learning	2.9	1.0	2.9	1.1	2.8	1.0	3.1	1.0	2.9	1.1
Time for Fun	3.2	1.1	3.1	1.3	3.2	1.2	3.2	1.1	3.1	1.2
Worry-Grades*	3.8	1.2	3.9	1.3	4.0	1.1	3.9	1.2	3.9	1.2
Worry-PostGrad*	3.2	1.5	3.4	1.5	3.5	1.4	3.6	1.4	3.5	1.5
Worry-FamilyJob*	2.3	1.3	2.7	1.5	3.0	1.4	2.6	1.4	2.7	1.5
Worry-FamilyHealth*	3.0	1.4	3.2	1.5	3.5	1.3	3.2	1.3	3.3	1.4

Note. *N* is across all schools assessed.
**N* for schools assessed on SRS V2 with the four questions on *Worries*.

Table 3b. **Descriptive Statistics for all Predictor and Outcome Variables Separately by Gender and Division**

	Males N = 6391/3231*		Females N = 7564/4069*		Non-Binary N = 129/74*		Middle School N = 4475/2541*		High School N = 10,119/4957*	
Variables	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Depression	4.8	3.7	6.5	4.2	11.0	5.2	5.0	4.0	6.2	4.2
Anxiety	5.4	3.9	8.3	4.6	11.3	5.4	6.1	4.4	7.4	4.6
Parent Support	3.3	1.2	3.2	1.2	2.5	1.2	3.5	1.2	3.1	1.2
Concerns Heard	3.2	1.0	3.1	0.9	2.8	1.1	3.3	1.0	3.1	1.0
Adults Confide	3.4	1.0	3.3	1.0	3.1	1.2	3.4	1.0	3.3	1.0
Friends Confide	3.8	1.1	3.9	1.1	3.3	1.3	3.8	1.1	3.9	1.1
Effective Learning	3.0	1.1	2.9	1.0	2.7	1.1	3.2	1.0	2.8	1.0
Time for Fun	3.3	1.2	3.1	1.1	2.9	1.2	3.3	1.1	3.1	1.1
Worry-Grades*	3.7	1.3	3.9	1.2	3.5	1.3	3.7	1.2	3.9	1.2
Worry-PostGrad*	3.1	1.5	3.5	1.5	3.5	1.6	2.7	1.5	3.7	1.4
Worry-FamJob*	2.3	1.3	2.5	1.4	2.9	1.5	2.3	1.3	2.6	1.4
Worry-FamHealth*	3.0	1.4	3.2	1.3	3.2	1.4	3.0	1.4	3.2	1.4

Note. *N* is across all schools assessed.
**N* for schools assessed on SRS V2 with the four questions on *Worries*.

attesting to validity, variables showed expected intercorrelations in the sample as a whole. The four single item questions on *Worries*, for example, all showed slightly higher correlations with *Anxiety* than with *Depression* (0.26 vs. 0.18 for *GPA;* 0.32 vs. 0.28 for *PostGrad;* 0.26 vs. 0.24 for *Family Job*; and 0.24 vs. 0.17 for *Family Health*).

Table 3c. **Descriptive Statistics for all Predictor and Outcome Variables Separately by Time**

	Week 4 *N* = 1114		Week 6 *N* = 3483/190*		Week 8 *N* = 2145 /1569*		Week 10 *N* = 6676/4865*		Week 12 *N* = 935/882*	
Variables	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Depression	5.2	4.0	5.8	4.2	5.9	4.1	5.8	4.2	6.7	4.3
Anxiety	6.7	4.6	6.8	4.6	7.0	4.5	7.0	4.6	8.1	4.7
Parent Support	3.3	1.2	3.2	1.2	3.3	1.2	3.3	1.2	3.2	1.2
Concerns Heard	3.0	1.0	3.0	1.0	3.2	1.0	3.2	1.0	3.1	1.0
Adults Confide	3.3	1.0	3.3	1.0	3.4	1.0	3.4	1.0	3.4	1.0
Friends Confide	3.7	1.1	3.8	1.1	3.8	1.1	3.9	1.1	3.9	1.1
Effective Learning	2.9	1.0	2.8	1.0	3.0	1.1	3.0	1.1	2.8	1.1
Time for Fun	3.2	1.1	3.2	1.1	3.2	1.1	3.2	1.1	3.2	1.1
Worry-Grades*	N/A	N/A	3.7	1.2	3.8	1.2	3.8	1.2	3.8	1.2
Worry-PostGrad*	N/A	N/A	2.9	1.6	3.2	1.5	3.4	1.5	3.5	1.5
Worry-FamilyJob*	N/A	N/A	2.6	1.5	2.5	1.4	2.4	1.4	2.6	1.4
Worry-FamilyHealth*	N/A	N/A	3.2	1.4	3.1	1.4	3.1	1.4	3.3	1.3

Note. *N* is across all schools assessed.
**N* for schools assessed on SRS V2 with the four questions on *Worries*.

Table 4a. **Correlations Among Predictor and Outcome Variables**

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Depression	1.00										
2. Anxiety	0.69	1.00									
3. Parent Support	−0.43	−0.36	1.00								
4. Concerns Heard	−0.27	−0.24	0.26	1.00							
5. Adults Confide	−0.20	−0.19	0.17	0.35	1.00						
6. Friends Confide	−0.16	−0.11	0.11	0.15	0.31	1.00					
7. Effective Learning	−0.29	−0.25	0.26	0.33	0.22	0.12	1.00				
8. Time for Fun	−0.24	−0.22	0.19	0.21	0.13	0.13	0.21	1.00			
9. Worry-Grades*	0.18	0.26	−0.19	−0.12	−0.09	−0.02$^{0.05}$	−0.10	−0.11	1.00		
10. Worry-PostGrad*	0.28	0.32	−0.24	−0.12	−0.10	−0.01^{ns}	−0.17	−0.12	0.31	1.00	
11. Worry-FamilyJob*	0.24	0.26	−0.21	−0.10	−0.11	−0.09	−0.14	−0.09	0.21	0.31	1.00
12. Worry-FamilyHealth*	0.17	0.24	−0.13	−0.06	−0.10	−0.06	−0.08	−0.06	0.24	0.28	0.48

Note. *N* is across all schools assessed. All *r*s are significant at $p < 0.01$ except where indicated with *ns* (non-significant) or *0.05* ($p < 0.05$).
**N* for schools assessed on SRS V2 with the four questions on *Worries*.

Tables 4b and 4c present correlations of each predictor variable with *Depression* and with *Anxiety*, separately by **Ethnicity**, **Gender**, and **Division.** Supplementary Tables 2a–4b present simple correlations across all variables for all schools, separately by **Ethnicity**, **Gender**, and **Division**.

Table 4b. **Correlations Between Predictor and Outcome Variables Separately by Ethnicity**

	White $N = 9112/4584^*$		Black $N = 1172/496^*$		Hispanic $N = 669/358^*$		Asian $N = 2114/1196^*$		Other $N = 1536/772^*$	
Variable	**Dep**	**Anx**	**Dep**	**Anx**	**Dep**	**Anx**	**Dep**	**Anx**	**Dep**	**Anx**
Parent Support	−0.44	−0.38	−0.37	−0.29	−0.44	−0.37	−0.41	−0.35	−0.42	−0.34
Concerns Heard	−0.28	−0.24	−0.17	−0.16	−0.21	−0.22	−0.29	−0.26	−0.29	−0.25
Adults Confide	−0.21	−0.20	−0.17	−0.13	−0.15	−0.17	−0.24	−0.24	−0.17	−0.15
Friends Confide	−0.18	−0.11	−0.09	-0.02^{ns}	$-0.09^{0.05}$	−0.11	−0.17	−0.12	−0.17	−0.11
Effective Learning	−0.29	−0.25	−0.27	−0.22	−0.29	−0.27	−0.33	−0.28	−0.28	−0.26
Time for Fun	−0.24	−0.22	−0.21	−0.21	−0.28	−0.30	−0.25	−0.21	−0.19	−0.15
Worry-Grades*	0.18	0.27	0.14	0.26	0.17	0.20	0.18	0.25	0.15	0.24
Worry-PostGrad*	0.29	0.34	0.22	0.25	0.29	0.28	0.30	0.32	0.24	0.28
Worry-FamilyJob*	0.25	0.27	0.23	0.23	0.21	0.23	0.21	0.26	0.20	0.23
Worry-FamilyHealth*	0.19	0.26	0.14	0.14	$0.13^{0.05}$	0.21	0.16	0.24	0.12	0.22

Note. Dep is depression, Anx is anxiety. *N* is across all schools assessed. All *r*s are significant at $p < 0.01$ except where indicated with *ns* (non-significant) or *0.05* ($p < 0.05$).
**N* for schools assessed on SRS V2 with the four questions on *Worries*.

Table 4c. **Correlations Between Predictor and Outcome Variables Separately by Gender and Division**

	Males $N = 6391/3231^*$		Females $N = 7564/4069^*$		Non-binary $N = 129/74^*$		Middle school $N = 4475/2541^*$		High school $N = 10{,}119/4957^*$	
Variable	**Dep**	**Anx**	**Dep**	**Anx**	**Dep**	**Anx**	**Dep**	**Anx**	**Dep**	**Anx**
Parent Support	−0.41	−0.33	−0.44	−0.37	−0.36	−0.36	−0.46	−0.40	−0.40	−0.33
Concerns Heard	−0.23	−0.20	−0.29	−0.28	-0.15^{ns}	$-0.20^{0.05}$	−0.29	−0.25	−0.25	−0.22
Adults Confide	−0.19	−0.18	−0.21	−0.19	-0.07^{ns}	-0.07^{ns}	−0.21	−0.17	−0.20	−0.19
Friends Confide	−0.17	−0.14	−0.18	−0.12	-0.05^{ns}	-0.06^{ns}	−0.17	−0.12	−0.16	−0.11
Effective Learning	−0.26	−0.22	−0.31	−0.28	-0.13^{ns}	−0.24	−0.31	−0.25	−0.26	−0.23
Time for Fun	−0.19	−0.16	−0.25	−0.23	-0.17^{ns}	-0.17^{ns}	−0.24	−0.19	−0.23	−0.22
Worry-Grades*	0.16	0.25	0.17	0.23	0.09^{ns}	0.33	0.20	0.30	0.15	0.22
Worry-PostGrad*	0.24	0.27	0.28	0.31	0.11^{ns}	0.20^{ns}	0.25	0.25	0.25	0.31
Worry-FamJob*	0.19	0.21	0.24	0.26	0.18^{ns}	$0.27^{.05}$	0.26	0.28	0.21	0.23
Worry-FamHealth*	0.14	0.20	0.17	0.24	0.30	$0.29^{0.05}$	0.20	0.25	0.15	0.23

Note. Dep is depression, Anx is anxiety. *N* is across all schools assessed. All *r*s are significant at $p < 0.01$ except where indicated with *ns* (non-significant) or *0.05* ($p < 0.05$).
**N* for schools assessed on SRS V2 with the four questions on *Worries*.

Between-group differences: MANOVAs

Main effects and interaction effects of MANOVAs for V1 and V2 are presented in Table 5. With all six SRS V1 variables as DVs, findings showed significant differences for all main effects: **Gender**,[8] $F(8, 13033) = 107.11$, $p < 0.001$, Wilks' $\Lambda = 0.94$, $\eta^2 = 0.06$; **Ethnicity**, $F(32, 48065) = 8.63$, $p < 0.001$, Wilks' $\Lambda = 0.98$, $\eta^2 = 0.01$; **Division**, $F(8, 13033) = 45.07$, $p < 0.001$; Wilks' $\Lambda = 0.97$, $\eta^2 = 0.03$; **Time**, $F(32, 48065) = 2.41$,

Table 5. **Multivariate Analyses of Variance: Main Effects and Interaction Effects on all Study Variables, V1 and V2 Samples**

	Version 1 sample, $n = 13{,}080^*$						Version 2 sample, $n = 6923$					
Effect	**Wilks' Λ**	***F***	**Hyp. df**	**Error df**	***p***	η^2	**Wilks' Λ**	***F***	**Hyp. df**	**Error df**	***p***	η^2
Intercept	0.12	11,664.61	8	13,033	0.000	0.88	0.37	2916.06	4	6887	0.629	.63
Gender	0.94	107.11	8	13,033	0.000	0.06	0.99	20.02	4	6887	0.011	.01
Ethnicity	0.98	8.63	32	48,065	0.000	0.01	0.99	3.20	16	21,041	0.002	.00
Division	0.97	45.07	8	13,033	0.000	0.03	0.97	46.75	4	6887	0.026	.03
Region	0.99	5.11	24	37,800	0.000	0.00	0.99	6.01	12	18,222	0.003	.00
Time	0.99	2.41	32	48,065	0.000	0.00	1.00	1.20	12	18,222	0.001	.00
School Type	0.99	7.73	16	26,066	0.000	0.01	1.00	9.05	4	6887	0.005	.01
Gender × Ethnicity	0.99	2.95	32	48,065	0.000	0.00	1.00	1.80	16	21,041	0.001	.00
Ethnicity × Time	0.99	1.26	128	93,995	0.026	0.00	0.99	1.06	48	26,531	0.002	.00
Division × Time	1.00	1.44	32	48,065	0.053	0.00	1.00	1.91	12	18,222	0.001	.00

Note. Hyp is Hypothesis. Gender excludes non-binary.
*By default, the samples in these multivariate analyses include only those students who had no missing data on any of the variables assessed.

$p < 0.001$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.00$. Also significant were effects for **Region**, $F(24, 37800) = 5.11$, $p < 0.001$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.00$; and **School Type**, $F(16, 26066) = 7.73$, $p < 0.001$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.01$.

Regarding interaction effects, findings were significant for **Gender** × **Ethnicity**, $F(32, 48065) = 2.95$, $p < 0.001$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.00$; **Ethnicity** × **Time**, $F(128, 93995) = 1.26$, $p = 0.026$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.00$. The interaction effect between **Division** × **Time** was marginally significant, $F(32, 48065) = 1.44$, $p = 0.053$; Wilks' $\Lambda = 1.00$, $\eta^2 = 0.00$. It should be noted that although all of the main effects and interaction effects with the exception of **Division** × **Time** were statistically significant at $p < .05$, only **Gender** and **Division** reached the cutoff for what is considered a small ($\eta^2 = 0.03$) or medium ($\eta^2 = 0.06$) effect size, respectively (Cohen, 1988).

MANOVAs on the four *Worries* variables from SRS V2 as DVs (Version 2 in Table 5) also showed significant differences for all main effects: **Gender**, $F(4, 6887) = 20.02$, $p = 0.011$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.01$; **Ethnicity**, $F(16, 21041) = 3.20$, $p = 0.002$, Wilks' $\Lambda = 0.99$, $\eta^2 = 0.00$; **Division**, $F(4, 6887) = 46.75$, $p = 0.026$; Wilks' $\Lambda = 0.97$, $\eta^2 = 0.03$; **Time**, $F(12, 18222) = 1.20$, $p = 0.001$, Wilks' $\Lambda = 1.00$, $\eta^2 = 0.00$. Also significant were effects for **Region**, $F(12, 18222) = 6.01$, $p = 0.003$; Wilks $\Lambda = 0.99$, $\eta^2 = 0.00$; and **School Type**, $F(4, 6887) = 9.05$, $p = 0.005$; Wilks $\Lambda = 1.00$, $\eta^2 = 0.01$. Interaction effects were significant for **Gender** × **Ethnicity**, $F(16, 21041) = 1.80$, $p = 0.001$; Wilks $\Lambda = 1.00$, $\eta^2 = 0.00$, **Ethnicity** × **Time**, $F(48, 26531) = 1.06$, $p = 0.002$; Wilks $\Lambda = 0.99$, $\eta^2 = 0.00$, and **Division** × **Time**, $F(12, 18222) = 1.91$, $p = 0.001$; Wilks $\Lambda = 1.00$, $\eta^2 = 0.00$. All of the main effects and interaction effects were statistically significant at $p < 0.05$, but only **Division** reached the cutoff for what is considered a small ($\eta^2 = 0.03$) effect size (Cohen, 1988).

Table 6. **Main Effects in Analyses of Variance: Differences by Gender, Ethnicity, Division, and Time**

	Gender			Ethnicity			Division			Time		
	F	*p*	η^2	*F*	*p*	η^2	*F*	*p*	η^2	*F*	*p*	η^2
Depression	451.57	0.000	0.06	15.88	0.000	0.00	238.60	0.000	0.02	16.81	0.000	0.01
Anxiety	850.45	0.000	0.11	11.05	0.000	0.00	251.11	0.000	0.02	15.71	0.000	0.00
Parent Support	58.05	0.000	0.01	11.58	0.000	0.00	289.92	0.000	0.02	6.52	0.000	0.00
Concerns Heard	10.25	0.000	0.00	18.27	0.000	0.01	114.61	0.000	0.01	16.86	0.000	0.01
Adults Confide	16.46	0.000	0.00	4.18	0.002	0.00	24.79	0.000	0.00	7.59	0.000	0.00
Friends Confide	46.36	0.000	0.01	0.35	0.843	0.00	7.89	0.005	0.00	5.75	0.000	0.00
Effective Learning	14.13	0.000	0.00	27.65	0.000	0.01	509.94	0.000	0.04	14.10	0.000	0.00
Time for Fun	46.50	0.000	0.01	2.30	0.057	0.00	70.33	0.000	0.01	1.62	0.165	0.00
Worry-Grades*	50.20	0.000	0.01	7.57	0.000	0.00	56.06	0.000	0.01	0.92	0.429	0.00
Worry-PostGrad*	70.68	0.000	0.02	20.09	0.000	0.01	698.15	0.000	0.09	12.61	0.000	0.01
Worry-FamilyJob*	28.42	0.000	0.01	35.27	0.000	0.02	71.36	0.000	0.01	6.13	0.000	0.00
Worry-FamilyHealth*	33.16	0.000	0.01	18.31	0.000	0.01	14.85	0.000	0.00	5.06	0.002	0.00

Note. All values are from one-way ANOVAs. Gender includes non-binary. *N* for V1 items = 13,581.
**N* for V2 (Worries) = 7292.

Following up between-group differences: Univariate ANOVAs

Following up on the MANOVAs, univariate ANOVAs were conducted on each of the study variables individually, and results are shown in Table 6. As shown there, main effects for **Gender** were significant on both symptoms: *Depression*, $F(2, 14081) = 451.57$, $p < 0.001$, $\eta^2 = 0.06$; *Anxiety*, $F(2, 14014) = 850.45$, $p < 0.001$, $\eta^2 = 0.11$. On V1 predictor variables, differences were significant for: *Parent Support*, $F(2, 13624) = 58.05$, $p < 0.001$, $\eta^2 = 0.01$; *Concerns Heard*, $F(2, 13506) = 10.25$, $p < 0.001$, $\eta^2 = 0.00$; *Adults Confide*, $F(2, 13596) = 16.46$, $p < 0.001$, $\eta^2 = 0.00$; *Friends Confide*, $F(2, 13556) = 46.36$, $p < 0.001$, $\eta^2 = 0.01$; *Effective Learning*, $F(2, 13660) = 14.13$, $p < 0.001$, $\eta^2 = 0.00$; *Time for Fun*, $F(2, 13647) = 46.50$, $p < 0.001$, $\eta^2 = 0.01$. On V2 predictor variables, differences were significant for: *Worry-Grades*, $F(2, 7371) = 50.20$, $p < 0.001$, $\eta^2 = 0.01$; *Worry-PostGrad*, $F(2, 7001) = 70.68$, $p < 0.001$, $\eta^2 = 0.02$; *Worry-Family Job*, $F(2, 7371) = 28.42$, $p < 0.001$, $\eta^2 = 0.01$; *Worry-Family Health*, $F(2, 7371) = 33.16$, $p < 0.001$, $\eta^2 = 0.01$.

Results for **Ethnicity** (Table 6) showed that all but two main effects were significant (*Friends Confide* and *Time for Fun*), with values as follows: *Depression*, $F(4, 14598) = 15.88$, $p < 0.001$, $\eta^2 = 0.00$; *Anxiety*, $F(4, 14{,}504) = 11.05$, $p < 0.001$, $\eta^2 = 0.00$. On V1 predictor variables, differences were significant for: *Parent Support*, $F(4, 13982) = 11.58$, $p < 0.001$, $\eta^2 = 0.00$; *Concerns Heard*, $F(4, 13807) = 18.27$, $p < 0.001$, $\eta^2 = 0.01$; *Adults Confide*, $F(4, 13938) = 4.18$, $p = 0.002$, $\eta^2 = 0.00$; and *Effective Learning*, $F(4, 14037) = 27.65$, $p < 0.001$, $\eta^2 = 0.01$. Two were not significant: *Friends Confide*, $F(4, 13877) = 0.35$, $p = 0.843$, $\eta^2 = 0.00$, and *Time for Fun*, $F(4, 14018) = 2.30$, $p = 0.057$, $\eta^2 = 0.00$.

On the four V2 *Worries* predictor variables, differences were significant for: *Grades*, $F(4, 7501) = 7.57$, $p < 0.001$, $\eta^2 = 0.00$; *PostGrad*, $F(4, 7125) = 20.09$, $p < 0.001$, $\eta^2 = 0.01$; *Family Job*, $F(4, 7501) = 35.27$, $p < 0.001$, $\eta^2 = 0.02$; and *Family Health*, $F(4, 7501) = 18.31$, $p < 0.001$, $\eta^2 = 0.01$.

For **Division**, all main effects were statistically significant, with values as follows: *Depression*, $F(1, 14592) = 238.60$, $p < 0.001$, $\eta^2 = 0.02$ and *Anxiety*, $F(1, 14499) = 251.11$, $p < 0.001$, $\eta^2 = 0.02$. On predictor variables, differences were significant for *Parent Support*, $F(1, 13977) = 289.92$, $p < 0.001$, $\eta^2 = 0.02$; *Concerns Heard*, $F(1, 13802) = 114.61$, $p < 0.001$, $\eta^2 = 0.01$; *Adults Confide*, $F(1, 13933) = 24.79$, $p < 0.001$, $\eta^2 = 0.00$; *Friends Confide*, $F(1, 13426) = 7.89$, $p = 0.005$, $\eta^2 = 0.00$; *Effective Learning*, $F(1, 14032) = 509.94$, $p < 0.001$, $\eta^2 = 0.04$; *Time for Fun*, $F(1, 14013) = 70.33$, $p < 0.001$, $\eta^2 = 0.01$. On V2 predictor variables on *Worries*, differences were significant for: *Grades*, $F(1, 7496) = 56.06$, $p < 0.001$, $\eta^2 = 0.01$; *PostGrad*, $F(1, 7120) = 698.15$, $p < 0.001$, $\eta^2 = 0.09$; *Family Job*, $F(1, 7496) = 71.36$, $p < 0.001$, $\eta^2 = 0.01$; and *Family Health*, $F(1, 7496) = 14.85$, $p < 0.001$, $\eta^2 = 0.00$. High school always reflected greater vulnerability than middle school except on one variable, *Friends Confide*.

For **Time,** significant differences were found for *Depression*, $F(4, 14268) = 16.81$, $p < 0.001$, $\eta^2 = 0.01$ and *Anxiety*, $F(4, 14176) = 15.71$, $p < 0.001$, $\eta^2 = 0.00$. On predictor variables, differences were significant for *Parent Support*, $F(4, 13665) = 6.52$, $p < 0.001$, $\eta^2 = 0.00$; *Concerns Heard*, $F(4, 13494) = 16.86$, $p < 0.001$, $\eta^2 = 0.01$; *Adults Confide*,

$F(4, 13621) = 7.59$, $p < 0.001$, $\eta^2 = 0.00$; *Friends Confide*, $F(4, 13563) = 5.75$, $p < 0.001$, $\eta^2 = 0.00$; *Effective Learning*, $F(4, 13718) = 14.10$, $p < 0.001$, $\eta^2 = 0.00$; *Time for Fun*, $F(4, 13700) = 1.62$, *ns*, $\eta^2 = 0.00$. On V2 Worries predictors, differences were significant for: *PostGrad*, $F(3, 7126) = 12.61$, $p < 0.001$, $\eta^2 = 0.01$; *Family Job*, $F(3, 7502) = 6.13$, $p < 0.001$, $\eta^2 = 0.00$; and *Family Health*, $F(3, 7502) = 5.06$, $p = 0.002$, $\eta^2 = 0.00$. The variable, Worry-Grades, did not differ significantly by **Time**, $F(3, 7502) = 0.0.92$, *ns*, $\eta^2 = 0.00$.

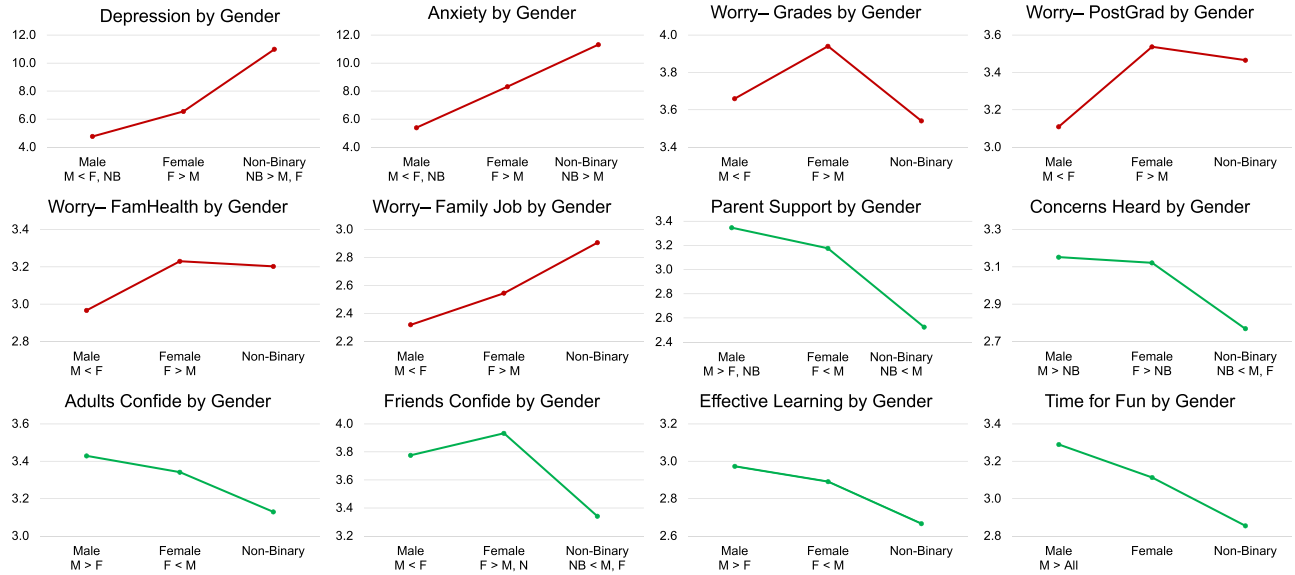
Post hoc comparisons

In post hoc comparisons for **Ethnicity**, results generally showed that White students fared best, with significantly lower *Depression* than all groups except for Black youth (see Figure 2). White students were higher than Black and Other students on *Parent Support;* lower than all on *Worry-Family Job;* lower than all but Black students on *Worry-Family Health;* lower than Asian and Other students on *Worry-Postgrad*; and lower than Asian students on *Worry-Grades*. Hispanic students were higher than White students on *Depression, Worry-Family Health, and Worry-Family Job*; higher than Black and Asian students on *Anxiety*; and higher on *Worry-Family Job* and lower on *Effective Learning* than Asian students. As a group, Asian students were higher than all others on *Effective Learning* and higher than White students on *Worry-PostGrad*. Black students were lower than White and Asian students on *Concerns Heard*, and lower than White students on *Adults Confide*.

Figure 2. **Comparison of mean levels of symptoms and risk modifiers by Ethnicity.**

NOTES: Letters under each ethnicity group label indicate which pairs of means were significantly different, for example, W < H, A, O implies that White students were lower than Hispanic, Asian, and Other students. Variables with a negative valence are shown in red (e.g., Depression) and those with a positive valence are shown in green (e.g., Parent Support). All but the four Worry variables were based on the larger V1 sample.

Figure 3. **Comparison of mean levels of symptoms and risk modifiers by Gender.**



NOTES: Letters under each gender group label indicate which pairs of means were significantly different, for example, M < F,N implies that Males were lower than both female and gender non-binary students. All but the four Worry variables were based on the larger V1 sample.

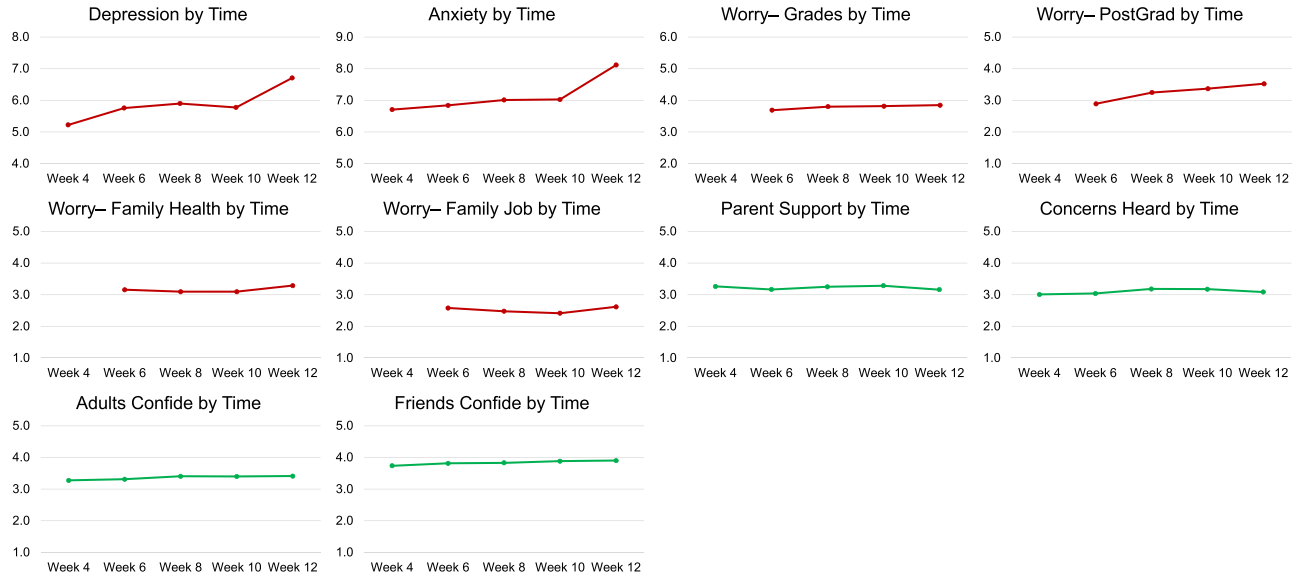
In summary, ethnic group comparisons showed that White students generally were least vulnerable, and the different ethnic groups showed variations in domains in which they had pronounced negative scores.

Post hoc comparisons of means for **Gender**, with Bonferroni corrections applied, generally showed that males fared better than females (see Figure 3), with lower *Depression* and *Anxiety*, higher levels of *Parent Support*, *Adults Confide*, *Effective Learning,* and *Time for Fun*, and lower levels of all four *Worry* variables. Females fared better than males on *Friends Confide* but had lower scores on *Adults Confide*, and non-binary students were significantly higher than males and females on *Depression*, and significantly higher than males on *Anxiety*, significantly lower than males on *Parent Support*, and significantly lower than males and females on *Concerns Heard* and *Friends Confide*.

In summary, females were significantly more vulnerable than males on all variables except for *Friends Confide*. Non-binary youth showed greater vulnerability than both males and females on *Depression*, *Anxiety*, *Parent Support*, *Concerns Heard, Friends Confide,* and *Time for Fun*.

With regard to the six **Time** points, no Bonferroni contrasts were conducted as we did not have specific hypotheses about which particular pairs might differ systematically from others. For descriptive purposes, trends over time are shown in Figure 4. As shown, steady increases over time were seen on *Depression* and *Anxiety*, and to some degree on *Worry-PostGrad*.

Figure 4. **Overall changes over time in mean levels of symptoms and of risk modifiers.**



NOTES: No data were collected at the Week 4 time point for the four *Worries* variables, as they were only included on SRS V2. All but the four Worry variables were based on the larger V1 sample.

Table 7. **Interaction Effects in Analyses of Variance: Ethnicity × Gender; Ethnicity × Time; Division × Time**

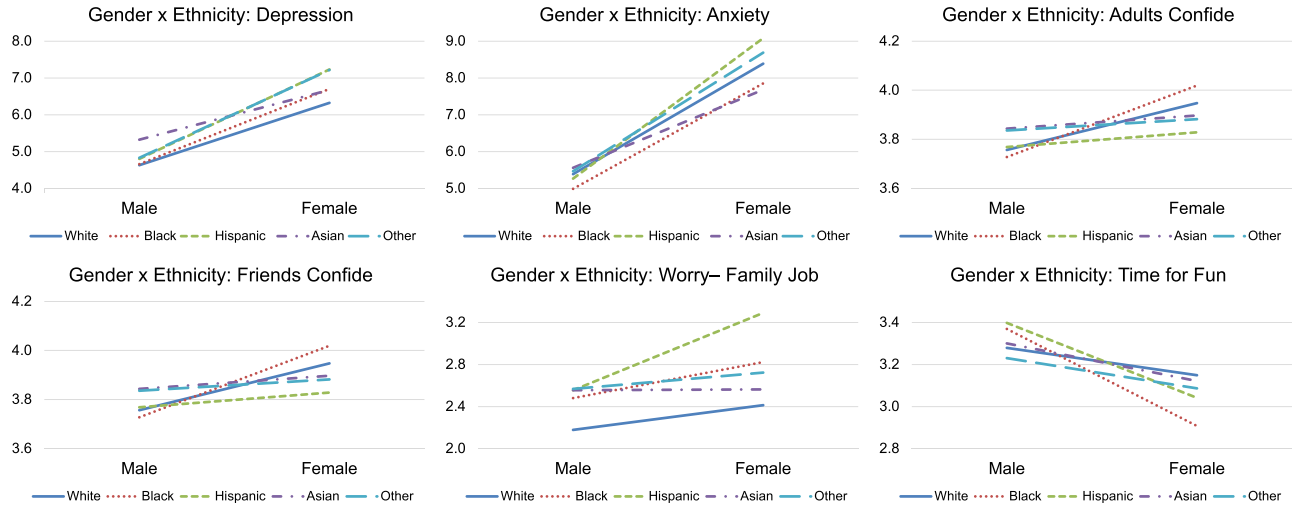
	Ethnicity × Gender			Ethnicity × Time			Division × Time		
	F	*p*	η^2	*F*	*p*	η^2	*F*	*p*	η^2
Depression	5.07	0.000	0.00	1.92	0.015	0.00	2.30	0.057	0.00
Anxiety	6.62	0.000	0.00	2.05	0.008	0.00	1.47	0.210	0.00
Parent Support	0.80	0.522	0.00	0.82	0.659	0.00	0.55	0.700	0.00
Concerns Heard	0.60	0.663	0.00	1.37	0.147	0.00	1.28	0.275	0.00
Adults Confide	0.43	0.789	0.00	1.41	0.127	0.00	2.00	0.092	0.00
Friends Confide	3.58	0.006	0.00	0.85	0.631	0.00	1.09	0.360	0.00
Effective Learning	0.66	0.619	0.00	1.72	0.037	0.00	0.68	0.605	0.00
Time for Fun	6.11	0.000	0.00	1.34	0.161	0.00	2.84	0.023	0.00
Worry-Grades*	1.26	0.285	0.00	1.56	0.095	0.00	3.49	0.015	0.00
Worry-PostGrad*	1.14	0.335	0.00	1.40	0.156	0.00	4.01	0.007	0.00
Worry-FamilyJob*	5.29	0.001	0.00	1.26	0.235	0.00	0.89	0.445	0.00
Worry-FamilyHealth*	1.90	0.108	0.00	1.00	0.444	0.00	0.24	0.869	0.00

Note. All values are from Gender × Ethnicity, Ethnicity × Time, and Division × Time ANOVAs. Gender excludes non-binary. *N* for V1 items = 13,581.
**N* for Worry items = 7292.

Interaction effects

Results of interaction effects in ANOVAs are shown in Table 7; again, in all cases, significant values were associated with trivial effect sizes. The following findings were significant for **Ethnicity × Gender**: *Depression*, $F(4, 13945) = 5.07$, $p < 0.001$, $\eta^2 = 0.00$;

Figure 5. **ANOVA interaction effects: Gender × Ethnicity.**



NOTE: All but the four Worry variables were based on the larger V1 sample.

Anxiety, $F(4, 13878) = 6.62$, $p < 0.001$, $\eta^2 = 0.00$; *Friends Confide*, $F(4, 13426) = 3.58$, $p = 0.006$, $\eta^2 = 0.00$; *Time for Fun*, $F(4, 13516) = 6.11$, $p < 0.001$, $\eta^2 = 0.00$; and *Worry-Family Job*, $F(4, 7290) = 5.29$, $p < 0.001$, $\eta^2 = 0.00$. On both *Depression* and *Anxiety*, gender differences were particularly pronounced among Hispanic and Other students (see Figure 5). On two other variables, Black students showed the most pronounced gender differences, with Black males much lower than Black females on *Adults Confide,* but females lower than males on *Time for Fun*.

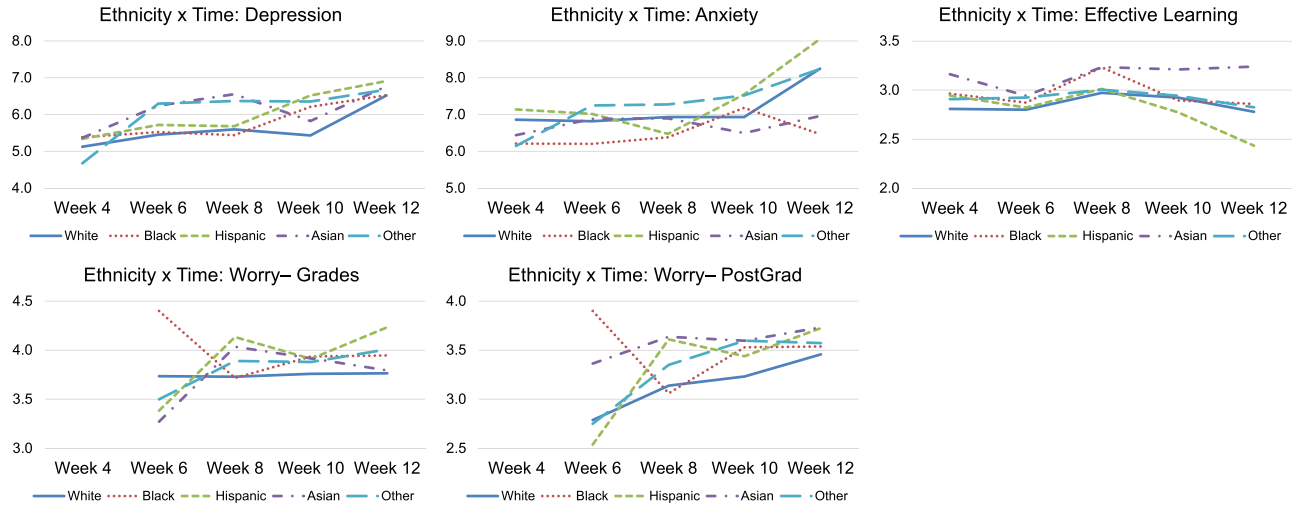
For **Ethnicity × Time**, significant interaction effects were found for: *Depression*, $F(16, 13631) = 1.92$, $p = 0.015$, $\eta^2 = 0.00$; *Anxiety*, $F(16, 13564) = 2.05$, $p = 0.008$, $\eta^2 = 0.00$; and *Effective Learning*, $F(16, 13213) = 1.72$, $p = 0.037$, $\eta^2 = 0.00$. Finally, for **Division × Time**, significant interactions effects were found for: *Time for Fun*, $F(4, 13209) = 2.84$, $p = 0.023$, $\eta^2 = 0.00$; *Worry-Grades*, $F(3, 7284) = 3.49$, $p = 0.015$, $\eta^2 = 0.00$; and *Worry-PostGrad*, $F(3, 6915) = 4.01$, $p = 0.007$, $\eta^2 = 0.00$.

Follow up analyses showed that on **Ethnicity × Time**, considering both patterns over time and mean scores at Week 12, Hispanic students consistently showed greater vulnerability, followed by Other students (see Figure 6). For Hispanic youth assessed in Week 4 versus those assessed in Week 12, two variables showed a difference of about half a standard deviation: *Anxiety* scores went from 7.14 to 9.05, and *Effective Learning* from 2.91 to 2.43. Changes were more pronounced on *Worry-Grades*: between Week 4 and Week 12 assessments, from 3.50 to 4.23 (1 SD).

With regard to **Division × Time** (Figure 7), slopes were somewhat different for middle and high school, but the nature of these differences was not particularly consistent. If anything, two variables increased and leveled off for high school, but increased slightly and then went down for middle school: *Worry-Grades* and *Worry-PostGrad*.

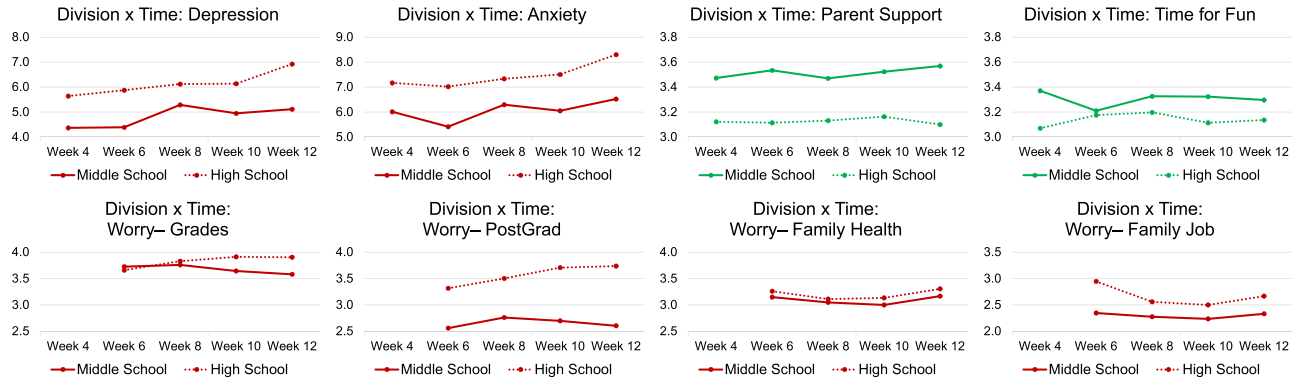
Supplementary analyses: Region and school type. Although we did not have a priori hypotheses for these, exploratory ANOVAs were conducted for **Region** and **School**

Figure 6. **ANOVA interaction effects: Ethnicity × Time.**



NOTES: No data were collected at the Week 4 time point for the *Worries* variables, as they were only included on SRS V2. All but the four Worry variables were based on the larger V1 sample.

Figure 7. **ANOVA interaction effects: Division × Time.**



NOTES: No data were collected at the Week 4 time point for the *Worries* variables, as they were only included on SRS V2. All but the four Worry variables were based on the larger V1 sample.

Type to potentially inform future research. Results are shown in Supplementary Tables 5 and 6. As shown, differences were significant for all variables on **Region**, and for all but *Adults Confide* and *Friends Confide* on **School Type**, but in all cases, effect sizes were negligible. Post hoc analyses generally showed that the most positive outcomes were seen among schools in the South, and in some instances, the Northeast; schools in the West were the most vulnerable (see Supplementary Figure 2). For **School Type**, post hoc comparisons generally showed that boarding schools had the highest levels of distress and risk factors and the lowest levels of protective factors, with the opposite true for the public school and with independent schools in between (see Supplementary Figure 3).

Within-group analyses: HLM

In preliminary analyses, results of the null model (M_0) showed small but significant random effects of school on *Depression* (ICC = 0.05, $p < 0.001$) and on *Anxiety* (ICC = 0.04, $p < 0.001$), indicating that HLM is an appropriate analytic strategy. Accordingly, separate regression analyses were conducted predicting to each of the outcomes and for V1 and V2 analyses, respectively, results are presented in Tables 8a and 8b for *Depression,* and 9a and 9b for *Anxiety*. As shown there, in the augmented model with student-level demographic variables added (M_3), the effect of school decreased but remained significant for *Depression* (ICC = 0.03, $p < 0.001$) and for *Anxiety* (ICC = 0.02, $p < 0.001$).

In the augmented model with all V1 predictors added (M_9), the effect of school decreased but remained significant for *Depression* (ICC = 0.03, $p < 0.001$) and for *Anxiety* (ICC = 0.02, $p < 0.001$). With *Depression* as the outcome (see Table 8a), all but three predictors (*Ethnicity, Adults Confide,* and *Friends Confide*) had β coefficients > 0.3. The largest effects by far, with $\beta > 1$ (more than twice the value of any others) were for Gender ($\beta = 1.55$) and *Parent Support* ($\beta = -1.08$). Coefficients > 0.3 were found for *Concerns Heard* ($\beta = -0.40$), *Effective Learning* ($\beta = -0.49$), School ($\beta = 0.40$), and *Time for Fun* ($\beta = -0.34$). With *Anxiety* as the outcome (Table 9a), findings were similar, with an additional variable below 0.3 (School). For *Anxiety*, coefficients were especially high for Gender, ($\beta = 2.58$), *Parent Support* ($\beta = -0.94$), and Division ($\beta = 0.63$). In addition, values > 0.3 were seen for *Concerns Heard* ($\beta = -0.40$), *Effective Learning* ($\beta = -0.44$), and *Time for Fun* ($\beta = -0.35$).

Similar findings were seen in V2 analyses, as shown in Tables 8b and 9b. In the augmented model with all V2 predictors added (M_{13}), the effect of school decreased but remained significant for *Depression* (ICC = 0.03, $p < 0.001$) and for *Anxiety* (ICC = 0.02, $p < 0.001$). With regard to associations for predictors, with *Depression* as the outcome (Table 8b), results showed robust links of $\beta > 1$ especially for Gender ($\beta = 1.34$) and *Parent Support* ($\beta = -1.03$). Coefficients > 0.3 were again found for *Concerns Heard* ($\beta = -0.38$), *Effective Learning* ($\beta = -0.46$), and School ($\beta = 0.36$). For *Anxiety* (Table 9b), large effects were seen for Gender, ($\beta = 2.23$), and for *Parent Support* ($\beta = -0.80$). Coefficients > 0.3 were found for Division ($\beta = 0.35$), *Concerns Heard* ($\beta = -0.43$), *Worry-Grades* ($\beta = 0.38$) and *Worry-PostGrad* ($\beta = 0.35$).

With regard to variables involving confiding in others, the *Adults Confide* and *Friends Confide* had β values > 0.2, which is considered moderate, in all but one case; the exception was *Friends Confide* in relation to *Anxiety* ($\beta = -0.16$). Coefficients above 0.2 were also seen for *Worry-PostGrad* in relation to *Depression* ($\beta = 0.26$), and *Worry-Family Job* in relation to *Anxiety* ($\beta = 0.29$).

In summary, common across both V1 and V2 analyses and predicting to both *Depression* and *Anxiety*, we saw large effects for Gender and *Parent Support* followed by *Concerns Heard* and *Effective Learning*. For *Anxiety*, large effects were also found for *Worry-Grades* and *Worry-PostGrad*. Moderate effects were found for *Friends Confide* in relation to *Depression*, and *Adult Confide* in relation to *Anxiety*.

Table 8a. **Hierarchical Linear Model Predicting to Depression, V1**

		NULL			NULL + 1			NULL + 2			NULL + 3			NULL + 4		
		β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p
Fixed effects	Constant	0.19	0.14	0.19	−0.08	0.15	0.56	−3.00	0.17	0.00	−4.72	0.21	0.00	−3.51	0.19	0.00
	Ethnicity				0.14	0.02	0.00	0.12	0.02	0.00	0.12	0.02	0.00	0.09	0.02	0.00
	Gender							1.86	0.07	0.00	1.85	0.07	0.00	1.60	0.06	0.00
	Division										1.06	0.08	0.00	0.61	0.08	0.00
	Parent Support													−1.38	0.03	0.00
	Concerns Heard															
	Adults Confide															
	Friends Confide															
	Effective Learning															
	Time for Fun															
Random effects	School	0.87	0.20	0.00	0.82	0.20	0.00	0.69	0.17	0.00	0.50	0.12	0.00	0.39	0.10	0.00
Model evaluation	−2LL	82,776.94			82,747.15			78,765.30			78,566.95			73,463.52		
χ^2 crit (1 df, 0.05) = 3.84	−2LL comparison				29.80			3981.85			198.35			5103.44		

		NULL + 5			NULL + 6			NULL + 7			NULL + 8			NULL + 9		
		β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p
Fixed effects	Constant	−3.35	0.19	0.00	−3.30	0.19	0.00	−3.46	0.19	0.00	−3.19	0.19	0.00	−3.06	0.19	0.00
	Ethnicity	0.11	0.02	0.00	0.11	0.02	0.00	0.10	0.02	0.00	0.13	0.02	0.00	0.13	0.02	0.00
	Gender	1.60	0.06	0.00	1.57	0.06	0.00	1.63	0.06	0.00	1.60	0.06	0.00	1.55	0.06	0.00
	Division	0.53	0.08	0.00	0.52	0.08	0.00	0.56	0.08	0.00	0.39	0.08	0.00	0.36	0.08	0.00
	Parent Support	−1.23	0.03	0.00	−1.20	0.03	0.00	−1.18	0.03	0.00	−1.11	0.03	0.00	−1.08	0.03	0.00
	Concerns Heard	−0.71	0.03	0.00	−0.59	0.03	0.00	−0.58	0.03	0.00	−0.44	0.03	0.00	−0.40	0.03	0.00
	Adults Confide				−0.37	0.03	0.00	−0.25	0.03	0.00	−0.20	0.03	0.00	−0.20	0.03	0.00
	Friends Confide							−0.35	0.03	0.00	−0.32	0.03	0.00	−0.29	0.03	0.00
	Effective Learning										−0.53	0.03	0.00	−0.49	0.03	0.00
	Time for Fun													−0.34	0.03	0.00
Random effects	School	0.43	0.11	0.00	0.44	0.11	0.00	0.42	0.10	0.00	0.41	0.10	0.00	0.40	0.10	0.00
Model evaluation	−2LL	72,362.76			72,239.59			72,096.98			71,813.97			71,669.02		
χ^2 crit (1 df, 0.05) = 3.84	−2LL comparison	1100.75			123.18			142.61			283.01			144.95		

Table 8b. **Hierarchical Linear Model Predicting to Depression, V2**

		β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p
Fixed effects	Constant	−2.84	0.25	0.00	−2.31	0.26	0.00	−2.31	0.26	0.00	−2.30	0.25	0.00
	Ethnicity	0.13	0.03	0.00	0.11	0.03	0.00	0.10	0.03	0.00	0.09	0.03	0.00
	Gender	1.47	0.08	0.00	1.37	0.08	0.00	1.35	0.08	0.00	1.34	0.08	0.00
	Division	0.41	0.10	0.00	0.21	0.11	0.05	0.24	0.11	0.03	0.24	0.11	0.03
	Parent Support	−1.08	0.04	0.00	−1.05	0.04	0.00	−1.04	0.04	0.00	−1.03	0.04	0.00
	Concerns Heard	−0.41	0.05	0.00	−0.38	0.05	0.00	−0.38	0.05	0.00	−0.38	0.05	0.00
	Adults Confide	−0.22	0.04	0.00	−0.22	0.04	0.00	−0.21	0.04	0.00	−0.21	0.04	0.00
	Friends Confide	−0.29	0.04	0.00	−0.29	0.04	0.00	−0.28	0.04	0.00	−0.27	0.04	0.00
	Effective Learning	−0.47	0.04	0.00	−0.47	0.04	0.00	−0.46	0.04	0.00	−0.46	0.04	0.00
	Time for Fun	−0.30	0.04	0.00	−0.29	0.04	0.00	−0.29	0.04	0.00	−0.29	0.04	0.00
	Worry-Grades*	0.24	0.03	0.00	0.15	0.04	0.00	0.12	0.04	0.00	0.12	0.04	0.00
	Worry-PostGrad*				0.31	0.03	0.00	0.28	0.03	0.00	0.26	0.03	0.00
	Worry-FamJob*							0.14	0.03	.00	0.07	0.03	0.03
	Worry-FamHealth*										0.17	0.03	0.00
Random effects	School	0.43	0.13	0.00	0.38	0.12	0.00	0.37	0.11	0.00	0.36	0.11	0.00
Model evaluation	−2LL	39,136.95			37,014.42			36,999.10			36,980.94		
χ^2 crit (1 df, 0.05) = 3.84	−2LL comparison				2122.53			15.32			18.16		

*N for Worry items = 7292.

Within-group analyses: Hierarchical regressions

Following the omnibus HLM regressions, additional hierarchical regression analyses were conducted to explore the possibility of differential patterns of associations across subgroups, that is, (a) within each ethnic minority group, with White students as the reference group (Table 10a); (b) females and gender non-binary youth, with males as the reference group; and (c) middle versus high school (Table 10b). In the interest of stringency and parsimony, these regressions were conducted only with the V2 sample (all 10 interaction terms) and not the V1 sample (only six interaction terms).

In each of these regressions comparing subgroups, main effect findings mirrored those in the HLM. All predictors were significantly associated with both *Depression* and *Anxiety* with the exception of *Worry-Grades*. In subgroup analyses (Tables 10a and 10b), *Parent Support* had the highest β coefficients among main effects, followed by *Effective Learning* and *Worry-PostGrad*.

In interactions involving **Ethnicity**, the block of interaction terms together accounted for significant variance in relation to *Anxiety* in all four comparisons of ethnic minority versus White students (Table 10a). With *Anxiety* as the outcome, one of the four dummy-coded interactions with *Parent Support* was significant, that is, the

Table 9a. **Hierarchical Linear Model Predicting to Anxiety, V1**

		NULL			NULL + 1			NULL + 2			NULL + 3			NULL + 4		
		β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p
Fixed effects	Constant	0.13	0.14	0.35	0.16	0.15	0.29	−4.33	0.17	0.00	−6.42	0.21	0.00	−5.31	0.20	0.00
	Ethnicity				−0.02	0.03	0.56	−0.04	0.03	0.11	−0.04	0.02	0.11	−0.06	0.02	0.01
	Gender							2.89	0.07	0.00	2.88	0.07	0.00	2.64	0.07	0.00
	Division										1.28	0.09	0.00	0.88	0.09	0.00
	Parent Support													−1.24	0.03	0.00
	Concerns Heard															
	Adults Confide															
	Friends Confide															
	Effective Learning															
	Time for Fun															
Random effects	School	0.81	0.19	0.00	0.81	0.20	0.00	0.52	0.13	0.00	0.31	0.08	0.00	0.25	0.07	0.00
Model evaluation	−2LL	85,241.97			85,247.08			80,706.06			80,470.15			76,540.22		
χ^2 crit (1 df, 0.05) = 3.84	−2LL comparison				−5.11			4541.02			235.90			3929.93		

		NULL + 5			NULL + 6			NULL + 7			NULL + 8			NULL + 9		
		β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p
Fixed effects	Constant	−5.17	0.20	0.00	−5.11	0.20	0.00	−5.21	0.20	0.00	−4.96	0.20	0.00	−4.83	0.20	0.00
	Ethnicity	−0.05	0.02	0.05	−0.05	0.02	0.05	−0.05	0.02	0.05	−0.02	0.02	0.32	−0.03	0.02	0.25
	Gender	2.65	0.07	0.00	2.62	0.07	0.00	2.66	0.07	0.00	2.63	0.07	0.00	2.58	0.07	0.00
	Division	0.80	0.09	0.00	0.79	0.09	0.00	0.81	0.09	0.00	0.66	0.09	0.00	0.63	0.09	0.00
	Parent Support	−1.09	0.03	0.00	−1.06	0.03	0.00	−1.05	0.03	0.00	−0.98	0.03	0.00	−0.94	0.03	0.00
	Concerns Heard	−0.71	0.04	0.00	−0.58	0.04	0.00	−0.57	0.04	0.00	−0.45	0.04	0.00	−0.40	0.04	0.00
	Adults Confide				−0.39	0.04	0.00	−0.32	0.04	0.00	−0.28	0.04	0.00	−0.27	0.04	0.00
	Friends Confide							−0.21	0.03	0.00	−0.19	0.03	0.00	−0.16	0.03	0.00
	Effective Learning										−0.49	0.04	0.00	−0.44	0.04	0.00
	Time for Fun													−0.35	0.03	0.00
Random effects	School	0.29	0.08	0.00	0.29	0.08	0.00	0.28	0.07	0.00	0.27	0.07	0.00	0.26	0.07	0.00
Model evaluation	−2LL	75,475.81			75,364.31			75,326.29			75,142.16			75,018.66		
χ^2 crit (1 df, 0.05) = 3.84	−2LL comparison	1064.41			111.50			38.02			184.13			123.50		

Table 9b. **Hierarchical Linear Model Predicting to Anxiety, V2**

		β	S.E.	p	β	S.E.	p	β	S.E.	p	β	S.E.	p
Fixed effects	Constant	−4.29	0.26	0.00	−3.51	0.27	0.00	−3.51	0.27	0.00	−3.50	S.E.	0.00
	Ethnicity	−0.04	0.03	0.14	−0.08	0.03	0.01	−0.10	0.03	0.00	−0.10	0.27	0.00
	Gender	2.38	0.09	0.00	2.28	0.09	0.00	2.24	0.09	0.00	2.23	0.03	0.00
	Division	0.61	0.11	0.00	0.29	0.12	0.01	0.35	0.12	0.00	0.35	0.09	0.00
	Parent Support	−0.89	0.04	0.00	−0.83	0.04	0.00	−0.81	0.04	0.00	−0.80	0.11	0.00
	Concerns Heard	−0.43	0.05	0.00	−0.42	0.05	0.00	−0.43	0.05	0.00	−0.43	0.04	0.00
	Adults Confide	−0.28	0.05	0.00	−0.27	0.05	0.00	−0.25	0.05	0.00	−0.25	0.05	0.00
	Friends Confide	−0.20	0.04	0.00	−0.18	0.04	0.00	−0.17	0.04	0.00	−0.16	0.05	0.00
	Effective Learning	−0.34	0.05	0.00	−0.31	0.05	0.00	−0.30	0.05	0.00	−0.29	0.04	0.00
	Time for Fun	−0.28	0.04	0.00	−0.26	0.04	0.00	−0.26	0.04	0.00	−0.26	0.05	0.00
	Worry-Grades	0.59	0.04	0.00	0.45	0.04	0.00	0.39	0.04	0.00	0.38	0.04	0.00
	Worry-PostGrad				0.44	0.03	0.00	0.37	0.03	0.00	0.35	0.04	0.00
	Worry-FamJob							0.36	0.03	0.00	0.29	0.03	0.00
	Worry-FamHealth										0.16	0.04	0.00
Random effects	School	0.29	0.09	0.00	0.28	0.09	0.00	0.26	0.09	0.00	0.25	0.04	0.00
Model evaluation	−2LL	40,564.07			38,324.89			38,222.01			38,209.58		
χ^2 crit (1 df, .05) = 3.84	−2LL comparison				2239.19			102.88			12.43		

interaction involving Asian versus White students ($\beta = 0.03$, $p = 0.01$). As shown in Figure 8, the associations had steeper slopes for White compared to Asian students. Thus, at low levels of *Parent Support*, *Anxiety* levels were higher among White students than among their non-White counterparts.

Also significant were three interaction terms involving **Ethnicity** and *Effective Learning*: *Black-White* × *Effective Learning* ($\beta = -0.03$, $p = 0.02$), *Hispanic-White* × *Effective Learning* ($\beta = -0.05$, $p = 0.003$), and *Other-White* × *Effective Learning* ($\beta = -0.04$, $p = 0.01$). In this case, however, slopes were steeper among youth of color such that low levels of *Effective Learning* were linked with greater *Anxiety* among ethnic minority versus White students. In the interaction term involving Black versus White students and *Worry-PostGrad* predicting to *Anxiety* ($\beta = -0.03$, $p = 0.03$), low levels of *Worry* were more advantageous for Black youths than White. Finally, within the overall significant block of terms, predicting to *Anxiety,* three terms involving *Adult Confide* had borderline significance, that is, contrasts with White students for Hispanic ($\beta = -0.03$, $p = 0.08$), Asian ($\beta = -0.03$, $p = 0.06$), and Other ($\beta = -0.02$, $p = 0.07$) students.

For interaction terms involving **Gender** (Table 10b), the female versus male contrast was significant in interaction with *Concerns Heard* in relation to *Depression* ($\beta = -0.02$, $p = 0.03$) and *Anxiety* ($\beta = -0.05$, $p < 0.001$), with *Friends Confide* in relation to *Depression* ($\beta = -0.02$, $p = 0.03$), and with *Worry-PostGrad* in relation to *Anxiety* ($\beta = 0.02$, $p = 0.03$). In all cases, low levels of the protective factor were apparently

Table 10a. **Multivariate Regression Analyses by Ethnicity (V2): Associations Among Each Ethnic Minority Group Versus White Students ($n = 4484$)**

	Black ($N = 461$)				Hispanic ($N = 333$)				Asian ($N = 1,154$)				Other (N = 836)			
	Depression		Anxiety		Depression		Anxiety		Depression		Anxiety		Depression		Anxiety	
Main effects	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Parent Support	−0.31	0.00	−0.23	0.00	−0.31	0.00	−0.23	0.00	−0.31	0.00	−0.23	0.00	−0.31	0.00	−0.23	0.00
Concerns Heard	−0.08	0.00	−0.08	0.00	−0.08	0.00	−0.08	0.00	−0.09	0.00	−0.08	0.00	−0.08	0.00	−0.08	0.00
Adults Confide	−0.05	0.00	−0.07	0.00	−0.05	0.00	−0.07	0.00	−0.05	0.00	−0.07	0.00	−0.05	0.00	−0.07	0.00
Friends Confide	−0.07	0.00	−0.03	0.02	−0.07	0.00	−0.03	0.02	−0.07	0.00	−0.03	0.02	−0.07	0.00	−0.03	0.02
Effective Learning	−0.12	0.00	−0.08	0.00	−0.12	0.00	−0.08	0.00	−0.12	0.00	−0.08	0.00	−0.12	0.00	−0.08	0.00
Time for Fun	−0.09	0.00	−0.08	0.00	−0.09	0.00	−0.08	0.00	−0.09	0.00	−0.08	0.00	−0.09	0.00	−0.08	0.00
Worry-Grades	0.03	0.02	0.11	0.00	0.03	0.02	0.11	0.00	0.03	0.02	0.11	0.00	0.03	0.02	0.10	0.00
Worry-PostGrad	0.12	0.00	0.15	0.00	0.12	0.00	0.15	0.00	0.12	0.00	0.15	0.00	0.12	0.00	0.15	0.00
Worry-FamHealth	0.03	0.01	0.10	0.00	0.03	0.01	0.10	0.00	0.03	0.01	0.10	0.00	0.03	0.01	0.09	0.00
Worry-FamJob	0.07	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07	0.00	0.06	0.00	0.07	0.00	0.06	0.00
Ethnicity vs. White[1]	0.01	0.17	−0.05	0.00	0.02	0.06	−0.04	0.00	0.03	0.01	−0.06	0.00	0.03	0.01	−0.03	0.01
Interactions: Ethnicity																
Ethn × Parent Support	0.01	0.51	0.03	0.09	0.00	0.90	0.02	0.13	0.02	0.24	0.03	0.01	0.01	0.61	0.02	0.07
Ethn × Concerns Heard	0.01	0.53	0.00	0.77	0.01	0.68	0.00	0.95	−0.01	0.72	−0.01	0.33	−0.01	0.56	−0.01	0.38
Ethn × Adults Confide	−0.03	0.03	−0.02	0.13	−0.03	0.09	−0.03	0.08	−0.03	0.03	−0.03	0.06	−0.02	0.09	−0.02	0.07
Ethn × Friends Confide	0.02	0.13	0.01	0.61	0.03	0.09	−0.01	0.49	0.00	0.89	−0.01	0.32	0.02	0.21	−0.01	0.72
Ethn × Effective Learning	−0.02	0.19	−0.03	0.02	−0.03	0.06	−0.05	0.00	−0.02	0.19	−0.02	0.07	−0.02	0.12	−0.04	0.01
Ethn × Time for Fun	−0.02	0.10	−0.02	0.18	−0.02	0.15	−0.01	0.36	−0.02	0.23	0.00	0.92	−0.01	0.51	0.01	0.58
Ethn × Worry-Grades	−0.01	0.55	0.00	0.94	−0.01	0.60	−0.01	0.56	−0.01	0.38	−0.01	0.33	−0.01	0.72	0.00	0.89
Ethn × Worry-PostGrad	−0.01	0.72	−0.03	0.03	0.00	0.97	−0.03	0.07	0.01	0.45	−0.01	0.30	0.00	0.95	−0.02	0.14
Ethn × Worry-FamHealth	0.01	0.40	−0.01	0.37	0.01	0.77	0.00	0.95	0.00	0.88	−0.01	0.69	0.00	0.90	0.00	0.78
Ethn × Worry-FamJob	−0.01	0.35	0.00	0.89	−0.02	0.31	0.00	0.89	−0.02	0.15	0.00	0.97	−0.01	0.29	0.00	0.88
R^2 adj	0.30	0.00	0.28	0.00	0.30	0.00	0.28	0.00	0.30	0.00	0.28	0.00	0.30	0.00	0.28	0.00
F change	1.21	0.28	1.98	0.03	1.25	0.25	0.00	0.01	1.44	0.16	2.14	0.02	1.09	0.37	2.07	0.02

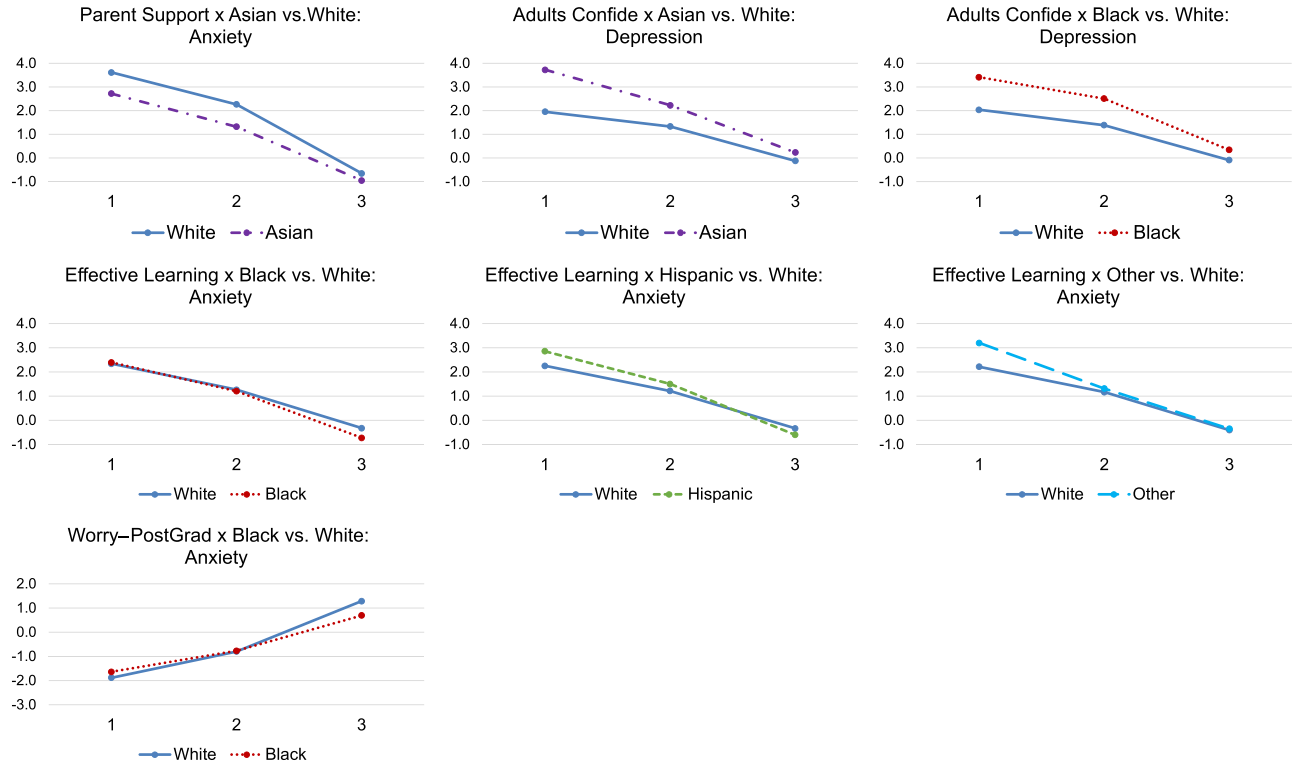
[1]Ethnicity was contrast coded, with White = 1 and the group of interest (e.g., Black, Hispanic, Asian, or Other) coded −1 in their respective regressions.

Table 10b. **Multivariate Regressions by Gender and Division: Among Females, Non-Binary Versus Males (*N* = 3,075); Middle Versus High School (*N* = 4,793)**

	Female (*N* = 856)				Non-binary (*N* = 73)					Middle school (*N* = 2329)			
	Depression		Anxiety		Depression		Anxiety			Depression		Anxiety	
Main effects	*β*	*p*	*β*	*p*	*β*	*p*	*β*	*p*	**Main effects**	*β*	*p*	*β*	*p*
Parent Support	−0.31	0.00	−0.22	0.00	−0.30	0.00	−0.21	0.00	Parent Support	−0.31	0.00	−0.23	0.00
Concerns Heard	−0.09	0.00	−0.09	0.00	−0.09	0.00	−0.09	0.00	Concerns Heard	−0.08	0.00	−0.08	0.00
Adults Confide	−0.05	0.00	−0.06	0.00	−0.04	0.00	−0.06	0.00	Adults Confide	−0.05	0.00	−0.07	0.00
Friends Confide	−0.08	0.00	−0.05	0.00	−0.08	0.00	−0.04	0.00	Friends Confide	−0.07	0.00	−0.03	0.01
Effective Learning	−0.12	0.00	−0.08	0.00	−0.12	0.00	−0.08	0.00	Effective Learning	−0.12	0.00	−0.08	0.00
Time for Fun	−0.08	0.00	−0.07	0.00	−0.08	0.00	−0.06	0.00	Time for Fun	−0.09	0.00	−0.08	0.00
Worry-Grades	0.02	0.11	0.09	0.00	0.02	0.08	0.09	0.00	Worry-Grades	0.03	0.02	0.10	0.00
Worry-PostGrad	0.11	0.00	0.12	0.00	0.11	0.00	0.12	0.00	Worry-PostGrad	0.11	0.00	0.13	0.00
Worry-FamHealth	0.02	0.05	0.08	0.00	0.02	0.05	0.08	0.00	Worry-FamHealth	0.03	0.01	0.10	0.00
Worry-FamJob	0.07	0.00	0.06	0.00	0.07	0.00	0.05	0.00	Worry-FamJob	0.07	0.00	0.06	0.00
Gender vs. Male	0.15	0.00	0.24	0.00	0.17	0.00	0.26	0.00	Middle vs. High School	0.02	0.03	0.03	0.00
Interactions: Gender[1]									*Interactions: Division*[2]				
Gender × Parent Support	0.00	0.72	−0.01	0.63	−0.02	0.10	−0.01	0.30	Division × Parent Support	0.01	0.65	0.02	0.14
Gender × Concerns Heard	−0.02	0.03	−0.05	0.00	−0.03	0.04	−0.06	0.00	Division × Concerns Heard	−0.01	0.61	0.00	0.86
Gender × Adults Confide	0.01	0.47	0.01	0.33	0.01	0.53	0.01	0.47	Division × Adults Confide	−0.01	0.28	−0.03	0.04
Gender × Friends Confide	−0.02	0.03	−0.01	0.23	−0.03	0.06	−0.01	0.59	Division × Friends Confide	−0.01	0.51	−0.01	0.38
Gender × Effective Learning	−0.01	0.29	−0.02	0.11	−0.01	0.40	−0.02	0.09	Division × Effective Learning	0.01	0.25	0.01	0.64
Gender × Time for Fun	−0.01	0.30	−0.01	0.51	−0.02	0.08	−0.01	0.47	Division × Time for Fun	0.01	0.26	0.00	0.94
Gender × Worry-Grades	0.01	0.28	0.01	0.57	0.01	0.35	0.02	0.17	Division × Worry-Grades	0.01	0.53	−0.02	0.15
Gender × Worry-PostGrad	0.01	0.19	0.02	0.03	0.01	0.38	0.03	0.07	Division × Worry-PostGrad	0.01	0.43	0.05	0.00
Gender × Worry-FamHealth	0.00	0.74	0.02	0.15	0.02	0.33	0.02	0.11	Division × WorryFamHealth	−0.01	0.47	0.00	0.78
Gender × Worry-FamJob	0.01	0.48	0.01	0.38	0.01	0.41	0.01	0.44	Division × WorryFamJob	0.00	0.99	−0.01	0.53
R^2 adj	0.33	0.00	0.33	0.00	0.33	0.00	0.34	0.00	R^2 adj	0.30	0.00	0.28	0.00
F change	3.14	0.00	5.88	0.00	4.11	0.00	6.85	0.00	*F* change	0.63	0.79	2.71	0.00

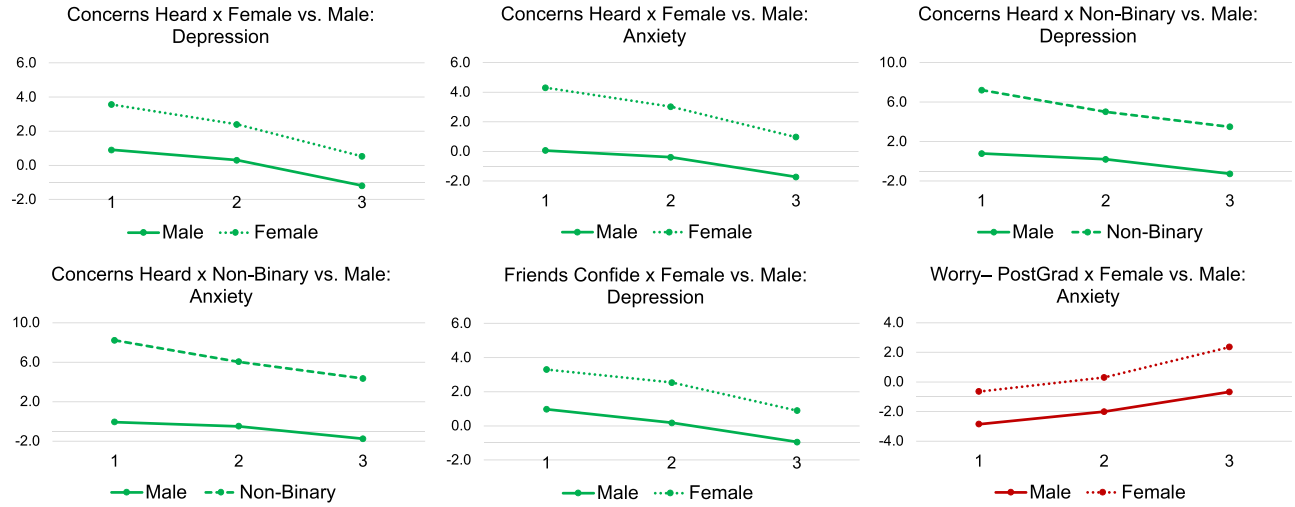
[1]Gender was contrast coded, with Males = 1 and the group of interest (e.g., Female or Non-binary) coded −1 in their respective regressions.
[2]Division was dummy coded, with High School coded as 1 and Middle School 0.

Figure 8. **Multiple regression interaction effects involving ethnicity (White students as reference group).**



NOTES: Numbers on the *x* axis indicate tertile group, where 1 = low, 2 = medium, and 3 = high. Analyses were based on the V2 sample.

Figure 9. **Multiple regression interaction effects involving gender (male students as reference group).**



NOTE: Analyses were based on the V2 sample.

more detrimental for females than for males (Figure 9). In contrasting gender non-binary and male students, significant effects were found for *Concerns Heard* in relation to *Depression* ($\beta = -0.03$, $p < 0.04$) and *Anxiety* ($\beta = -0.06$, $p < 0.001$). As with females, low levels of the protective factor seemed slightly more detrimental for non-binary youth as compared to males.

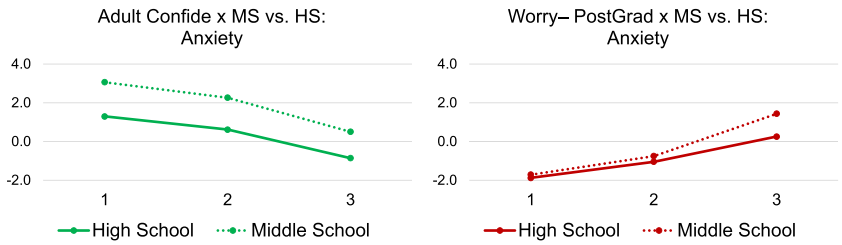
For interaction terms involving **Division**, two terms were significant in relation to *Anxiety* (Table 10b). On *Adults Confide*, middle school students had higher scores overall, but as shown in Figure 10, the lack of adults to confide in seemed especially detrimental to the younger students ($\beta = -0.03$, $p = 0.04$). Similarly, with regard to *Worry-PostGrad*, *Anxiety* scores were notably different among middle school versus high school students when *Worry* levels were high; the pairs of scores were not as discrepant when *Worry-PostGrad* scores were low ($\beta = 0.05$, $p < 0.001$).

In summary, whereas omnibus analyses had clearly shown that *Parent Support* was the single most powerful predictor variable, it seemed as though low levels of this variable were slightly more detrimental for White youth than for Asian youth in predicting *Anxiety*, whereas low levels of *Effective Learning* were more strongly linked with *Anxiety* for all ethnic minority groups than for Whites. In general, female and gender non-binary youth showed higher levels of distress than males at low levels of *Concerns Heard, Friends Confide,* and *Worry-PostGrad*. Middle school students showed greater vulnerability when levels of *Confide Adults* were low and when levels of *Worry-PostGrad* were high.

Qualitative data: Findings on three open-ended questions

Overall, results on the three open-ended questions were similar to those in Luthar et al. (2020a) (again, sample items are shown in Supplementary Table 1). As shown in Figure 11, for *What's Going Well*, by far the most common response theme was *Faculty Support*. In response to the question about *Worries* (Figure 12), the three categories most often mentioned were *Family Well-Being*, *Workload*, and *Personal Future*. Under *Areas for Improvement* (Figure 13), academic *Workload* was again among the most frequently mentioned, followed by *Faculty Support, Learning Efficacy,* and *Structure/Schedule*.

Figure 10. **Multiple regression interaction effects involving division (high school as reference group).**



NOTE: Analyses were conducted on the V2 sample.

Figure 11. **Percentage of responses across themes, in response to "What's Going Well at Your School?"**

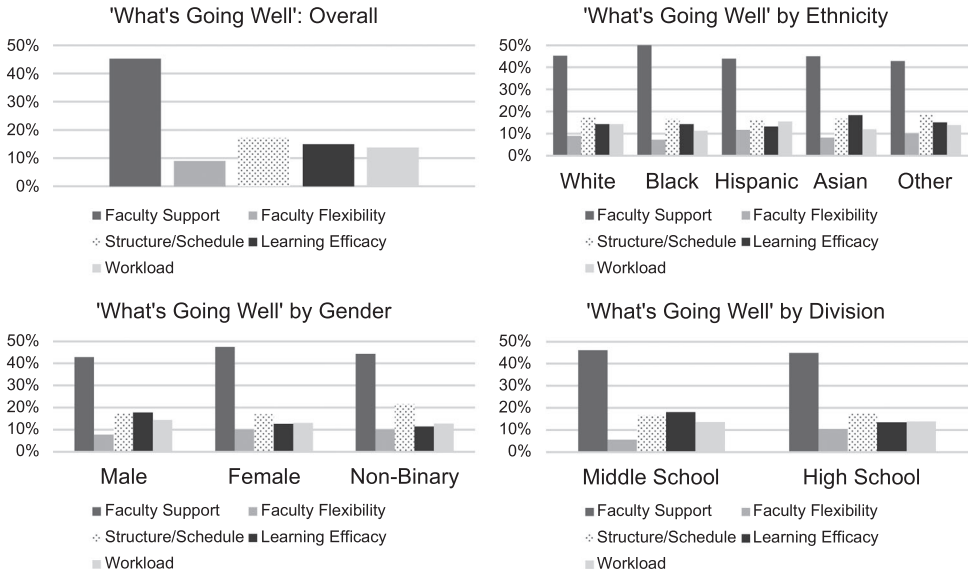
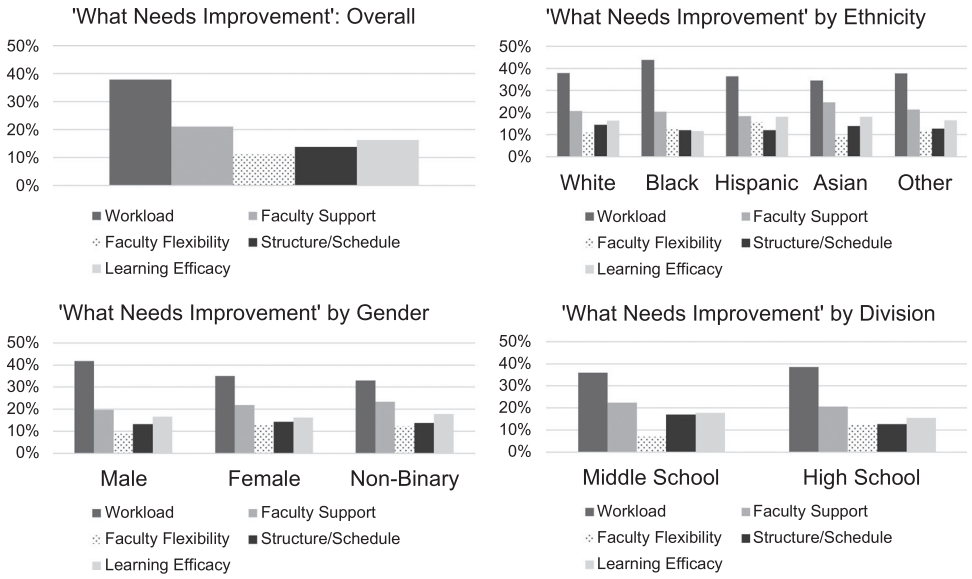


Figure 12. **Percentage of responses across themes, in response to "These Days, What Are You Most Worried About?"**

To explore if there were any significant differences by **Ethnicity**, **Gender**, and **Division**, χ^2 analyses were conducted. Frequencies were significantly different at $p < 0.001$ for *What's Going Well* by **Ethnicity**, $\chi^2(1, 16) = 43.73$, $p < 0.001$; *Concerns* by **Ethnicity**, $\chi^2(1, 20) = 78.31$, $p < 0.001$; *What Needs Improvement* by **Ethnicity**,

Figure 13. **Percentage of responses across themes, in response to "What Could Your Teachers/Faculty Be Doing to Improve Things for You?"**



$\chi^2(1, 16) = 51.98$, $p < 0.001$; *What's Going Well* by **Gender**, $\chi^2(1, 8) = 78.34$, $p < 0.001$; *Concerns* by **Gender**, $\chi^2(1, 10) = 216.21$, $p < 0.001$; *What Needs Improvement* by **Gender**, $\chi^2(1, 8) = 60.44$, $p < 0.001$; *What's Going Well* by **Division**, $\chi^2(1, 4) = 93.51$, $p < 0.001$; *Concerns* by **Division**, $\chi^2(1, 5) = 314.22$, $p < 0.001$; and *What Needs Improvement* by **Division**, $\chi^2(1, 4) = 96.37$, $p < 0.001$. Comparisons of percentages, with Bonferroni corrections applied, are shown in Tables 11–13.

As there were no specific hypotheses regarding group differences in these qualitative results, findings are not discussed in depth; rather, we list a few instances where one subgroup stood out as having high frequency of mentions as compared to others in their category, (e.g., Non-Binary vs. Males and Females), purely for illustrative purposes. As shown in Figure 11, in response to *What's Going Well*, *Faculty Support* was apparently mentioned more often by Black students than others, and *Faculty Flexibility* more often by high school versus younger students. *Structure/Schedule* stood out among non-binary students. In response to the question on *Worries, Family Well-Being* seemed to stand out for students of Other ethnicities, gender non-binary students, and middle school students. *Peer Interactions* was mentioned most frequently by non-binary students followed by females, whereas Personal Future was somewhat higher among Asian students followed by other groups of color, and among High School students. Finally, for *What Needs Improvement*: *Workload* seemed somewhat elevated among Black students and Male students; *Faculty Support* among Asian students followed by Other students; and *Faculty Flexibility* among high school students.

Table 11. **"What's Going Well": Percentage of Categories Mentioned, by Ethnicity, Gender, and Division**

Ethnicity	White	Black	Hispanic	Asian	Other
Faculty Support	$45\%_{a}$	$51\%_{b}$	$44\%_{a}$	$45\%_{a}$	$43\%_{a}$
Faculty Flexibility	$9\%_{a,b,c}$	$7\%_{c}$	$12\%_{b}$	$8\%_{a,c}$	$10\%_{a,b}$
Structure/Schedule	$17\%_{a}$	$17\%_{a}$	$16\%_{a}$	$17\%_{a}$	$19\%_{a}$
Learning Efficacy	$14\%_{a}$	$14\%_{a}$	$13\%_{a}$	$18\%_{b}$	$15\%_{a}$
Workload	$14\%_{a}$	$11\%_{b}$	$16\%_{a}$	$12\%_{b}$	$14\%_{a,b}$

Gender	Male	Female	Non-binary
Faculty Support	$43\%_{a}$	$47\%_{b}$	$44\%_{a,b}$
Faculty Flexibility	$8\%_{a}$	$10\%_{b}$	$10\%_{a,b}$
Structure/Schedule	$17\%_{a}$	$17\%_{a}$	$22\%_{a}$
Learning Efficacy	$18\%_{a}$	$13\%_{b}$	$11\%_{a,b}$
Workload	$14\%_{a}$	$13\%_{b}$	$13\%_{a,b}$

Division	Middle school	High school
Faculty Support	$46\%_{a}$	$45\%_{a}$
Faculty Flexibility	$6\%_{a}$	$11\%_{b}$
Structure/Schedule	$17\%_{a}$	$17\%_{a}$
Learning Efficacy	$18\%_{a}$	$14\%_{b}$
Workload	$17\%_{a}$	$14\%_{a}$

Note. Column proportions with the same subscript do not differ significantly from each other at $p < 0.05$.

Discussion

Discussion of results from this study on risk and resilience processes during COVID are presented in four sections. First, we discuss students' rates of serious depression and anxiety, as compared to rates in comparable schools in 2019, considered separately by gender, ethnicity, and division. Second, we focus on subgroup differences in mean scores of both internalizing symptoms and all risk modifiers examined, based on gender, ethnicity, and division. In the third section, we describe our findings on risk-modifiers associated with depression and with anxiety, in the sample as a whole and among subgroups based on the aforementioned demographic variables; qualitative findings are also described here. In the fourth section of the discussion, we integrate major "take-home messages" emerging across all previously discussed findings, along with directions for interventions.

Adolescents' rates of serious distress: Variations over time by subgroups

As found by Luthar et al. (2020a) among 2196 students from five high schools in the U.S. South, this study of 14,603 youth from 49 middle and high schools across the United States showed that rates of clinically significant depression and anxiety were lower during the first 3 months of the pandemic in 2020, as compared to parallel rates in 2019. As suggested by Luthar et al. (2020a), it is likely that these lower rates, overall, were a result of reduced pressures in schools that were relatively high-performing.

Table 12. **"Worries": Percentage of Categories Mentioned by Ethnicity, Gender, and Division**

Ethnicity	White	Black	Hispanic	Asian	Other
Workload	$26\%_{a,b}$	$26\%_{a,b}$	$29\%_{b}$	$26\%_{a,b}$	$24\%_{a}$
Personal Future	$23\%_{a}$	$26\%_{b,c,d}$	$23\%_{a,d}$	$27\%_{c}$	$24\%_{a,b,d}$
Family Well-Being	$28\%_{a}$	$30\%_{a,b}$	$30\%_{a,b}$	$29\%_{a}$	$33\%_{b}$
Peer Interactions	$12\%_{a}$	$8\%_{b}$	$10\%_{a,b}$	$9\%_{b}$	$11\%_{a}$
Activities	$6\%_{a}$	$7\%_{a}$	$4\%_{b,c}$	$4\%_{c}$	$6\%_{a,b}$
Learning Efficacy	$4\%_{a,b}$	$4\%_{a,b}$	$4\%_{a,b}$	$5\%_{b}$	$3\%_{a}$

Gender	Male	Female	Non-binary
Workload	$32\%_{a}$	$22\%_{b}$	$13\%_{c}$
Personal Future	$23\%_{a}$	$25\%_{b}$	$21\%_{a,b}$
Family Well-Being	$27\%_{a}$	$30\%_{b}$	$43\%_{c}$
Peer Interactions	$8\%_{a}$	$13\%_{b}$	$19\%_{b}$
Activities	$6\%_{a}$	$6\%_{a}$	$2\%_{a}$
Learning Efficacy	$4\%_{a}$	$4\%_{a}$	$2\%_{a}$

Division	Middle school	High school
Workload	$31\%_{a}$	$24\%_{b}$
Personal Future	$14\%_{a}$	$28\%_{b}$
Family Well-Being	$35\%_{a}$	$27\%_{b}$
Peer Interactions	$11\%_{a}$	$11\%_{a}$
Activities	$5\%_{a}$	$6\%_{b}$
Learning Efficacy	$5\%_{a}$	$4\%_{b}$

Note. Column proportions with the same subscript do not differ significantly from each other at $p < 0.05$.

Considered separately by demographic categories, it was notable that some subgroups did *not* show marked reductions in clinically significant depression. Our findings showed that several ethnic groups showed 2020 depression rates that were almost half those in 2019 (e.g., multiracial students), but the 2019 versus 2020 rates for Hispanic students remained almost equal. The same was true for gender non-binary students and for middle school students. Interestingly, these variations were seen only on rates of serious depression, not rates of elevated anxiety; rates of clinically significant anxiety were uniformly lower during distance learning than in 2019 across all subgroups.

Why would these three subgroups differ from the overall pattern of substantially lower rates of serious depression during distance learning? Beginning with *Hispanic students*, other aspects of the data suggest that in the early weeks of distance learning, these students did in fact show relatively low mean depression scores as did other groups. However, consideration of mean scores over time showed that relative to other ethnic groups, Hispanic students showed notable increases from April through June. In other words, the data suggest that accumulated stressors as

Table 13. **"Improvements": Percentage of Categories Mentioned by Ethnicity, Gender, and Division**

Ethnicity	White	Black	Hispanic	Asian	Other
Workload	$38\%_{a}$	$44\%_{b}$	$36\%_{a,c}$	$35\%_{c}$	$38\%_{a,c}$
Faculty Support	$21\%_{a}$	$20\%_{a}$	$18\%_{a}$	$25\%_{b}$	$21\%_{a,b}$
Faculty Flexibility	$11\%_{a,b,c}$	$12\%_{c,d}$	$16\%_{d}$	$9\%_{b}$	$12\%_{a,c,d}$
Structure/Schedule	$14\%_{a}$	$12\%_{a}$	$12\%_{a}$	$14\%_{a}$	$13\%_{a}$
Learning Efficacy	$16\%_{a}$	$12\%_{b}$	$18\%_{a}$	$18\%_{a}$	$16\%_{a}$

Gender	Male	Female	Non-binary
Workload	$42\%_{a}$	$35\%_{b}$	$33\%_{b}$
Faculty Support	$20\%_{a}$	$22\%_{b}$	$23\%_{a,b}$
Faculty Flexibility	$9\%_{a}$	$13\%_{b}$	$12\%_{a,b}$
Structure/Schedule	$13\%_{a}$	$14\%_{a}$	$14\%_{a}$
Learning Efficacy	$17\%_{a}$	$16\%_{a}$	$18\%_{a}$

Division	Middle school	High school
Workload	$36\%_{a}$	$39\%_{b}$
Faculty Support	$22\%_{a}$	$21\%_{a}$
Faculty Flexibility	$7\%_{a}$	$13\%_{b}$
Structure/Schedule	$17\%_{a}$	$13\%_{b}$
Learning Efficacy	$18\%_{a}$	$16\%_{b}$

Note. Column proportions with the same subscript do not differ significantly from each other at $p < 0.05$.

the pandemic continued may have affected Hispanic youth in particular. The risk and protective factors potentially implicated here are discussed in detail the next section.

With regard to *gender non-binary students*, comparisons of means on risk-modifiers suggested that the lack of drop in serious depression from 2019 to 2020 may have been related to lower access to supportive individuals during COVID. In post-hoc group comparisons of Spring 2020 means, non-binary students had significantly poorer scores than males and females not just on depression but also on concerns heard by adults at school, and on confiding in friends. They were also more vulnerable than males on anxiety and on parents' support. These findings resonate with others' reports on gender non-binary students' elevated mental health problems during COVID due to a lack of family support and difficulties with accessing much-needed professional services (Hawke et al., 2021).

In contrast to Hispanic and non-binary students, middle schoolers' lack of reduction in rates of serious depression did not seem tied to lower levels of protective factors; in fact, middle schoolers consistently fared better than high schoolers on variables assessed. In this case, findings likely rest on differences in overall workload for middle versus high school students in the move to distance

learning; high school curricular and extracurricular demands are generally much more taxing. Supporting this suggestion are findings described in the results section of this article, showing that in 2019—that is, before COVID-19—middle schoolers' rates of serious anxiety and depression were about half those among high schoolers, at 4% to 5% versus 9%. Even 12 weeks into school closures, assessments in the present study showed that middle school students had lower overall distress. Overall, these findings of higher depression and anxiety among older youth are consistent with those reported internationally during COVID (e.g., F. Chen et al., 2020; Craig et al., 2020).

Between group differences on mental health and risk-modifiers

Patterns by Ethnicity. There have been many suggestions that COVID-19 has had especially pronounced impact on children and families of color (Cooper & Williams, 2020; Fortuna et al., 2020), and findings here indicate that among ethnic minority students, it was *Hispanic students*—particularly Hispanic girls—who seemed most vulnerable. This was apparent in the following discrete findings. First, as described earlier, Hispanic students were the only one of five ethnic groups that did not show marked drops in rates of serious depression between 2019 and 2020 during distance learning (with the likely reprieve in schedule that accompanied). Second, in group comparisons of average scores on depression, anxiety, and on all risk and protective factors, if there was any group that stood out as being more vulnerable than White students (and often other minorities), it was Hispanic students. They were higher than White students on depression, anxiety, worries about their family's health, and worries about their family's jobs. Third, in tracking mean levels of study variables overall over time, Hispanic students consistently ended up showing the greatest vulnerability by Week 12, being the highest in anxiety and worries about grades, and the lowest on effectiveness of learning. Fourth, ethnicity and gender interaction effects showed that Hispanic girls were consistently higher than others on depression, anxiety, and worries about families' jobs; they were also among the lowest on confiding in adults at school, and on confiding in peers. Finally, there was no area in which Hispanic students fared significantly *better* than other ethnic minorities (as was the case for Black and Asian students, discussed below).

Findings here indicate that among ethnic minority students, it was *Hispanic students*–particularly Hispanic girls–who seemed most vulnerable.

These results resonate with pre-pandemic findings. In nationally representative samples of adolescents, prevalence of mood disorders was higher among Hispanic than White adolescents, controlling for other sociodemographic characteristics (Merikangas et al., 2010). In other studies, higher rates of major depression have been documented among Hispanic teens (as well as White and multiracial youth) than among Black and Asian students (Coley et al., 2019; National Institute of Mental Health, 2019). Since the onset of the pandemic as well, there have been suggestions

of increases in serious distress among Hispanics in particular; in April 2020, Hispanics were among the demographic groups that stood out in having the highest levels of psychological distress (McGinty et al., 2020).

The elevated rates of depression may partly derive from experiences of discrimination and racism. In our ongoing work with students across these schools, Hispanic students have had such experiences as have other youth of color, but they did not feel that concerted attention is paid to issues unique to them (as there has been, appropriately, for Black students in the wake of the Black Lives Matter movement, and for Asian students as part of the Stop AAPI Hate movement). Here are some examples, from HAS youth, describing their experiences:

- "In 8th grade I was told to stop 'acting white' and 'go back to my country' as a Hispanic girl with immigrant grandparents i [sic] was upset. I was told this by a boy who has bullied me racially since elementary school. The (school) failed to do anything despite the complaints from my parents and others."
- "I was in middle school. I hated going to school because all I would hear is 'go back to Mexico' or 'I'm going to call La Migra on you' or 'I hope you die because you're MEXICAN.' Things that nobody should ever hear, let alone a child. You have no idea how badly I wanted to be anything but Mexican. Teachers definitely heard it but they never ever said anything."

On a single dimension—anxiety—*Black youth* did better than White students, but like Hispanic students, they were also at a relative disadvantage compared to Whites on several risk modifiers. They had lower scores on mean levels of parent support, and had higher levels of worries about families' jobs. On the school front, they fared more poorly than White students on confiding in school adults and on having their concerns heard by adults at school. These findings collectively point to the greater strains among Black families during the pandemic, and also to the need for more dependable support from school-based adults for Black youth.

Asian students also showed higher vulnerability than White students on several indices. They were higher than their White counterparts on depression levels and on all four worry indices: their grades, their futures after graduation, their families' health, and their families' jobs. At the same time, Asian students were highest on effectiveness of learning during the pandemic.

Youth in the *Other* ethnicities group—most of who were multiracial—mirrored these patterns, being higher than White students on depression and on three of the four worries (all but GPA). These students, however, were also lower than White students on parent support and lower than Asian students on effective learning. Unfortunately, interpretability of this set of findings is constrained because it is not clear which combinations of ethnic groups were represented within this sample, for example, students who had a White parent and a parent of color versus students for whom both parents were from different ethnic minority groups. This will be an important issue to address in future research.

To summarize, overall findings comparing risk and protective factors indicated that Hispanic, Black, Asian, and multiracial students each showed various areas of

vulnerability relative to White students, with two important caveats that must be noted. The first is that all differences had very small effect sizes, and second, there is the potential for confounding with family socioeconomic status (SES). Although main effect comparisons were all statistically significant given the large sample size of over 14,000 participants, the magnitude of these effects was negligible, with partial η^2 values generally under 0.005 (0.03 is considered "small"; Cohen, 1988). Additionally, many of the differences detected could partly be driven by demographic factors other than ethnicity, such as family SES or parents' marital status (not assessed in the SRS, given its brevity as a 10-minute measure). It will be important to examine these issues more closely in future research with appropriate measures, for example, of parents' educational levels or overall SES.

Gender and Division. When gender-based subgroups were compared, differences were not only statistically significant but also had meaningful effect sizes in several cases, with males generally at an advantage relative to both females and gender non-binary youth. Main effect findings on depression and anxiety respectively had effect sizes of 0.06 and 0.11, which represent effect sizes that are medium and approaching large (0.06 and 0.12; Cohen, 1988). Differences were also significant on all worry indices as well, but with much smaller effect sizes.

The findings of higher depression and anxiety among *females* are not surprising, as it has long been established that they are generally more vulnerable to internalizing symptoms than are males (e.g., McLean et al., 2011; Nolen-Hoeksema, 2001). Additionally, international studies during COVID have reported that adolescent girls had higher levels of depression, anxiety, and PTSD than boys (F. Chen et al., 2020; Craig et al., 2020). These acknowledgments in no way imply, however, that girls' elevated levels of distress during the pandemic should not be taken seriously; in fact, they warrant concerted attention given accompanying patterns on close relationships with adults. In the present study, girls had significantly poorer scores than boys not just on symptoms but also, to some degree, on the quality of their relationships with parents; the degree to which they confided in adults at school; their feelings that their concerns were being heard at school; and their worries about families' jobs as well as health (as in Craig et al., 2020). There was a single instance where girls did slightly better than boys, that is, satisfaction with confiding in friends. Overall, therefore, results of this study indicated that girls were clearly more vulnerable to distress during COVID, and also showed small but consistent disadvantages, relative to males, on multiple indices that could have served critical protective functions.

Gender non-binary students typically reported greater vulnerability than males across all variables assessed, and unlike females, did not show advantages relative to males on any construct. Additionally, there were several instances where these youth were more troubled than even females in this study, including depression, confiding in friends, and concerns heard at school. One might question the veracity of these findings given the small sample size ($n = 129$ non-binary youth in the V1 sample, as compared to over 6000 males and 7000 females). At the same time, it should be noted that the small sample of gender non-binary youth would essentially enhance the stringency of analyses, as it would have restricted the likelihood of finding statistically

significant differences. Overall, therefore, it is clear that gender non-binary students have been especially in need of supports during COVID-19 and likely, beyond.

Findings here are consistent with those of other researchers during the pandemic. Research has shown that in general, gender non-binary youth have experienced low family supportiveness (Hawke et al., 2021), and in some instances, high levels of family conflict, invalidation of gender identity, and possibly even abuse (see Catalpa & McGuire, 2018; Craig et al., 2020; Grossman et al., 2005; Reczek, 2020). Lack of family support may also have made it more difficult for these youth to access mental health services remotely during the shutdown (Hawke et al., 2021). There may have been concerns about confidentiality in within-home counseling sessions, as parents did not necessarily know of their child's gender identity (Catalpa & McGuire, 2018). Hawke et al. (2021) reported that gender diverse and transgender youth reported great disruptions to mental health and substance use services during COVID, with a large proportion report unmet needs for these services (i.e., 63.0% vs. 27.9% of cisgender youth).

With regard to division, unsurprisingly, *high school students* reported somewhat higher levels of depression and anxiety as well as low parents' support (η^2 all 0.02), and also much higher levels of worries about their futures post-graduation ($\eta^2 = 0.09$) and lower levels of effective learning during school closures ($\eta^2 = 0.04$). The findings on internalizing symptoms are not surprising, as noted in previously discussed similar developmental findings cross-nationally (F. Chen et al., 2020; Craig et al., 2020). With regard to lower parental support, findings are in sync with developmental trends in longitudinal research where HAS samples, followed from middle through the end of high school, showed decreasing levels of trust and communication with both parents, and increasing levels of alienation (Ebbert et al., 2019). Within the context of COVID specifically, it is also possible that older youth needed relatively more reassurance (e.g., given their higher distress and worries about their futures), and thus were more likely to see their parents as "falling short" on providing support. Equally, it is possible that parents of older students were themselves more anxious about their children's futures, given that one of two items on this scale was how much stress the students felt their parents caused them.

Risk and protective processes: Relative salience in relation to symptoms

Overall sample. Multilevel modeling across 49 schools showed that with regard to risk and protective processes, all ten constructs measured were significantly linked with both depression and anxiety (after considering demographic indices), but one clearly stood out as having far greater effect sizes than all others: the *quality of relationships with parents*. Findings were consistent across all four analyses involving depression and anxiety as outcomes, and using both the larger sample with the original V1 survey and the smaller sample with the V2 survey. In all cases, β coefficients for parent support were above 0.80, with those predicting to depression over 1.0; these were generally over twice as large as β values for any of the other nine predictor variables examined. These findings, again, are consistent with many

studies highlighting the importance of parental support during COVID (e.g., Cuartas, 2020; Orgilés, Morales, et al., 2021).

Additionally, with depression as the outcome in multilevel analyses, two dimensions related to school showed large effect sizes ($\beta > 0.30$): concerns heard by school adults, and effective learning. With anxiety as the outcome variable, besides parent support and concerns heard at school, again, large effect sizes were found for three dimensions of worry: about grades, what would happen in the future post-graduation, family health, and family jobs ($\beta = 0.38$, 0.35, 0.29, and 0.29, respectively). Additionally, moderate effect sizes ($\beta > 0.20$) were found for time designated for fun and confiding in school adults, in relation to both depression and anxiety, and for confiding in friends in relation to depression. In summary, all 10 risk modifiers examined in these analyses showed some unique links, with meaningful effect sizes, in relation to one or both of the outcome variables.

With depression (and with anxiety) as the outcome in multilevel analyses, two dimensions related to school showed large effect sizes: concerns heard by school adults, and effective learning.

Did associations of risk-modifiers vary across subgroups? Regression analyses were conducted to explore potentially different ramifications of discrete risk modifiers depending on students' ethnicity, and several findings were significant but effect sizes were unremarkable (as tends to be true for interaction effects in general). The overall block of interaction terms involving ethnicity was significant in predicting to anxiety. Further examination of individual risk-modifiers showed that the slopes for parent support were steeper for White students than for Asian students, such that the absence of support from parents was apparently more detrimental for White students. This finding may reflect varying interpretations of the same parenting behaviors across different ethnic groups. To illustrate, high levels of perceived parental expectations, as exemplified by the item, "I never feel like I can meet my parents' standards," were associated with multiple distress indicators among White students (Luthar, Ebbert, & Kumar, 2021). Links were far weaker among Asian students, possibly because high parent expectations are more normative in Asian cultural backgrounds, and less likely to be seen as excessively harsh or unkind.

By contrast, low levels of two protective processes were apparently more detrimental for ethnic minority youth: effective learning and opportunities to confide in adults. Interaction effects showed that low levels of effective learning were more strongly linked with anxiety among all ethnic minority groups than among White students. It is possible that more so than White students do, youth of color believe that their academic performance will strongly affect their future life prospects, such that experiencing difficulties in learning during COVID-19 would have led to greater anxiety. With regard to the second of these two dimensions, low levels of confiding in adults at school were linked with depression more so among Black and Asian

students than among White students. In highly competitive school settings that are mostly White, it can feel still more isolating if youth of color feel that they cannot confide in at least one empathic adult at school.

In interaction effects involving gender with males as the reference group, higher levels of depression and anxiety were seen among females, and gender non-nonbinary youth, in the absence of several protective factors. Among girls, the interaction effect involving concerns heard was significant in predicting to both depression and anxiety. Consistent patterns were seen among gender non-binary students. Overall, these findings are of concern because not only were females and gender non-binary students generally more vulnerable to high symptom levels than males, but in addition, this vulnerability was apparently further heightened in the absence of protective factors related to concerns heard at school.

Not only were females and gender non-binary students generally more vulnerable to high symptom levels than males, but in addition, this vulnerability was apparently further heightened in the absence of protective factors.

Open-ended responses

Findings from open-ended responses mirrored those from quantitative analyses in highlighting the importance of support from caregiving adults. When asked what was going well at school, *Faculty Support* was by far the most commonly mentioned theme, more than twice as often as any of the other categories (45% vs. 9–17%). In response to the question on what they would like to see improved, students most often mentioned workload (38%), followed by faculty support (21%) and learning efficacy (16%). Asked about their worries, the theme most commonly mentioned was family well-being (29%), followed by workload and personal futures (26% and 24%, respectively).

Post hoc comparisons of frequencies illuminated a few variations in trends across subgroups. In response to what was going well, the proportions mentioning faculty support were highest for black students and females. On what most needed improvement, workload was mentioned most often by black students relative to other ethnicities and males relative to other genders. By contrast, faculty support was most often mentioned as an area needing improvement by Asian students. Again, an important caveat is in order: Although many of these proportions were statistically significant, the pattern generally mirrored the overall pattern described about the importance of parents in quantitative analyses. In other words, there was no subgroup for which faculty support was *not* most commonly mentioned among the positives, and for which workload, followed by faculty support, were not the most frequently mentioned areas for improvement.

Implications for practice and policy

Support for adults in caregiving roles. From a prevention and intervention perspective, an unequivocal message from this study of almost 15,000 youth from 49 schools is that the quality of the parent-child relationship remains paramount for adolescents' well-being, and must be treated as an urgent public health initiative (Luthar et al., 2020). In the overall sample and among demographic subgroups, coefficients for this one variable were 1.5–2 times the size of any of the other predictor variables considered. Consistent with NASEM's (2019) conclusions, it is clear that if children and adolescents are to show resilience in the aftermath of the pandemic, the single most important charge is to ensure that their parents are psychologically healthy, supported through the cumulative strains they have experienced for months related to childcare, health, finances, and jobs. In the words of Roos et al. (2021, p. 8) there must be increased dissemination of mental health supports for parents: "Monitoring ongoing parent mental health and parenting needs, and intervening where appropriate, should be of high importance for public health efforts to promote child well-being."

If children and adolescents are to show resilience in the aftermath of the pandemic, the single most important charge is to ensure that their parents are psychologically healthy, supported through the cumulative strains they have experienced.

The question of generalizability of patterns among HAS students was raised at the outset of this article, and results clearly show that this single most robust finding here—of the importance of parent-child relationships—is generalizable across all subsamples of youth. International cross-country research during COVID has pointed to the importance of caregivers' psychological well-being in relation to children's resilient adaptation. Among Italian, Spanish, and Portuguese youth, anxiety and depressive symptoms were more likely among those whose parents reported higher levels of stress (Orgilés, Espada, et al., 2021).

Similarly, there are multiple reports on elevated parents' psychological and behavioral disturbances during the pandemic, with associated problems in parenting behaviors. A mixed-methods study in Canada showed that caregiver depression was the most significant predictor of every parenting dimension assessed, with medium effect sizes across outcomes (Roos et al., 2021). Qualitative findings highlighted severe strains on parent capacities including too much unstructured time, managing distress, and a dearth of social supports (Roos et al., 2021). In another Canadian study, Gadermann et al. (2021) found that as compared to adults without children, those with children under 18 years of age reported significantly greater alcohol consumption, suicidal thoughts/feelings, and concerns about both emotional and physical domestic violence; they also had more frequent negative interactions with children. For policy and practice, these researchers across the world have been of one voice, echoing the urgent need voiced for deliberate attention to the wellbeing of caregiving adults during the pandemic.

Besides parents, it is critical to ensure that caregiving adults at school are themselves replenished. Strains on them come from not only attending to students' mental health needs (and those of their own family members), but also, often, from adult colleagues seeking support. To illustrate, Gadermann and colleagues reported that as parents described sources of support that had helped them cope with pandemic-related stress, connecting with teachers and other school adults was mentioned almost as often as connecting with family outside the home.

These ongoing demands on educators' resources inevitably threaten their own wellbeing. In our own research involving more than 4000 faculty and staff assessed between April and June 2020, rates of clinically significant burnout rose from 20% in April 2020 to 40% in April 2021 (Luthar & Kumar, 2020). Particularly vulnerable among these adults have been school leaders and counselors. In addition to their usual responsibilities, those at the helm had to handle myriad new pandemic-related challenges including complicated decisions related to physical safety and modes of instruction, shepherding their communities through illnesses and losses, being on call 24/7, and containing controversies around polarized, strong opinions among parents and faculty. Similarly, school counselors and nurses reported a great increase in the number of students, parents, and colleagues coming to them for support.

In addition to supporting parents, therefore, addressing educators' burnout will have to be a national priority. In August 2020, a poll by the National Education Association had shown that nearly one in three teachers said COVID-19 had made them more likely to resign or retire early. This number included 40% of teachers who had two to three decades of experience, who are presumably leaders and mentors on their school campuses, and 55% of those with more than three decades of experience (Flannery, 2020). Concerns about burnout and attrition, reported in August 2020, have only magnified over time, as seen in educators' open-ended responses to questions about central concerns in our research, during June 2021:

- "Burnout. I am not sure I can maintain this level of work for the rest of my career. I love teaching but do not know how much longer I can continue at this rate."
- "Our mental health as a faculty has NOT BEEN GOOD in the times before the pandemic. High levels of stress and burnout due to too many responsibilities and too many hours.... If we go back to school life as we were living it, we will be trading our current set of issues and stressors for another set, which is just as (if not much more so) insidious."
- "I am super concerned about the rate of turnover.... I'm very concerned about burnout and the number of faculty members that I have witnessed breakdown or had them confess they are now being medicated for stress is alarming. I am very anxious about the long-term viability of the school."

More on the "how" and "why" of supporting adults. As we consider the well-being of caregiving adults, two qualifications bear explicit mention here. One is that there is a need to avoid over-emphasizing "self-care." Second, there has to be active enhancement of community-based support. To urge a group of emotionally and physically exhausted caregivers that they must take prioritize good self-care is

unrealistic at best and at worst, perceived as offensive (in the words of a teacher in the late fall, 2020, "The term 'self-care' has become triggering for me; please stop. I can't do it."). What is needed is that these *adult caregivers are themselves given support* (NASEM, 2019). This does not necessarily call for large amounts of external funding, as much can be accomplished by ensuring regular, mutually supportive interactions among caregiving adults within schools as well as across them.

The NASEM (2019) consensus study report describes a couple of models for such community-based efforts that are pragmatic and scalable. One involves weekly support groups for mothers, tested with low-income mothers in health care clinics (Luthar, Suchman, & Altomare, 2007), with health care providers at their worksites (Chesak et al., 2020; Luthar et al., 2017), and subsequently, with educators both in-person and virtually (Luthar, Kumar, & Benoit, 2019). The second community-based model involves groups for mothers in their local supermarkets (McMickens et al., 2019). Whichever community-based approach is pursued, the need is urgent. There must be enhanced implementation of evidence-based, relatively low cost programs that can both treat caregivers' depressive symptoms and promote positive parenting, using a variety of online, telephone, or physically distanced delivery options (Roos et al., 2021).

In considering the last exhortation, some might contend that external interventions may not be necessary; mental health might improve simply because as more people are vaccinated, life will return to a semblance of pre-pandemic patterns. To be sure, there will be some who will "bounce back" from the first year of enormous challenges stemming from COVID. At the same time, two points of caution are in order. One is that past research has shown that those who have experienced a period of serious mental illness are at elevated risk for repeated such disturbances in the future (e.g., Birmaher et al., 2007; Cheung et al., 2013; Copeland et al., 2021; Mullen, 2018; Rao et al., 1995). Second, the ill-effects of 2020-2021 go well beyond individuals' mental health; they have also affected close relationships, which form the bedrock of resilience in the face adversity (Luthar & Eisenberg, 2017; NASEM, 2019). As we have noted earlier, stressors from the pandemic—including long periods of enforced isolation at home—have led to enhanced levels of conflict within many families.

As with families, cohesiveness in communities has been damaged: in our own work with over 100 public and private schools this academic year, there have been increasing reports of friction among both adults and students. Strong, polarized differences have been expressed, challenging leaders' decisions on instructional formats (in-person or virtual), mask requirements and other safety measures, as well as the merits of investing in enhanced diversity, equity, and inclusiveness (DEI) efforts to combat racism and discrimination. In short, a good deal of anger has been expressed within families and communities, and it is not clear how the hurts resulting from this anger will be handled, or manifested, in the months ahead.

Within-school initiatives: Working with modifiable risk-modifiers. Besides ensuring the well-being of adults who tend to children, there is potential to enhance students'

psychological well-being through three additional channels within schools. The first is to modify expectations and reduce academic workload. As noted in the open-ended responses in this study, workload was the single most often mentioned issue in response to how the school could do better, noted by almost 40% of students. If there were department- and school-wide agreement to make accommodations on this front, this could ease distress directly and indirectly by bringing improvements on three factors shown to be protective for mental health in this study: effectiveness of learning, time for fun, and reduced worry about grades.

Again, it is critical to recognize that these are likely issues that generalize across schools, and not just those that are relatively high-performing, as seen in an essay by a teacher entitled, "Please stop expecting normal from kids (and teachers) right now" (Mason, 2020). The author noted, "Yes, we get it. Kids are behind. They have unfinished and lost learning. Should we ignore this? No, of course not…[But what] kind of message does it send our kids when we prioritize state and standardized tests when many students' basic needs aren't being met? Maslow before Bloom. No one can learn, let alone test well, when they are hungry, anxious, unsupervised, or highly stressed and traumatized." Mason also calls for a hiatus on standardized testing in schools and for a suspension of teacher evaluations, closing with the following: "There's nothing normal about this school year, and to try to go about teaching and learning the same way we did last year because that's how we've always done it has got to stop. This is a wake-up call for education. We need to take a hard look at testing, grades, evaluations, and consider that if this year is teaching us anything, the lesson is that we have a lot to learn." The same precautions apply for the 2021-2022 academic year and beyond, in considering how to address learning losses that have occurred because of the pandemic.

Toward protecting students' mental health, the second major direction in schools is to ensure their connectedness with supportive adults, and wherever possible, peers. Quantitative and qualitative data both indicated substantial benefits when students felt they could comfortably confide in an adult at school, and in friends. In the regressions predicting to depression and anxiety respectively, the beta coefficients all had noteworthy values (above 0.20), especially for concerns heard by school adults (values of −0.38 and −0.40). Coefficients for confiding in adults in relation to depression and anxiety respectively were −0.21 and −0.27, and for confiding in friends, values were −0.27 for depression and −0.16 for anxiety. Qualitative data showed that in response to the question on what was going well in their schools during COVID-19, support from school adults was noted more than twice as often noted than any of the other categories (45% vs. 9–17%). Similarly, when asked what most needed improvement in their school, greater understanding and support from teachers was the second most frequently mentioned category after reductions in workload.

Third, our findings point to the critical need for interventions that foster DEI in schools. There has been much needed attention to challenges facing youth of color in predominantly low SES communities (e.g., Waitoller & Lubienski, 2019). However, there is a distinct set of challenges presented for students in high-achieving schools, where most families are White and relatively affluent. With relatively few

schoolmates of color in their communities, ethnic minority youth stand out more as being different from others (Assari et al., 2017; Luthar et al., 2021). More seriously, and as mentioned earlier, youth of color at these schools are clearly exposed to ugly acts of racism that often go unpunished (e.g., Shedding Light, 2020). Wherever possible, there must be focused efforts to raise awareness among students of implicit biases and stereotyping, helping develop a true, institution-wide commitment to curtailing racism.

In considering DEI initiatives, there is an especially urgent need for increased attention to the challenges experienced by gender non-binary students. More than any subgroup of students in the large and diverse sample within the present study, it was these children who stood out the most in terms of showing high levels of vulnerability—across distress indices as well as risk and protective factors—with noteworthy effect sizes. Not assessed in this study, but also likely vulnerable, are children who identify as LGBTQIA+. Meta-analyses show that the latter group of students has always faced more challenges than others, and during the pandemic, many were "forced to deal with unsupportive families due to sexual orientation, with the lack of social and medical support in connection to various pre-pandemic disorders, with an added stress concerning their futures, and with dealing with new and old stress from previous traumas" (Jones et al., 2021, p. 7). As schools consider programming in the coming months and years, therefore, it could be beneficial to deliberately prioritize these students' access to supportive adults (teachers, counselors and advisors), and also to create affinity groups with other students like themselves. In addition, there is value in identifying support services outside school, including those that have proved beneficial, using telemedicine or virtual sessions (Jones et al., 2021).

Limitations and future directions

A major limitation of this study was its restriction to generally high-achieving schools. It is true that the population represented a fair amount of diversity, with 40% of students overall being from ethnic minority groups and the percentage receiving scholarships or financial aid ranging from 21–28% across schools. This said, it would clearly be beneficial to consider central questions examined here in economically disadvantaged communities. For students in under-resourced schools, worries about families' jobs may well emerge as among the salient predictors of distress across ethnicities.

Another limitation has to do with the lack of racial/ethnic information about the multiracial group, i.e., which sets of racial/ethnic backgrounds they represented. It is noteworthy that in this study, the multiracial group showed as much or more vulnerability compared to White students as did any other group. Clearly, much needs to be learned why this might be the case. In future research, it will be useful to track multiracial students by combinations of ethnicities that they represent, wherever possible.

No causal inferences can be made based on these data, of course, given their cross-sectional nature, and even the shifts documented over time may have partially

been artifacts of differences in schools studied early versus late in the pandemic. Thus, the increasing levels of depression documented among high school students, for example, could partly have been because, in general, there was elevated distress in those particular schools that were assessed toward the end of the semester. Such questions are better illuminated by research with longitudinal designs, with the same groups of students are followed prospectively over time.

It must also be reiterated that any inferences about clinically significant distress levels compared to those in 2019 are limited only to the first 3 months of the pandemic. Whereas the first few months seemed to have brought some respite from demanding daily schedules, there is no question that serious distress rates have increased as the pandemic continued. Our own accumulated data on almost 41,000 students that had been assessed between the start of the pandemic and late summer of 2021 indicate that these rates were not merely back to 2019 levels, but had surpassed them (Luthar, 2021). Tracking both internalizing and externalizing problems in the months ahead will be critical.

Finally, this study is limited in the examination of only internalizing symptoms as outcomes. It is unclear whether patterns documented in this study would be replicated in assessments of externalizing problems involving conduct disturbances, oppositional behaviors, and substance abuse (see Jones et al., 2021; Muzi et al., 2021). Future research on these issues is necessary to more fully understand the ill-effects of the COVID-19 pandemic on mental health among children and adolescents.

Concluding comments

To our knowledge, this is the first large-scale study—with over 14,000 middle and high school students—examining serious symptoms within the first 3 months of the COVID-19 pandemic, with good to excellent participation rates across 49 schools from different regions of the United States. Although almost all students assessed were from independent schools, there was ample diversity in the sample, such that we were able to examine major trends not only by gender and developmental stage but also by ethnicity. Using a mixed-methods strategy and measures with good psychometric properties, the single most important, robust finding from this study is that the *well-being of youth facing pandemic-related stressors was tied, foremost, to the quality of relationships the major adults in their lives—at home and at school*. Accordingly, *supporting these adults* must be treated as essential and attended to via initiatives that are organized, thoughtful, evidence-based, and scalable. In addition, the *academic workloads of students (and of faculty) must be kept at reasonable levels*. This is clear from (a) the markedly lower rates of serious distress in 2020 versus 2019, as workloads eased due to distance learning, and (b) findings that students' worries about grades and learning efficacy were among the predictors most strongly related to high anxiety (particularly among ethnic minority students). Finally, it will be helpful to ensure, as much as possible, that all *students have access to at least one supportive adult at school* and, where possible, it will be helpful to promote *peers' support* of each other.

With regard to issues of diversity, equity, and inclusion, findings of this study point to some subgroups that are clearly at especially high risk for internalizing symptoms as well as for socializing processes that affect these. *Gender non-binary students* have much more unmet needs for support, followed by *girls; high school students* were more troubled overall, than middle schoolers. Among racial-ethnic groups, some findings suggested that *Hispanic* students more so than other youth of color, may have been affected by the pandemic and other concurrent stressors in their lives.

In conclusion, there will have to be concerted, proactive attention to mental health even as the rates of COVID decline and schools revert to in-person learning, addressing the needs of adults as well as students. With all the disruptions that have spanned more than 18 months, learning and curriculum mastery are obviously going to be of central concern for educators. However, without attention to the psychological vulnerability of school adults and students, children's learning will remain limited, and their risk for serious disorders will escalate. Proactive community and school-based prevention efforts must be treated as a public health priority as society continues to deal with diverse fallouts from the pandemic; the well-being of an entire generation of youth is at stake.

ENDNOTES

[1] It should be noted that an additional five schools had administered the SRS very soon after school closures; however, due to low participation rates (<50%), these schools were excluded from the current analyses.

[2] School closure data are taken from the website Edweek.org: https://www.edweek.org/ew/section/multimedia/map-coronavirus-and-school-closures.html.

[3] These values are taken from the website Niche.com; 11 schools in our sample had missing data on this variable.

[4] We recognize that race and ethnicity are different constructs. In this article, we chose to use race/ethnicity because it encompasses all the groups that the students could check off in response to the question phrased thus: "How would you describe your race or ethnicity?" Response options were Caucasian/White; African American/Black; Latinx/Hispanic; Asian/Asian American/Pacific Islander; American Indian/Native American; Middle Eastern; Biracial/Multiracial/Other (Please specify)." For the sake of brevity, we will use the term *ethnicity* in the methods and results section of this report to refer to race/ethnicity.

[5] An additional 519 students chose "Unsure" or "Prefer not to answer" for Gender and are excluded from the demographics table.

[6] Non-binary students were not included in the MANOVA because the sample size of this group was too small to permit examination of interaction terms of central interest: Gender × Ethnicity. However, they were included in subsequent univariate analyses involving Gender.

[7] In designating cutoffs for "above average" symptoms, values were considered by students' developmental levels. In a given school, for example, 9th graders' scores (of all ethnicities and genders) were calibrated against the value falling at +1.5 SDs among all 9th graders nationally.

[8] Note that in these MANOVAs, gender non-binary students were not included because their overall *n* was very small; patterns among them versus males and females were only considered in post hoc comparisons of means.

References

Achenbach, T., & Rescorla, L. (2001). *The manual for the ASEBA school-age forms & profiles*. University of VT, Research Center for Children, Youth, and Families.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Assari, S., Moazen-Zadeh, E., Caldwell, C. H., & Zimmerman, M. A. (2017). Racial discrimination during adolescence predicts mental health deterioration in adulthood: Gender differences among blacks. *Frontiers in Public Health*, *5*, 104. https://doi.org/10.3389/fpubh.2017.00104

Authentic Connections. (2020). *Student Resilience Survey: Preliminary findings and recommendations* [White paper]. https://www.authconn.com/files/Authentic%20Connections%20SRS%20White%20Paper.pdf

Benner, A. D., Wang, Y., Shen, Y., Boyle, A. E., Polk, R., & Cheng, Y. P. (2018). Racial/ethnic discrimination and well-being during adolescence: A meta-analytic review. *American Psychologist*, *73*(7), 855–883. https://doi.org/10.1037/amp0000204

Birmaher, B., et al. (2007). Practice parameter for the assessment and treatment of children and adolescents with depressive disorders. *Journal of the American Academy of Child and Adolescent Psychiatry*, *46*(11), 1503–1526. https://doi.org/10.1097/chi.0b013e318145ae1c

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *The Lancet*, *395*(10227), 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8

Catalpa, J. M., & McGuire, J. K. (2018). Family boundary ambiguity among transgender youth. *Family Relations*, *67*(1), 88–103. https://doi.org/10.1111/fare.12304

Chen, J. A., Stevens, C., Wong, S. H., & Liu, C. H. (2019). Psychiatric symptoms and diagnoses among US college students: A comparison by race and ethnicity. *Psychiatric Services*, *70*(6), 442–449. https://doi.org/10.1176/appi.ps.201800388

Chen, F., Zheng, D., Liu, J., Gong, Y., Guan, Z., & Lou, D. (2020). Depression and anxiety among adolescents during COVID-19: A cross-sectional study. *Brain, Behavior, and Immunity*, *88*, 36–38. https://doi.org/10.1016/j.bbi.2020.05.061

Chesak, S. S., Bhagra, A., Cutshall, S., Ingram, A., Benoit, L. R., Medina-Inojosa, J. R., Hayes, S. N., Carolan, B. J., & Luthar, S. S. (2020). Authentic Connections Groups: A pilot test of an intervention aimed at enhancing resilience among nurse leader mothers. *Worldviews on Evidence-Based Nursing*, *17*, 39–48. https://doi.org/10.1111/wvn.12420

Cheung, A. H., Kozloff, N., & Sacks, D. (2013). Pediatric depression: An evidence-based update on treatment interventions. *Current Psychiatry Reports*, *15*(8), 381. https://doi.org/10.1007/s11920-013-0381-4

Cicchetti, D. (1984). The emergence of developmental psychopathology. *Child Development*, *55*(1), 1–7. https://doi.org/10.2307/1129830

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, *20*(1), 37–46. https://doi.org/10.1177/001316446002000104

Cohen, J. (1988). The effect size index: d. *Statistical Power Analysis for the Behavioral Sciences*, *2*, 1.

Coley, R. L., O'Brien, M., & Spielvogel, B. (2019). Secular trends in adolescent depressive symptoms: Growing disparities between advantaged and disadvantaged schools. *Journal of Youth and Adolescence*, *48*(11), 2087–2098. https://doi.org/10.1007/s10964-019-01084-1

Cooper, L. A., & Williams, D. R. (2020). Excess deaths from COVID-19, community bereavement, and restorative justice for communities of color. *Journal of the American Medical Association*, *324*(15), 1491–1492. https://doi.org/10.1001/jama.2020.19567

Copeland, W., Alaie, I., Jonsson, U., & Shanahan, L. (2021). Associations of childhood and adolescent depression with adult psychiatric and functional outcomes. *Journal of the American Academy of Child & Adolescent Psychiatry*, *60*(5), 604–611. https://doi.org/10.1016/j.jaac.2020.07.895

Craig, S., Ames, M. E., Bondi, B. C., & Pepler, D. J. (2020). Canadian adolescents' mental health and substance use during the COVID-19 pandemic: Associations with COVID-19 stressors. https://doi.org/10.31234/osf.io/kprd9

Cuartas, J. (2020). Heightened risk of child maltreatment amid the COVID-19 pandemic can exacerbate mental health problems for the next generation. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), S195–S196. https://doi.org/10.1037/tra0000597

Czeisler, M. É., Lane, R. I., Petrosky, E., Wiley, J. F., Christensen, A., Njai, R., Weaver, M. D., Robbins, R., Facer-Childs, E. R., Barger, L. K., & Czeisler, C. A. (2020). Mental health, substance use, and suicidal ideation during the COVID-19 pandemic—United States, June 24–30, 2020. *Morbidity and Mortality Weekly Report*, *69*(32), 1049. https://doi.org/10.15585/mmwr.mm6932a1

Drost, E. A. (2011). Validity and reliability in social science research. *Education Research and perspectives*, *38*(1), 105–123. https://search.informit.org/doi/10.3316/ielapa.491551710186460

Ebbert, A. M., Infurna, F. J., & Luthar, S. S. (2019). Mapping developmental changes in perceived parent–adolescent relationship quality throughout middle school and high school. *Development and Psychopathology*, *31*(4), 1541–1556. https://doi.org/10.1017/S0954579418001219

Ellis, W. E., Dumas, T. M., & Forbes, L. M. (2020). Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. *Canadian Journal of Behavioural Science*, *52*(3), 177. https://doi.org/10.1037/cbs0000215

Flannery, M. E. (2020). *Safety concerns over COVID-19 driving some educators out of the profession*. https://www.nea.org/advocating-for-change/new-from-nea/safety-concerns-over-covid-19-driving-some-educators-out

Fortuna, L. R., Tolou-Shams, M., Robles-Ramamurthy, B., & Porche, M. V. (2020). Inequity and the disproportionate impact of COVID-19 on communities of color in the United States: The need for a trauma-informed social justice response. *Psychological Trauma: Theory, Research, Practice, and Policy*. https://doi.org/10.1037/tra0000889

Gadermann, A. C., Thomson, K. C., Richardson, C. G., Gagné, M., McAuliffe, C., Hirani, S., & Jenkins, E. (2021). Examining the impacts of the COVID-19 pandemic on family mental health in Canada: Findings from a national cross-sectional study. *BMJ Open*, *11*(1), e042871. https://doi.org/10.1136/bmjopen-2020-042871

García Coll, C., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic, K., Wasik, B. H., & Vázquez García, H. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, *67*(5), 1891–1914. https://doi.org/10.1111/j.1467-8624.1996.tb01834.x

Geisz, M. B., & Nakashian, M. (2018). *Adolescent wellness: Current perspectives and future opportunities in research, policy, and practice: A learning report*. https://www.rwjf.org/content/dam/farm/reports/issue_briefs/2018/rwjf445935/subassets/rwjf445935_1

Grossman, A. H., D'Augelli, A. R., Howell, T. J., & Hubbard, S. (2005). Parent reactions to transgender youth gender nonconforming expression and identity. *Journal of Gay & Lesbian Social Services*, *18*(1), 3–16. https://doi.org/10.1300/J041v18n01_02

Hawke, L. D., Barbic, S., Voineskos, A., Szatmari, P., Cleverley, K., Hayes, E., Relihan, J., Daley, M., Courtney, D., Cheung, A., & Darnay, K. (2020). Impacts of COVID-19 on youth mental health, substance use, and well-being: A rapid survey of clinical and community samples. *The Canadian Journal of Psychiatry*, *65*(10), 701–709. https://doi.org/10.1177/0706743720940562

Hawke, L. D., Hayes, E., Darnay, K., & Henderson, J. (2021). Mental health among transgender and gender diverse youth: An exploration of effects during the COVID-19 pandemic. *Psychology of Sexual Orientation and Gender Diversity*. https://doi.org/10.1037/sgd0000467

Hussong, A. M., Midgette, A. J., Thomas, T. E., Coffman, J. L., & Cho, S. (2021). Coping and mental health in early adolescence during COVID-19. *Research on Child and Adolescent Psychopathology*, 1–11. https://doi.org/10.1007/s10802-021-00821-0

Jones, E., Mitra, A. K., & Bhuiyan, A. R. (2021). Impact of COVID-19 on mental health in adolescents: A systematic review. *International Journal of Environmental Research and Public Health*, *18*(5), 2470. https://doi.org/10.3390/ijerph18052470

Konold, T., Cornell, D., Shukla, K., & Huang, F. (2017). Racial/ethnic differences in perceptions of school climate and its association with student engagement and peer aggression. *Journal of Youth and Adolescence*, *46*(6), 1289–1303. https://doi.org/10.1007/s10964-016-0576-1

Lee, C. Y. S., Goldstein, S. E., & Dik, B. J. (2018). The relational context of social support in young adults: Links with stress and well-being. *Journal of Adult Development*, *25*(1), 25–36. https://doi.org/10.1007/s10804-017-9271-z

Liu, C. H., Zhang, E., Wong, G. T. F., & Hyun, S. (2020). Factors associated with depression, anxiety, and PTSD symptomatology during the COVID-19 pandemic: Clinical implications for US young adult mental health. *Psychiatry Research*, 113172. https://doi.org/10.1016/j.psychres.2020.113172

Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., & Crawley, E. (2020). Rapid systematic review: The impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child & Adolescent Psychiatry*, *59*(11), 1218–1239. https://doi.org/10.1016/j.jaac.2020.05.009

Lorenz, T., & Rosman, K. (2020, June 16). High school students and alumni are using social media to expose racism. *The New York Times*. https://www.nytimes.com/2020/06/16/style/blm-accounts-social-media-high-school.html

Luthar, S. S. (2021). *Pandemic preparedness and prevention: Maximizing resilience among youth and caregiving adults during COVID*. Presentation for the Biden-Harris Health Equity Task Force by the American Psychological Association, August 2021 (webinar).

Luthar, S. S., Curlee, A., Tye, S. J., Engelman, J. C., & Stonnington, C. M. (2017). Fostering resilience among mothers under stress: "Authentic Connections Groups" for medical professionals. *Women's Health Issues*, *27*(3), 382–390. https://doi.org/10.1016/j.whi.2017.02.007

Luthar, S. S., Ebbert, A. E., & Kumar, N. L. (2020a). Risk and resilience during COVID-19: A new study in the Zigler paradigm of developmental science. *Development and Psychopathology. Online first*. https://doi.org/10.1017/S0954579420001388

Luthar, S. S., Ebbert, A. E., & Kumar, N. L. (2020b). The Well-Being Index (WBI) for schools: A brief measure of adolescents' mental health. *Psychological Assessment*, *32*(10), 903–914. https://doi.org/10.1037/pas0000913

Luthar, S. S., Ebbert, A. E., & Kumar, N. L. (2021). Risk and resilience among Asian American youth: Ramifications of discrimination and low authenticity in self-presentations. *American Psychologist*, *76*, 643–657. https://doi.org/10.1037/amp0000764

Luthar, S. S., & Eisenberg, N. (2017). Resilient adaptation among at-risk children: Harnessing science toward maximizing salutary environments. *Child Development*, *88*(2), 337–349. https://doi.org/10.1111/cdev.12737

Luthar, S. S., & Kumar, N. L. (2020). *Mental health matters: Fostering resilience during COVID-19 school closures*. National Association of Independent Schools, April 27 (webinar).

Luthar, S. S., Kumar, N. L., & Benoit, R. (2019). Toward fostering resilience on a large scale: Connecting communities of caregivers. *Development and Psychopathology*, *31*(5), 1813–1825. https://doi.org/10.1017/S0954579419001251

Luthar, S. S., Kumar, N. L., & Zillmer, N. (2020). High-achieving schools connote risks for adolescents: Problems documented, processes implicated, and directions for interventions. *American Psychologist*, *75*(7), 983–995. https://doi.org/10.1037/amp0000556

Luthar, S. S., Suchman, N. E., & Altomare, M. (2007). Relational Psychotherapy Mothers' Group: A randomized clinical trial for substance abusing mothers. *Development and Psychopathology*, *19*(1), 243–261. https://doi.org/10.1017/S0954579407070137

Magson, N. R., Freeman, J. Y., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J. (2021). Risk and protective factors for prospective changes in adolescent mental health during the COVID-19 pandemic. *Journal of Youth and Adolescence*, *50*(1), 44–57. https://doi.org/10.1007/s10964-020-01332-9

Mason, J. (2020, October 21). *Please stop expecting normal from kids (and teachers) right now. We Are Teachers*. https://www.weareteachers.com/stop-expecting-normal-from-kids-and-teachers/

McGinty, E. E., Presskreischer, R., Han, H., & Barry, C. L. (2020). Psychological distress and loneliness reported by US adults in 2018 and April 2020. *Journal of the American Medical Association*, *324*(1), 93–94. https://doi.org/10.1001/jama.2020.9740

McLean, C. P., Asnaani, A., Litz, B. T., & Hofmann, S. G. (2011). Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness. *Journal of Psychiatric Research*, *45*(8), 1027–1035. https://doi.org/10.1016/j.jpsychires.2011.03.006

McMickens, C. L., Clayton, A., Rosenthal, M. S., Wallace, L., Howell, H. B., Bell, G., & Smith, M. V. (2019). A qualitative exploration of mothers' experiences receiving mental health services in a supermarket setting. *Maternal and Child Health Journal*, *23*(4), 479–485. https://doi.org/10.1007/s10995-018-2646-3

Merikangas, K. R., He, J. P., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., Benjet, C., Georgiades, K., & Swendsen, J. (2010). Lifetime prevalence of mental disorders in US adolescents: Results from the National Comorbidity Survey Replication–Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry*, *49*(10), 980–989. https://doi.org/10.1016/j.jaac.2010.05.017

Mullen, S. (2018). Major depressive disorder in children and adolescents. *Mental Health Clinician*, *8*(6), 275–283. https://doi.org/10.9740/mhc.2018.11.275

Muzi, S., Sansò, A., & Pace, C. S. (2021). What's happened to Italian adolescents during the COVID-19 pandemic? A preliminary study on symptoms, problematic social media usage, and attachment: relationships and differences with pre-pandemic peers. *Frontiers in Psychiatry*, *12*, 556. https://doi.org/10.3389/fpsyt.2021.590543

National Academies of Science, Engineering, and Medicine. (2019). *The promise of adolescence: Realizing opportunity for all youth*. Washington, DC: The National Academies Press. https://doi.org/10.17226/25388

National Institute of Mental Health. (2019, February). *Prevalence of major depressive episode among adolescents*. https://www.nimh.nih.gov/health/statistics/major-depression.shtml#part_155031

Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science*, *10*(5), 173–176. https://doi.org/10.1111/1467-8721.00142

Nunnally, J. C. (1978). *Psychometric theory* (pp. 86–113, 190–255). McGraw-Hill Book Company. http://hdl.handle.net/123456789/11061

Orgilés, M., Espada, J. P., Delvecchio, E., Francisco, R., Mazzeschi, C., Pedro, M., & Morales, A. (2021). Anxiety and depressive symptoms in children and adolescents during covid-19 pandemic: A transcultural approach. *Psicothema*, *33*(1), 125–130. http://hdl.handle.net/10400.14/32185

Orgilés, M., Morales, A., Delvecchio, E., Francisco, R., Mazzeschi, C., Pedro, M., & Espada, J. P. (2021). Coping behaviors and psychological disturbances in youth affected by the COVID-19 health crisis. *Frontiers in Psychology*, *12*, 845. https://doi.org/10.3389/fpsyg.2021.565657

Rao, U. M. A., Ryan, N. D., Birmaher, B., Dahl, R. E., Williamson, D. E., Kaufman, J., Rao, R., & Nelson, B. (1995). Unipolar depression in adolescents: clinical outcome in adulthood. *Journal of the American Academy of Child & Adolescent Psychiatry*, *34*(5), 566–578. https://doi.org/10.1097/00004583-199505000-00009

Reczek, C. (2020). Sexual-and gender-minority families: A 2010 to 2020 decade in review. *Journal of Marriage and Family*, *82*(1), 300–325. https://doi.org/10.1111/jomf.12607

Roos, L. E., Salisbury, M., Penner-Goeke, L., Cameron, E. E., Protudjer, J. L. P., Giuliano, R., Afifi, T. O., & Reynolds, K. (2021). Supporting families to protect child health: Parenting quality and household needs during the COVID-19 pandemic. *PLoS ONE*, *16*(5), e0251720. https://doi.org/10.1371/journal.pone.0251720

Schäfer, T., & Schwarz, M. A. (2019). The meaningfulness of effect sizes in psychological research: Differences between sub-disciplines and the impact of potential biases. *Frontiers in Psychology*, *10*, 813. https://doi.org/10.3389/fpsyg.2019.00813

Shedding Light. [@sheddinglightmamk]. (2020). *Posts* [Instagram profile]. Retrieved December 9, 2020, from https://www.instagram.com/sheddinglightmamk/

Tang, S., Xiang, M., Cheung, T., & Xiang, Y. T. (2021). Mental health and its correlates among children and adolescents during COVID-19 school closure: The importance of parent-child discussion. *Journal of Affective Disorders*, *279*, 353–360. https://doi.org/10.1016/j.jad.2020.10.016

Viera, A. J., & Garett, J. M. (2005). Understanding the interobserver agreement: The kappa statistic. *Family Medicine*, *37*(5), 360–363.

Waitoller, F. R., & Lubienski, C. (2019). Disability, race, and the geography of school choice: Toward an intersectional analytical framework. *AERA Open*, *5*(1). https://doi.org/10.1177/2332858418822505

Author Bios

Suniya S. Luthar After earning her Ph.D. in Developmental and Clinical Psychology from Yale University, Suniya Luthar served on the faculty of the Yale School of Medicine, and then at Columbia University's Teachers College where she is now Professor Emerita. Luthar is also Founder of AC Groups, a nonprofit committed to fostering resilience among adults under stress using the evidence-based Authentic Connections Groups intervention. Luthar's career has been focused on understanding processes in resilience among diverse at-risk groups, and on applying insights in collaborative, community-based prevention programs. At the Authentic Connections organization which she co-founded, Luthar leads all research efforts and derives specific recommendations for school communities based on their own data.

Lisa S. Pao holds a Ph.D. in cognitive and educational psychology from Columbia University's Teachers College and an AB in English literature from Harvard University. Lisa has taught middle and high school English, completed a postdoctoral fellowship in neuroscience and learning disabilities at the New York State Psychiatric Institute, and worked as a consultant in research and curriculum design at Scholastic, Houghton Mifflin Harcourt, and Relay Graduate School of Education. At Authentic Connections, Lisa oversees all aspects of survey design and refinement, data sharing and management, statistical analyses, and compilation of reports for educational organizations and the lay public.

Nina L. Kumar completed her undergraduate degree in Computer Science and Psychology at Williams College. Prior to co-founding Authentic Connections, she worked in user experience and product management at IBM Watson Health. At AC, Nina steers all aspects of the organization's functioning ranging from developing relationships with collaborating schools to managing all data science and analytics efforts. Nina has created and continually refines interactive dashboards that provide each school with detailed understanding of specific areas of strength and those that need attention, along with specific recommendations listed for addressing the latter.

Supporting Information

This article includes online-only Supplemental Data.

Supplementary Table 1a. Coding Categories and Sample Items: Responses to "These Days, What Are You Most Worried About?"
Supplementary Table 1b. Coding Categories and Sample Items: Responses to "What Could Your Teachers/Faculty Be Doing to Improve Things for You?"
Supplementary Table 1c. Coding Categories and Sample Items: Responses to "What Are Things That Your School is Doing Well to Support Your Overall School Experience and Well-Being?"
Supplementary Table 2a. Correlations Among Symptoms and Risk Modifiers: White Students.
Supplementary Table 2b. Correlations Among Symptoms and Risk Modifiers: Black Students.
Supplementary Table 2c. Correlations Among Symptoms and Risk Modifiers: Hispanic Students.
Supplementary Table 2d. Correlations Among Symptoms and Risk Modifiers: Asian Students.
Supplementary Table 2e. Correlations Among Symptoms and Risk Modifiers: "Other" Ethnicity Students.
Supplementary Table 3a. Correlations among Symptoms and Risk Modifiers: Males.
Supplementary Table 3b. Correlations Among Symptoms and Risk Modifiers: Females.
Supplementary Table 3c. Correlations among Symptoms and Risk Modifiers: Non-Binary.
Supplementary Table 4a. Correlations Among Symptoms and Risk Modifiers: Middle School.
Supplementary Table 4b. Correlations Among Symptoms and Risk Modifiers: Middle School.
Supplementary Table 5. Descriptive Statistics for all Predictor and Outcome Variables Separately by Region and School Type.
Supplementary Table 6. Main Effects in ANOVAs: Differences by Region and School Type.
Supplementary Figure 1a. Sample word cloud of response themes, in response to "These Days, What Are You Most Worried About?"
Supplementary Figure 1b. Sample Marimekko chart of response themes, in response to "What's Going Well at Your School?"
Supplemental Figure 2. Mean levels of symptoms and of risk modifiers by region.
Supplemental Figure 3. Mean levels of symptoms and of risk modifiers by school type.