



## **WHY ARE CHILDREN UNDERPERFORMING IN SCHOOL?**

*A Comprehensive Needs Assessment of Students in Harris County*

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## Executive Summary

Education can be the great equalizer, providing opportunities to break generational cycles of poverty and to obtain economic mobility. And so the question becomes, why do some students succeed in school and others do not? While the answer is complex, research demonstrates that factors outside of the educational system have a significant influence on academic performance, particularly for children living in poverty.<sup>1</sup> This knowledge has led to a national shift toward supporting the whole child.<sup>2,3</sup> Determining what factors affect which children is a critical first step in developing equitable solutions that help all children have an opportunity for educational attainment. This project is intended to provide specific data on the needs of children within a diverse population of students; to identify the characteristics of children with social, emotional, and health needs; and to better understand how those needs impact academic performance so they can be applied to school districts across the country. In the 2018-2019 school year, we surveyed 20,055 students in grades four through 12, and 8,772 of their parents, in 80 schools throughout Harris County. We measured mental and behavioral health, physical health, modes of transportation, access to health care, neighborhood safety issues, social needs, housing conditions, school performance, school climate, social support, and parental engagement.

The results of the needs assessment demonstrate that a significant number of students in Harris County have experienced food insecurity, bullying, school mobility, neighborhood violence, and depression. All of these factors correlate with poor academic outcomes.<sup>4,5,6,7,8</sup> One of the most significant factors impeding a child's ability to succeed in school, and that could have a lifelong impact on his or her well-being, is depression. Of the schools surveyed for this study, one out of six students screened positive for depression across all grade levels. Neighborhood violence correlated with depression ( $p < .001$ ), and 11% of high school students and 13% of middle school

<sup>1</sup> E. Jensen, "How Poverty Affects Behavior and Academic Performance," in *Teaching with Poverty in Mind: What Being Poor Does to Kids' Brains and What Schools Can Do About It* (ASCD, 2009), Chapter 2.

<sup>2</sup> Association for Supervision and Curriculum Development (ASCD), "Making the Case for Educating the Whole Child," 2012, pp. 1-16, <http://www.wholechildeducation.org/assets/content/mx-resources/WholeChild-MakingTheCase.pdf>.

<sup>3</sup> The "whole child approach" is "defined by policies, practices, and relationships that ensure each child, in each school, in each community, is healthy, safe, engaged, supported, and challenged. It engages all stakeholders—educators, families, policymakers, and community members—in defying the 'percentage proficient' culture of too many school reform efforts." See ASCD at <http://www.ascd.org/ASCD/pdf/siteASCD/policy/CCSS-and-Whole-Child-one-pager.pdf>.

<sup>4</sup> D.F. Jyoti, E.A. Frongillo, and S.J. Jones, "Food Insecurity Affects School Children's Academic Performance, Weight Gain, and Social Skills," *The Journal of Nutrition* 135, no. 12 (2005): 2831–2839, <https://doi.org/10.1093/jn/135.12.2831>.

<sup>5</sup> I.F. Strøm, S. Thoresen, T. Wentzel-Larsen, and G. Dyb, "Violence, bullying and academic achievement: A study of 15-year-old adolescents and their school environment," *Child Abuse & Neglect* 37, no. 4 (2013): 243–251, <https://doi.org/10.1016/j.chiabu.2012.10.010>.

<sup>6</sup> A.J. Milam, C.D.M. Furr-Holden, and P.J. Leaf, "Perceived School and Neighborhood Safety, Neighborhood Violence and Academic Achievement in Urban School Children," *The Urban Review* 42, no. 5 (2010): 458–467, <https://doi.org/10.1007/s11256-010-0165-7>.

<sup>7</sup> M. Mehana and A.J. Reynolds, "School mobility and achievement: A meta-analysis," *Children and Youth Services Review* 26, no. 1 (2004): 93–119, <https://doi.org/10.1016/j.childyouth.2003.11.004>.

<sup>8</sup> A. Hysenbegasi, S.L. Hass, and C.R. Rowland, "The Impact of Depression on the Academic Productivity of University Students," *The Journal of Mental Health Policy and Economics* 8 (2005): 145–151.

students reported witnessing a shooting or murder in their neighborhood in their lifetime. Bullying is also correlated with depression, and 20% of high school, 27% of middle school, and 35% of elementary school students reported being bullied. Access to mental health services for students was limited, with three-quarters of high school students unable to see a mental health professional within the 12 months that preceded the survey.

The needs of children in Harris County are vast and did not develop overnight. It is well established that adverse events during early childhood set children on a trajectory for poor outcomes, and this was validated in our research. As one principal said, “By the time I see these children in kindergarten, they already have so many issues it feels like it’s too late.” Thus, by identifying the diverse needs of students in Harris County, policymakers, school districts, nonprofits, and community advocates have an opportunity to develop strategies and funding priorities that support early childhood development—which in turn will foster healthy brain development and build resilience in children, allowing them to succeed despite the external challenges they face when entering school. This report reflects the diversity and numerous needs of students in Harris County, the third largest county in the United States. Our findings can be broadly used to better understand which needs of the child are not being met under current systems of support, and to develop solutions so that every child has an opportunity to succeed.

## **I. Introduction**

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Many children in Harris County and throughout the nation face a variety of barriers that impede their ability to learn, including social factors like food insecurity, housing instability, neighborhood violence, and inadequate health care, in addition to physical and mental health disorders. Yet school evaluations are only based on the students’ academic performance. This needs assessment provides valuable data on other factors that impact student learning, and will inform strategic investments in these areas, guide school health services, and ultimately lead to better support for the whole child, resulting in improved school performance and attendance.

## **II. Methods**

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This report contains data from surveys administered to students and their parents during the 2018-2019 academic year in 78 schools in Harris County, Texas. Although we collected data before 2018, it was excluded from this report because the school district did not adopt our survey until 2018. Prior to 2018, principals self-selected their schools to participate in our research, and parent and student consent was required. However, when the school district adopted our survey, district leaders decided which schools would participate and parental consent was no longer required for student participation, resulting in a different sample of schools in 2018 compared to previous years. The study has been approved by the Rice University Institutional Review Board and the school district research compliance department.

Individual schools were responsible for administration of the student and parent surveys. The Baker Institute provided incentives for participation and coordination of survey administration. All student surveys were completed online through SurveyMonkey, except for one school, which completed paper surveys. All parent surveys were completed on paper. Surveys were available to parents in both English and Spanish. Schools also had the option to translate the parent surveys into other languages to suit the needs of their community. Following the administration of paper surveys, the results were coded and converted into an electronic form by a team of Rice

University students. We conducted a random sample of 10% of all observations to ensure that the entries were properly inputted. Any school that had fewer than 25 surveys was not included in the analysis, thereby leaving 78 schools (out of over 80 surveyed) in the final set.

### *A. Design*

We divided our results for student and parent surveys by question topic. Our survey design and the domains measured were identical for the parents of elementary, middle, and high school students. The number of questions asked to students varied by grade, with the elementary school surveys containing the fewest questions, and the high school surveys containing the most. For example, middle and high school students were asked more questions about their health, school environment, safety concerns, and food insecurity than elementary school students. We conducted focus groups with students from each educational stage to ensure the survey questions could be understood and that the survey length was appropriate for their level of cognitive development. We also conducted focus groups with parents to ensure questions were understandable and that the length did not invoke survey fatigue.

Once the dataset was complete, an outside expert at The University of Texas School of Public Health reviewed the student survey and found our measures to be valid.<sup>9</sup> Therefore, the descriptive statistics in this report can be trusted to reflect the true needs of the student population surveyed.

### *B. Survey Measures*

Four measures used in the student surveys warrant discussion. First, to assess housing inadequacy, we adapted the measurement used by the American Household Survey.<sup>10</sup> We asked students if their home had 1) broken plaster or peeling paint, 2) holes in the floor, 3) open cracks in the wall wider than a dime, 4) visible mold, 5) recently seen rats or many pests of other types, 6) no hot or cold running water, 7) no flushing toilet, 8) no heat or air conditioning, or 9) exposed wiring in the wall. Parents were further asked if their home had 10) inside water leaks or 11) outside water leaks. If students or parents met all of conditions 1-5 and 10-11, or any one of 6-9, they were deemed to be living in inadequate housing.

Second, we used two different approaches to measure food insecurity. For high school and middle school students, we used the validated two-item scale from Hager et al. (2010),<sup>11</sup> which asks for responses to these statements: 1) “within the past 12 months we worried whether our food would run out before we got money to buy more,” and 2) “within the past 12 months the food we bought just didn’t last, and we didn’t have money to get more.” Available responses to these two questions were “often,” “sometimes,” or “never.” If students replied “often” or “sometimes” to either question, they were considered positive for food insecurity. For

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<sup>9</sup> The survey was validated by Casey P. Durand, Ph.D., MPH, an assistant professor at The University of Texas School of Public Health.

<sup>10</sup> J. Leopold, M. Cunningham, L. Posey, and M. Manuel, (n.d.), *Improving Measures of Housing Insecurity: A Path Forward*, Urban Institute, pp. 1–16.

<sup>11</sup> E.R. Hager, A.M. Quigg, et al., “Development and validity of a 2-item screen to identify families at risk for food insecurity,” *Pediatrics* 126, no. 1 (2010): e26–32, <https://doi.org/10.1542/peds.2009-3146>.

elementary school students, we asked, “have you ever been hungry, but didn’t eat because there wasn’t enough money for food?” Elementary students could respond “yes,” “no,” or “don’t know.” Third, we screened students for depression using a validated clinical measure, the PHQ-2 scale.<sup>12</sup> Students were asked, “over the past two weeks, how often have you been bothered by any of the following problems? 1) little interest or pleasure in doing things or 2) feeling down, depressed, or hopeless.” Possible responses were “not at all,” “several days,” “more than half the days,” and “nearly every day,” and were scored as 0, 1, 2, and 3, respectively. This generates a score of 0 to 6 for each student. A student who scored 3 or above screened positive for depression on the PHQ-2 scale. A positive screen means that the student is experiencing depressive symptoms and, compared to someone who did not screen positive, has a higher chance of being diagnosed with DSMIV clinical depression if seen by a health care provider. (The PHQ-2, however, is not a diagnosis of depression, and further testing should be conducted in communities with high percentages of PHQ-2 positive students.)

Fourth, we included questions that were adapted from the Adverse Childhood Experiences scale for middle school and high school students. This scale includes eight statements regarding traumatic experiences students may have had, such as, “1) it was often hard to afford basics like food or housing, 2) I lived with a parent or guardian who got divorced or separated, 3) I lived with a parent or guardian who died, 4) I lived with a parent or guardian who went to jail, 5) I saw or heard parents or adults in my home slap, hit, kick, punch, or beat each other up, 6) I witnessed violence in my neighborhood, 7) I lived with anyone who was mentally ill or suicidal, or severely depressed, for more than a couple of weeks, and 8) I lived with anyone who had a problem with alcohol or drugs.” Each component was measured as a dichotomous variable with “yes” or “no” responses to these statements.

### III. Results

Our survey of elementary school students targeted fourth- and fifth-graders at 40 schools, generating a sample population of 4,865; the average and median response rates across elementary schools were 64% and 62%, respectively. Based on population data provided by the school district, five schools achieved a response rate of above 100%. This was most likely caused by students outside of our target grades completing the survey. The lowest elementary school response rate was approximately 9%. The survey of parents with children in elementary school yielded 5,913 responses from 42 schools. The lowest number of completed surveys from an individual elementary school was 26 and the highest was 517. Unlike the student surveys, the parent sample was not limited to the fourth and fifth grades. Our results included the responses of all parents with children in pre-K to fifth grade. The distribution of students by grade was nearly even from pre-K to fifth grade, with each making up between 13%-14% of the sample.

The middle school student survey included 14 schools with a total student sample population of 6,338. The average and median response rate for middle schools was 50% and 56%, respectively. The highest individual middle school response rate was 87%, while the lowest was 6%. The survey for parents and guardians of middle school students drew 1,639 responses from 13 schools after removing those with too few observations. One school with 25 replies just met the threshold for

<sup>12</sup> K. Kroenke, R.L. Spitzer, and J.B.W. Williams, “The Patient Health Questionnaire-2: Validity of a two-item depression screener,” *Medical Care* 41, no. 11 (2003): 1284–1292, <https://doi.org/10.1097/01.MLR.0000093487.78664.3C>.

inclusion in the study. The middle school with the most completed parent surveys had 325 responses.

The high school student survey received responses from 12 schools with a total of 8,852 observations. The high school with highest number of student survey replies had a response rate of 82%; the lowest had a response rate of 8%. The average response rate for each high school was 45%, and the median was 40%. Our high school parent/guardian survey received responses from 10 schools, yielding 1,220 responses. The high school with the most completed parent surveys delivered 316 responses and the high school with the fewest completed parent surveys provided 28 responses.

### A. School Environment

Widespread evidence suggests that students' perceptions of their school environment influence their academic performance.<sup>13</sup> For example, previous research suggests that students who feel supported by their teachers and peers are more engaged and motivated in school.<sup>14</sup> Further, they generally have more positive feelings about academics, comply with teachers' expectations,<sup>15</sup> and avoid disruptive behaviors like fighting or skipping class. These positive behaviors are associated with better academic performance,<sup>16</sup> whereas higher absentee and tardiness rates, for instance, are associated with lower grades.<sup>17</sup> Peer support also plays a role in improving self-esteem and academic goals;<sup>18</sup> students who are bullied are less likely to succeed in the classroom.<sup>19</sup> Thus, we begin by reporting our findings on student and parent responses to the school environment questions. Student-reported attendance levels from the year preceding the survey are shown in Figure 1. Middle and high school students reported similar attendance rates. Elementary school students were more likely to report that they missed no days of school.



<sup>13</sup> M.T. Wang and R. Holcombe, "Adolescents' Perceptions of School Environment, Engagement, and Academic Achievement in Middle School," *American Educational Research Journal* 47, no. 3 (2010): 633–662, <https://doi.org/10.3102/0002831209361209>.

<sup>14</sup> C. Furrer and E. Skinner, "Sense of relatedness as a factor in children's academic engagement and performance," *Journal of Educational Psychology* 95, no 1 (2003): 148–162, <https://doi.org/10.1037/0022-0663.95.1.148>.

<sup>15</sup> Wang and Holcombe, "Adolescents' perceptions," 2010.

<sup>16</sup> J.D. Finn and K.E. Voelkl, "School Characteristics Related to Student Engagement," *The Journal of Negro Education* 62, no. 3 (1993): 249–268. <https://doi.org/10.2307/2295464>.

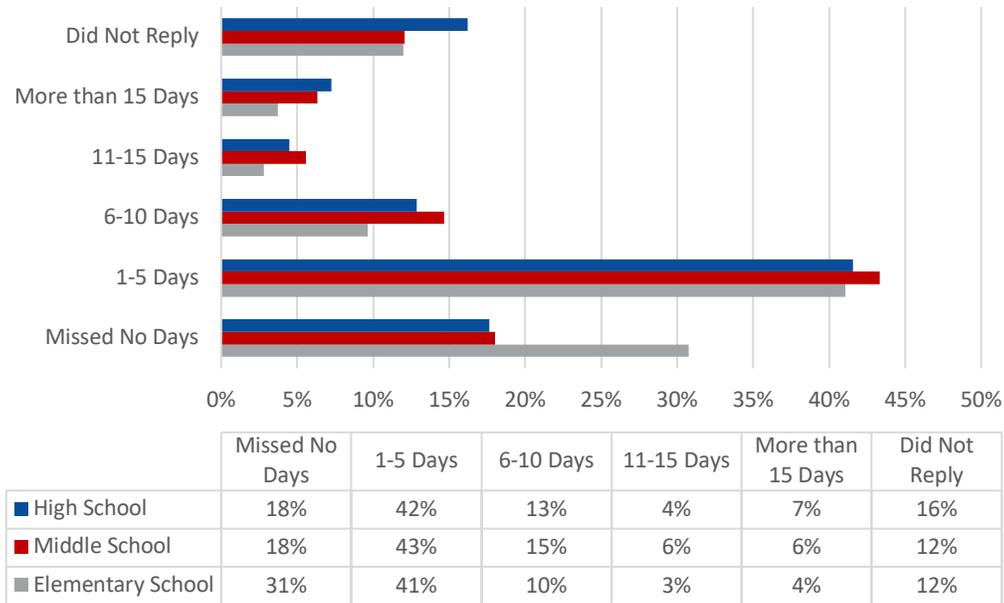
<sup>17</sup> T.W. Morrissey, L. Hutchison, and A. Winsler, "Family income, school attendance, and academic achievement in elementary school," *Developmental Psychology* 50, no. 3 (2014): 741–753, <https://doi.org/10.1037/a0033848>.

<sup>18</sup> Strøm and Thoresen, et al., "Violence, bullying," 2013.

<sup>19</sup> J. Juvonen, Y. Wang, and G. Espinoza, "Bullying Experiences and Compromised Academic Performance Across Middle School Grades," *The Journal of Early Adolescence* 31, no. 1, (2011): 152–173.

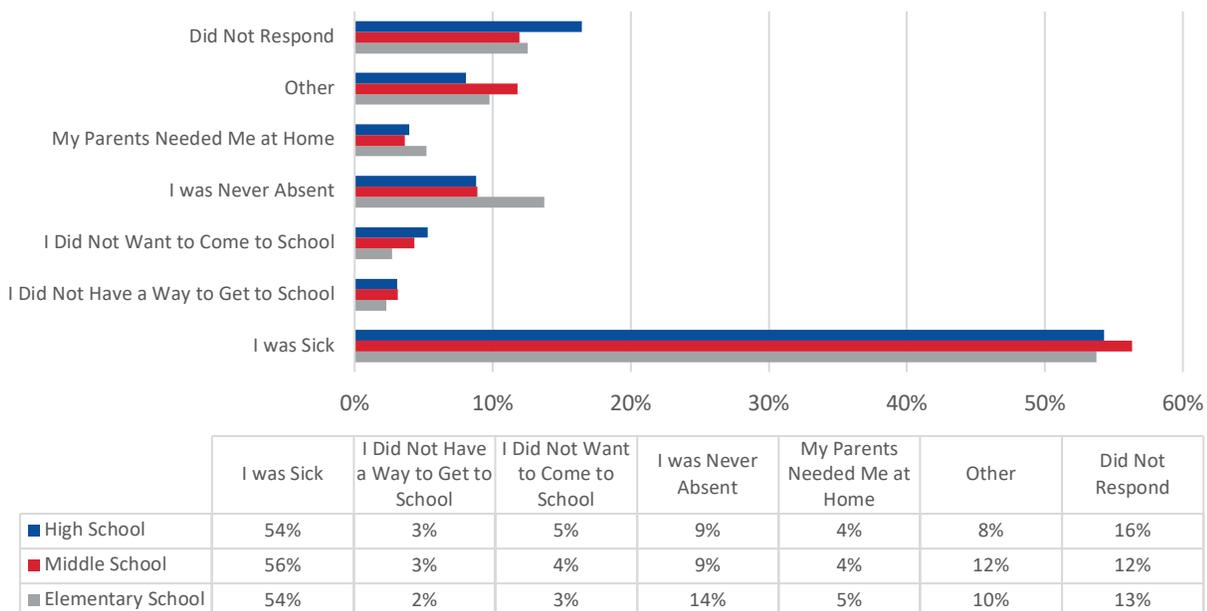
Approximately 42% of students at all school levels reported that they missed between 1-5 days. The number of students who reported missing 15 days or more increased slightly by school level.

**Figure 1. Student-reported Attendance**



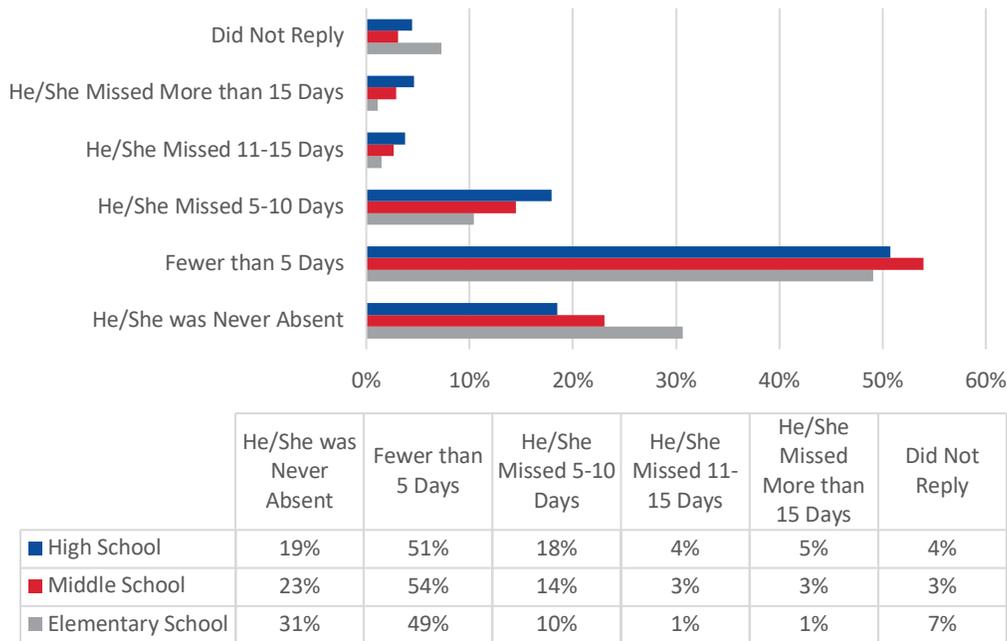
We followed up with students to ask why they were absent (Figure 2). A majority of elementary, middle, and high school students stated that they were sick. A relatively higher number of elementary school students reported no absences (14%) than high school (9%) or middle school (9%) students.

**Figure 2. Student-reported Reason for Absence**



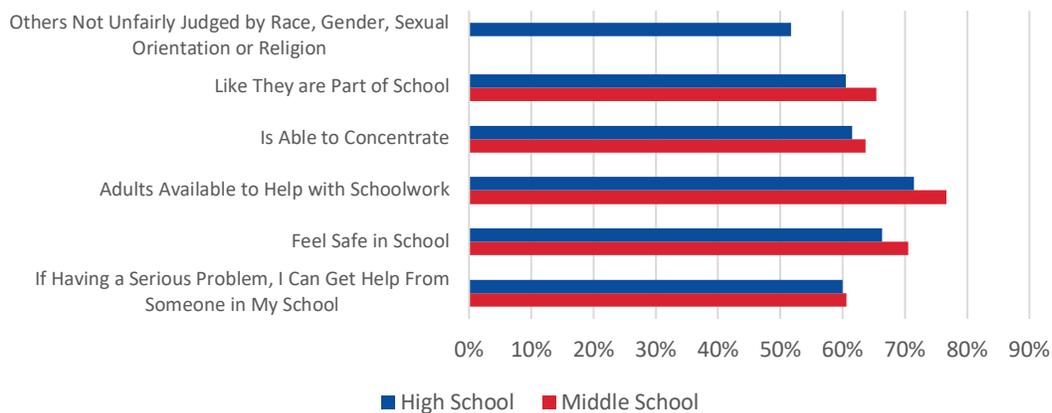
We found similar attendance levels with the parent sample (Figure 3). Relatively more parents of elementary school students reported their child did not miss any days over the past year. Only 1% of elementary school parents stated that their child missed more than 15 days while 5% of high school students said the same.

**Figure 3. Parent-reported Attendance of Their Child**



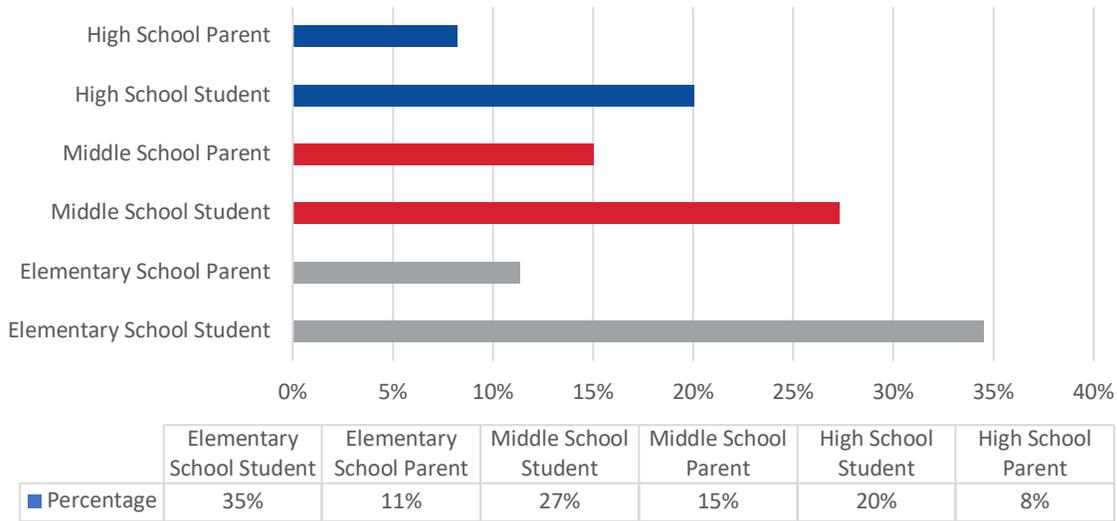
Middle school and high school students were asked if they agreed or disagreed with various statements about their school environment (Figure 4). Overall, we found that most students felt safe in their school, that they could get help on their schoolwork, that they were a part of their school, they could concentrate, and they could get help if they had a serious problem. Only a slight majority of high school students thought that students do not judge others based on race, gender, sexuality, or religion. We did not ask middle school students this question, however.

**Figure 4. Student-reported School Environment**



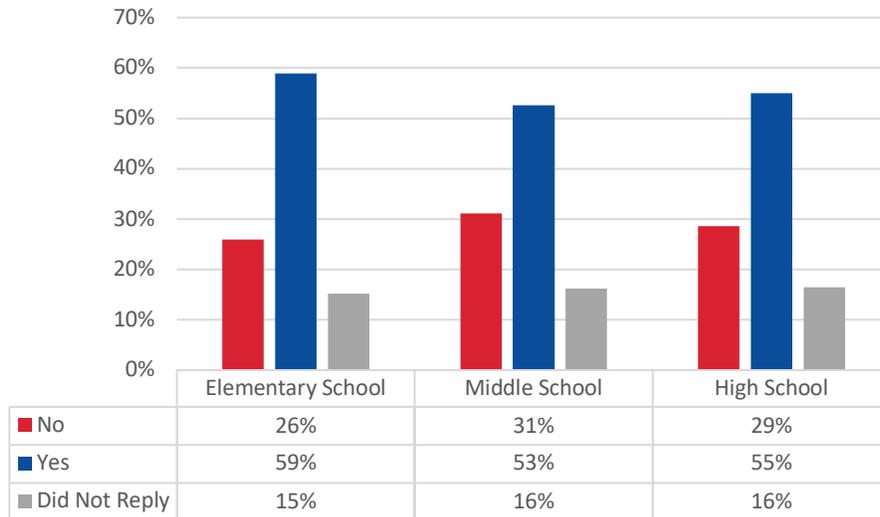
Our survey investigated the number of parents and students who reported incidents of bullying and found there is a stark difference between the two groups (Figure 5). We found a notable difference in the perceptions of bullying between parents and students across all school levels. The difference is particularly pronounced for the elementary school samples, where 35% of students said that they were being bullied compared to 11.36% of parents who said that their child was being bullied.

Figure 5. Reported Bullying



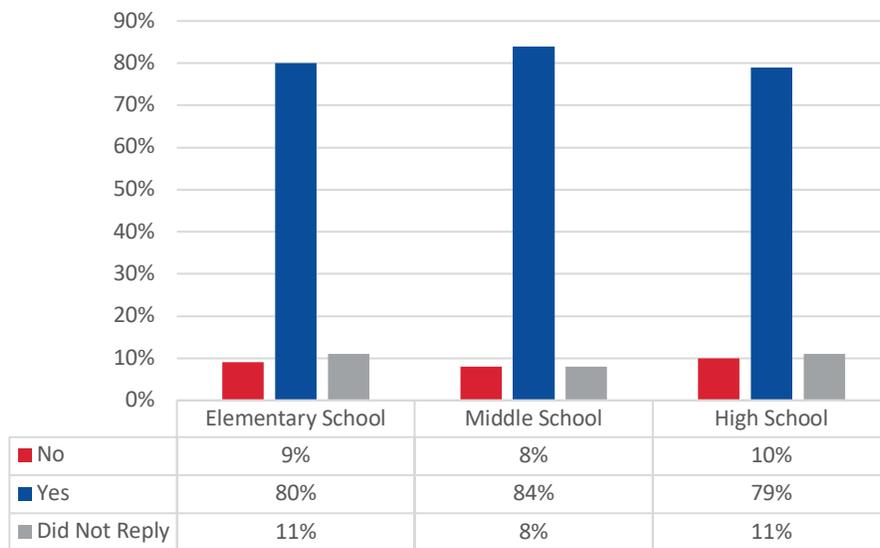
A notable number of students felt they did not have an adult to turn to when there was a problem (Figure 6). We found that 26% of elementary school, 31% of middle school, and 29% of high school students said they did not have a trusted adult to talk to. Having an adult to speak to can help improve the way students respond to stressors in their home and school environment.

Figure 6. Student Had an Adult They Could Speak To



We found that most students felt safe on their way to school (Figure 7). Still, 10% of high school, 8% of middle school, and 9% of elementary school students stated that they did not feel safe on their way to school.

**Figure 7. Do Students Feel Safe on Their Way to School?**



### B. Home Environment and Personal Experiences

In addition to the school environment, a student’s home environment and personal experiences influence their academic success and overall well-being. The literature shows that adverse childhood experiences (ACEs), which are generally defined as household dysfunction and abuse during childhood, lead to poorer health and educational outcomes.<sup>20</sup> Studies have found that children who have experienced ACEs exhibit lower rates of school engagement and face higher rates of chronic disease.<sup>21</sup> Although schools may have little power to fully address the impact of ACEs, school settings may be a place where students can develop resilience, defined in one survey as “staying calm and in control when faced with a challenge,” which in turn leads to higher levels of school engagement.<sup>22</sup> Surveys have also asked students about a variety of other personal experiences



<sup>20</sup> M.E. Jimenez, R. Wade, et al., “Adverse Experiences in Early Childhood and Kindergarten Outcomes, *Pediatrics* 137, no. 2 (2016), <https://doi.org/10.1542/peds.2015-1839>.

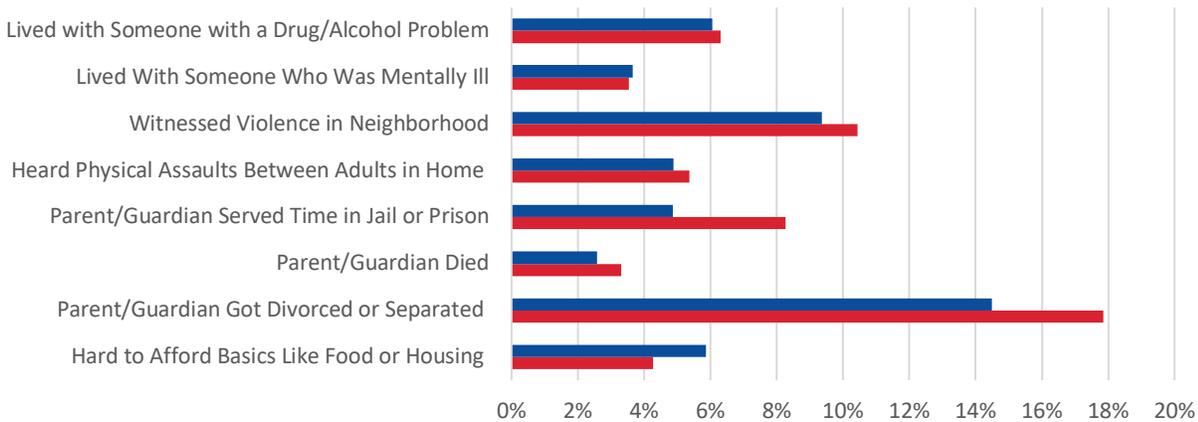
<sup>21</sup> C.D. Bethel, P. Newacheck, et al., “Adverse Childhood Experiences: Assessing the Impact on Health and School Engagement and the Mitigating Role of Resilience, *Health Affairs* 33, no. 12 (2014), <https://doi.org/10.1377/hlthaff.2014.0914>.

<sup>22</sup> Ibid.

that may negatively impact their work in the classroom, including violence,<sup>23</sup> discrimination,<sup>24</sup> disordered eating,<sup>25</sup> substance abuse,<sup>26</sup> and interaction with the criminal justice system.<sup>27</sup>

The responses to the home environment and personal experience questions were informative of challenges Harris County students faced outside of school (Figure 8). Of the questions about adverse childhood experiences, the divorce of parents or guardians was the event most commonly reported by middle school and high school students. Around 6% of middle school and high school students stated that they lived with someone with a drug or alcohol problem. Approximately an even number of middle school (10%) and high school (9%) students reported witnessing violence in the neighborhood during their lifetime.

**Figure 8.** Student Responses to Adverse Childhood Experience Questions



	Hard to Afford Basics Like Food or Housing	Parent/Guardian Got Divorced or Separated	Parent/Guardian Died	Parent/Guardian Served Time in Jail or Prison	Heard Physical Assaults Between Adults in Home	Witnessed Violence in Neighborhood	Lived With Someone Who Was Mentally Ill	Lived with Someone with a Drug/Alcohol Problem
■ High School	6%	14%	3%	5%	5%	9%	4%	6%
■ Middle School	4%	18%	3%	8%	5%	10%	4%	6%

<sup>23</sup> Milam, Furr-Holden, and Leaf, “Perceived School,” 2010.

<sup>24</sup> E.W. Neblett, et al., “African American Adolescents’ Discrimination Experiences and Academic Achievement: Racial Socialization as a Cultural Compensatory and Protective Factor,” *Journal of Black Psychology* 32, no. 2 (2006): 199–218, <https://doi.org/10.1177/0095798406287072>.

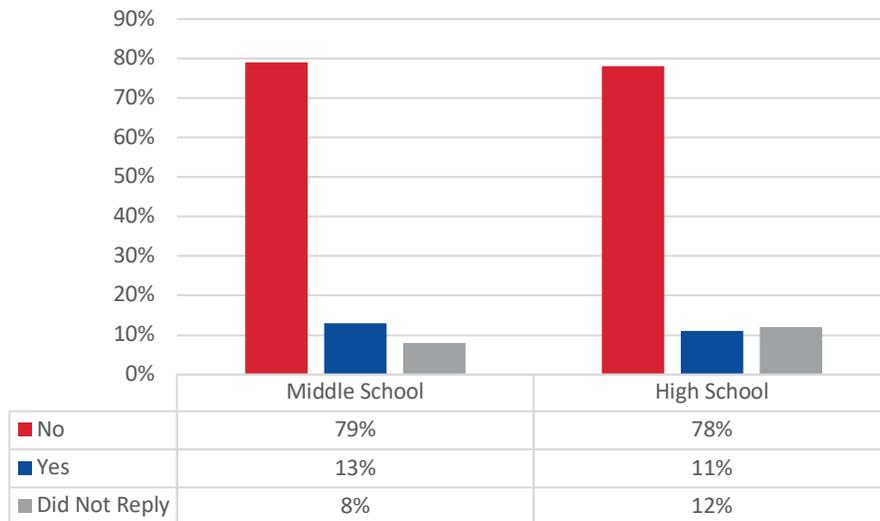
<sup>25</sup> M.S. Massey-Stokes, “Prevention of Disordered Eating among Adolescents,” *The Clearing House*, 2010, <https://doi.org/10.1080/00098650009599439>.

<sup>26</sup> F.H. Andrade, “Co-occurrences between adolescent substance use and academic performance: School context influences a multilevel-longitudinal perspective,” *Journal of Adolescence* 37, no. 6 (2014): 953–963, <https://doi.org/10.1016/j.adolescence.2014.06.006>.

<sup>27</sup> J.D. Brown, et al., “Academic Achievement and School Functioning Among Nonincarcerated Youth Involved with the Juvenile Justice System,” *Journal of Education for Students Placed at Risk* 13, no. 1 (2008): 59–75.

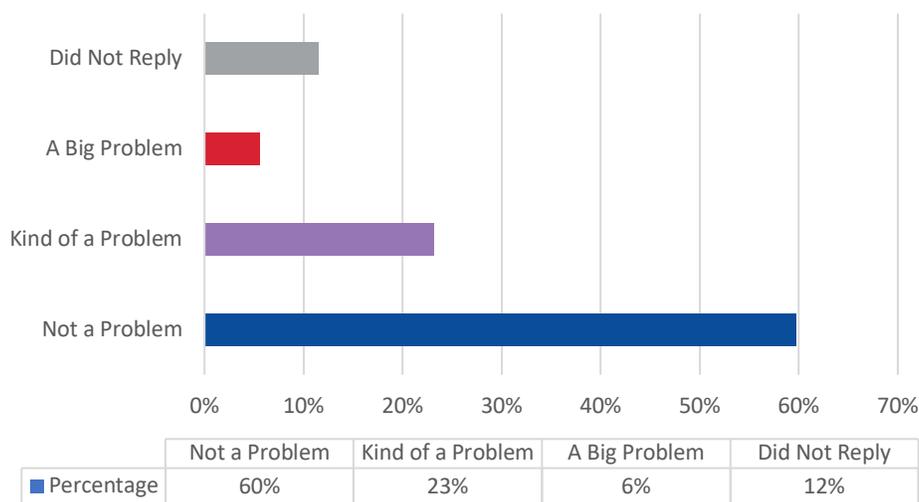
Our results indicate that a significant number of middle school and high school students have witnessed a shooting or murder in their neighborhood (Figure 9). We found that 13% of middle school students and 11% of high school students reported witnessing a shooting in their lifetime.

**Figure 9.** Student Witnessed a Shooting or Murder in Neighborhood



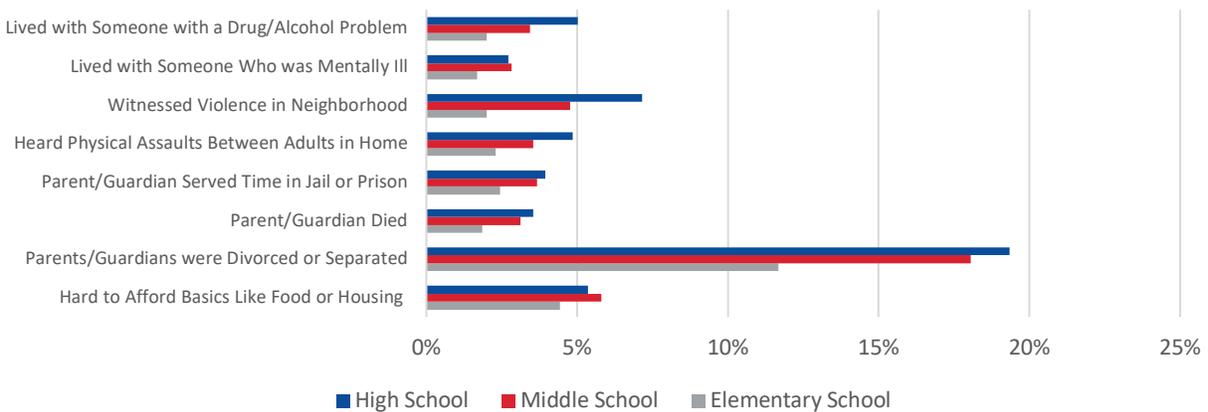
High school students were further asked if they believed gunshots, shootings, and other violent acts are a problem in their neighborhood (Figure 10). Generally, high school students reported feeling safe in their neighborhood, even though a relatively high number reported witnessing a shooting or murder in their lifetime. In fact, most high school students believed gunshots, shootings, and other violent acts are not a problem in their neighborhood (60%). Only 6% of high school students said that they are a big problem. This finding is counterintuitive, and suggests that violence has become the new “normal” for some students, such that it no longer seems to be a “problem.”

**Figure 10.** HS Student Responses: Are Gunshots, Violent Acts a Neighborhood Problem?



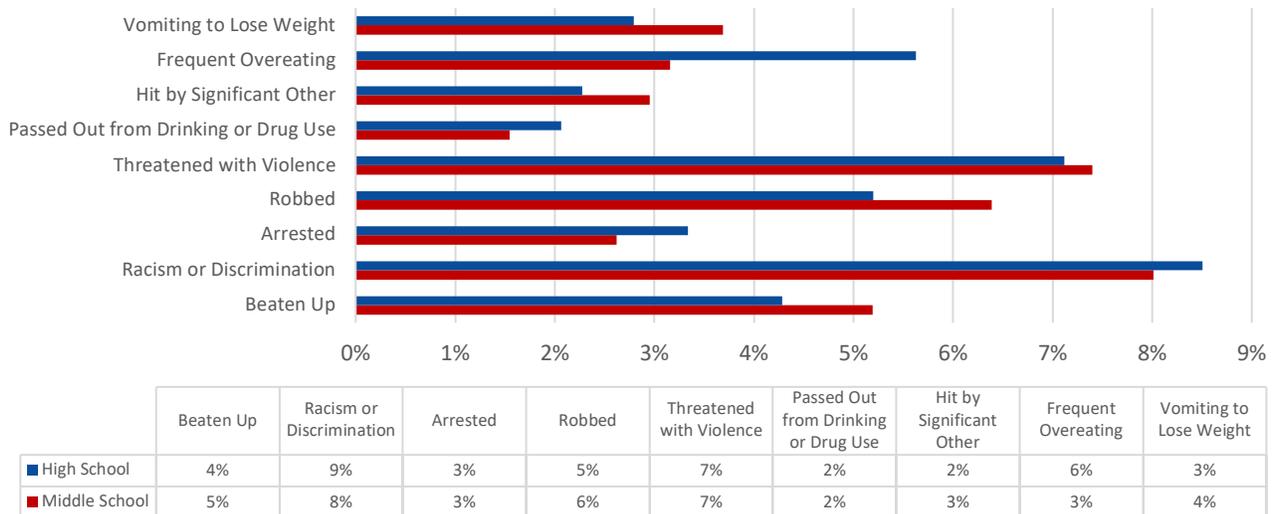
We asked parents similar questions about their child’s adverse experiences to compare their response rates to the student sample. Overall, parents of high school students reported adverse events experienced by their child at a higher rate than parents of middle school or elementary school students (Figure 11). As with the student sample, parents reported divorce or marital separation as the most common adverse event experienced by their children. More parents of high schoolers (5%) reported their child was living with someone with a drug or alcohol problem than parents of middle schoolers (3%) or grade schoolers (2%). Parents of high schoolers were also more likely to report that their child witnessed violence in the neighborhood or heard adults in the home physically abuse one another.

**Figure 11. Parent Responses to Adverse Childhood Experience Questions**



We asked middle school and high school students to report if they experienced various personal situations, as listed in Figure 12. The most commonly reported experience was racism or discrimination at 8% and 9%, respectively. Approximately twice the number of high school students reported overeating (6%) compared to middle school students (3%).

**Figure 12. Student-reported Experiences**



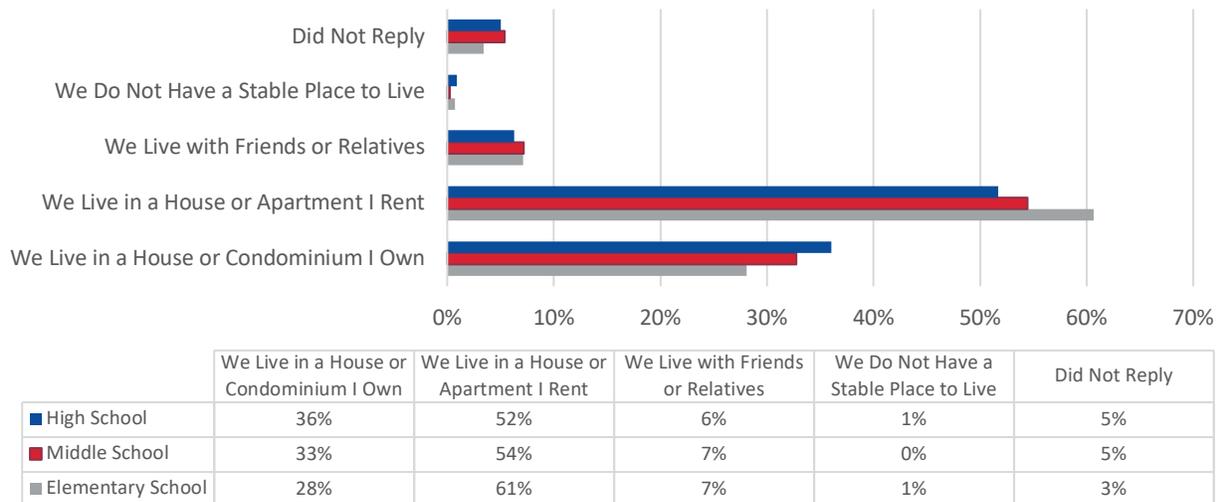
### C. Housing and Food Security

Resource hardship exerts an indirect, yet critical, impact on both academic performance and health; factors like housing and food security impede a student's ability to focus on school, as their most basic needs are not being met. For example, studies have shown that homeless children perform at a significantly lower academic level than housed children, despite comparable levels of cognitive functioning.<sup>28</sup> Even among housed students, housing instability and poor housing conditions can be sources of significant stress and can indirectly impact school performance in a variety of ways by, for instance, causing frequent school changes or absenteeism.<sup>29</sup> In addition, food insecurity and insufficiency have broad implications for a child's development, ranging from lower test scores, grade repetition, and absenteeism to difficulty socializing and psychological issues such as aggression and depression.<sup>30</sup> The stress of resource hardship can also manifest as a variety of mental and physical health problems that can impact academic achievement, as elaborated upon in the next section.



In response to survey questions related to housing stability, most parents reported living in a house or apartment that they rent (Figure 13). Home ownership rates rose slightly between parents of elementary (28%) and high school (36%) students. Approximately 1% of parents surveyed did not have a stable place to live.

**Figure 13.** Where Does the Family Live?



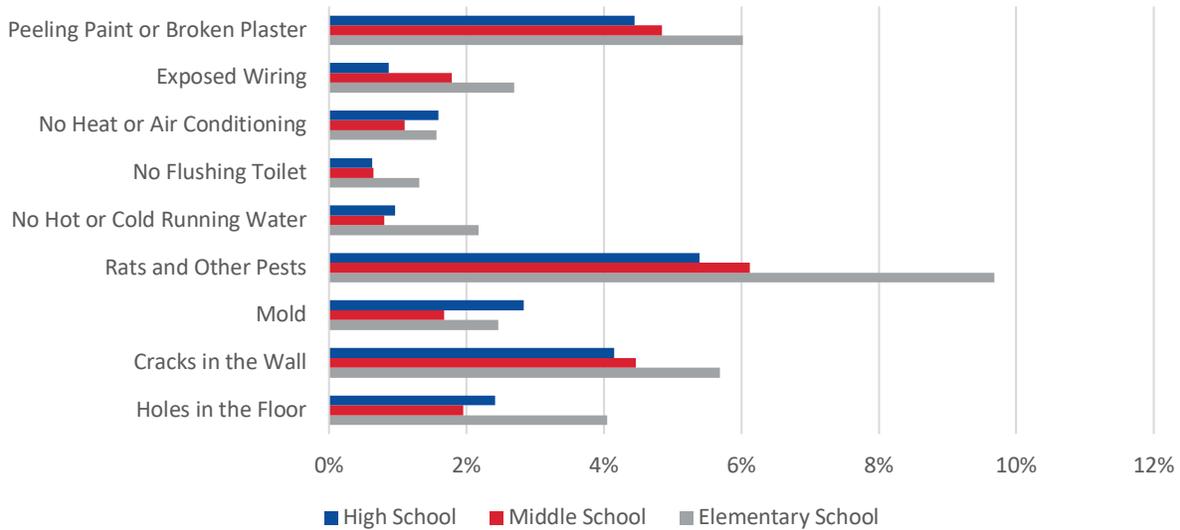
<sup>28</sup> D.H. Rubin, et al., “Cognitive and Academic Functioning of Homeless Children Compared with Housed Children,” *Pediatrics* 97, no. 3 (1996): 289–294.

<sup>29</sup> C.W. Allen, et al., “School Absenteeism in Children and Adolescents,” *American Family Physician* 98, no. 12 (2018): 738–744.

<sup>30</sup> D.F. Jyoti, et al., “Food Insecurity Affects School Children’s Academic Performance, Weight Gain, and Social Skills,” *The Journal of Nutrition* 135, no. 11 (2005): 2831–2839, <https://doi.org/10.1093/jn/135.12.2831>.

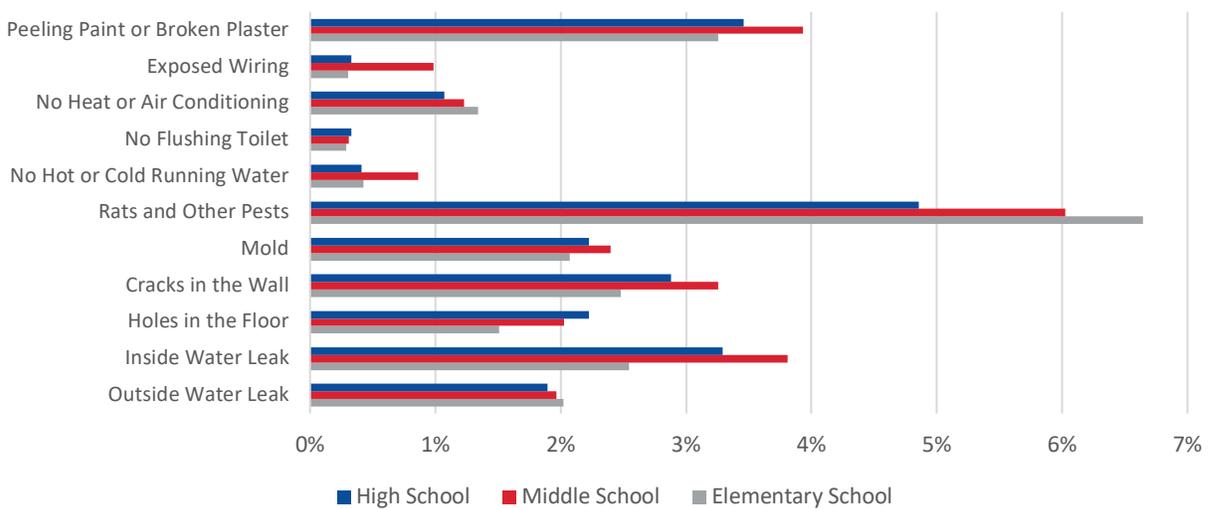
Our data suggests that housing, food, and utility concerns are relatively high among students and parents. We report the housing conditions in Figure 14. Surprisingly, poor housing conditions were most commonly reported by elementary school students. The presence of rats and other pests in the home was the most common condition reported by all groups of students, followed by peeling paint and broken plaster. Relatively few students stated that their home did not have a flushing toilet.

Figure 14. Student-reported Housing Conditions



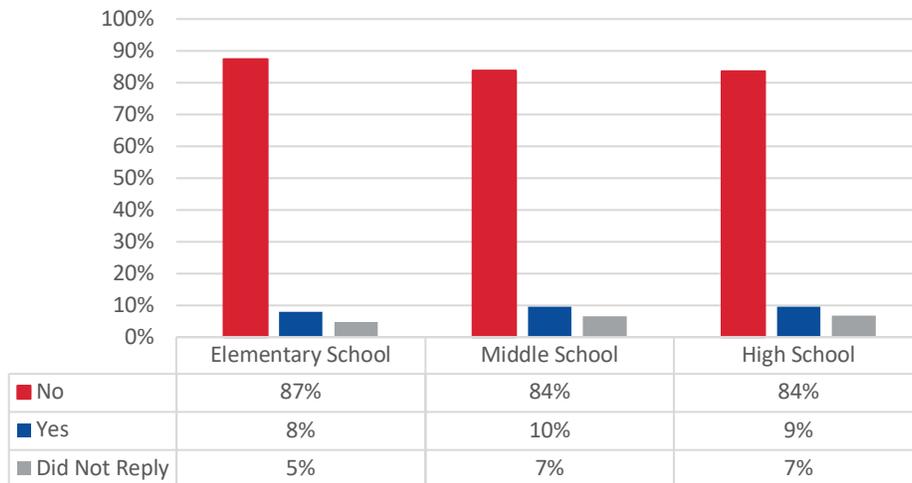
Parent responses to the housing condition questions followed a pattern similar to the student replies (Figure 15). Parents of middle school students, however, were somewhat more likely to report poor housing conditions. Parents of all groups most often reported rats and other pests in their homes, followed by peeling paint or broken plaster.

Figure 15. Parent-reported Housing



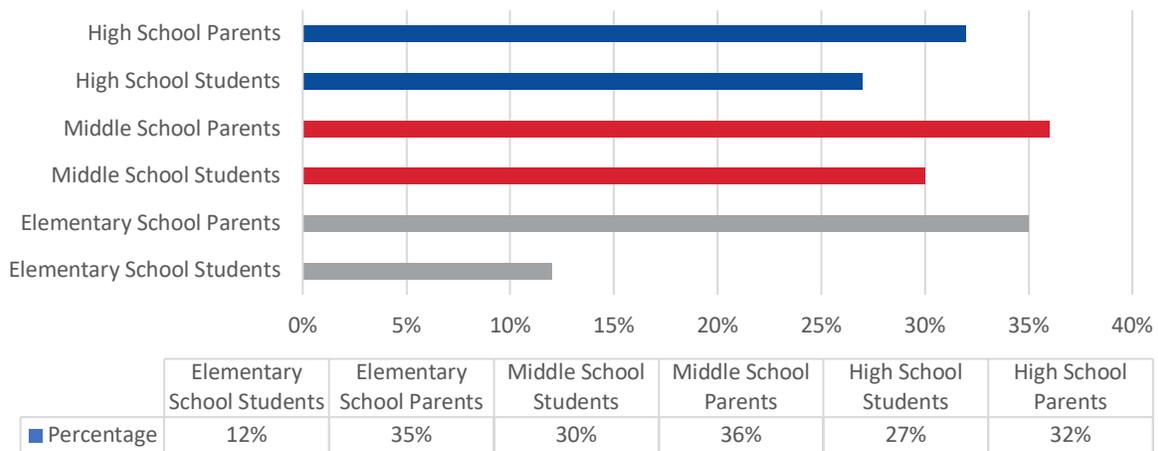
Our survey findings suggest that a notable number of parents were worried about affording their rent or mortgage (Figure 16). These rates tend to be quite similar across the parents of elementary school (8%), middle school (10%), and high school (9%) students.

**Figure 16. Parents Worried About Affording Rent or Mortgage**



We found that over 30% of parents surveyed screened positive for food insecurity, compared to an estimated 11.1% of U.S. households (Figure 17).<sup>31</sup> Student responses demonstrated a somewhat lower positive rate for food insecurity. As noted, elementary school students were not asked the same questions about food insecurity.

**Figure 17. Food Insecurity**



<sup>31</sup> R.M. Morrison, “Food Security and Nutrition Assistance,” U.S. Department of Agriculture Economic Research Service, September 12, 2019, <https://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-security-and-nutrition-assistance/>.

## D. Health

Student health is the final category of student needs evaluated in the survey. Unsurprisingly, healthier students perform better academically. Impaired vision and attention deficit disorder have a clear relation to academic performance, but even conditions seemingly unrelated to school performance, such as nocturnal asthma and poor oral health, have been shown to result in increased absenteeism and a lower grade point average, respectively.<sup>32,33</sup> Similarly, mental health conditions are linked to lower academic achievement; depressed students may have difficulty concentrating and perceive schoolwork as highly taxing, while anxious students have been shown to perform better in school when their symptoms are properly treated.<sup>34,35</sup> Whether a child is able to access appropriate health care is also highly relevant to academic success; studies support a positive link between the obtainment of health insurance and academic improvement.<sup>36</sup>



We sought to better understand students' health needs through our survey questions. Parents provided an overall rating for their child's health compared to the previous year on a scale from "very good" to "poor" (Figure 18). Only a few parents or guardians reported their child's health was worse that school year compared to the 12 months before it. Less than 1% of parents rated their child's health as "poor." A plurality of elementary school parents reported their child's health as "very good" (40%). On the other hand, a plurality of middle school (37%) and high school parents reported their child's health as "good."

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<sup>32</sup> G.B. Diette, et al., "Nocturnal Asthma in Children Affects School Attendance, School Performance, and Parents' Work Attendance," *Archives of Pediatrics & Adolescent Medicine* 154, no. 9 (2000) 923–928, <https://doi.org/10.1001/archpedi.154.9.923>.

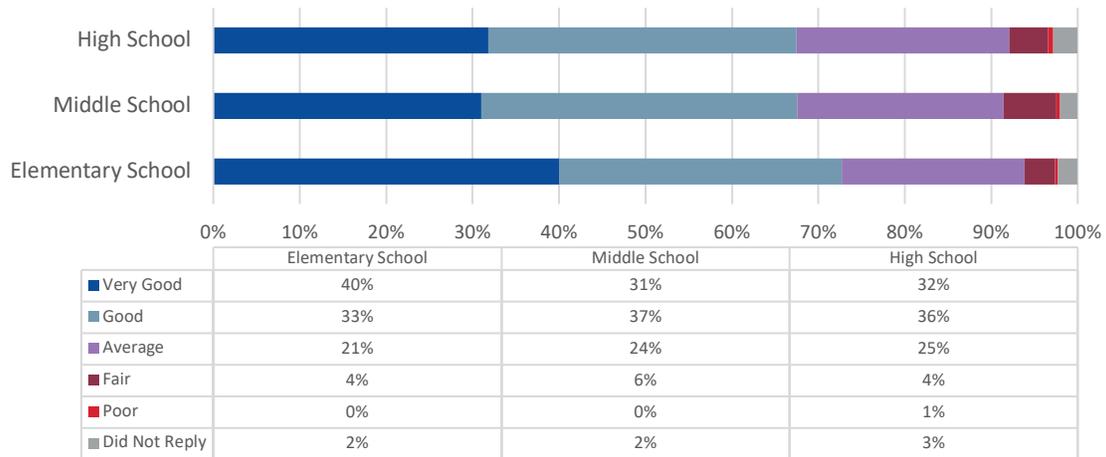
<sup>33</sup> H. Seirawan, S. Faust, and R. Mulligan, "The Impact of Oral Health on the Academic Performance of Disadvantaged Children," *American Journal of Public Health* 102, no. 9 (2012): 1729–1734, <https://doi.org/10.2105/AJPH.2011.300478>.

<sup>34</sup> S.A. Fröjd, et al., "Depression and school performance in middle adolescent boys and girls," *Journal of Adolescence* 31, no. 4 (2008): 485–498, <https://doi.org/10.1016/j.adolescence.2007.08.006>.

<sup>35</sup> J. Wood, "Effect of anxiety reduction on children's school performance and social adjustment," *Developmental Psychology* 42, no. 2 (2006): 345–349.

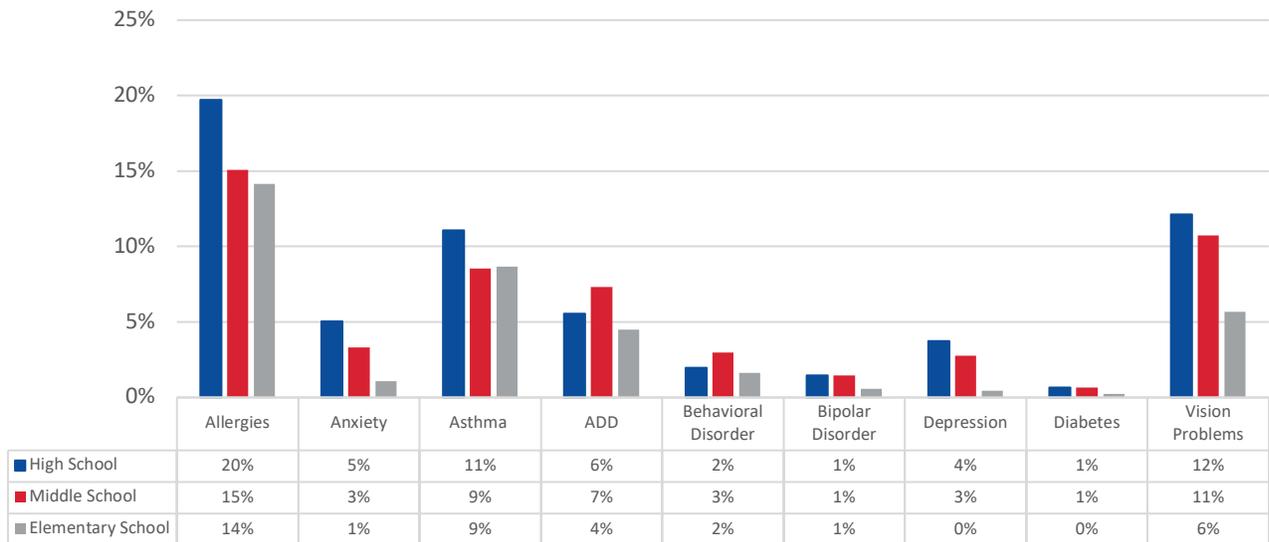
<sup>36</sup> C. Schwarz and E. Lui, "The Link Between School Performance and Health Insurance: Current Research," *Consumers Union*, 2000.

**Figure 18: Parent Health Ratings of Their Child**



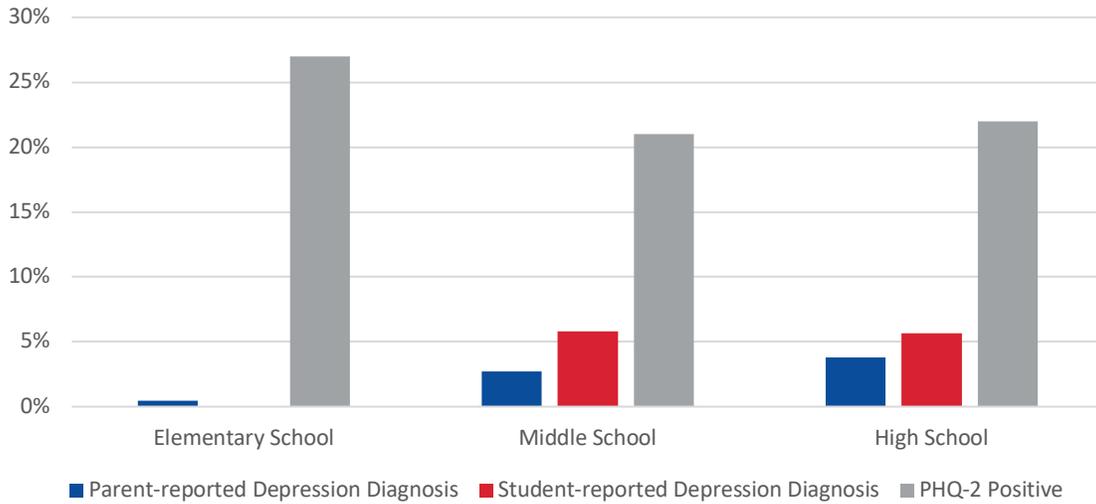
We asked students to select the medical conditions they were diagnosed with by a doctor (Figure 19). Allergies were most reported health condition of a child reported by all parents. Fewer elementary school parents reported their child had vision problems, anxiety, or depression relative to high school and middle school parents.

**Figure 19. Parent-reported Health Conditions of Their Child**



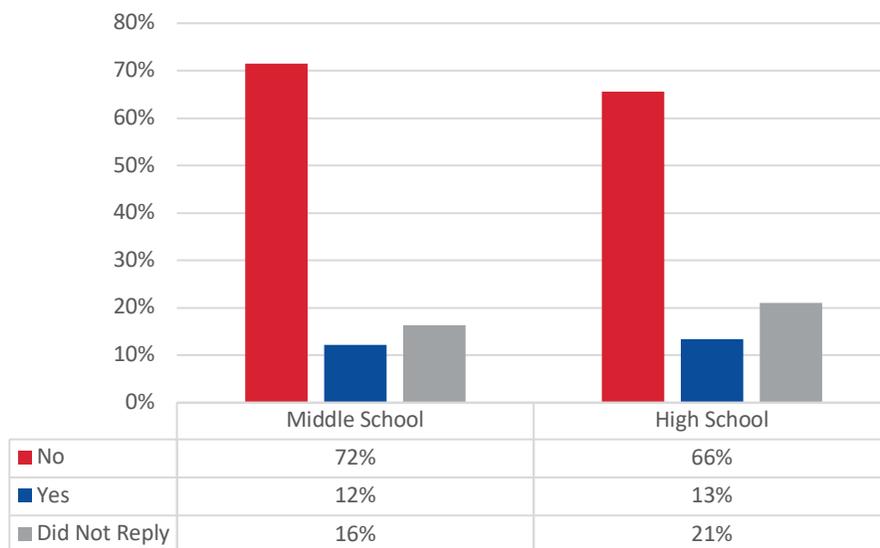
There was a significant disconnect between parental and student reports of a depression diagnosis and PHQ-2 screening. Relatively few parents or guardians reported that their child had been diagnosed with depression, yet over 20% of all students screened positive on the PHQ-2 scale (Figure 20). This indicates that parents may be unaware of depressive symptoms in their child or if aware, they are unable to access mental health services.

**Figure 20.** Depression Diagnosis and PHQ-2 Screen



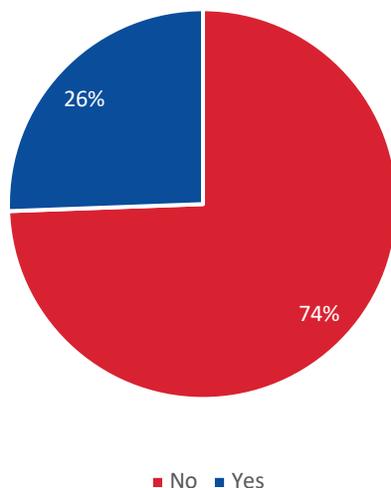
We found that 13% and 12% of high school and middle school students, respectively, reported the need to see a mental health professional (Figure 21).

**Figure 21.** Students Felt the Need to See a Mental Health Professional



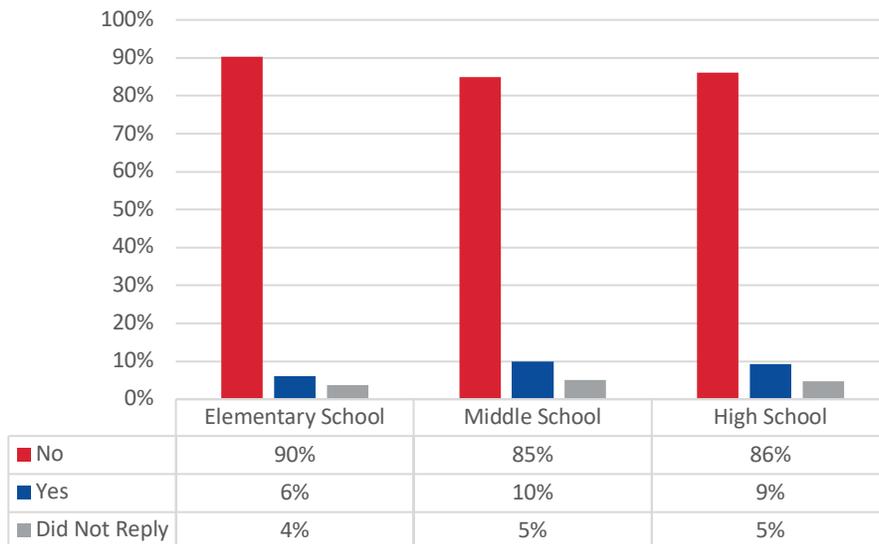
Of high school students who needed mental health treatment, approximately three-fourths were unable to receive it (Figure 22).

**Figure 22.** High School Students Able to See a Mental Health Professional



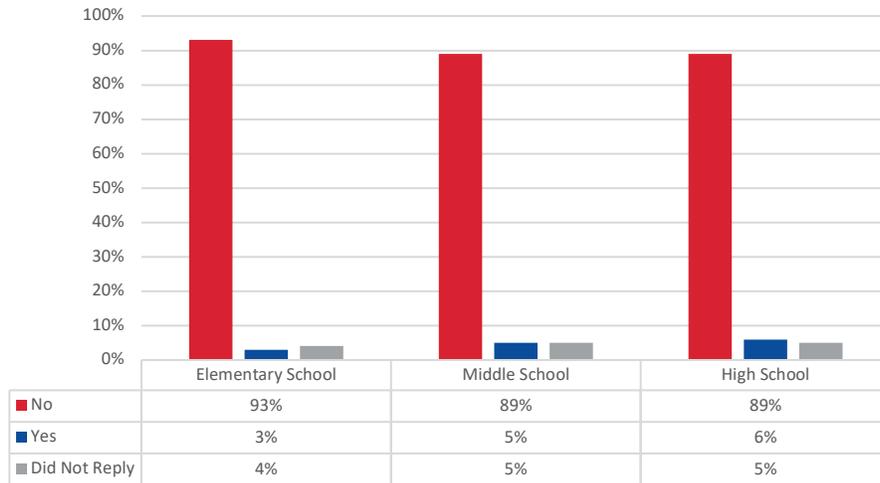
In fact, not many parents or guardians reported accessing professional mental health treatment for their child (Figure 23). Over 85% of parents across each school level stated that their child was not receiving professional mental health treatment.

**Figure 23.** Child Received Professional Mental Health Treatment



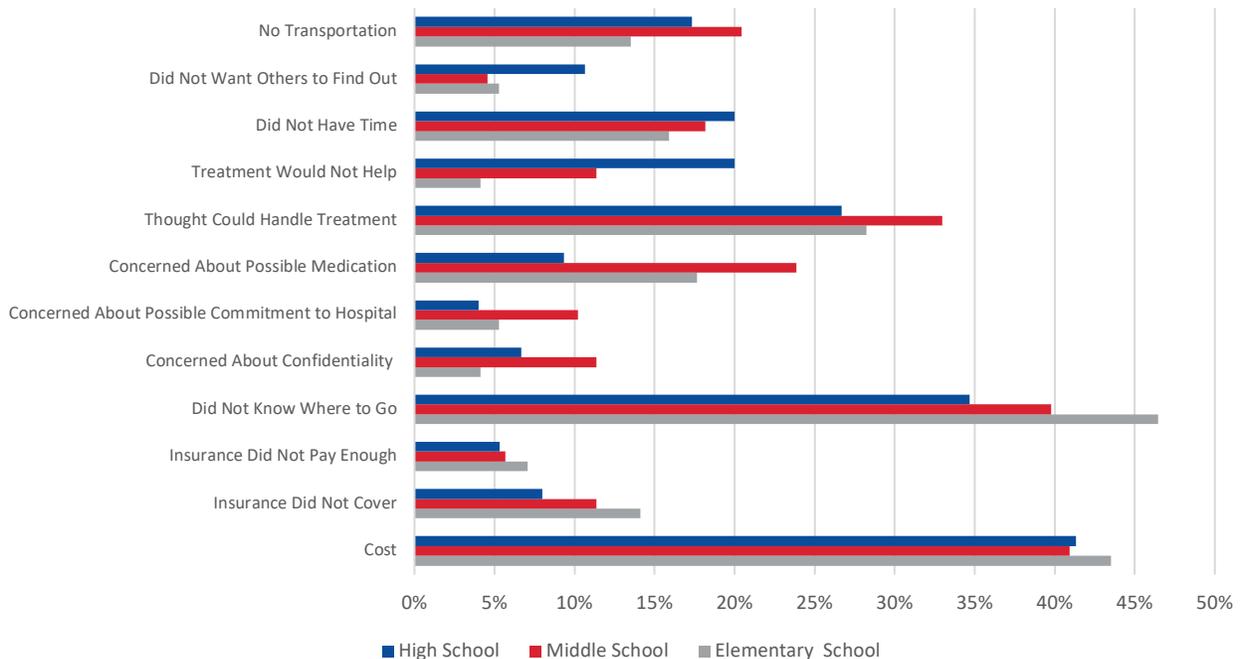
Moreover, our parent survey found that 3% of elementary school, 5% of middle school, and 6% of high school students did not receive mental health treatment, even though they needed it (Figure 24).

**Figure 24.** Child Did Not Receive Needed Mental Health Treatment



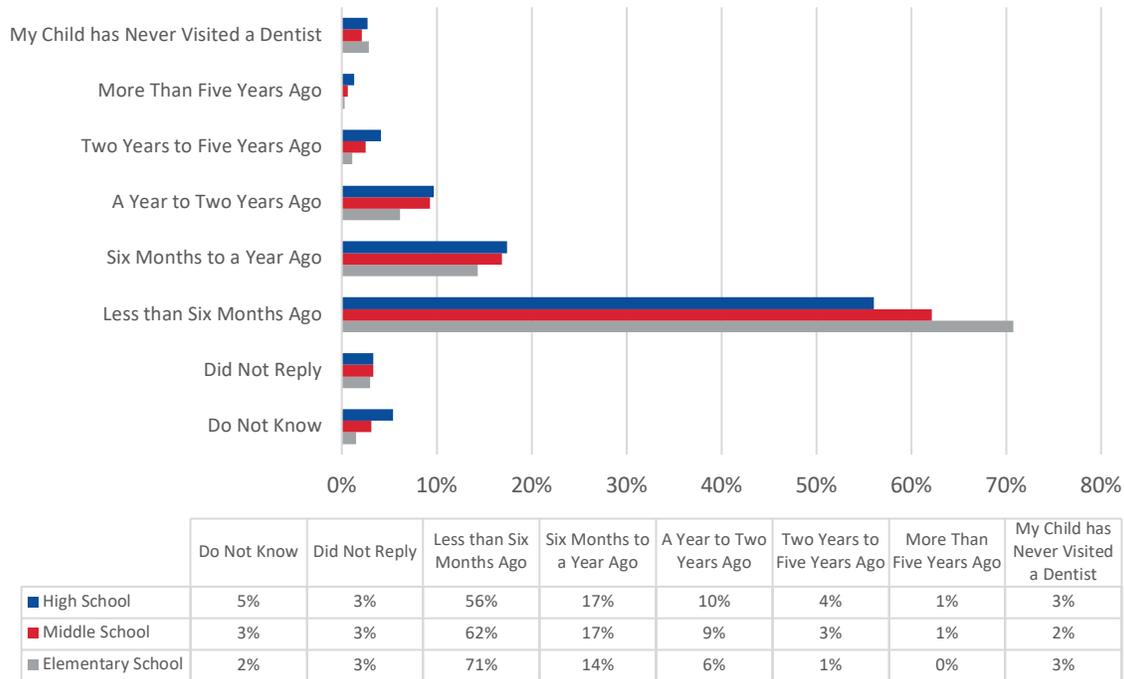
Of the parents who did not procure mental health treatment when it was needed, a plurality cited cost as the reason (Figure 25). For elementary school parents, the most cited reason was they did not know where to go (46%). A notable number of parents also thought they could handle their child's treatment on their own; this was the third most common response.

**Figure 25.** Reason Parent Did Not Obtain Mental Health Treatment for Child



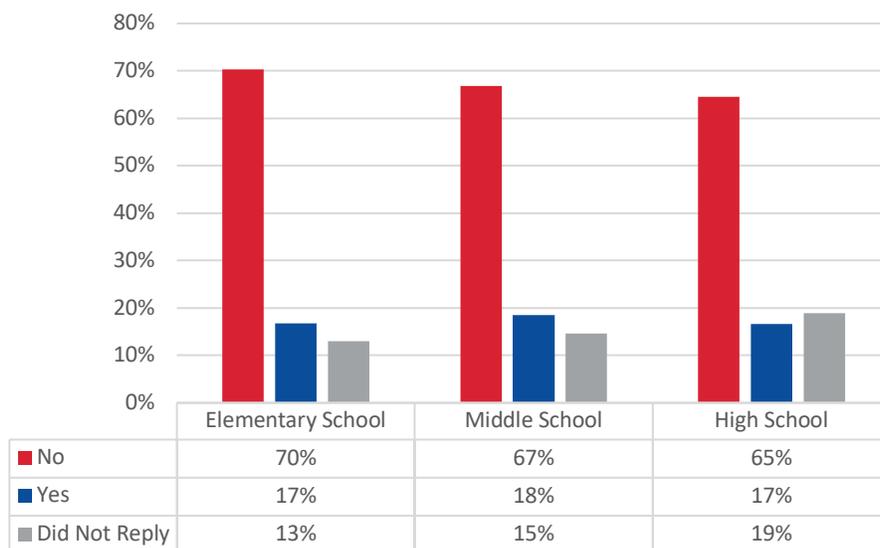
On the other hand, most parents reported taking their child to the dentist in the previous six months (Figure 26). Relatively few reported never taking their child to a dentist.

**Figure 26. Parent-reported Student Dental Visits**



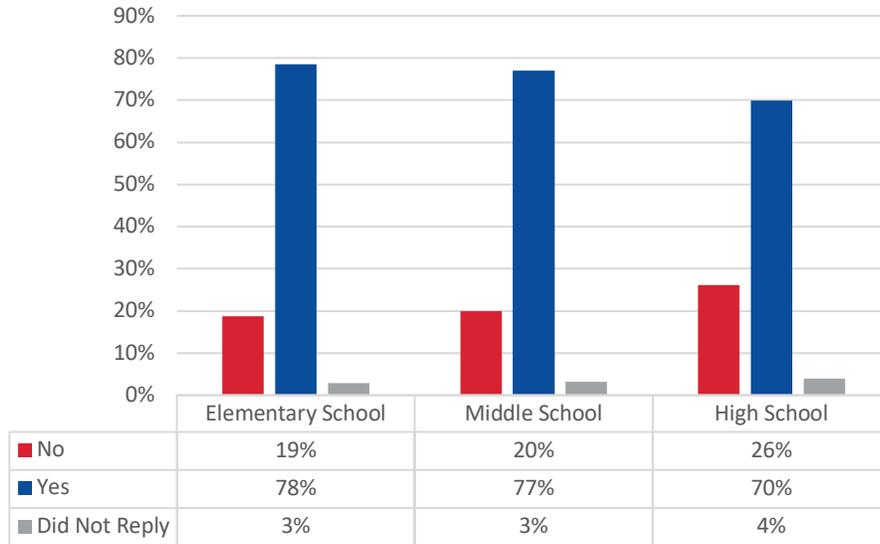
A significant number of elementary school (17%), middle school (18%), and high school (17%) students reported difficulty seeing, even when they wore glasses (Figure 27). As we will briefly discuss later in this report, vision problems may be related to academic performance.

**Figure 27. Student-reported Vision Problems, Even with Glasses**



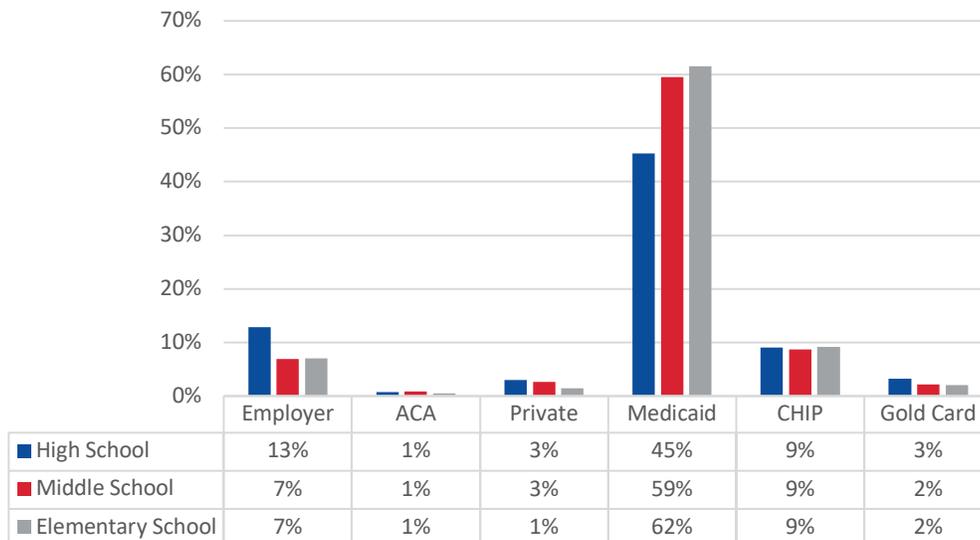
Most parents have insurance for their child (Figure 28). That said, insured rates are slightly lower for high school students (70%) relative to middle school (77%) and elementary school (78%) students.

**Figure 28. Is Student Insured?**



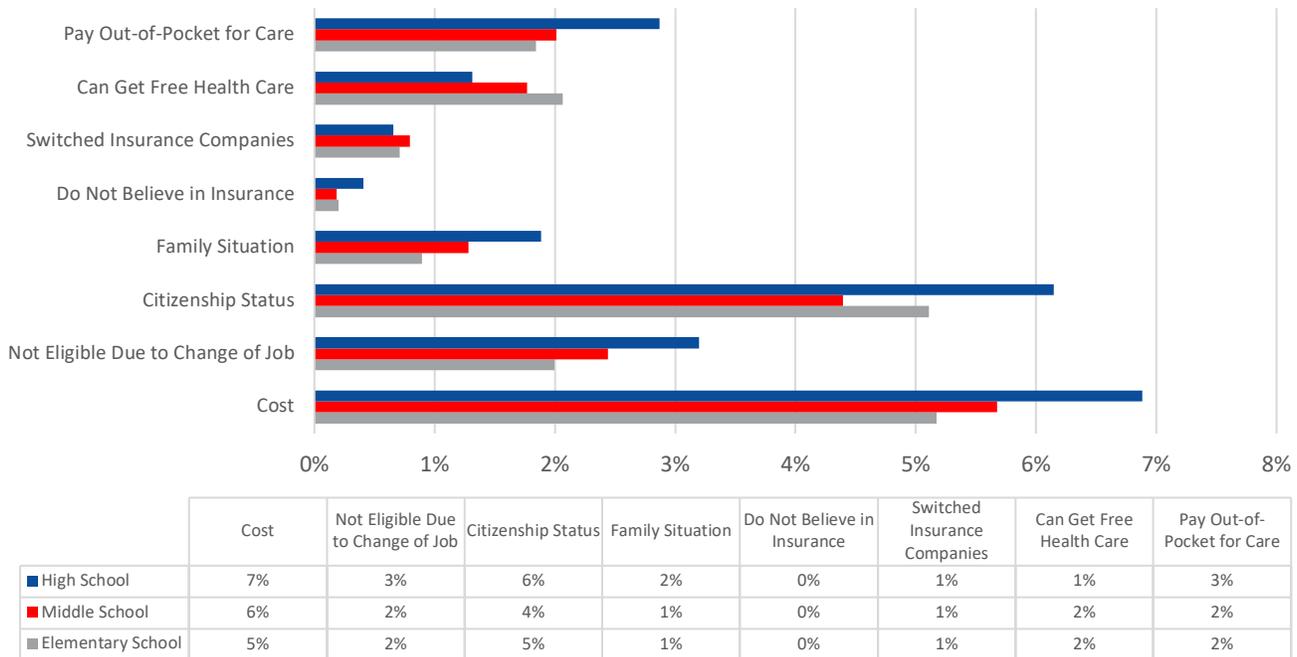
We asked parents to report the type of insurance or health coverage plan they carry (Figure 29). Medicaid was the most common for parents of students in all school levels. That said, parents tended to rely more on employer insurance as their children got older. We found that 13% of high school parents used employer insurance versus 7% of elementary school parents. The number of parents on CHIP was constant across school levels (9%).

**Figure 29. Insurance Type as Reported by Parents**



Finally, we asked parents why their child was uninsured (Figure 30). Cost and citizenship status were the most reported responses for all school levels.

**Figure 30. Reason Why Child is Uninsured**



## IV. Correlations

Our datasets produced a host of useful information on the parents and students surveyed within Harris County. We have begun preliminary data analysis and will publish several papers on our findings, but a few relationships in particular warrant further attention. First, the parent datasets show that a diagnosis of ADD is negatively and significantly correlated with a student’s ability to earn mostly A’s and B’s in elementary school ( $r = -.15, p < .001$ ), middle school ( $r = -.22, p < .001$ ), and high school ( $r = -.10, p < .001$ ). Receiving mostly A’s and B’s was significantly and positively correlated with having a high school student’s vision tested ( $r = .15, p < .001$ ) and their overall health rating ( $r = .11, p < .001$ ). It was also less likely that a middle school student would receive A’s and B’s if a parent was sent to jail or prison ( $r = -.21, p < .001$ ). For high school ( $r = -.10, p < .001$ ) and middle school students ( $r = -.10, p < .001$ ), those who reported feeling safe in their neighborhood were less likely to report a diagnosis of depression. It should be noted, however, that these are only very preliminary analyses and more investigation will be conducted to better understand the relationships.

## V. Conclusion

This report demonstrates that many students within Harris County face major challenges to their overall well-being and academic success. From a medical perspective, challenges such as parental divorce, witnessing violence within the home or in the neighborhood, bullying, and depression can affect brain functioning in ways that negatively impact learning and behavior. Thus, these students will likely face increased difficulty with school performance. Moreover, schools with a high concentration of students with these challenges will experience lower academic achievement

overall. Currently, the concentration of students who have had adverse experiences is not a factor in the Texas Education Agency's evaluation of school performance, but we hope the individual school reports (not publicly available, but given to the participating school district) and this aggregate report can be used to open lines of discussion on the disparities among schools. This report is an initial step toward understanding the challenges students face in relation to their academic success and well-being, thereby increasing the opportunities to develop and implement targeted interventions within schools and establish policies that result in more equitable outcomes for students.