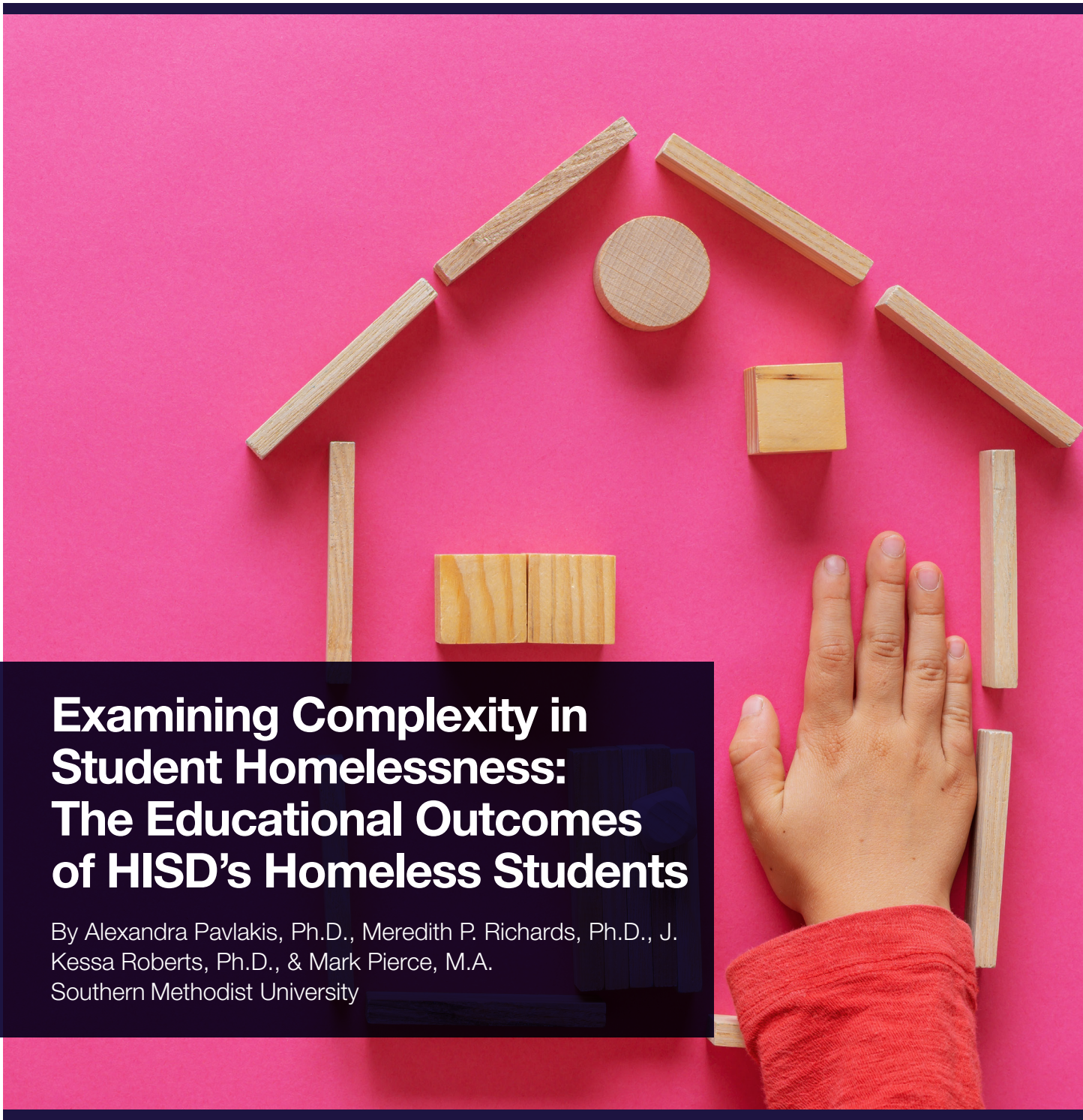




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# Examining Complexity in Student Homelessness: The Educational Outcomes of HISD's Homeless Students

By Alexandra Pavlakis, Ph.D., Meredith P. Richards, Ph.D., J. Kessa Roberts, Ph.D., & Mark Pierce, M.A.  
Southern Methodist University

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# Abstract

**I**n this report, we examined the educational outcomes of Houston Independent School District's (HISD) students who are homeless from 2012-13 to 2016-17, the years immediately preceding Hurricane Harvey. We found that, compared to non-homeless students with similar characteristics, homeless students were at elevated risk of a range of adverse educational outcomes. However, our findings also highlight the complexity of the relationship between homelessness and student outcomes. While homeless students attended fewer days of school and were more likely to drop out than non-homeless students, they had slightly higher levels of achievement on the State of Texas Assessment of Academic Readiness (STAAR) and similar rates of disciplinary infractions. In addition, homeless students' educational outcomes varied depending on who they live with and where they live. Taken together, our findings highlight the importance of practices that are refined and tailored to homeless students' unique situations and needs.

**Acknowledgements.** We would like to gratefully acknowledge the intellectual contributions of the staff of the Homeless Education Office of the Houston Independent School District, including Lisa Jackson, Ilka Rosado, and Emely Velasquez. We would also like to thank Ruth N. López Turley, Dan Potter, and Jessica Vasan for their helpful feedback during this project. Research was supported by a grant from the Moody Foundation and the SMU University Research Council.

# Key Findings

- Roughly 3% of HISD’s 220,000 students were homeless each year, with 7.5% experiencing homelessness at some time between 2013 and 2017. The vast majority – nine in 10 students – experienced homelessness for a year or less.
- More than one in 10 homeless students were unaccompanied, meaning they do not live in the physical custody of a parent or guardian. The share of students who are unaccompanied increased over the study period.
- Four of every five homeless students lived doubled up with family or friends, meaning that they lived with others out of economic necessity, loss of housing, or similar reason. The remaining students lived in shelters, unsheltered, or in motels/hotels.
- Homeless students were more mobile than non-homeless students. Homeless students were more likely to move to a new school during the school year, as well as between school years.
- Compared to their matched, non-homeless peers, homeless students:
  - Attended 3.2 fewer days of school per year.
  - Were 18 percentage points more likely to drop out of school.
  - Were slightly more likely to pass the STAAR exam in reading and, to a lesser extent, math (3.9 percentage points and 0.9 percentage points, respectively). However, they were slightly less likely to take the exams.
  - Had similar rates of disciplinary infractions as their matched, non-homeless peers.
- Unaccompanied students tended to have worse educational outcomes than students living in the physical custody of a parent/guardian.
- Relatively, students living doubled up had more positive educational outcomes than homeless students living in all other residential contexts.
- Students living in shelters were particularly likely to drop out of school.



# Background

In 2016-17, 1.36 million U.S. students identified as homeless. On average, these students have low attendance, achievement, and attainment coupled with high rates of behavioral concerns (Masten et al., 1993, 2012; Obradovic et al., 2009; Rafferty et al., 2004). Homeless students also change schools often; this mobility disrupts learning and requires students to leave behind friends and teachers (Miller, 2011). Nearly every homeless student is also experiencing poverty, and thus, at risk of food insecurity and other poverty-related challenges (Buckner, 2008).

Yet, homelessness is not a homogeneous experience. Some homeless students, for instance, are no longer in the custody of a parent/guardian. Homeless students also sleep in a variety of settings, such as shelters, doubled up with friends or family, unsheltered, and in motels/hotels (National Center for Homeless Education [NCHE], 2019). While educational research on these settings could inform policy and programmatic responses to homelessness, there is limited quantitative work in this area (see Deck, 2017; Howland, Chen, Chen, & Min, 2017).

In HISD, the nation's seventh largest school district, roughly three in 100 students are homeless each year (a number which quadrupled in the same academic year as Hurricane Harvey [2017-2018]). As is the case nationally, the vast majority of these students are accompanied by a parent/guardian. In addition, more than four in five are living doubled up, with the remaining students split among shelters, unsheltered, and motels/hotels.

## Federal Policy

Student homelessness is defined under the McKinney-Vento Homeless Assistance Act (MVA), originally passed in 1987 and reauthorized many times since. Under MVA, students are homeless if they lack a fixed, adequate and regular nighttime residence. This definition covers a range of contexts including: 1) shelters; 2) doubled up with friends, acquaintances, or extended family due to loss of housing or economic necessity; 3) cars and other unsheltered places that are inappropriate for human

habitation, and 4) hotels/motels. Additionally, MVA applies to students who are either “accompanied” or “unaccompanied,” meaning that the students are or are not in the “physical custody of a parent or guardian,” respectively.<sup>1</sup> Central components of MVA include:

- Right to immediate school enrollment (even without proof of address or records);
- Equal access to educational opportunities;
- Right to remain in their current school even if they move (if in the best interest of the child as determined by the parent or guardian);
- Per parents' request, free transportation to and from their school; and
- Liaison at each local education agency (LEA) who collaborates with state coordinators and is responsible for ensuring families know their rights and are connected to resources.

With the most recent reauthorization under the Every Student Succeeds Act of 2015 (ESSA), states are required to report achievement and graduation rates by housing status. Since October 2016, states and LEAs also have increased responsibility for: 1) identifying students experiencing homelessness; 2) removing barriers to their attendance and academic wellbeing; and, 3) connecting them to resources. ESSA also includes Title I requirements that all LEAs reserve funding for homeless students (Duffield & Bridgeland, 2017). As federal policy demands intensify, it becomes increasingly important to better understand the unique needs of homeless students in HISD.

<sup>1</sup> For consistency, we use the terms “accompanied” and “unaccompanied.” The reader should be reminded that we are using these terms as they relate to MVA, rather than how they are used in conversations on immigration. For more information on terminology used in MVA, please see Appendix A.

# Research Questions

1. Who are HISD's homeless students?
2. What are the educational outcomes of HISD's homeless students, in terms of attendance, discipline, achievement, and attainment?
  - a) How do the educational outcomes of HISD's homeless students depend on their family context (i.e., unaccompanied vs. accompanied)?
  - b) How do the educational outcomes of HISD's homeless students depend on their residential context (i.e., shelter, doubled up, unsheltered, motel/hotel)?

# Data and Method

Using HISD data from the 2012-13 school year to the 2016-17 school year, we compared students experiencing homelessness to a matched sample of low-income, non-homeless peers with similar student profiles using coarsened exact matching (CEM; Iacus et al., 2011).<sup>2</sup> Student homelessness data and demographic characteristics come from the October Snapshot. Students who were ever homeless were excluded from the pool of students eligible for matching.

In total, we had 27,827 homeless students. Each of these homeless students was matched to one or more students that was never homeless, but was the same in terms of the following characteristics:

Grade Level	School Year
Race/Ethnicity	Gender
Economic Disadvantage	At-Risk Status
Limited-English Proficiency (LEP)	Special Education Enrollment
School Mobility (Non-promotional within- and between-year mobility)	

While our match rate varied from outcome to outcome, all were high and above 90%. For example, for our attendance outcomes, we had a 96.7% match rate, with 24,987 of the 25,846 eligible homeless students (who had attendance data) matching exactly to students who are not homeless on all of the student characteristics above.

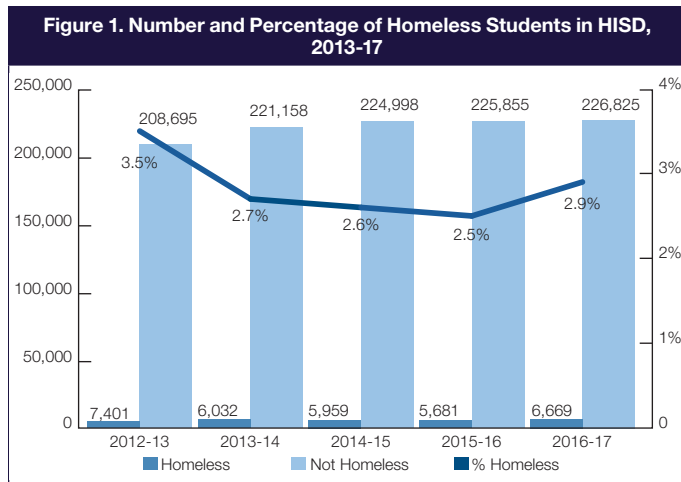
We then examined the relationship between homelessness and a range of student outcomes on the matched sample of students using a series of regression models. Our outcome variables included:

- **Attainment**, in terms of dropout and on time graduation;
- **Attendance**, in terms of days of attendance;
- **Discipline**, in terms of number of disciplinary infractions; and
- **Achievement** and participation on the STAAR in reading and mathematics for students in third through eighth grade.

<sup>2</sup> For more information on the methods used in this research, please see Appendix B.

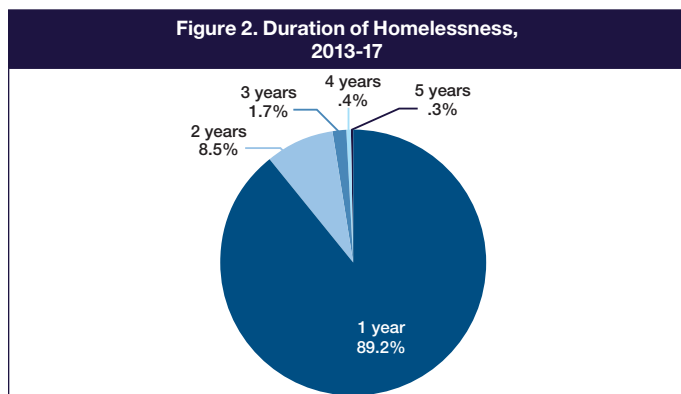
# Who Are HISD's Homeless Students?

Overall, 6,669 students in HISD identified as homeless in 2016-17, comprising 2.9% of all enrolled students. The total number of homeless students as well as the share of all students in HISD that were homeless fluctuated but declined slightly over the study period. In 2012-13, 7,401 homeless students accounted for 3.5% of all students.



## Duration of Homelessness

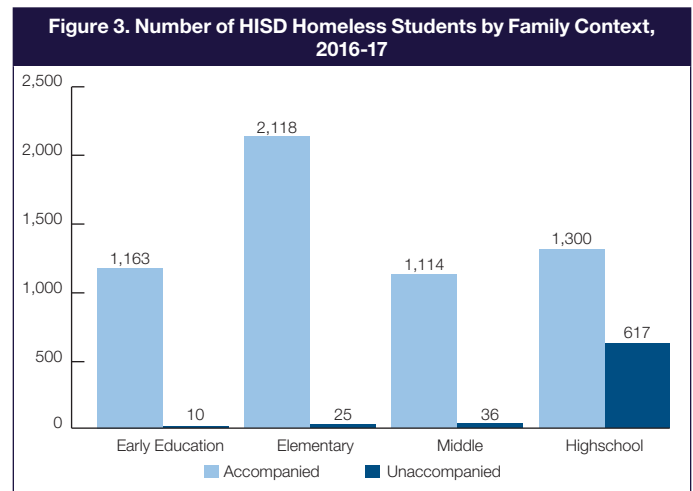
Over the course of the study period (2012-13 to 2016-17), approximately 2.5 to 3.5% of HISD students were homeless each year. However, 7.5% of HISD students (n=27,827 of 373,390) were ever homeless over the five-year study period. The vast majority of students who experienced homelessness, 89.2%, experienced homelessness only for one year. Far fewer students experienced persistent homelessness. Of the students who experienced homelessness, just 0.3% were homeless all five years of the study period.



## Family Context

We examined the family context of HISD's homeless students, defined as whether students lived in the physical custody of a parent guardian (i.e., unaccompanied or accompanied). In 2016-17, 11.5% of HISD's homeless students were unaccompanied; the remaining 88.5% lived in the physical custody of a parent or guardian. The share of HISD's homeless students that were unaccompanied increased by 25% since 2012-13, from 9.2% to 11.5%.

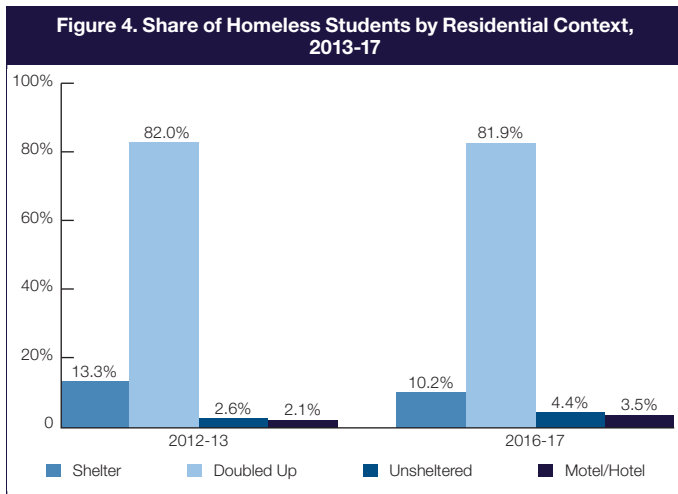
While the majority of HISD's unaccompanied homeless students were in high school, a number of homeless elementary and middle school students were also not in the physical custody of a parent or guardian. Roughly one in three homeless high school students were unaccompanied. By comparison, just 1.2% of homeless elementary students were unaccompanied, while 3.1% of homeless middle school students were unaccompanied.



## Residential Context

The majority of HISD’s homeless students, more than four in five, lived doubled up with family or friends (81.9% in 2016-17). This share was relatively stable over the study period. Just over one in 10 homeless students resided in shelters. Moreover, the share of students in shelters was lower by 3.1 percentage points in 2016-2017 than it had been in 2012-2013.

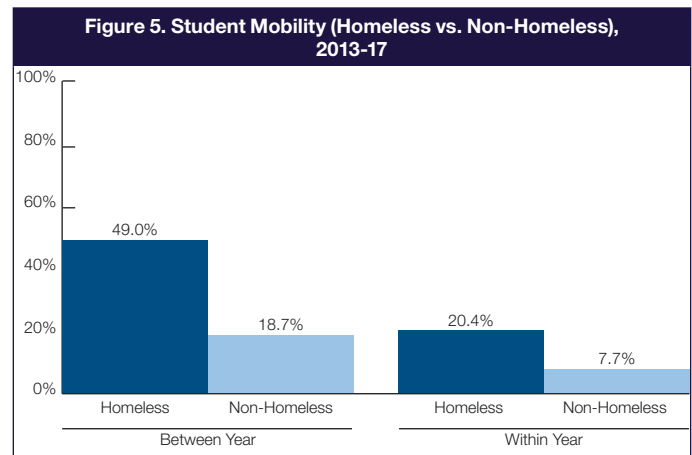
Together, the share of students living unsheltered and in motel/hotel accounted for less than 8% of all homeless students in the district in 2016-17. However, this share was substantially higher in 2016-17 than in 2012-13, when they comprised just 4.7% of all homeless students. Specifically, the share of unsheltered students was 1.8 percentage points higher in 2016-17 than 2012-13, while the share of students in motels/hotels was 1.4 percentage points higher.



While most homeless students live doubled up with friends and family, unaccompanied students were less likely to live doubled up and more likely to live in shelters or be unsheltered than accompanied students. Specifically, unaccompanied students were more than twice as likely to live in shelters (20.2% vs. 8.9%) or to be unsheltered (8.0% vs. 3.8%) as accompanied students.

## School Mobility

HISD’s homeless students were considerably more mobile than their non-homeless peers. Indeed, they were nearly three times as likely to move to a new school between school years (49.0% vs. 18.7%) after excluding promotional moves due to matriculating to new school grade levels (e.g., elementary school to middle school). In addition, they were nearly three times as likely to move within the school year (20.4% vs. 7.7%) than non-homeless students.

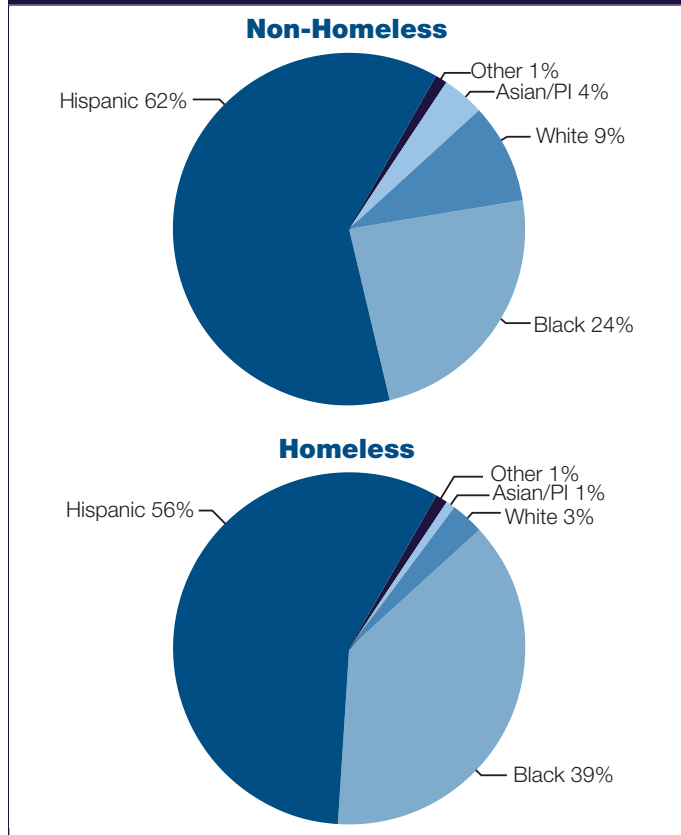




### Race/Ethnicity

Overall, Black students were substantially overrepresented among HISD’s homeless students. As of 2016-17, while just under a quarter of HISD’s non-homeless students were Black, nearly 40% of homeless students were Black. Conversely, White and Asian/Pacific Islander (PI) students were underrepresented among HISD’s homeless students. For example, while 13% of HISD’s non-homeless students were White or Asian/PI, just 4% of homeless students were White or Asian/PI. Hispanic students were only slightly underrepresented among HISD’s homeless students — accounting for 62% of non-homeless students, but just 56% of homeless students.

Figure 6. Race/Ethnicity (Homeless vs. Non-Homeless), 2013-17



# What Are the Educational Outcomes of HISD’s Homeless Students?

We examined how homeless students fared educationally by comparing them to two different groups of students:

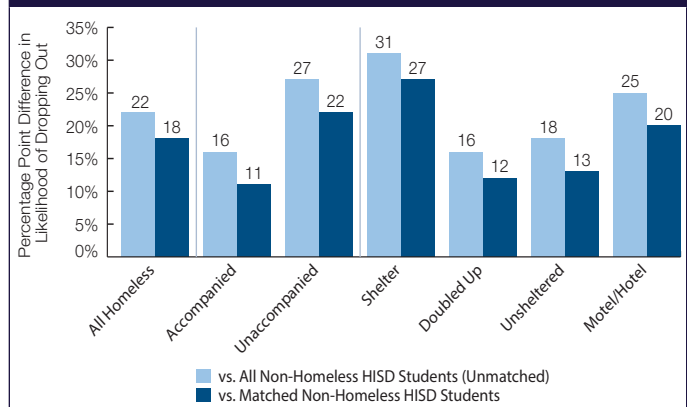
- 1) all other students in HISD who were never homeless and
- 2) a matched group of non-homeless students who are similar to homeless students in terms of their economic disadvantage, race/ethnicity, mobility, enrollment in special programs, and other factors.

While using a matched comparison group does not allow us to determine with certainty the causal effect of being homeless on students’ academic outcomes, it provides a better comparison group for understanding how homeless students are faring relative to their low-income non-homeless peers with similar characteristics (i.e., their “matched, non-homeless peers”). We discuss our findings as they relate to each of the key educational outcomes we studied: 1) attainment<sup>3</sup>, 2) attendance, 3) discipline, and 4) STAAR participation and achievement.

## Attainment

Homeless students were substantially more likely to drop out than non-homeless students, even when compared to matched, non-homeless students. As Figure 7 illustrates, students who were homeless during their senior year were 18 percentage points more likely to drop out than matched, non-homeless students.

**Figure 7. Homelessness Associated with Higher Likelihood of Dropout Across All Family and Residential Contexts**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students’ likelihood of dropping out. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students were 18 percentage points more likely to drop out than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

## Variation in Effects

The risk of dropout varied significantly depending on homeless students’ family and residential contexts. Unaccompanied students were at particular risk of dropping out. They were 11 percentage points more likely to drop out than students living in the custody of a parent/guardian.

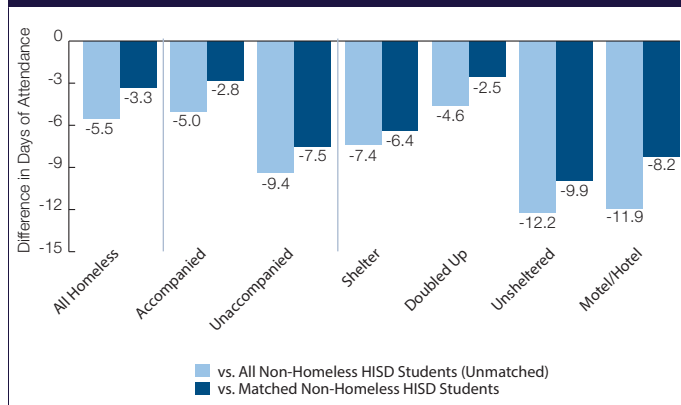
While students in all residential contexts were more likely to drop out than non-homeless students, we observed variability in dropout rates across residential contexts. As the figure illustrates, students in shelters were particularly likely to drop out. They were 15 percentage points more likely to drop out than students living doubled up, 14 percentage points more likely to drop out than students living unsheltered, and 7 percentage points more likely to drop out than students in motels/hotels. By comparison, students living doubled up with friends and family and, to a lesser extent, unsheltered students, were least likely of all residential contexts to drop out. However, they were still 12 and 13 percentage points more likely to drop out than non-homeless students, respectively.

<sup>3</sup> We analyzed attainment using two outcomes: dropout and on-time graduation. For the sake of brevity, we report results of dropout only here. For additional, related results of on-time graduation, see Appendix C.

## Attendance

Homeless students had significantly lower attendance than other HISD students, meaning that, on average, homeless students were exposed to significantly fewer days of instruction than non-homeless students. Compared to their matched, non-homeless peers, homeless students attended 3.3 fewer days of school per year.

**Figure 8. Homelessness Associated with Lower Levels of Attendance Across All Family and Residential Contexts**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' attendance. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students attended 3.3 fewer days of school than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

## Variation in Effects

Homeless students' attendance varied considerably depending on their family and residential contexts. While both accompanied and unaccompanied students attended fewer days of school than their matched, non-homeless peers, unaccompanied students attended 4.7 days fewer days of school than students living in the custody of a parent/guardian.

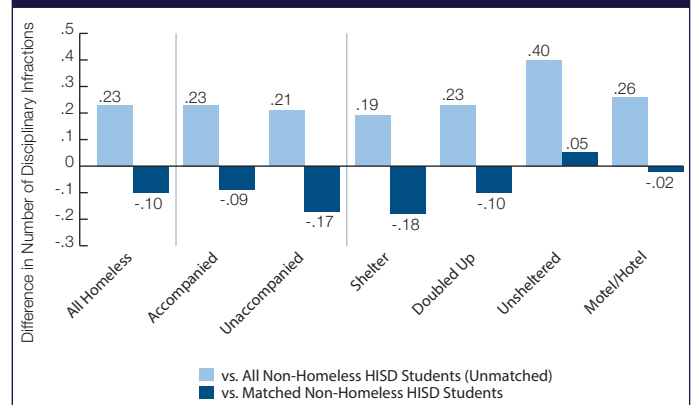
Homeless students in all residential contexts had lower attendance than their matched, non-homeless peers. However, students who lived doubled up with friends and family tended to miss fewer days of school than students in other residential contexts. As the figure illustrates, doubled up students missed 3.9 fewer days than students in shelters, 5.7 fewer days than students in motels/hotels, and 7.4 fewer

days than students living unsheltered. By contrast, students who live unsheltered missed the most days of school – 9.9 fewer days than matched, non-homeless students.

## Discipline

In general, homeless students received more disciplinary infractions<sup>4</sup> per year than non-homeless students. However, when compared to their matched group of non-homeless students, we found homeless students had slightly fewer disciplinary infractions. While the effect was statistically significant, it was quite small; homeless students had just 0.10 fewer disciplinary infractions annually than these similar students. Because the matched comparison group provides a less biased estimate of the effects of homelessness, we focus our interpretation on these estimates.

**Figure 9. Homelessness Associated with Slightly Fewer Disciplinary Infractions Overall**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' disciplinary infractions. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students received 0.1 fewer infractions than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

<sup>4</sup> Disciplinary infractions are obtained from PEIMS (Public Education Information Management System) and refer to every disciplinary action that results in removal of a student from any part of their program. This refers to any administrative intervention, suspension or removal to a Disciplinary Alternative Education Program (DAEP), or expulsion. For more information, see the 2019-2020 HISD Code of Student Conduct.

### Variation in Effects

Homeless students' disciplinary infractions also varied significantly depending on their family and residential contexts. Interestingly, among homeless students, unaccompanied students received fewer disciplinary infractions than homeless students living in the physical custody of a parent or guardian. However, this difference was small – just 0.08 fewer disciplinary infractions per day.

In addition, the number of student disciplinary infractions also varied by homeless students' residential context. Homeless students living in shelters or doubled up with family and friends received the fewest disciplinary infractions. For example, students living in shelters received 0.23 fewer disciplinary infractions per year than students living unsheltered. Homeless students living unsheltered and in motels/hotels had more disciplinary infractions than students living in other contexts; however, these were not statistically different from matched, non-homeless students.

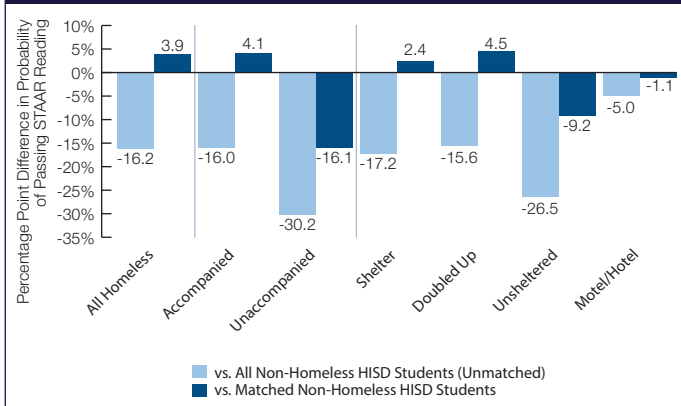
### Achievement

First, we discuss achievement by focusing on whether homeless students “Met Standard” (i.e., “passed”) on the STAAR tests. Second, we examine student test participation rates.

#### Meeting Standard on STAAR Tests

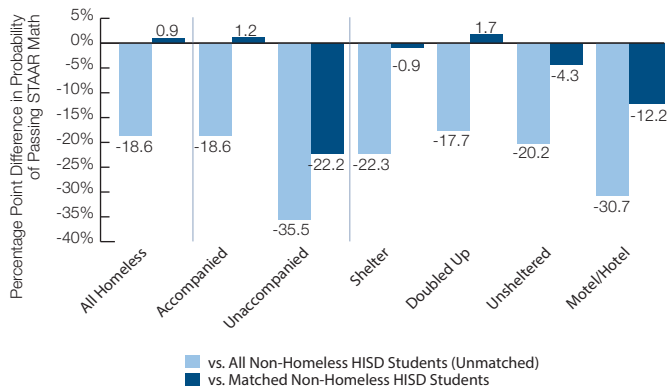
On average, homeless students were substantially less likely to meet standards on the state STAAR exams than their non-homeless peers. As the figures below demonstrate, however, homeless students were slightly more likely to pass the STAAR as compared their matched, non-homeless peers. Specifically, homeless students were 3.9 percentage points more likely to pass the STAAR reading and 0.9 percentage points more likely to pass the STAAR math than their matched, non-homeless peers. Again, because the matched comparison group provides a less biased estimate of the effects of homelessness, we focus our interpretation on these estimates.

**Figure 10. Homelessness Associated with Slightly Higher Pass Rates on the STAAR Reading Assessment Overall, but Rates Vary by Family & Residential Contexts**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' likelihood of passing the STAAR reading assessment. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students are 3.9 percentage points more likely to pass STAAR reading than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

**Figure 11. Homelessness Associated with Slightly Higher Pass Rates on the STAAR Math Assessment Overall, but Rates Vary by Family & Residential Contexts**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' likelihood of passing the STAAR math assessment. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students are 0.9 percentage points more likely to pass STAAR math than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

### Variation in Effects

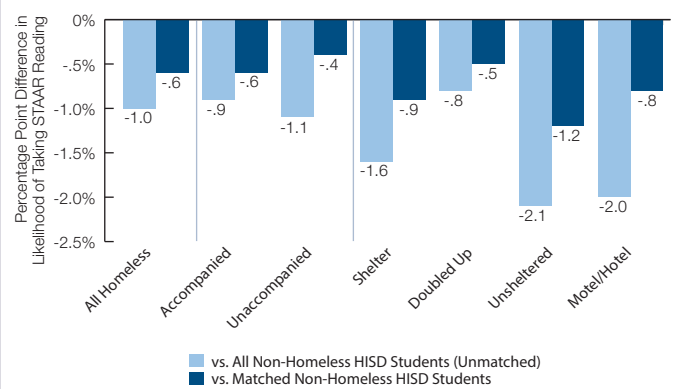
Homeless students' likelihood of passing the STAAR test also varied significantly depending on their family and residential contexts. Unaccompanied students were substantially less likely to pass both the reading and math STAAR than students who were accompanied (i.e., in physical custody of a parent/guardian). Indeed, unaccompanied students were 20.2 percentage points less likely to pass reading and 23.4 percentage points less likely to pass math than accompanied students. However, in considering this finding, it is important to remember that very few elementary and middle school students were unaccompanied.

For both math and reading, students living doubled up with friends and family were more likely to pass the STAAR exams than homeless students in all other residential contexts; students living doubled up were 13.7 percentage points more likely to pass reading and 6.0 percentage points more likely to pass math than students living unsheltered. Notably, while unsheltered students performed worse than students in all other residential contexts on reading, students living in motels/hotels performed worse on math.

### STAAR Participation

Although homeless students performed slightly better on STAAR tests than their matched, non-homeless peers, they were also slightly less likely to take the state STAAR tests – particularly in math. Specifically, homeless students were 0.6 percentage points less likely to take the reading test and 2.4 percentage points less likely to take the math test than their matched, non-homeless peers.

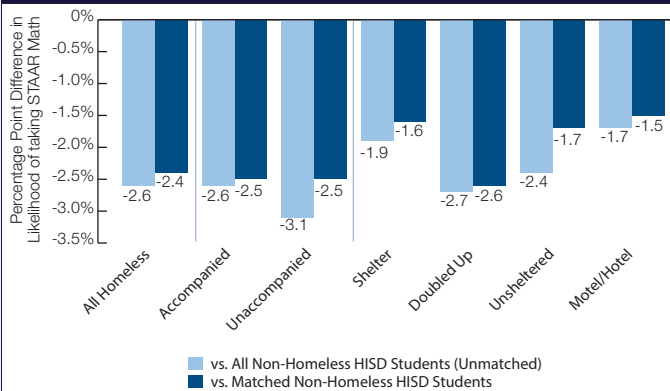
**Figure 12. Homelessness Associated with Lower Rates of Participation on the STAAR Reading Assessment Across All Family and Residential Contexts**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' STAAR reading participation. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students are 0.06 percentage points less likely to take the STAAR reading assessment than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.



**Figure 13. Homelessness Associated with Lower Rates of Participation on the STAAR Math Assessment Across All Family and Residential Contexts**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' STAAR math participation. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students are 2.4 percentage points less likely to take the STAAR math assessment than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

### Variation in Effects

Homeless students' likelihood of taking the STAAR test also varied significantly depending on their family and residential contexts. While unaccompanied students performed worse on the STAAR exams than accompanied students, they were slightly more likely to take the STAAR reading and equally likely to take the STAAR math as accompanied students.

In terms of residential context, while doubled up students performed best on the STAAR exams and were most likely to take the STAAR reading, they were less likely to take both the STAAR reading and math tests than never-homeless peers. This was particularly true for STAAR math: doubled up students were roughly 2.6 percentage points less likely to take the math assessment than never-homeless matched peers. Students living in shelters were also significantly less likely to take the STAAR math than their never-homeless matched peers. While students in all other residential contexts were also slightly less likely to take the STAAR exams than their never-homeless peers, none of these differences were statistically significant.

# Discussion & Recommendations

**W**e examined the educational outcomes of homeless HISD students and found that homelessness matters; compared to matched, non-homeless students, homeless students had lower attendance and attainment. Yet, we also highlight how the relationship between homelessness and student outcomes is varied and complex. For instance, while homeless students were slightly less likely to take the STAAR exams, those who did actually had better STAAR achievement scores than matched, non-homeless students. Homeless students also had cleaner disciplinary records.

Because student homelessness is a diverse experience, we also examined educational outcomes for homeless students who were unaccompanied. Our findings suggest that unaccompanied homeless students were more at risk of a range of adverse educational outcomes. Finally, we examined variations in outcomes for homeless students in different residential contexts (shelter, doubled up, unsheltered, and motel/hotel). Our study aligns with broader research that suggests there may be unique educational advantages and disadvantages to some of the settings over other settings. While more research is needed, our findings suggest district practices may be most effective when designed with students' unique contexts in mind.

## **Takeaway #1: Homelessness Matters, Especially for High School Dropout.**

HISD's homeless students had particularly poor rates of attainment. Overall, students experiencing homelessness were more likely to drop out of school than their matched, non-homeless peers. Additionally, HISD's students experiencing homelessness across all family and residential contexts were more likely to drop out, with unaccompanied students and students living in shelters having especially high rates of dropout.

## **Implications for HISD**

In addition to ensuring that students are receiving the supports guaranteed to them under MVA, HISD should continue to collaborate with community providers, like shelters and after school programs, to ensure consistent messaging around graduation requirements, course

planning, and credit recovery. For example, the Homeless Education Program already provides academic tutors at nine shelter sites. To support off-campus tutoring and aid students in completing homework assignments, schools should ensure that community organizations that work with youth have access to the same instructional materials used in schools.

## **Takeaway #2: How Homelessness Impacts Other Educational Outcomes is Complex.**

HISD's homeless students were more at risk of poor attendance outcomes than their matched peers. Notably, students who were homeless four and five years tended to have higher attendance than students who were homeless for shorter periods of time. This may suggest that chronically homeless families have the time and opportunity to build relationships with HISD employees, benefitting more fully from MVA. Yet, even after adjusting for student characteristics, we found homeless students had fewer disciplinary infractions than their matched peers. Although it cannot be expected that teachers always know their students' housing statuses—HISD's liaison and outreach workers protect confidentiality—it may be possible that school employees, when they are aware of a student's housing status, turn to interventions rather than disciplinary actions. Interestingly, under HB 692, signed by the governor in June 2019, homeless students in Texas cannot receive out-of-school suspensions (a potential consequence of a disciplinary infraction) except for in cases of weapon, assault, or school grounds/event drug or alcohol-related offenses. Although more research is needed, it may be possible, that as a best practice, school employees were following the logic of HB 692—maybe even reducing the number of infractions overall—before 2019.

Interestingly, homeless students tended to perform better on STAAR exams than their matched peers. This could hint at the potential value of educational supports and resources inherent in MVA or provided at shelters or drop-in centers for homelessness—supports that their matched peers cannot usually access (see Buckner, 2012). However, homeless students were also somewhat

less likely to take STAAR tests—particularly in math. This is interesting given some research with young children suggests mathematics achievement may be less sensitive to homelessness and school mobility than reading achievement. This is due to the potentially strong role of the home and family in the development of language and literacy skills (Fantuzzo et al., 2012; Obradovic et al., 2009), while other research with older children suggests that mathematics achievement may be more sensitive to homelessness (Cutuli et al., 2013).

### **Implications for HISD**

In order to best meet students' needs, as well as comply with HB 692, HISD personnel are encouraged to consider students' housing status, when these are known, when determining their response to homeless students' disciplinary infractions. Additionally, as students who are chronically homeless have better attendance than students who are homeless for shorter periods of time, the district should be commended for building strong relationships with chronically homeless families over time. HISD should continue to work toward identifying and supporting homeless students more quickly in order to implement MVA supports to families who may experience homelessness for shorter durations. Lastly, while more research is needed to better understand the findings regarding STAAR test-taking, we suggest that HISD district- and school-level leaders prioritize collaborative work to help improve test participation among homeless students. Practices such as ensuring shelter and community providers are aware of testing days, sending out text reminders the night before, and providing a special breakfast in the morning may be helpful.

### **Takeaway #3: Unaccompanied Youth Have Unique Needs.**

Overall, we found unaccompanied youth were at greater risk of adverse educational outcomes than their accompanied peers. They had substantially lower attendance than accompanied homeless students. In addition, they were substantially more likely to drop out than homeless students still in the physical custody of a parent or guardian. Furthermore, they were substantially

less likely to pass the STAAR exams than accompanied homeless students. In considering these findings, it is important to note that while the vast majority of unaccompanied homeless students in HISD are in high school, there are hundreds of unaccompanied students in elementary and middle school.

### **Implications for HISD**

Because unaccompanied youth do not have a parent or guardian to advocate for them, the district could provide a mentor to these students to ensure they are receiving the educational support and programming they are entitled to under MVA. Mentors could be chosen by students or assigned to them and could follow students throughout their k-12 career.

### **Takeaway #4: Where Students Sleep Matters.**

Students experiencing homelessness may spend the night in a variety of residential contexts including in shelters, doubled up with family or friends, in motels/hotels, or unsheltered. Our findings on residential context align with prior research suggesting that there may be nuanced advantages and disadvantages to some of the residential settings in relation to one another (Hallett, 2012; Miller, 2015; Pavlakis, 2018).

### **Unsheltered & Motels**

Attendance gaps were large for unsheltered students and students in motels. In addition, these students were less likely to take STAAR math exams than their matched, non-homeless peers. Transportation challenges may be a contributing factor; HISD district actors noted that unsheltered and motel transportation tend to be processed the slowest. Additionally, unsheltered students performed worse than students in all other residential contexts on STAAR reading. Students living in motels performed worse than students in all other residential contexts on STAAR math. Although more research is necessary to explore this finding, this may be attributable to, for example, differential patterns of residential choices for English learner (EL) vs. non-EL homeless students.

## Shelter

Students in shelters were particularly likely to drop out — more so than homeless students in other residential contexts. Based on conversations with the district, this finding may partially reflect shelter programming. For instance, some family shelters provide GED classes — and some include incentives (material items, privileges) for participating in shelter-based programming. For instance, one large family shelter offered held GED classes until the 2016-17 school year — the last year of our study. It is possible that the lure of alternative pathways and the unaligned agendas of shelters (focused on housing) and schools (focused on education and graduation) helps to explain lower attainment for students living in shelters.

Compared to homeless students in other residential contexts, students in shelters had the fewest disciplinary infractions. If, when the housing status is known, interventions are more common than discipline, this may help explain this finding. In contexts such as large shelters, students' housing status may be more visible to others. For instance, HISD used to group students living in shelters on certain buses and routes, which could reveal information about students' residential context, and thus encourage school actors to use interventions instead of discipline. While shelters may not be informed about students' school disciplinary records, it could also be probable that students in shelters aim to avoid disciplinary action on their end, too, for fear of housing repercussions.

Students in shelters performed relatively well on state tests. For these students, on-site tutoring and educational programming at some large shelters may be supporting their achievement. However, shelter students, like other homeless students, are also less likely to take STAAR math tests.

## Doubled Up

We find that doubled up students fared the best on most educational outcomes. This is consistent with research suggesting that while doubling up is a common precursor to shelter entry and is incredibly stressful for many families (Pavlakakis, 2018), it can also come with educational benefits, particularly when the families function as one household

(Hallett, 2012). Thus, our finding may partially reflect the protective benefits provided by some of these arrangements. It also may reflect the impact of transportation; large shelters often have pre-established bus routes, and to the extent that students double up for an extended period of time, their transportation needs may be relatively stable.

Doubled up students had better attendance and were less likely to drop out than other homeless students. In addition, they tended to perform better on the STAAR math and reading, in terms of their likelihood of meeting standards and their scores. This suggests alignment with Deck (2017) who argued that it is possible that doubled up students were more similar to students who are poor but non-homeless than to children in shelters. However, we found that doubled-up students were also particularly unlikely to take the state exams in math. This appears counterintuitive, since they also had the smallest attendance gaps and highest odds of graduating. Additional research is needed around test participation and achievement by residential context to ensure that homeless students have equitable educational experiences — regardless of where they slept the night before.

## Implications for HISD

Due to the relative advantages and disadvantages of students' residential contexts, HISD may need to implement a variety of strategies to meet the diverse needs of their students experiencing homelessness. To improve attendance for students living in motels/hotels, HISD schools may consider building closer relationships with local motels to ensure transportation routes are streamlined and parents have access to school-related flyers and MVA resources on-site. To improve attendance for unsheltered youth, schools should network with community non-profits who may already be serving these students. Schools and shelters may wish to consider working together to create shared norms around attainment and assist in refining processes for co-crafting personalized educational goals with students and families. In an effort to track and reduce test participation gaps, schools should continue to collaborate with homeless parents and consider reaching out to host families as well.

# Appendix A – McKinney-Vento Act (MVA) Terminology

## Key Terms

### Homeless

The U.S. Department of Education (ED) Subtitle VII-B of the McKinney-Vento Homeless Assistance Act defines “homeless children and youths” as follows: A. means individuals who lack a fixed, regular, and adequate nighttime residence (within the meaning of section 11302(a)(1) of this title); and B. includes—

- i) children and youths who are sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason; are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations; are living in emergency or transitional shelters; are abandoned in hospitals; or are awaiting foster care placement;
- ii) children and youths who have a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings (within the meaning of section 11302(a)(2)(C) of this title);
- iii) children and youths who are living in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings; and
- iv) migratory children (as such term is defined in section 6399 of title 20) who qualify as homeless for the purposes of this subtitle because the children are living in circumstances described in clauses (i) through (iii).

### Unaccompanied

42 U.S.C. § 11434a(2) Subtitle VII-B of the McKinney-Vento Homeless Assistance Act defines “unaccompanied youth” as follows: a youth not in the physical custody of a parent or guardian. 42 U.S.C. § 11434a(6)



# Appendix B – Methodological Detail

## Overview of Matching Procedure

Using HISD data from 2012-13 to 2016-17, we compared students experiencing homelessness to a matched sample of low-income non-homeless peers with similar student profiles using coarsened exact matching (CEM; Iacus et al., 2011). Students who were ever homeless were excluded from the pool of students eligible for matching.

In total, we had 27,827 homeless students. Each of these homeless students was matched to one or more students that was never homeless but was the same in terms of the following characteristics:

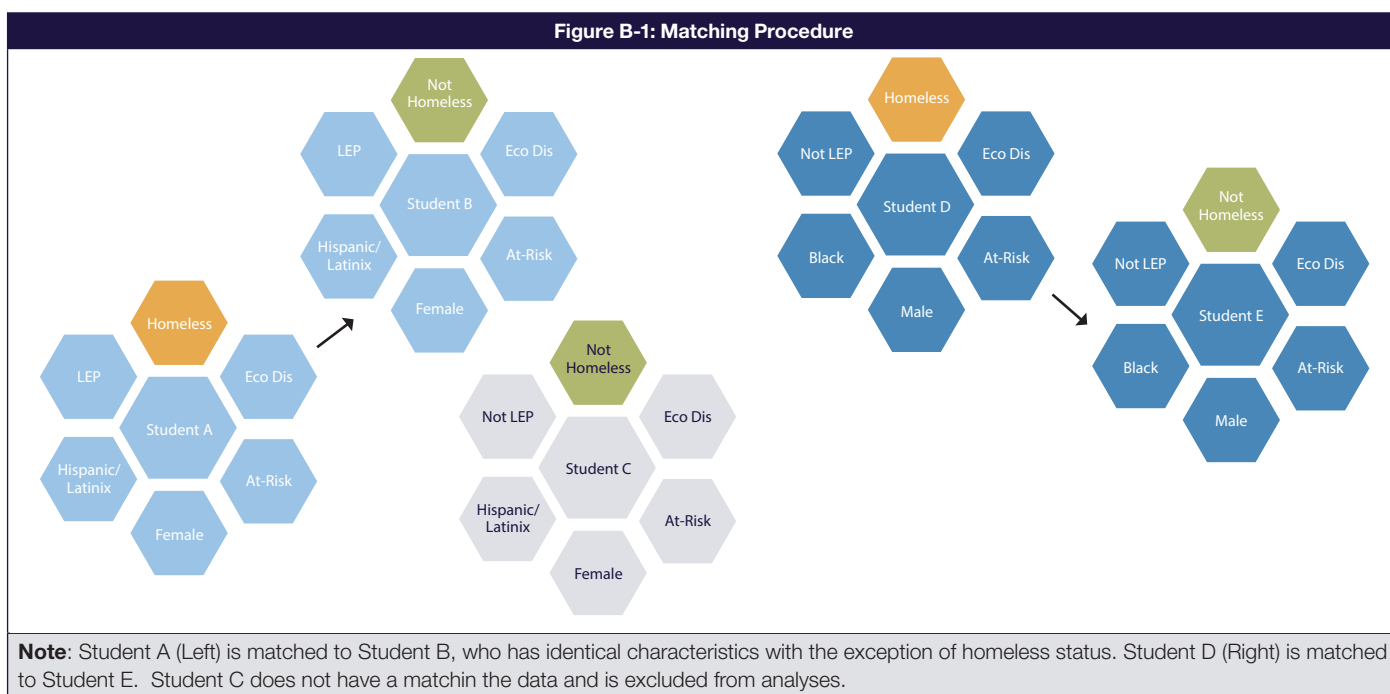
Grade Level	School Year
Race/Ethnicity	Gender
Economic Disadvantage	At-Risk Status
Limited-English Proficiency (LEP)/English Learner (EL) Status	Special Education Enrollment
School Mobility (Non-promotional within- and between-year mobility)	

The figure below illustrates the matching process conceptually:

We matched students on grade level rather than age and included all HISD students who were in Kindergarten through twelfth grade. Because we have slightly different samples for each outcome (e.g., attendance vs. graduation), we conducted separate matches for each outcome. While our match rate varied from outcome to outcome, all were high and above 90%. For example, for our attendance outcomes, we had a 96.7% match rate, with 24,987 of the 25,846 eligible homeless students (who had attendance data) matching exactly to students who are not homeless on all of the student characteristics above.

Methods such as propensity score matching require balance checking to determine if matching resulted in students who are sufficiently similar to be compared. However, an advantage of using the coarsened exact matching procedure means that, by definition, all students in our sample were exactly matched on all characteristics listed above.

Figure B-1: Matching Procedure



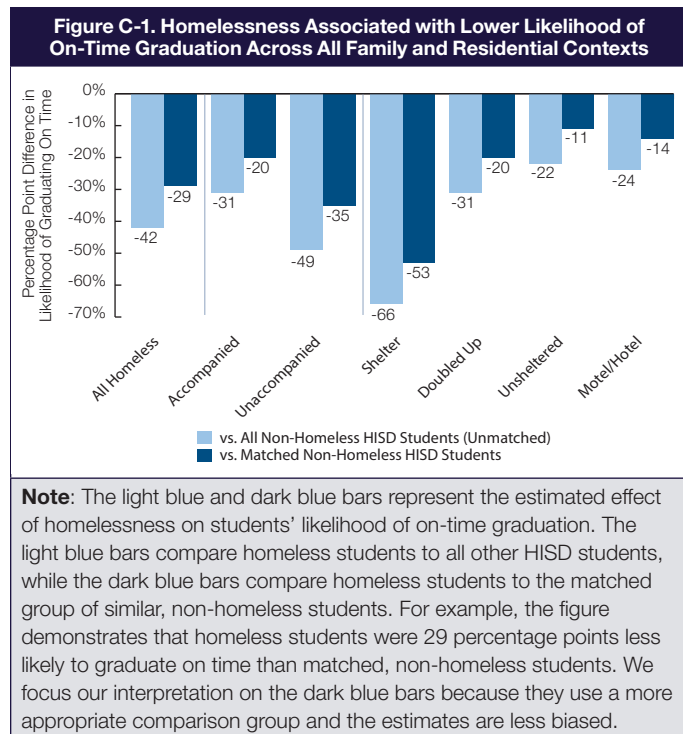
### **Estimating the Effect of Homelessness**

After matching, we estimated the effects of homelessness on each outcome via a series of regression models on the matched data only. For each outcome, we predicted the outcome as a function of homelessness in the current year (as well as fixed effects accounting for the student's grade level and the year of the outcome). We also controlled for the number of years students were homeless prior to that year. It is important to note, however, we know little about the duration of student homelessness. This is because we have data on student homelessness for a very limited time frame (i.e., 2012-13 to 2016-17) and our data on student homelessness are from the district's October enrollment snapshot. For example, this means for students who were in the 2012-13 graduating class, we were unable to account for prior homelessness. For students who were in the 2016-17 graduating class, we were only able to account for their homelessness from 8th grade on. It should be emphasized, however, as we demonstrate above, the vast majority of students experienced a single year of homelessness over this five-year period.

# Appendix C – Supplemental Findings

## On-Time Graduation

Overall, homeless students were significantly less likely to graduate on time than non-homeless students. As the figure C-1 illustrates, students who were homeless during their senior year were 29 percentage points less likely to graduate on time as their matched, non-homeless peers.



## Variation in Effects

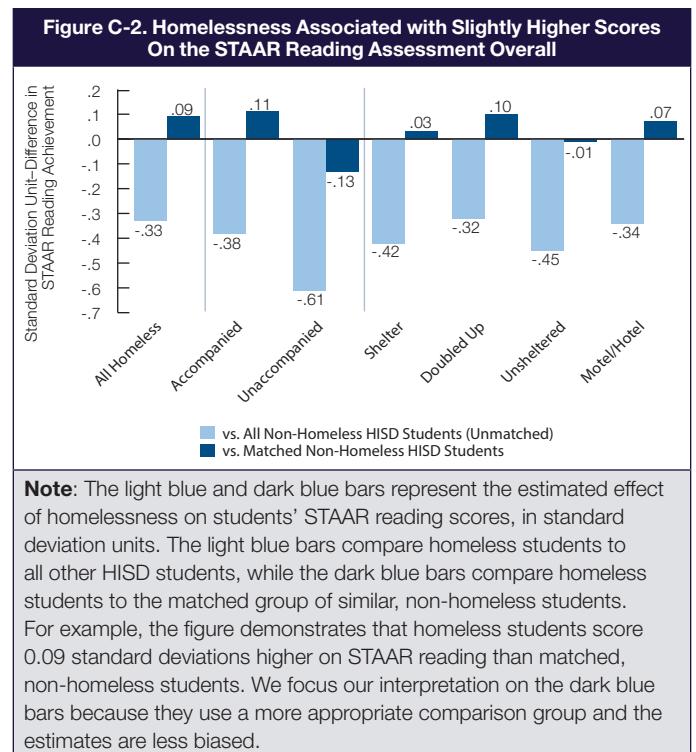
Homeless students' likelihood of graduating on time also varied significantly depending on their family and residential contexts. Unaccompanied students were 15 percentage points less likely to graduate on time than students living in the physical custody of a parent/guardian.

In terms of residential context, we found students residing in shelters were particularly unlikely to graduate on time. Indeed, homeless students in shelters were 53 percentage points less likely to graduate on time than non-homeless students. As such, students living in shelters were 42 percentage points less likely to graduate on time than unsheltered homeless students.

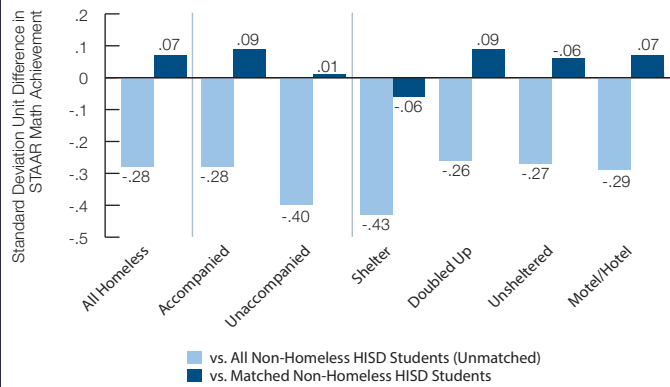
Interestingly, while doubled up students were 20 percentage points less likely to graduate on time, we found that students living unsheltered and in motels/hotels were not statistically less likely to graduate on time as their non-homeless peers (i.e., the differences of 11 and 14 percentage points were not statistically significant). However, in considering these findings, it is important to note that very few students fall into these categories and therefore power to detect a statistically significant effect is low.

## Achievement

On average, homeless students performed worse on state STAAR exams than their non-homeless peers. As figures C-2 and C-3 demonstrate, however, homeless students performed slightly better on both STAAR math and reading when compared to their matched, non-homeless peers. Specifically, homeless students performed 0.09 standard deviations better on STAAR reading and 0.07 standard deviations better on STAAR math than matched, non-homeless students.



**Figure C-3. Homelessness Associated with Slightly Higher Scores on the STAAR Math Assessment Overall**



**Note:** The light blue and dark blue bars represent the estimated effect of homelessness on students' STAAR math scores, in standard deviation units. The light blue bars compare homeless students to all other HISD students, while the dark blue bars compare homeless students to the matched group of similar, non-homeless students. For example, the figure demonstrates that homeless students score 0.07 standard deviations higher on STAAR math than matched, non-homeless students. We focus our interpretation on the dark blue bars because they use a more appropriate comparison group and the estimates are less biased.

### Variation in Effects

Homeless students' performance on STAAR exams also varied significantly depending on their family and residential contexts. Unaccompanied homeless students performed 0.24 standard deviation units worse on the STAAR reading than homeless students living in the physical custody of a parent/guardian. While unaccompanied students performed 0.08 standard deviations worse on STAAR math than accompanied students, they still performed about as well as their matched, non-homeless peers. However, in considering this finding it is important to remember that a very small number of students are unaccompanied in elementary and middle school grades analyzed in this study.

Doubled up students performed substantially better than other homeless students on STAAR tests: For example, doubled up students performed 0.10 standard deviations higher on reading and 0.09 standard deviations higher on math than their matched, non-homeless peers. Students in shelters performed particularly poorly on STAAR math, performing 0.12 standard deviations worse than students in any other residential context. On reading, unsheltered and, to a lesser extent, shelter students performed worse than students in other residential contexts.

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## Mission

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