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Investigating Equity in Art Course Taking Across Houston ISD High Schools

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Research Brief

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Research Brief

Investigating Equity in Art Course Taking Across Houston ISD High Schools

The arts can provide valuable educational opportunities for students to encounter and contribute to the world and reflect on their experiences and cultures as well as those of others. However, despite the benefits, arts education opportunities have been in steady decline throughout the United States over the last half-century. This decline has not been equal across student subgroups; while Latinx and Black students have experienced substantial declines, White students have seen virtually no change. In this study, we investigate the extent to which national trends in inequitable arts learning opportunity, at least in terms of secondary school course offerings and enrollment, occur in the Houston Independent School District (HISD). With regard to both the number of different art course offerings and student enrollment, we find substantial variation in the number of art courses offered by socioeconomic and racial/ethnic composition of HISD. Moreover, when we control for additional sources of variation in schools' arts resources, we find that disparities appear to be primarily explained by the percentage of its students who are White. From these findings, we recommend undertaking efforts to increase arts education opportunities for schools serving primarily high-poverty, Latinx, and Black student bodies. We also recommend more regular collection of additional data on school-provided arts learning opportunities and making these data publicly available. Finally, we recommend that schools struggling to provide students with these opportunities consider engaging in partnerships with local arts organizations.

Background

The arts are quintessential to human expression, and, therefore, should be an indelible part of a well-rounded education. The arts provide valuable educational opportunities for students to encounter and contribute to the world and reflect on their experiences and cultures as well as those of others (American Academy of Arts & Sciences, 2021; Dewey, 1954; Eisner, 1992; Ladson-Billings, 1994).

Parents of PK-12 students see the arts as being a critical part of their children's education. In a national poll, 91% supported the contention that the arts are a vital part of a well-rounded education, and 81% indicated that the arts are among the most important subjects taught in schools (Jackson, 2019).

Studies suggest that the arts have a vast array of benefits that policymakers may not have considered in their assessments of their educational value. Bowen and Kisida's (2023b) randomized control trial investigation of Houston's Arts Access Initiative found that substantial increases in school-facilitated arts learning opportunities reduce students' disciplinary infractions, improve writing achievement, and increase emotional empathy. Elementary school students in the study also exhibited greater school engagement, college aspirations, and cognitive empathy as a result of more arts education opportunities.

Other studies have found that arts learning has transfer effects on a broad array of academic measures. Students randomly assigned to participate in an art museum's educational program subsequently displayed stronger critical thinking skills when composing essays about works of art (Bowen et al., 2014; Kisida et al., 2016). Students randomly assigned to participate in a program that integrated historical content with live theater demonstrated increased interest in learning about history and improved content knowledge aligned with state history standards (Kisida et al., 2020). Analyses

employing longitudinal datasets have also found positive associations between art course taking and academic achievement and attainment (Catterall et al., 2012; Elpus, 2013; Guhn et al., 2020; Holochwost et al., 2017; Thomas et al., 2015). However, other studies, particularly those investigating math and reading standardized test scores, have found that these positive associations may be primarily driven by selection bias, driven by impacts with students attending higher socioeconomic schools, and do not appear to be robust across all arts course disciplines (Elpus, 2013; Mackin Freeman & Shifrer, 2022; Winner et al., 2013). Therefore, the arts appear to positively impact students on a host of policy-relevant educational outcomes, but the extent to which these impacts are reflected in educational outcomes captured by standardized test scores is less certain.

Despite their benefits and broad support, arts education opportunities have been in steady decline since the 1980s (Rabkin & Hedberg, 2011). School accountability systems have precipitated this decline (Gadsden, 2008; Srinkantaiah, 2009). School systems often respond to accountability pressures by prioritizing instruction more directly aligned with high-stakes measures, leading to a reduction in scarce resources allocated to untested subjects (Bassok et al., 2016; Dee et al., 2013; West, 2007). In a 2012 survey, roughly half of public school teachers reported art and music receiving less instructional time and resources over the previous decade. By contrast, few teachers indicated reductions

in math (10%) and English language arts (12%) (Farkas Duffett Research Group, 2012). When asked to indicate the main driver of reductions, 36% cited test pressure, 28% cited budget cuts, and 29% cited both equally.

The decline in arts education has not been equitable across students and schools. Throughout the United States, test-based accountability pressures and budget constraints have been more severe at schools serving historically underserved students, specifically those with higher proportions of lower-income, Black, Hispanic, and immigrant students (Balfanz et al., 2007; Government Accountability Office, 2009). From the 1980s through the first decade of the 20th century, Black and Hispanic students experienced 25 and 19 percentage point declines in arts education participation, respectively. Conversely, White student participation decreased by only 1 percentage point (Rabkin & Hedberg, 2011). Schools with higher shares of free and reduced-price lunch (FRL) eligibility also have consistently less access to the arts in terms of instructional time, arts specialists, course offerings, and dedicated facilities (Government Accounting Office, 2009; Parsad & Spiegelman, 2012). It has become increasingly common for under-resourced schools to offer little to no arts instruction (Yee, 2014).

In this study, we assess the extent to which national trends in inequitable arts learning opportunity, at least in terms of secondary school course offerings and enrollment, occur in the Houston Independent School District (HISD). While course offerings provide a sense of the extent to which opportunities vary across campuses, enrollment indicates participation. These variables insufficiently capture critical considerations when assessing arts learning opportunities, such as their depth, duration, and quality, but these crude measures provide some sense of the extent to which opportunity and engagement varies throughout the district.

Research Questions

- Are there inequalities by student body demographics, in terms of racial/ethnic and socioeconomic status, in the number of art courses HISD high schools offer?
- Are there inequalities by student body demographics in art course enrollment among HISD high schools?

Data and Methods

We use data from the 2018-19 school year to analyze art course offerings and enrollment across HISD. The 281 schools in the full dataset consist of 182 elementary schools, 37 middle schools, 54 high schools, and eight combination schools. These data come from schools' responses to Ingenuity's artlook® survey designed for collecting information on school-level arts education resources and offerings for students. Through this platform, schools provide a vast array of information pertaining to arts education, including current course offerings, student enrollment, duration and extent of instruction, dedicated space and resources, and partnerships with arts organizations. These data come from both previously collected school administration data and original school-level survey data collection efforts.

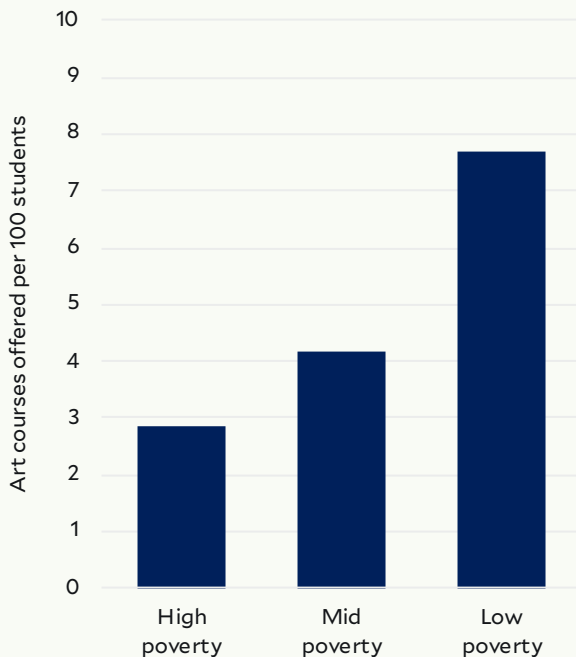
We present differences in the number of art courses offered and art course enrollment numbers by the socioeconomic and racial/ethnic composition of HISD secondary schools. Socioeconomic and racial/ethnic comparisons are made using the percentage of schools' student bodies who are economically disadvantaged or fall into a particular racial/ethnic category. We consider schools that serve high, mid, and low proportions of students who are economically disadvantaged or of a particular racial/ethnic category relative to all other HISD high schools. See Appendix A for a more detailed discussion of the methods.

Key Findings

Art Course Offerings in HISD High Schools

1 There is substantial variation in the number of art courses offered by the socioeconomic and racial/ethnic composition of HISD high schools.

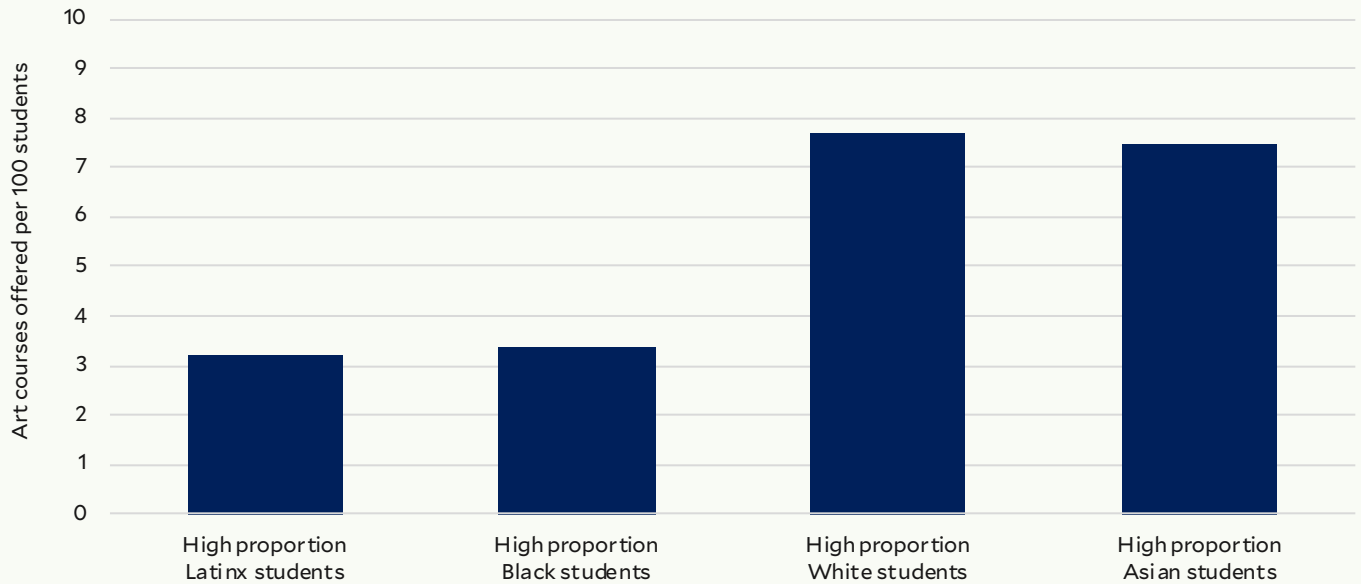
FIGURE 1 Average number of art courses offered per 100 students by high school poverty



As shown in Figure 1, HISD high schools we have designated low-poverty offer approximately 7.68 art courses for every 100 students. This is nearly twice the number of art courses offered by mid-poverty schools, which have an average of 4.16 courses for every 100 students. In comparison, low-poverty schools offer more than twice the amount of art courses provided by high-poverty schools, which have 2.87 courses for every 100 students.

As shown in Figure 2, HISD high schools that serve relatively high proportions of Latinx and Black students offer an average of 3.24 and 3.37 art courses per 100 students, respectively. In contrast, high schools that serve relatively high proportions of White and Asian students offer an average of 7.67 and 7.45 art courses per 100 students, respectively—over double the number serving schools with high proportions of Latinx and Black students.

FIGURE 2 Average number of art courses offered by high school racial composition

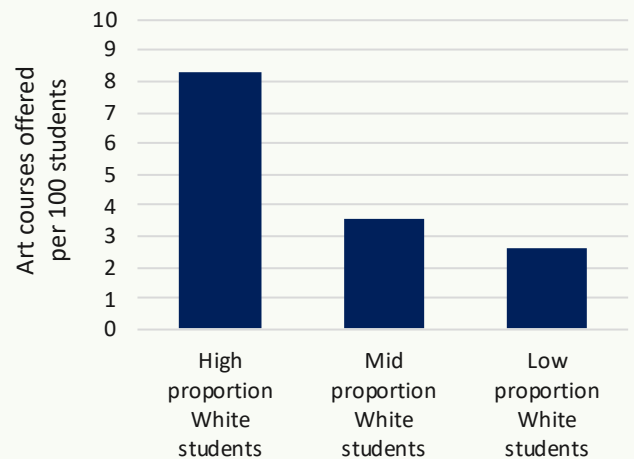


2 There are pronounced disparities in art course offerings across HISD high schools based on the percentage of White students schools serve.

The percentage of a school's student body who are White is a key determinant of the total number of art courses the school offers. This remains true even after controlling for related characteristics of schools' student bodies; i.e., even when accounting for the variation in schools' art course offerings attributed to the size of the school (total student enrollment) as well as the percentages of their students who are economically disadvantaged, emergent bilingual, and receiving special education services, their percentage of white students remains a significant predictor of course offerings, as seen in Figure 3.

The HISD high schools that serve student bodies with relatively high proportions of White students have a predicted mean, or average, of 8.30 art courses offered per 100 students adjusting for differences in other student body characteristics. Conversely, high schools that serve low proportions of White students have a predicted mean of 2.58 art courses offered per 100 students.

FIGURE 3 Predicted mean number of art courses offered per 100 students in high schools by high-proportion White and Latinx student bodies, adjusted for other related school-level characteristics



Notes: Predicted means are based on linear regression models predicting total art courses offered using percentage of White students, percentage of economically disadvantaged students, percentage of dual language learners, percentage of students in special education, and total school enrollment.

Art Course Enrollment in HISD High Schools

3 There is also substantial variation in art course enrollment by the socioeconomic and racial composition of HISD high schools.

Low-poverty high schools enroll many more students in art courses than mid- and high-poverty schools. On average, low-poverty schools have 2.24 art course enrollments per student compared to 1.23 and 1.27 for mid- and high-poverty schools, respectively (see Figure 4).

HISD high schools that serve relatively high proportions of Latinx and Black students see an average of 1.21 and 1.16 art course enrollments per student, respectively. In contrast, high schools who serve relatively high proportions of White and Asian students see 2.20 and 2.29 art course enrollments per student, respectively (see Figure 5).

FIGURE 4

Average enrollment in art courses per student by high school poverty

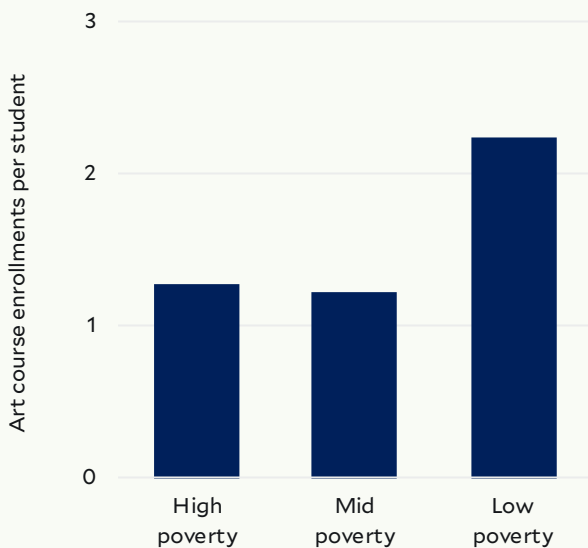
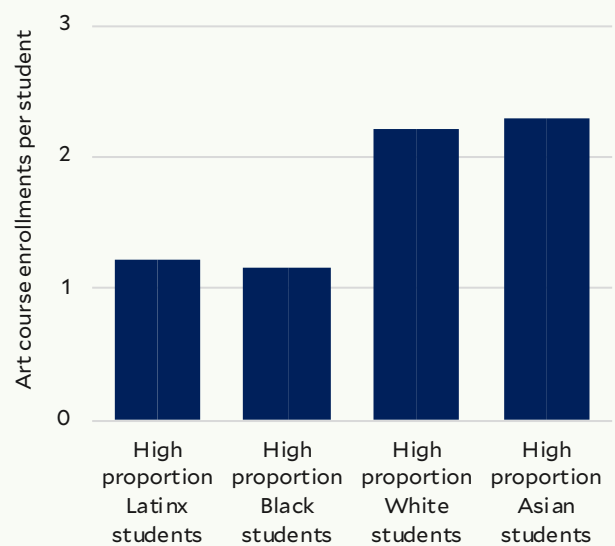


FIGURE 5

Average enrollment in art courses per student by high school racial composition

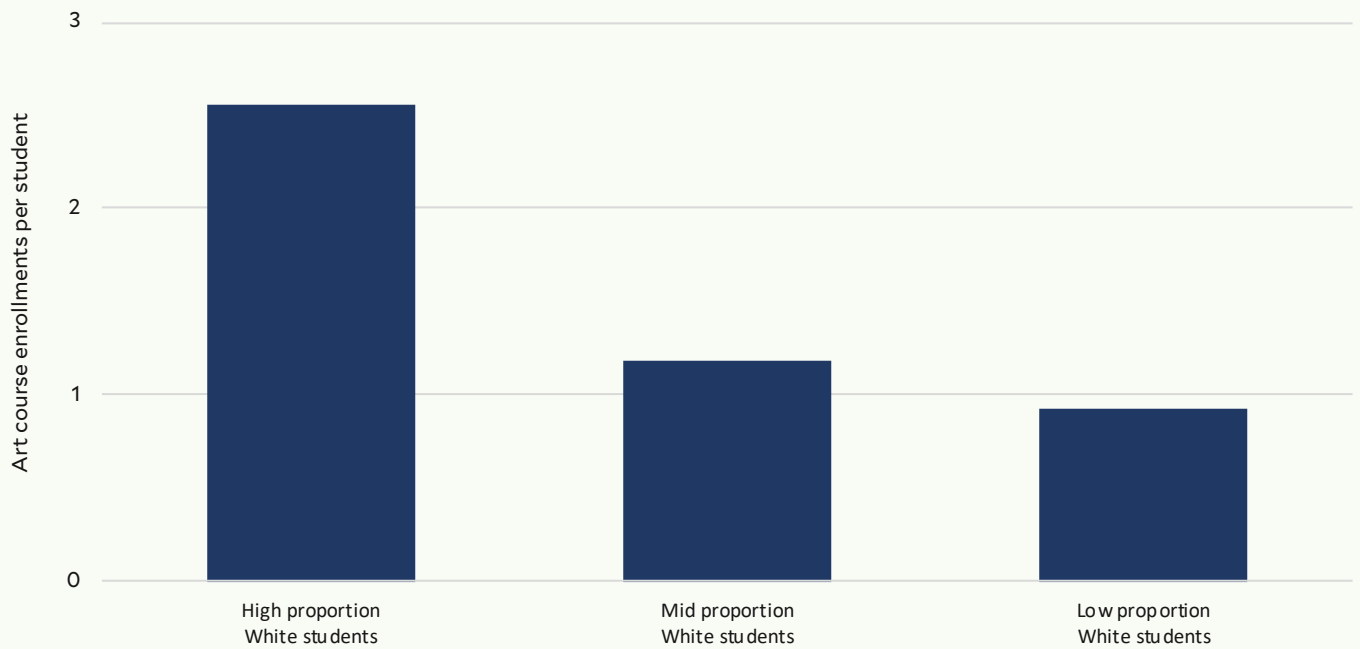


4 There seem to be pronounced disparities in art course enrollment across HISD high schools based on the percentage of White students schools serve.

There is also a significant relationship between art course enrollment and the percentage of high schools' student bodies who are White, controlling for percentage of students who are economically disadvantaged, emergent bilingual, or in special education, and total enrollment. Figure 6 indicates that high schools with relatively high proportions of White students see a predicted mean of 2.55 enrollments per student, holding other related school characteristics constant. Schools that serve student bodies composed of low proportions of White students have a predicted mean of 0.93 art course enrollments per student.

FIGURE 6

Predicted mean art course enrollment in high schools by high-proportion White and Latinx student bodies, adjusted for other related school-level characteristics



Notes: Predicted means are based on linear regression models predicting total art course enrollment using percentage of White students, percentage of economically disadvantaged students, percentage of dual language learners, percentage of students in special education, and total school enrollment.

Conclusion

The aims of this study are to assess the extent to which national trends in inequitable arts learning opportunities occur in HISD. We find substantial variation in the number of HISD secondary schools' art course offerings and the number of students enrolled in art courses. Variations in the number of high schools' course offerings and student enrollment appear to be along racial/ethnic and socioeconomic lines. Our analysis suggests that high schools serving the largest proportions of White, Asian, and more socioeconomically advantaged students in HISD offer and enroll more students in arts courses than schools serving predominantly Latinx, Black, and socioeconomically disadvantaged students.

We further investigated these disparities by conducting regression analyses that allow us to simultaneously control for different sources of variation. Results from these analyses indicate that the racial composition (percentage of White students) of schools remains a significant predictor of both art course offerings and student enrollment when controlling for schools' socioeconomic composition and other relevant factors, suggesting that inequities in access to arts learning opportunities are likely driven by differences in the racial composition of the communities HISD secondary schools serve. Therefore, our analysis suggests that national trends in arts education disparities occur in HISD.

Some important limitations and caveats merit mention. First, due to limitations in the data, we were unable to explore disparities in arts education opportunities for HISD elementary and middle schools. Second, we don't have a comprehensive picture of the extent to which arts education opportunities are inequitable in terms of quality—e.g., curriculum, instruction, and educational resources—or arts programming that students are participating in extracurricularly. However, these disparities in course offerings and enrollment likely serve as

reasonable proxies for what this more comprehensive picture looks like.

Implications & Recommendations

- **Increase arts education opportunities for schools serving primarily high-poverty, Black, and Latinx student bodies, particularly those with lower resource levels.** Given past research indicating that students from socially disadvantaged racial/ethnic backgrounds tend to be more dependent on schools for arts learning opportunities, these variations pose equity concerns. Engagement in the arts is intrinsically valuable, and, therefore, the relative lack of these opportunities for students attending schools that serve the largest racial/ethnic groups in HISD is inherently negative. Based on recent research, losing out on these valuable opportunities also comes with opportunity costs in terms of policy-relevant educational benefits, such as better student engagement, school climate, and social and emotional well-being. Inversely, higher levels of art education opportunities at high schools serving more socially advantaged student bodies might serve to further advantage these students in high school and postsecondary contexts, reinforcing preexisting social inequalities.
- **Undertake efforts to annually collect additional data on school-provided arts learning opportunities.** Future studies with more precise data would have the benefit of potentially identifying more precise recommendations. For example, it might be helpful to know that disparities in course offerings are primarily driven by schools' ability to employ more certified arts teachers in a diverse array of disciplines (e.g., dance, music, theater, and visual arts). Future studies and research efforts should also further

investigate barriers and impediments to reducing disparities in arts education opportunities. We also recommend that data on school-level arts education opportunities and resource data become **publicly available**. Past studies have shown that such efforts allow parents to make better informed school choices and can help reduce inequities in arts education opportunities.

- **Schools that struggle to provide students with these opportunities may wish to consider engaging in partnerships with local arts organizations** (see Bowen & Kisida, 2017, 2023a). Such partnerships should not be viewed as substitutes for regular, prolonged school-provided arts education; however, these partnerships can provide valuable support to schools and their art educators.

Appendix A: Further Information on Data and Methods

Analyses presented in this report focus on high schools because 68.7% of elementary schools and 37.5% of combination schools were missing data on the variables of interest, and the missingness appears to be nonrandom. Exploratory analyses suggested that there is not significant variation in art course taking and enrollment among HISD middle schools.

The artlook® data we investigated for this study were collected during the 2019-20 school year, which likely posed challenges for collecting survey data because of the COVID-19 pandemic and is reflected in low survey response rates. Moreover, based on demographics, schools that completed this survey did not appear to be representative of the full HISD population. Therefore, we restricted our analyses to schools' arts course offerings and student enrollment. Course offering and student enrollment data were pulled from HISD records, thus having lower levels of missing data. Restricting our analyses to these variables restricts our ability to provide a more comprehensive look at arts learning opportunities, but these two variables likely serve as proxies for the broader set of arts opportunities available at schools and their students' engagement. Descriptive statistics on all variables considered are provided in Appendix B.

For analytic reasons we constructed categorical versions of the key student body demographic variables. We consider a school to be low-, mid-, or high-poverty based on the proportion of students who are economically disadvantaged relative to all other HISD high schools. Additionally, percentage of economically disadvantaged students was used to create high- (Q1 and below), mid- (Q1-Q3), and low-poverty (Q3 and above) school categories. Twenty-five percent of HISD high schools serve student bodies that are between 95.5% and 100% economically disadvantaged, which we consider "high poverty" relative to other HISD high

schools. We consider the 50% of high schools that serve between 68.6% and 95.4% "mid-poverty" schools. The remaining 25% of high schools serve student bodies that are between 17.8% and 68.5% economically disadvantaged, which we consider "low poverty" in this study. Racial/ethnic differences in arts education opportunities are compared in a similar fashion. High- and low-proportion racial/ethnic group categories were constructed using the highest (Q3 and above) and lowest (Q1 and below) quartiles. We consider a school that is in the top 25% of schools that serve the most students from a particular racial/ethnic background to be "high proportion" and the bottom 25% of schools serving the least students from that group to be "low proportion."

To examine how the characteristics of schools' student bodies relate to art course offerings and enrollment, we present predicted means post-estimated from linear regression models. The outcome variables include the total art courses offered at schools and the total art course enrollment at each school. The linear regression models include all variables of interest, including school racial composition; percentage of economically disadvantaged students; percentage of dual language learners; percentage of students receiving special education services; and total enrollment. By including all potential predictors, results are adjusted for how these characteristics of schools' student bodies are related to each other, enabling a clearer understanding of which characteristic drives differences in art course offerings/enrollment. The predicted means in the figures focus

on the predictors that retain a statistically significant relationship with the outcome measure after adjusting for other characteristics of the school's student body. Results from regression models are presented in Appendix C.

Appendix B: HISD High School Descriptive Statistics

TABLE 1 Descriptive statistics

Outcome variables	Mean/ proportions	(SD)
Art courses offered	46.45	(47.62)
Art course enrollment		
Student body demographics	41%	37%
Racial composition		
% Latinx	62.74	(22.91)
% Black	27.93	(21.47)
% White	4.99	(8.16)
% Asian	3.48	(6.42)
% 'Other' race/ethnicity	0.85	(0.87)
% Economically disadvantaged	80.59	(20.63)
% Emergent bilingual	18.56	(19.57)
% In special education services	8.71	(13.83)
Total enrollment	1001.96	(876.28)
n=49		

Note: Art course enrollment represents the total number of art courses students enrolled in, meaning students enrolled in multiple art courses are counted more than once. 'Other' race/ethnicity includes Native Hawaiian or Pacific Islander, multi-racial, and American Indian or Alaska Native. Racial/ethnic categories were collapsed into an 'other' category due to small cell sizes.

Appendix C: Results from Regression Models

TABLE 2

Coefficients from linear regression model predicting art course offerings and enrollment in HISD high schools

	HISD High Schools (n=49) (SD)					
	Art course offerings			Art course enrollment		
	B		(SE)	B		(SE)
% White	3.59	**	(0.98)	99.25	***	(22.53)
% Economically disadvantaged	0.58		(0.48)	14.73		(11.1)
% Emergent bilingual	-0.18		(0.24)	0.39		(5.44)
% In special education	0.94		(0.84)	48.63	*	(19.4)
Total enrollment	0.03	***	(0.01)	0.88	***	(0.12)
r-squared		0.73			0.80	

*p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001. Note: Additional models were specified for sensitivity analysis. Models without racial/ethnic composition suggest that % economically disadvantaged is significantly related to the dependent variables. % economically disadvantaged is highly correlated with % White but less correlated to % Latinx, Black, and Asian.

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The Kinder Institute for Urban Research builds better cities and improves lives through data, research, engagement and action.

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The Houston Education Research Consortium (HERC) is a research-practice partnership between the Kinder Institute for Urban Research and 10 Houston-area school districts. HERC aims to improve the connection between education research and decision making for the purpose of equalizing outcomes by race, ethnicity, economic status, and other factors associated with inequitable educational opportunities.



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