Data, Methods, and Results

Data and Sample

Student- and school-level data for our empirical analysis comes from the Missouri Department of Elementary and Secondary Education (DESE). The student-level enrollment and core demographic data were collected from the 2007-2008 school year through the 2021-2022 school year. The student-level sample in the datasets includes complete records for *any* student from kindergarten through 12th grade who attended a public school (including a public charter school) in one of the five St. Louis area counties throughout the study period: St. Louis City, St. Louis County, and three surrounding counties: St. Charles County, Franklin County, and Jefferson County. Student-level data was then merged with publicly available school-level assessment and discipline data from the DESE. In order to capture school-level measures that were not prone to COVID-19 disruptions, we leveraged school-level data from the 2018-2019 school year. The school assessment file included average scores in state-level ELA and math assessments, while the school discipline file included average incidents in student discipline. Finally, these data were merged with neighborhood-level data (by zip-code) from the American Community Survey 5-year estimates (2009-2021). ACS survey data includes a wide variety of measures across economic, housing, and other social characteristics.

Based on our focus on *unstructured moves to other schools occurring during the school year*, a small proportion of observations were removed through listwise deletion. Specifically, we removed pre-kindergarten observations, summer school observations, records in which entry dates are the same as the exit dates ("no shows"), records in which the exit code is stop-out, drop-out, or deceased, and a small number of students records that we were not able to school-level, or neighborhood-level datasets (e.g., for students that attended a virtual school). A visual depiction of our missing data can be found in Appendix A. The final analytical sample includes 4,522,936 student-level records (471,749 for St. Louis City county and 3,808,597 for four counties) across 15 school years. Each of the school years has roughly[1] on average. While our five-county analysis allows us to understand student mobility across an entire metropolitan region, we also include a subsample analysis of one county—St. Louis City—to explore mobility dynamics within a central city.

Measures

Dependent Variables

For the first analysis, we constructed a dichotomous outcome variable by dividing students' exit status into two categories (0 = remain[2] in the school; and 1 = transfer to another school). In the second analysis, we constructed a multinomial outcome variable by dividing students' exit status into five categories (0 = remain in the school; 1 = transfer to another school within the same district; 2 = transfer to another school outside of the same districts; 3 = transfer to a private school or a home-schooling option; and 4 = transfer to school within another state or country).

Independent Variables

Our main analyses involve examining the associations between student-, school-, and neighborhood-level demographic characteristics and unstructured transfers occurring during the school year generally and, specifically, the types of unstructured transfers occurring during the

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[1] Here, it is important to note that students can have multiple records in a given year, as records are based on student-school-year dimensions. For example, if a student attends two school in a given year, that student will have two separate records

[2] Also included students who graduated

school year. Student-level characteristics include: school year, grade level (ranging from kindergarten through 12th grade), race/ethnicity (White, Black, Hispanic, Asian, and others), gender (female and male), lunch status (free, reduced-, and regular-priced), disability status (student with and without an IEP), English language status (ELL and non-ELL), homeless status (not homeless, sheltered, unsheltered, doubled-up, and staying in a hotel/motel), and residency status (resident in the attending school district, not a resident in the attending school district). Additionally, school-level characteristics include the numbers of enrolled students, percentages of free/reduced lunch students, percentages of each race/ethnicity group (White, Black, Hispanic, Asian, and others), in-school suspension rates, and proficiency rates in state-level math and ELA assessments. Finally, neighborhood-level characteristics include median household income, percentages of individuals from various racial/ethnic groups (White, Black, and Other), percentages of educational attainment levels (less than some college vs some college or higher), and percentages of homeownership within each zip code for year 2021.

Analytic Approach

Regression Modeling

For our main results, we utilized both logistic regression (for dichotomous outcomes) and multinomial logistic regression (for multinomial outcomes). Because our data are longitudinal with students being observed across multiple years, we clustered standard errors at the individual level. For our examination of whether or not students transfer, we apply the following logistic regression models:

$$Ln\left(\frac{P}{1} - P\right) = \beta_0 + \beta_1 student - level\ covariates_i + \varepsilon_i \quad (1)$$

$$Ln\left(\frac{P}{1} - P\right) = \beta_0 + \beta_2 school - level\ covariates_i + \varepsilon_i \quad (2)$$

$$Ln\left(\frac{P}{1} - P\right) = \beta_0 + \beta_3 neighborhood - level\ covariates_i + \varepsilon_i \quad (3)$$

$$Ln\left(\frac{P}{1} - P\right) = \beta_0 + \beta_1 student - level\ covariates_i + \beta_2 school - level\ covariates_i + \varepsilon_i$$
(4)

$$Ln\left(\frac{P}{1} - P\right) = \beta_0 + \beta_1 student - level\ covariates_i + \beta_3 neighborhood - level\ covariates_i + \varepsilon_i \quad (5)$$

$$Ln\left(\frac{P}{1} - P\right) = \beta_0 + \beta_1 student - level\ covariates_i + \beta_2 school - level\ covariates_i + \beta_3 neighborhood - level\ covariates_i + \varepsilon_i \quad (6)$$

where β_0 captures the intercept, β_1 captures the effect of student-level variables on the likelihood that a student transferred to a different school within the school year, β_2 captures the effect of school-level variables, β_3 captures the effect of neighborhood-level variables, and ε_i is an error term clustered at the student level. To understand potential mediating or confounding effects, we modeled student, school, and neighborhood variables individually and simultaneously. Equation (1) includes only student-level variables; equation (2) includes only school-level ones; equation (3) includes only neighborhood-level ones; equation (4) student- and school-level variables; equation (5) includes student- and neighborhood-level variables; and equation (6) includes student-, school-, and neighborhood-level variables. To aid interpretation, our results are reported in odds ratios.

For our examination of the types of student transfers, we apply the following multinomial logistic regression models:

$$Ln\left(\frac{P\ (Y_1=T)}{P\ (Y_1=R)}\right) = \beta_0 + \beta_1 student - level\ covariates_i + \varepsilon_i \quad (7)$$

$$Ln\left(\frac{P\,(Y_1=T)}{P\,(Y_1=R)}\right) = \beta_0 + \beta_1 student - level\ covariates_i + \beta_2 school - level\ covariates_i + \varepsilon_i$$
(8)
$$Ln\left(\frac{P\,(Y_1=T)}{P\,(Y_1=R)}\right) = \beta_0 + \beta_1 student - level\ covariates_i + \beta_2 school - level\ covariates_i +$$
$$\beta_3 neighborhood - level\ covariates_i + \varepsilon_i \quad (9)$$
where $P()$ represents the logistic probability function for each transfer type, R is the reference category, remaining at one's school, and T is each of the four student transfer types. Equation (7) includes only student-level variables, (8) student- and school-level ones, and (9) student-, school-, and neighborhood-level ones. Because we compare the likelihood of each type of student transfer to remaining at one's school, we use relative risk ratio for the interpretation of the coefficients.

Results

Sample Description[3]

Table 1 presents descriptive statistics for the sample. On average, over 91% of the student records remained in the school across the school years and about 9% applied to any of student transfer types. For gender, 51% were males and 49% females. For race/ethnicity, about 62% were white, 28% African-American, and about 4% Hispanic. In lunch status, about 56% were non-reduced lunch and 40% free lunch, and 4% reduced lunch. For special education and ELL, about 16% were special education and 14% were ELL. For homeless status, while about 97% were not homeless, about 3% were doubled-up and the rest of the three categories were less than 1%. In the residency status, about 98% were residents in attending schools. In terms of school level, in addition to some of the same student-level variables, such as lunch status, race/ethnicity, ELL, and special education, in-school suspension and proficiency rates in the state assessments for ELA and math were included. The suspension rate was about 0.1% on average, while proficiency rates in ELA (mean = 52.5; SD=20.0) was slightly higher than math (mean = 44.8; SD=20.9). Lastly, in the neighborhood level, the median household income in 2021 was 77.0 on average. For the percent of race/ethnicity, white was the highest (mean = 71; SD=27). The percent of those who have some college or higher degree was 68% SD=13%). The percent of homeownership was 71% (SD=16%).

As St. Louis City in Table 1, St. Louis City had similar percentages in special education, ELL, homeless status, and residency status, some variables had different percentages. For example, the percentage of African American students was much higher (75.8%) than five counties (28.3%), while the percentage of white ones was lower (15.6%), compared to 62% across five counties. The free lunch was also much higher (84.3%) than five counties (40.0%), while non-reduced lunch was much lower (13.2%) than five counties (55.5%). In the school level, the percentage of ELL or special education was also higher (9.9%) than five counties (3.9%). By contrast, proficiency rates in the state assessments were low in both ELA (24.8) and math (19.4), compared to 44.8% in math and 52.5% in ELA across the five counties.

Tables 2-1, -2, and 3 show the descriptive statistics in each transfer type for five counties, STL, and the rest of the four counties, respectively. Transfers outside districts had the highest percentage in all student-level variables. In the school year, the school year of 2008 had the highest percentage (6.5%). In the grade level, the kindergarten level had the highest one, compared to the rest of the other grade levels. In the race/ethnicity, African-American students

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[3] The analytic sample is based on student-school-year records, such that some individuals may appear more than once in a given year.

had the highest one (7.0%). For the lunch status, free lunch had the highest one (7.9%). In the homeless status, shelters had the highest one (16.8%) and the hotel/motel had the second one (15.6%).

When considering transfer types in St. Louis City County, while St. Louis City County also had the highest percentages in transfers outside districts, it had different percentages in some variables. For example, while the year of 2008 had the highest one (17.6%). In addition, 9th grade level (8.0%) in the grade level, Black (6.16%), unreduced lunch (13.1%), and other residency status (7.9%) had the highest one, respectively, unlike the five counties. In the school and neighborhood level, St. Louis City had some lower values such as proficiency rates in both math (19.4%) and ELA (24.8%) and percentages of homeownership (41%).

Who Transfers?

Table 3 examines the association between student transfers and student-level (Model 1), school-level (Model 2), and neighborhood-level variables (Model 3), as well as student- and school-level variables (Model 4), student- and neighborhood-level variables (Model 5), and student-, school-, and neighborhood level variables (Model 6). Across all outcomes, almost all of the student-level variables, including school year, grades, race/ethnicity, homeless status, ELL, residency status, and special education were all significantly associated with student transfers. In Model 6, when compared to kindergarten students, 1st through 8th graders were significantly associated with a slight decrease in the odds of transferring to a different school, while 9th – 12th graders were significantly associated with a slight increase in the odds. Additionally, we use a coefficient plot of Model 6 to visualize the odds ratios of predictors in our logistic regression model.[4] Starting with student-level variables (Figure 1), males (OR=1.05***) – when compared to females, Black (OR=1.46***), Hispanic (OR=1.29***), Asian students (OR=1.65***), and others (OR=1.39***) - when compared to White ones, free lunch (OR=1.80***) – when compared to nonreduced lunch, shelters (OR=2.84***), unsheltered (OR=2.45***), doubled-up (OR=1.64***), and hotel/motel (OR=2.76***) – when compared to non-homeless, special education (OR=1.14***) – when compared to non-special education, were significantly associated with increased odds of transferring to another school. Conversely, reduced lunch (OR=0.95***) – when compared to nonreduced lunch, ELL (OR=0.90***) – when compared to Non-ELL, were significantly associated with decreased odds of transferring to another school. Moving onto school-level variables, one-unit increases in the percent of Black students (OR=0.99***), the percent of ELL and special education (OR=0.99***), and the proficiency rates of ELA (OR=0.99***) were all significantly associated with decreased odds of transferring to another school. Moving onto neighborhood variables, a one-unit increase in the percent of Black students (OR=1.05*) was significantly associated with increased odds of transferring to another school. Conversely, a one-unit increase in the percent of Hispanic residents (OR=0.54***) was significantly associated with decreased odds of transferring to another school.

When considering St. Louis City (Table 3 and Figure 2), we observe both similarities and differences. Starting with similarities, male students (OR=1.11***), Black (OR=1.08***), reduced lunch (OR=0.33***), unshelters (OR=1.68***), double-up (OR=1.50***), hotel/motel (1.57***), ELL (OR=0.85***), special education (OR=1.04***), one-unit increases in the percent of in-school suspension (OR=0.96***), proficiency rates in ELA (OR=0.97***), percent of Black (OR=2.96***) were all significantly associated. Moving onto differences, Hispanic

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[4] To save space, years and grades are suppressed in the coefficient plot.

(OR=1.29*** → 0.90***), Asian (OR=1.65*** → 0.85***), free lunch (OR=1.80*** → 0.43***), shelters (OR=2.77*** → 1.76***), hotel/motel (OR=2.76*** → 1.76***), other residency statuses (OR=0.77*** → 1.73***), percent of enrolled students (OR=1.00*** → 0.94***), percent of Hispanic (OR=1.00*** → 0.99***), proficiency rates in math (OR=0.99*** → 1.01***), percent of median household income (OR=1.00*** → 0.99***), percent of Hispanic (OR=0.54*** → over 10.0***), percent of those who had some college or higher degrees (OR=0.99 → 2.54), and percent of homeownership (OR=0.98→ 3.16***) were all significantly associated

Where do Students Transfer?

Tables 4 - 6 illustrate the associations between transfer types and student-level variables, student- and school-level variables, and student-, school-, and neighborhood-level variables, respectively. Similar to the previous set of analyses, almost all of the student-level variables, including, race/ethnicity, homeless status, ELL, residency status, and special education were all significantly associated with different types of student transfers. Similarly, we use a coefficient plot of Model 6 to visualize the relative risk ratios of predictors in our multinomial regression model. Relative to remaining in one's school, males (RRR=1.11***), Asians (RRR=1.23***), Black (RRR=2.08***), Hispanic (RRR=1.35***) , other races and ethnicities (RRR=1.40***), free (RRR=2.10***) and reduced lunch (RRR=1.23***), shelters (RRR=2.92***), unsheltered (RRR=2.52***), doubled-up (RRR=2.84***), hotel/motel (RRR=2.67***), special education (RRR=1.48***), the percent of ELL/special education (RRR=1.01***), a proficiency rate in math (RRR=1.01***), the percent of Black residents (RRR=1.66***), and percent of Hispanic (RRR=142.8***), and the percent of those who had some college and higher degrees (RRR=1.31***), were all significantly associated with increased chances of transferring to another school in the same district, while ELL (RRR=0.85***), other residency statuses (RRR=0.81***), the percent of enrolled students (RRR=0.92***), the percent of free/reduced lunch (RRR=0.99*), the percent of Black students (RRR=0.99***), the percent of Hispanic (RRR=0.98*), the percent of in-school suspension (RRR=0.88***), a proficiency rate in ELA (RRR=0.96***), and the percent of homeownership (RRR=0.49***) were all significantly associated with decreased chances of transferring to another school in the same district. Males (RRR=1.05**), Black (RRR=1.42***), Hispanic (RRR=1.06***), other races and ethnicities (RRR=1.38***), free lunch (RRR=2.08***), shelters (RRR=2.69***), unsheltered (RRR=2.30***), doubled-up (RRR=1.56***), hotel/motel (RRR=2.77***), special education (RRR=1.10***), the percent of free/reduced lunch (1.01***), the percent of Hispanic (RRR=1.02***), the percent of in-school suspension (RRR=1.04***), the percent of those who had some college or higher degrees (RRR=1.12*), and the percent of homeownership (RRR=1.39***), were all significantly associated with increased chances of transferring to another school in another district, while ELL (RRR=0.81***), other residency statuses (RRR=0.91***), the percent of enrolled students (RRR=0.97***), the percent of Black students (RRR=0.98***), the percent of ELL/special education (RRR=0.98***), proficiency rates in ELA (RRR=0.99***) and math (RRR=0.99***), median household income (RRR=0.99***), the percent of Black residents (RRR=0.89***), and the percent of Hispanic (RRR=0.89***), were all significantly associated with decreased chances of transferring to another school in another district. Furthermore, males (RRR=1.06**), free lunch (RRR=1.23***), shelters (RRR=2.67***), unsheltered (RRR=1.77*), doubled-up (RRR=1.11**), hotel/motel (RRR=1.82***), special education (RRR=1.49***), the percent of Hispanic (RRR=1.02***), a

ELA proficiency rate (RRR=1.002***), and the percent of those who had some college and higher degrees (RRR=1.25*), were all significantly associated with increased chances of transferring to a home or private school, while Asian (RRR=0.76***), Black (RRR=0.93***), Hispanic (RRR=0.90**), reduced lunch (RRR=0.78***), ELL (RRR=0.92***), other residency statuses (RRR=0.64***), enrolled students (RRR=0.95***), the percent of Black students (RRR=0.99***), the percent of in-school suspension (RRR=0.89***), median household income (RRR=0.99***), the percent of Hispanic residents (RRR=0.01***), were all significantly associated with decreased chances of transferring to a home or private school. In addition, Asian (RRR=3.48***), Black (RRR=1.59***), Hispanic (RRR=2.34***), Other races and ethnicities (RRR=1.75***), free lunch (RRR=1.34***), Shelters (RRR=3.11***), unsheltered (RRR=3.48***), doubled-up (RRR=1.95***), hotel/motel (RRR=3.49***), ELL (RRR=1.26***), the percent of Black (RRR=1.01***), the percent of ELL/special education (RRR=1.02***), proficiency rates in ELA (RRR=1.002*) and math (RRR=1.01***), the percent of Hispanic residents (RRR=3.83***), the percent of those who had some college or higher degrees (RRR=1.58***), and the percent of homeownership (RRR=1.35***), were all significantly associated with increased chances of transferring to a school in another state or country, while reduced lunch (RRR=0.95*), other residency statuses (RRR=0.47***), special education (RRR=0.83***), enrolled students (RRR=0.99***), the percent of free/reduced lunch (RRR=0.99***), the percent of in-school suspension (RRR=0.99**), median household income (RRR=0.99***), were significantly associated with decreased chances of transferring to a school in another state or country.

When considering St. Louis City (Tables 4-2, 5-2, and 6-3), we observe both similarities and differences for each student transfer type. For transferring to another school in the same district, male students (RRR=1.23***), Black (RRR=1,33***), shelters (RRR=2.21***), unsheltered (RRR=2.34***), doubled-up (RRR=1.67***), hotel/motel (RRR=1.78***), special education (RRR=0.57***), enrolled students (RRR=0.84***), percent of Black and Hispanic (RRR=0.98***), the percent of ELL/special education (RRR=1.01***), proficiency rates in ELA (RRR=0.96***), percent of Black residents (RRR=10.51***), percent of Hispanic residents (RRR=over 100.00***), percent of those who had some college or higher degrees (OR=1.31***), were similarly significantly associated, while other races and ethnicities (RRR=1.40*** → 0.66***), free (RRR=2.10*** → 0.82***) and reduced lunch (RRR=1.23*** → 0.48***), other residency statuses (RRR=0.81*** → 3.65***), the percent of free/reduced lunch (RRR=0.99*** → 1.19***), median household income (RRR= 1.001 → 0.99***), median household income (RRR=1.00 → 0.99***), and percent of homeownership (RRR=0.49*** → 2.60***) were all significantly associated differently. In terms of transferring to another school in another district, male students (RRR=1.05***), Black (RRR=1.07***), shelters (RRR=1.42***), doubled-up (RRR=1.33***), ELL (RRR=0.92***), the percent of free/reduced lunch (RRR=1.002*), percent of Black (RRR=0.99***), proficiency rates in ELA (RRR=0.97***), median household income (RRR=0.99***), and percent of homeownership (RRR=3.82***), were similarly significantly associated, while Asian (RRR=1.00 → 0.72***), Hispanic (RRR=1.01*** → 0.70***), free (RRR=2.08*** → 0.30***) and reduced lunch (RRR=0.99 → 0.28***), special education (RRR=1.48*** → 0.92***), other residency statuses (RRR=0.91*** → 1.58***), percent of Hispanic (RRR=1.02*** → 0.98***), the percent of in-school suspension (RRR=1.04*** → 0.93***), proficiency rates in ELA (RRR=0.99*** → 1.01***), percent of Black residents (RRR=0.89*** → 1.95***), and percent of Hispanic residents (RRR=0.09*** → over 100.00***), were all significantly associated differently. For

transferring to a home or private school, Black (RRR=0.81**), reduced lunch (RRR=0.66***), shelters (RRR=1.48***), ELL (RRR=0.84*), percent of Hispanic (RRR=1.04***), the percent of in-school suspension (RRR=0.90***), percent of Black (RRR=2.47***), percent of Hispanic (RRR=below 0.001***), and percent of homeownership (RRR=24.23***), were similarly significantly associated, while free lunch (RRR=1.23*** → 0.65***), unsheltered (RRR=1.77* → 1.95***), the percent of free/reduced lunch (RRR=1.00 → 0.96***), proficiency rates in ELA (RRR=1.00*** → 0.97***), and were all significantly associated differently. For transferring to a school in another state or country, Hispanic (RRR=1.27**), reduced lunch (RRR=0.39**), shelters (RRR=2.28***), doubled-up (RRR=1.50***), hotel/motel (RRR=2.23***), special education (RRR=0.75***), ELL (RRR=1.22*), enrolled students (RRR=0.97***), the percent of free/reduced lunch (RRR=0.99***), percent of Black (RRR=1.01***), the percent of ELL/special education (RRR=1.02***), proficiency rates in math (RRR=1.02***). median household income (RRR=0.98***), percent of Hispanic (RRR=below 100.00***), and percent of homeownership (RRR=3.78***), were similarly significantly associated, while Black (RRR=1.59** → 0.78**), free lunch (RRR=1.34** → 0.45**), proficiency rates in ELA (RRR=1.002*** → 0.98***), were all significantly associated differently.

Table 1. Results of descriptive statistics with binary outcomes (remained and transferred)

	Five counties						St. Louis City						Four counties					
Exit code	Remained		Transfer		Total (4,522,936)		Remained		Transfer		Total (471,749)		Remained		Transfer		Total (3,808,597)	
Student level variables	%/Mean	SD	%/Mean	SD	N/Mean	%/SD	%/Mean	SD	%/Mean	SD	N/Mean	%/SD	%/Mean	SD	%/Mean	SD	N/Mean	%/SD
School year																		
2008	91.3%		8.7%		296567	6.6%	81.4%		18.6%		28946	6.1%	93.3%		6.7%		256111	6.7%
2009	91.7%		8.3%		296269	6.6%	87.6%		12.4%		27160	5.8%	93.0%		7.0%		256152	6.7%
2010	91.9%		8.1%		299838	6.6%	86.7%		13.3%		29406	6.2%	93.4%		6.6%		255860	6.7%
2011	91.5%		8.5%		301847	6.7%	85.6%		14.4%		30409	6.5%	93.2%		6.8%		255429	6.7%
2012	91.3%		8.7%		303020	6.7%	86.1%		13.9%		30324	6.4%	93.0%		7.0%		255734	6.7%
2013	91.1%		8.9%		307807	6.8%	84.4%		15.6%		33520	7.1%	93.0%		7.0%		256631	6.7%
2014	91.3%		8.7%		307699	6.8%	87.2%		12.8%		32670	6.9%	92.9%		7.1%		256681	6.7%
2015	91.4%		8.6%		307976	6.8%	87.2%		12.8%		33006	7.0%	93.0%		7.0%		256380	6.7%
2016	91.6%		8.4%		307580	6.8%	88.3%		11.7%		32702	6.9%	93.1%		6.9%		256247	6.7%
2017	91.8%		8.2%		305770	6.8%	88.8%		11.2%		32169	6.8%	93.2%		6.8%		255184	6.7%
2018	91.9%		8.1%		304852	6.7%	88.0%		12.0%		32879	7.0%	93.4%		6.6%		254203	6.7%
2019	92.3%		7.7%		302500	6.7%	87.3%		12.7%		33112	7.0%	93.9%		6.1%		252323	6.6%
2020	93.4%		6.6%		299808	6.6%	89.5%		10.5%		32810	7.0%	94.6%		5.4%		251303	6.6%
2021	93.4%		6.6%		291541	6.5%	93.3%		6.7%		31315	6.6%	94.2%		5.8%		245381	6.4%
2022	93.5%		6.5%		289862	6.4%	90.4%		9.6%		31321	6.6%	94.5%		5.5%		244978	6.4%
Grade level																		
Kindergarten	90.3%		9.7%		345840	7.7%	87.4%		12.6%		46602	9.9%	92.0%		8.0%		281285	7.4%
1st grade	90.6%		9.4%		351043	7.8%	87.3%		12.7%		45702	9.7%	92.2%		7.8%		286764	7.5%
2nd grade	91.1%		8.9%		351624	7.8%	87.7%		12.3%		42855	9.1%	92.6%		7.4%		288227	7.6%
3rd grade	91.6%		8.4%		351091	7.8%	88.4%		11.6%		40335	8.6%	93.0%		7.0%		289114	7.6%
4th grade	91.9%		8.1%		349687	7.7%	88.0%		12.0%		38727	8.2%	93.3%		6.7%		289261	7.6%
5th grade	92.2%		7.8%		345925	7.7%	88.4%		11.6%		37022	7.9%	93.6%		6.4%		287463	7.6%
6th grade	92.7%		7.3%		336377	7.4%	88.1%		11.9%		32669	6.9%	94.1%		5.9%		282007	7.4%
7th grade	93.1%		6.9%		343679	7.6%	89.2%		10.8%		30781	6.5%	94.3%		5.7%		293086	7.7%
8th grade	92.5%		7.5%		343153	7.6%	88.3%		11.7%		29594	6.3%	93.9%		6.1%		294135	7.7%
9th grade	91.5%		8.5%		370477	8.2%	82.7%		17.3%		38404	8.1%	93.6%		6.4%		312969	8.2%
10th grade	91.9%		8.1%		355727	7.9%	85.7%		14.3%		32090	6.8%	93.5%		6.5%		306619	8.1%
11th grade	92.8%		7.2%		339660	7.5%	86.9%		13.1%		27928	5.9%	94.1%		5.9%		298582	7.8%
12th grade	93.5%		6.5%		338653	7.5%	90.0%		10.0%		29040	6.2%	94.1%		5.9%		299085	7.9%
Race/Ethnicity																		

Asian	92.5%	7.5%	141215	3.1%	91.1%	8.9%	11073	2.4%	92.7%	7.3%	128425	3.4%						
Black	88.2%	11.8%	1280559	28.3%	86.7%	13.3%	357781	75.8%	89.5%	10.5%	888293	23.3%						
Hispanic	91.4%	8.6%	167666	3.7%	91.2%	8.8%	23454	5.0%	92.1%	7.9%	137828	3.6%						
White	93.7%	6.3%	2807603	62.1%	89.4%	10.6%	73620	15.6%	94.9%	5.1%	2544118	66.8%						
Others	91.0%	9.0%	125893	2.8%	90.9%	9.1%	5821	1.2%	92.4%	7.6%	109933	2.9%						
Gender																		
Female	92.2%	7.8%	2203022	48.7%	88.3%	11.7%	232804	49.4%	93.6%	6.4%	1854066	48.7%						
Male	91.8%	8.2%	2319914	51.3%	86.7%	13.3%	238945	50.7%	93.3%	6.7%	1954531	51.3%						
Lunch status																		
Unreduced lunch	95.0%	5.0%	2509915	55.5%	81.4%	18.6%	62390	13.2%	95.6%	4.4%	2379107	62.5%						
Free lunch	87.6%	12.4%	1810989	40.0%	88.3%	11.7%	397834	84.3%	89.1%	10.9%	1251390	32.9%						
Reduced lunch	94.0%	6.0%	202032	4.5%	93.0%	7.0%	11525	2.4%	94.5%	5.5%	178100	4.7%						
IEP																		
No	92.3%	7.7%	3806975	84.2%	87.8%	12.2%	402561	85.3%	93.7%	6.3%	3212382	84.4%						
Yes	90.4%	9.6%	715961	15.8%	85.5%	14.5%	69188	14.7%	92.1%	7.9%	596215	15.7%						
ELL status																		
Not ELL	91.9%	8.1%	3888030	86.0%	87.0%	13.0%	404232	85.7%	93.4%	6.6%	3271935	85.9%						
ELL	92.2%	7.8%	634906	14.0%	90.6%	9.4%	67517	14.3%	93.3%	6.7%	536662	14.1%						
Homeless status																		
Not Homeless	92.4%	7.6%	4371335	96.7%	88.2%	11.8%	421096	89.3%	93.7%	6.3%	3720098	97.7%						
Shelters	70.5%	29.5%	11136	0.3%	78.0%	22.0%	5476	1.2%	69.4%	30.6%	4112	0.1%						
Unsheltered	75.4%	24.6%	1521	0.0%	79.2%	20.8%	395	0.1%	75.9%	24.1%	913	0.0%						
Doubled Up	81.5%	18.5%	129861	2.9%	81.8%	18.2%	43125	9.1%	83.1%	16.9%	76996	2.0%						
Hotel/Motel	74.5%	25.5%	9083	0.2%	81.8%	18.2%	1657	0.4%	74.6%	25.4%	6478	0.2%						
Residency status																		
Resident in the attending school	92.0%	8.0%	4426286	97.9%	87.5%	12.5%	469632	99.6%	93.4%	6.6%	3715421	97.6%						
Others	92.2%	7.8%	96650	2.1%	84.9%	15.1%	2117	0.5%	92.5%	7.5%	93176	2.5%						
School level variables																		
Number of enrolled students	7.93	5.16	6.55	4.43	7.82	5.12	3.96	2.06	3.59	1.92	3.91	2.05	8.50	5.22	7.46	4.55	8.43	5.19
Percent - Free/Reduced lunch	26.91	33.90	36.79	38.41	27.70	34.39	74.99	27.32	79.84	24.89	75.60	27.08	22.46	30.60	32.83	36.25	23.14	31.11
Percent - African-American	4.51	4.51	4.54	5.15	4.51	4.57	5.84	8.37	4.97	7.25	5.73	8.25	4.36	3.71	4.43	4.29	4.37	3.76
Percent - Hispanic	61.00	32.57	51.94	36.26	60.27	32.97	15.15	20.54	11.76	17.77	14.72	20.25	65.07	29.75	55.08	34.15	64.41	30.17
Percent - White	44.22	33.03	58.69	33.53	45.38	33.30	94.20	16.71	96.18	13.54	94.45	16.36	37.74	29.64	49.45	32.69	38.51	29.99
Percent - ELL/Special Ed.	3.87	6.79	4.41	8.47	3.91	6.94	9.82	14.52	10.41	15.85	9.90	14.69	3.29	4.84	3.47	5.25	3.30	4.87
Discipline in-school suspension rate	0.10	0.90	0.11	1.03	0.10	0.91	0.11	0.83	0.08	0.70	0.11	0.82	0.10	0.93	0.13	1.17	0.10	0.95
ELA proficiency rate	53.24	19.66	44.44	21.43	52.53	19.96	25.63	21.51	18.75	16.25	24.77	21.04	56.65	17.04	49.46	19.60	56.18	17.31

Math proficiency rate	45.54	20.57	36.68	22.32	44.83	20.86	20.18	20.20	14.26	15.50	19.44	19.77	48.77	18.75	41.23	21.92	48.27	19.06
Neighborhood level variables																		
Median Household Income (In 2021 Inflation Adjusted Dollars)	77.9	28.9	66.7	26.4	77.0	28.9	46.5	15.8	43.5	15.2	46.1	15.7	82.5	28.0	74.5	26.5	82.0	27.9
Percent - White	0.72	0.26	0.65	0.31	0.71	0.27	0.39	0.27	0.33	0.27	0.38	0.27	0.75	0.24	0.67	0.29	0.74	0.24
Percent - African American	0.18	0.27	0.26	0.32	0.18	0.28	0.51	0.32	0.58	0.32	0.52	0.32	0.15	0.24	0.23	0.30	0.15	0.25
Percent - Hispanic	0.03	0.02	0.03	0.03	0.03	0.02	0.04	0.02	0.03	0.02	0.04	0.02	0.03	0.02	0.03	0.02	0.03	0.02
Percent - Education level (Some college or higher)	0.68	0.13	0.63	0.14	0.68	0.13	0.63	0.15	0.59	0.14	0.62	0.15	0.69	0.12	0.67	0.13	0.69	0.12
Percent - Homeownership	0.71	0.16	0.66	0.17	0.71	0.16	0.41	0.15	0.41	0.14	0.41	0.15	0.75	0.12	0.71	0.13	0.74	0.12

Table 2-1: Results of descriptive statistics with polynomial outcomes, five counties

Exit code											Total (4,522,936)	
	Remained		Transfer within district		Transfer outside district		Transfer - Home/Private school		Transfer - Another state/country			
Student level variables	%/Mean	SD	%/Mean	SD	%/Mean	SD	%/Mean	SD	%/Mean	SD	N/Mean	%/SD
School year												
2008	91.32%		0.54%		6.50%		0.53%		1.12%		296567	6.56%
2009	91.68%		1.24%		4.87%		0.59%		1.62%		296269	6.55%
2010	91.90%		1.24%		4.96%		0.61%		1.29%		299838	6.63%
2011	91.48%		1.41%		5.16%		0.63%		1.32%		301847	6.67%
2012	91.35%		1.44%		5.14%		0.70%		1.37%		303020	6.70%
2013	91.15%		1.28%		5.46%		0.75%		1.37%		307807	6.81%
2014	91.30%		1.23%		5.33%		0.77%		1.38%		307699	6.80%
2015	91.43%		1.28%		5.16%		0.73%		1.40%		307976	6.81%
2016	91.62%		1.27%		4.93%		0.78%		1.39%		307580	6.80%
2017	91.84%		1.19%		4.72%		0.90%		1.35%		305770	6.76%
2018	91.93%		1.10%		4.56%		1.02%		1.39%		304852	6.74%
2019	92.33%		0.98%		4.34%		0.85%		1.50%		302500	6.69%
2020	93.43%		0.80%		3.70%		0.94%		1.13%		299808	6.63%
2021	93.44%		0.67%		3.47%		1.22%		1.20%		291541	6.45%
2022	93.51%		0.76%		3.48%		1.01%		1.23%		289862	6.41%
Grade level												
Kindergarten	90.35%		1.45%		5.67%		0.78%		1.75%		345840	7.65%
1st grade	90.63%		1.44%		5.55%		0.62%		1.76%		351043	7.76%
2nd grade	91.10%		1.38%		5.26%		0.63%		1.65%		351624	7.77%
3rd grade	91.59%		1.39%		4.89%		0.63%		1.50%		351091	7.76%
4th grade	91.87%		1.36%		4.66%		0.64%		1.47%		349687	7.73%
5th grade	92.22%		1.19%		4.46%		0.73%		1.40%		345925	7.65%
6th grade	92.72%		0.93%		4.34%		0.73%		1.29%		336377	7.44%
7th grade	93.05%		0.81%		4.22%		0.72%		1.20%		343679	7.60%
8th grade	92.51%		0.85%		4.39%		1.07%		1.18%		343153	7.59%
9th grade	91.51%		1.09%		5.13%		1.08%		1.19%		370477	8.19%
10th grade	91.94%		0.91%		4.92%		1.07%		1.16%		355727	7.86%
11th grade	92.81%		0.79%		4.29%		0.99%		1.12%		339660	7.51%
12th grade	93.47%		0.66%		4.44%		0.71%		0.72%		338653	7.49%

Race/Ethnicity							
Asian	92.53%	0.57%	2.23%	0.58%	4.10%	141215	3.12%
Black	88.25%	2.62%	6.98%	0.56%	1.59%	1280559	28.31%
Hispanic	91.40%	0.95%	4.14%	0.77%	2.76%	167666	3.71%
White	93.72%	0.46%	3.93%	0.91%	0.98%	2807603	62.07%
Others	90.99%	0.78%	5.43%	0.99%	1.80%	125893	2.78%
Gender							
Female	92.20%	1.01%	4.68%	0.76%	1.35%	2203022	48.71%
Male	91.75%	1.18%	4.90%	0.84%	1.33%	2319914	51.29%
Lunch status							
Unreduced lunch	94.97%	0.39%	2.66%	0.81%	1.17%	2509915	55.49%
Free lunch	87.59%	2.13%	7.87%	0.81%	1.60%	1810989	40.04%
Reduced lunch	93.97%	0.68%	3.64%	0.60%	1.10%	202032	4.47%
IEP							
No	92.26%	1.00%	4.61%	0.74%	1.39%	3806975	84.17%
Yes	90.41%	1.64%	5.75%	1.12%	1.09%	715961	15.83%
ELL status							
Not ELL	91.94%	1.13%	4.88%	0.82%	1.22%	3888030	85.96%
ELL	92.17%	0.90%	4.22%	0.66%	2.04%	634906	14.04%
Homeless status							
Not Homeless	92.38%	0.98%	4.55%	0.80%	1.29%	4371335	96.65%
Shelters	70.48%	7.45%	16.81%	1.51%	3.74%	11136	0.25%
Unsheltered	75.41%	5.00%	14.46%	1.25%	3.88%	1521	0.03%
Doubled Up	81.47%	4.32%	10.97%	0.77%	2.47%	129861	2.87%
Hotel/Motel	74.55%	4.22%	15.62%	1.21%	4.40%	9083	0.20%
Residency status							
Resident in the attending school	91.97%	1.10%	4.78%	0.80%	1.35%	4426286	97.86%
Others	92.16%	1.00%	5.35%	0.62%	0.87%	96650	2.14%

School level variables

Number of enrolled students	7.9288	5.164	4.9849	3.6839	6.5121	4.3234	7.8998	4.8968	7.1715	4.6918	7.8182	5.1229
Percent - Free/Reduced lunch	26.91	33.9	59.65	38.86	35.77	38.52	19.52	27.69	32.02	34.75	27.7	34.39
Percent - African-American	4.51	4.51	4.34	5.55	4.42	5.17	4.5	4.11	5.15	5.27	4.51	4.57
Percent - Hispanic	61	32.57	30.92	34.35	53.65	36.8	68.1	28.39	53.41	32.5	60.27	32.97
Percent - White	44.22	33.03	75.65	32.79	60.65	32.15	41.14	28.2	48.23	33.81	45.38	33.3

Percent - ELL/Special Ed.	3.87	6.79	6.54	12.18	3.73	7.46	3.63	6.33	5.58	8.87	3.91	6.94
Discipline in-school suspension rate	0.1	0.9	0.06	0.61	0.15	1.2	0.05	0.48	0.09	0.9	0.1	0.91
ELA proficiency rate	53.24	19.66	31.22	22.81	43.69	20.31	55.76	17.08	51.17	20.24	52.53	19.96
Math proficiency rate	45.54	20.57	25.65	22.37	35.27	21.58	46.97	18.73	44.62	21.58	44.83	20.86
Neighborhood level variables												
Median Household Income (In 2021 Inflation Adjusted Dollars)	77.8675	28.9052	57.09688	26.64467	64.41285	24.02604	77.57082	27.1087	76.00973	28.9119	76.96737	28.8722
Percent - White	72%	26%	47%	33%	66%	31%	77%	22%	67%	27%	71%	27%
Percent - African American	18%	27%	44%	36%	26%	32%	13%	22%	21%	28%	18%	28%
Percent - Hispanic	3%	2%	3%	3%	3%	3%	3%	2%	3%	2%	3%	2%
Percent - Education level (Some college or higher)	68%	13%	61%	13%	62%	13%	67%	14%	68%	14%	68%	13%
Percent - Homeownership	71%	16%	55%	20%	66%	16%	73%	13%	69%	16%	71%	16%

Table 2-2: Results of descriptive statistics with polynomial outcomes, St. Louis City only

| Exit code | STL | | | | | | | | | | Total (471,749) | |
| | Remained | | Transfer within district | | Transfer outside district | | Transfer - Home/Private school | | Transfer - Another state/country | | | |
Student level variables	%/Mean	SD	%/Mean	SD	%/Mean	SD	%/Mean	SD	%/Mean	SD	N/Mean	%/SD
School year												
2008	81.44%		0.65%		17.60%		0.16%		0.16%		28946	6.14%
2009	87.60%		6.12%		5.31%		0.15%		0.82%		27160	5.76%
2010	86.67%		6.23%		5.82%		0.25%		1.03%		29406	6.23%
2011	85.60%		7.19%		5.88%		0.34%		1.01%		30409	6.45%
2012	86.13%		7.33%		4.92%		0.37%		1.26%		30324	6.43%
2013	84.36%		6.23%		7.66%		0.47%		1.28%		33520	7.11%
2014	87.20%		5.40%		5.66%		0.36%		1.37%		32670	6.93%
2015	87.20%		5.68%		5.65%		0.20%		1.27%		33006	7.00%
2016	88.32%		5.74%		4.67%		0.20%		1.06%		32702	6.93%
2017	88.81%		5.27%		4.12%		0.67%		1.13%		32169	6.82%
2018	87.96%		4.48%		4.95%		1.38%		1.23%		32879	6.97%
2019	87.31%		3.94%		5.63%		0.41%		2.70%		33112	7.02%
2020	89.52%		3.06%		4.84%		0.77%		1.81%		32810	6.95%
2021	93.31%		0.81%		3.21%		0.69%		1.98%		31315	6.64%
2022	90.44%		2.17%		4.47%		1.08%		1.85%		31321	6.64%
Grade level												
Kindergarten	87.41%		4.04%		6.48%		0.49%		1.58%		46602	9.88%
1st grade	87.32%		4.37%		6.42%		0.35%		1.54%		45702	9.69%
2nd grade	87.66%		4.14%		6.27%		0.36%		1.57%		42855	9.08%
3rd grade	88.36%		4.29%		5.69%		0.27%		1.39%		40335	8.55%
4th grade	87.99%		4.43%		5.87%		0.32%		1.40%		38727	8.21%
5th grade	88.39%		4.08%		5.83%		0.30%		1.40%		37022	7.85%
6th grade	88.15%		3.76%		6.35%		0.41%		1.34%		32669	6.93%
7th grade	89.17%		3.33%		5.92%		0.37%		1.22%		30781	6.52%
8th grade	88.31%		3.91%		5.67%		0.94%		1.17%		29594	6.27%
9th grade	82.75%		7.30%		8.00%		0.59%		1.36%		38404	8.14%
10th grade	85.75%		6.45%		6.03%		0.55%		1.22%		32090	6.80%
11th grade	86.92%		5.78%		5.31%		0.71%		1.28%		27928	5.92%
12th grade	90.05%		5.51%		2.44%		1.32%		0.68%		29040	6.16%

Race/Ethnicity												
Asian	91.14%		2.45%		3.89%		0.50%		2.02%		11073	2.35%
Black	86.69%		5.54%		6.16%		0.41%		1.19%		357781	75.84%
Hispanic	91.22%		1.90%		3.45%		0.72%		2.71%		23454	4.97%
White	89.41%		2.08%		6.14%		0.85%		1.53%		73620	15.61%
Others	90.86%		0.64%		5.62%		1.15%		1.74%		5821	1.23%
Gender												
Female	88.30%		4.09%		5.76%		0.49%		1.36%		232804	49.35%
Male	86.71%		5.26%		6.17%		0.52%		1.34%		238945	50.65%
Lunch status												
Unreduced lunch	81.39%		3.06%		13.05%		0.90%		1.61%		62390	13.23%
Free lunch	88.29%		5.03%		4.91%		0.44%		1.32%		397834	84.33%
Reduced lunch	92.95%		1.69%		3.99%		0.60%		0.76%		11525	2.44%
IEP												
No	87.83%		4.30%		5.97%		0.50%		1.41%		402561	85.33%
Yes	85.55%		6.97%		5.96%		0.54%		0.99%		69188	14.67%
ELL status												
Not ELL	86.98%		5.10%		6.18%		0.52%		1.22%		404232	85.69%
ELL	90.55%		2.23%		4.66%		0.46%		2.09%		67517	14.31%
Homeless status												
Not Homeless	88.23%		4.11%		5.86%		0.51%		1.29%		421096	89.26%
Shelters	77.96%		11.89%		7.01%		0.66%		2.48%		5476	1.16%
Unsheltered	79.24%		14.43%		5.57%		0.00%		0.76%		395	0.08%
Doubled Up	81.77%		9.18%		6.84%		0.49%		1.72%		43125	9.14%
Hotel/Motel	81.77%		9.29%		5.79%		0.54%		2.60%		1657	0.35%
Residency status												
Resident in the attending school	87.50%		4.68%		5.96%		0.51%		1.35%		469632	99.55%
Others	84.93%		5.95%		7.89%		0.43%		0.80%		2117	0.45%
School level variables												
Number of enrolled students	3.96	2.06	3.3	1.73	3.7	1.96	4.27	2.32	3.81	2.03	3.91	2.05
Percent - Free/Reduced lunch	74.99	27.32	85.62	18.24	78.22	26.96	63.02	30.05	73.22	27.5	75.6	27.08
Percent - African-American	5.84	8.37	4.07	6.02	4.97	7.51	7.61	6.99	7.07	9.15	5.73	8.25
Percent - Hispanic	15.15	20.54	7.83	11.96	13.06	19.68	23.02	23.15	15.47	19.88	14.72	20.25
Percent - White	94.2	16.71	100	0.54	94.8	15.41	83.39	24.82	93.81	17.1	94.45	16.36

Percent - ELL/Special Ed.	9.82	14.52	9.93	16.47	9.76	14.7	13.02	13.93	13.96	18.49	9.9	14.69
Discipline in-school suspension rate	0.11	0.83	0.09	0.75	0.07	0.67	0.03	0.46	0.08	0.68	0.11	0.82
ELA proficiency rate	25.63	21.51	14.36	12.83	20.37	16.7	28.54	22.24	23.19	17.99	24.77	21.04
Math proficiency rate	20.18	20.2	10.03	11.86	15.86	16.1	22.36	21.04	18.85	17.49	19.44	19.77
Neighborhood level variables												
Median Household Income (In 2021 Inflation Adjusted Dollars)	46.47	15.76	41.34	15.08	44.09	15.18	47.88	14.67	46.51	14.75	46.09	15.72
Percent - White	0.39	0.27	0.29	0.25	0.35	0.27	0.42	0.29	0.4	0.26	0.38	0.27
Percent - African American	0.51	0.32	0.63	0.3	0.56	0.32	0.49	0.34	0.49	0.3	0.52	0.32
Percent - Hispanic	0.04	0.02	0.03	0.03	0.03	0.02	0.03	0.02	0.04	0.02	0.04	0.02
Percent - Education level (Some college or higher)	0.63	0.15	0.57	0.14	0.6	0.15	0.63	0.15	0.62	0.14	0.62	0.15
Percent - Homeownership	0.41	0.15	0.39	0.14	0.41	0.14	0.45	0.13	0.42	0.14	0.41	0.15

Table 2-3: Results of descriptive statistics with polynomial outcomes, four counties

Exit code	Remained		Transfer within district		Transfer outside district		Transfer - Home/Private school		Transfer - Another state/country		Total (3,808,597)	
Student level variables	%/Mean	SD	%/Mean	SD	%/Mean	SD	%/Mean	SD	%/Mean	SD	N/Mean	%/SD
School year												
2008	93.27%		0.48%		4.51%		0.55%		1.19%		256111	6.72%
2009	92.97%		0.71%		4.05%		0.59%		1.67%		256152	6.73%
2010	93.42%		0.65%		4.05%		0.60%		1.28%		255860	6.72%
2011	93.17%		0.68%		4.23%		0.61%		1.31%		255429	6.71%
2012	92.98%		0.70%		4.30%		0.68%		1.34%		255734	6.71%
2013	92.99%		0.61%		4.32%		0.74%		1.34%		256631	6.74%
2014	92.85%		0.65%		4.42%		0.75%		1.33%		256681	6.74%
2015	92.98%		0.67%		4.25%		0.72%		1.39%		256380	6.73%
2016	93.06%		0.68%		4.10%		0.76%		1.40%		256247	6.73%
2017	93.21%		0.65%		3.95%		0.84%		1.35%		255184	6.70%
2018	93.36%		0.63%		3.74%		0.86%		1.41%		254203	6.67%
2019	93.86%		0.57%		3.45%		0.80%		1.32%		252323	6.63%
2020	94.63%		0.49%		2.95%		0.89%		1.04%		251303	6.60%
2021	94.17%		0.63%		2.93%		1.17%		1.10%		245381	6.44%
2022	94.50%		0.59%		2.85%		0.92%		1.15%		244978	6.43%
Grade level												
Kindergarten	91.97%		0.96%		4.52%		0.81%		1.75%		281285	7.39%
1st grade	92.16%		0.90%		4.53%		0.64%		1.76%		286764	7.53%
2nd grade	92.60%		0.90%		4.24%		0.64%		1.63%		288227	7.57%
3rd grade	93.01%		0.92%		3.93%		0.65%		1.49%		289114	7.59%
4th grade	93.31%		0.90%		3.70%		0.65%		1.45%		289261	7.59%
5th grade	93.59%		0.78%		3.51%		0.76%		1.37%		287463	7.55%
6th grade	94.12%		0.60%		3.33%		0.70%		1.25%		282007	7.40%
7th grade	94.35%		0.53%		3.27%		0.68%		1.18%		293086	7.70%
8th grade	93.87%		0.52%		3.45%		1.01%		1.16%		294135	7.72%
9th grade	93.59%		0.35%		3.93%		1.00%		1.14%		312969	8.22%
10th grade	93.54%		0.34%		4.04%		0.96%		1.12%		306619	8.05%
11th grade	94.15%		0.33%		3.59%		0.86%		1.09%		298582	7.84%
12th grade	94.11%		0.20%		4.43%		0.55%		0.71%		299085	7.85%
Race/Ethnicity												
Asian	92.73%		0.40%		1.98%		0.58%		4.30%		128425	3.37%

Black	89.54%		1.34%		6.86%		0.57%		1.69%		888293	23.32%
Hispanic	92.06%		0.75%		3.71%		0.73%		2.76%		137828	3.62%
White	94.93%		0.38%		2.93%		0.84%		0.93%		2544118	66.80%
Others	92.41%		0.64%		4.32%		0.87%		1.76%		109933	2.89%
Gender												
Female	93.58%		0.60%		3.78%		0.72%		1.32%		1854066	48.68%
Male	93.27%		0.65%		3.98%		0.80%		1.30%		1954531	51.32%
Lunch status												
Unreduced lunch	95.62%		0.31%		2.13%		0.78%		1.15%		2379107	62.47%
Free lunch	89.08%		1.23%		7.30%		0.75%		1.64%		1251390	32.86%
Reduced lunch	94.50%		0.60%		3.22%		0.57%		1.11%		178100	4.68%
IEP												
No	93.67%		0.55%		3.71%		0.71%		1.36%		3212382	84.35%
Yes	92.09%		1.02%		4.78%		1.06%		1.06%		596215	15.65%
ELL status												
Not ELL	93.44%		0.64%		3.94%		0.79%		1.19%		3271935	85.91%
ELL	93.29%		0.55%		3.52%		0.62%		2.01%		536662	14.09%
Homeless status												
Not Homeless	93.70%		0.60%		3.68%		0.76%		1.27%		3720098	97.68%
Shelters	69.41%		2.04%		21.81%		1.95%		4.79%		4112	0.11%
Unsheltered	75.90%		1.53%		15.55%		1.20%		5.81%		913	0.02%
Doubled Up	83.10%		1.75%		11.57%		0.71%		2.87%		76996	2.02%
Hotel/Motel	74.64%		2.82%		16.59%		1.28%		4.66%		6478	0.17%
Residency status												
Resident in the attending school	93.44%		0.62%		3.85%		0.77%		1.32%		3715421	97.55%
Others	92.53%		0.89%		5.16%		0.57%		0.85%		93176	2.45%
School level variables												
Number of enrolled students	8.5	5.22	6.46	4.26	7.34	4.39	8.44	4.91	7.71	4.77	8.43	5.19
Percent - Free/Reduced lunch	22.46	30.6	42.06	39.77	35.65	37.55	18.17	25.87	28.62	32.76	23.14	31.11
Percent - African-American	4.36	3.71	4.09	4.55	4.37	4.43	4.26	3.3	4.84	4.21	4.37	3.76
Percent - Hispanic	65.07	29.75	47.17	36.23	53.2	35.45	69.15	26.43	56.21	30.73	64.41	30.17
Percent - White	37.74	29.64	54.69	33.66	54.21	32.92	35.02	25.3	41.25	31.21	38.51	29.99
Percent - ELL/Special Ed.	3.29	4.84	3.55	5.1	3.09	5.01	3.16	4.67	4.72	6.07	3.3	4.87
Discipline in-school suspension rate	0.1	0.93	0.04	0.51	0.17	1.39	0.04	0.45	0.09	0.95	0.1	0.95

ELA proficiency rate	56.65	17.04	44.6	20.46	46.54	19.75	58.73	14.99	55.03	18.06	56.18	17.31
Math proficiency rate	48.77	18.75	38.12	21.44	37.5	22.25	50.58	17.19	48.32	20.2	48.27	19.06
Neighborhood level variables												
Median Household Income (In 2021 Inflation Adjusted Dollars)	82.51	27.95	71.54	28.31	70.87	24.78	83.63	26.09	81.47	28.17	81.99	27.93
Percent - White	0.75	0.24	0.6	0.31	0.65	0.31	0.78	0.2	0.69	0.25	0.74	0.24
Percent - African American	0.15	0.24	0.31	0.33	0.26	0.32	0.11	0.2	0.19	0.27	0.15	0.25
Percent - Hispanic	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02
Percent - Education level (Some college or higher)	0.69	0.12	0.65	0.12	0.65	0.12	0.7	0.13	0.71	0.13	0.69	0.12
Percent - Homeownership	0.75	0.12	0.69	0.15	0.7	0.14	0.76	0.11	0.72	0.13	0.74	0.12

Table 3-1: Result of logistic regression for five counties

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
School year (reference=2008)						
2009	0.924***			0.928***	0.925***	0.928***
	(0.00861)			(0.00864)	(0.00860)	(0.00864)
2010	0.858***			0.865***	0.863***	0.865***
	(0.00820)			(0.00825)	(0.00823)	(0.00825)
2011	0.884***			0.891***	0.890***	0.892***
	(0.00844)			(0.00850)	(0.00848)	(0.00850)
2012	0.872***			0.885***	0.881***	0.886***
	(0.00838)			(0.00849)	(0.00845)	(0.00850)
2013	0.879***			0.890***	0.887***	0.892***
	(0.00841)			(0.00849)	(0.00845)	(0.00851)
2014	0.854***			0.868***	0.863***	0.870***
	(0.00824)			(0.00837)	(0.00831)	(0.00839)
2015	0.816***			0.832***	0.828***	0.834***
	(0.00788)			(0.00802)	(0.00798)	(0.00805)
2016	0.792***			0.809***	0.804***	0.811***
	(0.00770)			(0.00785)	(0.00779)	(0.00787)
2017	0.774***			0.792***	0.786***	0.794***
	(0.00760)			(0.00776)	(0.00769)	(0.00778)
2018	0.766***			0.785***	0.778***	0.787***
	(0.00754)			(0.00771)	(0.00763)	(0.00773)
2019	0.724***			0.743***	0.736***	0.745***
	(0.00728)			(0.00745)	(0.00737)	(0.00748)
2020	0.615***			0.632***	0.625***	0.634***
	(0.00640)			(0.00657)	(0.00649)	(0.00659)
2021	0.637***			0.650***	0.643***	0.652***
	(0.00672)			(0.00686)	(0.00678)	(0.00688)
2022	0.630***			0.642***	0.636***	0.644***
	(0.00666)			(0.00678)	(0.00671)	(0.00680)
Grade (reference=Kindergarten)						
1st grade	0.960***			0.965***	0.963***	0.966***
	(0.00783)			(0.00787)	(0.00784)	(0.00787)
2nd grade	0.907***			0.915***	0.913***	0.916***
	(0.00758)			(0.00764)	(0.00761)	(0.00764)
3rd grade	0.855***			0.863***	0.862***	0.864***
	(0.00731)			(0.00737)	(0.00735)	(0.00737)

	(1)		(2)	(3)	(4)
4th grade	0.829***		0.833***	0.838***	0.834***
	(0.00719)		(0.00721)	(0.00726)	(0.00723)
5th grade	0.799***		0.801***	0.807***	0.803***
	(0.00708)		(0.00709)	(0.00714)	(0.00710)
6th grade	0.755***		0.761***	0.773***	0.768***
	(0.00690)		(0.00703)	(0.00706)	(0.00712)
7th grade	0.734***		0.737***	0.750***	0.743***
	(0.00681)		(0.00696)	(0.00695)	(0.00706)
8th grade	0.805***		0.802***	0.822***	0.810***
	(0.00743)		(0.00755)	(0.00758)	(0.00766)
9th grade	0.916***		1.328***	0.910***	1.320***
	(0.00817)		(0.0136)	(0.00809)	(0.0138)
10th grade	0.893***		1.304***	0.893***	1.297***
	(0.00810)		(0.0136)	(0.00808)	(0.0138)
11th grade	0.815***		1.164***	0.821***	1.162***
	(0.00769)		(0.0125)	(0.00773)	(0.0127)
12th grade	0.739***		1.037***	0.745***	1.037***
	(0.00697)		(0.0112)	(0.00702)	(0.0114)
Gender (reference=Female)					
Male	1.054***		1.050***	1.052***	1.050***
	(0.00501)		(0.00492)	(0.00493)	(0.00492)
Ethnicity (reference=White)					
Asian	1.338***		1.617***	1.584***	1.646***
	(0.0161)		(0.0199)	(0.0194)	(0.0204)
Black	1.253***		1.455***	1.413***	1.461***
	(0.00795)		(0.0121)	(0.0110)	(0.0122)
Hispanic	1.163***		1.281***	1.276***	1.286***
	(0.0136)		(0.0152)	(0.0150)	(0.0153)
Others	1.281***		1.380***	1.374***	1.387***
	(0.0161)		(0.0173)	(0.0172)	(0.0174)
Lunch (reference=Unreduced lunch)					
Free lunch	2.302***		1.817***	1.936***	1.800***
	(0.0130)		(0.0107)	(0.0110)	(0.0106)
Reduced lunch	1.134***		0.963***	0.986	0.952***
	(0.0118)		(0.0102)	(0.0104)	(0.0101)
Homeless (reference=Not homeless)					
Shelters	3.096***		2.844***	2.973***	2.841***
	(0.0742)		(0.0702)	(0.0714)	(0.0699)
Unsheltered	2.580***		2.443***	2.578***	2.446***
	(0.158)		(0.153)	(0.159)	(0.153)
Doubled Up	1.757***		1.640***	1.721***	1.638***

	(1)	(2)	(3)	(4)
	(0.0150)	(0.0140)	(0.0146)	(0.0140)
Hotel/Motel	2.659***	2.780***	2.646***	2.761***
	(0.0714)	(0.0769)	(0.0718)	(0.0763)
ELL (reference=Not ELL)				
ELL	0.917***	0.901***	0.915***	0.904***
	(0.00552)	(0.00575)	(0.00579)	(0.00586)
Residency status (reference=Resident in the attending school)				
Others	0.676***	0.754***	0.771***	0.767***
	(0.00913)	(0.0108)	(0.0110)	(0.0110)
Special Education (reference=Not Special Ed.)				
Yes	1.174***	1.133***	1.187***	1.142***
	(0.00672)	(0.00647)	(0.00674)	(0.00652)
Enrolled students	1.000***		1.000***	1.000***
	(0.00000541)		(0.00000645)	(0.00000667)
Percent-Free/Reduced lunch	1.011***		1.004***	1.003***
	(0.000145)		(0.000148)	(0.000164)
Percent-Black	0.991***		0.987***	0.987***
	(0.000128)		(0.000141)	(0.000243)
Percent-Hispanic	0.994***		1.001+	1.004***
	(0.000551)		(0.000570)	(0.000665)
Percent-ELL/IEP	0.997***		0.994***	0.994***
	(0.000319)		(0.000332)	(0.000347)
In-school suspension	1.002		0.999	0.993***
	(0.00193)		(0.00191)	(0.00194)
ELA proficiency rate	0.992***		0.987***	0.987***
	(0.000276)		(0.000301)	(0.000323)
Math proficiency rate	0.991***		0.995***	0.995***
	(0.000242)		(0.000254)	(0.000257)
Median Household Income (In 2021 Inflation Adjusted Dollars)		1.000***	1.000***	1.000***
		(0.000000209)	(0.000000187)	(0.000000187)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Rate - Black			0.878***		0.496***	1.048*
			(0.0111)		(0.00685)	(0.0231)
Rate - Hispanic			0.561***		0.204***	0.541***
			(0.0578)		(0.0223)	(0.0690)
Rate - Some college degree or higher			0.419***		0.324***	0.994
			(0.0130)		(0.00945)	(0.0338)
Homeownership rate			0.470***		0.600***	0.982
			(0.0114)		(0.0141)	(0.0239)
Observations	4522936	4522936	4522936	4522936	4522936	4522936
R^2						
Pseudo R^2	0.040	0.032	0.023	0.052	0.045	0.053

Exponentiated coefficients; Standard errors in parentheses
$^{+} p < 0.10$, $^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Model 1: Student-level variables are included.
Model 2: School-level variables are included.
Model 3: Neighborhood-level variables are included.
Model 4: Student- and school-level variables are included.
Model 5: Student- and neighborhood-level variables are included.
Model 6: Student-, school-, and neighborhood-level variables are included.

Table 3-2: Result of logistic regression, St. Louis City only

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
School year (reference=2008)						
2009	0.645***			0.667***	0.650***	0.666***
	(0.0149)			(0.0156)	(0.0151)	(0.0156)
2010	0.772***			0.839***	0.791***	0.836***
	(0.0178)			(0.0196)	(0.0184)	(0.0197)
2011	0.844***			0.947*	0.879***	0.948*
	(0.0190)			(0.0217)	(0.0200)	(0.0218)
2012	0.800***			0.923***	0.843***	0.927**
	(0.0184)			(0.0216)	(0.0196)	(0.0218)
2013	0.917***			1.077***	0.988	1.091***
	(0.0198)			(0.0238)	(0.0216)	(0.0243)
2014	0.726***			0.867***	0.783***	0.874***
	(0.0168)			(0.0205)	(0.0183)	(0.0207)
2015	0.769***			0.934**	0.836***	0.939**
	(0.0177)			(0.0222)	(0.0195)	(0.0224)
2016	0.692***			0.846***	0.758***	0.854***
	(0.0163)			(0.0205)	(0.0181)	(0.0208)
2017	0.656***			0.806***	0.720***	0.814***
	(0.0158)			(0.0200)	(0.0176)	(0.0202)
2018	0.718***			0.898***	0.790***	0.904***
	(0.0169)			(0.0218)	(0.0188)	(0.0220)
2019	0.771***			0.994	0.855***	1.000
	(0.0179)			(0.0240)	(0.0202)	(0.0242)
2020	0.627***			0.823***	0.699***	0.828***
	(0.0152)			(0.0207)	(0.0172)	(0.0209)
2021	0.379***			0.499***	0.424***	0.503***
	(0.0105)			(0.0143)	(0.0119)	(0.0144)
2022	0.552***			0.722***	0.619***	0.728***
	(0.0138)			(0.0187)	(0.0157)	(0.0190)
Grade (reference=Kindergarten)						
1st grade	0.997			1.011	0.996	1.009
	(0.0196)			(0.0200)	(0.0197)	(0.0199)
2nd grade	0.959*			0.966+	0.951*	0.962+
	(0.0193)			(0.0195)	(0.0192)	(0.0194)

	(1)		(2)	(3)	(4)
3rd grade	0.889***		0.899***	0.877***	0.894***
	(0.0186)		(0.0188)	(0.0184)	(0.0187)
4th grade	0.911***		0.923***	0.903***	0.919***
	(0.0193)		(0.0196)	(0.0192)	(0.0195)
5th grade	0.874***		0.894***	0.877***	0.894***
	(0.0191)		(0.0195)	(0.0192)	(0.0196)
6th grade	0.915***		1.009	0.980	1.043+
	(0.0205)		(0.0229)	(0.0222)	(0.0237)
7th grade	0.831***		0.963	0.908***	0.988
	(0.0196)		(0.0232)	(0.0216)	(0.0238)
8th grade	0.903***		1.039	0.992	1.067**
	(0.0212)		(0.0250)	(0.0236)	(0.0257)
9th grade	1.323***		2.085***	1.463***	2.052***
	(0.0267)		(0.0458)	(0.0300)	(0.0451)
10th grade	1.063**		1.663***	1.184***	1.647***
	(0.0236)		(0.0396)	(0.0267)	(0.0392)
11th grade	0.963		1.511***	1.082***	1.505***
	(0.0227)		(0.0379)	(0.0258)	(0.0378)
12th grade	0.686***		1.000	0.756***	0.999
	(0.0177)		(0.0271)	(0.0196)	(0.0270)
Gender (reference=Female)					
Male	1.143***		1.110***	1.132***	1.108***
	(0.0124)		(0.0117)	(0.0121)	(0.0116)
Ethnicity (reference=White)					
Asian	1.000		0.864***	0.926+	0.852***
	(0.0411)		(0.0345)	(0.0377)	(0.0343)
Black	1.435***		1.090***	1.161***	1.080***
	(0.0246)		(0.0209)	(0.0211)	(0.0207)
Hispanic	1.053		0.913**	0.921*	0.903**
	(0.0335)		(0.0294)	(0.0297)	(0.0292)
Others	0.936		0.998	0.919+	0.969
	(0.0476)		(0.0518)	(0.0466)	(0.0505)
Lunch (reference=Unreduced lunch)					
Free lunch	0.525***		0.422***	0.479***	0.425***
	(0.00761)		(0.00668)	(0.00695)	(0.00672)
Reduced lunch	0.322***		0.326***	0.335***	0.334***
	(0.0129)		(0.0131)	(0.0134)	(0.0134)
Homeless (reference=Not homeless)					

	(1)	(2)	(3)	(4)	(5)
Shelters	2.192***		1.872***	2.130***	1.876***
	(0.0821)		(0.0690)	(0.0794)	(0.0689)
Unsheltered	2.012***		1.684***	1.917***	1.684***
	(0.262)		(0.216)	(0.246)	(0.215)
Doubled Up	1.722***		1.518***	1.642***	1.500***
	(0.0269)		(0.0233)	(0.0255)	(0.0230)
Hotel/Motel	1.802***		1.590***	1.707***	1.571***
	(0.133)		(0.115)	(0.125)	(0.114)
ELL (reference=Not ELL)					
ELL	0.888***		0.848***	0.856***	0.845***
	(0.0152)		(0.0162)	(0.0149)	(0.0160)
Residency status (reference=Resident in the attending school)					
Others	1.253**		1.722***	1.393***	1.729***
	(0.0910)		(0.123)	(0.101)	(0.124)
Special Education (reference=Not Special Ed.)					
Yes	1.139***		1.030*	1.136***	1.044**
	(0.0166)		(0.0148)	(0.0164)	(0.0149)
Enrolled students		0.967***	0.928***		0.938***
		(0.00301)	(0.00316)		(0.00331)
Percent-Free/Reduced lunch		0.999	1.002***		1.003***
		(0.000547)	(0.000583)		(0.000627)
Percent-Black		0.993***	0.992***		0.988***
		(0.000517)	(0.000550)		(0.000704)
Percent-Hispanic		0.986***	0.998+		0.991***
		(0.00113)	(0.00122)		(0.00121)
Percent-ELL/IEP		1.003***	1.002***		1.002***
		(0.000574)	(0.000608)		(0.000643)
In-school suspension		0.920***	0.950***		0.958***
		(0.00587)	(0.00632)		(0.00655)
ELA proficiency rate		0.979***	0.965***		0.968***
		(0.000748)	(0.000807)		(0.000848)
Math proficiency rate		0.996***	1.009***		1.008***

			(0.000710)		(0.000731)	(0.000769)
Median Household Income (In 2021 Inflation Adjusted Dollars)			0.987***		0.994***	0.990***
			(0.00160)		(0.00167)	(0.00167)
Rate - Black			3.522***		3.270***	2.960***
			(0.205)		(0.202)	(0.221)
Rate - Hispanic			78094.6***		362795.4***	15588.6***
			(29115.1)		(140168.9)	(6638.3)
Rate - Some college degree or higher			1.602**		0.732+	2.539***
			(0.271)		(0.128)	(0.456)
Homeownership rate			5.040***		4.206***	3.163***
			(0.467)		(0.397)	(0.301)
Observations	471749	471749	471749	471749	471749	471749
R^2						
Pseudo R^2	0.028	0.022	0.012	0.052	0.038	0.055

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 3-3: Result of logistic regression, four counties only

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
School year (reference=2008)						
2009	1.014			1.013	1.014	1.015
	(0.0111)			(0.0112)	(0.0112)	(0.0112)
2010	0.914***			0.917***	0.915***	0.916***
	(0.0103)			(0.0104)	(0.0104)	(0.0104)
2011	0.936***			0.936***	0.939***	0.937***
	(0.0106)			(0.0106)	(0.0106)	(0.0106)
2012	0.938***			0.938***	0.947***	0.941***
	(0.0106)			(0.0107)	(0.0108)	(0.0107)
2013	0.931***			0.928***	0.941***	0.933***
	(0.0106)			(0.0106)	(0.0108)	(0.0107)
2014	0.937***			0.939***	0.950***	0.944***
	(0.0107)			(0.0107)	(0.0109)	(0.0108)
2015	0.902***			0.903***	0.915***	0.909***
	(0.0103)			(0.0104)	(0.0105)	(0.0105)
2016	0.883***			0.885***	0.896***	0.891***
	(0.0101)			(0.0102)	(0.0103)	(0.0103)
2017	0.865***			0.868***	0.878***	0.874***
	(0.00999)			(0.0101)	(0.0102)	(0.0101)
2018	0.845***			0.847***	0.857***	0.853***
	(0.00981)			(0.00989)	(0.00999)	(0.00997)
2019	0.774***			0.776***	0.787***	0.782***
	(0.00921)			(0.00928)	(0.00940)	(0.00936)
2020	0.672***			0.672***	0.683***	0.678***
	(0.00824)			(0.00829)	(0.00842)	(0.00838)
2021	0.761***			0.760***	0.774***	0.768***
	(0.00927)			(0.00932)	(0.00947)	(0.00943)
2022	0.713***			0.711***	0.724***	0.719***
	(0.00881)			(0.00883)	(0.00899)	(0.00894)
Grade (reference=Kindergarten)						
1st grade	0.965***			0.967***	0.967***	0.968**
	(0.00939)			(0.00944)	(0.00942)	(0.00947)
2nd grade	0.906***			0.910***	0.909***	0.912***
	(0.00897)			(0.00904)	(0.00901)	(0.00908)

3rd grade	0.856***	0.858***	0.859***	0.857***
	(0.00862)	(0.00867)	(0.00867)	(0.00868)
4th grade	0.819***	0.816***	0.824***	0.816***
	(0.00837)	(0.00836)	(0.00843)	(0.00837)
5th grade	0.789***	0.784***	0.794***	0.783***
	(0.00820)	(0.00816)	(0.00825)	(0.00817)
6th grade	0.726***	0.731***	0.740***	0.712***
	(0.00782)	(0.00811)	(0.00799)	(0.00796)
7th grade	0.708***	0.710***	0.718***	0.686***
	(0.00766)	(0.00801)	(0.00779)	(0.00781)
8th grade	0.778***	0.777***	0.789***	0.750***
	(0.00833)	(0.00868)	(0.00847)	(0.00847)
9th grade	0.818***	1.258***	0.818***	1.220***
	(0.00862)	(0.0163)	(0.00863)	(0.0164)
10th grade	0.844***	1.291***	0.845***	1.248***
	(0.00886)	(0.0168)	(0.00889)	(0.0167)
11th grade	0.780***	1.150***	0.780***	1.097***
	(0.00849)	(0.0152)	(0.00851)	(0.0150)
12th grade	0.794***	1.159***	0.795***	1.109***
	(0.00841)	(0.0151)	(0.00842)	(0.0148)
Gender (reference=Female)				
Male	1.042***	1.040***	1.041***	1.041***
	(0.00531)	(0.00532)	(0.00531)	(0.00533)
Ethnicity (reference=White)				
Asian	1.624***	1.766***	1.641***	1.718***
	(0.0204)	(0.0225)	(0.0209)	(0.0220)
Black	1.436***	1.421***	1.411***	1.414***
	(0.00970)	(0.0131)	(0.0124)	(0.0131)
Hispanic	1.344***	1.346***	1.373***	1.331***
	(0.0169)	(0.0174)	(0.0174)	(0.0172)
Resident (reference=Resident in the attending school)				
Others	1.315***	1.325***	1.326***	1.311***
	(0.0179)	(0.0183)	(0.0182)	(0.0181)
Lunch (reference=Unreduced lunch)				
Free lunch	2.203***	2.006***	2.113***	2.013***
	(0.0134)	(0.0131)	(0.0134)	(0.0132)
Reduced lunch	1.174***	1.089***	1.131***	1.096***
	(0.0135)	(0.0127)	(0.0132)	(0.0128)

	(1)	(2)	(3)	(4)	(5)
Homeless (reference=Not homeless)					
Shelters	3.767***		3.870***	3.835***	3.862***
	(0.137)		(0.144)	(0.141)	(0.145)
Unsheltered	2.814***		2.815***	2.807***	2.768***
	(0.220)		(0.222)	(0.220)	(0.218)
Doubled Up	1.787***		1.759***	1.766***	1.741***
	(0.0197)		(0.0196)	(0.0195)	(0.0195)
Hotel/Motel	3.014***		3.112***	3.037***	3.173***
	(0.0949)		(0.0996)	(0.0961)	(0.102)
ELL (reference=Not ELL)					
ELL	0.948***		0.908***	0.996	0.948***
	(0.00652)		(0.00689)	(0.00724)	(0.00722)
Residency status (reference=Resident in the attending school)					
Others	0.693***		0.746***	0.718***	0.721***
	(0.00976)		(0.0113)	(0.0110)	(0.0110)
Special Education (reference=Not Special Ed.)					
Yes	1.177***		1.141***	1.186***	1.139***
	(0.00743)		(0.00729)	(0.00751)	(0.00730)
Enrolled students		0.980***	0.962***		0.968***
		(0.000566)	(0.000743)		(0.000786)
Percent-Free/Reduced lunch		1.002***	0.996***		0.997***
		(0.000191)	(0.000193)		(0.000207)
Percent-Black		1.000	0.996***		0.996***
		(0.000149)	(0.000168)		(0.000282)
Percent-Hispanic		1.008***	1.017***		1.038***
		(0.000767)	(0.000836)		(0.00112)
Percent-ELL/IEP		1.003***	0.999+		0.995***
		(0.000575)	(0.000606)		(0.000619)
In-school suspension		1.004+	0.996*		1.001
		(0.00209)	(0.00212)		(0.00218)
ELA proficiency rate		0.993***	0.986***		0.984***
		(0.000361)	(0.000395)		(0.000405)

	(1)	(2)	(3)	(4)	(5)	(6)
Math proficiency rate		0.991***		0.995***		0.996***
		(0.000294)		(0.000310)		(0.000318)
Median Household Income (In 2021 Inflation Adjusted Dollars)			0.993***		0.996***	0.996***
			(0.000198)		(0.000185)	(0.000187)
Rate - Black			1.594***		0.724***	0.885***
			(0.0233)		(0.0126)	(0.0270)
Rate - Hispanic			0.0612***		0.0192***	0.00207***
			(0.00827)		(0.00265)	(0.000376)
Rate - Some college degree or higher			1.498***		1.510***	2.741***
			(0.0528)		(0.0514)	(0.106)
Homeownership rate			0.498***		0.577***	1.077*
			(0.0167)		(0.0196)	(0.0391)
Observations	3808597	3808597	3808597	3808597	3808597	3808597
R^2						
Pseudo R^2	0.039	0.022	0.015	0.046	0.040	0.047

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 4-1: Result of multinomial logistic regression with student-level variables, five counties (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	2.201***	0.717***	1.107**	1.410***
	(0.0683)	(0.00825)	(0.0380)	(0.0320)
2010	2.042***	0.691***	1.132***	1.088***
	(0.0641)	(0.00807)	(0.0390)	(0.0259)
2011	2.282***	0.699***	1.156***	1.109***
	(0.0705)	(0.00815)	(0.0396)	(0.0263)
2012	2.237***	0.669***	1.278***	1.170***
	(0.0692)	(0.00789)	(0.0428)	(0.0276)
2013	1.935***	0.698***	1.361***	1.165***
	(0.0600)	(0.00813)	(0.0451)	(0.0275)
2014	1.829***	0.671***	1.393***	1.163***
	(0.0574)	(0.00786)	(0.0462)	(0.0275)
2015	1.806***	0.627***	1.314***	1.174***
	(0.0562)	(0.00739)	(0.0439)	(0.0277)
2016	1.789***	0.595***	1.402***	1.150***
	(0.0556)	(0.00711)	(0.0462)	(0.0273)
2017	1.676***	0.574***	1.602***	1.109***
	(0.0528)	(0.00695)	(0.0515)	(0.0265)
2018	1.540***	0.556***	1.820***	1.134***
	(0.0490)	(0.00679)	(0.0573)	(0.0269)
2019	1.368***	0.527***	1.500***	1.212***
	(0.0447)	(0.00659)	(0.0489)	(0.0284)
2020	1.111**	0.447***	1.646***	0.900***
	(0.0375)	(0.00579)	(0.0529)	(0.0225)
2021	0.976	0.437***	2.142***	0.963
	(0.0346)	(0.00587)	(0.0664)	(0.0240)
2022	1.108**	0.440***	1.784***	0.979
	(0.0380)	(0.00592)	(0.0569)	(0.0243)
Grade (reference=Kindergarten)				
1st grade	0.974	0.968**	0.790***	1.000

	(0.0200)	(0.0103)	(0.0226)	(0.0181)
2nd grade	0.918***	0.913***	0.786***	0.938***
	(0.0191)	(0.00996)	(0.0224)	(0.0173)
3rd grade	0.924***	0.849***	0.779***	0.859***
	(0.0193)	(0.00955)	(0.0223)	(0.0163)
4th grade	0.900***	0.812***	0.794***	0.847***
	(0.0190)	(0.00930)	(0.0226)	(0.0161)
5th grade	0.795***	0.784***	0.900***	0.809***
	(0.0176)	(0.00914)	(0.0249)	(0.0157)
6th grade	0.632***	0.771***	0.888***	0.751***
	(0.0152)	(0.00918)	(0.0249)	(0.0150)
7th grade	0.579***	0.765***	0.875***	0.705***
	(0.0145)	(0.00920)	(0.0246)	(0.0144)
8th grade	0.617***	0.810***	1.314***	0.704***
	(0.0153)	(0.00979)	(0.0337)	(0.0144)
9th grade	0.772***	0.950***	1.378***	0.714***
	(0.0182)	(0.0109)	(0.0352)	(0.0143)
10th grade	0.669***	0.944***	1.365***	0.702***
	(0.0165)	(0.0110)	(0.0351)	(0.0144)
11th grade	0.607***	0.848***	1.246***	0.680***
	(0.0156)	(0.0104)	(0.0330)	(0.0143)
12th grade	0.503***	0.882***	0.894***	0.434***
	(0.0140)	(0.0103)	(0.0258)	(0.0106)
Gender (reference=Female)				
Male	1.129***	1.048***	1.056***	1.013
	(0.0125)	(0.00636)	(0.0129)	(0.00903)
Ethnicity (reference=White)				
Asian	1.492***	0.670***	0.681***	3.834***
	(0.0576)	(0.0132)	(0.0254)	(0.0626)
Black	3.480***	1.058***	0.555***	1.519***
	(0.0504)	(0.00847)	(0.00974)	(0.0192)
Hispanic	1.695***	0.878***	0.789***	2.424***
	(0.0508)	(0.0142)	(0.0256)	(0.0460)
Others	1.449***	1.216***	0.958	1.790***
	(0.0534)	(0.0193)	(0.0303)	(0.0422)
Lunch (reference=Unreduced lunch)				
Free lunch	2.853***	3.020***	1.311***	1.191***
	(0.0429)	(0.0219)	(0.0192)	(0.0134)

Reduced lunch	1.321***	1.306***	0.852***	0.885***
	(0.0406)	(0.0174)	(0.0262)	(0.0200)
Homeless (reference=Not homeless)				
Shelters	3.943***	2.863***	2.678***	3.092***
	(0.166)	(0.0848)	(0.213)	(0.167)
Unsheltered	2.968***	2.430***	1.784*	3.392***
	(0.406)	(0.186)	(0.410)	(0.472)
Doubled Up	2.220***	1.677***	1.107**	1.858***
	(0.0390)	(0.0177)	(0.0374)	(0.0368)
Hotel/Motel	2.519***	2.614***	1.800***	3.623***
	(0.147)	(0.0842)	(0.174)	(0.195)
ELL (reference=Not ELL)				
ELL	0.876***	0.829***	0.909***	1.331***
	(0.0146)	(0.00637)	(0.0167)	(0.0156)
Residency status (reference=Resident in the attending school)				
Others	0.423***	0.756***	0.926+	0.567***
	(0.0156)	(0.0118)	(0.0417)	(0.0204)
Special Education (reference=Not Special Ed.)				
Yes	1.553***	1.142***	1.499***	0.826***
	(0.0202)	(0.00815)	(0.0229)	(0.0107)

Observations	4522936
R^2	
Pseudo R^2	0.048

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 4-2: Result of multinomial logistic regression with student-level variables for STL (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	9.686***	0.296***	0.954	4.978***
	(0.760)	(0.00909)	(0.205)	(0.817)
2010	10.36***	0.398***	1.791**	7.060***
	(0.816)	(0.0119)	(0.344)	(1.137)
2011	12.15***	0.429***	2.352***	7.250***
	(0.950)	(0.0126)	(0.429)	(1.166)
2012	12.75***	0.362***	2.568***	9.068***
	(1.002)	(0.0115)	(0.467)	(1.442)
2013	11.12***	0.586***	3.597***	9.536***
	(0.874)	(0.0158)	(0.617)	(1.506)
2014	9.544***	0.425***	2.703***	9.900***
	(0.759)	(0.0126)	(0.484)	(1.561)
2015	10.01***	0.488***	1.453+	9.849***
	(0.793)	(0.0149)	(0.289)	(1.569)
2016	10.21***	0.401***	1.434+	7.907***
	(0.809)	(0.0131)	(0.284)	(1.273)
2017	9.529***	0.347***	4.651***	8.125***
	(0.760)	(0.0117)	(0.802)	(1.304)
2018	8.551***	0.427***	9.671***	8.997***
	(0.687)	(0.0136)	(1.594)	(1.437)
2019	7.954***	0.506***	3.054***	20.93***
	(0.647)	(0.0157)	(0.546)	(3.265)
2020	6.434***	0.430***	5.504***	13.73***
	(0.530)	(0.0138)	(0.930)	(2.169)
2021	1.640***	0.269***	4.658***	14.27***
	(0.164)	(0.0101)	(0.795)	(2.245)
2022	4.363***	0.381***	7.318***	13.38***
	(0.374)	(0.0128)	(1.220)	(2.110)
Grade (reference=Kindergarten)				
1st grade	1.076*	1.006	0.720**	0.976
	(0.0360)	(0.0274)	(0.0748)	(0.0518)

2nd grade	0.978	0.973	0.740**	0.973
	(0.0337)	(0.0269)	(0.0777)	(0.0524)
3rd grade	0.980	0.884***	0.579***	0.858**
	(0.0342)	(0.0256)	(0.0681)	(0.0488)
4th grade	1.006	0.905***	0.667***	0.861**
	(0.0357)	(0.0264)	(0.0756)	(0.0492)
5th grade	0.937+	0.898***	0.636***	0.857**
	(0.0350)	(0.0265)	(0.0750)	(0.0500)
6th grade	0.996	1.071*	0.857	0.870*
	(0.0397)	(0.0326)	(0.0956)	(0.0538)
7th grade	1.000	1.012	0.719**	0.783***
	(0.0429)	(0.0324)	(0.0834)	(0.0513)
8th grade	1.152***	0.968	1.855***	0.762***
	(0.0481)	(0.0318)	(0.168)	(0.0516)
9th grade	3.252***	1.574***	2.639***	1.287***
	(0.115)	(0.0476)	(0.268)	(0.0824)
10th grade	2.802***	1.147***	2.204***	1.094
	(0.105)	(0.0388)	(0.239)	(0.0750)
11th grade	2.553***	0.977	2.763***	1.112
	(0.0992)	(0.0357)	(0.295)	(0.0784)
12th grade	2.020***	0.390***	4.804***	0.566***
	(0.0802)	(0.0179)	(0.464)	(0.0479)
Gender (reference=Female)				
Male	1.239***	1.055***	1.014	0.997
	(0.0212)	(0.0145)	(0.0437)	(0.0266)
Ethnicity (reference=White)				
Asian	1.066	0.723***	0.817	1.060
	(0.0788)	(0.0409)	(0.123)	(0.0887)
Black	1.356***	1.079**	0.815**	0.782***
	(0.0493)	(0.0270)	(0.0605)	(0.0387)
Hispanic	0.985	0.700***	0.931	1.260***
	(0.0619)	(0.0321)	(0.0970)	(0.0811)
Resident (reference=Resident in the attending school)				
Others	0.678*	1.048	0.879	1.039
	(0.117)	(0.0686)	(0.120)	(0.112)
Lunch (reference=Unreduced lunch)				
Free lunch	0.807***	0.298***	0.637***	0.457***
	(0.0241)	(0.00596)	(0.0492)	(0.0232)

Reduced lunch	0.451***	0.271***	0.655**	0.389***
	(0.0382)	(0.0137)	(0.0854)	(0.0450)
Homeless (reference=Not homeless)				
Shelters	2.240***	1.409***	1.504*	2.271***
	(0.109)	(0.0798)	(0.262)	(0.219)
Unsheltered	2.368***	1.190	0.000000737***	0.705
	(0.372)	(0.275)	(8.86e-08)	(0.410)
Doubled Up	1.698***	1.344***	1.022	1.498***
	(0.0377)	(0.0298)	(0.0772)	(0.0631)
Hotel/Motel	1.801***	1.234+	1.060	2.255***
	(0.177)	(0.136)	(0.355)	(0.354)
ELL (reference=Not ELL)				
ELL	0.569***	0.938*	0.815*	1.258***
	(0.0208)	(0.0238)	(0.0694)	(0.0567)
Residency status (reference=Resident in the attending school)				
Others	3.858***	1.531***	0.796	0.598*
	(0.426)	(0.137)	(0.306)	(0.149)
Special Education (reference=Not Special Ed.)				
Yes	1.209***	0.910***	1.036	0.749***
	(0.0264)	(0.0174)	(0.0618)	(0.0316)
Enrolled students	0.843***	0.989*	0.985	0.959***
	(0.00539)	(0.00446)	(0.0123)	(0.00845)
Percent-Free/Reduced lunch	1.185***	1.003***	0.964***	0.998
	(0.0602)	(0.000724)	(0.00305)	(0.00145)
Percent-Black	0.988***	0.993***	0.996+	1.004**
	(0.000912)	(0.000751)	(0.00229)	(0.00143)
Percent-Hispanic	0.987***	0.991***	1.033***	1.007**
	(0.00216)	(0.00178)	(0.00363)	(0.00266)
Percent-ELL/IEP	1.008***	1.000	1.002	1.011***
	(0.000964)	(0.000875)	(0.00218)	(0.00144)
In-school suspension	1.003	0.916***	0.863**	0.963+
	(0.0100)	(0.00880)	(0.0391)	(0.0186)
ELA proficiency rate	0.959***	0.969***	0.950***	0.979***
	(0.00127)	(0.00119)	(0.00387)	(0.00209)

Math proficiency rate	1.005***	1.009***	1.015***	1.013***
	(0.00109)	(0.00112)	(0.00312)	(0.00186)
Observations	471749			
R^2				
Pseudo R^2	0.085			

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 4-3: Result of multinomial logistic regression with student-level variables for four counties (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	1.421***	0.859***	1.069+	1.383***
	(0.0538)	(0.0119)	(0.0389)	(0.0330)
2010	1.249***	0.821***	1.078*	1.021
	(0.0483)	(0.0116)	(0.0396)	(0.0258)
2011	1.301***	0.840***	1.091*	1.042
	(0.0500)	(0.0118)	(0.0401)	(0.0263)
2012	1.279***	0.823***	1.191***	1.081**
	(0.0491)	(0.0117)	(0.0430)	(0.0273)
2013	1.104*	0.819***	1.294***	1.089***
	(0.0431)	(0.0117)	(0.0461)	(0.0277)
2014	1.152***	0.824***	1.317***	1.070**
	(0.0447)	(0.0116)	(0.0471)	(0.0272)
2015	1.141***	0.771***	1.256***	1.108***
	(0.0439)	(0.0110)	(0.0451)	(0.0281)
2016	1.164***	0.735***	1.324***	1.104***
	(0.0446)	(0.0106)	(0.0471)	(0.0280)
2017	1.095*	0.711***	1.471***	1.059*
	(0.0425)	(0.0103)	(0.0512)	(0.0271)
2018	1.067+	0.675***	1.496***	1.091***
	(0.0418)	(0.00993)	(0.0520)	(0.0277)
2019	0.956	0.618***	1.380***	1.012
	(0.0383)	(0.00935)	(0.0487)	(0.0261)
2020	0.824***	0.525***	1.527***	0.779***
	(0.0343)	(0.00823)	(0.0530)	(0.0214)
2021	1.123**	0.550***	2.029***	0.837***
	(0.0448)	(0.00877)	(0.0674)	(0.0228)
2022	1.043	0.532***	1.577***	0.863***
	(0.0420)	(0.00856)	(0.0547)	(0.0233)
Grade (reference=Kindergarten)				
1st grade	0.924**	0.990	0.793***	1.004
	(0.0258)	(0.0127)	(0.0248)	(0.0202)
2nd grade	0.899***	0.921***	0.785***	0.931***

	(0.0252)	(0.0121)	(0.0244)	(0.0191)
3rd grade	0.917**	0.855***	0.785***	0.859***
	(0.0256)	(0.0115)	(0.0244)	(0.0180)
4th grade	0.881***	0.806***	0.782***	0.840***
	(0.0249)	(0.0110)	(0.0244)	(0.0178)
5th grade	0.769***	0.769***	0.911**	0.799***
	(0.0226)	(0.0107)	(0.0274)	(0.0172)
6th grade	0.595***	0.734***	0.844***	0.732***
	(0.0190)	(0.0105)	(0.0261)	(0.0163)
7th grade	0.538***	0.732***	0.815***	0.696***
	(0.0176)	(0.0105)	(0.0252)	(0.0156)
8th grade	0.536***	0.784***	1.227***	0.690***
	(0.0177)	(0.0112)	(0.0345)	(0.0155)
9th grade	0.355***	0.896***	1.232***	0.686***
	(0.0133)	(0.0122)	(0.0348)	(0.0153)
10th grade	0.354***	0.952***	1.193***	0.680***
	(0.0134)	(0.0129)	(0.0340)	(0.0154)
11th grade	0.355***	0.871***	1.056+	0.663***
	(0.0138)	(0.0122)	(0.0311)	(0.0152)
12th grade	0.218***	1.100***	0.678***	0.435***
	(0.0105)	(0.0143)	(0.0223)	(0.0115)
Gender (reference=Female)				
Male	1.038**	1.049***	1.063***	1.013
	(0.0149)	(0.00682)	(0.0144)	(0.00980)
Ethnicity (reference=White)				
Asian	1.280***	0.818***	0.754***	4.361***
	(0.0596)	(0.0175)	(0.0294)	(0.0731)
Black	2.288***	1.397***	0.664***	1.761***
	(0.0430)	(0.0118)	(0.0134)	(0.0242)
Hispanic	1.611***	1.052**	0.852***	2.660***
	(0.0574)	(0.0184)	(0.0312)	(0.0546)
Residency status (reference=Resident in the attending school)				
Others	1.318***	1.259***	0.938+	1.873***
	(0.0556)	(0.0220)	(0.0336)	(0.0477)
Lunch (reference=Unreduced lunch)				
Free lunch	2.610***	3.056***	1.158***	1.194***
	(0.0488)	(0.0241)	(0.0194)	(0.0147)
Reduced lunch	1.603***	1.396***	0.807***	0.882***

	(0.0551)	(0.0208)	(0.0272)	(0.0212)
Homeless (reference=Not homeless)				
Shelters	2.177***	3.970***	3.504***	4.105***
	(0.261)	(0.164)	(0.400)	(0.311)
Unsheltered	1.585+	2.707***	1.929*	4.803***
	(0.423)	(0.256)	(0.588)	(0.709)
Doubled Up	1.527***	1.851***	1.061	2.078***
	(0.0476)	(0.0241)	(0.0477)	(0.0494)
Hotel/Motel	2.820***	3.004***	2.050***	3.746***
	(0.227)	(0.112)	(0.227)	(0.231)
ELL (reference=Not ELL)				
ELL	0.833***	0.855***	0.907***	1.322***
	(0.0179)	(0.00772)	(0.0186)	(0.0168)
Resident (reference=Resident in the attending school)				
Others	0.712***	0.711***	0.890*	0.504***
	(0.0284)	(0.0116)	(0.0431)	(0.0188)
Special Education (reference=Not Special Ed.)				
Yes	1.700***	1.160***	1.510***	0.814***
	(0.0280)	(0.00910)	(0.0261)	(0.0116)
Observations	3808597			
R^2				
Pseudo R^2	0.046			

Exponentiated coefficients; Standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5-1: Result of multinomial logistic regression with student- and school-level variables for five counties (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	2.271***	0.714***	1.103**	1.400***
	(0.0709)	(0.00822)	(0.0379)	(0.0318)
2010	2.099***	0.695***	1.127***	1.077**
	(0.0662)	(0.00810)	(0.0388)	(0.0256)
2011	2.336***	0.704***	1.148***	1.093***
	(0.0727)	(0.00819)	(0.0393)	(0.0259)
2012	2.354***	0.677***	1.265***	1.148***
	(0.0735)	(0.00798)	(0.0424)	(0.0270)
2013	2.028***	0.706***	1.344***	1.144***
	(0.0634)	(0.00820)	(0.0445)	(0.0270)
2014	1.948***	0.681***	1.374***	1.141***
	(0.0618)	(0.00796)	(0.0456)	(0.0270)
2015	1.932***	0.639***	1.294***	1.146***
	(0.0607)	(0.00752)	(0.0433)	(0.0271)
2016	1.912***	0.608***	1.377***	1.120***
	(0.0600)	(0.00725)	(0.0454)	(0.0266)
2017	1.787***	0.587***	1.570***	1.077**
	(0.0569)	(0.00711)	(0.0505)	(0.0257)
2018	1.654***	0.570***	1.782***	1.100***
	(0.0532)	(0.00695)	(0.0562)	(0.0261)
2019	1.497***	0.540***	1.465***	1.177***
	(0.0494)	(0.00673)	(0.0478)	(0.0276)
2020	1.227***	0.457***	1.605***	0.872***
	(0.0418)	(0.00592)	(0.0516)	(0.0218)
2021	1.078*	0.444***	2.079***	0.936**
	(0.0386)	(0.00595)	(0.0645)	(0.0233)
2022	1.205***	0.448***	1.728***	0.951*
	(0.0418)	(0.00600)	(0.0552)	(0.0236)
Grade (reference=Kindergarten)				
1st grade	0.984	0.976*	0.790***	0.998
	(0.0202)	(0.0103)	(0.0226)	(0.0181)
2nd grade	0.935**	0.924***	0.786***	0.936***

	(0.0195)	(0.0101)	(0.0224)	(0.0173)
3rd grade	0.943**	0.860***	0.779***	0.859***
	(0.0197)	(0.00967)	(0.0223)	(0.0162)
4th grade	0.921***	0.817***	0.793***	0.848***
	(0.0195)	(0.00934)	(0.0226)	(0.0162)
5th grade	0.819***	0.784***	0.906***	0.813***
	(0.0181)	(0.00913)	(0.0251)	(0.0158)
6th grade	0.736***	0.719***	0.994	0.816***
	(0.0177)	(0.00866)	(0.0282)	(0.0166)
7th grade	0.724***	0.693***	0.986	0.775***
	(0.0184)	(0.00849)	(0.0281)	(0.0162)
8th grade	0.764***	0.727***	1.478***	0.774***
	(0.0192)	(0.00895)	(0.0388)	(0.0163)
9th grade	1.895***	1.209***	2.069***	0.781***
	(0.0480)	(0.0158)	(0.0622)	(0.0191)
10th grade	1.692***	1.202***	2.063***	0.769***
	(0.0447)	(0.0159)	(0.0629)	(0.0191)
11th grade	1.481***	1.046**	1.888***	0.748***
	(0.0405)	(0.0144)	(0.0592)	(0.0189)
12th grade	1.114***	1.071***	1.357***	0.477***
	(0.0330)	(0.0141)	(0.0458)	(0.0136)
Gender (reference=Female)				
Male	1.113***	1.044***	1.057***	1.014
	(0.0120)	(0.00620)	(0.0129)	(0.00903)
Ethnicity (reference=White)				
Asian	1.236***	0.964+	0.754***	3.436***
	(0.0483)	(0.0191)	(0.0283)	(0.0568)
Black	2.134***	1.403***	0.925**	1.594***
	(0.0456)	(0.0147)	(0.0222)	(0.0273)
Hispanic	1.339***	1.054**	0.905**	2.335***
	(0.0427)	(0.0172)	(0.0295)	(0.0459)
Resident (reference=Resident in the attending school)				
Others	1.429***	1.362***	1.047	1.759***
	(0.0533)	(0.0215)	(0.0332)	(0.0416)
Lunch (reference=Unreduced lunch)				
Free lunch	2.085***	2.115***	1.242***	1.345***
	(0.0353)	(0.0159)	(0.0197)	(0.0167)
Reduced lunch	1.213***	1.008	0.789***	0.960+

	(0.0376)	(0.0136)	(0.0245)	(0.0220)
Homeless (reference=Not homeless)				
Shelters	3.082***	2.654***	2.644***	3.121***
	(0.129)	(0.0811)	(0.210)	(0.169)
Unsheltered	2.581***	2.285***	1.732*	3.480***
	(0.332)	(0.181)	(0.397)	(0.482)
Doubled Up	1.856***	1.558***	1.114**	1.935***
	(0.0319)	(0.0166)	(0.0376)	(0.0386)
Hotel/Motel	2.728***	2.783***	1.814***	3.543***
	(0.158)	(0.0931)	(0.175)	(0.190)
ELL (reference=Not ELL)				
ELL	0.894***	0.793***	0.891***	1.267***
	(0.0168)	(0.00657)	(0.0170)	(0.0156)
Residency status (reference=Resident in the attending school)				
Others	0.797***	0.890***	0.634***	0.465***
	(0.0318)	(0.0150)	(0.0304)	(0.0177)
Special Education (reference=Not Special Ed.)				
Yes	1.472***	1.092***	1.478***	0.825***
	(0.0189)	(0.00778)	(0.0227)	(0.0107)
Enrolled students	0.913***	0.974***	0.953***	0.992***
	(0.00189)	(0.000782)	(0.00164)	(0.00145)
Percent-Free/Reduced lunch	0.992***	1.010***	1.003***	0.996***
	(0.000401)	(0.000182)	(0.000391)	(0.000306)
Percent-Black	1.000	0.980***	0.989***	1.005***
	(0.000374)	(0.000171)	(0.000418)	(0.000323)
Percent-Hispanic	1.002+	1.009***	1.000	1.000
	(0.00115)	(0.000742)	(0.00174)	(0.00111)
Percent-ELL/IEP	1.016***	0.976***	1.002*	1.015***
	(0.000547)	(0.000496)	(0.00101)	(0.000627)
In-school suspension	0.884***	1.044***	0.907***	0.981***
	(0.00517)	(0.00223)	(0.0105)	(0.00501)
ELA proficiency rate	0.959***	0.989***	1.002*	1.003***
	(0.000726)	(0.000383)	(0.000795)	(0.000686)
Math proficiency rate	1.012***	0.986***	0.999	1.005***

	(0.000644)	(0.000321)	(0.000678)	(0.000581)
Observations	4522936			
R^2				
Pseudo R^2	0.067			

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 5-2: Result of multinomial logistic regression with student- and school-level variables for STL (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	9.686***	0.296***	0.954	4.978***
	(0.760)	(0.00909)	(0.205)	(0.817)
2010	10.36***	0.398***	1.791**	7.060***
	(0.816)	(0.0119)	(0.344)	(1.137)
2011	12.15***	0.429***	2.352***	7.250***
	(0.950)	(0.0126)	(0.429)	(1.166)
2012	12.75***	0.362***	2.568***	9.068***
	(1.002)	(0.0115)	(0.467)	(1.442)
2013	11.12***	0.586***	3.597***	9.536***
	(0.874)	(0.0158)	(0.617)	(1.506)
2014	9.544***	0.425***	2.703***	9.900***
	(0.759)	(0.0126)	(0.484)	(1.561)
2015	10.01***	0.488***	1.453+	9.849***
	(0.793)	(0.0149)	(0.289)	(1.569)
2016	10.21***	0.401***	1.434+	7.907***
	(0.809)	(0.0131)	(0.284)	(1.273)
2017	9.529***	0.347***	4.651***	8.125***
	(0.760)	(0.0117)	(0.802)	(1.304)
2018	8.551***	0.427***	9.671***	8.997***
	(0.687)	(0.0136)	(1.594)	(1.437)
2019	7.954***	0.506***	3.054***	20.93***
	(0.647)	(0.0157)	(0.546)	(3.265)
2020	6.434***	0.430***	5.504***	13.73***
	(0.530)	(0.0138)	(0.930)	(2.169)
2021	1.640***	0.269***	4.658***	14.27***
	(0.164)	(0.0101)	(0.795)	(2.245)
2022	4.363***	0.381***	7.318***	13.38***
	(0.374)	(0.0128)	(1.220)	(2.110)
Grade (reference=Kindergarten)				
1st grade	1.076*	1.006	0.720**	0.976
	(0.0360)	(0.0274)	(0.0748)	(0.0518)
2nd grade	0.978	0.973	0.740**	0.973

	(0.0337)	(0.0269)	(0.0777)	(0.0524)
3rd grade	0.980	0.884***	0.579***	0.858**
	(0.0342)	(0.0256)	(0.0681)	(0.0488)
4th grade	1.006	0.905***	0.667***	0.861**
	(0.0357)	(0.0264)	(0.0756)	(0.0492)
5th grade	0.937+	0.898***	0.636***	0.857**
	(0.0350)	(0.0265)	(0.0750)	(0.0500)
6th grade	0.996	1.071*	0.857	0.870*
	(0.0397)	(0.0326)	(0.0956)	(0.0538)
7th grade	1.000	1.012	0.719**	0.783***
	(0.0429)	(0.0324)	(0.0834)	(0.0513)
8th grade	1.152***	0.968	1.855***	0.762***
	(0.0481)	(0.0318)	(0.168)	(0.0516)
9th grade	3.252***	1.574***	2.639***	1.287***
	(0.115)	(0.0476)	(0.268)	(0.0824)
10th grade	2.802***	1.147***	2.204***	1.094
	(0.105)	(0.0388)	(0.239)	(0.0750)
11th grade	2.553***	0.977	2.763***	1.112
	(0.0992)	(0.0357)	(0.295)	(0.0784)
12th grade	2.020***	0.390***	4.804***	0.566***
	(0.0802)	(0.0179)	(0.464)	(0.0479)
Gender (reference=Female)				
Male	1.239***	1.055***	1.014	0.997
	(0.0212)	(0.0145)	(0.0437)	(0.0266)
Ethnicity (reference=White)				
Asian	1.066	0.723***	0.817	1.060
	(0.0788)	(0.0409)	(0.123)	(0.0887)
Black	1.356***	1.079**	0.815**	0.782***
	(0.0493)	(0.0270)	(0.0605)	(0.0387)
Hispanic	0.985	0.700***	0.931	1.260***
	(0.0619)	(0.0321)	(0.0970)	(0.0811)
Others	0.678*	1.048	0.879	1.039
	(0.117)	(0.0686)	(0.120)	(0.112)
Lunch (reference=Unreduced lunch)				
Free lunch	0.807***	0.298***	0.637***	0.457***
	(0.0241)	(0.00596)	(0.0492)	(0.0232)
Reduced lunch	0.451***	0.271***	0.655**	0.389***
	(0.0382)	(0.0137)	(0.0854)	(0.0450)

Homeless (reference=Not homeless)				
Shelters	2.240***	1.409***	1.504*	2.271***
	(0.109)	(0.0798)	(0.262)	(0.219)
Unsheltered	2.368***	1.190	0.000000737***	0.705
	(0.372)	(0.275)	(8.86e-08)	(0.410)
Doubled Up	1.698***	1.344***	1.022	1.498***
	(0.0377)	(0.0298)	(0.0772)	(0.0631)
Hotel/Motel	1.801***	1.234+	1.060	2.255***
	(0.177)	(0.136)	(0.355)	(0.354)
ELL (reference=Not ELL)				
ELL	0.569***	0.938*	0.815*	1.258***
	(0.0208)	(0.0238)	(0.0694)	(0.0567)
Residency status (reference=Resident in the attending school)				
Others	3.858***	1.531***	0.796	0.598*
	(0.426)	(0.137)	(0.306)	(0.149)
Special Education (reference=Not Special Ed.)				
Yes	1.209***	0.910***	1.036	0.749***
	(0.0264)	(0.0174)	(0.0618)	(0.0316)
Enrolled students	0.843***	0.989*	0.985	0.959***
	(0.00539)	(0.00446)	(0.0123)	(0.00845)
Percent-Free/Reduced lunch	1.185***	1.003***	0.964***	0.998
	(0.0602)	(0.000724)	(0.00305)	(0.00145)
Percent-Black	0.988***	0.993***	0.996+	1.004**
	(0.000912)	(0.000751)	(0.00229)	(0.00143)
Percent-Hispanic	0.987***	0.991***	1.033***	1.007**
	(0.00216)	(0.00178)	(0.00363)	(0.00266)
Percent-ELL/IEP	1.008***	1.000	1.002	1.011***
	(0.000964)	(0.000875)	(0.00218)	(0.00144)
In-school suspension	1.003	0.916***	0.863**	0.963+
	(0.0100)	(0.00880)	(0.0391)	(0.0186)
ELA proficiency rate	0.959***	0.969***	0.950***	0.979***
	(0.00127)	(0.00119)	(0.00387)	(0.00209)
Math proficiency rate	1.005***	1.009***	1.015***	1.013***
	(0.00109)	(0.00112)	(0.00312)	(0.00186)

Observations	471749
R^2	
Pseudo R^2	0.085

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 5-3: Result of multinomial logistic regression with student- and school-level variables for four counties (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	1.419***	0.852***	1.070+	1.371***
	(0.0538)	(0.0119)	(0.0389)	(0.0327)
2010	1.244***	0.821***	1.077*	1.011
	(0.0482)	(0.0116)	(0.0396)	(0.0256)
2011	1.292***	0.836***	1.088*	1.026
	(0.0498)	(0.0118)	(0.0400)	(0.0259)
2012	1.284***	0.819***	1.182***	1.056*
	(0.0496)	(0.0117)	(0.0427)	(0.0266)
2013	1.113**	0.813***	1.282***	1.062*
	(0.0438)	(0.0117)	(0.0457)	(0.0270)
2014	1.163***	0.823***	1.305***	1.043+
	(0.0456)	(0.0117)	(0.0467)	(0.0266)
2015	1.156***	0.769***	1.243***	1.077**
	(0.0449)	(0.0110)	(0.0447)	(0.0273)
2016	1.179***	0.734***	1.308***	1.071**
	(0.0456)	(0.0106)	(0.0466)	(0.0272)
2017	1.110**	0.712***	1.452***	1.026
	(0.0435)	(0.0104)	(0.0506)	(0.0262)
2018	1.079+	0.674***	1.478***	1.057*
	(0.0426)	(0.00997)	(0.0514)	(0.0268)
2019	0.969	0.615***	1.361***	0.981
	(0.0392)	(0.00936)	(0.0481)	(0.0253)
2020	0.835***	0.520***	1.506***	0.754***
	(0.0351)	(0.00821)	(0.0522)	(0.0207)
2021	1.147***	0.543***	1.997***	0.814***
	(0.0461)	(0.00873)	(0.0664)	(0.0222)
2022	1.066	0.524***	1.551***	0.842***
	(0.0434)	(0.00850)	(0.0538)	(0.0227)
Grade (reference=Kindergarten)				
1st grade	0.923**	0.995	0.793***	1.002
	(0.0257)	(0.0128)	(0.0248)	(0.0202)
2nd grade	0.898***	0.931***	0.784***	0.928***

	(0.0252)	(0.0123)	(0.0244)	(0.0191)
3rd grade	0.910***	0.862***	0.788***	0.860***
	(0.0254)	(0.0116)	(0.0245)	(0.0180)
4th grade	0.868***	0.803***	0.787***	0.843***
	(0.0245)	(0.0110)	(0.0246)	(0.0178)
5th grade	0.752***	0.762***	0.925**	0.807***
	(0.0221)	(0.0107)	(0.0278)	(0.0174)
6th grade	0.515***	0.686***	1.012	0.870***
	(0.0170)	(0.0101)	(0.0321)	(0.0201)
7th grade	0.465***	0.666***	1.000	0.846***
	(0.0158)	(0.00988)	(0.0319)	(0.0199)
8th grade	0.462***	0.704***	1.505***	0.839***
	(0.0159)	(0.0104)	(0.0443)	(0.0199)
9th grade	0.404***	1.347***	1.934***	0.857***
	(0.0199)	(0.0220)	(0.0691)	(0.0250)
10th grade	0.401***	1.412***	1.871***	0.851***
	(0.0199)	(0.0230)	(0.0675)	(0.0252)
11th grade	0.381***	1.198***	1.662***	0.835***
	(0.0187)	(0.0199)	(0.0619)	(0.0247)
12th grade	0.233***	1.494***	1.070+	0.549***
	(0.0134)	(0.0234)	(0.0430)	(0.0181)
Gender (reference=Female)				
Male	1.035*	1.046***	1.063***	1.014
	(0.0148)	(0.00686)	(0.0144)	(0.00981)
Ethnicity (reference=White)				
Asian	1.239***	1.019	0.748***	3.600***
	(0.0580)	(0.0218)	(0.0295)	(0.0611)
Black	1.792***	1.408***	0.889***	1.638***
	(0.0444)	(0.0167)	(0.0250)	(0.0309)
Hispanic	1.474***	1.076***	0.919*	2.474***
	(0.0535)	(0.0194)	(0.0337)	(0.0521)
Others	1.275***	1.295***	0.978	1.753***
	(0.0541)	(0.0232)	(0.0352)	(0.0450)
Lunch (reference=Unreduced lunch)				
Free lunch	2.652***	2.497***	1.184***	1.368***
	(0.0541)	(0.0210)	(0.0214)	(0.0181)
Reduced lunch	1.628***	1.195***	0.799***	0.970
	(0.0566)	(0.0180)	(0.0273)	(0.0236)

Homeless (reference=Not homeless)				
Shelters	2.247***	4.232***	3.423***	3.944***
	(0.269)	(0.183)	(0.391)	(0.299)
Unsheltered	1.606+	2.733***	1.916*	4.872***
	(0.427)	(0.264)	(0.583)	(0.716)
Doubled Up	1.531***	1.787***	1.075	2.223***
	(0.0480)	(0.0236)	(0.0484)	(0.0531)
Hotel/Motel	2.785***	3.237***	2.061***	3.587***
	(0.223)	(0.124)	(0.228)	(0.221)
ELL (reference=Not ELL)				
ELL	0.925**	0.760***	0.890***	1.240***
	(0.0226)	(0.00794)	(0.0191)	(0.0170)
Residency status (reference=Resident in the attending school)				
Others	0.863***	0.858***	0.641***	0.432***
	(0.0373)	(0.0153)	(0.0337)	(0.0172)
Special Education (reference=Not Special Ed.)				
Yes	1.674***	1.097***	1.508***	0.811***
	(0.0272)	(0.00888)	(0.0263)	(0.0115)
Enrolled students	1.003	0.959***	0.956***	0.986***
	(0.00299)	(0.000932)	(0.00192)	(0.00168)
Percent-Free/Reduced lunch	0.983***	0.998***	1.003***	0.993***
	(0.000543)	(0.000242)	(0.000533)	(0.000381)
Percent-Black	1.005***	0.990***	0.996***	1.010***
	(0.000487)	(0.000211)	(0.000505)	(0.000354)
Percent-Hispanic	1.025***	1.035***	0.983***	1.000
	(0.00251)	(0.00111)	(0.00227)	(0.00151)
Percent-ELL/IEP	0.992***	0.982***	1.011***	1.033***
	(0.00173)	(0.000871)	(0.00157)	(0.000977)
In-school suspension	0.889***	1.034***	0.833***	0.967***
	(0.0113)	(0.00240)	(0.0173)	(0.00526)
ELA proficiency rate	0.972***	0.983***	1.005***	1.002*
	(0.00125)	(0.000488)	(0.00103)	(0.000827)
Math proficiency rate	0.998+	0.986***	1.005***	1.007***
	(0.000999)	(0.000395)	(0.000823)	(0.000651)

Observations	3808597
R^2	
Pseudo R^2	0.058

Exponentiated coefficients; Standard errors in parentheses
$^+ p < 0.10$, $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Table 6-1: Result of multinomial logistic regression with student-, school-, and neighborhood-level variables for five counties (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	2.272***	0.714***	1.101**	1.400***
	(0.0710)	(0.00822)	(0.0378)	(0.0318)
2010	2.094***	0.696***	1.125***	1.077**
	(0.0661)	(0.00811)	(0.0388)	(0.0256)
2011	2.320***	0.706***	1.148***	1.093***
	(0.0722)	(0.00822)	(0.0393)	(0.0259)
2012	2.327***	0.681***	1.270***	1.147***
	(0.0727)	(0.00803)	(0.0425)	(0.0270)
2013	1.989***	0.711***	1.352***	1.143***
	(0.0622)	(0.00827)	(0.0448)	(0.0270)
2014	1.912***	0.686***	1.383***	1.139***
	(0.0607)	(0.00803)	(0.0459)	(0.0269)
2015	1.900***	0.644***	1.303***	1.145***
	(0.0598)	(0.00759)	(0.0435)	(0.0271)
2016	1.889***	0.613***	1.385***	1.119***
	(0.0593)	(0.00731)	(0.0457)	(0.0265)
2017	1.767***	0.592***	1.580***	1.076**
	(0.0563)	(0.00717)	(0.0509)	(0.0257)
2018	1.634***	0.575***	1.792***	1.099***
	(0.0526)	(0.00701)	(0.0565)	(0.0261)
2019	1.473***	0.545***	1.476***	1.174***
	(0.0487)	(0.00681)	(0.0482)	(0.0275)
2020	1.207***	0.462***	1.618***	0.870***
	(0.0412)	(0.00599)	(0.0520)	(0.0218)
2021	1.058	0.449***	2.096***	0.934**
	(0.0380)	(0.00602)	(0.0651)	(0.0232)
2022	1.185***	0.452***	1.741***	0.949*
	(0.0411)	(0.00607)	(0.0556)	(0.0235)
Grade (reference=Kindergarten)				
1st grade	0.984	0.977*	0.791***	0.998
	(0.0202)	(0.0103)	(0.0227)	(0.0181)
2nd grade	0.936**	0.926***	0.788***	0.937***

	(0.0195)	(0.0101)	(0.0224)	(0.0173)
3rd grade	0.946**	0.861***	0.780***	0.859***
	(0.0198)	(0.00968)	(0.0223)	(0.0163)
4th grade	0.924***	0.818***	0.795***	0.849***
	(0.0196)	(0.00935)	(0.0227)	(0.0162)
5th grade	0.820***	0.786***	0.908***	0.813***
	(0.0181)	(0.00915)	(0.0251)	(0.0158)
6th grade	0.739***	0.726***	0.998	0.828***
	(0.0179)	(0.00877)	(0.0284)	(0.0170)
7th grade	0.724***	0.699***	0.988	0.785***
	(0.0184)	(0.00861)	(0.0283)	(0.0165)
8th grade	0.764***	0.734***	1.481***	0.784***
	(0.0192)	(0.00908)	(0.0391)	(0.0166)
9th grade	1.749***	1.214***	2.041***	0.789***
	(0.0451)	(0.0161)	(0.0641)	(0.0200)
10th grade	1.574***	1.208***	2.034***	0.777***
	(0.0422)	(0.0162)	(0.0646)	(0.0199)
11th grade	1.396***	1.054***	1.861***	0.756***
	(0.0387)	(0.0147)	(0.0605)	(0.0197)
12th grade	1.064*	1.082***	1.340***	0.483***
	(0.0317)	(0.0144)	(0.0469)	(0.0141)
Gender (reference=Female)				
Male	1.113***	1.045***	1.057***	1.014
	(0.0120)	(0.00620)	(0.0129)	(0.00903)
Ethnicity (reference=White)				
Asian	1.228***	0.995	0.764***	3.482***
	(0.0482)	(0.0198)	(0.0289)	(0.0581)
Black	2.083***	1.423***	0.926**	1.592***
	(0.0444)	(0.0150)	(0.0224)	(0.0272)
Hispanic	1.345***	1.060***	0.902**	2.337***
	(0.0426)	(0.0174)	(0.0296)	(0.0459)
Others	1.398***	1.381***	1.051	1.754***
	(0.0524)	(0.0218)	(0.0333)	(0.0415)
Lunch (reference=Unreduced lunch)				
Free lunch	2.100***	2.079***	1.233***	1.340***
	(0.0362)	(0.0156)	(0.0195)	(0.0166)
Reduced lunch	1.227***	0.987	0.779***	0.948*
	(0.0382)	(0.0133)	(0.0242)	(0.0218)

Homeless (reference=Not homeless)				
Shelters	2.916***	2.691***	2.672***	3.114***
	(0.123)	(0.0819)	(0.212)	(0.169)
Unsheltered	2.519***	2.301***	1.769*	3.484***
	(0.329)	(0.182)	(0.406)	(0.483)
Doubled Up	1.843***	1.555***	1.110**	1.949***
	(0.0318)	(0.0166)	(0.0375)	(0.0389)
Hotel/Motel	2.671***	2.768***	1.818***	3.494***
	(0.155)	(0.0924)	(0.175)	(0.188)
ELL (reference=Not ELL)				
ELL	0.847***	0.813***	0.916***	1.264***
	(0.0161)	(0.00685)	(0.0176)	(0.0158)
Residency status (reference=Resident in the attending school)				
Others	0.810***	0.910***	0.639***	0.472***
	(0.0323)	(0.0154)	(0.0307)	(0.0180)
Special Education (reference=Not Special Ed.)				
Yes	1.479***	1.104***	1.488***	0.825***
	(0.0190)	(0.00787)	(0.0228)	(0.0107)
Enrolled students	0.921***	0.972***	0.953***	0.990***
	(0.00198)	(0.000803)	(0.00180)	(0.00152)
Percent-Free/Reduced lunch	0.993***	1.007***	1.001+	0.994***
	(0.000466)	(0.000203)	(0.000473)	(0.000344)
Percent-Black	0.994***	0.982***	0.988***	1.006***
	(0.000606)	(0.000306)	(0.000835)	(0.000500)
Percent-Hispanic	0.984***	1.020***	1.017***	0.999
	(0.00145)	(0.000872)	(0.00195)	(0.00130)
Percent-ELL/IEP	1.017***	0.976***	1.001	1.015***
	(0.000587)	(0.000523)	(0.00106)	(0.000657)
In-school suspension	0.881***	1.038***	0.890***	0.985**
	(0.00527)	(0.00227)	(0.0112)	(0.00511)
ELA proficiency rate	0.961***	0.989***	1.002*	1.002*
	(0.000772)	(0.000408)	(0.000851)	(0.000742)
Math proficiency rate	1.010***	0.987***	1.000	1.006***
	(0.000668)	(0.000323)	(0.000701)	(0.000598)

Median Household Income (In 2021 Inflation Adjusted Dollars)	1.001	0.994***	0.996***	0.995***
	(0.000472)	(0.000258)	(0.000461)	(0.000357)
Rate - Black	1.660***	0.894***	1.173+	0.917+
	(0.0817)	(0.0245)	(0.0972)	(0.0436)
Rate - Hispanic	142.8***	0.0887***	0.00516***	3.831***
	(32.37)	(0.0153)	(0.00229)	(1.035)
Rate - Some college degree or higher	1.307***	1.119*	1.248*	1.576***
	(0.105)	(0.0492)	(0.116)	(0.113)
Homeownership rate	0.485***	1.391***	1.043	1.347***
	(0.0250)	(0.0433)	(0.0819)	(0.0707)
Observations	4522936			
R^2				
Pseudo R^2	0.068			

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 6-2: Result of multinomial logistic regression with student-, school-, and neighborhood-level variables for STL (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	9.787***	0.294***	0.966	4.957***
	(0.769)	(0.00907)	(0.207)	(0.813)
2010	10.42***	0.396***	1.865**	7.028***
	(0.822)	(0.0118)	(0.359)	(1.132)
2011	12.26***	0.428***	2.481***	7.243***
	(0.960)	(0.0126)	(0.453)	(1.165)
2012	12.91***	0.362***	2.790***	9.049***
	(1.016)	(0.0115)	(0.507)	(1.439)
2013	11.28***	0.594***	4.008***	9.632***
	(0.888)	(0.0161)	(0.690)	(1.522)
2014	9.656***	0.427***	2.999***	9.948***
	(0.769)	(0.0127)	(0.538)	(1.569)
2015	10.14***	0.488***	1.573*	9.869***
	(0.806)	(0.0150)	(0.312)	(1.572)
2016	10.39***	0.403***	1.531*	8.028***
	(0.824)	(0.0132)	(0.302)	(1.292)
2017	9.667***	0.349***	4.965***	8.270***
	(0.772)	(0.0118)	(0.854)	(1.327)
2018	8.656***	0.428***	10.38***	9.105***
	(0.697)	(0.0136)	(1.705)	(1.454)
2019	7.986***	0.506***	3.314***	21.12***
	(0.651)	(0.0158)	(0.591)	(3.294)
2020	6.482***	0.429***	6.077***	13.84***
	(0.535)	(0.0139)	(1.027)	(2.186)
2021	1.650***	0.268***	5.221***	14.38***
	(0.166)	(0.0101)	(0.887)	(2.262)
2022	4.392***	0.382***	8.123***	13.53***
	(0.377)	(0.0128)	(1.352)	(2.132)
Grade (reference=Kindergarten)				
1st grade	1.075*	1.004	0.719**	0.976
	(0.0359)	(0.0273)	(0.0747)	(0.0518)
2nd grade	0.978	0.968	0.731**	0.971

	(0.0337)	(0.0268)	(0.0768)	(0.0522)
3rd grade	0.976	0.879***	0.560***	0.858**
	(0.0341)	(0.0254)	(0.0659)	(0.0489)
4th grade	1.005	0.903***	0.642***	0.864*
	(0.0357)	(0.0264)	(0.0727)	(0.0494)
5th grade	0.936+	0.902***	0.613***	0.868*
	(0.0350)	(0.0266)	(0.0722)	(0.0506)
6th grade	1.025	1.117***	0.856	0.910
	(0.0411)	(0.0341)	(0.0954)	(0.0565)
7th grade	1.005	1.049	0.738**	0.815**
	(0.0432)	(0.0336)	(0.0859)	(0.0535)
8th grade	1.154***	1.006	1.908***	0.793***
	(0.0482)	(0.0331)	(0.174)	(0.0537)
9th grade	3.019***	1.572***	2.476***	1.337***
	(0.107)	(0.0478)	(0.247)	(0.0855)
10th grade	2.630***	1.150***	2.080***	1.140+
	(0.0978)	(0.0391)	(0.221)	(0.0782)
11th grade	2.427***	0.987	2.607***	1.158*
	(0.0939)	(0.0362)	(0.270)	(0.0817)
12th grade	1.969***	0.392***	4.427***	0.591***
	(0.0773)	(0.0181)	(0.407)	(0.0500)
Gender (reference=Female)				
Male	1.234***	1.054***	1.019	0.996
	(0.0209)	(0.0144)	(0.0439)	(0.0265)
Ethnicity (reference=White)				
Asian	1.022	0.718***	0.801	1.065
	(0.0755)	(0.0408)	(0.120)	(0.0894)
Black	1.334***	1.070**	0.807**	0.781***
	(0.0483)	(0.0268)	(0.0617)	(0.0382)
Hispanic	0.950	0.698***	0.937	1.274***
	(0.0597)	(0.0321)	(0.0968)	(0.0818)
Others	0.659*	1.022	0.891	1.025
	(0.114)	(0.0667)	(0.121)	(0.111)
Lunch (reference=Unreduced lunch)				
Free lunch	0.816***	0.298***	0.646***	0.454***
	(0.0244)	(0.00596)	(0.0493)	(0.0230)
Reduced lunch	0.477***	0.275***	0.664**	0.388***
	(0.0402)	(0.0140)	(0.0863)	(0.0449)

Homeless (reference=Not homeless)				
Shelters	2.210***	1.418***	1.482*	2.283***
	(0.106)	(0.0806)	(0.257)	(0.221)
Unsheltered	2.339***	1.207	0.000000782***	0.728
	(0.372)	(0.279)	(0.000000105)	(0.423)
Doubled Up	1.670***	1.332***	0.971	1.499***
	(0.0369)	(0.0296)	(0.0733)	(0.0632)
Hotel/Motel	1.777***	1.220+	1.010	2.233***
	(0.173)	(0.135)	(0.338)	(0.350)
ELL (reference=Not ELL)				
ELL	0.569***	0.924**	0.843*	1.217***
	(0.0209)	(0.0231)	(0.0721)	(0.0542)
Residency status (reference=Resident in the attending school)				
Others	3.654***	1.575***	1.091	0.612+
	(0.398)	(0.142)	(0.422)	(0.154)
Special Education (reference=Not Special Ed.)				
Yes	1.239***	0.918***	1.070	0.745***
	(0.0267)	(0.0176)	(0.0635)	(0.0315)
Enrolled students	0.837***	1.005	1.012	0.969***
	(0.00558)	(0.00471)	(0.0128)	(0.00870)
Percent-Free/Reduced lunch	1.192***	1.002*	0.963***	0.994***
	(0.0597)	(0.000788)	(0.00321)	(0.00161)
Percent-Black	0.977***	0.992***	1.006+	1.010***
	(0.00113)	(0.000966)	(0.00343)	(0.00192)
Percent-Hispanic	0.981***	0.984***	1.038***	1.004
	(0.00205)	(0.00173)	(0.00417)	(0.00272)
Percent-ELL/IEP	1.005***	1.000	1.012***	1.015***
	(0.000992)	(0.000941)	(0.00287)	(0.00159)
In-school suspension	0.998	0.929***	0.899*	0.986
	(0.0102)	(0.00919)	(0.0415)	(0.0198)
ELA proficiency rate	0.964***	0.973***	0.967***	0.980***
	(0.00136)	(0.00126)	(0.00378)	(0.00216)
Math proficiency rate	1.001	1.008***	1.015***	1.015***
	(0.00120)	(0.00117)	(0.00299)	(0.00193)

Median Household Income (In 2021 Inflation Adjusted Dollars)	0.988***	0.987***	0.986	0.981***
	(0.00249)	(0.00239)	(0.00944)	(0.00467)
Rate - Black	10.51***	1.950***	2.467**	0.750
	(1.321)	(0.195)	(0.798)	(0.149)
Rate - Hispanic	3498867.9***	22609.7***	0.000223***	625.9***
	(2419680.9)	(13154.0)	(0.000455)	(725.1)
Rate - Some college degree or higher	14.97***	1.577+	3.950	1.277
	(3.915)	(0.402)	(4.042)	(0.659)
Homeownership rate	2.603***	3.818***	24.23***	3.781***
	(0.354)	(0.508)	(12.27)	(1.107)
Observations	471749			
R^2				
Pseudo R^2	0.089			

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Table 6-3: Result of multinomial logistic regression with student-, school-, and neighborhood-level variables for five counties (reference category = remained)

Outcome – Transfer type	Within districts	Outside districts	Home/Private school	Another state/country
School year (reference=2008)				
2009	1.419***	0.857***	1.069+	1.370***
	(0.0539)	(0.0120)	(0.0389)	(0.0326)
2010	1.246***	0.822***	1.075+	1.009
	(0.0483)	(0.0116)	(0.0395)	(0.0255)
2011	1.293***	0.841***	1.087*	1.024
	(0.0498)	(0.0119)	(0.0399)	(0.0259)
2012	1.286***	0.827***	1.183***	1.052*
	(0.0497)	(0.0118)	(0.0427)	(0.0265)
2013	1.116**	0.822***	1.284***	1.059*
	(0.0439)	(0.0118)	(0.0457)	(0.0269)
2014	1.165***	0.833***	1.307***	1.040
	(0.0457)	(0.0118)	(0.0468)	(0.0265)
2015	1.159***	0.779***	1.246***	1.074**
	(0.0451)	(0.0112)	(0.0448)	(0.0272)
2016	1.180***	0.744***	1.312***	1.068**
	(0.0457)	(0.0108)	(0.0467)	(0.0271)
2017	1.111**	0.721***	1.457***	1.024
	(0.0436)	(0.0106)	(0.0508)	(0.0261)
2018	1.081*	0.683***	1.481***	1.054*
	(0.0427)	(0.0101)	(0.0515)	(0.0267)
2019	0.970	0.625***	1.365***	0.978
	(0.0393)	(0.00952)	(0.0483)	(0.0252)
2020	0.835***	0.530***	1.511***	0.753***
	(0.0351)	(0.00838)	(0.0525)	(0.0206)
2021	1.146***	0.554***	2.006***	0.813***
	(0.0461)	(0.00891)	(0.0668)	(0.0221)
2022	1.062	0.535***	1.557***	0.841***
	(0.0433)	(0.00868)	(0.0540)	(0.0226)
Grade (reference=Kindergarten)				
1st grade	0.923**	0.998	0.794***	1.002
	(0.0258)	(0.0129)	(0.0248)	(0.0202)
2nd grade	0.898***	0.936***	0.785***	0.928***

	(0.0252)	(0.0124)	(0.0244)	(0.0191)
3rd grade	0.911***	0.863***	0.786***	0.858***
	(0.0255)	(0.0117)	(0.0245)	(0.0180)
4th grade	0.870***	0.805***	0.786***	0.841***
	(0.0246)	(0.0111)	(0.0246)	(0.0178)
5th grade	0.756***	0.764***	0.920**	0.802***
	(0.0222)	(0.0107)	(0.0277)	(0.0173)
6th grade	0.527***	0.668***	0.962	0.848***
	(0.0176)	(0.00986)	(0.0306)	(0.0197)
7th grade	0.481***	0.640***	0.940+	0.817***
	(0.0166)	(0.00959)	(0.0302)	(0.0194)
8th grade	0.478***	0.677***	1.416***	0.810***
	(0.0166)	(0.0101)	(0.0420)	(0.0194)
9th grade	0.464***	1.292***	1.734***	0.813***
	(0.0237)	(0.0217)	(0.0653)	(0.0247)
10th grade	0.461***	1.346***	1.676***	0.808***
	(0.0237)	(0.0225)	(0.0635)	(0.0248)
11th grade	0.444***	1.118***	1.480***	0.790***
	(0.0227)	(0.0191)	(0.0575)	(0.0242)
12th grade	0.269***	1.405***	0.954	0.519***
	(0.0159)	(0.0224)	(0.0397)	(0.0176)
Gender (reference=Female)				
Male	1.037*	1.047***	1.063***	1.014
	(0.0148)	(0.00685)	(0.0144)	(0.00981)
Ethnicity (reference=White)				
Asian	1.317***	0.989	0.734***	3.534***
	(0.0620)	(0.0212)	(0.0290)	(0.0605)
Black	1.847***	1.409***	0.892***	1.624***
	(0.0463)	(0.0167)	(0.0248)	(0.0304)
Hispanic	1.502***	1.064***	0.915*	2.458***
	(0.0547)	(0.0191)	(0.0335)	(0.0517)
Others	1.309***	1.285***	0.963	1.722***
	(0.0556)	(0.0230)	(0.0346)	(0.0443)
Lunch (reference=Unreduced lunch)				
Free lunch	2.610***	2.490***	1.189***	1.380***
	(0.0530)	(0.0210)	(0.0214)	(0.0183)
Reduced lunch	1.595***	1.193***	0.800***	0.977
	(0.0557)	(0.0180)	(0.0273)	(0.0238)

Homeless (reference=Not homeless)

Shelters	2.290***	4.212***	3.425***	3.936***
	(0.274)	(0.182)	(0.391)	(0.299)
Unsheltered	1.657+	2.694***	1.876*	4.751***
	(0.441)	(0.260)	(0.572)	(0.702)
Doubled Up	1.535***	1.763***	1.073	2.215***
	(0.0481)	(0.0233)	(0.0484)	(0.0531)
Hotel/Motel	2.878***	3.308***	2.063***	3.552***
	(0.231)	(0.126)	(0.229)	(0.219)

ELL (reference=Not ELL)

ELL	0.929**	0.825***	0.907***	1.232***
	(0.0233)	(0.00852)	(0.0197)	(0.0172)

Residency status (reference=Resident in the attending school)

Others	0.925+	0.821***	0.612***	0.415***
	(0.0403)	(0.0149)	(0.0324)	(0.0165)

Special Education (reference=Not Special Ed.)

Yes	1.671***	1.105***	1.504***	0.808***
	(0.0269)	(0.00894)	(0.0262)	(0.0115)
Enrolled students	0.990**	0.965***	0.967***	0.995**
	(0.00304)	(0.000985)	(0.00214)	(0.00177)
Percent-Free/Reduced lunch	0.982***	0.998***	1.005***	0.995***
	(0.000623)	(0.000260)	(0.000606)	(0.000412)
Percent-Black	1.005***	0.991***	0.997**	1.008***
	(0.000771)	(0.000359)	(0.000944)	(0.000557)
Percent-Hispanic	1.029***	1.071***	0.993*	0.997
	(0.00343)	(0.00151)	(0.00299)	(0.00201)
Percent-ELL/IEP	0.998	0.977***	1.004**	1.029***
	(0.00175)	(0.000882)	(0.00161)	(0.00102)
In-school suspension	0.887***	1.039***	0.840***	0.978***
	(0.0110)	(0.00249)	(0.0190)	(0.00543)
ELA proficiency rate	0.972***	0.982***	1.003**	0.998*
	(0.00136)	(0.000490)	(0.00109)	(0.000895)
Math proficiency rate	1.000	0.987***	1.005***	1.008***
	(0.00103)	(0.000400)	(0.000867)	(0.000691)

Median Household Income (In 2021 Inflation Adjusted Dollars)	1.000	0.995***	0.995***	0.995***
	(0.000699)	(0.000251)	(0.000458)	(0.000350)
Rate - Black	1.973***	0.726***	0.459***	0.792***
	(0.161)	(0.0277)	(0.0471)	(0.0481)
Rate - Hispanic	7.214***	0.0000637***	0.00343***	0.539+
	(3.454)	(0.0000152)	(0.00184)	(0.189)
Rate - Some college degree or higher	0.362***	2.710***	3.775***	4.705***
	(0.0419)	(0.134)	(0.389)	(0.373)
Homeownership rate	5.930***	1.080	0.602***	0.776***
	(0.592)	(0.0517)	(0.0629)	(0.0534)

Observations	3808597
R^2	
Pseudo R^2	0.060

Exponentiated coefficients; Standard errors in parentheses
[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

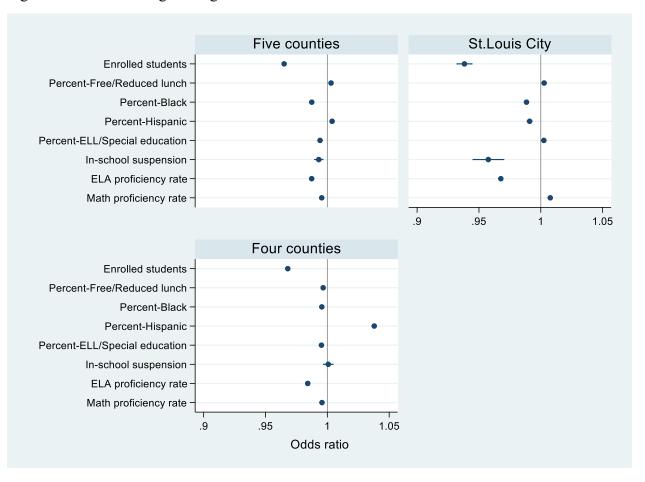Figure 1.1 Results of logistic regression for student-level variables

Figure 1-2 Results of logistic regression for school-level variables
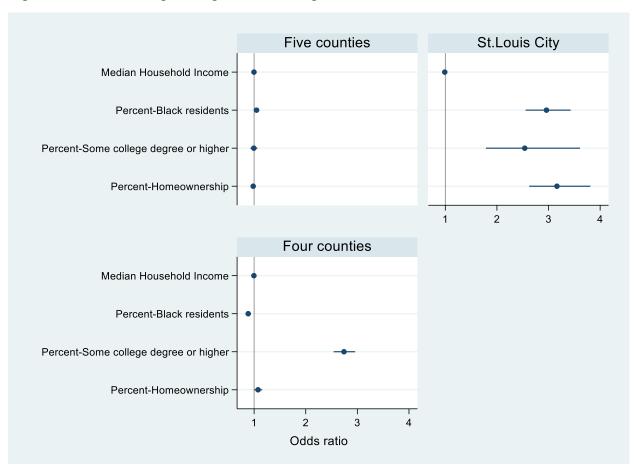
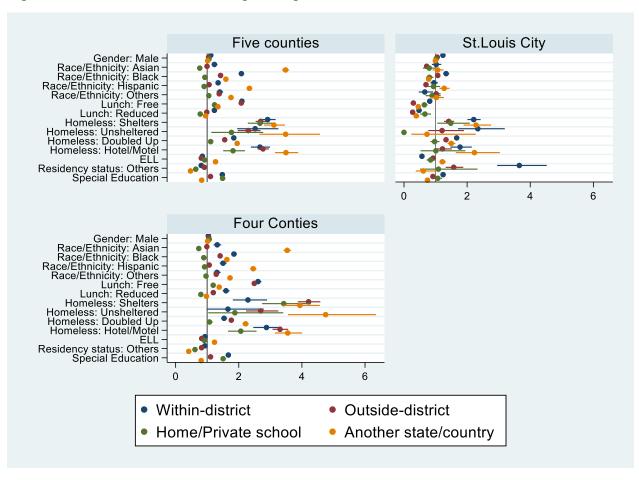Figure 1-3 Results of logistic regression for neighborhood-level variables

Figure 2-1 Results of multinomial logistic regression for student-level variables
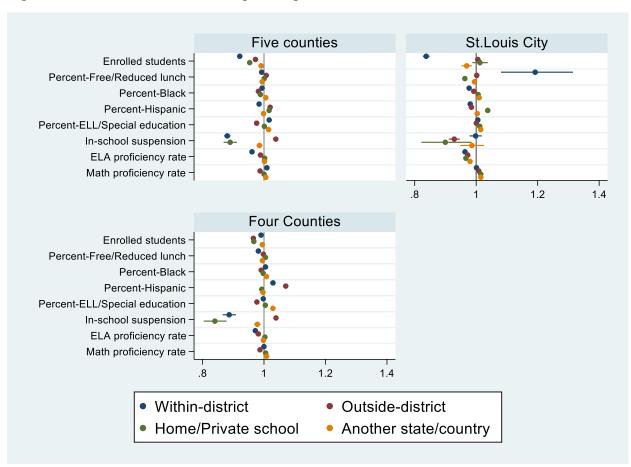
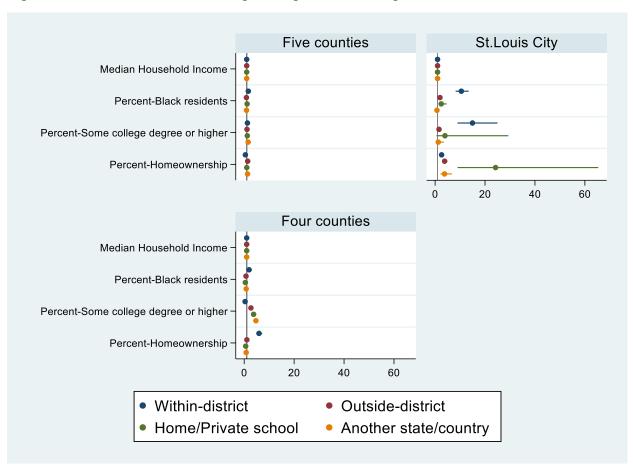Figure 2-2 Results of multinomial logistic regression for school-level variables
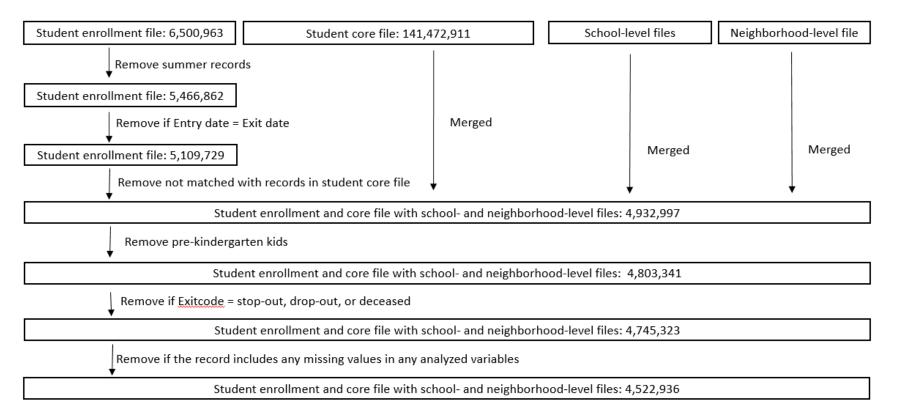
Figure 2-3 Results of multinomial logistic regression for neighborhood-level variables

Appendix A

Missing Data Cleaning Process

Student enrollment file: 6,500,963	Student core file: 141,472,911	School-level files	Neighborhood-level file

↓ Remove summer records

Student enrollment file: 5,466,862

↓ Remove if Entry date = Exit date | Merged

Student enrollment file: 5,109,729 | Merged | Merged

↓ Remove not matched with records in student core file

Student enrollment and core file with school- and neighborhood-level files: 4,932,997

↓ Remove pre-kindergarten kids

Student enrollment and core file with school- and neighborhood-level files: 4,803,341

↓ Remove if Exitcode = stop-out, drop-out, or deceased

Student enrollment and core file with school- and neighborhood-level files: 4,745,323

↓ Remove if the record includes any missing values in any analyzed variables

Student enrollment and core file with school- and neighborhood-level files: 4,522,936

Note: Stop-out codes are designated for students that formally drop out. Same-school transfers are informal mechanisms that some schools appear to be using for a variety of cases, which can include parents saying that they want to transfer, but not actually leaving, as well as students temporarily not showing up for an undefined period of time. As transfer, by definition, means going to another school, we choose to include same-school transfers in the total analyses, but we not code them as transfers.

Appendix B

Robustness Check – Percentages of Discrepancy of Transferred Students

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Percentage	0.09%	0.06%	0.11%	0.12%	0.09%	0.08%	0.08%	0.09%	0.08%	0.09%	0.08%	0.09%	0.07%	0.04%	0.06%

Note: I conducted a robust check by using a student core file merged with a student enrollment file. In the analysis, instead of students' exit codes, I used each student's records for each school year. If a student did not transfer to any school during the school year, the student had only a record. If a student transferred to a different school once, the student should have two different records. If a student had two records during the same school year but the same district and school codes in the records, this means the discrepancy, indicating that the student remained in the same school, not transferring to any school.

Appendix C

Table of School Districts by County

District name	Number	Percent	County
ACADEMIE LAFAYETTE	34	0	Others
ACADEMY FOR INTEGRATED ARTS	30	0	Others
ADAIR CO. R-I	19	0	Others
ADAIR CO. R-II	25	0	Others
ADRIAN R-III	52	0	Others
ADVANCE R-IV	96	0	Others
AFFTON 101	38,761	0.86	St. Louis County
ALBANY R-III	27	0	Others
ALLEN VILLAGE	23	0	Others
ALTENBURG 48	27	0	Others
ALTON R-IV	248	0.01	Others
APPLETON CITY R-II	32	0	Others
ARCADIA VALLEY R-II	1,482	0.03	Others
ARCHIE R-V	36	0	Others
ASH GROVE R-IV	45	0	Others
ATLANTA C-3	63	0	Others
AURORA R-VIII	151	0	Others
AVA R-I	120	0	Others
AVENUE CITY R-IX	14	0	Others
BAKERSFIELD R-IV	22	0	Others
BALLARD R-II	5	0	Others
BAYLESS	23,376	0.52	St. Louis County
BELL CITY R-II	69	0	Others
BELLEVIEW R-III	122	0	Others
BELTON 124	345	0.01	Others
BERNIE R-XIII	108	0	Others
BEVIER C-4	54	0	Others
BILLINGS R-IV	52	0	Others
BISMARCK R-V	1,124	0.02	Others
BLACKWATER R-II	20	0	Others
BLAIR OAKS R-II	210	0	Others
BLOOMFIELD R-XIV	190	0	Others
BLUE EYE R-V	126	0	Others
BLUE SPRINGS R-IV	1,596	0.04	Others
BOLIVAR R-I	677	0.01	Others
BONCL R-X	32	0	Others
BOONVILLE R-I	403	0.01	Others
BOSWORTH R-V	7	0	Others
BOWLING GREEN R-I	1,286	0.03	Others
BRADLEYVILLE R-I	28	0	Others
BRANSON R-IV	1,273	0.03	Others
BRAYMER C-4	12	0	Others

BRECKENRIDGE R-I	9	0	Others
BRENTWOOD	12,141	0.27	St. Louis County
BRONAUGH R-VII	13	0	Others
BROOKFIELD R-III	140	0	Others
BROOKSIDE CHARTER SCH.	52	0	Others
BRUNSWICK R-II	20	0	Others
BUCHANAN CO. R-IV	2	0	Others
BUCKLIN R-II	20	0	Others
BUNKER R-III	209	0	Others
BUTLER R-V	42	0	Others
CABOOL R-IV	163	0	Others
CAINSVILLE R-I	2	0	Others
CALHOUN R-VIII	1	0	Others
CALLAO C-8	30	0	Others
CAMDENTON R-III	2,107	0.05	Others
CAMERON R-I	182	0	Others
CAMPBELL R-II	143	0	Others
CANTON R-V	212	0	Others
CAPE GIRARDEAU 63	4,068	0.09	Others
CARL JUNCTION R-I	445	0.01	Others
CARROLLTON R-VII	47	0	Others
CARTHAGE R-IX	300	0.01	Others
CARUTHERSVILLE 18	493	0.01	Others
CASSVILLE R-IV	170	0	Others
CENTER 58	261	0.01	Others
CENTERVILLE R-I	55	0	Others
CENTRAL R-III	3,760	0.08	Others
CENTRALIA R-VI	277	0.01	Others
CHADWICK R-I	15	0	Others
CHAFFEE R-II	317	0.01	Others
CHARLESTON R-I	569	0.01	Others
CHILHOWEE R-IV	4	0	Others
CHILLICOTHE R-II	212	0	Others
CITIZENS OF THE WORLD CHARTER	20	0	Others
CITY GARDEN MONTESSORI	2,405	0.05	St. Louis City
CLARK CO. R-I	125	0	Others
CLARKSBURG C-2	8	0	Others
CLARKTON C-4	97	0	Others
CLAYTON	39,127	0.87	St. Louis County
CLEARWATER R-I	1,255	0.03	Others
CLEVER R-V	79	0	Others
CLIMAX SPRINGS R-IV	76	0	Others
CLINTON	241	0.01	Others
CLINTON CO. R-III	54	0	Others
COLE CAMP R-I	73	0	Others
COLE CO. R-I	102	0	Others

COLE CO. R-V	184	0	Others
COLUMBIA 93	11,343	0.25	Others
COMMUNITY R-VI	178	0	Others
CONCORDIA R-II	20	0	Others
CONFLUENCE ACADEMIES	43,270	0.96	St. Louis City
COOPER CO. R-IV	9	0	Others
COOTER R-IV	14	0	Others
COWGILL R-VI	2	0	Others
CRAIG R-III	1	0	Others
CRANE R-III	61	0	Others
CRAWFORD CO. R-I	5,894	0.13	Others
CRAWFORD CO. R-II	5,171	0.11	Others
CROCKER R-II	185	0	Others
CROSSROADS CHARTER SCHOOLS	69	0	Others
CRYSTAL CITY 47	9,648	0.21	Jefferson County
DADEVILLE R-II	3	0	Others
DALLAS CO. R-I	211	0	Others
DAVIS R-XII	3	0	Others
DELASALLE CHARTER SCHOOL	29	0	Others
DELTA C-7	49	0	Others
DELTA R-V	135	0	Others
DENT-PHELPS R-III	171	0	Others
DESOTO 73	45,136	1	Jefferson County
DEXTER R-XI	897	0.02	Others
DIAMOND R-IV	85	0	Others
DIXON R-I	618	0.01	Others
DONIPHAN R-I	696	0.02	Others
DORA R-III	26	0	Others
DREXEL R-IV	14	0	Others
DUNKLIN R-V	23,705	0.52	Jefferson County
EAGLE COLLEGE PREP ENDEAVOR	4,797	0.11	St. Louis City
EAST BUCHANAN CO. C-1	6	0	Others
EAST CARTER CO. R-II	376	0.01	Others
EAST LYNNE 40	10	0	Others
EAST NEWTON CO. R-VI	107	0	Others
EAST PRAIRIE R-II	65	0	Others
EL DORADO SPRINGS R-II	65	0	Others
ELDON R-I	687	0.02	Others
ELSBERRY R-II	2,266	0.05	Others
EMINENCE R-I	78	0	Others
EVERTON R-III	1	0	Others
EWING MARION KAUFFMAN SCHOOL	42	0	Others
EXCELSIOR SPRINGS 40	209	0	Others
EXETER R-VI	32	0	Others
FAIR GROVE R-X	118	0	Others
FAIR PLAY R-II	53	0	Others

FAIRFAX R-III	1	0	Others
FAIRVIEW R-XI	97	0	Others
FARMINGTON R-VII	6,232	0.14	Others
FAYETTE R-III	173	0	Others
FERGUSON-FLORISSANT R-II	158,974	3.51	St. Louis County
FESTUS R-VI	47,964	1.06	Jefferson County
FORDLAND R-III	86	0	Others
FORSYTH R-III	269	0.01	Others
FORT OSAGE R-I	317	0.01	Others
FOX C-6	178,937	3.96	Jefferson County
FRANCIS HOWELL R-III	267,453	5.91	St. Charles
FRANKLIN CO. R-II	2,045	0.05	Franklin County
FREDERICKTOWN R-I	2,628	0.06	Others
FRONTIER SCHOOLS	58	0	Others
FT. ZUMWALT R-II	281,751	6.23	St. Charles
FULTON 58	1,446	0.03	Others
GAINESVILLE R-V	81	0	Others
GALENA R-II	62	0	Others
GALLATIN R-V	13	0	Others
GASCONADE C-4	4	0	Others
GASCONADE CO. R-I	2,752	0.06	Others
GASCONADE CO. R-II	6,701	0.15	Others
GATEWAY SCIENCE ACAD/ST LOUIS	14,209	0.31	St. Louis City
GENESIS SCHOOL INC.	49	0	Others
GIDEON 37	56	0	Others
GILLIAM C-4	8	0	Others
GLASGOW	39	0	Others
GLENWOOD R-VIII	42	0	Others
GOLDEN CITY R-III	64	0	Others
GORDON PARKS ELEM.	17	0	Others
GRAIN VALLEY R-V	301	0.01	Others
GRANDVIEW C-4	789	0.02	Others
GRANDVIEW R-II	12,342	0.27	Jefferson County
GREEN CITY R-I	30	0	Others
GREEN FOREST R-II	225	0	Others
GREEN RIDGE R-VIII	31	0	Others
GREENFIELD R-IV	78	0	Others
GREENVILLE R-II	654	0.01	Others
GRUNDY CO. R-V	16	0	Others
GUADALUPE CENTERS SCHOOLS	16	0	Others
HALE R-I	2	0	Others
HALFWAY R-III	58	0	Others
HALLSVILLE R-IV	349	0.01	Others
HAMILTON R-II	34	0	Others
HANCOCK PLACE	23,979	0.53	St. Louis County
HANNIBAL 60	2,082	0.05	Others

HARDIN-CENTRAL C-2	8	0	Others
HARRISBURG R-VIII	218	0	Others
HARRISONVILLE R-IX	189	0	Others
HARTVILLE R-II	52	0	Others
HAWTHORN LEADERSHIP SCHL GIRLS	1,048	0.02	St. Louis City
HAYTI R-II	223	0	Others
HAZELWOOD	287,734	6.36	St. Louis County
HENRY CO. R-I	45	0	Others
HERMITAGE R-IV	53	0	Others
HICKMAN MILLS C-1	874	0.02	Others
HICKORY CO. R-I	78	0	Others
HIGBEE R-VIII	115	0	Others
HILLSBORO R-III	54,542	1.21	Jefferson County
HOGAN PREPARATORY ACADEMY	88	0	Others
HOLCOMB R-III	106	0	Others
HOLDEN R-III	87	0	Others
HOLLIDAY C-2	13	0	Others
HOLLISTER R-V	280	0.01	Others
HOPE LEADERSHIP ACADEMY	3	0	Others
HOUSTON R-I	340	0.01	Others
HOWELL VALLEY R-I	56	0	Others
HUMANSVILLE R-IV	82	0	Others
HUME R-VIII	5	0	Others
IBERIA R-V	190	0	Others
INDEPENDENCE 30	1,272	0.03	Others
IRON CO. C-4	522	0.01	Others
JACKSON R-II	2,257	0.05	Others
JAMESTOWN C-1	47	0	Others
JASPER CO. R-V	18	0	Others
JEFFERSON CITY	7,930	0.18	Others
JEFFERSON CO. R-VII	14,598	0.32	Jefferson County
JENNINGS	43,279	0.96	St. Louis County
JOHNSON CO. R-VII	40	0	Others
JUNCTION HILL C-12	37	0	Others
KANSAS CITY 33	2,199	0.05	Others
KC INTERNATIONAL ACADEMY	79	0	Others
KEARNEY R-I	296	0.01	Others
KELSO C-7	44	0	Others
KENNETT 39	608	0.01	Others
KEYTESVILLE R-III	35	0	Others
KING CITY R-I	25	0	Others
KINGSTON 42	5	0	Others
KINGSTON K-14	3,140	0.07	Jefferson County
KINGSVILLE R-I	28	0	Others
KIPP ST LOUIS PUBLIC SCHOOLS	15,629	0.35	St. Louis City
KIPP: ENDEAVOR ACADEMY	28	0	Others

KIRBYVILLE R-VI	55	0	Others
KIRKSVILLE R-III	953	0.02	Others
KIRKWOOD R-VII	84,173	1.86	St. Louis County
KNOB NOSTER R-VIII	169	0	Others
KNOX CO. R-I	79	0	Others
LA MONTE R-IV	37	0	Others
LA PLATA R-II	37	0	Others
LA SALLE CHARTER SCHOOL	854	0.02	Others
LACLEDE CO. C-5	68	0	Others
LACLEDE CO. R-I	78	0	Others
LADUE	61,937	1.37	St. Louis County
LAFAYETTE CO. C-1	164	0	Others
LAFAYETTE PREPARATORY ACADEMY	2,347	0.05	St. Louis City
LAKELAND R-III	31	0	Others
LAMAR R-I	79	0	Others
LAREDO R-VII	1	0	Others
LATHROP R-II	50	0	Others
LAWSON R-XIV	35	0	Others
LEBANON R-III	899	0.02	Others
LEE A. TOLBERT COM. ACADEMY	51	0	Others
LEE'S SUMMIT R-VII	1,761	0.04	Others
LEESVILLE R-IX	11	0	Others
LEETON R-X	18	0	Others
LEOPOLD R-III	57	0	Others
LESTERVILLE R-IV	285	0.01	Others
LEWIS CO. C-1	218	0	Others
LEXINGTON R-V	162	0	Others
LIBERAL R-II	5	0	Others
LIBERTY 53	1,292	0.03	Others
LICKING R-VIII	670	0.01	Others
LIFT FOR LIFE ACADEMY	8,364	0.18	St. Louis City
LINCOLN R-II	86	0	Others
LINDBERGH SCHOOLS	97,431	2.15	St. Louis County
LINN CO. R-I	21	0	Others
LIVINGSTON CO. R-III	6	0	Others
LOCKWOOD R-I	18	0	Others
LOGAN-ROGERSVILLE R-VIII	213	0	Others
LONE JACK C-6	28	0	Others
LONEDELL R-XIV	5,105	0.11	Franklin County
LOUISIANA R-II	842	0.02	Others
LUTIE R-VI	90	0	Others
MACKS CREEK R-V	66	0	Others
MACON CO. R-I	318	0.01	Others
MACON CO. R-IV	35	0	Others
MADISON C-3	60	0	Others
MALDEN R-I	353	0.01	Others

MALTA BEND R-V	15	0	Others
MANES R-V	1	0	Others
MANSFIELD R-IV	110	0	Others
MAPLEWOOD-RICHMOND HEIGHTS	19,248	0.43	St. Louis County
MARCELINE R-V	96	0	Others
MARIES CO. R-I	185	0	Others
MARIES CO. R-II	1,226	0.03	Others
MARION C. EARLY R-V	94	0	Others
MARION CO. R-II	85	0	Others
MARIONVILLE R-IX	89	0	Others
MARK TWAIN R-VIII	2	0	Others
MARQUAND-ZION R-VI	200	0	Others
MARSHALL	627	0.01	Others
MARSHFIELD R-I	353	0.01	Others
MARYVILLE R-II	141	0	Others
MAYSVILLE R-I	13	0	Others
MCDONALD CO. R-I	211	0	Others
MEADOW HEIGHTS R-II	333	0.01	Others
MEADVILLE R-IV	3	0	Others
MEHLVILLE R-IX	161,505	3.57	St. Louis County
MERAMEC VALLEY R-III	50,819	1.12	Franklin County
MEXICO 59	1,373	0.03	Others
MIAMI R-I	12	0	Others
MID-BUCHANAN CO. R-V	53	0	Others
MIDDLE GROVE C-1	17	0	Others
MIDWAY R-I	6	0	Others
MILAN C-2	50	0	Others
MILLER CO. R-III	22	0	Others
MILLER R-II	56	0	Others
MIRABILE C-1	8	0	Others
MISSOURI CITY 56	1	0	Others
MOBERLY	827	0.02	Others
MONETT R-I	108	0	Others
MONITEAU CO. R-I	244	0.01	Others
MONITEAU CO. R-V	3	0	Others
MONROE CITY R-I	399	0.01	Others
MONTGOMERY CO. R-II	2,078	0.05	Others
MONTROSE R-XIV	10	0	Others
MORGAN CO. R-I	128	0	Others
MORGAN CO. R-II	421	0.01	Others
MOUND CITY R-II	15	0	Others
MOUNTAIN GROVE R-III	240	0.01	Others
MOUNTAIN VIEW-BIRCH TREE R-III	284	0.01	Others
MT. VERNON R-V	274	0.01	Others
NAYLOR R-II	200	0	Others
NEELYVILLE R-IV	155	0	Others

NELL HOLCOMB R-IV	167	0	Others
NEOSHO SCHOOL DISTRICT	432	0.01	Others
NEVADA R-V	389	0.01	Others
NEW BLOOMFIELD R-III	251	0.01	Others
NEW FRANKLIN R-I	82	0	Others
NEW HAVEN	7,796	0.17	Franklin County
NEW MADRID CO. R-I	971	0.02	Others
NEWBURG R-II	350	0.01	Others
NEWTOWN-HARRIS R-III	4	0	Others
NIANGUA R-V	45	0	Others
NODAWAY-HOLT R-VII	1	0	Others
NORBORNE R-VIII	23	0	Others
NORMANDY SCHOOLS COLLABORATIVE	44,108	0.98	St. Louis County
NORTH ANDREW CO. R-VI	7	0	Others
NORTH CALLAWAY CO. R-I	587	0.01	Others
NORTH DAVIESS R-III	10	0	Others
NORTH KANSAS CITY 74	2,020	0.04	Others
NORTH MERCER CO. R-III	11	0	Others
NORTH NODAWAY CO. R-VI	14	0	Others
NORTH PEMISCOT CO. R-I	49	0	Others
NORTH PLATTE CO. R-I	32	0	Others
NORTH SHELBY	83	0	Others
NORTH SIDE COMMUNITY SCHOOL	4,197	0.09	St. Louis City
NORTH ST. FRANCOIS CO. R-I	8,408	0.19	Jefferson County
NORTH WOOD R-IV	239	0.01	Others
NORTHEAST RANDOLPH CO. R-IV	93	0	Others
NORTHEAST VERNON CO. R-I	13	0	Others
NORTHWEST R-I	97,169	2.15	Jefferson County
NORTHWESTERN R-I	13	0	Others
NORWOOD R-I	58	0	Others
Nixa Public Schools	1,264	0.03	Others
OAK GROVE R-VI	172	0	Others
OAK HILL R-I	102	0	Others
OAK RIDGE R-VI	132	0	Others
ODESSA R-VII	127	0	Others
ORAN R-III	189	0	Others
ORCHARD FARM R-V	27,146	0.6	St. Charles
OREARVILLE R-IV	2	0	Others
OREGON-HOWELL R-III	51	0	Others
ORRICK R-XI	13	0	Others
OSAGE CO. R-I	261	0.01	Others
OSAGE CO. R-II	441	0.01	Others
OSAGE CO. R-III	180	0	Others
OSCEOLA	44	0	Others
OTTERVILLE R-VI	40	0	Others
OZARK R-VI	999	0.02	Others

PALMYRA R-I	286	0.01	Others
PARIS R-II	220	0	Others
PARK HILL	1,158	0.03	Others
PARKWAY C-2	269,627	5.96	St. Louis County
PATTONSBURG R-II	3	0	Others
PATTONVILLE R-III	88,595	1.96	St. Louis County
PEMISCOT CO. R-III	26	0	Others
PERRY CO. 32	1,876	0.04	Others
PETTIS CO. R-V	21	0	Others
PETTIS CO. R-XII	19	0	Others
PHELPS CO. R-III	140	0	Others
PIERCE CITY R-VI	102	0	Others
PIKE CO. R-III	614	0.01	Others
PILOT GROVE C-4	57	0	Others
PLAINVIEW R-VIII	19	0	Others
PLATO R-V	127	0	Others
PLATTE CO. R-III	343	0.01	Others
PLEASANT HILL R-III	149	0	Others
PLEASANT HOPE R-VI	378	0.01	Others
POLO R-VII	20	0	Others
POPLAR BLUFF R-I	3,147	0.07	Others
PORTAGEVILLE	188	0	Others
POTOSI R-III	4,251	0.09	Others
PRAIRIE HOME R-V	23	0	Others
PREMIER CHARTER SCHOOL	14,314	0.32	St. Louis City
PRINCETON R-V	7	0	Others
PURDY R-II	40	0	Others
PUTNAM CO. R-I	79	0	Others
PUXICO R-VIII	418	0.01	Others
RALLS CO. R-II	235	0.01	Others
RAYMONDVILLE R-VII	56	0	Others
RAYMORE-PECULIAR R-II	574	0.01	Others
RAYTOWN C-2	966	0.02	Others
REEDS SPRING R-IV	519	0.01	Others
RENICK R-V	20	0	Others
REPUBLIC R-III	601	0.01	Others
RICH HILL R-IV	22	0	Others
RICHARDS R-V	89	0	Others
RICHLAND R-I	103	0	Others
RICHLAND R-IV	105	0	Others
RICHMOND R-XVI	68	0	Others
RICHWOODS R-VII	1,785	0.04	Others
RIDGEWAY R-V	14	0	Others
RIPLEY CO. R-III	52	0	Others
RIPLEY CO. R-IV	64	0	Others
RISCO R-II	23	0	Others

RITENOUR	101,374	2.24	St. Louis County
RIVERVIEW GARDENS	96,562	2.13	St. Louis County
ROCK PORT R-II	9	0	Others
ROCKWOOD R-VI	329,917	7.29	St. Louis County
ROLLA 31	4,201	0.09	Others
ROSCOE C-1	2	0	Others
SALEM R-80	1,350	0.03	Others
SALISBURY R-IV	70	0	Others
SANTA FE R-X	41	0	Others
SARCOXIE R-II	72	0	Others
SAVANNAH R-III	68	0	Others
SCHOOL OF THE OSAGE	1,212	0.03	Others
SCHUYLER CO. R-I	66	0	Others
SCOTLAND CO. R-I	111	0	Others
SCOTT CITY R-I	359	0.01	Others
SCOTT CO. CENTRAL	162	0	Others
SCOTT CO. R-IV	297	0.01	Others
SCUOLA VITA NUOVA	5	0	Others
SEDALIA 200	864	0.02	Others
SENATH-HORNERSVILLE C-8	140	0	Others
SENECA R-VII	68	0	Others
SEYMOUR R-II	24	0	Others
SHELBY CO. R-IV	128	0	Others
SHELDON R-VIII	6	0	Others
SHELL KNOB 78	41	0	Others
SHERWOOD CASS R-VIII	74	0	Others
SIKESTON R-6	1,992	0.04	Others
SILEX R-I	554	0.01	Others
SKYLINE R-II	3	0	Others
SLATER	67	0	Others
SMITHTON R-VI	66	0	Others
SMITHVILLE R-II	178	0	Others
SOUTH CALLAWAY CO. R-II	382	0.01	Others
SOUTH HARRISON CO. R-II	86	0	Others
SOUTH HOLT CO. R-I	6	0	Others
SOUTH IRON CO. R-I	470	0.01	Others
SOUTH NODAWAY CO. R-IV	20	0	Others
SOUTH PEMISCOT CO. R-V	89	0	Others
SOUTHERN BOONE CO. R-I	425	0.01	Others
SOUTHERN REYNOLDS CO. R-II	497	0.01	Others
SOUTHLAND C-9	19	0	Others
SOUTHWEST LIVINGSTON CO. R-I	8	0	Others
SOUTHWEST R-V	42	0	Others
SPARTA R-III	75	0	Others
SPECL. SCH. DST. ST. LOUIS CO.	42,254	0.93	St. Louis County
SPOKANE R-VII	118	0	Others

SPRING BLUFF R-XV	3,520	0.08	Franklin County
SPRINGFIELD R-XII	7,835	0.17	Others
ST. CHARLES R-VI	81,475	1.8	St. Charles
ST. CLAIR R-XIII	34,833	0.77	Franklin County
ST. ELIZABETH R-IV	36	0	Others
ST. JAMES R-I	3,578	0.08	Others
ST. JOSEPH	936	0.02	Others
ST. LOUIS CITY	341,351	7.55	St. Louis City
ST. LOUIS LANG IMMERSION SCH	5,031	0.11	St. Louis City
STE. GENEVIEVE CO. R-II	4,842	0.11	Others
STEELVILLE R-III	2,697	0.06	Others
STEWARTSVILLE C-2	6	0	Others
STOCKTON R-I	158	0	Others
STOUTLAND R-II	139	0	Others
STRAFFORD R-VI	224	0	Others
STRAIN-JAPAN R-XVI	1,121	0.02	Franklin County
STRASBURG C-3	5	0	Others
STURGEON R-V	74	0	Others
SUCCESS R-VI	41	0	Others
SULLIVAN	34,499	0.76	Franklin County
SUMMERSVILLE R-II	120	0	Others
SUNRISE R-IX	4,945	0.11	Jefferson County
SWEDEBORG R-III	18	0	Others
SWEET SPRINGS R-VII	73	0	Others
TANEYVILLE R-II	10	0	Others
TARKIO R-I	33	0	Others
THAYER R-II	115	0	Others
THE ARCH COMMUNITY SCHOOL	493	0.01	Others
THE BIOME	1,075	0.02	Others
THORNFIELD R-I	21	0	Others
TINA-AVALON R-II	6	0	Others
TIPTON R-VI	59	0	Others
TRENTON R-IX	82	0	Others
TRI-COUNTY R-VII	14	0	Others
TROY R-III	21,786	0.48	Others
TWIN RIVERS R-X	261	0.01	Others
UNION R-XI	40,733	0.9	Franklin County
UNION STAR R-II	2	0	Others
UNIVERSITY ACADEMY	60	0	Others
UNIVERSITY CITY	44,264	0.98	St. Louis County
VALLEY PARK	14,799	0.33	St. Louis County
VALLEY R-VI	466	0.01	Others
VAN BUREN R-I	275	0.01	Others
VAN-FAR R-I	425	0.01	Others
VERONA R-VII	33	0	Others
WALNUT GROVE R-V	17	0	Others

WARREN CO. R-III	10,783	0.24	Others
WARRENSBURG R-VI	747	0.02	Others
WARSAW R-IX	257	0.01	Others
WASHINGTON	61,741	1.37	Franklin County
WAYNESVILLE R-VI	2,292	0.05	Others
WEAUBLEAU R-III	18	0	Others
WEBB CITY R-VII	301	0.01	Others
WEBSTER GROVES	62,473	1.38	St. Louis County
WELLINGTON-NAPOLEON R-IX	16	0	Others
WELLSVILLE MIDDLETOWN R-I	463	0.01	Others
WENTZVILLE R-IV	228,255	5.05	St. Charles
WEST NODAWAY CO. R-I	3	0	Others
WEST PLAINS R-VII	619	0.01	Others
WEST PLATTE CO. R-II	50	0	Others
WEST ST. FRANCOIS CO. R-IV	1,900	0.04	Others
WESTRAN R-I	126	0	Others
WESTVIEW C-6	4	0	Others
WHEATLAND R-II	57	0	Others
WHEATON R-III	27	0	Others
WILLARD R-II	686	0.02	Others
WILLOW SPRINGS R-IV	236	0.01	Others
WINDSOR C-1	46,380	1.03	Jefferson County
WINFIELD R-IV	6,055	0.13	Others
WINONA R-III	162	0	Others
WINSTON R-VI	7	0	Others
WOODLAND R-IV	473	0.01	Others
WORTH CO. R-III	32	0	Others
WRIGHT CITY R-II OF WARREN CO.	7,860	0.17	Others
ZALMA R-V	110	0	Others