Connecticut Mobility and Stability Rate Study.

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Introduction

Why this study?

Educators and policymakers are concerned about high student mobility, especially because mobility is associated with negative academic performance outcomes for students in particular and for schools more generally. Furthermore, student mobility may lower educational performance for at-risk and low-performing students compared with peers who remain in the same schools.

This study investigates both student mobility and stability rates in Connecticut from one school year (2012 -13). These findings are examined by student racial and ethnic subgroups and mobility patterns across District Reference Groups (DRGs). By investigating DRG's, the intent is to observe possible differences in mobility across broad student disadvantage levels from the inner cities to traditionally advantaged districts in Connecticut.

Theoretical basis of the study

Demographers have developed a theoretical framework as a basis for exploring student mobility known as the "migration net theory." This theory provides a sound foundation for practical standardized statistical examinations of student school mobility rates. At the core of the migration net theory is differentiating whether families move into a new neighborhood or town either for their children to attend what is perceived as a better school, or whether families move for economic benefits or other practical reasons unrelated to educational benefits for their children.

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Frequent household moves are defined by this theory as *residential mobility*. Here, *school mobility* is therefore considered a direct consequence of residential mobility for households that tend to change schools frequently. School mobility is defined as frequent school moves that are not the result of promotion to the next grade. Thus residential mobility and school mobility overlap significantly because these frequent school moves are often brought about by the family's changing residential situation.

Research questions

Research on student mobility includes several studies that document the effects of school mobility on the educational welfare of students who change schools frequently. This study focuses on the above-mentioned theoretical framework and examines two relevant questions about the mobility of Connecticut students:

1. What is the *number of students who change schools frequently and what are their background characteristics* compared to those students who stay in the same school? And,

2. What are the *reasons* students change schools or stay in the same school?

Key definitions

To examine these research questions, several terms and phrases defining circumstances of mobility and stability rates need to be clearly delineated.

Mobility Rates

Cumulative Enrollment: This defines the total number of students who were reported enrolled at any point in time within a particular school year (to avoid duplication, a student's last school enrolled is credited).

October 1 Enrollment: This defines the total number of students reported enrolled by October 1 of the current year.

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Transfer INTO Connecticut School System: This refers to students who transferred from a school outside the Connecticut public school system (i.e. a private school in Connecticut, out-of–state schools or out of the country schools) and enrolled in a Connecticut public school.

Intra-district Transfer: This refers to students who moved to a different Connecticut public school in the same district within the school year.

Inter-district Transfer: This refers to students who moved across Connecticut public school districts within the school year.

Transfer OUT of Connecticut School System: This refers to students who withdrew from a Connecticut public school to a school outside the Connecticut public school system.

Mobility Rate: This is the number of students who transferred INTO or OUT of a Connecticut public school divided by the total number of enrolled public school students anytime. (i.e. cumulative enrollment).

Stability Rates

October 1 Enrollment: This is defined as the total count of students reported on, for example, October 1, 2012, in the Public School Information System (PSIS) data collection.

Same School: This refers to *stable* students who stayed in the same school throughout the school year.

Stability Rate: This is defined as the number of students who stayed in the same school divided by *October 1 Enrollment* expressed as a percentage.

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Data Source

Each student in a Connecticut public school as well as a charter school or alternative program is assigned a unique identifier by the Connecticut Department of Education. As such, students can be tracked as they move into and out of schools in the state. Each year with the aid of the unique identifier, the following student enrollment information is reported by school personnel:

1. The school and district the student entered;
2. Date of entry to a particular school and district;
3. Date of student's withdrawal from a particular school or district; and
4. Demographic information, which also contains student information on English language status, eligibility for free or reduced-price lunch, special education status, and race/ethnicity.

Also a key variable for the data analysis in this study is the list of District Reference Group (DRG) designations. The DRG classification system assigns districts into groups based *primarily* on socioeconomic status (SES).

Limitations of the data used in the study.

1. The data systems used for this study do not track students after they leave Connecticut public schools. As such, the findings of this study capture mobility events for only Connecticut public school systems.

2. Because the observation period for this study is between October 1, 2012, and June 30, 2013, some students were excluded because they exited before October 1. Although the school year begins in early September, due to the fluidity of the enrollment data, the dataset this analysis examines excludes mobility events before October 1. This

is known as left-censoring data. Left-censoring data is a process whereby a certain population from the data is excluded because it failed to meet the inspection period.

3.   Thus, approximately less than one percent of the mobile students were excluded as result of using left-censoring data. The impact on mobility rates is not significant.

Outline of the mobility and stability rates calculation

The calculation is based on the following principles:

Mobility Rate

Consider this hypothetical example to understand and appreciate the practical complexities of defining and identifying students who experience high mobility: During the 2012–13 school year, a student transfers from district A to district B. Later that same year, this student transfers back to district A for two months, then moves out of the state before the end of the school year. For district A, the first instance of mobility is the only one counted to avoid duplication. However, for district B, this student's moves would also be counted, but only as one instance of Student Mobility for district B (for both the move in and out of the district).

- Thus, students are considered to be mobile if they move into (or withdrew from) a school or district after October 1, 2012.

- This study contains only unduplicated counts. Multiple exits and/or entries by a single student in a school (or school district) are counted only once.

- If a student transfers from one school to another within the same district, he/she is counted as mobile within the same school district rather than across school districts.

- If a student re-enters after leaving the Connecticut public school system, his/her mobility instance is updated.

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- We also consider a school change to mean the frequency of schools attended by a single student within the school year. (This measure of a school change does not include a student who has moved to the next grade.)

- We do not count a student changing school the last day of schools because of a terminal grade. (That is, a student matriculating between elementary and middle school or a student matriculating between middle school and high school.)

- Mobility within the summer season is not part of this study.

- Every student who enrolled anytime between the period of October 1 of the previous year and June 30 of the current year is part of the record to be examined as part of the mobility analysis. Finally,

- Late entries are also counted, for example, a student who withdraws from a school one month before the last day of school to another school. Such instance is also counted as a mobility event.

Non-Mobile Students

A non-mobile student means a student has only one school record. Examples of such students are as follows: still enrolled in the same school or district through the school year or dropped out without returning.

The denominator and the numerator used in the mobility rate are determined as follows:

1. The denominator is equal to:

   - the unduplicated count of students reported at any point during the school year in PSIS in any of the three data collection periods (October, January, and June).

2. The numerator is equal to:

- the number of students who moved into the Connecticut public school system

  Plus

- the number of students who moved out of the Connecticut public school system

  Plus

- the number of students who moved between schools in the same district

  Plus

- the number of students who moved across districts.

3. The *Mobility Rate* is the numerator divided by denominator.

Stability Rate

- We consider a student to be stable if the student stays in the same school within the school year.

The denominator and the numerator used in the *stability rate* are determined as follows:

1. The denominator is equal to:

    - the unduplicated count of students who attended a Connecticut public school as reported in PSIS in the October 1, 2012, collection.

2. The numerator is equal to:

    - the number of students who stayed in the same school within the school year from October 1 to the last day of school.

3. The *Stability Rate* is the numerator divided by denominator.

Findings

Student School Mobility Among the Major Subgroups—Statewide

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The population used for this study is approximately a half million PK–12 Connecticut public school students including charter and alternative programs. The subgroup memberships of these students are reported in Table 1 below. The student population is 59 percent white (N=333,606), 21 percent Hispanic (N=118,228), 13 percent Black (N=74,246), 5 percent Asian (N=26,104), and 2 percent multiracial (N=12,281); Indian or Alaskan Native and Hawaiian make up the rest of the student population.

At some point during the observation period, approximately 6 percent of the student population was identified as English language learners, 37 percent were eligible for free or reduced-price lunch, and 13 percent received special education services.

In analyzing the data, we consider the following mobility measures:

1. Count of the number of students enrolled in a Connecticut public school between October 1, 2012, and June 30, 2013, which is indicated in Table 1 below as *Transfer into a Connecticut public school.*

2. We also counted the number of students who moved from one school to another school within the same district as shown in Table 1 as *Intra-district transfer*.

3. The number of students who moved across districts was also counted (*inter-district transfer*).

4. Finally, the number of students who transferred entirely out of the Connecticut public school system was also counted (*transfer out of school system*).

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Table 1: The Distribution of State-Wide Subgroups' Mobility Rates

Category	Cumulative Enrollment	Transfer into Connecticut School System	Intra-district Transfer	Inter-district Transfer	Transfer out of Connecticut School System	Mobile	Mobility Rate (%)
All Students	566,609	19,535	2,418	2,316	12,145	36,414	6.4
Hispanic	118,282	6,662	1,013	780	3,489	11,944	10.1
Indian or Alaska Native	1,686	80	9	21	79	189	11.2
Asian	26,087	1,105	42	46	1,003	2,196	8.4
Black	74,211	3,857	653	547	1,592	6,649	9.0
Hawaiian or Pacific Islander	454	27	†	2	14	43	9.5
White	333,534	7,171	628	845	5,692	14,336	4.3
Two or More Races	12,355	633	73	75	276	1,057	8.6
ELL	33,157	2,352	242	129	1,568	4,291	12.9
Eligible For Lunch	209,688	10,409	1,952	1,645	5,621	19,627	9.4
Special Education	75,708	5,095	846	834	1,606	8,381	11.1

Source: Public School Information System
Note: † symbol denotes no mobility event.

Transfer into Connecticut Public Schools

Overall 19,535 students, representing 3.4 percent of the total student population, enrolled in Connecticut's public schools system for the first time between October 1, 2012, and June 30, 2013, as indicated in the Table 1. The reasons students moved into the state's public education system could be many, such as migration from other countries, family reasons, or family migration from other states. Two reasons for enrollment supported by net migration include *residential moves* and *family reasons.*

Hispanic students. Of all Hispanic students enrolled between October 1, 2012, and June 30, 2013, 5.6 percent moved into a Connecticut public school within the school year. The data indicated that most Hispanic students attended schools in high-needs districts with low SES schools. Such districts served students prone to change schools frequently because their parents moved frequently as a result of job loss, financial hardships, or custody arrangements. In contrast, non-Hispanic, mostly white students attended low-needs school districts in more stable

communities. Note that based on the 2010 census, these communities were stable because most of the dwellers were homeowners.

Among the major non-Hispanic subgroups, 5.2 percent of black students enrolled and 2.2 percent of white students enrolled had moved into Connecticut public schools based on this mobility measure. Research indicates that the difference between black and white rates might be because the parents of black students moved more frequently based on family reasons. The other reason is most parents of black students are dissatisfied with their current housing, neighborhood, local safety, or public services (Mateyka, P.J, 2015). He reported that approximately 12 percent of parents of black students nationwide change residence as compared to 8 percent of their white counterparts.

ELL. Among the English language learners in Connecticut public school system , 7.2 percent of ELL students moved into the school system for the first time during the observation period when the dataset was examined for this analysis. The ELL students were mainly Hispanic and typically enrolled for the first time in the Connecticut public school system because their parents emigrated from other countries where Spanish was the dominant language. This helps explain the relatively high rate at which ELL students (when compared to non-ELLs) were moving into Connecticut's schools.

Eligible for free or reduced-priced lunch. Among students eligible for free or reduced-priced lunch in Connecticut public school system, 5.0 percent of eligible students moved into the school system for the first time during the observation period when the dataset was examined for this analysis. We know from Connecticut public school demographic information that, though not included in the table 1, eligible students moved in at twice the rate of ineligible students. It is

estimated that 2.5 percent of ineligible students represent this mobility measure. The most obvious reason is neighborhood poverty levels and racial composition. According to 2010 US census data, neighborhood poverty level is determined by the number of people living in a poverty area. The level could be severe in certain areas particularly in areas where parents of eligible students live. Most parents who live in such areas are dissatisfied with many things such as crime, housing and neighborhood services which create a desire for them to move to a new area. Most often such desire may manifest in actual move.

Special education. Among students who receive special education services in Connecticut public school system, 6.8 percent moved into the school system for the first time during the observation period when the dataset was examined (i.e. October 1 2012 to June 30 2013).

Intra-district transfer. The number of students who moved from one school to another school within the same district was very low as indicated in Table 1. The key findings among the major subgroups based on this mobility measure were as follows:

- Hispanic and black students had the highest rate (0.8 percent) and white students had the lowest rate (less than 0.1 percent) among the racial and or ethnic groups.

- For students who participated in special programs, such as special education services, ELL programs, or free or reduce-priced lunch program, students who received special services had the highest rate (1.1 percent). English language learners had the lowest rate (0.7 percent) and students' eligible for free or reduce-priced lunch moved within district at a rate of 0.9 percent.

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Overall there is very little intra-district mobility based on this mobility measure. This can logically be attributed to the fact that in only a small number of Connecticut public school districts is there grade configuration overlap. Grade configuration overlap is a situation whereby a school district has two or more schools with the same grade configuration. This permits a student in one school to transfer to another school that has the same grade within the same district. In many school districts in the state there is no such flexibility. In those districts, intra-district moves cannot occur. On the other hand, those districts in the state where such flexibility exists are often the districts with a higher population of minorities. This helps explain the relatively higher rates of inter-district moves among these minority subgroups.

Inter-district transfer. The number of students who moved across districts was very low as indicated in Table 1. The key findings among the major subgroups based on this mobility measure were as follows:

- Hispanic and black students had the highest rate (0.6 percent) and white students had the lowest rate (less than 0.2 percent) among the racial and or ethnic groups.

- For students who participated in special programs, such as special education services, ELL programs, or free or reduced-price lunch programs, students who received special services had the highest rate (1.0 percent) based on this mobility measure. ELL students had the lowest rate (0.4 percent) and students' eligible for free or reduced-price lunch had 0.7 percent.

Overall there is very little mobility based on this mobility measure. The data suggests most of the mobility that does exist in this category occurs among the minority population and is concentrated across a small number of districts.

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Transfer out of Connecticut public school system. The number of students who transferred from Connecticut public schools to private schools or out of state was also very low as indicated in Table 1 (2.4 percent). The key findings among the subgroups based on this mobility measure were as follows:

- English language learners and Asian students had the highest rate (4.9 percent and 4.3 percent respectively) and white students had the lowest rate (2.0 percent) among the racial and or ethnic groups. Examining the data further revealed that the higher rate reported for Asian students was because a larger percentage of these students were electing to enroll in private schools.

- For students who participated in special programs such as special education services, ELL programs, or free or reduce-priced lunch programs, students who received special services left at a rate of 2.3 percent. Students eligible for free or reduce-priced lunch moved out of Connecticut public schools at a rate of 2.8 percent and ELL students had the lowest rate.

Mobility Rates

Overall the state mobility rate was 6.4 percent. According to the rule of thumb for interpreting mobility rates, this represented a much lower rate. The rule states that mobility rates are low if they are less than or equal to 10 percent. Mobility rates between 10 percent and 20 percent are medium. Mobility rates greater than 20 percent are high. Key subgroup findings with regard to mobility rates were as follows:

- ELL students had the highest mobility rate (12.9 percent), followed by special education students (11.1 percent) and Hispanic students (10.1 percent).

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- White students had the lowest mobility rate (4.3 percent) among the major subgroups.

School stability among the major subgroups—statewide

Students who stayed in the same school within the school year, termed *stable students*, had different characteristics than those who were mobile. Research suggests stability persists in school districts which are located in the most affluent and low-need school districts.

Table 2: Distribution of the Subgroup Stability Rates

Category	Oct1. Enrollment	Stayed in the Same School	Stability Rate (%)
All Students	554,809	530,336	95.6
Hispanic	114,006	105,450	92.5
Indian or Alaska Native	1,638	1,512	92.3
Asian	25,273	24,232	95.9
Black	72,040	66,925	92.9
Hawaiian or Pacific Islander	438	411	93.8
White	329,412	320,504	97.3
Two or More Races	12,002	11,302	94.2
ELL	31,160	28,488	91.4
Eligible For Lunch	204,354	188,392	92.2
Special Education	69,490	63,798	91.8

Source: Public School Information System

The data in Table 2 indicate that stability rates for the subgroups at the lowest end of the stability rate continuum were ELL (91.4 percent), Hispanic (92.5 percent), Black (92.9 percent), Eligible for free or reduce-priced lunch (92.2 percent), and Special Education (91.8 percent). These are interpreted as "low" because each of these subgroups is below the state average (95.6%).

Unlike mobility rates, which can be interpreted by a rule of thumb, such interpretation cannot be found for stability rates in the literature, but the data demonstrate an inverse

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relationship between stability and mobility. Low mobility rates are prevalent in schools with high stability rates. However, it is important to note that mobility rate and stability rate do not add up to 100 percent.

In contrast to other subgroups, white students tend to be more stable with the higher-than-average stability rate of 97.3% on this continuum.

Student mobility rates and stability rates across District Reference Group

The District Reference Group (DRG) classifies districts that have public school students with similar SES and needs. Classification systems such as the DRGs are useful in making comparisons among districts based on student outcomes such as high school graduation, dropouts, and student mobility.

Seven data indicators are used to classify similar districts into a DRG. These are as follows: three indicators of SES (median family income, parental education, and parental occupation), three indicators of need (percentage of children living in families with a single parent, percentage of public school students eligible to receive free or reduce-priced meals, and percentage of children whose families speak a language other than English at home), and the last of the indicators is school enrollment (the number of students attending schools in that district).

The most affluent and low-need districts, as measured by these indicators, are grouped in DRG A, while the poorest and highest-need districts—including Connecticut's five biggest cities—are grouped in DRG I. See listings of DRGs at CSDE website at:

http://www.sde.ct.gov/sde/cwp/view.asp?a=2758&q=334898

High SES schools and low-need school districts located in district groups such as DRG A, DRG B and DRG C have the lowest mobility rates and the highest stability rates. This trend

may be attributed to the fact that the parents of the students who live in these school districts have fewer social disadvantages based on measured background characteristics. For example, individuals in these communities generally have high-paying jobs, greater likelihood of being homeowners, a tendency to have a stable family structure, and tendency to be well educated.

Similar trends are also observed in the evidence provided by migration net theory and therefore support these observations. That is, families who live in affluent communities do not tend to move even when they lose a job or suffer financial hardships because their pre-established wealth and double-income status can sustain them.

As shown in Table 3, in contrast with DRG A, the low SES schools and high-needs school districts in DRG I have a high mobility rate (10.2 %). Another way to see this is to note that unlike DRG A, which is the most stable DRG, DRG I has the lowest stability rate (91.7%). This trend may be because the parents of students who live in these school districts have disadvantaged or less advantaged background characteristics, such as lower paying jobs, often renting rather than owning a home, more often are single-parent households, and include adult family members who are less well educated (U.S. Census, 2010) .

There are also two influential indicators that weigh heavily when considering indicators in the DRG formulation—the percentage of public school children eligible to receive free or reduce-priced meals and the percentage of children whose families speak a language other than English at home. Similarly these factors also weigh heavily in the formulation of the high mobility rate and low stability rate as evidenced from the data below in DRG I. In other words, districts such as Hartford, New Haven, Waterbury, Bridgeport and New Britain, which make up the majority of students in DRG I, also have a high population of English Language Learners and

students eligible for free or reduced-priced meals. Though not evidenced in the table below, the data seem to suggest that these students also account for a much greater proportion of the student enrollment in DRG I. As a result, these academically at-risk students also contribute immensely to the high mobility rates observed in DRG I.

Table 3: Mobility Rates and stability rates across DRGs

DRG	Cumulative Enrollment	Transfer into Connecticut School System	Intra-district Transfer	Inter-district Transfer	Transfer out of Connecticut School System	Mobile	Mobility Rate (%)	October 1 Enrollment	Stayed in the Same School	Stability Rate (%)
A	30,545	499	19	15	629	1,162	3.8	30,141	29,745	98.7
B	96,941	1,807	91	101	1,785	3,784	3.9	95,658	93,918	98.2
C	38,208	740	36	73	564	1,413	3.7	37,718	37,006	98.1
D	82,169	2,038	91	190	1,247	3,566	4.3	80,912	78,773	97.4
E	23,279	622	11	72	392	1,097	4.7	22,976	22,374	97.4
F	27,469	960	45	124	555	1,684	6.1	27,010	25,922	96.0
G	66,540	2,991	306	366	1,876	5,539	8.3	65,216	61,439	94.2
H	68,789	3,170	447	371	1,775	5,763	8.4	67,116	63,137	94.1
I	102,209	5,665	1,252	595	2,953	10,465	10.2	98,686	90,451	91.7

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Conclusion

Mobility rates and stability rates are important school *performance related* variables. However, such an examination provides a context beneficial to educators and policymakers. The logic that guides frequent school moves is grounded in the *migration net theory*. Since this framework helps us identify where the needs exist, it is incumbent on policymakers to help school districts that have a higher proportion of high-needs students.

This study offers an overview of student mobility rates and stability rates in Connecticut, providing numbers from one school year (2012–13) and provides some concrete and speculative reasons intended to further interpret and explain the observed data. It may come as no surprise that these data support intuitive educator observations about student mobility. This includes the commonly held notion that a large proportion of the most mobile students come from families who live in high-needs districts and less-affluent communities.

This leaves an important question unanswered: "What can be done to promote better educational continuity and reduce performance declines among highly mobile at-risk students from largely inner-city schools?" Possibilities include better supports for families in transition, such as inviting such families and their children into the school for staff and student introductions. In addition, programs matching incoming students to students in the new school with similar age grade and backgrounds who could act as student aides or liaisons and assist with the social and interpersonal aspects of moving to a new school might make the transition easier for the new student.

A quite different approach might be to bus the student to the original neighborhood school for some period of time, perhaps to the end of the school academic year. This might

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provide the stability and continuity of educational and other services that could help the highly mobile student experience less disruption. Then, during the summer, a structured program to assist in the transition to the new school as described above might reduce academic performance declines.

Questions on this study should be directed to Francis Apaloo, Connecticut Department of Education, Hartford, phone number: 860-713-6874, E-mail: francis.apaloo@ct.gov

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