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A Multilevel Study of Student and
School Characteristics Related to
School Transfer, Graduation, and
College Entry

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Background

- A sizable number of U.S. children from Kindergarten to the 12th grade transferred schools in the last decades.
- Children who frequently change schools face many challenges (U.S. Government Accountability Office, 2010) (GAO).
- Children who experience school transfers have adverse educational outcomes.
- Compared to stable students, mobile and highly mobile students are less likely to complete secondary education.

Problem

- Despite a growing awareness of student mobility in the past three decades, researchers have not fully explored the relationship between student mobility in high school and college entry.
- Students of color, those with disabilities and from lower SES continue to struggle to complete high school and enter college, as evidenced by national and state trends.
- However, student transfer among high school students and its effect on graduation and postsecondary enrollment remain indeterminate.

Research Questions

- What are the student- and school-level characteristics associated with the risk of transfer beginning in the 9th grade?
- What student- and school-level factors are associated with high school graduation? Does the magnitude of transferring schools related to graduation vary across schools?
- What student- and school-level factors are associated with college entry? Does the magnitude of transferring schools related to college entry vary across schools?

Theoretical Framework

- Reproduction Theory posits that schools reproduce social hierarchies.
- Theory of Resistance describes schools as ideological battlegrounds where students assert themselves against the educational institution's rules and codes of conduct upon gaining a sense of agency.

MLDS Data Analyzed

- Maryland State Department of Education student records including attendance, enrollment, achievement, and transfers
- Maryland Higher Education Commission enrollment, first math and other remedial coursework
- Maryland Department of Labor secondary and post-secondary employment
- National Student Clearinghouse out-of-state college enrollment data

Plan & Methods

- Used MLDS data to retrospectively study a cohort of 9th Graders in Baltimore City Public Schools from School Year 2012-13 to School Year 2017-18.
- Employed Mixed-Effects Parametric Proportional Hazards Modeling to examine the cohort's time to school transfer and the hazard risks associated with the study variables (Research Question 1).
- Employed Multilevel Binary Logistic and Multilevel Odds Ratios for Binary Logistic Regressions to explore the relationships between transfer and other variables with high school graduation and college entry (Research Questions 2 & 3).

Independent Variables

Student Characteristics

Female	English Language Learner
Black	Suspension
White	Chronic Absentee
Other Race	Job in High School
Hispanic	Eighth Grade Math Score
FARMs	Missing 8 th Gr Math Score
Special Education	

School Characteristics

Total Enrollment	School FARMs
School Special Education	School Suspension
School Transfer	School ELL

Outcome Variables

- **Transfer** – occurs when a student withdraws from or exits a school and moves to another school in grades 9-12.
- **High School Graduation** – takes place when a student meets the requirements for the Maryland High School Diploma, passes a high school General Education Equivalency (GED) examination, or obtains a Certificate of Completion in academic year 2015-16.
- **College Enrollment** – occurs when a student who received a high school diploma or a GED certificate is enrolled in a postsecondary institution in 2016-17 and 2017-18.

Descriptive Statistics



Variables	Count	Mean	SD
Female	6810	.48	.50
Black	6810	.88	.33
White	6810	.09	.29
Other	6810	.03	.17
Hispanic	6810	.04	.18
FARMS	6810	.81	.40
Special Ed	6810	.19	.39
ELL	6779	.02	.13
Std. 8th Grade Math Score	6810	.00	
Missing 8th Grade Math Score	6810	.16	.36
Chronic Absentee	6810	.19	.39
Suspension	6810	.18	.38
Job in High School	6810	.34	.47
Transfer	6810	.34	.47
School Enrollment	6810	816.25	440.51
School Suspension	6722	53.40	72.28
School Transfer	6742	.17	.08
School FARMS	6810	.76	.12
School Special Ed	6809	.41	.16
School ELL	6809	.01	.03

Descriptive Statistics: Graduation

Variables	Count	Mean	SD
Graduate	6810	.63	.48
Certificate of Completion	6810	.01	.10
Diploma	6810	.59	.49
GED	6810	.03	.17

Descriptive Statistics: College Entry

Variable	Count	Mean	SD
Enter College	4297	.52	.50
College in-State	2223	.83	.37
2-Year College Enrollment	4297	.27	.45
4-Year College Enrollment	4297	.24	.43
Public College Enrollment	4297	.44	.50
Private College Enrollment	4297	.08	.27
Remedial College English	4287	.32	.47
Remedial College Math	4287	.36	.48
Remedial College Reading	4289	.29	.45
Employment, No College	4297	.48	.50

Benefits to Maryland

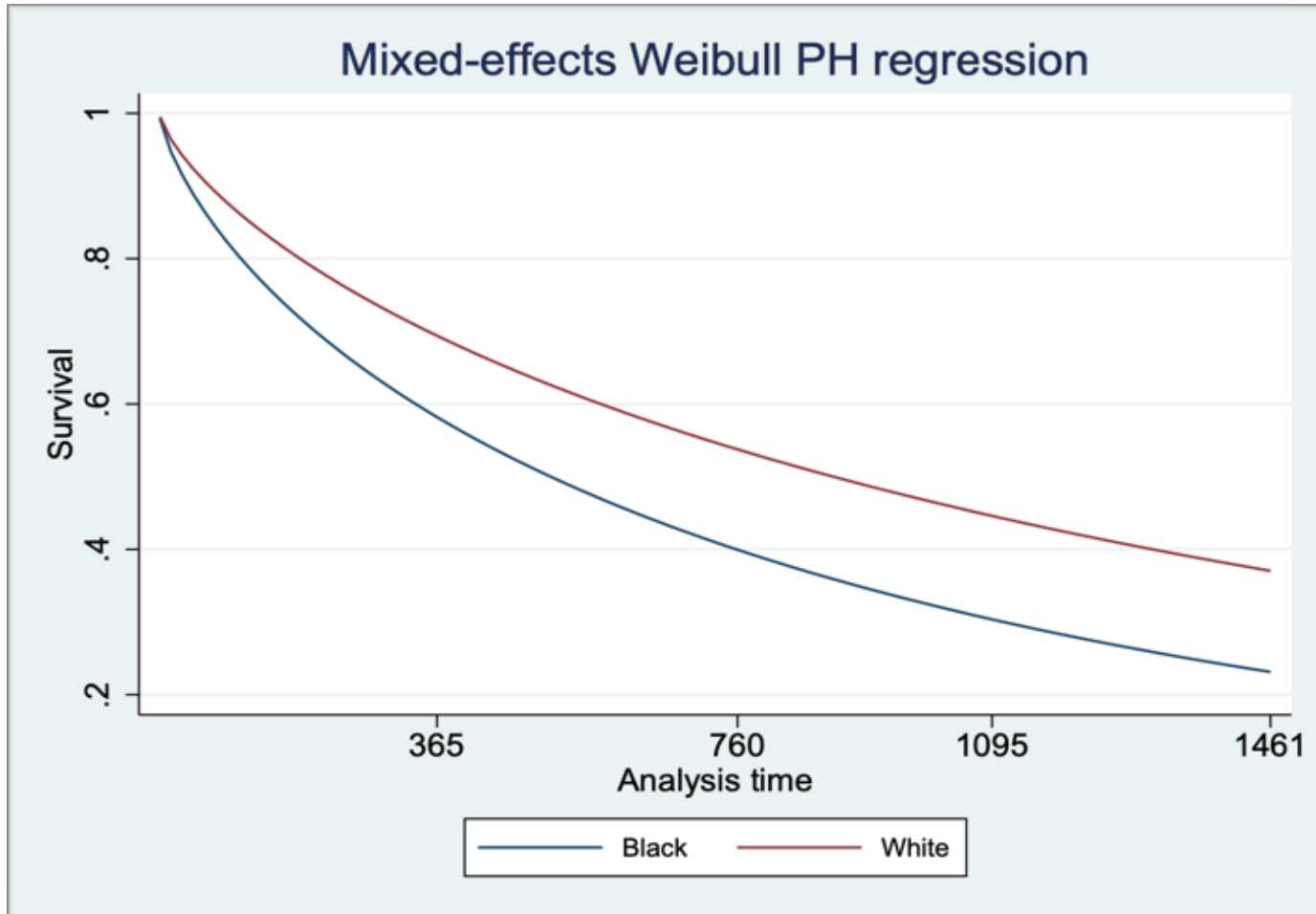
- Findings on the *timing* of school transfers in a high-poverty school district, one of many in the State
- Longitudinal effects of school transfers in high school on college and career readiness
- Identification of school-level effects on school transfers
- Consideration of additional factors associated with school transfers to current secondary and postsecondary education policies at the State and Local School System levels

RQ1: Who transfers, and at what hazard rates?

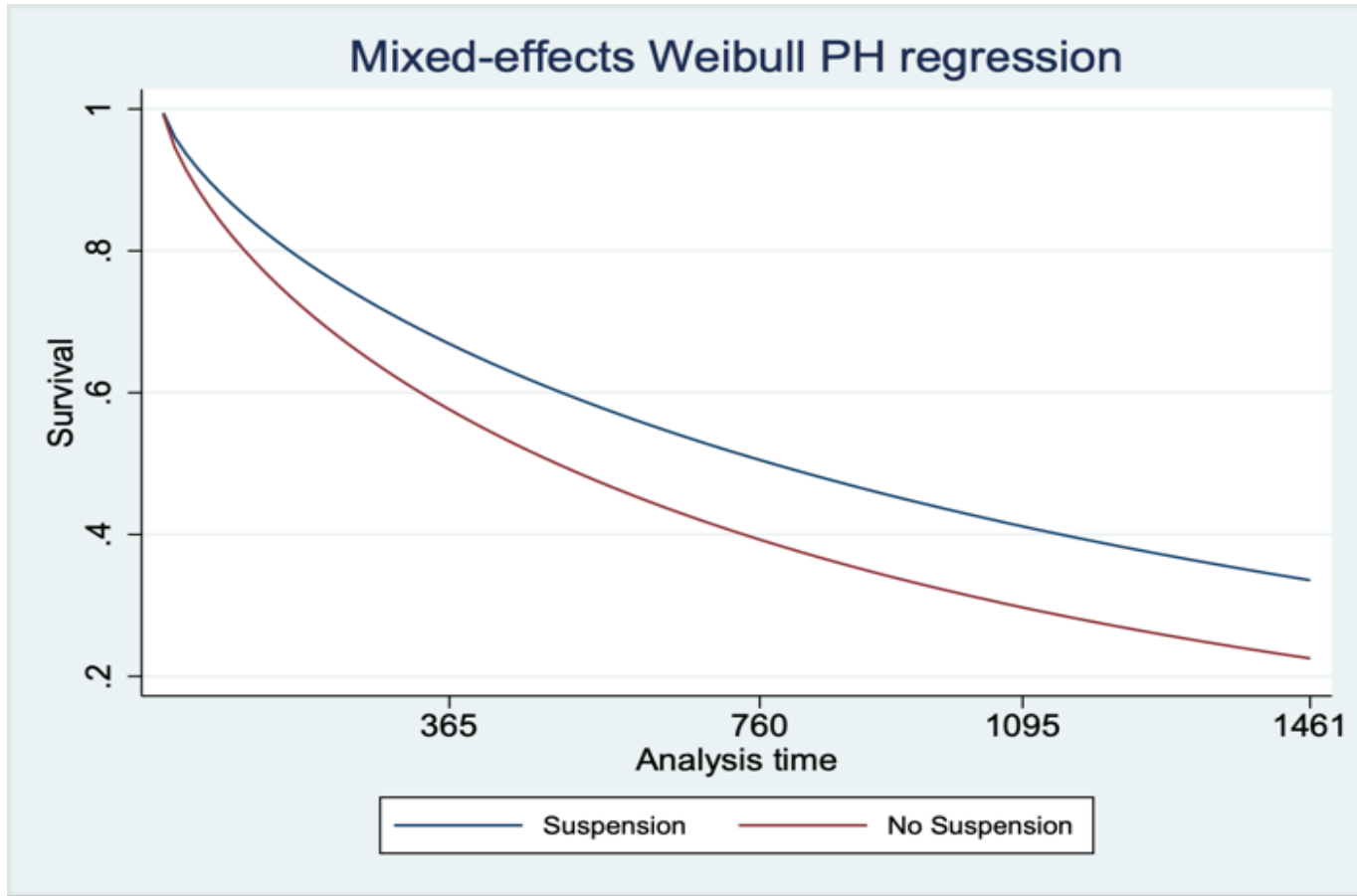
Slower Hazard Rate		Faster Hazard Rate	
White	.67***	Math Score	1.11***
Missing Math Score	.86*	Chronic Absentee	1.67***
Suspension	.73***		
In MD Workforce	.27***		
School FARMs	.27**	School Special Ed	2.10*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

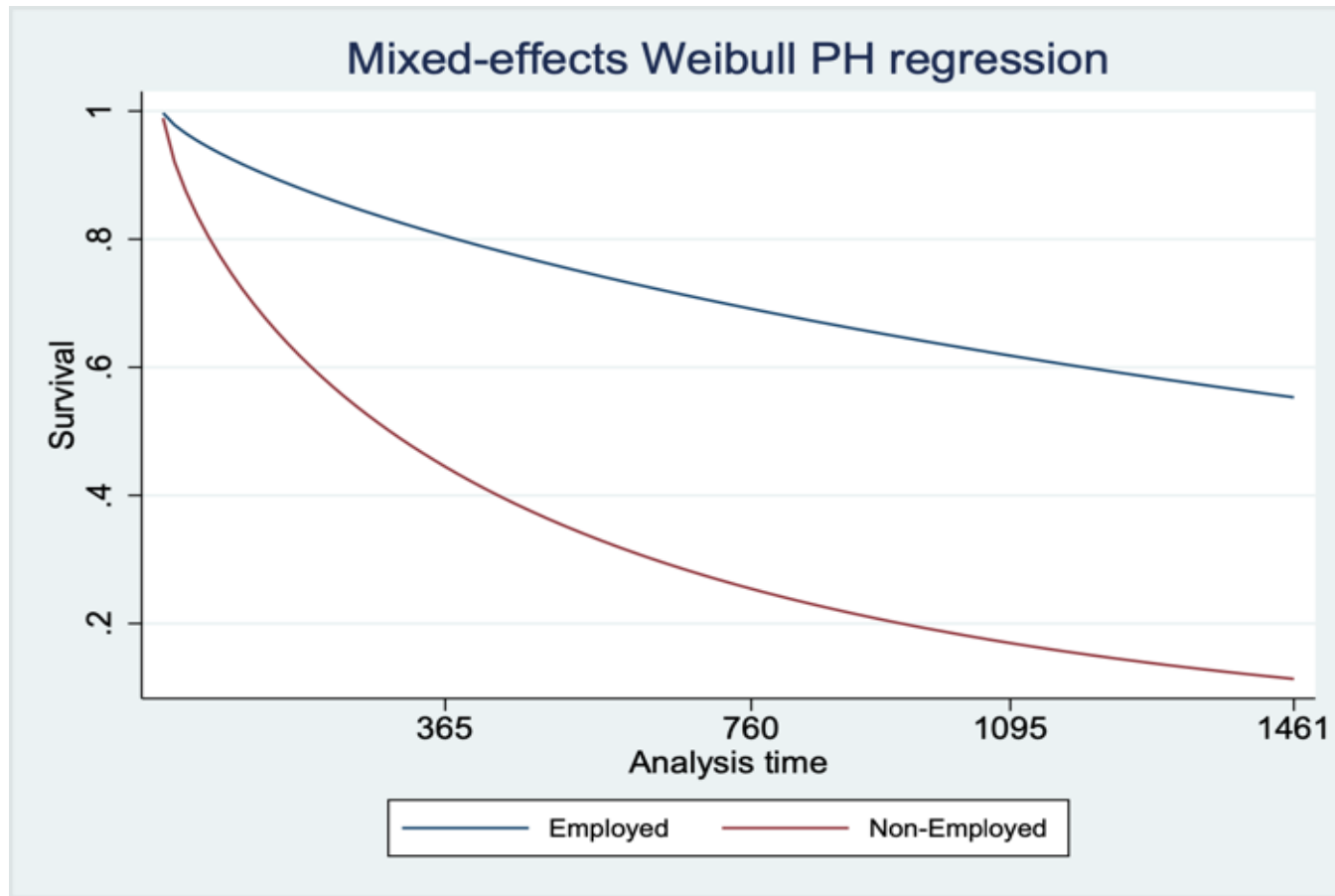
Survival Curves for Black and White Students



Survival Curves for Suspended and Non-Suspended Students

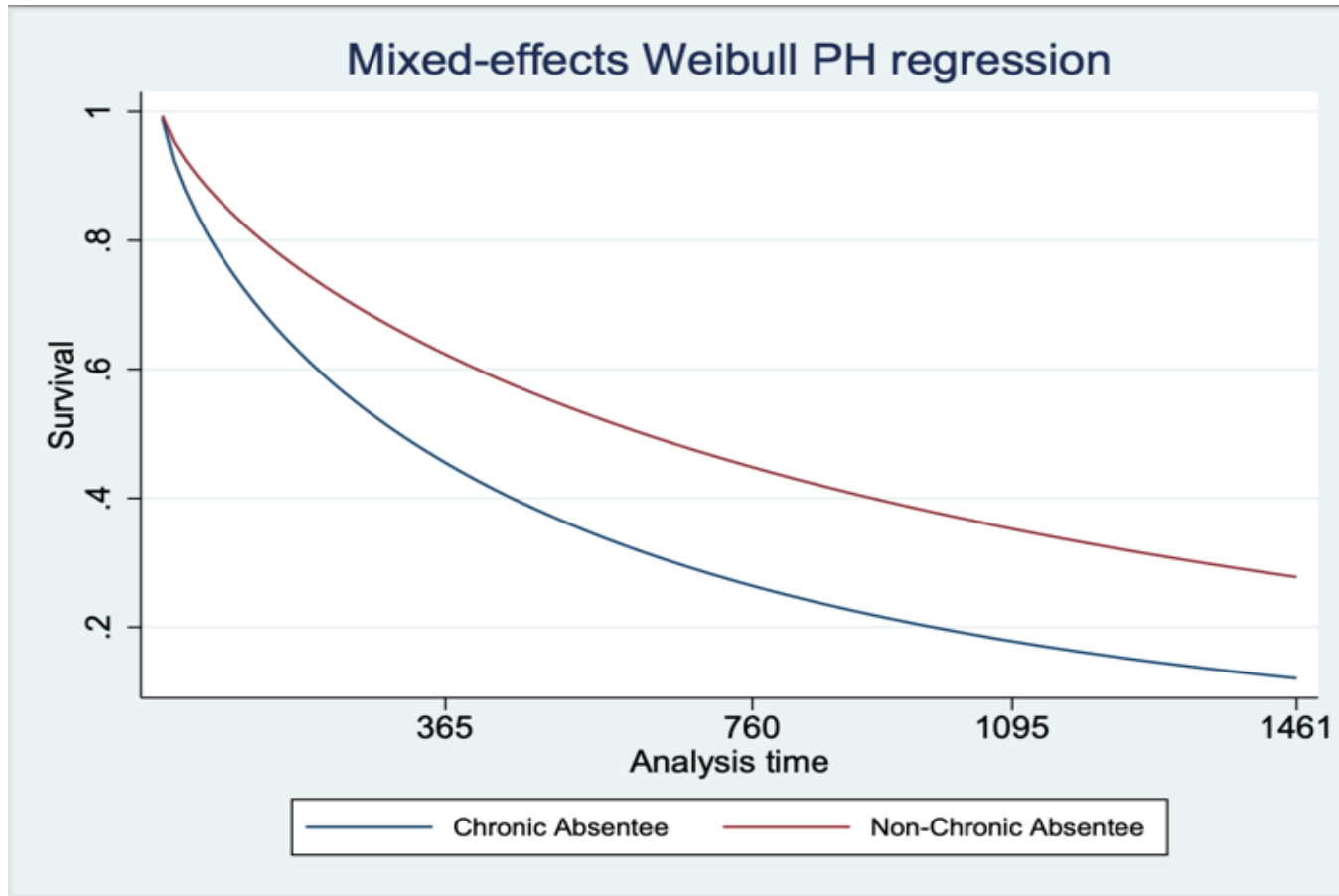


Survival Curves for Students In MD Workforce and Not





Survival Curves for Chronic- and Non-Chronic Absentees



RQ2: Who graduates, and at what odds?

Higher Odds		Lesser Odds	
Females	1.54 ***	White	.32 ***
Math Score	1.63 ***	Missing Math Score	.56 ***
		Employed	.68 ***
		Chronic Absentee	.18 ***
		Not in MD Workforce and Chronic Absentee	.53 ***
		Transfer	.41 ***

RQ3: Who enters college, and at what odds?

Higher Odds		Lower Odds	
Females	1.54 ***	White	.53 ***
Other Races	3.52 ***	FARMs	.55 ***
Math Score	1.33 ***	Special Ed	.63 ***
		Suspension	.66 ***
		Transfer	.60 ***
		School FARMs	.21 *
		School Special Ed	.19 *
		School Transfer	.20 *

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Key Findings

- Of the 6,810 students in the 9th grade cohort in Baltimore City Public Schools,
 - 34% (2,307) transferred schools
 - 63% (4,297) graduated from high school
 - 32% (2,234) entered college.
- Transfer is associated with lower odds of graduation and college entry.
- The school percentage of transfer is associated with lower odds of college entry.
- Most transfers occur during the 9th grade.

Strengths

- Bridged transfer in high school with postsecondary enrollment, an under-researched area of study
- Used survival analysis to investigate transfers
- Studied a cohort of students
- Employed a combined multilevel and longitudinal approach, to observe patterns in the transfer event among students nested within schools
- Demonstrated that transfer as a multidimensional variable relates differently to student demographics, behavior, and performance characteristics

Limitations

- Only one urban local school system was examined.
- Limitations with administrative data, e.g., MSDE does not longitudinally follow students who leave Maryland prior to the 12th grade.
- Participant censoring and data truncation may have introduced bias to the sample selection.
- Cross-classification of students and schools was not conducted to simplify the analysis.

Policy Implications

- If transferring schools *lowers* the odds of high school graduation *and* college entry; and
- if *higher* school concentration of transfer students relates to *lower* odds of college entry, then
- We need to identify, implement, and test interventions that can reduce transfers.
- Monitor youth employment, a protective factor related to slower transfer hazard rates, yet associated with lower odds of graduation.
- Reduce chronic absenteeism and alleviate the burden of schools with higher concentrations of special education students.

Research Implications

- Conduct further longitudinal studies using data from other local school systems.
- Conduct qualitative studies to investigate why students move.
- Agree on consistent terms, types, and definitions of student mobility.
- Explore employment as a protective factor against transfers and its association with lower odds of graduation.

Research Implications (cont.)

- Include kindergarten, elementary, and middle school transfer data to identify earlier student transfer events.
- Test the effectiveness of Community Schools as an intervention to address student transfers.

Practice Implications

- Re-evaluate interventions to address transfers at the following levels: individual, group, or system.
- Local school systems, schools, and partners to anticipate school transfers and strengthen effective practices that reduce student mobility.
- Measure the effectiveness of community schools' programs and services for children and families to reduce school transfers.
- If the transfer needs to occur, provide a supportive environment and resources to ensure student success.

Discussion and Next Steps

- Assess local school system workloads, budgetary constraints, and demographic changes.
- Evaluate staff attitudes, leadership competencies, and political ideologies that influence current policies governing transfer.
- Longitudinally follow every child regardless of whether they moved within a local school system or out of state.
- Request Congress to follow up on the GAO report on student mobility.

Conclusion

- A transfer is a multidimensional event that requires further study from kindergarten to college.
- Transferring schools is linked to lower odds of high school graduation and college entry.
- If we do not intervene, transfers will continue to be associated with adverse educational outcomes.
- We need systemic interventions from multisectoral stakeholders to reduce student transfers and provide support to students who do transfer to ensure their academic success.

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