



Using Placement Scores for AP CSP in Chicago Public Schools

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01. Background

In Chicago Public Schools, there is a need to provide guidance to schools on placing students into an intro-level CS class (ECS) or the more difficult AP CSP as a student's first CS class.



We tested whether a placement exam could serve as an indicator of preparedness to inform decisions about what first CS course students should take.

02. Methodology

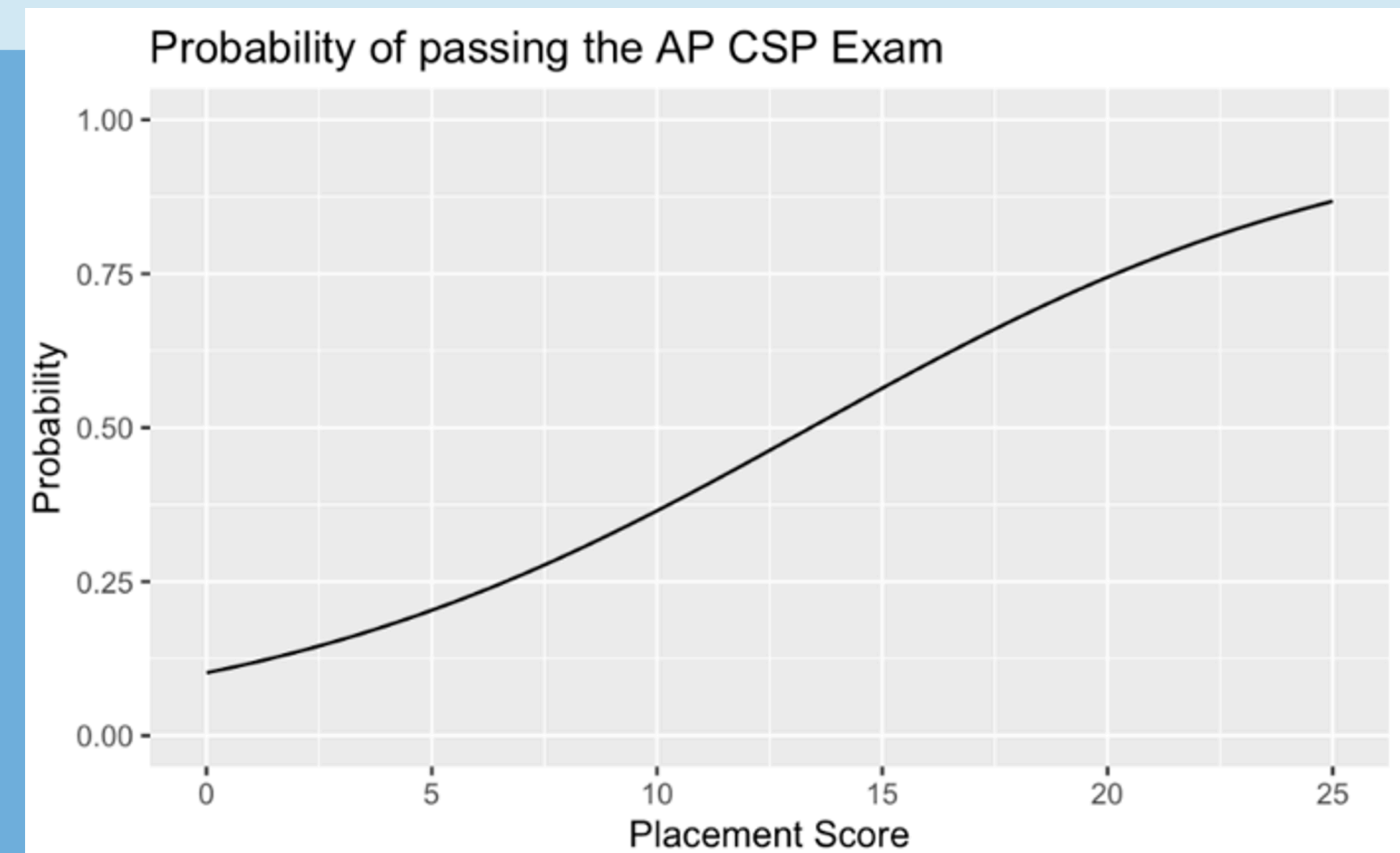
During the 2021-22 and 2022-23 school years, the sample included 1723 students from 36 teachers at 24 high schools who took the placement exam and completed the AP CSP exam. We used a Generalized Mixed Model for this study.

03. Results

This analysis found that after controlling for many variables including GPA, attendance at a selective enrollment school, and perceived value of CS, that the placement score was positively associated with the probability of a student passing the AP CSP exam.

Additionally it was found that 50% of students in our sample got an A in the AP CSP course. Students who got an A were 4 times more likely to pass the exam than all others.

A student's (a) GPA, (b) placement exam performance, and (c) perceived value of CS can inform decisions about whether students should take ECS or AP CSP as their first CS class.



Probability of passing the AP CSP exam by placement score for students with average values in our sample

04. Average Values for all Variables

Variable	Label	Average
Preparedness Indicators		
Weighted cumulative GPA	Weighted cumulative GPA (scale 0-6)	4.2
Placement score	Placement score (scale 0-25)	16
Perceived value of CS	EV value construct (scale 1-6)	4.8
Course Performance		
All A's	True vs False	50.3%
School Context		
Selective enrollment HS	True vs False	41.0%
Demographic Characteristics		
Sex	Female vs Male	52.1%
Hispanic/Latinx	True vs False	45.7%
English language status (ESL)	True vs False	6.8%
Non Statistically Significant Variables		
Absent days	Absent days	16.7
ECS class timing	Taken vs Not taken	38.0%
Black/African American	True vs False	10.3%
Food service status	True vs False	60.1%
CSP professional development	Taken vs Not taken	91.5%

05. Relationship to Practice

We are currently working with CPS to investigate how placement scores could be combined with GPA and measures of students' CS attitudes to inform schools on placing students in their first computer science class.

Helping students make connections between their CS course and their lives increases their perceived value of computer science. Future research could examine whether spending classroom time developing students' perceptions of the value of CS also correlates with success on the AP CSP exam.

