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"Study of access and outcomes from advanced computer science coursework in the Chicago Public Schools" poster in Structured Poster Session CS for All: An intersectional approach to unpacking equity in computer science education

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Study of access and outcomes from advanced placement coursework in the Chicago Public Schools

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AP Equal Access?

Race	AP Schools	CS-A	CSP
Asian	8%	22%	13%
Caucasian	18%	32%	20%
African American	22%	9%	17%
Hispanic	52%	39%	50%

AP Equal Outcomes?

Race	CS-A Score	CSP Score
Asian	3.1	3.2
Caucasian	3.1	3.4
African American	2.4	2.1
Hispanic	2.1	2.3

Hypotheses

Hypothesis 1: "Most underrepresented AP students cannot benefit from the program." (because they are not prepared for college level work.)

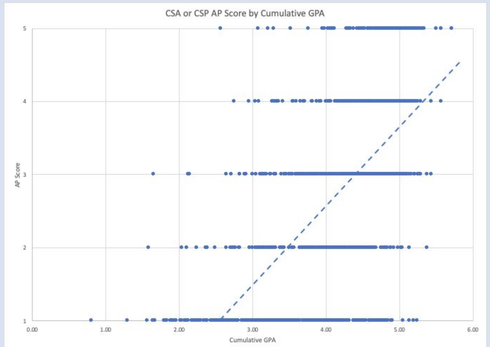
Hypothesis 2: "AP curricula are being ineffectively taught to underrepresented students."

Hypothesis 3: "AP is a component of social reproduction."

Kolluri, S. (2018). Advanced placement: The dual challenge of equal access and effectiveness. *Review of Educational Research, 88*(5), 671-711

Equal Preparation? (GPA)

Race	GPA (CSA)	GPA (CSP)
Asian	4.5	4.2
Caucasian	4.3	4.1
African American	3.7	3.2
Hispanic	3.7	3.5



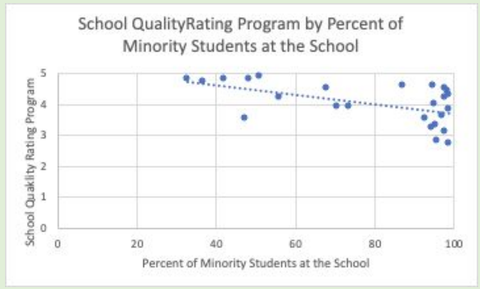
** Differences in AP performance by race disappear when controlling for GPA differences, except Hispanic students on the CS-A (-0.26)

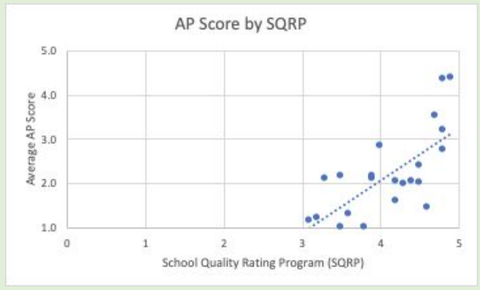
Equal Preparation? (Prior CS Classes)

Race	Prior CS (CSA)	Prior CS (CSP)
Asian	0.8	0.8
Caucasian	0.9	0.6
African American	0.9	0.5
Hispanic	0.7	0.7

** Prior CS experience is beneficial for CS-A (0.32) but not for CSP

Equal School Quality? (SQRP)





** Underrepresented students are more likely to be in lower rated schools yet the quality rating of the schools correlated with average AP Score.

Conclusions

Computer Science Principles

- Within school access is more representative than CSA
- Better accommodates students with no CS experience and low income students than CSA

Factors Affecting Differences in AP Outcomes

- Differences in GPA and differences in School Quality

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