

# College readiness as measured by MCA, GRAD, and ACT scores

Assessment and Accountability Working Group  
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## Research questions

1. How many students would be affected by enforcing the passing score on the math Graduation-Required Assessment for Diploma (GRAD)?
2. What is the empirical relationship between Minnesota Comprehensive Assessment (MCA) scores and ACT scores?
  - How do MCA and GRAD cut scores compare to ACT college readiness benchmark scores?



## Methods

1. Place GRAD scores on MCA scale and infer percentages from students at each MCA scale score statewide.
  2. Locally weighted regression of ACT scores on MCA scores.
- Both methods estimate relationships between standardized test scores within students within MPS and assume that the relationships hold statewide.



## GRAD scores on MCA scale

- Math
  - GRAD score of 50 = MCA score of 1144 statewide
  - Best GRAD retest score of 50  $\approx$  MCA score of 1138
    - MPS sample (N = 1,925): Best GRAD  $\approx 0.74 * MCA - 789$
- Reading
  - GRAD score of 50 = MCA score of 1050 statewide
  - Best GRAD retest score of 50  $\approx$  MCA score of 1043
    - MPS sample (N = 1,343): Best GRAD  $\approx 0.94 * MCA - 932$



## Impact of enforcing passing score on GRAD math test

- About 46% of students meet or exceed the MCA grade 11 math standard statewide.
- About 12% more (58% overall) pass the GRAD math test on their first try.
- About 11% more (69% overall) eventually pass the GRAD math test upon retesting.
- About 31% of students would not be eligible to graduate if the passing score on the GRAD math test is strictly enforced.



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## Impact of enforcing passing score on GRAD math test

- About 75% of students meet or exceed the MCA grade 10 reading standard statewide and pass the GRAD math test on their first try.
- About 13% more (88% overall) eventually pass the GRAD reading test upon retesting.
- About 12% of students are not be eligible to graduate because the passing score on the GRAD reading test is strictly enforced.



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## Impact of enforcing passing score on GRAD math test

- By strictly enforcing the passing score on the GRAD math test, about 31% of students (19,000 per year) would be ineligible to graduate
  - Up by about 19% of students or 11,600 per year compared to enforcing GRAD reading alone.
  - The actual number could be larger depending on the degree to which the students who do not pass the GRAD math test are different from students who do not pass the GRAD reading test.
  - The actual number could be smaller if motivation and support to pass the GRAD math test increases.



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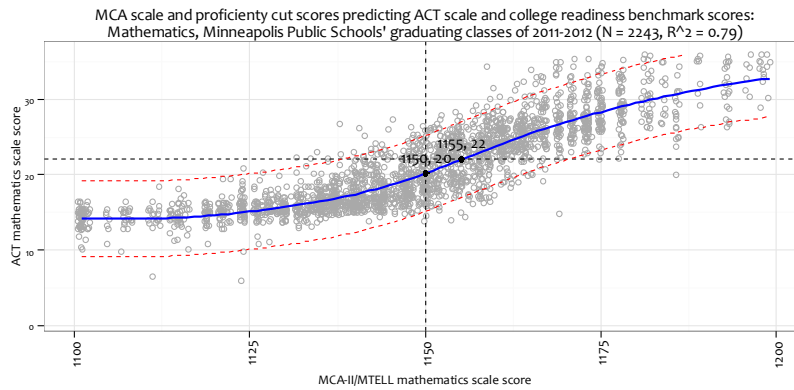
## Empirical relationship between MCA and ACT scores

- MCA subject scores are good predictors of ACT subject scores.
- The MCA math proficiency cut score of 1150 predicts an ACT math score of 20.
- A MCA math scale score of 1155 predicts the ACT math college readiness benchmark score of 22.
- The MCA reading proficiency cut score of 1050 predicts an ACT reading scale score of 16.
- A MCA reading scale score of 1059 predicts the ACT reading college readiness benchmark score of 21.

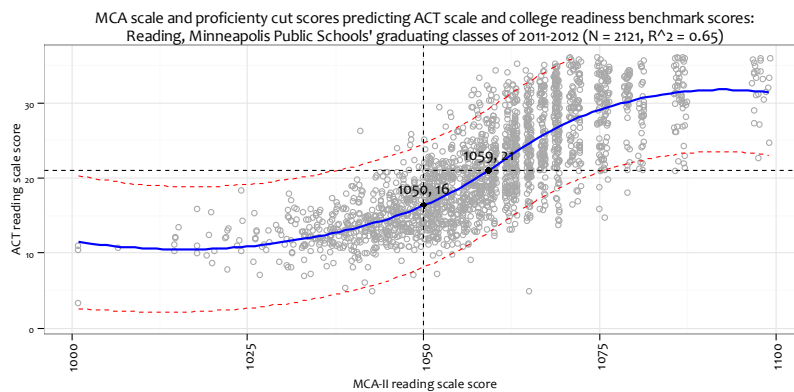


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# Empirical relationship between MCA and ACT scores



# Empirical relationship between MCA and ACT scores



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