Math 48A
with and without Corequisite

Enrollment, Success, and Throughput
2018-2022

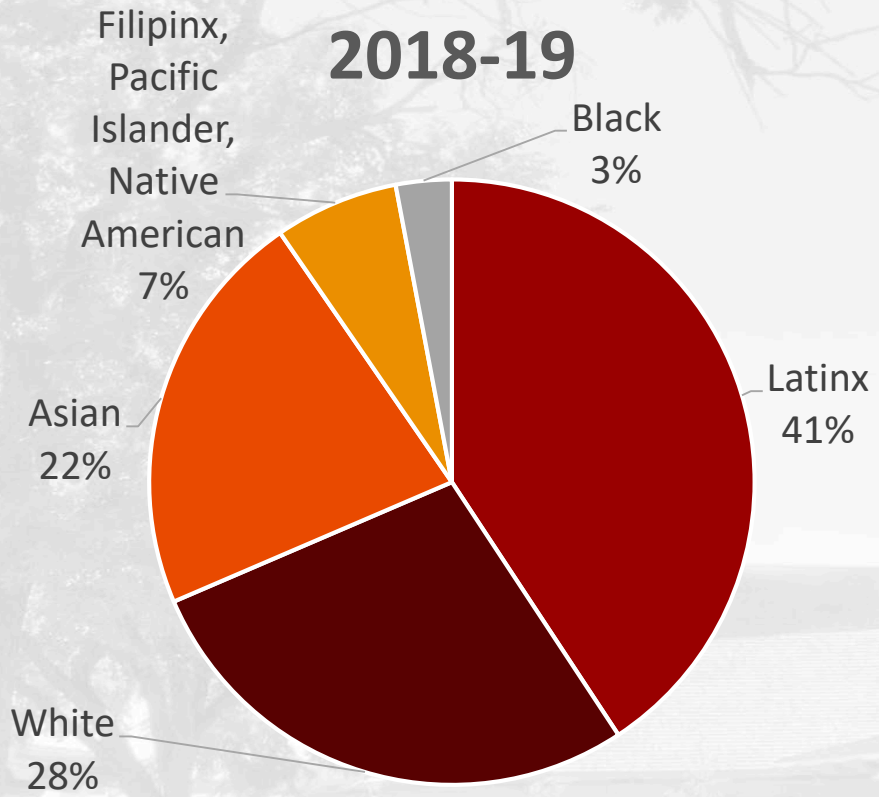
Presentation to the Math Department
Jan. 27, 2023

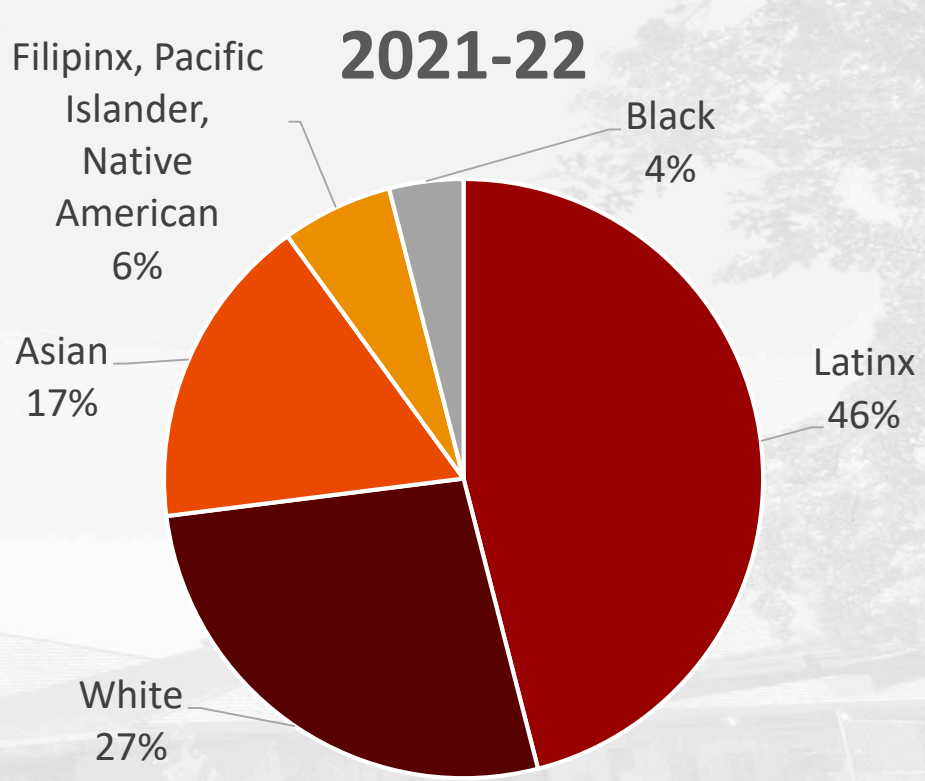
Question:

Has there been a change in who takes Math 48A over time?

Enrollment in Math 48A by Ethnicity

Math 48A classrooms in 2021-22 were composed of more Latinx students and fewer Asian students than in 2018-19.





Source: FH IRP. Percent of students enrolled in Math 48A in Fall '18 through Spring '19 and in Fall '21 through Spring '22. Students who declined to state an ethnicity are excluded. Percents may not total 100% due to rounding.

Question:

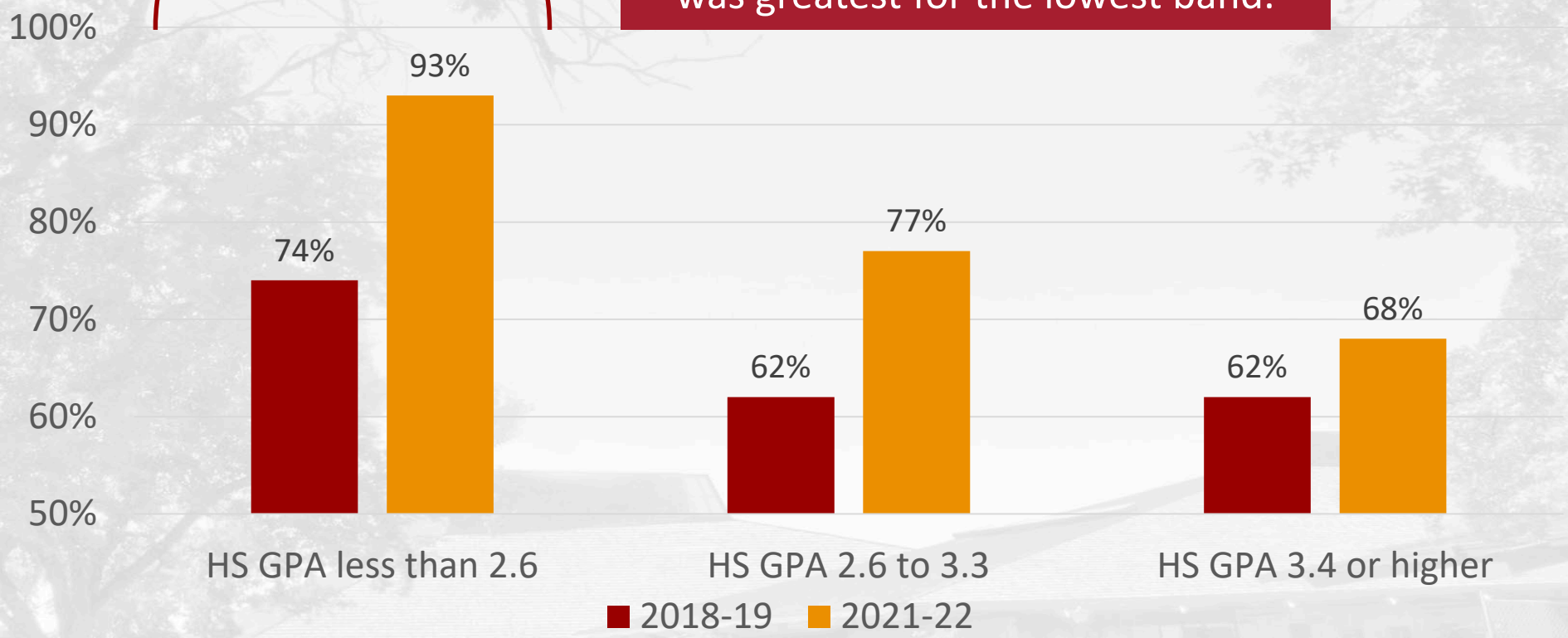
Has there been a change in the percent of students who take the Math 48A corequisite over time?

- Analysis excludes special coreq and no-coreq sections (MPS, Umoja, etc.)

% Enrollment in Coreq Sections by HS GPA

Out of all Math 48A enrollments, the percent in coreq sections:

Increase in coreq enrollment occurred across all HS GPA bands but was greatest for the lowest band.

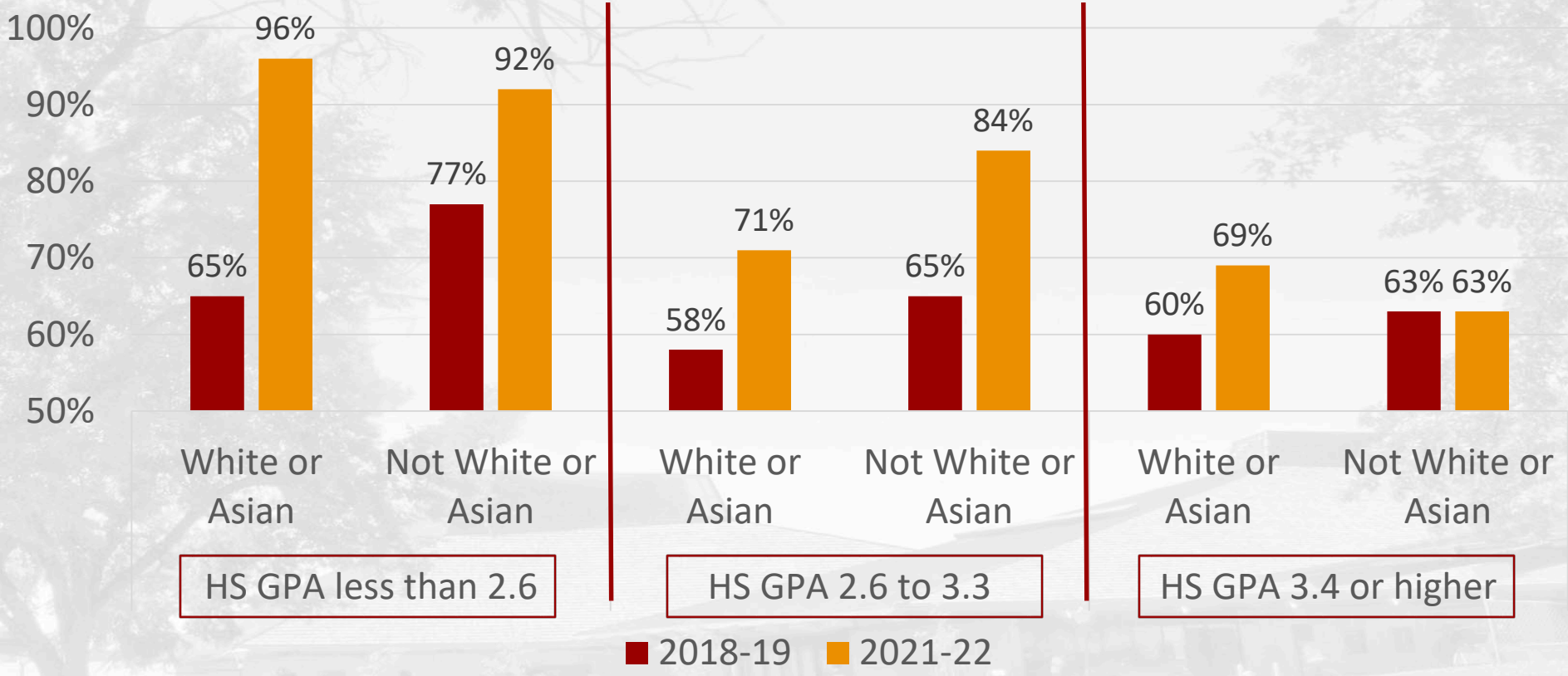


Source: FH IRP. Percents calculated out of the number of enrollments for Math 48A for Fall '18 through Spring '19 and for Fall '21 through Spring '22. Students with no HS GPA on record are excluded. Excludes MPS, Umoja, STEM Core, and Tech Core.

% Enrollment in Coreq Sections by HS GPA and Ethnicity

Out of all Math 48A enrollments, the percent in coreq sections:

Similar general pattern when add ethnicity: there was an increase in coreq enrollment across ethnicity in the lowest two HS GPA bands.



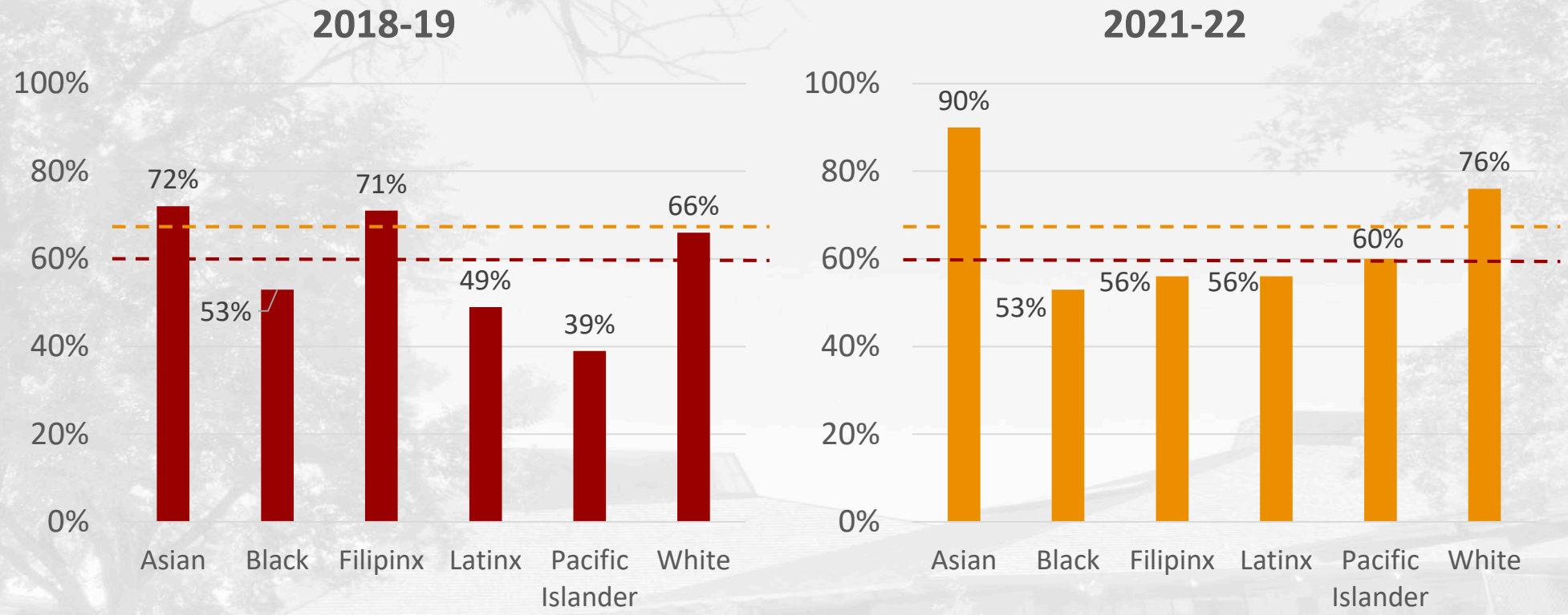
Source: FH IRP. Percents calculated out of the number of enrollments for Math 48A for Fall '18 through Spring '19 and for Fall '21 through Spring '22. Students with no HS GPA on record or who declined to state an ethnicity are excluded. Excludes MPS, Umoja, STEM Core, and Tech Core.

Question:

Has there been a change in Math 48A success rates over time?

Success in Math 48A by Ethnicity

Success rates have increased over time for all groups except for students who are Black (remained stable) or Filipinx (decreased). Equity gaps persist.



Red dotted line = overall success in 2018-19 (60%); gold dotted line = overall success in 2020-21 (68%)

Source: FH IRP. FH IRP. Success rates for students enrolled in Math 48A in Fall '18 through Spring '19 and in Fall '21 through Spring '22. Students who declined to state an ethnicity are excluded.

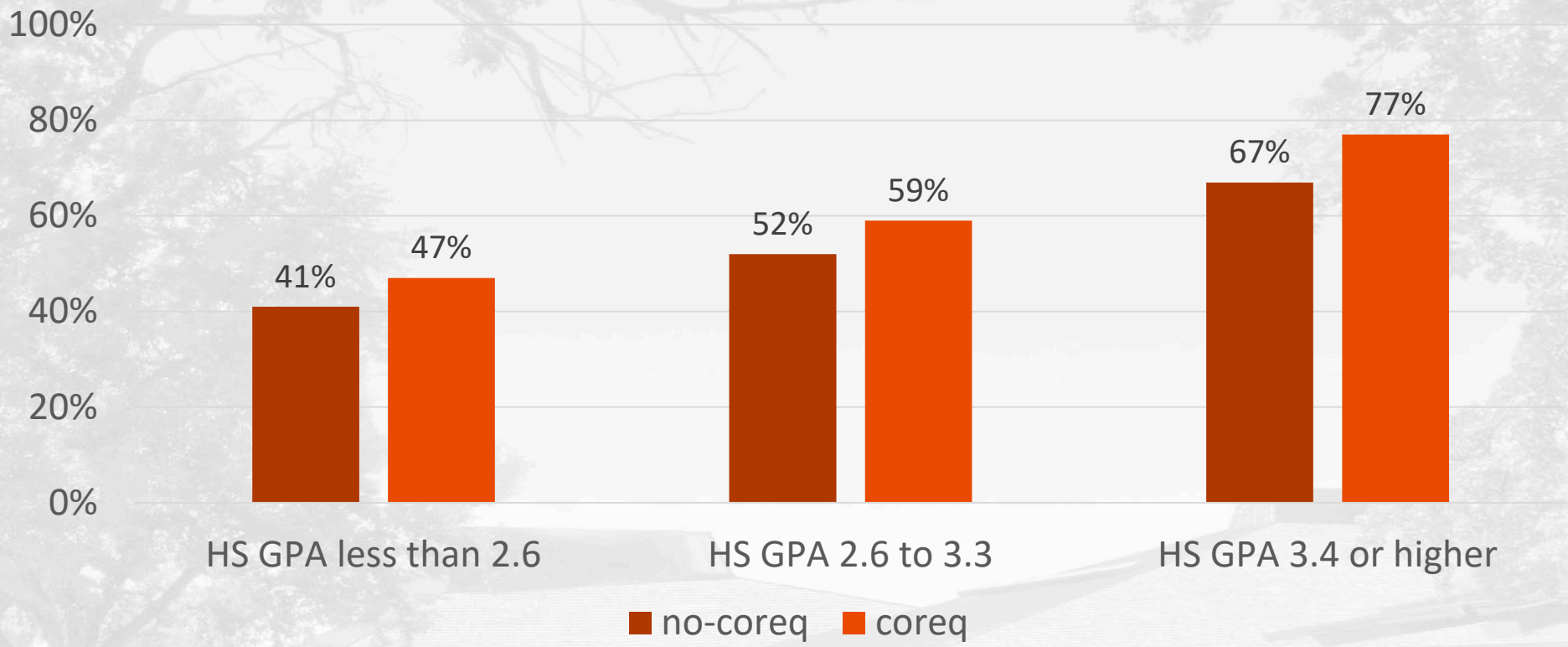
Question:

Does the Math 48A corequisite increase success?

- Analysis combines years instead of comparing over time
- Analysis excludes special coreq and no-coreq sections (MPS, Umoja, etc.)

Success in No-Coreq vs. Coreq Sections by HS GPA

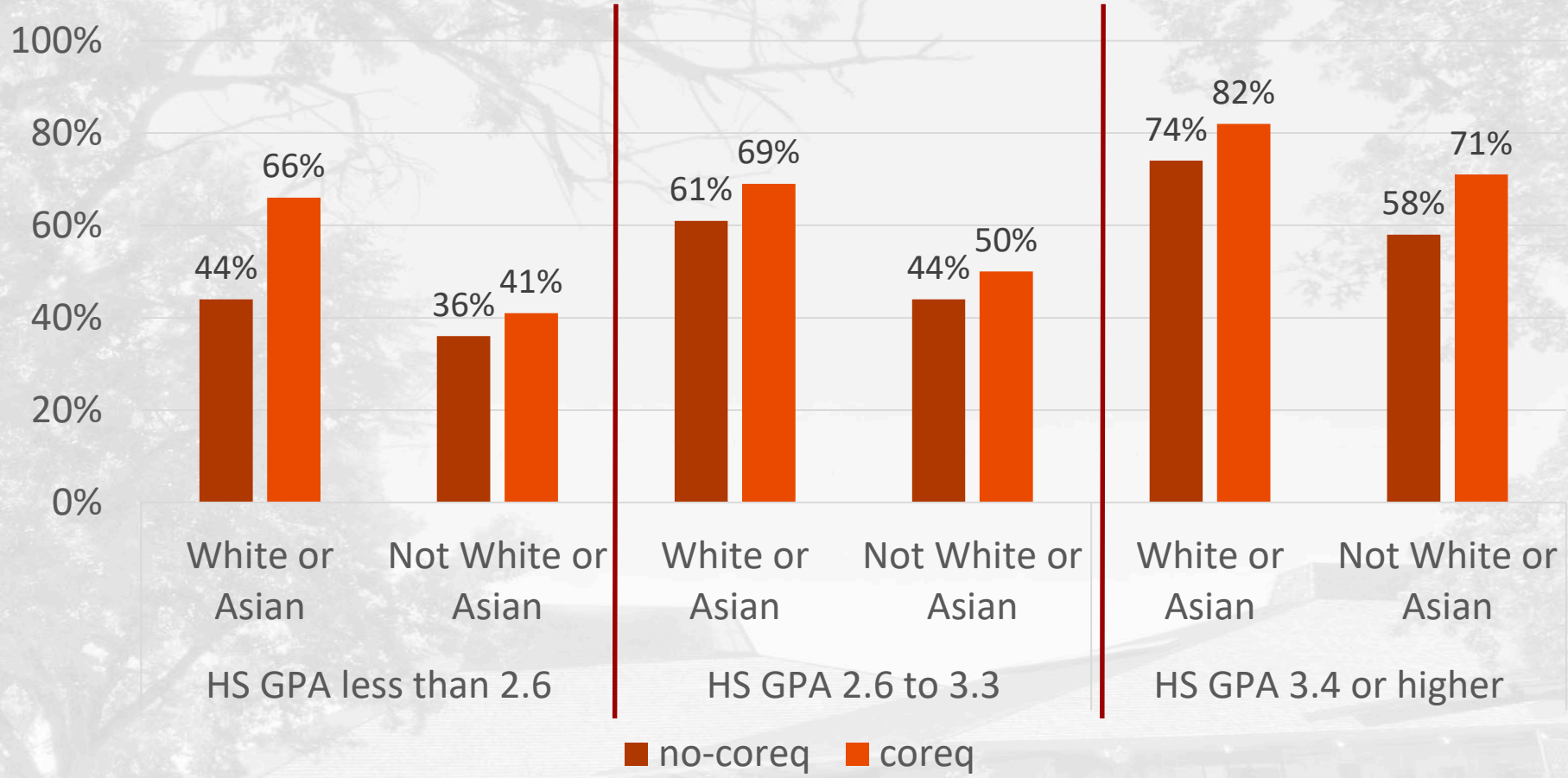
Coreq increased success rates (statistically significant effect).



Source: FH IRP. Success rates for students in Math 48A between Fall 2018 and Spring 2022. Excludes MPS, Umoja, STEM Core, and Tech Core. Students with no HS GPA on record are excluded. Regression using inverse propensity score weighting to control for HS GPA, ethnicity, gender, low income, and students repeating the course found a statistically significant effect of the coreq (p<.01).

Success in No-Coreq vs. Coreq Sections by HS GPA and Ethnicity

Coreq increased success across ethnicity but equity gaps persist.



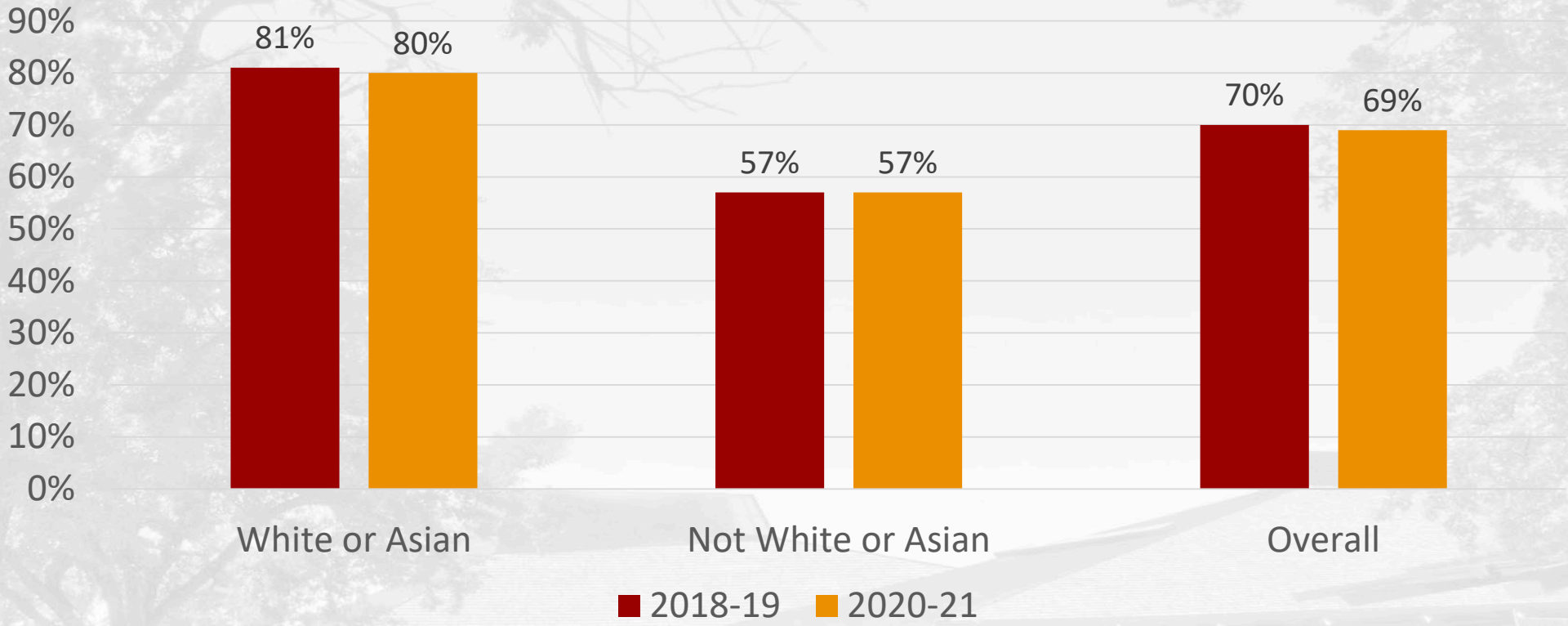
Source: FH IRP. Success rates for students in Math 48A between Fall 2018 and Spring 2022. Excludes MPS, Umoja, STEM Core, and Tech Core. Students with no HS GPA on record or who declined to state an ethnicity are excluded. Regression using inverse propensity score weighting to control for HS GPA, ethnicity, gender, low income, and students repeating the course found a statistically significant effect of the coreq (p<.01).

Question:

Has the throughput rate for students who begin with Math 48A changed over time?

Throughput when Begin with Math 48A by Ethnicity

Throughput rates when begin with Math 48A have remained consistent over time. Equity gaps persist.



Source: FH IRP. FH IRP. Throughput rates for students who began the math sequence at Foothill with Math 48A in Fall 2018 through Spring 2019 vs. Fall 2020 through Spring 2021. Students who declined to state an ethnicity are excluded.

Question:

Does the Math 48A corequisite increase throughput?

- Analysis combines years instead of comparing over time
- Analysis excludes special coreq and no-coreq sections (MPS, Umoja, etc.)

Findings:

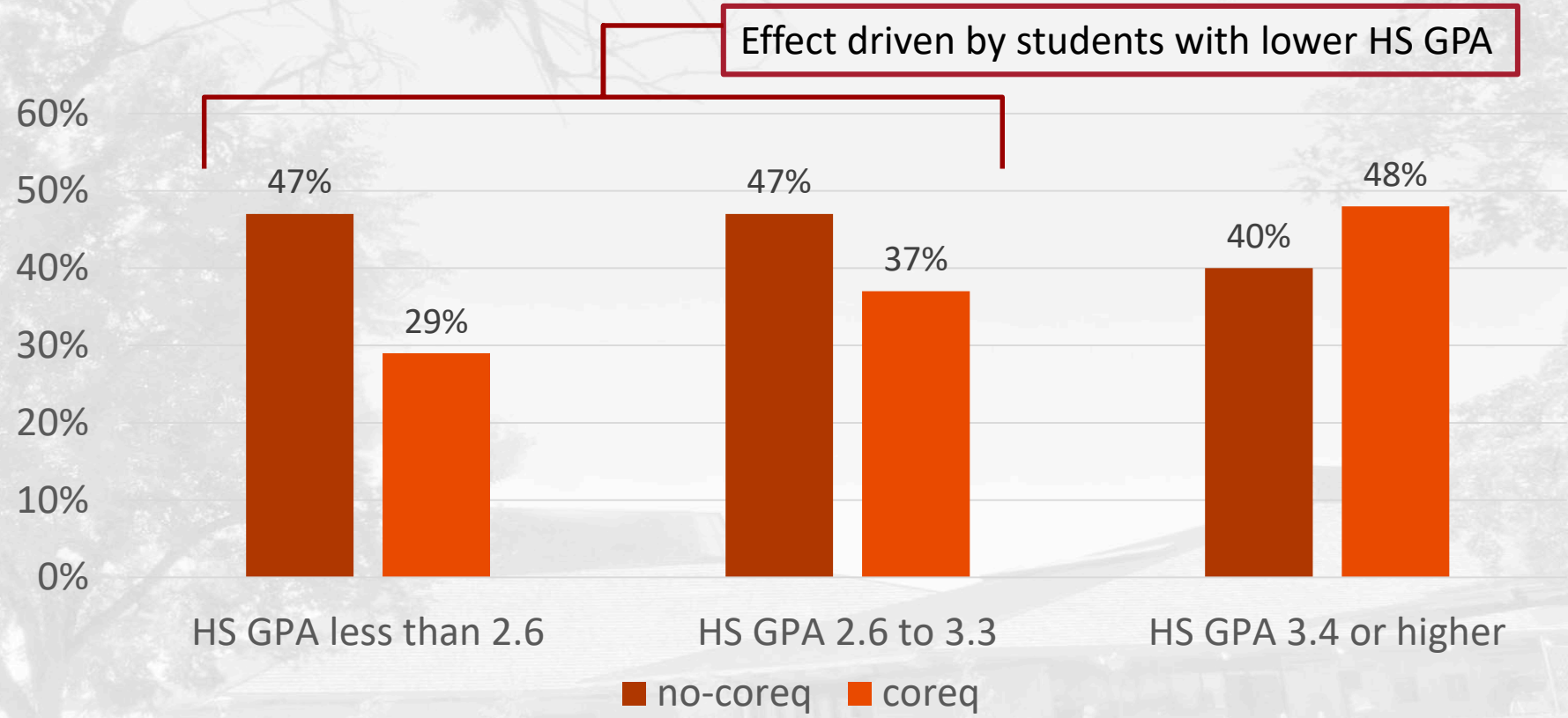
- Starting in a coreq vs. a no-coreq section did not make a difference on throughput rate (no statistically significant effect).

But the coreq increases success,
so why didn't it increase throughput?

- Students who did not pass a coreq section on their first attempt were:
  - less likely to attempt Math 48A again
  - less likely to achieve throughput

Students who Began with Math 48A and Did Not Pass on First Attempt: % Attempted Math 48A Again by Coreq vs. No-Coreq and HS GPA

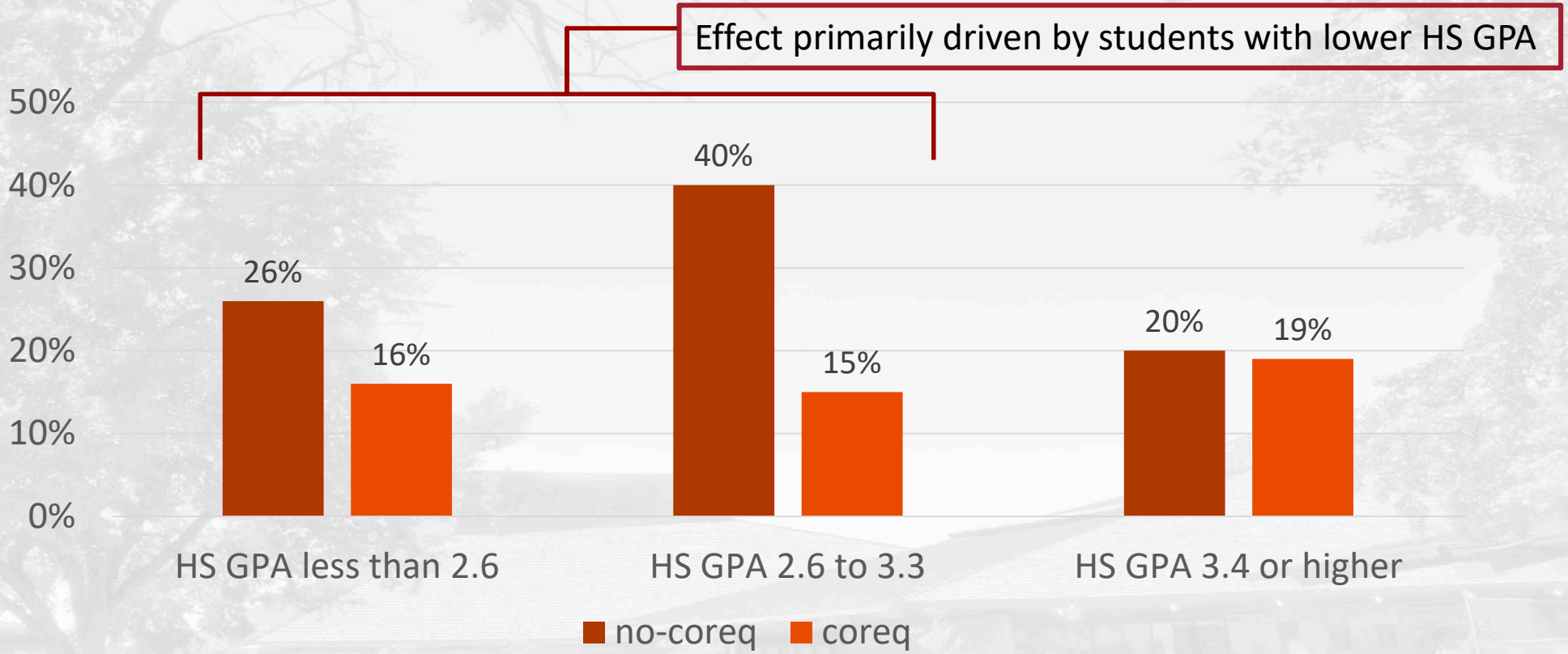
Less likely to attempt Math 48A again if began with coreq and did not pass (statistically significant effect)



Source: FH IRP. Percent of students who repeated Math 48A by Spring 2022 when they began the math sequence at Foothill with Math 48A between Fall 2018 and Fall 2021 in either a coreq or no-coreq section and did not pass on their first attempt. Students with no HS GPA on record are excluded. Excludes students who began in a special section (MPS, Umoja, STEM Core, and Tech Core). Regression using inverse propensity score weighting to control for HS GPA, ethnicity, gender, and low income found a statistically significant effect of the coreq (p<.01).

Students who Began with Math 48A and Did Not Pass on First Attempt: Throughput by Coreq vs. No-Coreq and HS GPA

Less likely to achieve throughput if began with coreq and did not pass (statistically significant effect)



Source: FH IRP. Throughput rates for students who began the math sequence at Foothill with Math 48A between Fall 2018 and Fall 2021 in either a coreq or no-coreq section and did not pass on their first attempt. Students with no HS GPA on record are excluded. Excludes students who began in a special section (MPS, Umoja, STEM Core, and Tech Core). Regression using inverse propensity score weighting to control for HS GPA, ethnicity, gender, and low income found a statistically significant effect of the coreq (p<.01).

Questions or comments?