



The Impact of Mentoring on Reading & Writing Intervention Results

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Background

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Objective

The objective of this study was to assess the impact that engagement in mentoring activities had on students' social-emotional well-being as measured by a peer-reviewed reading and writing intervention developed and validated by Borman et. al.

Data collection

- Cohort 1 students were given an adapted version of the reading and writing intervention developed by Borman et. al.¹
 - The adapted version changed the grade in which students were given the intervention and the group that students were prompted to reference when reflecting on their responses.
 - The timing of its administration was also changed in order to accommodate the timeline presented in the WVGU proposal to the US Department of Education.
- To assess the impact that the intervention had on students' well-being, the pre- and post-intervention survey developed by Pyne, et. al.² that was used to validate the original version was administered to students.
 - When examining the impact of the adapted intervention, the ICF research team found that it didn't have any impact on students' well-being as measured by the pre- and post-survey used to validate the original version. In fact, student well-being decreased pre- to post-survey even with the administration of the intervention.
- Mentoring activities that occurred during period between the first and last data collection efforts were gathered to assess their impact on students' levels of well-being.
 - Activity data were gathered for the entire second academic year of the program, when the first cohort was in the 8th grade since the pre-survey and first intervention was implemented at the end of 7th grade
 - Activity data did not include GEAR UP U since that was held after the data collection window.

¹<https://doi.org/10.1073/pnas.1820317116>

²<https://www.sciencedirect.com/science/article/abs/pii/S0022440518301067?via%3Dihub>

Pre- and post-survey subscales

School Trust

The teachers at this school treat students fairly

At this school, students are supported

The adults at this school care about the students

Social Belonging

People in my school accept me

I feel like I belong in my school

I feel like an outsider in my school
(reverse coded)

I feel comfortable in my school

Evaluation Anxiety (Negative)

People will look down on me if I do not do well in school

If I don't do well on important tests, others may question my ability

If I do poorly on an important test, people will look down on me

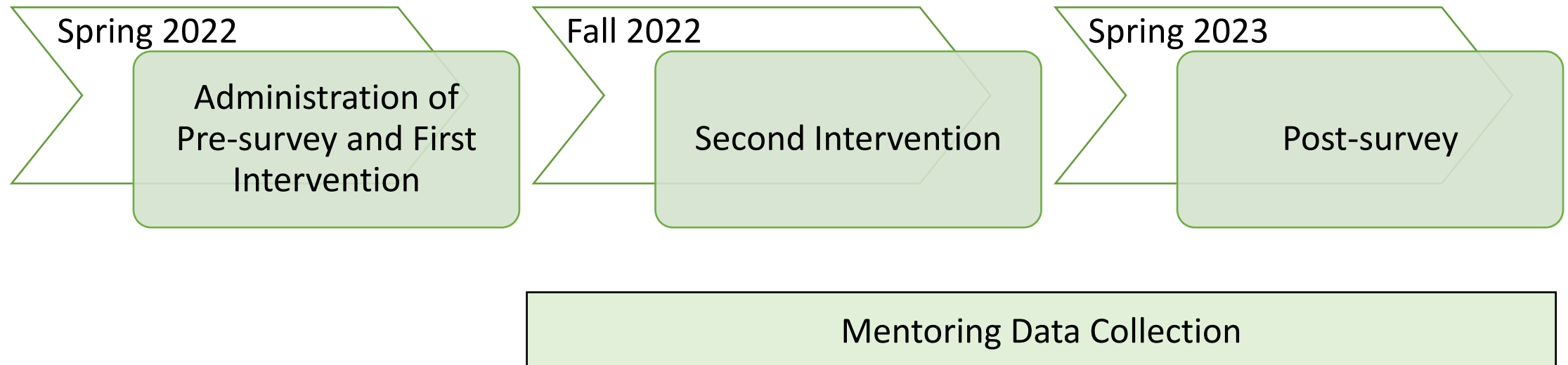
People will think I have less ability if I do not do well on important tests

Identification with School

It is important for me to do well in school

I want to do well in school

Data collection timeline



Data Analysis

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Criteria for inclusion in the study on the impact of mentoring in the context of the intervention

- To be included in the study, students needed to:
 - complete both interventions and both surveys across the three timepoints.
 - be part of the 2nd month enrollment files during the 2022-23 school years so that their mentoring data could have been recorded and so their WVEIS ID could be matched across all data sources.
 - Students who didn't provide their WVEIS ID when completing the surveys and interventions were excluded from the analysis since their activity data couldn't be matched to these responses.
- Of the 2,662 students who were included in the 2nd month enrollment files, 1,356 (51%) took both surveys with all subsections and both interventions.
- 636 (47%) of those who took all measures participated in mentoring activities within the assessment window.
- Students who participated in mentoring were then matched to those who did not using a propensity score match (described on the next slide), resulting in an analytic sample of 1,264 students.
 - The resulting analytic sample represented 47% of all students who were part of the 2nd month enrollment file, all of whom were eligible for mentoring services within the data collection window.

Analytic Sample

Students who had participated in mentoring activities were matched to those who had not based on the following criteria from the 2nd month enrollment files:

- Gender – Male/Female
- Race – Non-White/White
- SES – Low SES/Not Low SES

The characteristics of students in each group were adequately matched per What Works Clearinghouse standards³:

Group	Male	Non-White	Low SES
Mentoring	46%	3%	52%
No Mentoring	55%	3%	47%

Methodology for the study on the impact of mentoring in the context of the intervention

A series of univariate analyses were conducted to see if changes in well-being were significantly different between those who did and did not participate in mentoring activities.

- T-tests were used to assess differences in pre- and post-survey results for each subscale.

Since a series of univariate analyses were conducted, the commonly-used level of significance of .05 was adjusted using the Bonferroni correction to avoid inflating the chance of saying a finding was significant when it was not.

- T-tests across the 4 subscales resulted in an adjusted level of .0125 (.05/4)

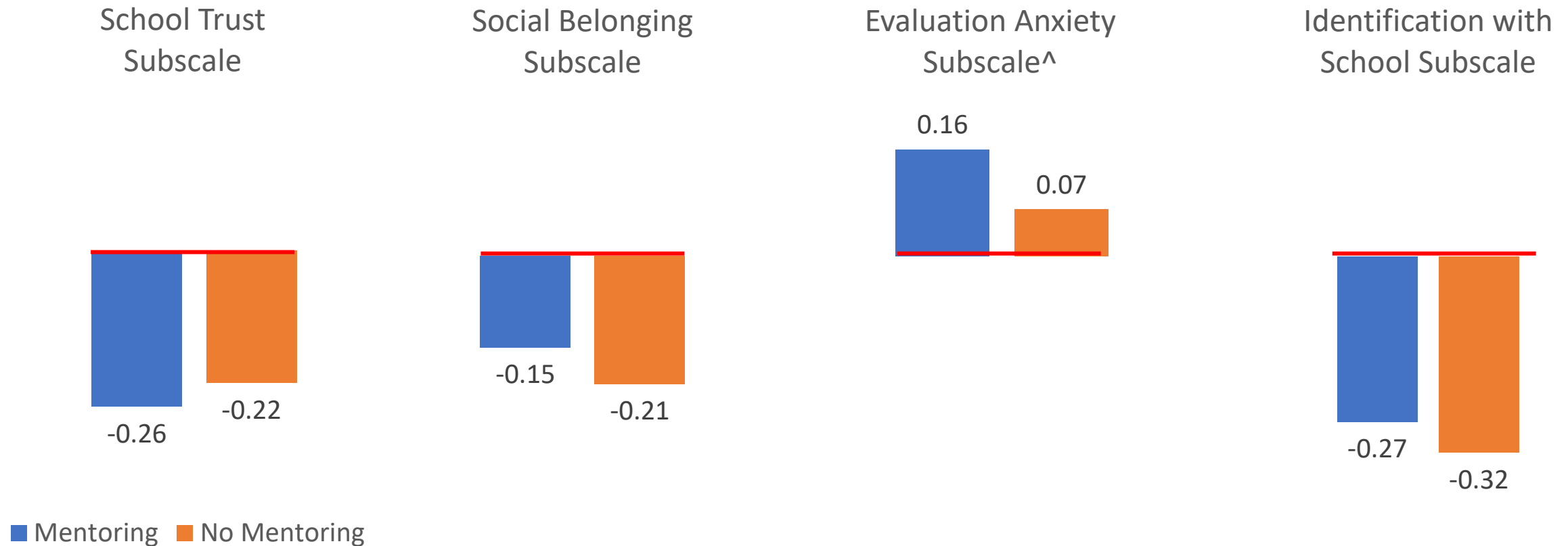
Profile analysis of those who participated in mentoring

- Since all students were presented with opportunities to participate in mentoring activities, a separate study exploring the characteristics of students who participated compared to those who did not was conducted.
- Chi-square statistics were used to determine if the characteristics of those who participated in mentoring were significantly different than those who did not.

Results – Mentoring Impact on Intervention

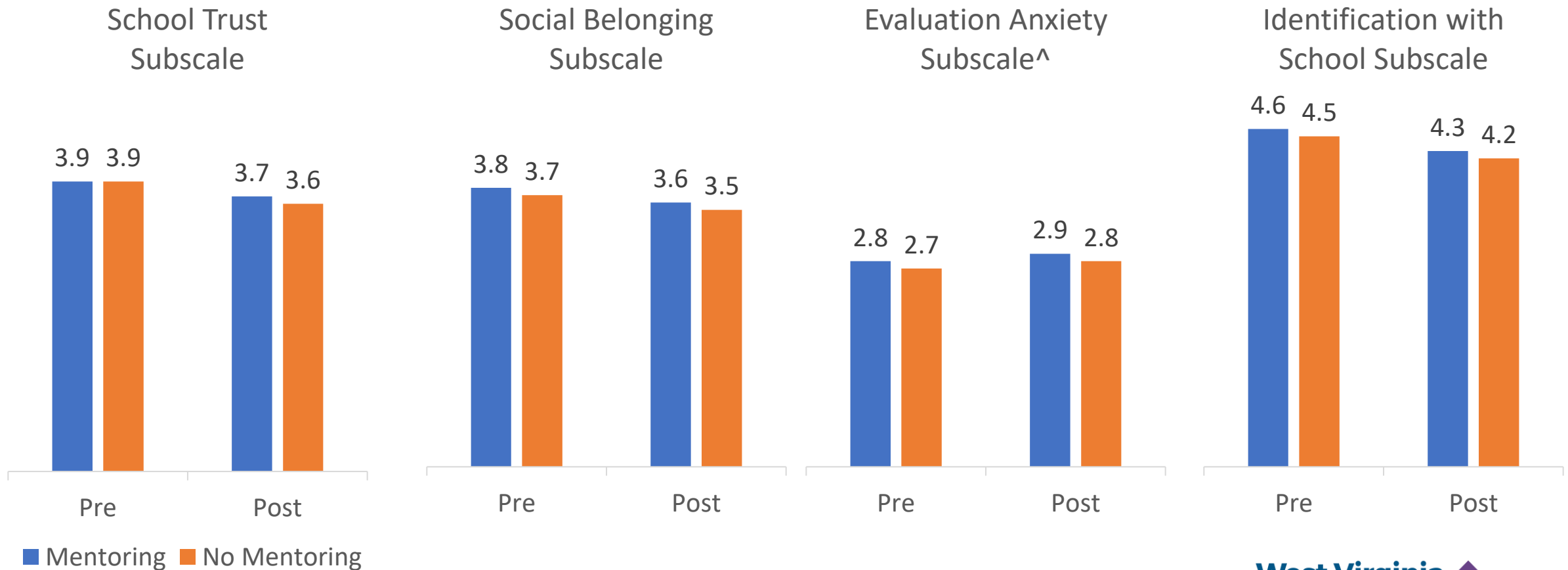
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Students in both groups experienced decreases in well-being at statistically equivalent levels



^AItems of this subscale measured anxiety, so higher scores indicate greater levels of anxiety

Further, students in both groups report similar pre- and post-well-being scores, indicating that both groups started and ended at the same levels



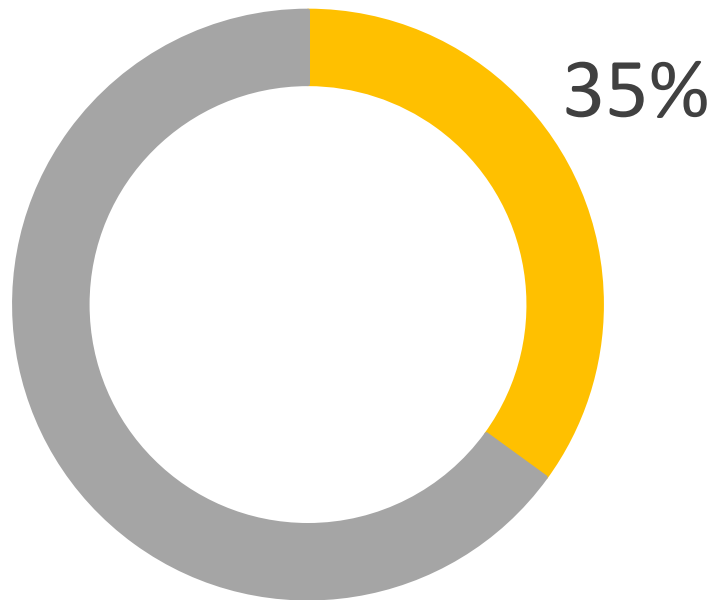
^Items of this subscale measured anxiety, so higher scores indicate greater levels of anxiety

Results – Profile of Students Engaging in Mentoring

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936 students overall participated in mentoring activities

Participated in Mentoring



Average Participation

2.9 Hours

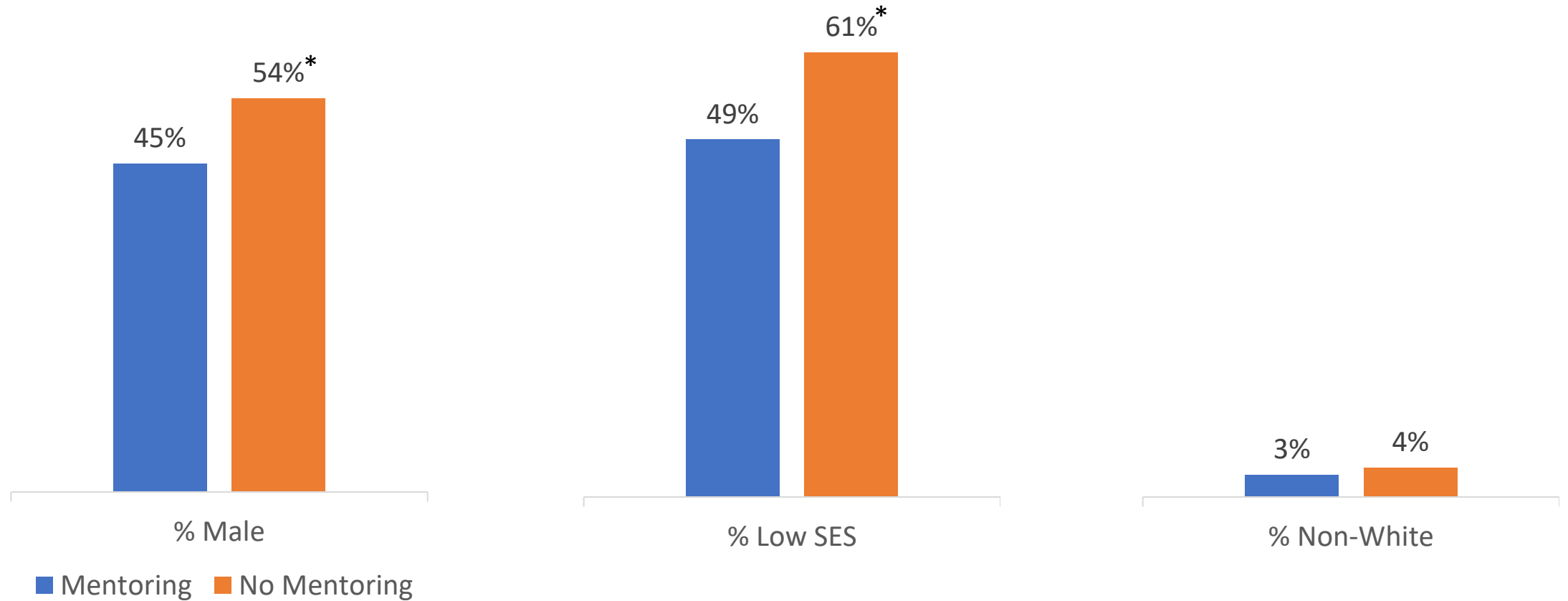
Minimum Participation

1 Hour

Maximum Participation

6.5 Hours

Those who did not participate in mentoring were more likely to be male and of lower SES



*Percentages higher at the $p < .05$ level

Key Findings

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- This study was initially designed to assess the extent to which participation in mentoring activities impacted student well-being as measured by the reading and writing intervention developed and validated by Borman et. al. The ICF team in an earlier study found that the adapted version of the Borman intervention did not improve students' well-being as it had in the original study.
- ICF found that student well-being decreased from pre- to post-survey, and a similar trend was found for both students who did and did not participate in mentoring activities. Not only did they decrease at similar rates, they also began and ended at similar levels, suggesting that there was no correlation between participating in mentoring activities and well-being overall during this timeframe. Students who were identified as participants had fewer than 3 hours of engagement, so the amount of mentoring may have been too low to see an impact at this point.
- An examination of student profiles for those who participated in mentoring activities compared to those who did not, found that those who did not participate were more likely to be male and of lower SES, groups who have historically enrolled in college at lower rates⁴. Given that mentoring has been shown to have a positive impact on college enrollment⁵, males and those of lower SES should be further encouraged to participate in these activities.

⁴<https://www.wvhepc.edu/resources/data-and-publication-center/cgr/>

⁵<https://www.evidencebasedmentoring.org/how-do-mentoring-relationships-affect-the-college-enrollment-of-first-generation-college-students/>