

Active Enough? Assessing the Impact of Screens in Active-Learning Classes

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Background



Active = Good: Substantial evidence suggests active-learning, such as classroom response systems (CRS: clickers; Poll Ev.) aid student learning.



Screens = Bad: Substantial evidence suggests screens in class distract students and harm learning.

The Problem: CRS often require screens, such as students' phones, for active learning.

The Question: Do the benefits of active-learning allowed by CRS outweigh any detrimental effects of screen use in class?

Our Study

Three iterations of PHIL 120: Introduction to Logic (n=538). A large lecture course using CRS, think-pair-share, and random call.

Year	Students used screens?	No-screen enforcement level
1	No – clickers	Strong [†]
2	Yes – Poll Ev.	Moderate [‡]
3	Yes – Poll Ev.	None

[†] TAs enforced a strict no-screens policy in class (except for select students with permission)
[‡] TAs enforced a policy of no screens for off-topic uses

Screen use had *no impact* in general on student performance.

BUT

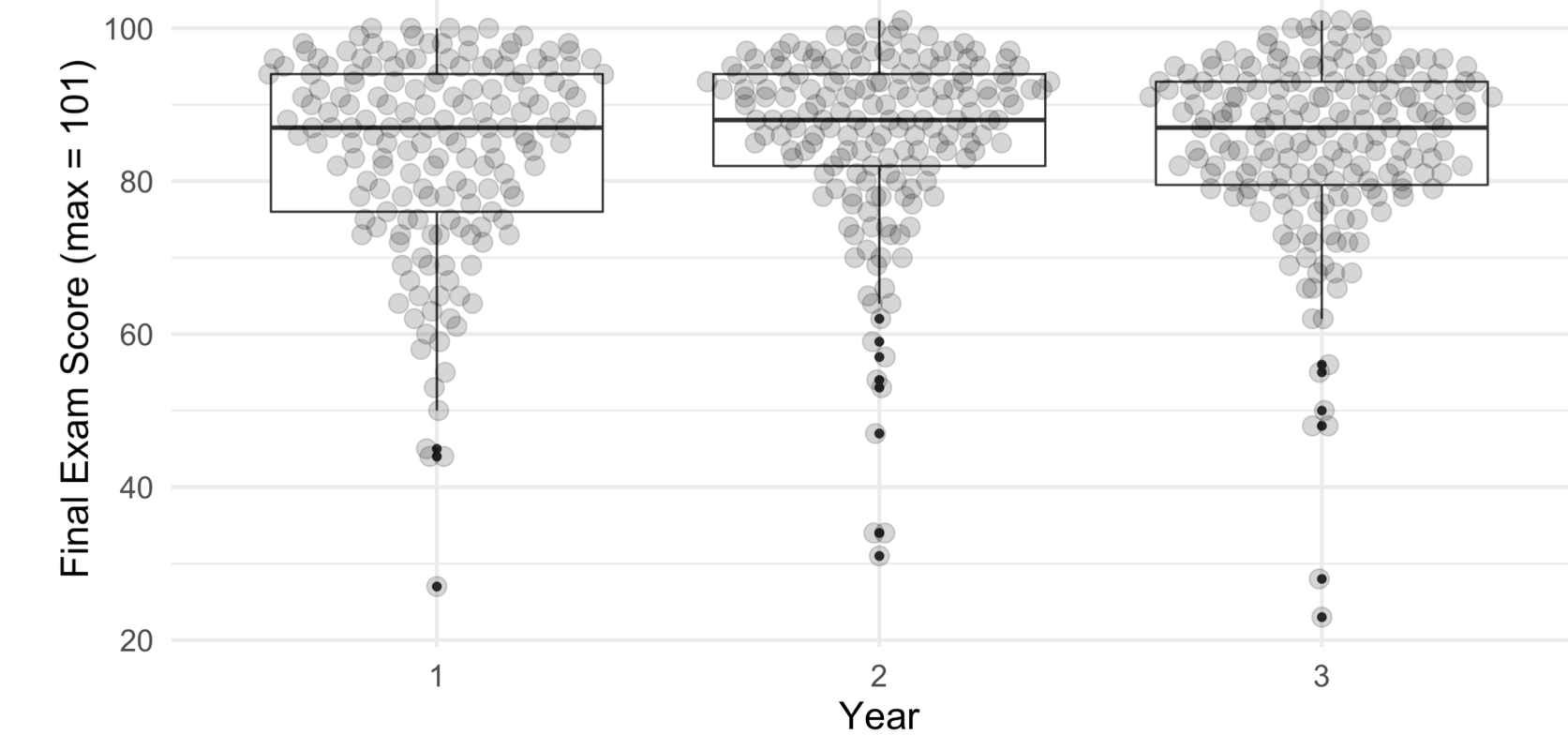
Screen use did have a *negative* impact on scores for students in *some groups*.

SO

Taking action on screen use is warranted if we are to serve all students.

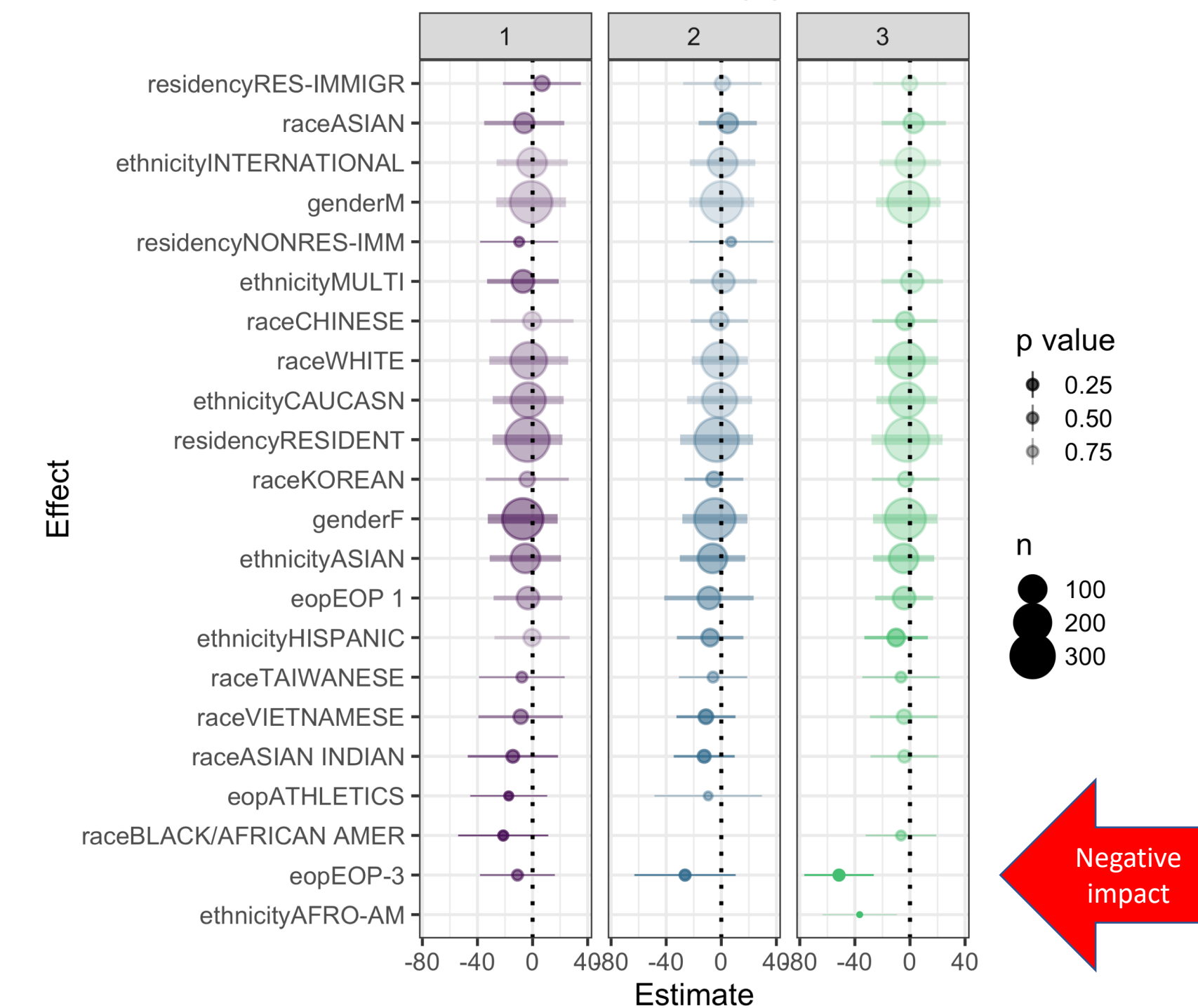
Results

Distributions of all students' final test scores for each year of the study. (F = 1.433, p = 0.255)



Overall there is no effect on final test scores. This is also true for different sections of the test.

Effect of student demographic variables on final test score by year



However, some demographics do substantially worse with no enforcement of screen use relative to strong enforcement, cf. Educational Opportunity Program (EOP) students.

Targeted Action: Our study suggests working with Advisors of EOP students, in order to teach students screen-use skills.

The reference category for each regression equation is the median test score for all students in each variable.