

WWC Quick Review of the Article “Culture and the Interaction of Student Ethnicity with Reward Structure in Group Learning”[†]

What is this study about?

This study examined the effects of different reward systems used in group learning situations on the math skills of African-American and white students.

The study analyzed data on 75 African-American and 57 white fourth- and fifth-grade students from urban schools in the northeastern United States.

All students participated in a 15-minute study session that involved learning about multiplication estimation. The study sessions occurred in three-person, racially-homogenous, gender-mixed groups.

The key outcome was the score on a 15-item multiple choice test that involved estimating answers to multiplication problems.

Students were randomly assigned to three different reward-system groups. The study measured effects by comparing the scores of students in these three groups.

What Different Reward Systems Were Contrasted?

Reward based on individual performance: Students told they would receive a reward if their individual performance was better than other students

Reward based on group performance: Students told they would receive a reward if their group’s performance was better than other groups

No reward, group emphasis: No reward mentioned; students encouraged to do well for their group, school, and community

WWC Rating

The research described in this article is consistent with WWC evidence standards

Strengths: This study is a well-implemented randomized controlled trial.

Cautions: The study did not use a standardized assessment tool. It is unclear how well this test captures the core skills of multiplication estimation.

What did the study authors report?

Among African-Americans, students offered a reward based on individual performance had lower scores than those offered no reward, and this difference was statistically significant. The differences in test scores between those offered a reward based on group performance and the other two research groups (those offered no reward and those offered an award based on individual performance) were not statistically significant.

Among white students, those offered a reward based on individual performance scored statistically significantly higher than those in the other two groups (students offered a reward based on group performance and students offered no reward). The difference in test scores for those offered a reward based on group performance and those offered no reward was not statistically significant.

[†]Hurley, E. A., Allen, B. A., & Boykin, A. W. (2009). Culture and the interaction of student ethnicity with reward structure in group learning. *Cognition and Instruction*, 27(2), 121–146.