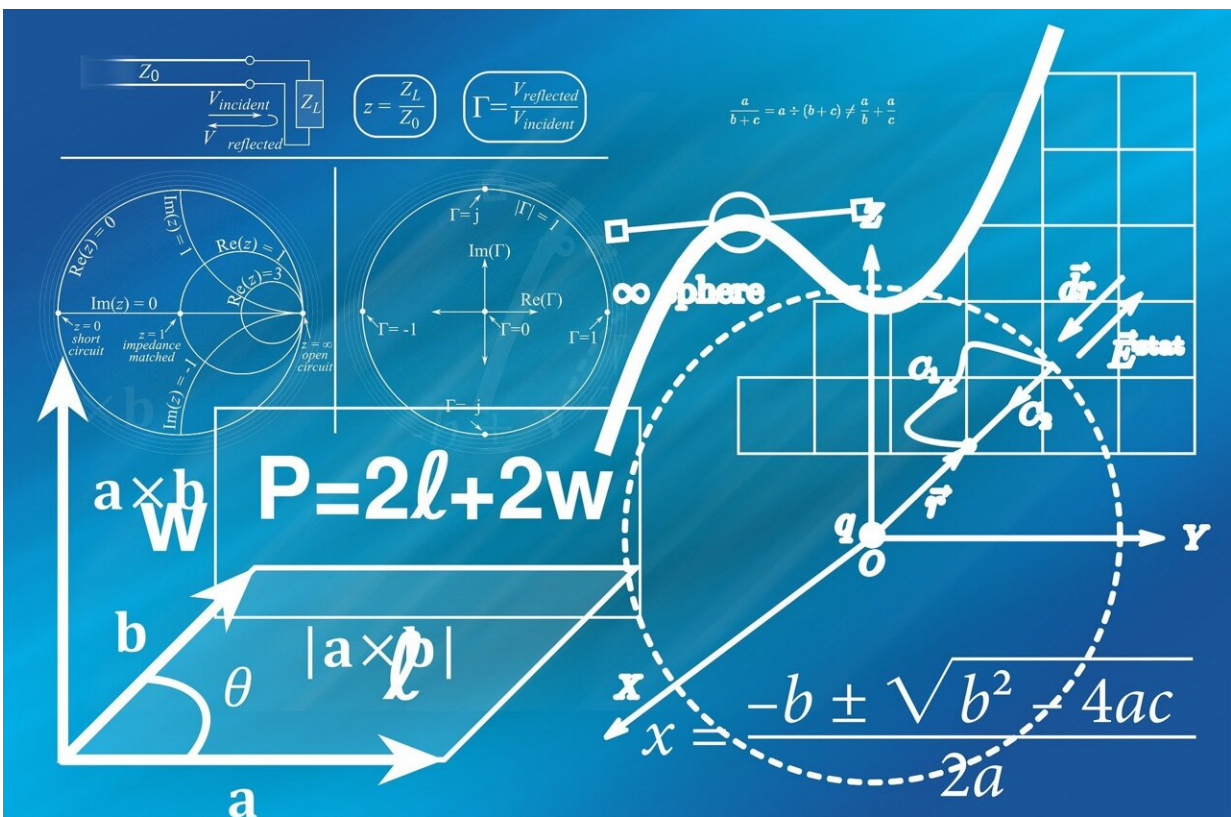


# Music class in sync with higher math scores—but only at higher-income schools, study finds

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Daniel Mackin Freeman, a doctoral candidate in sociology, and Dara Shifrer, an associate professor of sociology, used a large nationally

representative dataset to see which types of arts classes impact math achievement and how it varies based on the socio-economic composition of the school. Schools with lower socio-economic status (SES) have a higher percentage of students eligible for free or reduced lunch.

The researchers found that taking [music](#) courses at higher- or mid-SES schools relates to higher math scores. Mackin Freeman said that's not a surprise given the ways in which music and math overlap.

"If you think about it at an intuitive level, reading music is just doing math," he said. "Of course, it's a different type of math but it might be a more engaging form of math for [students](#) than learning calculus."

However, the [positive relationship](#) between music course-taking and [math achievement](#) is primarily isolated to schools that serve more socially privileged students. The study suggests this could be because arts courses in low-SES schools are of [lower quality](#) and/or under-resourced. Students in low-SES schools also take fewer music and arts classes on average compared to their peers, also suggesting low-SES schools are under-resourced when it comes to arts courses.

"It'd be reasonable to expect that at under-resourced schools, the quality of the music program would differentiate any potential connection to other subjects," Mackin Freeman said. "For programs as resource-intensive as something like band, under-resourced schools are less likely to even have working instruments, let alone an instructor who can teach students to read music in a way that they can make connections to arithmetic."

Mackin Freeman said the findings suggest that learning shouldn't happen in subject silos and the ways some schools have attempted to increase math achievement—by doubling down on math and cutting the arts—is shortsighted and counterproductive.

"Creating an environment where students have access to a well-rounded curriculum might indirectly affect math achievement," he said. "That could be something as simple as, they're willing to go to class because they have band or painting class to look forward to."

The study was published in the journal [Sociological Perspectives](#).

**More information:** Daniel Mackin Freeman et al, Arts for Whose Sake? Arts Course-taking and Math Achievement in US High Schools, *Sociological Perspectives* (2022). [DOI: 10.1177/07311214221124537](https://doi.org/10.1177/07311214221124537)

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