The Impact of Music on Childhood and Adolescent Achievement

Darby E. Southgate and Vincent J. Roscigno

An Article Summary

James Higgs and Sheri Higgs

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The objective of this quantitative study was to investigate the association between music involvement and academic achievement in childhood and adolescence. The authors examined students’ academic achievement in light of music participation inside school, outside school, and parental involvement. Parental involvement was based upon attendance at concerts. In addition to reviewing prior research, the authors completed a long range quantitative study utilizing data collected from two national studies containing data collected by the Department of Education.

The data used was collected from the Early Childhood Longitudinal Study (ELCS-K) and the National Education Longitudinal Study (NELS:88). The baseline data from the ELCS-K was gathered from an administration in 1998-1999. The ELCS-K was administered to approximately 20,000 kindergarten students in over 1,000 schools. Follow-up administrations were completed during the students’ first, third, and fifth grade years. The NELS:88 was administered to a different group of students from eighth grade and post-secondary levels. These students were given follow-up administrations every two years. The NELS:88 participants numbered slightly less than 25,000 from 1,000 schools. The authors utilized data from those participants whose data included IRT scores on math and reading. After the specific data selection (IRT) and due to attrition rates during longitudinal studies, the final sample sizes for the ELCS-K and NELS:88 were 4,376 and 7,781, respectively (Southgate & Roscigno, 2009).

The authors employed logistic regression calculations to compare standardized test results for math and reading. Three measures of music involvement were used for separate regression models. These measures included indicators for (1) weekly, in-school music class participation, (2) music lessons outside of school, and (3) parental musical involvement in the form of attending concerts. The authors also analyzed the three measures based upon the participants’ socioeconomic status, ethnicity, family structure and family status. Major
subgroups of participants were based upon their participation in the ELCS-K (children) or the NELS:88 (adolescents). The data is statistically significant as indicated by the low \( p \) values for the data, ranging from \( p<0.05 \) to \( p<0.001 \) (two-tailed test) (Southgate & Roscigno, 2009).

The results of the data analysis show a moderate (adolescents) to strong (children) correlation between music and achievement in math and reading. The \( R^2 \) values for children for all measures ranged from 0.57 for reading to 0.60 for math. Data for adolescents showed \( R^2 \) values ranging from 0.16 for reading to 0.23 for math. The authors hypothesized that the lower \( R^2 \) values for adolescents were due to less opportunity for in-school music participation than their younger counterparts. Elementary students are typically required to participate in music daily while Middle and High School students are given a choice. Older students are given a larger selection of extracurricular activities from which to choose. In addition, familial responsibilities for older students (care of younger siblings, work, etc.) may reduce the time available for outside of school music participation (Southgate & Roscigno, 2009).

The authors mentioned limitations to their research. Specifically mentioned were the limited ability to capture and measure the quality and duration of participants’ involvement in music. They have suggested that future research should consider these factors.
Works Cited