

Evaluation Brief

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Homework in High School: Influence on Learning

To what extent does homework influence learning? Previous research has demonstrated that the amount of time a student spends on homework is associated with better grades and higher achievement test scores at both the middle and high school levels (Keith, 1982; Keith & Benson, 1992; Keith & Cool, 1992; Natriello & McDill, 1986; Keith et al., 1993; Peng & Wright, 1994). Because homework is a primary instructional tool for teachers (especially in high school), this Brief summarizes an analysis of testing data from 58,000 high school students in North Carolina as well as the results of another study of homework and achievement using a nationally representative sample of over 13,000 high school students. Taken together, these analyses indicate that time spent on homework is associated with higher levels of academic achievement among high school students.

Homework and North Carolina High School Comprehensive Test (HSCT) Scores

The HSCT is a multiple choice test assessing reading and mathematics competencies that the typical student should master by the end of grade 10. It was administered in April 1998 to tenth grade students across North Carolina. As part of that test, students were asked how much time they spent on homework each week. After adjusting for differences due to gender, ethnicity, and parents' educational level¹, the data from this test reveal that students who reported spending more time per week on homework scored higher on the reading and mathematics sections of the HSCT (Figures 1 & 2). On average, students who reported spending at least 3 hours per week doing homework scored above the state average in both reading and mathematics.

¹ This was accomplished through an *analysis of covariance*. This procedure was used to adjust each student's HSCT score based on his/her gender, ethnicity, and parent educational level. Therefore, the observed relationship between test scores and homework time are said to be "over and above" any effects that might be due to gender, ethnicity, or parental education level.

Figure 1. Reading Scores and Homework Time.

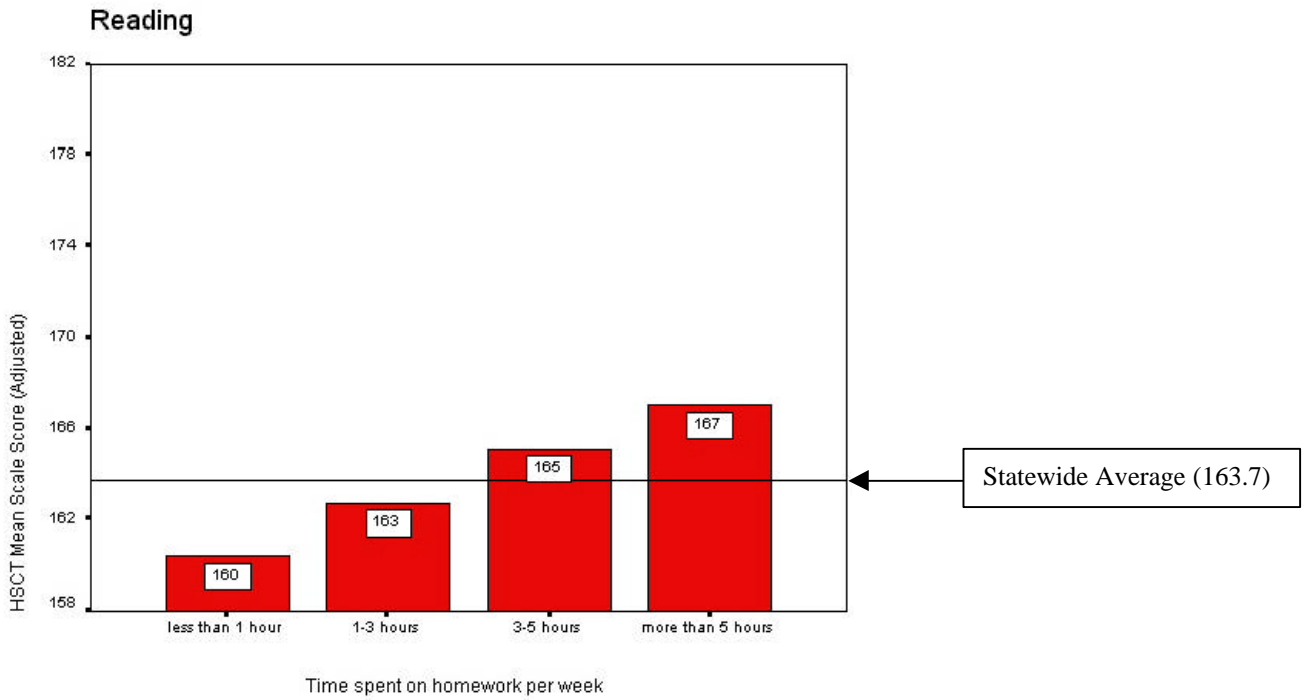
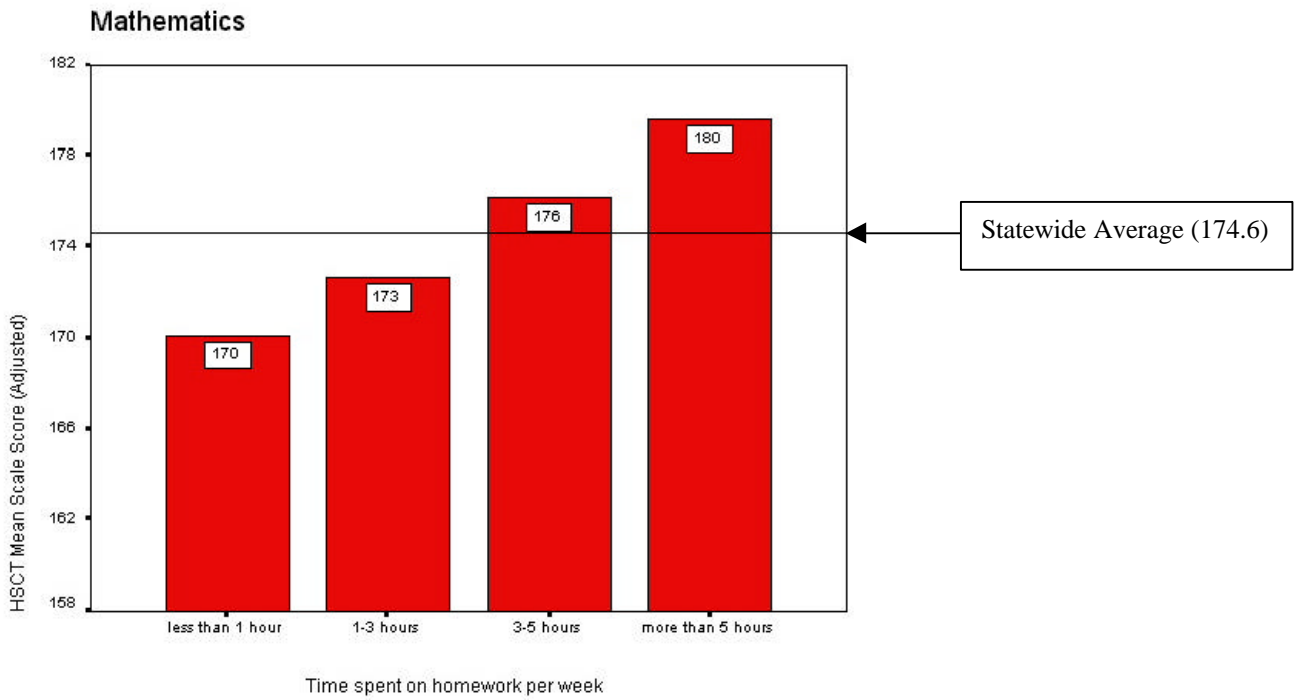


Figure 2. Mathematics Scores and Homework Time.



In-School vs. Out-of-School Homework

Although most students are regularly assigned work during the day which is to be completed outside of class, students may in fact do this “homework” in a variety of places other than home, such as in study halls, in lunch rooms, in other classes, etc. (Leon & Richards, 1989). Until recently, few studies have addressed the potential importance of when or where students do their assigned out-of-class work.

Using data from the National Education Longitudinal Study (NELS) sponsored by the U.S. Department of Education, Keith and Diamond (1999) investigated the effects of homework that is completed *in school* and homework that is completed *out of school* on student achievement. This study sample included over 13,000 students from across the U.S. who were in high school between 1988 and 1992. The results indicated that, even after considering the potential effects of previous achievement and students’ background characteristics (including socioeconomic status), *students who spent more time doing homework outside of school had better grades and higher achievement test scores*, while homework completed in school had no direct relationship to grades or test scores.

Although the study did not address why this might be the case, there are many possible explanations. If homework is done at home, then the presence of a parent or other adult may help students to stay on-task or offer assistance. In addition, spending time in school working on homework may take away from instructional time, or it may be completed in an environment where a student cannot concentrate adequately and benefit fully from the assignments. Spending more time on homework outside of school may also increase the overall amount of time that a student spends engaged in academic tasks in a given subject area, thereby allowing for greater skill and knowledge development. More time spent on homework at home may also be an indicator of a home environment that is more focused on education, i.e. where academics are valued and where students are exposed to materials and experiences that promote literacy and achievement.

In sum, the amount of time a student spends on homework which is actually completed out of school appears to be associated with higher academic achievement whether measured by grades or standardized test scores. The exact nature of this relationship, however, is unknown. In the absence of a true experiment, spending more time on homework cannot be said to cause higher achievement. Even so, given the extensive body of research in which time spent engaged in academic work has been associated with learning (Berliner, 1990), it would appear that homework is a useful instructional tool for teachers. The interesting link between homework completed out of school and achievement also appears worthy of further investigation.

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