

Research Question:

What is the effect of the concentration of poverty at a school on individual student achievement as measured by the Grade 4 WKCE Reading test?

Study: All students who took the Grade 4 WKCE Reading test in 2002-03 school year (n=1407) were included. Initial model included the following variables:

- Gender
- Ethnicity
- Wisconsin Reading Comprehension Test Score (3rd Grade)
- Home Configuration
- Parent Education
- Attendance Rate in the 2002-03 School Year
- ELL Status
- Special Education
- Poverty at School of Attendance – Low Income Students
- Poverty at School of Attendance – Not Low Income Students

The final model only included variables that were significant in the model. These were:

- Wisconsin Reading Comprehension Test Score
- Gender
- Parent Education
- Poverty at School of Attendance – Low Income Students

In order to contrast the effect of poverty on non-low income students the non-significant variable - Poverty at School of Attendance – Not Low Income – was also analyzed

The dependent variable was the students' 2002-03 Reading Scale Score from the WKCE test. The R Square value was .475 (the proportion of the variation in the dependent variable explained by the regression model and the range is 0-1).

The following chart looks at the effect on the student's WKCE Reading score, isolating the effect of poverty at the school. The chart looks at schools' poverty ranging from 10% to 60%. At 4th grade in 2002-03 the poverty rates range from 4.9% at Kennedy School to 63.9% at Lincoln School. The average for Grade 4 is 36.4%.

Effect on low-income students was significant. For example, low-income students at Lincoln Elementary school would score 11 points higher if they were at a school with 10% poverty. The concentration of low-income students at a single school has a negative impact on achievement.

This study looks at only the impact of poverty in their 4th grade year. It is quite possible that similar effects may be experienced at other grade levels. These effects may have a cumulative effect over time.

It is important to keep in mind that the differences for non-low income students were not statistically significant. These data are only included to illustrate the minimal effect of school poverty rates on individual performance of non-low income students.

In order to estimate the instructional effect an estimate of grade equivalency was determined by taking the median gain from Grade 4 WKCE Reading scale score to Grade 5 WKCE Reading scale score. The median gain was 17 points. Using the same Lincoln student example cited above, the 11-point gain is equivalent to more than half of a school year's normal progress.

Effect of Poverty Concentration at School on WKCE 4th Grade Reading Score
(Scale Score) 2002-03 School Year
Grade is Approximately 17 points

