NYC Study Gives K-8 Schools an Edge Over Middle Schools

By Sarah D. Spark

A new study of New York City public school students suggests that moving to middle school can be more detrimental to students’ continued academic progress than staying in a K-8 school.

According to the study, which was posted online today by the journal Education Next, students who move from elementary school to middle school experience a bigger dip in mathematics and language arts achievement than their K-8 counterparts do, and they tend to be absent more often.

Moreover, the report says, the earlier students move to a middle school, the greater the gap between them and their K-8-attending peers—and that gap only widens as students age.

“Middle schools surfaced because people said we’re going to specialize and serve these kids more appropriately, but it’s not certain that that’s what they’re actually doing,” said Jonah E. Rockoff, an associate professor of business at Columbia University’s Graduate School of Business in New York City. “I wouldn’t view this as definitive, but if I was running a school system, I would see this as cause for serious further investigation.”

Mr. Rockoff’s article is scheduled to be published in print in the fall issue of Education Next, a journal published by the Hoover Institution at Stanford University in Palo Alto, Calif. He and his Columbia University co-author, Benjamin B. Lockwood, analyzed data on successive cohorts of all New York City students entering third grade at non-charter district schools from fall 1998 to fall 2002. They followed individual students for six years, until most graduated 8th grade, and compared the characteristics of the schools where they spent elementary grades and those attended for the middle level. Most New York City elementary schools serve kindergarten through grades 5 or 6, with a smaller proportion of K-8 schools spread across every borough except Staten Island and Queens, which have only a handful between them.

The researchers found students in K-5 or K-6 schools performed slightly better than their K-8 peers in math and language arts in 5th grade, but when they made the move to a middle school, the situation reversed. Students who entered middle school in 6th grade began to lag behind K-8 students in both subjects. By way of comparison, researchers said the gap between the two groups of students was substantial, about a fifth the size of the achievement gap that separates the city’s low-income students from their more-affluent peers.

The researchers also found students who entered middle school in 7th grade performed better than those who entered in 6th grade, but still saw a precipitous decline in comparison to peers who attended a K-8 school. Moreover,
the achievement gap between middle school students and K-8 students increased through 8th grade.

In addition, the study found that while all schools saw increased absences in higher grades, middle school absences accelerated at a faster pace than K-8-school absences. On average, students missed two more days per year in middle schools than they would have had they attended a single school. However, unlike previous studies, the Columbia researchers did not find differences in the number of suspensions at schools of different configurations.

Mr. Rockoff speculated that middle school achievement may be lower because 6-8 schools in his study had larger grade cohorts than K-8 schools did; the study found the average number of students in a given grade at a middle school was more than double the number at the same grade in a K-8 school. He suspects students may have a more difficult transition to a new school where the number of other students in the same grade is much larger than that at their previous school.

By contrast, Mr. Rockoff recalled his own middle school experience in a small New Jersey school district: “We had one elementary, one middle school, one high school; the cohort stayed exactly the same at each school, and your peers were exactly the same as you went from one school to another.”

Patti Kinney, an associate director for middle-level services at the National Association of Secondary School Principals, based in Reston, Va., said districts often choose grade configurations based on logistical concerns rather than academics. Small districts may have only one school per grade level, while large urban districts consolidate in upper grades to use buildings and staff more efficiently. In either case, Ms. Kinney agreed that schools have to adjust their support structure to deal with larger grade cohorts.

“I guess the mantra is ‘smaller is better.’ You don’t want students to be anonymous,” Ms. Kinney said. “If you just take a bunch of kids in … they’re not going to be as successful as schools that create teaming and build smaller communities within the larger community.”

Questions in the Research

The New York City study is the latest volley in an ongoing battle over how to organize schools. Earlier this year, a study by the Mountain View, Calif.-based EdSource and Stanford University found no connection between grade configuration and achievement, as did a 2006 report on Philadelphia school configurations led by another Columbia University researcher.

Mr. Rockoff acknowledged, though, that the new study has a few holes. First, it does not include charter schools, which often have smaller cohorts within the same 6-8 grade span. One example is the Knowledge Is Power Program, or KIPP, charter middle schools, some of which showed higher test scores in the same grades than other district schools in New York. Second, the researchers were only able to track students through 8th grade, leaving open the possibility that students graduating from a K-8 school would face a similarly large drop in achievement when they transitioned to a new school for the first time in high school.

“It could be that the middle school kids get hit by the stick in 6th grade and the K-8 kids get hit with the stick in high school, but everyone gets hit with the stick,” Mr. Rockoff said. Yet, he argued, later
problems with high school transitions would not negate problems in middle school transitions. “From a policymaker’s perspective, it points in the same direction; you don’t want to force a lot of kids to switch schools at age 12,” Mr. Rockoff said.

David Hough, dean of education at Missouri State University in Springfield, said the results “most definitely, unequivocally” align with what he is finding as he develops a database of more than 1,600 middle-level schools. Students at K-8 schools on average have higher math and reading test scores, better attendance, and fewer behavior problems than do students in middle school, Mr. Hough said. However, he credits the difference to the “more nurturing environment” provided by multiple grade levels—which he said mixes students of different ages and makes it more likely siblings will attend the same school—rather than the size of any one grade.

Ms. Kinney said the research was interesting, but inconclusive given that research on middle-level grade configuration “keeps coming back and forth.”

“After reading so much research with all these studies, I keep coming back to what’s happening in the school. I think the bottom line is you’ve got to look at what you’re doing with the students at that age level regardless of the grade configuration,” Ms. Kinney said.