

Title: Middle school performance declines

Date: August 2015

Question: >> It appears that student performance starts to edge downward starting in middle grades. Is this an international phenomenon? If so or if not – to what do researchers attribute these outcomes?

Response:

International comparison studies show that the relative performance of U.S. students in mathematics and science declines from elementary school to middle school (Juvonen, Le, Kaganoff, Augustine, & Constant, 2004). If U.S. performance declines at middle school and those in other countries do not, it suggests that this is not an international phenomenon.

We have prepared the following memo with research on middle school performance declines. Citations include a link to a free online version, when available. All citations are accompanied by an abstract, excerpt, or summary written by the author or publisher of the document. We have not done an evaluation of the methodological rigor of these resources, but provide them for your information only.

References

Alspaugh, J. W. (1998). Achievement loss associated with the transition to middle school and high school. *Journal of Educational Research, 92*(1), 20–25.

Abstract: To explore the nature of the achievement loss associated with school-to-school transitions from elementary school to middle school and to high school, the author compared 3 groups of 16 school districts in this ex post facto study. A statistically significant achievement loss associated with the transition from elementary school to middle school at 6th grade was found, as compared with K–8 schools that did not have a school-to-school transition at 6th grade. The transition loss in achievement was larger when students from multiple elementary schools were merged into a single middle school during the transition. The students from the middle schools and K–8 elementary schools experienced an achievement loss in the transition to high school at 9th grade. The achievement loss in the transition to high school was larger for middle school students than for K–8 elementary students. High school dropout rates were higher for districts with Grade 6–8 middle schools than for districts with K–8 elementary schools.

Clark, D. M., Slate, J. R., Combs, J. P., & Moore, G. W. (2014). A conceptual analysis of grade span configurations for 6-8 and K-8 public schools. *Online Journal of New Horizons in Education*, 4(1), 1–24. Retrieved on May 12, 2015, from <http://www.tojned.net/volume/tojned-volume04-i01.pdf>

Abstract: In this extensive review of the literature, we addressed the topic of grade span configurations and academic achievement as they relate to adolescents. We examined the historical trends of school organization to provide a context for understanding policies and decisions regarding grade span configurations. We also analyzed early studies regarding nonacademic student indicators and grade spans as background for more recent academic investigations. Two major school reform movements were discussed because of their prominence in the history of grade span configurations. Moreover, international, national, and state assessment data were explored regarding adolescent proficiency and student growth over the past 20 years. Finally, we outlined the two major theories (i.e., school transition and instructional environment) that have framed the grade span configuration debate from its inception.

Haselhuhn, C. W., Al-Mabuk, R., Gabriele, A., Groen, M., & Galloway, S. (2007). Promoting positive achievement in the middle school: A look at teachers' motivational knowledge, beliefs, and teaching practices. *Research in Middle Level Education*, 30(9), 1–20. Retrieved on May 11, 2015, from http://www.amle.org/portals/0/pdf/rmle/rmle_vol30_no9.pdf

Abstract: This study was prompted by previous research showing a decline in motivation as students transition from elementary to middle school. The decline in motivation may be associated with changes in the achievement goal structures of their classrooms and schools. This study describes a survey of 69 elementary and 28 middle school teachers that explored their knowledge of approaches to motivation, specific achievement goal beliefs, behaviors, perceptions of school goal structures, and perceptions of specific student beliefs. These teachers were most familiar with behavioral and cognitive approaches to motivation. They generally reported mastery-oriented beliefs, behaviors, and school goal structures, although elementary teachers rated school goal structures as more mastery-oriented and less performance-oriented than did middle school teachers. Counter to student-reported goal orientations found in previous studies, teachers at both levels believed their students held performance goal orientations. Teachers can promote mastery-oriented classrooms and school goal structures at elementary and middle school levels.

Juvonen, J. L., Le, V., Kaganoff, T., Augustine, C., & Constant, L. (2004). *Focus on the wonder years: Challenges facing the American middle school*. Santa Monica, CA: RAND Corporation. Retrieved on May 13, 2015, from http://www.rand.org/content/dam/rand/pubs/monographs/2004/RAND_MG139.pdf

Abstract: Young teens undergo multiple physical, social-emotional, and intellectual changes, which have been viewed as setting them apart from both younger and older students. The basic concept of a separate middle school was to better focus on and serve the special needs of children in their early teens. The question is whether middle schools, as currently designed and operated, are performing that function well. Or, as some have alleged, do they unintentionally encourage poor behavior, alienation, disengagement, and low achievement? This monograph is a comprehensive assessment of the American middle school. It presents observations on a variety of very real issues — troubling social climates and associated behavioral problems, teachers who lack subject-matter expertise, parents who seem uninvolved, among others. The authors offer ways of tackling these issues: reassessing the organization of grades K–12; specifically assisting the students most in need; finding ways to prevent disciplinary problems; working with proven professional-development

models; helping parents understand the schools goals and methods and how they can help their children learn at home; and exploring how other countries promote the well-being of and provide positive school climates for students of comparable age to support academic achievement.

Malaspina, D., & Rimm-Kaufman, S. (2008). Early predictors of school performance declines at school transition points. *Research in Middle Level Education*, 31(9), 1–16. Retrieved on May 11, 2015, from https://www.amle.org/portals/0/pdf/rmle/rmle_vol31_no9.pdf

Abstract: This longitudinal study followed students (n = 265) from kindergarten through seventh grade and examined early social and academic predictors of school performance at two normative school transitions. Questions addressed include: (a) are there changes in students' school performance over time, especially at school transition points; (b) are changes in school performance dependent on sociodemographic factors; and, (c) does early social and academic competence predict stability or change in school performance following transition? Early social and academic competence was assessed in kindergarten via teacher report and standardized tests. Days absent, discipline infractions, and mathematics and language arts letter grades obtained from school records served as outcome variables. Findings showed stability for outcomes with the exception of discipline; discipline infractions increased after the first transition. Sociodemographic factors predicted greater performance declines following transition. Early social competence predicted reduced discipline; students rated as more socially competent in kindergarten were less likely to show discipline increases during transition, after controlling for demographic factors. Findings emphasize behavioral and academic stability suggesting that early social competencies forecast fewer increases in discipline infractions at school transition points.

Rockoff, J. E., & Lockwood, B. B. (2010). How and why middle schools harm student achievement. *Education Next*, 10(4), 68–75. Retrieved on May 13, 2015, from http://educationnext.org/files/ednext_20104_68.pdf

Abstract: Could middle schools be bad for student learning? Could something as simple as changing the grade configuration of schools improve academic outcomes? That's what some educators have come to believe. States and school districts across the country are reevaluating the practice of educating young adolescents in stand-alone middle schools, which typically span grades 6 through 8 or 5 through 8, rather than keeping them in K–8 schools. The middle-school model began to be widely adopted almost 40 years ago. Now, reformers in Massachusetts, Pennsylvania, Ohio, Tennessee, Oklahoma, Maryland, and New York, and the large urban districts of Cincinnati, Cleveland, Philadelphia, and Baltimore, are challenging the notion that grouping students in the middle grades in their own school buildings is the right approach. For the last two decades, education researchers and developmental psychologists have been documenting changes in attitudes and motivation as children enter adolescence, changes that some hypothesize are exacerbated by middle-school curricula and practices. These findings are cause for concern, but there is reason to doubt their conclusions. Because the studies use data from a single school year to contrast students in middle schools and K–8 schools, most of the available research cannot reject the possibility that differences between the groups of students, rather than in the grade configuration of their schools, are actually responsible for the differences in behavior and achievement. To provide more rigorous evidence on the effect of middle schools on student achievement, the authors turned to a richly detailed administrative dataset from New York City that allowed them to follow students from grade 3 through grade 8. What they found bolsters the case for middle-school reform: in the specific year when students move to a middle school (or to a junior high), their academic achievement, as measured by standardized tests, falls substantially in both math and English relative to that of their counterparts who continue to attend a K–8 elementary

school. What's more, their achievement continues to decline throughout middle school. This negative effect persists at least through 8th grade. The authors found that the middle-school achievement gap cannot be explained by a scarcity of financial resources for the schools. Instead, the cause is more likely to be related to other school characteristics, especially the fact that middle schools in New York City educate far more students in each grade. Although the authors' conclusions about the reasons for the middle-school gap are tentative, they are quite confident that the evidence shows that middle schools are not the best way to educate students—at least in places like New York City.

Rockoff, J. E., & Lockwood, B. B. (2010). Stuck in the middle: Impacts of grade configuration in public schools. *Journal of Public Economics*, 94(11-12), 1051–1061. Retrieved on May 11, 2015, from <https://www0.gsb.columbia.edu/faculty/jrockoff/papers/Rockoff%20Lockwood%20JPubE%202nd%20Revision%20June%202010.pdf>

Abstract: We examine the implications of separating students of different grade levels across schools for the purposes of educational production. Specifically, we find that moving students from elementary to middle school in 6th or 7th grade causes significant drops in academic achievement. These effects are large (about 0.15 standard deviations), present for both math and English, and persist through grade 8, the last year for which we have achievement data. The effects are similar for boys and girls, but stronger for students with low levels of initial achievement. We instrument for middle school attendance using the grade range of the school students attended in grade 3, and employ specifications that control for student fixed effects. This leaves only one potential source of bias—correlation between grade range of a student's grade 3 school and unobservable characteristics that cause decreases in achievement precisely when students are due to switch schools—which we view as highly unlikely. We find little evidence that placing public school students into middle schools during adolescence is cost-effective.

Schwartz, A. E., Stiefel, L., Rubenstein, R., & Zabel, J. (2011). The path not taken: How does school organization affect 8th grade achievement. *Educational Evaluation and Policy Analysis*, 33(3), 293–317.

Abstract: Although rearranging school organizational features is a popular school reform, little research exists to inform policymakers about how grade spans affect achievement. This article examines how grade spans and the school transitions that students make between fourth and eighth grade shape student performance in eighth grade. The authors estimate the impact of grade span paths on eighth grade performance, controlling for school and student characteristics and correcting for attrition bias and quality of original school. They find that students moving from K–4 to 5–8 schools outperform students on other paths. Results suggest four possible explanations for the findings—the number and timing of school changes, the size of within-school cohorts, and the stability of peer cohorts.

Schwerdt, G., & West, M. R. (2013). The impact of alternative grade configurations on student outcomes through middle and high school. *Journal of Public Economics*, 97, 308–326. Retrieved on May 12, 2015, from <https://ideas.repec.org/p/ces/ceswps/3530.html>

Abstract: We use statewide administrative data from Florida to estimate the impact of attending public schools with different grade configurations on student achievement through grade 10. To identify the causal effect of structural school transitions, we use student fixed effects and instrument for middle and high school attendance based on the terminal grade of the school attended in grades 3 and 6, respectively. Consistent with recent evidence from other settings, we

find that students moving from elementary to middle school in grade 6 or 7 suffer a sharp drop in student achievement in the transition year. We confirm that these achievement drops occur in nonurban areas and persist through grade 10, by which time most students have transitioned into high school. We also find that middle school entry increases student absences and is associated with higher grade 10 dropout rates. Transitions to high school in grade nine cause a smaller one-time drop in achievement but do not alter students' performance trajectories.

West, M., & Schwerdt, G. (2012). The middle school plunge. *Education Next*, 12(2), 62–68. Retrieved on May 11, 2015, from <http://educationnext.org/the-middle-school-plunge/>

Abstract: Policymakers nationwide continue to wrestle with a basic question: At what grade level should students move to a new school? In the most common grade configuration in American school districts, public school students make two school transitions, entering a middle school in grade 6 or 7 and a high school in grade 9. This pattern reflects the influence of enrollment pressures and pedagogical theories that, over the past half century, all but eliminated the K–8 school from the American education landscape. A small fraction of students do attend public schools encompassing grades K–8, 6–12, or even K–12, however. The authors exploit this variation by comparing the achievement trajectories of Florida students entering a middle school or a high school to those of their peers who do not make those transitions. Their study extends research conducted in New York City, in which Jonah Rockoff and Benjamin Lockwood found that entering a middle school causes a sharp drop in student achievement relative to the performance of those remaining in K–8 schools. The authors find that moving to a middle school causes a substantial drop in student test scores (relative to that of students who remain in K–8 schools) the first year in which the transition takes place, not just in New York City but also in the big cities, suburbs, and small-town and rural areas of Florida. Further, they find that the relative achievement of middle-school students continues to decline in the subsequent years they spend in such schools. The results confirm that transitions into both middle schools and high schools cause drops in student achievement but that these effects are far larger for students entering middle schools.

Methods

Keywords and Search Strings Used in the Search

“Middle school” AND “international” AND “decline” AND “performance/achievement”

Search of Databases

EBSCO Host, Google, and Google Scholar

Criteria for Inclusion

When REL West staff review resources, they consider—among other things—four factors:

- **Date of the Publication:** The most current information is included, except in the case of nationally known seminal resources.
- **Source and Funder of the Report/Study/Brief/Article:** Priority is given to IES, nationally funded, and certain other vetted sources known for strict attention to research protocols.
- **Methodology:** Sources include randomized controlled trial studies, surveys, self-assessments, literature reviews, and policy briefs. Priority for inclusion generally is given to randomized controlled trial study findings, but the reader should note at least the following factors when basing decisions on these resources: numbers of participants (Just a few? Thousands?); selection (Did the participants volunteer for the study or were they chosen?); representation (Were findings generalized from a homogeneous or a diverse pool of participants? Was the study sample representative of the population as a whole?).
- **Existing Knowledge Base:** Although we strive to include vetted resources, there are times when the research base is limited or nonexistent. In these cases, we have included the best resources we could find, which may include newspaper articles, interviews with content specialists, organization websites, and other sources.

This memorandum is one in a series of quick-turnaround responses to specific questions posed by educators and policymakers in the Western region (Arizona, California, Nevada, Utah), which is served by the Regional Educational Laboratory West (REL West) at WestEd. This memorandum was prepared by REL West under a contract with the U.S. Department of Education’s Institute of Education Sciences (IES), Contract ED-IES-12-C-0002, administered by WestEd. Its content does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.