

ACADEMIC OUTCOMES FOR K-8 GRADE CONFIGURATION

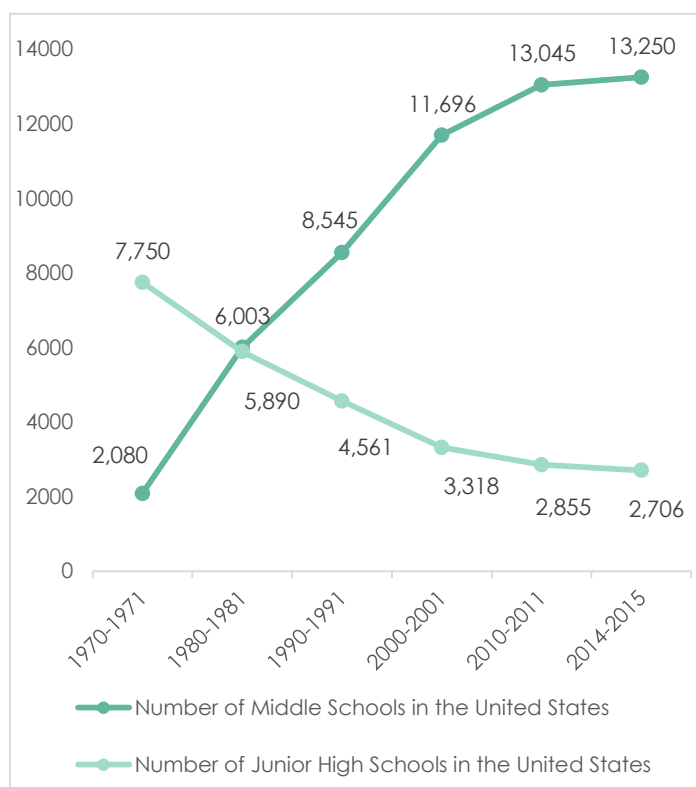
Introduction

Grade configurations, also referred to as grade structures, have taken on a variety of arrangements in recent years and are suggested to have academic implications for middle-level education. The resurgence of K-8 schools across the United States has come about as educators and policymakers have begun to debate ways to better cultivate student achievement. This research brief evaluates the effects of various grade configurations and their impact on students' academic achievement. Key findings from this discussion include:

- **The vast majority of studies indicate that students in K-8 schools attain higher academic outcomes.** Research suggests that students in these schools perform better academically over the short-term than their counterparts in middle and junior high schools because:
 - K-8 schools eliminate a potentially unsettling transition to a new school; and
 - K-8 schools ensure continuity and stability for students as a product of remaining with the same group of peers and teachers.
- **However, determining which grade configurations is most beneficial for students remains debated.** Researchers emphasize that academic outcomes are not generated by grade configuration alone, but are also dependent on school culture, teacher-student relationships, size, curriculum, and demographics. Schools should consider all these factors together before adopting a new model.
- **There is a growing movement towards school conversion to a K-8 model across the United States.** Urban districts, in particular, are driven by the small body of research reinforcing the effectiveness of the K-8 configuration on propelling academic achievement.

Changes in grade configuration over time have been a result of enrollment pressures and new pedagogical theories. Historically, most public school districts in the United States had a single elementary school for Grades K through 8 and a secondary school for Grades 9 through 12. However, two major shifts—one in the early 1900s, which led to the creation of junior

high schools, and a second in the 1960s, which marked the advent of the middle school concept in an attempt to provide an educational experience that was more sensitive to the particular needs of young adolescents—permanently changed the landscape of public education.¹ As seen below, the number of dedicated middle schools greatly increased and the middle school model became the predominant grade configuration for these ages by the 1980s.



Source: National Center for Education Statistics²

The ideological basis for a middle school or junior high school model lies in the assumption that students in this age range have unique academic, social, and developmental needs that are different from both

¹ Beane, J. and R. Lipka. "Guess Again: Will Changing the Grades Save Middle-Level Education?" *Educational Leadership*, 63:7, April 1, 2006. p.27. Retrieved from EBSCO Host.

² "Table 216.10. Public Elementary and Secondary Schools, by Level of School: Selected Years, 1967-68 through 2014-15." National Center for Education Statistics, October 2016. https://nces.ed.gov/programs/digest/d16/tables/dt16_216.10.asp?current=yes

their younger and older peers.³ Despite the widespread adoption of the middle school model in the United States, the K-8 model has recently reemerged in many districts across the country in response to an expanding evidence base supporting its adoption.⁴



Although the traditional elementary-middle-high school grade sequence remains the dominant model in the United States, the number of K-8 schools has been growing. Between 1995 and 2015, in fact, the number increased from approximately 4,500 to over 6,500.⁵ The move is likely being prompted by growing discontent with middle schools, parent wishes, and the growing body of research on the link between grade configuration and student outcomes.



**K-8 schools have grown
by 45% over the last
decade**

Impact of Grade Level Configuration

Several organizational reforms have been proposed to improve middle-level education, and recently, the K-8 configuration has been branded as a potentially effective strategy to replace middle schools. The main argument is that middle schools are not as developmentally or instructionally appropriate for young students as previously thought, whereas K-8

schools are better suited for developing teenagers.⁶ Experts have identified several benefits of the K-8 model including:⁷

- **Safety.** Parents and children feel safer in a K-8 school as children become older because they are secure in their location and enjoy continuity.
- **Fewer distractions.** Putting middle school students with younger children keeps out the distractions of high school students and the potential for negative outside influences.
- **Engagement.** Studies have shown that students do not suffer the same motivational declines in schoolwork and extra-curricular activities when they stay in a K-8 school. Discipline problems and absences also are reduced.
- **Achievement.** Research has shown that students do not experience the same academic declines when the middle school transition is eliminated.

Impact of Student Transitions

Relatively few academic studies exclusively examine grade level configurations, and the literature on the impact is generally inconclusive. However, some trends have emerged from the research. In particular, data suggest that transitions from one school to another can have a negative impact on students.⁸ As a result, configurations that aim to reduce the number of school-to-school transitions experienced by students are increasingly preferred.

The transition to middle school may affect students' relationships with teachers, for example. Students may experience a decrease in support from teachers due to new schedules in which students rotate between classrooms. Changing relationships with teachers may also have a particularly strong impact on the decline in students' academic motivation during the transition to middle school. In addition, students may transition to different schools than their

³ Schwerdt, G. and M.R. West. "The Impact of Alternative Grade Configurations on Student Outcomes through Middle and High School." Program on Education Policy and Governance, Harvard Kennedy School, July 2011. p.1. <http://ftp.iza.org/dp6208.pdf>

⁴ Ibid.

⁵ [1] "Table 96: Public Elementary Schools, by Grade Span and Average School Size, by State: 1994-95." National Center for Education Statistics, 1996. <https://nces.ed.gov/programs/digest/d96/d96t096.asp>

[2] "Table 216.75: Public Elementary Schools, by Grade Span, Average School Enrollment, and State or Jurisdiction: 2014-15." https://nces.ed.gov/programs/digest/d16/tables/dt16_216.75.asp?current=yes

⁶ Kieffer, M.J. "Development of Reading and Mathematics Skills in Early Adolescence: Do K-8 Public Schools Make a Difference?" *Journal of Research on Educational Effectiveness*, 6, October 2013, p.361. Retrieved from EBSCO Host.

⁷ "The K-8 Solution: The Retreat from Middle Schools." The Center for Education Reform, September 2008, p.2. https://www.edreform.com/wp-content/uploads/2013/03/CER_2008_K-8_Policy_Alert.pdf

⁸ Gordon, M.F. et al. "Review of Literature on Grade Configuration and School Transitions." Center for Applied Research and Educational Improvement, March 2011. p.5.

<https://conservancy.umn.edu/bitstream/handle/11299/138604/Impact%20of%20School%20Transitions%20and%20Different%20Grade%20Configurations.pdf?sequence=1>

friends, increasing feelings of isolation, disengagement or alienation in their new environment.⁹

K-8 Schools

Recently, many urban districts have been embracing the K-8 model (see figure below). One current theory of middle-level education holds that the K-8 model is actually more conducive to middle grade achievement. Proponents of this model tend to cite a greater sense of school community between students and teachers and fewer transitions for students as reasons why students in K-8 schools tend to have higher levels of academic achievement in mathematics and reading, and perform better on standardized tests.¹⁰

The Miami Dade County Study

- A study in Miami Dade County found that Grade 6 and 7 students at K-8 schools outperformed their peers from middle schools in mathematics and reading.

The Philadelphia Study

- A study in Philadelphia found that Grade 8 students at K-8 schools outperformed Grade 8 students in middle schools with significantly higher GPAs, higher scores on standardized tests, and higher scores in reading and science, with statistically higher scores in mathematics.

The Baltimore Study

- A study examined students who attended K-5 schools and attended middle schools, and students who attended K-8 schools. The study found that students in the K-8 schools scored much higher on standardized achievement measures in reading, language arts, and mathematics. The K-8 students were more likely to pass the required state tests in math. Further, more than 70 percent of the K-8 students were admitted into Baltimore's most competitive high schools, compared with only 54 percent of their middle school counterparts.

Source: *Educational Leadership*, *Education Next*¹¹

Proponents of the K-8 model argue that these schools provide more nurturing environments and foster better relationships between students and teachers, while also delaying transition to a new school until students are more mature.¹² K-8 schools may offer more opportunities for students to build lasting relationships with other teachers and peers, and provide students in older grades with additional opportunities to serve as role models or in other leadership roles.¹³ A 2014 national study found that K-8 schools had more positive social environments in the form of student conduct and teacher quality than middle and junior high schools, which were correlated with positive academic outcomes.¹⁴

Research also shows that there is a general loss of achievement when students enter the middle grades and high school, regardless of grade configuration. However, students in K-8 schools appear less susceptible to these slumps than traditional middle school students – again highlighting the potentially adverse effects of grade transitions that K-8 models eliminate. Ultimately, students placed in a familiar cohort for long periods of time tend to produce more positive outcomes.¹⁵

Although most research appears to suggest that K-8 schools can improve student outcomes, the benefits have yet to be demonstrated in large-scale empirical studies. In addition, existing studies on grade configuration tend to focus on achievement at a specific grade level and do not examine the impact of grade configurations across grade levels.¹⁶

The long-term benefits of the K-8 configuration have yet to be demonstrated in large-scale empirical studies.

Despite the general trends of academic success that research shows, not all schools are suited for the K-8 configuration. David Hough, the director of the Institute for School Improvement, notes that several middle schools have studied the pros and cons of a

⁹ Longobardi, C. et al. "Student-Teacher Relationships As a Protective Factor for School Adjustment during the Transition from Middle to High School." *Frontiers in Psychology*, 7, 2016. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5179523/#>

¹⁰ [1] Byrnes, V. and A. Ruby. "Comparing Achievement between K-8 and Middle Schools: A Large-Scale Empirical Study." *American Journal of Education*, 114, November 2007. pp.103-104.
[2] DeJong, W. and J. Craig. "Age Appropriate Schools: How Should Schools Be Organized?" Port Angeles School District. p.5.
http://web.jhu.edu/CSOS/images/TDMG/ComparingAchievement_btWk_8.pdf
https://www.portangelesschools.org/UserFiles/Servers/Server_142018/File/Community/Capital%20Facilities%20Planning/Long-Range%20Facilities/ageappropriateschools.pdf

¹¹ [1] West, M.R. and G. Schwerdt. "The Middle School Plunge." *Education Next*, 12:2, 2012. <http://educationnext.org/the-middle-school-plunge/>

[2] Yecke, C.P. "Mayhem in the Middle: Why We Should Shift to K-8." *Educational Leadership*, 63:7, April 2006. <http://www.ascd.org/publications/educational-leadership/apr06/vol63/num07/Mayhem-in-the-Middle@-Why-We-Should-Shift-to-K%E2%80%938.aspx>

<http://www.ascd.org/publications/educational-leadership/apr06/vol63/num07/Mayhem-in-the-Middle@-Why-We-Should-Shift-to-K%E2%80%938.aspx>

¹² Byrnes and Ruby, Op. cit., p.104.

¹³ Herman, B.E. "The Revival of K-8 Schools." *Phi Delta Kappa Fastbacks*, :519, April 1, 2004. p.32. Retrieved from EBSCO Host.

¹⁴ Kim, H.Y. et al. "Navigating Middle Grades: Role of School Context in Students' Social Adaptation and Experiences." *Society for Research on Educational Effectiveness*, 2014. p.4. <http://files.eric.ed.gov/fulltext/ED562784.pdf>

¹⁵ Alspaugh, J.W.

"Achievement Loss Associated with the Transition to Middle School and High School." *Journal of Educational Research*, 92:1, October 1998. pp.24-25. Retrieved from EBSCO Host.

¹⁶ "What the Research Says (or Doesn't Say) About K-8 Versus Middle School Grade Configurations." *Education Northwest*, August 18, 2011. <http://educationnorthwest.org/news/what-research-says-or-doesnt-say-about-k-8-versus-middle-school-grade-configurations>

K-8 but decided not to switch “because they did [not] have the facilities to accommodate the K-8 conversion,” and the broader community “did [not] want to make the move.”¹⁷ He also cites that some districts choose not to convert because they do not want their sports programs to change.



An Urban Movement

Urban areas in particular are increasingly favoring this model as more and more schools transition from middle to K-8 configurations. Since the late 1990s, reformers in several states and large urban districts in Baltimore, Cleveland, Cincinnati, Milwaukee, New Orleans, and Philadelphia have merged their elementary and middle schools together into K-8 schools.¹⁸

Hough notes that urban districts “believe the K-8 configuration provides smaller learning communities, fewer and more supportive transitions, and a more nurturing learning environment.”¹⁹ The districts that have transitioned are driven by the small body of research reinforcing the effectiveness of the K-8 configuration on propelling academic achievement, decreasing student disciplinary issues and saving money.²⁰ Parent involvement has also a strong influence. In Baltimore, for example, the growth of K-8 schools have largely been driven by parents’ desires to keep their children in schools closer to home.²¹

Middle Schools

Currently, middle schools are the prevailing model for middle-level education. Proponents of this grade span configuration argue that middle schools are more developmentally appropriate for young students. For example, middle schools are intended to reflect the needs of young students through strategies such as small learning communities, team teaching, advisory periods, and flexible scheduling. In general, proponents of the middle school configuration model note the importance of “specialized subject-matter teaching, electives, and more advanced facilities for sciences, sports, and academic rigor.”²²

The Florida Study

- A study in Florida found that students attending Grades 3-5 in K-5 elementary schools exhibited positive achievement trajectories relative to students attending the same grades in K-8 schools, but that achievement in mathematics and reading declined substantially in the year students transitioned to middle school, and persisted through Grade 10.

The New York City Study

- A study in New York City found that students who attended Grade 6 in middle school experienced a greater loss in achievement in mathematics and English than their peers in K-8 schools. The study also found that students who attended middle schools missed approximately two more days of school each year on average than did their counterparts in K-8 schools.

Source: *Education Next*²³

However, critics suggest that the middle school model is ineffective and instead hinders academic achievement. As discussed, several studies have found that transitions to middle and high schools cause disruptions and lead to drops in student test scores and GPA, relative to students attending K-8 schools.²⁴

¹⁷ Blair, L. “Back to the Future: The Shift to K-8 Schools.” *SEDL Letter*, XX:1, April 2008. http://www.sedl.org/pubs/sedl-letter/v20n01/k-8_schools.html

¹⁸ [1] Ibid.

[2] Carolan, B. and N. Chesky. “The Relationship among Grade Configuration, School Attachment, and Achievement.” *Middle School Journal*, 43:4, March 2012. p.32. <https://sites.newpaltz.edu/ncate/wp-content/uploads/sites/21/2014/06/Example-Chesky.pdf>

¹⁹ Blair, Op. cit.

²⁰ Gewertz, C. “City Districts Embracing K-8 Schools.” *Education Week*, May 19, 2004. <http://www.edweek.org/ew/articles/2004/05/19/37k-8.h23.html?r=1166279483>

²¹ Ibid.

²² “Grade-Level Configuration and the Connection to Transitions.” California Department of Education. <http://pubs.cde.ca.gov/tcsii/ch6/cnfigconnectntrnsit.aspx>

²³ [1] West, M.R. and G. Schwerdt. “The Middle School Plunge,” Op. cit.

[2] Rockoff, J.E. and B.B. Lockwood. “Stuck in the Middle.” *Education Next*, 10:4, 2010. p.70, 72. http://educationnext.org/files/ednext_20104_68.pdf

²⁴ Gordon et al., Op. cit., p. 5.

Junior High Schools

Advocates of the junior high model similarly argue that junior high schools have made it possible to prepare young students for the academic rigors of high school without necessarily exposing them to older students.²⁵ However, junior high schools have recently been associated with a decline in academic performance.²⁶ It was not until the early 21st century that researchers began conducting in-depth examinations of this notion, and found social, personal, and school-related correlates of academic decline among junior high schools.²⁷

Given the recent rise of the middle school and K-8 movement, there is little research on the merits of the junior high model. As discussed, the number of junior high schools has decreased significantly, largely being replaced by K-8 and middle schools.²⁸

"When students move to a middle school, their academic achievement falls substantially relative to that of their counterparts who continue to attend a K-8 school."

- Jonah E. Rockoff and Benjamin B. Blockwood

Limitations

The vast majority of studies consulted for this report indicate that students in K-8 schools perform better academically than their counterparts in middle and junior high schools. However, the number of studies on the subject is limited and research has yet to demonstrate *long-term* academic benefits from K-8 schools, as achievement gains often seem to dissipate during secondary school. Moreover, attempts to study conclusive links between K-8 grade configurations and improved long-term outcomes are complicated by the wide range of factors such as school and class size, teacher interaction, and curriculum. Results of studies should be cautiously examined as they cannot be generalized across all



schools, and do not necessarily account for all possible variables such as school size or climate.

Moreover, the limited volume of evidence in support of the middle school concept may be due to poor implementation rather than the deficiencies in the concept itself. Some small-scale studies have found that the configuration of schools alone does not affect student achievement, and that middle schools experience academic success when they better prepare teachers, classroom instruction, and student transitions.²⁹



²⁵ Schwerdt, G. and M.R. West. "The Impact of Alternative Grade Configurations on Student Outcomes through Middle and High School," Op. cit., p.3.

²⁶ Whitley, J., J.L. Lupart, and T. Beran. "Differences in Achievement Between Adolescents Who Remain in a K-8 School and Those Who Transition to a Junior High School." *Canadian Journal of Education*, 30:3, 2007. p.650. Retrieved from ProQuest.

²⁷ Ibid.

²⁸ McEwin, C.K. and M.W. Greene. "The Status of Programs and Practices in America's Middle Schools: Results From Two National Studies." Association for Middle Level Education, 2011. p.5. http://www.amle.org/portals/0/pdf/articles/Status_Programs_Practices_AMLE.pdf

²⁹ Wyant, C. and K. Mathis. "Middle Grade Configuration and Student Growth." Public Schools of North Carolina, State Board of Education, August 2007. p.3. <http://www.ncpublicschools.org/docs/intern-research/reports/transition10-23.pdf>