

Focus on the

WONDER  
YEARS

Challenges Facing  
the American Middle School

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## Summary

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During the middle school years, young teens undergo multiple physical, social-emotional, and intellectual changes that shape who they are and how they function as adults. The schools young teens attend play a critical role in shaping these futures. Therefore, the state of the U.S. middle school is—or should be—of concern to all of us. Unfortunately, the reputation of U.S. middle schools today leaves in doubt whether these schools serve teens well. Middle schools have been called the Bermuda Triangle of education and have been blamed for increases in behavior problems, teen alienation, disengagement from school, and low achievement.

RAND undertook a comprehensive assessment of the American middle school to separate the rhetoric from the reality. The passage of the federal No Child Left Behind Act of 2001 (NCLB), with its emphasis on test-based accountability and sanctions for failing schools, makes such an assessment particularly timely and important.

This monograph describes our findings. The focus is on U.S. public middle schools—schools that serve as an intermediary phase between elementary school and high school, typically consisting of grades 6 through 8. The monograph is designed to

- identify the challenges middle schools face today
- describe and evaluate the effectiveness of current efforts to improve middle schools
- highlight the many areas lacking rigorous research
- suggest new ways of thinking about the middle school and its functions
- help prioritize the challenges and make recommendations when possible.

The research team reviewed 20 years of relevant literature and analyzed existing national and international data. We focused on eight areas:

- the historical context for middle schools
- the evidence supporting some key instructional and organizational practices
- academic achievement of middle school students
- conditions known to affect students and their academic performance

- qualifications of middle school teachers
- challenges principals face
- declining parental involvement
- middle school reform efforts.

In each chapter, we review the latest research evidence to identify the major challenges middle schools are facing and make general recommendations when appropriate. We also explore ideas stemming from the broader field of education and highlight the areas in which additional research might yield new solutions.

## Findings

### Lessons from History

Our historical review shows that many of today's concerns about young teens and the proper way to educate them are similar to the concerns that have been expressed for the past 100 years. The issues and the solutions that were endorsed at any particular time, including the concept of an intermediate school between elementary and high school, often had more to do with labor market needs or the capacity of school buildings than with educational or developmental considerations. There has also been an ongoing debate about the proper role of the middle school, with tensions between

- the need for middle schools to ease the transition from elementary school, with an emphasis on the developmental needs of young teens, versus the need to facilitate the transition to high school, with an emphasis on academic rigor
- the need to increase educational attainment by providing schooling for all, versus the need to improve college preparation for high-achieving youth.

Research suggests that the onset of puberty is an especially poor reason for beginning a new phase of schooling, inasmuch as multiple simultaneous changes (for example, the onset of puberty and school transfer) are stressful for young adolescents and sometimes have long-lasting negative effects. Furthermore, the few studies that compared schools with different grade configurations suggest that young teens do better in K–8 schools than in schools with configurations that require a transition to an intermediary school. Recent studies also suggest that students do better in schools that both foster personal support and emphasize academic rigor.

### Core Middle School Practices

Middle school education has long been criticized as being unresponsive to adolescents' developmental needs. Interdisciplinary team teaching, flexible scheduling, and

advisory programs have been suggested as ways to address adolescents' distinctive needs.

However, the effectiveness of these interventions—and all others—depends on whether they fit with a school's culture and leadership and how well they are implemented. In spite of their good intentions, few middle schools have implemented flexible scheduling. There is evidence that advisory programs and interdisciplinary team teaching are frequently enacted at only superficial levels, often because they require fundamental shifts in the beliefs and operating modes of schools and teachers. Thus, these strategies seem promising, but they are not easy to implement within current structures.

### **Academic Achievement**

Detractors of middle schools point to the relatively poor standing of middle school students on international mathematics and science tests, to lagging test scores on state assessments, and to low performance on national tests as evidence that middle school education needs to be more challenging. In reality, the overall picture of middle school achievement is mixed.

International comparison studies show that the relative performance of U.S. students in mathematics and science declines from elementary school to middle school. National tests of achievement demonstrate that the majority of 8th graders fail to reach proficiency in mathematics, reading, and science. This is particularly true for African-Americans and Latinos, who continue to lag behind their white peers even when their parents have attained similar levels of education.

However, there has been overall improvement in standardized test scores in mathematics, science, and reading since the 1970s, and some score gaps between whites and other groups have narrowed. These results suggest that the efforts made thus far to improve achievement and to reduce performance gaps among different groups of students are at least somewhat successful.

### **Conditions That Affect Learning**

*Conditions for learning* refers to the factors that can enhance or diminish a student's ability to learn. Particularly relevant for young teens are motivational and social-emotional indicators of well-being that are related to academic performance. Disengagement and social alienation are not only related to low achievement but also predict dropping out, whereas concerns about safety predict emotional distress that can compromise academic performance. Such findings underscore the need to examine a variety of student outcomes, in addition to academic indicators, for middle school students.

In our own analyses of international comparisons, based on the World Health Organization's (WHO's) Health Behavior of School Age Children (HBSC) survey, we compared different social-motivational indicators for U.S. middle school students

to their same-age peers in 11 other countries. The comparisons show that U.S. students have negative perceptions of their learning conditions. These students rank the highest in terms of reported levels of emotional and physical problems and view the climate of their schools and the peer culture more negatively than do students in other countries.

### **Principals**

Principals have potentially a great deal of influence on teachers' working conditions and on school climate and therefore also on the conditions that affect student learning. With data from the U.S. Department of Education Schools and Staffing Survey (SASS) of principals (SASS, 2001), we examined whether principals are spending time on the issues and activities deemed in the literature to be components of "good leadership."

While the literature identifies instructional leadership (that is, efforts to improve teaching) as being key, principals spend time on necessary administrative tasks, such as maintaining the physical security of their school, and on managing facilities, resources, and procedures. There is a disconnect between the more lofty goals articulated in the literature and the realities of the everyday tasks required of an effective operations manager.<sup>1</sup> This disconnect is especially problematic in light of the findings that suggest that the principal's support of reform designs (and presumably the time the principal is able to devote to providing support) is an important factor in whether school reforms are implemented.

### **Promoting Teacher Competence**

Many middle school advocates believe that improving the education of middle school students hinges on improving the training of teachers. Much of the current policy debate related to middle schools concerns the lack of subject-matter expertise among teachers and a perceived need to have a separate middle school certification.

Only about one-quarter of middle school teachers are certified to teach at the middle grades; the majority of the rest are certified to teach at the elementary level. This means that teachers are likely to lack both subject-matter expertise and formal training on the development of young adolescents. Although improvements in professional development can potentially compensate for some of the inadequacies of preservice training, research suggests that professional development is often fragmented and unsystematic—that it is brief and lacks focus and alignment with standards.

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<sup>1</sup> This finding could in part be due to the survey not asking about the specific kinds of issues identified in the literature.

### **Parental Involvement**

Parental involvement takes many forms. Although it might be particularly effective for parents to be involved in the education of their young teens when they transition to middle school, parents tend to become less involved as children get older. Middle schools contribute to the decline in parental involvement by offering fewer activities and providing less support to parents than elementary schools do.

### **Whole-School Reforms**

Most whole-school reforms targeted at the middle school level aim to improve student achievement through a variety of means, most commonly by increasing the competencies of teachers through professional development, by changing curriculum and instruction, and by enhancing classroom or school climate. As part of the federal government's Comprehensive School Reform effort, the reform models we discuss in this monograph show promise. Further research is needed not only to show whether these models fit all schools but also to show whether these reforms and their positive effects can be sustained over time.

### **Recommendations**

We offer several recommendations to help meet the challenges identified above:

- Consider alternatives to the classic 6–8 grade middle school configuration that would reduce multiple transitions for students and allow schools to better align their goals across grades K–12.
- Offer interventions for the lowest-performing students, possibly including summer programs, before the 6th grade and additional reading and math courses, and tutorials after 6th grade to lessen the achievement gaps between certain demographic groups.
- Adopt comprehensive disciplinary models that focus on preventing disciplinary problems and changing the social norms or a peer culture that fosters antisocial behavior, and provide principals with technical assistance to support the cultural changes such models require.
- Make use of proven professional development models, to compensate for the lack of preservice training in subject-matter expertise and classroom management.
- Offer parents information about the academic and instructional goals and methods used in middle grades and suggest activities to facilitate learning at home.

- Establish a research program to learn how other countries successfully promote student well-being and foster positive school climates in a manner that supports academic achievement in schools that serve young teens.

In this monograph, we have attempted to integrate data and research on various aspects of middle schools to paint a comprehensive picture of teaching and learning in these schools. We have found that existing research is limited and that considerable information gaps exist. As we indicate throughout this monograph, additional studies in several areas could help answer many important questions and provide additional guidance to policymakers and practitioners.