

# **Gender Differences in Reading Achievement: Policy Implications and Best Practices**

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# **GENDER DIFFERENCES IN READING ACHIEVEMENT: POLICY IMPLICATIONS AND BEST PRACTICES**

## **Introduction**

The public debate surrounding gender differences in achievement, and especially an increasing interest and focus on the underachievement of boys in reading, continues to escalate in intensity and scope. National achievement data indicate a cause for legitimate concern about achievement levels for boys in reading. Although the public outcry about this issue is relatively recent, recognition of the issue is not.

A 1992 national study by the American Association of University Women noted that the emphasis on girls and educational inequities may have resulted in a lack of concern about the difficulties boys face in school. To substantiate this conclusion, the report cited 1992 National Assessment of Educational Progress results in which girls outperformed boys in reading and writing. The report also concluded that other data indicated that girls were less likely than boys to get lower grades, be retained, drop out, suffer from learning disabilities and become involved in drugs, alcohol and crime (American Association of University Women Educational Foundation, 1992).

A 2004 study by the National Center for Education Statistics provided an analysis of gender differences in reading achievement for the 1992-2003 administration of the National Assessment of Educational Progress. This analysis revealed that females in grades four, eight and 12 consistently performed better than their male counterparts in reading achievement. Females in these grades also outperformed males in writing achievement in 1998 and 2002 (Freeman, 2004). This trend continued in 2005 as female fourth- and eighth-graders both scored higher, on average, than their male peers (National Center for Education Statistics, 2006).

Research presented at a recent White House Conference on Helping America's Youth provides some additional insight into the nature and scope of the problem. Aided by the passage of the Gender Equity Education Act of 1994, many of the barriers leading to the success of girls in schools have been removed, and now girls are almost equal to boys in mathematics and science achievement, areas in which girls had historically underachieved. The focus must now be shifted to the underachievement of boys in reading and writing, where many boys, and especially boys of color, are consistently outperformed by girls. The typical boy lags a year and one-half behind the typical girl (Kleinfeld, 2006).

A recent study by the National Endowment for the Arts (2004) investigated the status of reading on a national scale. The study involved a survey sample of more than 17,000 individuals in 2002 and extrapolated and interpreted data on literary reading from similar surveys conducted in 1982 and 1992. Study results indicated that less than half the adult population now reads literature, a 10% decrease between 1982 and 2002.

While men read less literature than women, the level of literary reading by both groups is declining. The rate of decline, however, is greater for men. Approximately one-third of adult males report they read literature (National Endowment for the Arts, 2004). Between 1982 and 2002, the study shows that, excluding adults 65 and older, adults in the 18-34 age group have declined from the group most likely to read literature to the group least likely to read literature. During this same period, the rate of decline for the

youngest adults (18-24) was 55% greater than the percentage decrease in the total adult population (National Endowment for the Arts, 2004).

The issue of gender differences in reading achievement is not limited to the United States. Fourth-grade girls significantly outperformed boys on the combined reading literacy scale in all Group of Eight (G8) countries participating in the Progress in International Reading Study in 2001. In the United States, boys scored an average of 18 points lower than girls. Fifteen year-old females also outperformed their male peers in reading in each of the 28 countries participating in the 2000 Program for International Studies Assessment (Freeman, 2004).

A 2004 study by the Canadian government used data from the 2000 Program for International Student Assessment to investigate reading achievement and its relationship to family background and other school factors. Canadian students were found to have a large and significant advantage over students in the United States in terms of reading performance. In both countries, the distribution of scores was negatively skewed, resulting in a disproportionate number of students with very low scores. In these findings, girls performed considerably higher than boys, and their performance difference was not influenced by socioeconomic background, a controlled variable in this study. Females consistently outperformed males on critical evaluation tasks and on relating text to personal experience, knowledge and ideas. The study also suggested that boys may fall “off-track” as they develop as readers in the primary grades resulting in the development of less than positive attitudes toward reading (Human Resources and Social Development Canada, 2004).

Citing data from the National Assessment of Educational Progress, Kleinfeld (2006) suggests that all boys, not just boys of color and boys of poverty, are lagging behind girls in their reading and writing abilities. Kleinfeld’s analysis of the data indicates that at the end of high school, 23% of the white sons of college educated parents scored “Below Basic” in reading achievement compared to a similar performance by 7% of their female peers. Boys of color fared even worse, as 43% of the African-American sons of college-educated parents performed at the “Below Basic” level in reading, compared to 33% of their female peers. The same trends are also true for Hispanic students, as 34% of the sons of college-educated parents performed at the “Below Basic” level, compared to 19% of their female Hispanic peers. These same patterns also appeared when analyzing writing achievement. Boys in every socioeconomic and ethnic group are outperformed by girls with similar backgrounds (Kleinfeld, 2006).

### **Influencing Factors and Variables**

Connell and Gunzelmann (2004) characterize the gender and reading achievement debate as a complex problem influenced by many factors including societal expectations, stereotypes and commonly held myths about gender. Brain-based gender differences, they suggest, are one data-based explanation for these differences. Additional research suggests that boys and girls effectively use different parts of their brain, with each group exhibiting both stronger left-hemisphere and right-hemisphere capacities. The left-hemisphere strength of girls allows for advantages in speaking, reading and writing in the early grades. The left-hemisphere strength of boys allows them to outperform girls in categorizing and recalling factual information. The right-hemisphere strength of girls

allows them to be more empathetic and more understanding and reflective of others' feelings than boys. Boys, on the other hand, use their right-hemisphere strength to outperform girls in visual-spatial and visual-motor skills based subjects such as science, math and geography (Connell and Gunzelmann, 2004).

A recent Learning Resources Network (LERN) study outlines the differences between how boys and girls learn and recommends that these differences be taken into account when planning instruction for boys. Boys have a shorter attention span, are better at learning spatially and need more physical movement and emotional assurance than girls. Girls, on the other hand, process emotions more quickly, mature earlier and need less rest (Coates and Draves, 2006).

Younger and Warrington (2005) investigated the relationship between preferred learning styles and associated instructional strategies. They found little evidence to support the concept that the dominant learning style of boys is different from those of girls. They do suggest, however, that emphasizing teaching and learning styles can be effective when they are used holistically, when emphasis is placed on developing teacher and student understanding of how learning occurs, when students understand that they must be able to use different learning styles at different times and when teachers are able to accommodate different learning styles to their teaching methods.

The nature of the literature curriculum in the K-12 classroom may also be a factor in making reading appealing to boys. Results from reading interest surveys suggest that neither boys nor girls are interested in issues-based books or reading about societal or personal reform. Girls prefer stories about personal relationships and fantasy and, given a choice, will many times choose stories that are also appealing to boys. On the contrary, boys tend to prefer reading historical nonfiction, adventure tales and stories about sports and war. Given a choice, boys are not likely to select reading material that features female characters (Bauerlein & Stotsky, 2005).

Textbooks and literature available at the elementary level tend to reflect the interests and inclinations of females rather than males. At the middle level, available literature tends to be focused on teens and their problems or readings designed to appeal to students' ethnic group identity. The net result is that by the time boys go to high school, their interest in reading has declined (Bauerlein & Stotsky, 2005).

Millard (1997) has identified several characteristics of school reading programs which may contribute to the development of a classroom environment that is more supportive of the reading interests of girls than boys. These characteristics include inadequate teacher guidance in selecting what to read, insufficient attention to developing a variety of reading strategies, filling time with reading activities, limiting the choice of genres available, labeling certain types of literature as not suitable for classroom use and a discrepancy between a student's concept of why reading is important and a student's sense of the purpose of reading in school.

The emphasis on left-hemisphere cognitive skills of reading, writing and speaking in the elementary curriculum, combined with the slower developmental rate of boys, puts boys at a distinct disadvantage in the early years of schooling. The emotional climate of the classroom in which girls are more likely than boys to be encouraged to understand and accept their emotions results in boys who appear to be less able to deal with negative emotions and understand those emotions in others (Connell & Gunzelmann, 2004).

Smith and Wilhelm (2002) have identified gender differences related to attitude and achievement that teachers should understand and may encounter as they address gender differences in reading achievement in their classroom instruction. Girls read more and learn to read sooner than boys. Girls also tend to comprehend expository and narrative texts better than boys, while boys tend to be more adept at retrieving information and literacy tasks that are work-related. Attitudinally, girls have higher estimates of their reading abilities than boys, value reading as an activity more than boys, are more interested in leisure reading than boys, are less likely to declare themselves as non-readers than boys and are more likely to express enthusiasm for reading than boys.

### **Recommended Strategies and Best Practices**

The Boys Project at the University of Alaska Fairbanks has identified five of the most promising interventions for increasing the success of boys in reading and writing: educating teachers on gender differences in development and learning; starting school at a later date for slower developing boys; creating “focus schools” that offer nurturing and personalized education; connecting boys in groups with caring adults; and, respecting boys. Embedded within these broader interventions are a host of specific strategies such as using “boy friendly” teaching tools, developing single-sex schools and classrooms, providing varied reading opportunities and developing adult male teams of community volunteers (Kleinfeld, 2006).

One key to improving the academic achievement of boys in the classroom is to vary the instructional strategies used. Connell and Gunzelmann (2004) suggest several instructional strategies that can be especially effective for boys. For example, provide activities that require the use of visual-spatial strengths; integrate physical activity and allow time for movement; provide opportunities for students to demonstrate learning through the use of hands-on materials; and, maximize the student use of technology in the instructional process. Other recommended strategies include providing students with access to male role models, providing activities that are built around intellectual competition, selecting reading materials that will appeal to boys and providing a safe and supportive classroom environment.

A recent National Bureau of Economic Research working paper on teachers and gender gaps in student achievement provided the results of a longitudinal study based on data from the nationally representative National Education Longitudinal Study of 1988. In examining gender interactions within the classroom, the study included test scores, teacher perceptions of student performance, and measures of students’ intellectual engagement and outcome measures. Study findings indicate that assignment to a same-gender teacher significantly improves achievement, teacher perceptions of student performance and student engagement for middle school boys and girls. Given that more than 80% of the nation’s sixth- and eighth-grade reading teachers are female, the classroom dynamics between teachers and students result in the depression of boys’ achievement in reading at this level (Dee, 2005).

A recent four-year project involving 50 primary, secondary and special schools in England focused on identifying strategies with potential for raising the academic achievement of boys without negatively impacting the achievement of girls. The strategies emerging from the study were grouped into four categories: classroom-based

strategies focused on teaching and learning; strategies focused on individual goal-setting and mentoring; strategies for organizing for learning at the school level; and, socio-cultural strategies focused on creating a sense of self-worth and more fully integrating boys within school life (Younger & Warrington, 2005).

A main focus of the project in primary schools was on identifying strategies that would support improved achievement for boys in reading and writing. Findings suggested that encouraging boys to become successful and satisfied readers was as critical as teaching reading. By providing a wide range of texts and using paired reading schemes, pupils' interest was stimulated and sustained, and they gained confidence as readers. Study findings also indicate that literacy achievement at the primary level, especially for underachieving boys, is facilitated by adopting the following approaches: using a variety of short, specifically focused and ongoing activities; acknowledging the relationship of speaking and listening as a way to support writing; recognizing the importance of paired writing and group work; and, encouraging teachers to become more creative and varied in their literary instruction (Younger & Warrington, 2005).

Research reported by Younger & Warrington (2005) provides some insight into a socio-cultural model for addressing reading underachievement in boys. Directed at reducing non-conformist behavior and more fully integrating boys into the culture of the school, this model employed such strategies as citizenship initiatives, a focus on the arts and drama, paired reading schemes, key leader and befriender programs and the provision of activities in which boys could excel. Developing an increased sense of inclusiveness for underachieving boys can lead to increased engagement and an improved sense of responsibility, resulting in increased confidence and an improved self-image and, ultimately, increased reading achievement.

In looking at the role of writing in the reading achievement of boys, Barrs (2002) notes that despite the new emphasis on the direct teaching of writing, reading will most likely remain the primary way in which the written language is learned. She also recommends several strategies for addressing the underachievement of boys in reading. These recommended strategies include supporting boys' literacy learning through the development of home-school connections; teaching literacy through social approaches, such as literature circles; planning writing through drawing and developing mental maps; encouraging reflective instructional strategies through the use of journals; developing supportive networks using partnering and mentors; and raising awareness of boys' literacy issues among all stakeholder groups.

One intervention for addressing the achievement gap for boys that is receiving increased attention nationally and internationally is single-sex schooling. Recent revisions in United States Department of Education Title IX regulations make it easier to develop single-sex public schools and classrooms. Despite the flexibility provided by these revised guidelines and the continuing expansion of single-sex schooling, the debate around its philosophical underpinnings continues. This discussion is framed on one side by the civil libertarians who argue that separation based on sex violates the federal Constitution. The opposite side of the debate is framed by the results of brain research documenting specific differences between the sexes. These positions and arguments notwithstanding, psychologists and educators have long known that, when considered collectively, girls enter school with more advanced fine-motor and verbal skills, and boys, as a group, tend to have greater visual-spatial skills.

The National Literacy Trust has provided a summary of suggested actions synthesized from the research on boys and underachievement. At the local level, gender research suggests there are several actions that establish a framework for addressing the underachievement of boys. These school-based actions include initiating an open conversation with all stakeholder groups, acknowledging that attitudes about male and female roles may really be a front for anxiety, developing a knowledge base about gender trends at the school level, evaluating school policies and practices for prejudicial beliefs and attitudes, challenging stereotypical thinking and acknowledging and promoting different approaches to learning for boys and girls (National Literacy Trust, 2001).

Data from case studies suggests that there are classroom strategies which can be especially helpful in addressing the needs of underachieving boys. These strategies include pairing high- and low-achievers, providing clear expectations for each lesson, providing information in small amounts, organizing tasks logically and sequentially, focusing on challenge rather than completion and providing opportunities for work that is collaborative, active and practical. Additional classroom strategies include supporting different kinds of writing with models and frameworks and providing more opportunities for story writing, role playing and class discussion (National Literacy Trust, 2001).

The research also provides some guidance in terms of assessment practices which will facilitate improved reading performance for underachievers, especially boys. These practices include promptly evaluating and returning homework, grading extended course work in sections, providing helpful comments and advice rather than numerical marks, using self-evaluation and teacher discussion and carefully listening one-on-one (National Literacy Trust, 2001).

### **Conflicting Points of View**

Not all experts and researchers agree that there is a crisis related to the reading achievement of boys. A recent report released by the Education Sector presents evidence suggesting that the real issue is that girls are performing better; not that boys are doing worse. Acknowledging that some gender differences are real and that poor black and Hispanic boys do demonstrate poor achievement, the report identifies several factors contributing to the recent increase in attention to gender differences in achievement. According to Mead's report, one factor is the media visibility surrounding the realization that privileged boys are also at-risk. Others include research conducted on the differences between boys and girls and the emergence of theories purporting to explain why boys of all nationalities are not performing at the same levels as girls (Mead, 2006).

Hulbert (2006) suggests that the current debate about the lagging achievement of boys may be a result of misguided continuing devotion to the cognitive difference model, which fueled the girl-enhancing initiatives of recent years. What is really needed, she suggests, is a hands-on approach that focuses more on the study habits of the learners and has less to do with feminist legacies and biological differences between the sexes. Hulbert also raises questions about many of the other factors that are elements of the rationale put forth by supporters of the boy-crisis agenda. Aspects of the rationale questioned include the nature of the biological differences in boys and girls, the interpretation of national test results, the literacy-focused curriculum which supposedly handicaps boys and instructional strategies and classroom environments that are not

conducive to boys. She does suggest caution in encouraging a one-size-fits-all solution for boys or girls and that the limited evidence suggests that we should be wary of such simple fixes.

### **Need for Further Research**

Mead (2006) has identified several elements of the debate that merit further research and evaluation. She recommends the following action steps be taken: support and fund research on differences in boys' and girls' achievement; ensure that these studies use appropriate research methods and analysis tools; encourage and support experimental evaluations of different models for addressing the achievement gap; ensure that information systems are collecting appropriate information about school experiences, academic achievement, educational attainment and workforce outcomes for both males and females; ensure and support research focused on specific problems such as learning disabilities, autism, disciplinary problems and emotional problems more likely to affect boys than girls.

A recent Australian study which investigated factors influencing the educational performance of males and females in school also noted several areas in need of additional research. Recommended areas for research included the intersection of gender and the educational experience of boys and girls in poverty, the effects of mental health and school experience on performance, gender strategies that best encourage boys to make broader curriculum choices, reasons why there are differential levels of participation for boys and girls in curriculum areas associated with information technologies and which pedagogies might differentially best engage boys (and girls) (Collins, Kenway & McLeod, 2000).

### **Conclusion**

Despite some recent evidence to the contrary, the preponderance of available evidence suggests that there is a "crisis" in terms of the literacy achievement of boys. Although the literature is replete with recommended strategies and best practices for addressing this "crisis," there continues to be a dearth of solid research-based strategies and interventions available to teachers, administrators, policymakers and parents.

Acknowledging that there may be at least some validity in the many different explanations being offered about the crisis in boys' achievement, Mead (2006) recognizes that developing practical conclusions for parents and appropriate courses of action for educators and policy makers is a challenge. She does, however, offer several suggestions: do not panic as overall boys' achievement is improving; acknowledge that boys' struggles are not just a function of gender difference but are also linked to broader social and educational issues; expand the focus of the school reform movement from the elementary level to high school; given the variety and complex interactions of the variables influencing the achievement of boys, be skeptical of single-focus simplistic proposals; and, finally, encourage and support more research on achievement based on gender differences, school culture and brain differences.

**Figure 1. Recommendations and implications for addressing gender differences by key stakeholder groups**

Stakeholder Group	Recommendations/Implications
Teachers	<ul style="list-style-type: none"> <li>▪ Use instructional strategies that integrate reading, writing and speaking</li> <li>▪ Become informed about boys and literacy issues</li> <li>▪ Use socially-oriented instructional strategies such as literature circles</li> <li>▪ Develop reading clubs, partnering arrangements and mentoring programs</li> <li>▪ Use reflective instructional strategies such as journal writing</li> <li>▪ Use instructional activities that are visual, spatial, hands-on and involve movement</li> <li>▪ Provide access to male role models</li> <li>▪ Build selected instructional activities around intellectual competition</li> <li>▪ Develop home-school connections focused on supporting boys' literary development</li> <li>▪ Provide access to reading materials that are appealing to boys</li> <li>▪ Utilize technology in the instructional process</li> <li>▪ Implement assessment practices that promote reading achievement in boys</li> </ul>

<p style="text-align: center;">School/District Administrators</p>	<ul style="list-style-type: none"> <li>▪ Remain cognizant of school staffing patterns</li> <li>▪ Investigate applicability of single-sex schools/classrooms</li> <li>▪ Ensure/create a climate of “respect” for boys</li> <li>▪ Become informed about boys and literacy issues</li> <li>▪ Provide relevant staff development for teachers</li> <li>▪ Develop programs for connecting boys with caring adult males</li> <li>▪ Support school involvement of adult male teams of community volunteers</li> <li>▪ Increase efforts to recruit/retain males into teaching</li> <li>▪ Develop an information base about gender-based achievement trends at the school/district levels</li> <li>▪ Evaluate school/district policies and practices for prejudicial beliefs and attitudes</li> </ul>
<p style="text-align: center;">Policymakers</p>	<ul style="list-style-type: none"> <li>▪ Recognize that this is a national and international issue</li> <li>▪ Become informed about boys and literacy issues</li> <li>▪ Promote awareness of boys’ literacy issues among all stakeholders</li> <li>▪ Support the development of single-sex schools and classrooms</li> <li>▪ Support the development of “focus” schools</li> <li>▪ Develop and support a research agenda focused on eliminating the achievement gap for boys in reading</li> <li>▪ Investigate the feasibility of different school starting ages for boys and girls</li> <li>▪ Develop programs focused on recruiting/retaining more males into teaching</li> </ul>

<p>Parents/Community</p>	<ul style="list-style-type: none"> <li>▪ Become informed about boys and literacy issues</li> <li>▪ Develop home-school connections to support boys' literacy development</li> </ul>
<p>Higher Education</p>	<ul style="list-style-type: none"> <li>▪ Address gender differences in initial teacher preparation</li> <li>▪ Develop and implement a research agenda focused on the factors affecting reading achievement in boys</li> <li>▪ Develop programs designed to attract more males into teaching</li> <li>▪ Become informed about boys and literacy issues</li> </ul>

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