

It should be a principle aim of teachers of young children to ensure that all children see school as a place where they find themselves smart, capable, and knowing they belong. As evidenced by the research cited below, this tends to often be less true for boys and requires a knowledge and practice base that can help teachers be more responsive to their needs, skills, and talents.

Children form academic trajectories early in their school careers that tend to be stable and difficult to change over the course of their schooling (Alexander & Entwisle, 1993). Their negative perceptions of competence and attitudes become stronger and harder to reverse as children progress through school (Valeski & Stipek, 2001). If one bad year is compounded by other bad years, it may not be possible for the student to recover (Hanushek, 2010).

Remaining aware of the social and physical realities of boys can help both motivate and guide policies and practices that impact them.

Did You Know?

- Boys account for 71 percent of all school suspensions (Schott Foundation Report, 2012).
- Boys comprise 67 percent of all special education students (Schott Foundation Report, 2012).
- Boys are five times more likely than girls to be classified as hyperactive and are 30 percent more likely to flunk or drop out of school (National Center for Education Statistics, 2001).
- Girls outperform boys in grades and homework at all levels (National Center for Education Statistics, 2001).



This is exacerbated for boys of color who know all too well what it feels like to be viewed as a problem in school.

Research Indicates That Boys of Color Are:

- Not expected to perform as well as white students (Tenebaum & Ruck, 2007; McKown & Weinstein, 2008; Rodriquez, 2012; Harradine et al., 2014).
- More likely to be identified as special education (80%) students (Schott Foundation Report, 2012).
- More likely to be severely disciplined (National Education Association, 2011). Fiftynine percent of Black boys and 42 percent of Hispanic boys report being suspended (Schott Foundation Report, 2012).
- More likely to be suspended for subjective reasons, such as disrespect, attitude, or noisiness. In contrast, their white counterparts are suspended for concrete situations, such as smoking, fighting, or obscenity (Gregory et al., 2010).
- ➤ Less likely to be enrolled in gifted and talented programs, even if their prior achievement reflects their abilities to do the work (Rosales, 2016; Harradine et al., 2014).

Much is known about the brain development of boys. The following are factors along with related instructional strategies that have the potential to positively influence a boy's success in school.

Boys and Their Chemical Brain:

- Boy's prenatal brains are bathed in androgens resulting in a predisposition for physical activity.
- > Boy's brains secrete less serotonin which controls impulsivity.
- > Boy's brains secrete less oxytocin which is responsible for empathic responses.
- ➤ Boys experience 5-7 daily spikes of testosterone which impacts their unpredictability and moods.

Boys in the Classroom:

- Are typically disorganized, take longer to transition, and are emotionally sensitive.
- Enjoy opportunities to work with props and picture clues.
- When reading, rely more on pictures.
- When writing, do better when able to talk about, narrate and illustrate their stories first.
- Prefer to work on things for extended periods of time.
- Prefer real world topics.



The gap in academic achievement between boys and girls is not a difference in intelligence or cognitive abilities, rather has to do with girls' advantage in social and behavioral skills. Such skills, including the ability to sit still, pay attention, share, take turns and so on—develop later in boys than girls. This is important because it directly impacts academic performance (DiPrete & Buchmann, 2013).

Young children, especially boys, need opportunities to develop across all domains of learning. Research supports the notion that gross motor activities stimulate dopamine and new brain cell production, and that physical activity before and during class increases students' ability to process and retain new information. Studies show that students need at least 60 minutes of daily physical activity, including aerobic and age-appropriate bone and muscle-strengthening activities, as well as daily outdoor time. Students' movement activates thinking, so the more we encourage them to move during learning opportunities, the more we support and promote their ability to think, learn, and remember.

Young children also need opportunities to experience autonomy and have opportunities to make choices.

Boys Learn Most Effectively When They:

- Initiate activities based on self-generated goals.
- Work actively with concrete materials.
- > Try out ideas.
- > Solve meaningful problems.
- Make mistakes and correct them.
- Have opportunities to stop and reflect on what they have done.

Decades of research and theory have supported the notion that young children, especially boys, need consistent opportunities to play. High-level play occurs when children have opportunities to construct knowledge of their world as they imagine, create, try different roles and perspectives, make choices, negotiate, and work with one another.

In addition, all human beings need opportunities to laugh. When young children laugh, they receive additional oxygen to the brain. This causes an endorphin surge, decreases stress, increases retention, and recalls and creates an overall positive climate in which to learn.

Simple yet powerful strategies can support the overall health, development and learning in all young children. When the adults focus on these strategies, all children, especially, boys thrive.



Improving the School Experiences of Young Boys. What Can You Do?

Boys are Wired to Move

- Boys are physical beings.
- When a boy is active, his brain is active.
- When the brain is at rest, as much as 70% shuts down, while 90% of a female brain remains active when at rest.
- Boys often struggle in classroom settings that rely on whole group, didactic instruction, and individual worksheets.

What to Do

- Find ways for boys to move during sedentary activities.
- Alternate quiet and active activities.
- Increase time for indoor and outdoor activities.
- Increase time for active learning experiences and reduce the amount of time children spend in the whole group focused on didactic instruction.
- Decrease the use of worksheets.
- Extend the classroom outdoors.

Boys Learn by Doing (Not by Listening)

- Boys learn by moving, climbing, touching, and building and taking things apart.
- Their brains have less activity in listening and language areas.
- Boys are hands-on learners.
- Boys' brains are sleeping when they are just sitting and listening.

What to Do

- Have a variety of manipulatives including pull-apart toys and puzzles.
- Teach ABC's and 123's in meaningful ways as opposed to isolation (letter/number of the week) with manipulation and movement.
- Have boys make up stories, create artwork and write to aid listening.

Boys are Risks Takers

- The judgement part of the brain is less active in boys than in girls.
- Boys often persist in risky behavior despite warnings.
- Risky physical actions can give boys a dopamine "high" that makes them want to do it again.

What to Do

- Give boys choices.
- Allow boys to explore and show them how to do it safely.
- Make sure boys experience vigorous, competitive activities.
- Have a safe space where boys can release frustration.
- Ensure the daily schedule includes a long, extended time for outdoor play.



Boys Need Lots of Space

- Boys need space to move, explore, and spread things out.
- When they don't have enough space, they can become frustrated, which can lead to behaviors issues.

What to Do

- Provide opportunities for boys to work in small groups.
- Allow more elbow room between boys during sitting activities.
- Create an environment based on learning centers/activity areas.
- Limit the number of boys in each activity area.
- Offer flexible seating and/or the option of standing.

Boys Are Louder and Don't Hear as Well as Girls

- The male auditory system limits some background noise, and softer repetitious sounds.
- Boys hear better through their right ear.
- Boys hear animal noises and loud sounds better, while girls are better at hearing what people say.

What to Do

- Speak loudly enough to be heard, although avoid yelling.
- Check in with boys frequently to be sure they hear and understand you.
- Speak into their right ear when possible.

Boys Remember Facts

- Boys' memory centers are smaller than girls.
- Boys look for pattern, remember logical sequences, and look for information to be organized.



What to Do

- Give boys time to process and memorize.
- Repeat information.
- Have boys repeat information.
- Use charts, lists, and symbols.





INQUIRING INTO POLICIES, PRACTICES, AND STRATEGIES

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As you consider working on behalf of boys to optimize their school experiences, and to ensure that they feel smart, capable, and knowing they belong, it is essential to ask and answer the right questions. Note that in most cases, what is good for the boys is also good for the girls.

How do these ideals apply to your setting?

- Do students get enough physical activity?
- > Do students have long, extended time for indoor and outdoor play?
- Do students experience autonomy and have opportunities to make choices?
- > Do students have consistent opportunities to play?
- Do students laugh?

What do your school's or district's data say about:

- the discipline and suspension rates for boys?
- the percentage of boys placed in special education programs?
- the percentage of boys of color within these data points?

For further information read the following briefs in our **Children Come First** series: Linking a Whole Child/Play-Based Approach to the Education, and Development of Young Children and Motivating Students Through Relationships at https://region6cc.uncg.edu/resources/ or visit the Early Childhood web page at: https://region6cc.uncg.edu/early.childhood/.



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