Boys' Developmental Differences

While recognizing that great variation exists among individual boys and girls, researchers have still been able to identify general trends and characteristics of boys' development. Though a full examination of physiological and developmental differences in boys could span volumes, here are a few key facts:

- Higher levels of testosterone in males are generally linked to increased aggression, competition, self-assertion, and self-reliance. In addition, the amygdala (the part of the brain involved in processing emotion), is generally larger in males, making them more aggressive.
- Areas of the brain related to language, speech, processing grammatical structures & word production (including the frontal lobe, left hemisphere, and Broca's area) tend to be more developed or more highly active in females, resulting in their improved verbal communications skills.
- Males tend to use the right side of the brain to work on abstract problems (females tend to use both). As this is the side of the brain specializes in visual, spatial, and environmental awareness as well as visual memory, males tend to be superior at spatial relationships.
- Girls take in more sensory data (and so tend to have better senses of hearing, smell, and touch). Girls also tend to fewer moral risks, and rely heavily on verbal communication. Boys are bigger risk takers, are more likely to show physical aggression, and are more likely to rely on non-verbal communication (being less able to verbalize feelings and responses as quickly as girls).
- Girls hear better, and teachers may need a loud voice to reach boys. Boys usually see better in bright light.
- Neurotransmitters, essential parts of brain function that help to transmit messages in the brain, differ between males and females, resulting in clear differences in how the male and female brains process information.
- The male brain is often at rest in the brain stem. Along with the fact that the basal ganglia generally engages more quickly in males, these two factors tend to make males respond more quickly to demands or crises in the physical environment. In addition, male pituitary gland activity may help to engage the male fight or flight response more quickly.
- In the womb, boys tend to be more active and restless. The male cortex generally develops more slowly than the female, though male brain mass is about 10% larger.
- In infancy, boys' play and activity tend to be more vigorous and active. However, boys are also less sensitive to physical sensation or not as likely to be able to recognize faces in photos at 4 months of age. Boy infants have a 25% higher mortality rate than girls.
- Male toddlers tend to speak later (and reach comprehensible speech later), are more physically impulsive, and more likely to ignore voices (even their parents).
- In preschool and kindergarten, boys' play tends to be less cooperative and more aggressive, competitive, and/or vigorous. Young boys tend to have more speech problems.
- Young boys tend to be less sensitive to personal and social context than girls.

- In early elementary school, boys are slower to master reading, but better at general math and 3-dimensional reasoning. At this age, boys tend to be more rule-bound than girls.
- In late elementary school, girls are generally better at fine-motor skills and learning foreign language. At the same time, boys are generally better at reading maps, and will usually solve math problems without talking. However boys at this stage are also more likely to need remedial reading.
- In puberty, females tend to mature sooner. The male IQ tends to rise dramatically between 14-16, while female IQ will often level off or drop during middle school only to rise again in high school. Puberty and adolescence is also when the male tendency for high-risk behavior begin to show an effect (through drop-out rates, crime rates, etc.).