



# **School can be a Struggle, even if you're Spiderman**

**By**

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I thought it was an interesting angle for a super-hero movie to have Spiderman, with all his super-powers, struggle at school. Has it become so common place, I thought, for boys to struggle with their school work that it is to be expected, even of a super-hero?

But why is it that boys struggle at school? Why do they find school boring and uninteresting?

Of course, girls can find school boring and uninteresting, too, but there appears to be definite problem with boys not doing as well as girls in school and generally not liking the whole enterprise.

While Peter Parker was at his best when he could flex his muscles, use magic and imagination to overcome the bad guys, many boys want to do same thing, but school doesn't present the same inspiring challenges: Why not? I ask.

The problem doesn't just lie with the modern model of schooling, it also has a lot to do with understanding that boys and girls are different and require different approaches to teaching.

In the past 5 years research into the nature of boys has brought about a fresh understanding of how the male brain develops and functions and how teaching boys needs special attention.

From the time a baby is born, male and female brains are different. Indeed, from 6 to 7 weeks after conception, embryos designed to be male receive a 'hormone bath' of testosterone which influences the development of the brain. The testosterone actually damages the walnut-shaped brain and alters its structure and even its colour. The left cortex grows slower than the right but with the presence of testosterone in the blood stream, the left cortex of the brain in boys grows slower than in girls. Indeed, estrogen, the hormone predominant in the bloodstream of girls, makes the brain grow faster. As the right half of the brain grows, it tries to make connections to the left. In boys, the left half isn't ready as early as in girls and thus the nerve cells reaching across from the right can't find a place to connect and turn back toward the right side to 'plug in' there. As a result,

girls have better connection between right and left brain thinking, while boy's right-brain is richer in internal connections.

Testosterone doesn't just play a role in male development into manhood but has a profound impact on a boy's development of mind and body from before they are born. At birth, a baby boy has as much testosterone in his bloodstream as a 12 year old boy. The levels drop a few months after birth, and will rise again at the age of 4 or 5, for reasons that no one understands, and again at about 14.

Throughout his life, testosterone will affect a male's every thought and action. Indeed, levels of testosterone can rise and fall in response to challenge, achievement or even failure in any given day. Most experts believe boy's tendency to take risks, to be more assertive, to fight and compete, to argue, to boast, and to excel at certain skills such as problem solving, maths and science is directly linked to how the brain is hardwired and to the presence of testosterone.

While testosterone is the fundamental determinant of male thinking and behaviour, there are two other aspects of male brain chemistry and makeup that warrant mention. The hormone serotonin, which carries information from one nerve cell to another, works to pacify or soothe the emotions and to help an individual control his or her impulsive behaviour. It also facilitates good judgment. Inadequate levels of serotonin tend to make people more aggressive and violent. If testosterone is the petrol that powers the male brain, serotonin slows the speed and helps one steer. As you may have guessed, females have more serotonin than males.

The third aspect of neurobiology that help us understand the differences between males and females is the workings of that portion of the brain known as the amygdala. The amygdala is a structure about the size of an almond and functions as a small but powerful 'emotional computer'. When a physical or emotional threat is perceived by the senses, the amygdala instantly orders the adrenal glands and other defensive organs to swing into action. This process is designed to increase the chance of survival in times of imminent danger. What makes the amygdala of interest to us is its role in regulating aggression.

When the amygdala perceives a threat or challenge it fires electrical impulses into the hypothalamus (the seat of the emotions in the brain) and puts it in a nasty mood. While the amygdala can emit a chemical and electrical impulse that may save your life, it can also precipitate violence and make matters worse. And, yes, the amygdala is larger in males than females and helps to explain why males are more likely to engage in physically violent and at-risk behaviours.

There are many differences between men and women brought about by the environments we live in but there is no doubt today that the differences in brain structure and chemistry cause men and women to think differently. It also means that boys and girls learn differently and have different learning needs.

In teaching boys, there are two fundamentals to keep in mind: First, boys need order, and second, boys need the opportunity for physical activity. In terms of order, boys need to know who is in charge and what are the rules. In the absence of order, their testosterone-driven makeup leads them to want to set up hierarchies and they tend to jostle with each other to establish a pecking order. (Where the boys are the same age and size resolution of their problem is made difficult and the jostling continues) However, where there is structure and order, boys can relax and interact more effectively with others.

With regard to physical activity, boy's high energy levels and competitiveness need to find expression in order for their bodies and minds to develop. Boys also tend to learn concepts more easily if they can see them put into practice and do physical things with their bodies to comprehend the idea being taught. This way, they can use their right-brain perceptions to give meaning to the left-brain concepts being introduced.

The different skills that develop in boys and girls at an early age in language or problem solving, for example, lead to general areas of different interests, as we all know. But the difference in the brain of boys and girls has a profound affect upon their learning capacities and development. For a variety of developmental reasons, when compared to girls, boys are 6 times more likely to have learning difficulties than girls. Michael Gurian, in his book *The Wonder of Boys*, points out that in the US, from elementary grades

through to high school, boys receive lower grades than girls. Eighth-grade boys are held back 50% more often than girls and by high school, boys account for two-thirds of students in special education classes.

But boys are not inferior, just different. Accordingly, the way they learn, and, their readiness to learn, is different. At the age of 6 or 7, when children start serious schooling, boys are 6 to 12 months less neurologically developed than girls. They are especially delayed in what is called fine-motor coordination, which is the ability to use their fingers carefully and to hold a pen or scissors. And since they are still needing □gross-motor' development, they will be itching to move their large muscles around. Boys have 30% more muscle than girls and therefore their senses seek to move more than girls to flex their muscles. Boys fidgeting in class and roaming around the room is just their bodies trying to find expression - not them being naughty children.

Because of the overwhelming majority of primary teachers are women, there is a tendency to teach from a feminine model and to teach boys as if they were the same as girls. In the context of a feminine teaching ethos (what we could call left- hemisphere dominant) the teaching is directed at and for a female mind. Girls feel comfortable in this school environment but the boys are generally unhappy and underachieve at school seeing their learning context as foreign and even hostile. .

Across Western education, we are witnessing the feminization of the classroom and the creation of a learning environment that is not suited to boys.

Boys have a lot of trouble getting an education in today's modern school simply because they are not appreciated as boys.

While teachers have been trained in teaching methodology, curriculum development, and even behaviour management, there is still a tendency for the teacher to assume that other people learn the same way that she does. This is fine for girls, but disastrous for boys. Accordingly, teachers need to know as much as possible about their own learning style in order not to impose personal preferences on others.

Boys, like girls, really do want to succeed at school, but when in trouble girls tend to *ask* for help while boys tend to *act* for help - leading to what is sometimes seen as 'bad behaviour'. To try and help boys through school there needs to be some radical changes in the philosophy of education to take into account the neurological developmental needs of children. Having said that, there are several things teachers and their schools can do on a practical level to improve learning environments for boys. First, look for ways to bring more energy into the classroom. As a rule, children are supposed to be quiet and compliant in class - which is not the natural tendency for boys. While many teachers already do this, it is a good idea to try and bring some fun and excitement into the classroom. For boys, learning needs to be physical, energetic, concrete and challenging. Second, schools could seek to employ more men as teachers as boys tend to hunger for good male examples and male encouragement.

While learning is dependent upon a challenging and interesting environment, it is also dependent upon the capacity of the brain to learn. There are many, many children, that need struggle at school because they have a 'learning difficulty'.

For a child to learn information the brain has to do four things: Information has to be perceived and received through the sensory systems of the body; be organised to make sense; be stored in memory; and be brought out again when needed. Where there is a dysfunction in this neurological process, children develop learning difficulties.

There are many boys that need support to learn effectively and to improve their learning capabilities. Where a child is suspected of having a learning difficulty, specialist help is available to children through sensory integration therapy.

While we all struggle at times to raise our children, and particularly our sons as they cause concern in their performance at school, children essentially need our love and care, and understanding. Appreciating that boys do think differently to girls and learn at different stages and in different ways than girls, can allow us to be better parents and teachers.

In encouraging and supporting boys develop and progress as boys, we can help them in their journey to becoming happy, capable and caring young men.

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