Girl Connection

For those who serve adolescent females
February 2009

Written by: Kathy Nesteby
Iowa Gender~Specific Services Task Force

Brain Development
(Part I)

> Our youth now love luxury. They have bad manners…contempt for authority… they show disrespect for their elders… favor chatter in place of exercise… they contradict their parents, gobble up food, and tyrannize their teachers."
>
> ~ Socrates, 5th Century BC

Brain development is the sort of thing most professionals in the juvenile justice and human service fields likely learned about in college but haven't really had much contact with since. It is, however, knowledge that is of crucial importance when dealing with adolescents who are still in the process of developing. It is also a field that is far from static; new information is emerging all the time.

Lest we forget that one must be cautious in drawing erroneous conclusions, I would remind you that in the early 1930s research showed that the male brain was larger than the female brain. In short order, many were claiming this as evidence that males were inherently smarter than females. Of course, there were plenty of women (and men) at the time who realized that this was a leap of logic. Years passed before research indeed showed that women in fact have effectively the same number of brain cells - they are simply more compact. A cautionary tale about jumping to conclusions to be sure!

Today we know that when it comes to brain development, size truly is not the only thing that matters. Other, more recent discoveries show that although a great deal of brain development occurs when we are young, there are some processes that don't end until a person reaches age 40. Even more importantly, some pertinent areas of development that were previously thought to end in the teens are now shown to extend into a person's mid-20s.

Not surprisingly, the last area of the brain to develop completely is the pre-frontal cortex. This part of the brain governs logic, reason, weighing consequences, interpreting emotions and other higher order functions. Among adolescents and college-age adults, we see behaviors that demonstrate this developmental reality, for example, risk-taking minus a full appreciation for the potential outcome or the tendency to misinterpret how others feel.

The farther adults get from the adolescent stage of their life the easier it is for them to forget what it was like. Instead of becoming frustrated when a young woman can't seem to see the logic of staying in school rather than adversely effecting her future by dropping out, for example, we should remember that she is in the process of developing brain pathways to help her grasp this concept. She is capable of understanding consequences but as with anything, it takes practice, trial and error, as well as patient guidance to become good at it and this is where adults can have a big impact.

> *"Cognitive development is thought to be fostered within the boundaries of firm behavioral limits and structured disciplinary practices. These are balanced by offering graduated opportunities for independence, decision-making, and recovery from mistakes. Authority figures who focus on incremental guiding of youth, rather than drilling teens about logical reasoning and appreciation of consequences, which are not cognitively comprehensible, may develop more sound rapports with adolescents."*
> *~Judith Herrman.*

In working with young women involved in or at risk for involvement in the juvenile justice system, we often see that the adult guidance they previously received has been anything but beneficial to the development of higher order thinking. Often times, the adult modeling falls into two extremes: girls left on their own to make decisions with little or no guidance or girls never given the opportunity to make decisions on their own. Neither is conducive to a well developed pre-frontal cortex! So, it should come as no surprise that they might struggle with appropriately weighing consequences. They require the patience of adults who are willing to take the time and effort to guide their developmental progress in a productive direction. This can be an arduous process when working against history, but is certainly well worth the effort.

Not only are the actual structures of the brain constantly changing throughout adolescence, but there are significant hormonal influences occuring at the onset of puberty as well. These go beyond the anticipated "raging" hormones testosterone and estrogen. The April edition of the Girl Connection will explore these hormonal changes and how they differ for girls.

Herrman, Judith W. (March-April 2005). *The Teen Brain as a Work in Progress: Implications for Pediatric Nurses*. Pediatric Nursing. Vol. 31. No. 2. 144-148.

Steinberg, Laurence. (2009). *Adolescent Development and Juvenile Justice*. Annual Review of Clinical Psychology. 5: 47-73.

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Kathy Nesteby, Coordinator
Iowa Commission on the Status of Women
1-800-558-4427 or (515) 281-6915
Kathy.Nesteby@iowa.gov
www.women.iowa.gov/girls

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Iowa Gender-Specific Services Task Force
Iowa Commission on the Status of Women
Lucas State Office Building
Des Moines, IA 50319