

Understanding the adolescent brain

The adolescent period is between 12 – 24 years of age, during this time the brain is undergoing major reorganisation. The left and right side of the brain serve separate functions although both sides are constantly working together with the left being more linear and logical and the right having more of a focus on the big picture.

From the age of 1 until 11 years old the right and left side of the brain take turns in developing more prominently every three years. From the age of 11 until 24 years old both the left and right side of the brain begin to develop at the same pace create a situation of chaos. During this period there is a loss of the overall number of neurons with stronger connections being made to the more functional and more frequently used neural networks.

From a neuroscience perspective the goal of adolescence is to develop a brain that is more efficient at information processing. Essentially the task of adolescence is to break the values and structures of the original family in order to become as desirable as possible to peers and potential relationships. This is one of the reasons why adolescents begin to push away from parents and focus more on spending time with friends, which is a natural developmental stage.

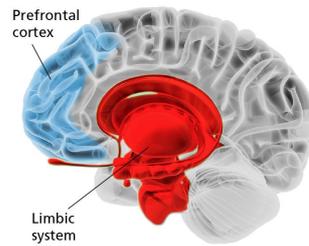
If you can imagine the brain as being like an onion peeling all the layers away you are left with a little round core. This area is known as the limbic system and has sometimes being referred to as the emotional or reactive brain. This is the part of the brain that initiates a fight or flight response to danger. The pre frontal cortex is located at the front of your brain and is the last part of the brain to develop and is still under construction in adolescents. This can be referred to as the smart brain and is involved executive functions such as language, planning, problem solving, creativity, and memory. This part of the brain is slower to react to information unlike the limbic system, which reacts very quickly to threatening information.

When adults are calm we use our smart brain to process information. When we feel threatened and stressed the emotional brain can hijack our smart brain by drawing blood away from the rest of the brain into the Limbic System making it harder to make decisions, plan and problem solve. Adolescents process information through the emotional brain first and more frequently than adults and don't yet have the fully formed smart brain to analyse, interpret and make considered decisions.

When communicating with adolescents it is helpful for them to be calm and also to slow communication down and give adolescents a longer response time. This will help give their undeveloped smart brain an opportunity to interpret and respond.

To summarise adolescents aren't mini adults. They run their decisions through the more emotional and threat detection centre of the brain rather than the smart brains (pre frontal cortex). Their smart brains are still developing and thus they may have some challenges making good decisions, planning, and

problem solving. So as a parent if you're saying to yourself it seems like my adolescent child is wired differently to me you're not too far off the mark.



By Stephen Rendall
Sport Psychologist Maribyrnong Sports Academy
B.Psych
B.Ex.Sci
Grad. Dip. Psych
MA Applied Psychology
MAPS
COSEP