Integrating the Upstairs and Downstairs Brain: Teaching how to make good decisions in high-emotion situations

Imagine that the brain is like a house with both a downstairs and an upstairs.

The Downstairs Brain includes the limbic region and the brain stem. It is the more primitive part of the brain and is responsible for

- Basic functions such as breathing, blinking and heart rate etc
- Innate reactions (fight, flight or freeze)
- Strong emotions such as anger or fear

Anger, other strong emotions, bodily functions and instincts are from the downstairs brain. Similar to the main floor of a house, basic necessities are managed downstairs.

The Upstairs Brain includes the cerebral cortex and is highly sophisticated. This where thinking, imagining and planning occurs. This part of the brain is responsible for the development of:

- sound decision making and planning
- control over emotions and body
- self-understanding
- empathy
- morality

When a child/youth's upstairs brain is working well, they can regulate their emotions, consider consequences, think before acting and consider how other's feel. It does this by paying attention to the downstairs and helping to calm strong reactions, impulses and emotions that come from the downstairs.

Having Appropriate Expectations

Two things can get in the way of the upstairs and downstairs working well together

Developmental:

The first is how old they are and where they are in their development. The downstairs brain is pretty developed at birth, the upstairs brain isn't fully developed until their mid-twenties. This means that all the behaviors we want them to learn (see above) rely on a part of the brain that is developing. It is helpful to think of it as "under construction" so it isn't always able to manage the downstairs brain.

The Amygdala

Is the size and shape of an almond and can be found in the limbic area (downstairs). It is the watchdog part of the brain, always scanning for danger. It quickly processes and expresses emotions, especially anger and fear (fight, flight and freeze). When it does sense danger it can completely take over, or hijack the upstairs brain. When triggered the amygdala allows us to act before we think. It is important to note an activated amygdala blocks connections to the upstairs brain.

What this all means

Children and youth's upstairs brain is developing (under construction), but even the parts that can work become blocked when under high emotion or stress.

Downstairs Tantrums

When a child or youth is having a tantrum, they have lost the ability to think clearly, they can't use their upstairs brain. Their downstairs brain has hijacked it. At these times there is no point in discussing consequences or appropriate behavior. They have lost the ability to think and are usually responding in flight, fight or freeze. This means their amygdala has become activated, and needs to be soothed and calmed.

Adapted from Siegel, D.J., & Bryson, T.P. (2011). *The whole-brain child: Twelve revolutionary strategies to nurture your child's developing mind*. New York: Random House.