



# Brain Highways

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## A Disorganized Brain

Some children retain primitive reflexes and do not complete development of the lower parts of the brain. In such cases, the cortex is not always “in charge.” Instead, there is a constant tug-of-war for control between the higher and lower centers of the brain. With such disorganization, the cortex must work much, much harder than it is intended to do. It must keep reflexive movement from dominating. It must find ways to compensate or take over for those brain functions that did not become automatic.

When the cortex has to expend so much energy on functions that should be automatic in lower parts of the brain, then the cortex cannot attend to thinking, learning, and paying attention. If a child’s cortex is preoccupied with covering functions of the lower parts of the brain, then that child will not be able to show his or her full genetic potential.

## Signs of a Disorganized Brain

Signs of a disorganized brain vary among children. Differences are related to the degree of underdevelopment and whether a child has discovered ways to compensate. The following behaviors are common among children with retained primitive reflexes and underdeveloped early centers of the brain.

- Has difficulty staying focused
- Seeks ways to be moving all the time
- Invades others’ space boundaries
- Acts impulsively
- Appears “zoned out” at times
- Likes to rock in a chair
- Has no sense of direction
- Avoids physical activities
- Frequently trips and falls
- Chews on everything
- Slumps in a chair
- Kicks heels against the floor or chair
- Grips a pencil very tightly
- Produces work with multiple erasures
- Has poor handwriting
- Touches everything
- Dislikes light touch
- Avoids placing hands in messy substances
- Has sensitivity to noise, fabrics, tags, and personal touch
- Is easily over-stimulated
- Resists anything new and different
- Has difficulty making transitions
- Has no sense of feeling “full” after eating
- Expresses no interest in eating
- Resists wearing a jacket in cold weather
- Has panic attacks
- Is overly anxious over trivial matters
- Is unable to focus if background noises compete for attention
- Displays irrational, aggressive behavior
- Insists on doing something in a way different than what was asked
- Is easily frustrated
- Has poor organizational skills
- Cannot do simple bilateral coordination exercises (e.g. skipping, jumping jacks)
- Avoids eye contact
- Loses place when reading
- Has poor reading comprehension
- Dislikes reading
- Dislikes writing
- Struggles with math
- Demonstrates inconsistent behavior and quality of work
- Appears smarter than what academic performance reflects
- Wets the bed
- Has difficulty “waking up” in the morning
- Repeats the same thought over and over again

## A Re-Organized Brain

Modern, sophisticated technology proves that the brain has the capacity for change and the ability to modify its function and structure.

Based on neurodevelopment and sensory integration research, the Brain Highways program offers fun activities and simple movements that may help re-organize a disorganized brain. Such activities and movements are easily integrated into the school curriculum and daily life.