

Daily Union

Saturday, December 31

Title: Brain Development in Children

I recently received a phone call from a patron asking me if I had any resources for parents who are raising children that have demonstrated extreme behaviors. The mom explained that her traditional approaches to parenting only seem to work on a random basis yielding short-term results.

After we talked for a bit longer, she shared that her child is adopted and had a pretty tough start in life with the biological parents. She asked if this could contribute to the challenges she is facing now. The answer is YES!

The research around this field of study – the impact of maltreatment on brain development – has exploded in recent years. Not only have the studies focused on observed behaviors of children who have experienced early childhood trauma, it has also focused on the neuroscience aspect of trauma. Neuroimaging technologies, such as MRIs (magnetic resonance imaging), have provided more evidence about how early experiences affect a child's developing brain.

Research has long supported the concept that genetics set the framework, or predispositions, for how our brains develop. More recent research supports that our experiences, including our interactions with people, impact how our predispositions are expressed. It has been discovered that those capacities, thought to be fixed at birth, are more dependent on a sequence of experiences combined with heredity. It is both our genetic makeup *and* our life experiences that influence brain development.

How does maltreatment effect a child's behavioral, social, and emotional functioning? It begins by changing the normal brain structure and chemical activity in the brain. An over-simplified way to explain this is that maltreatment changes the way in which neurons and the connections made between them (synapses) form pathways that dictate what our bodies do – from breathing and sleeping to thinking and feeling.

What might this look like to a parent, caregiver, or teacher? There are several areas of impact at varying degrees. Here are a few characteristics you may observe:

Persistent Fear Response. Repetitive trauma can develop into chronic stress. As a child continues to experience highly stressful situations, the pathways formed in the brain creates memories that become permanent. These pathways change the perception and reaction a child has to their environment. For example, the child may associate fear caused by a specific person or situation with similar people or places that pose no threat.

Hyperarousal. Chronic traumatic stress forms a pathway in the brain where the fear response becomes automatic. Non-verbal cues (eye contact or a touch on the arm) are misunderstood or misinterpreted by children who have experienced ongoing stress and trauma. These kids are on alert and struggle to find a state of calm. They struggle to regulate their responses because of the altered pathways that developed in their brain as a result of the repetitive trauma.

Delayed Developmental Milestones. Children develop over time through sequential milestones. Children need opportunities and encouragement from parents and caregivers in order to optimize their development at the various ages and stages of childhood. If these conditions are missing from a child's early developmental stages, the pathways developed for this purpose become weak and can wither away. As a result, children may not move through the usual developmental milestones. For example, children need human conversation and sounds to aid their language development. From 18-24 months, a child will typically experience significant development in the area of language. Without a caretakers interaction with an infant's babbling and cooing, language development is delayed.

How is this information important to you? Increasing the awareness and knowledge of the general public is a great first step in helping these kids. Even if you are not parenting a child who has had a traumatic childhood, you likely have been around them in some way – at the local department store or in the public library, perhaps. Don't make assumptions about the cause of unruly behavior or illogical responses a child might have in a situation. You don't know what life experiences might have contributed to their behavior.

Prevention is key as well. You can support policies and the professionals who uphold them in regards to promoting healthy brain development. Prevention efforts that target at-risk families should focus on strengthening the family unit and helping the family to build on their positive attributes. The U.S. Health and Human Services Children's Bureau encourages professionals who work with families to promote the six "protective factors" that can strengthen families, help prevent abuse and neglect, and promote healthy brain development:

- ✓ Nurturing and attachment
- ✓ Knowledge of parenting and of child and youth development
- ✓ Parental resilience
- ✓ Social connections
- ✓ Concrete supports for parents
- ✓ Social and emotional competence for children

Here are just three of several Geary County resources that support these protective factors:

Delivering Change is focused on improving the health of mothers, improving the health of infants and encouraging breastfeeding. A good start during pregnancy and during the initial weeks/months after delivery makes an immediate positive impact on the brain development of their baby. Jill Nelson, program coordinator, can be reached at 785-238-0300.

Parents as Teachers is a home-based early childhood parent education and family support program designed to help parents or caregivers of children birth to Kindergarten. Sue Gwaltney, program coordinator, can be reached at 785-717-6900.

Basic Parenting classes help parents of children age Kindergarten through 18 in this 6-session class to recognize the developmental stages and make age and stage-appropriate parenting decisions. These are offered through the Modern Parenting Initiative – a family service coalition. Deb Andres, program coordinator, can be reached at 785-238-4161.

For more information of developmental milestones and parenting resources, contact me at the Geary County K-State Research and Extension Office at the number listed above. Until next time, keep living resourcefully!