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National recommendations

National recommendations for the use of smartphones for children, adolescents and parents/caregivers

Brain development during childhood and adolescence and smartphones

Brain development is a complex sequence of events that begins during pregnancy and continues into adulthood. The prefrontal cortex is responsible for decision making, emotional control and executive functions. It develops slowly and reaches neurobiological maturity around the age of 25 years. Brain development in childhood and adolescence lays the foundation for social, cognitive, and emotional skills in adulthood. Children and adolescents need support from adults to learn to use their brain in a way which strengthens their increasing life management.

The brain expects experiences. Healthy development requires experiences from many different senses, a lot of free play and physical activity in the real world. Time spent using smart devices decreases the time available for other activities.

The brain learns through repetition and practice. Learning requires persistence and delaying gratification. Smartphones teach the brain to yearn for immediate rewards. The brain learns to act impulsively. The neuron connections that are needed for complex information processing are at risk of being pruned. Encourage children and adolescents to do the same thing persistently.

Reading nourishes the brain. Reading out loud to a child and independent reading strengthen the collaboration of neuron networks especially in cortical areas involved in linguistics.

The brain needs social experiences for healthy development. Smartphone use reduces real life social experiences. Social interaction in the virtual world hinders the recognition of emotional cues and tuning in to emotional interaction. Social skills weaken and empathy is reduced.

Puberty (ages 9-13) is a time of significant rewiring in the brain. This time is characterized by pruning of unused neurons and strengthening of new connections. This process is guided by experiences. Smartphone use reduces interest toward real life experiences that stimulate brain development.

During teenage years, the brain is more susceptible to stress. Time spent on social media increases uncontrollable stress, burdens the brain, and increases social anxiety. Social media use should be banned from children under the age of 16 years.

Sufficient and good quality sleep is essential for brain health. Using smartphones before going to bed interferes with falling asleep, reduces sleep length and diminishes sleep quality.

The brain yearns for breaks and time for recovery. A continuous flow of information is toxic for the brain.

The recommendations are based on research evidence. Read more:
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