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BRINGING PLAY BACK TO CHILDHOOD

In today's fast-paced, screen-saturated world, childhood is shifting. The simple joys of imaginative play, outdoor adventures, and hands-on creativity are being replaced by digital entertainment, often at the cost of critical developmental milestones. This month at Smart Families, we're diving into the science and wonder of a play-based childhood—why it matters, how it shapes brain development, and how we can bring more play into our children's lives. Research consistently shows that play isn't just fun—it's essential for cognitive growth, emotional resilience, and social skills. Yet, overreliance on screens can steer kids away from the rich, unstructured learning that play naturally provides. Whether it's fostering creativity, improving problem-solving skills, or strengthening family connections, play has a lasting impact.

THE NEUROSCIENCE OF PLAY

Engaging in playful activities, especially social play, helps children develop flexible thinking and adaptability, essential for navigating new and uncertain situations as they grow.

Research using animal models, particularly studies with rats, has provided valuable insights into the neurobiology of play. In these studies, young rats engage in social rough-and-tumble play, which is closely regulated and influenced by genetics and early experiences. This type of play activates several key brain regions outlined below:

IMPACT OF PLAY ON BRAIN REGIONS

Prefrontal Cortex:

Involved in decision-making and social interactions, play strengthens this area, enhancing a child's ability to plan and exhibit self-control.

Striatum:

Associated with movement and reward, play stimulates this region, promoting coordination and reinforcing enjoyable activities.

Amygdala:

Responsible for processing emotions, play helps children learn to manage feelings like fear and pleasure.

Habenula:

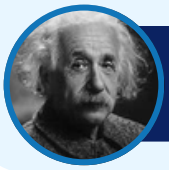
Involved in reward processing, play influences this area, affecting motivation and mood.

Role-play = brain development

These brain regions work together during play to help children develop social skills, emotional regulation, and cognitive flexibility. For instance, when children play games that involve taking turns or **role-playing,** they're learning to read social cues, manage emotions, and adapt to changing scenarios. Additionally, research shows that play actively engages the brain's language centers, including Broca's area (speech production) and Wernicke's area (language comprehension).

A study found that toddlers who engaged in block play showed significant improvements in language acquisition, while another study revealed that for every 30 minutes of handheld screen time, toddlers faced a 49% increased risk of expressive speech delay, highlighting the crucial role of interactive, hands-on play in language development.

"Play is the highest form of research."



Albert Einstein

TINKERING AND PROBLEM-SOLVING: HOW HANDS-ON PLAY SHAPES THE BRAIN

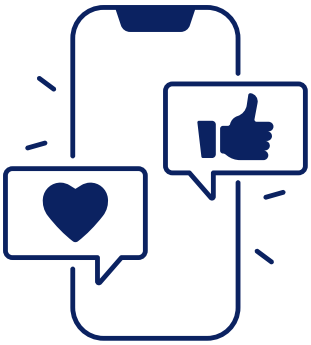
Tinkering—taking things apart, experimenting, and creating—does more than just entertain kids; **it strengthens problem-solving skills by shaping the brain's ability to adapt and think critically.** Neuroscience shows that hands-on exploration activates the prefrontal cortex, the part of the brain responsible for reasoning, decision-making, and flexible thinking. When children engage in tinkering, they strengthen neural pathways related to trial and error, boosting their ability to approach challenges with creativity and persistence.

A real-world example of this comes from NASA's Jet Propulsion Laboratory (JPL). When JPL began hiring new engineers, they noticed something surprising—some of the brightest minds, who excelled in advanced degrees, struggled with practical problem-solving. They were brilliant in theory but often lacked the hands-on intuition needed to tackle real-world engineering challenges. The most successful engineers, and the ones JPL eventually preferred to hire, were those who grew up tinkering—fixing bikes, building go-karts, and taking apart radios—as kids. These experiences gave them a deep, instinctive understanding of mechanics and problem-solving that formal education alone hadn't provided. **Unstructured, hands-on activities are essential for fostering innovation and adaptability in children.** Encouraging kids to tinker—whether through building, experimenting, or exploring—develops the same cognitive flexibility that helped NASA engineers solve some of the world's toughest engineering problems.

CHANGING LANDSCAPE OF CURIOSITY

Curiosity is one of the purest fundamental human traits, defined as the urge to explore and understand new, uncertain, and ambiguous events. It's the natural instinct that drives children to ask questions and learn through observation. A study from the University of California, Davis, found that **curiosity does more than just make learning interesting—it actually changes how our brains work.** When people were curious about a topic, researchers saw increased activity in the brain's reward system, which is fueled by dopamine, the same chemical that makes us feel good when we achieve something. At the same time, curiosity boosted activity in the hippocampus, the part of the brain responsible for forming memories. Even more interesting, these two areas worked together, meaning that when curiosity was sparked, people not only enjoyed learning more but also remembered the information better. This research shows that curiosity isn't just a feeling—it's a powerful tool for making learning deeper and more effective.

Curiosity thrives on intrinsic motivation—the natural desire to explore, learn, and understand the world for its own sake. However, technology and social media are reshaping the way we engage with information, often quashing curiosity by replacing self-driven exploration with external rewards and algorithm-driven content.



Gamification--the use of rewards like notifications, likes, and badges to keep us engaged--trains our brains to seek out dopamine hits from passive scrolling rather than from the joy of discovery. Algorithm-driven feeds serve up content tailored to our existing preferences, reinforcing what we already think we know rather than encouraging exploration of new ideas. Over time, this reduces the habit of questioning, experimenting, and problem-solving, key components of curiosity-driven learning.

For children and teens, whose brains are still developing, this is especially concerning. When rewards come from external sources rather than discovery, children may struggle with self-motivation and find learning less satisfying without instant validation. To preserve curiosity, we must encourage open-ended play, problem-solving, and independent thinking to build intrinsic motivation for lifelong learning. Balancing screen time with real-world exploration ensures curiosity stays self-driven, not algorithm-driven.

TEENS CAN PLAY TOO!

Many believe that play is something teenagers outgrow, but research, including Dr. Stuart Brown's work, shows that play remains essential throughout life. As academic and social pressures increase, teens often start evaluating activities based on productivity—asking if something will help them succeed, earn money, or impress others. If the answer is no, play is often dismissed as unimportant. But play doesn't disappear in adolescence—it evolves. Instead of make-believe games, teens engage in sports, gaming, music, and social banter. These activities strengthen problem-solving skills, creativity, and emotional intelligence. Play also reduces stress by triggering dopamine, helping teens stay motivated and adaptable.

When play is pushed aside completely, the effects are clear. Dr. Brown found that those deprived of play struggle with stress, rigid thinking, and reduced creativity. Teens who stop playing may experience anxiety, weaker problem-solving abilities, and social disconnection. Research from 2019 also found that people who engage in intellectually playful activities—such as creative problem-solving and idea exploration—tend to develop more secure attachment styles. They are more comfortable sharing their thoughts and emotions, leading to stronger, more open relationships. This highlights that **play isn't just a childhood pastime—it's a lifelong tool for emotional well-being, resilience, and social connection.**

PARENTAL FEAR

In addition to the role of technology, other barriers to children engaging in risky or outdoor play are also present, such as overly protective parents. In surveys, a large percentage of parents cite fears for their child's safety as a top concern. This is often tied to parenting challenges, including a lack of time to supervise children outdoors. This notion is based on the perception that the outdoors (e.g., parks and playgrounds) are unsafe for children (even older children) to play unsupervised. **Research tells us that children today are getting less time outside than maximum security prisoners.**

According to the National Center for Missing and Exploited Children, **non-family abductions constitute less than 1% of reported missing children cases.**

Crime statistics, however, do not completely bear out these fears. Rates of crime in general and specifically stranger abductions of children, in particular, have both declined since 1997. For example, of all the missing children cases in the U.S., only 0.3% were abducted by strangers. While parents' safety concerns regarding their children playing outdoors are understandable, they may be largely the result of social media portrayals rather than actual crime rates.

Jonathon Haidt, *The Anxious Generation*

We under-protect children in the virtual world and over-protect them in the real one.

Social psychologist, Jonathan Haidt, emphasizes that while parents have become increasingly protective of their children in the physical world, actual risks such as abduction are exceedingly rare. In contrast, the digital realm presents more significant dangers. Studies indicate that **over 65% of online sex offenders use social media to gather information about potential victims' habits and locations,** and approximately 82% of child sex crimes originate from online interactions. Haidt suggests that to genuinely protect children, it's crucial to encourage real-world exploration and delay their exposure to the virtual world, where threats are more prevalent.

ONLINE DANGERS VS. IN-LIFE DANGERS

Less than 2 percent of all violent crimes against juveniles reported to police involve kidnapping.

According to the United States Department of Justice

65% of trafficking recruitment occurred on the internet.

1% of trafficking recruitment occurred at elementary school.

0% of trafficking recruitment occurred at middle school.

2% of trafficking recruitment occurred at high school.

Data from the 2021 National Trafficking Hotline

REFERENCES:

Articles & Research Papers

- American Academy of Pediatrics. (n.d.). Handheld screen time linked with speech delays in young children. AAP News. Retrieved from https://www.aap.org
- American Psychological Association. (n.d.). Play, stress, and the learning brain. PMC. Retrieved from https://pmc.ncbi.nlm.nih.gov/articles/PMC5646690/
- Ethics & Public Policy Center. (2025). The kids are not all right: A review of Jonathan Haidt's The Anxious Generation. Retrieved from https://eppc.org
- Forbes. (2025, February 16). Two ways that playfulness can make or break your relationship, by a psychologist. Retrieved from https://www.forbes.com/sites/traversmark/2025/02/16/2-ways-that-playfulness-can-make-or-break-your-relationship-by-a-psychologist/
- Frontiers. (n.d.). Exploring the benefits of doll play through neuroscience. Retrieved from https://www.frontiersin.org
- HuffPost. (2014). Our children deserve as much recess as they can get. Retrieved from https://www.huffpost.com/entry/our-children-deserve-as-m_b_4791244
- JAMA Network. (n.d.). Effect of block play on language acquisition and attention in toddlers: A pilot randomized controlled trial. Child Development | JAMA Pediatrics. Retrieved from https://jamanetwork.com
- National Catholic Register. (2025). Unplugged childhood: Haidt's battle cry against early smartphone use. Retrieved from https://www.ncregister.com
- National Institute for Play. (n.d.). Do your teenagers know what their play is? Retrieved from https://www.nifplay.org
- PlayCore. (n.d.). Tinkering and its relationship with problem solving. Retrieved from https://www.playcore.com
- Psychology Today. (n.d.). The neuroscience of why children play. Retrieved from https://www.psychologytoday.com
- TIME. (n.d.). Playtime isn't just for preschoolers—Teenagers need it, too. Retrieved from https://www.time.com
- University of California. (n.d.). Curiosity helps learning and memory. Retrieved from https://www.universityofcalifornia.edu

Books

- Haidt, J. (2024). The anxious generation: How the great rewiring of childhood is causing an epidemic of mental illness. Penguin Press.
- Brown, S. (2009). Play: How it shapes the brain, opens the imagination, and invigorates the soul. Avery.