



House Communications & Technology Committee

Public Hearing Agenda

Monday, September 28, 2026

10:00am

205 Ryan Office Building

Call to Order

Roll Call

Opening Remarks

Panel 1

- Dr. Mitch Prinstein, MD, ABPP
John Van Seters Distinguished Professor, Department of Psychology and Neuroscience;
Co-Director, Winston Center on Technology and Brain Development; University of
North Carolina at Chapel Hill
- Dr. Dana Suskind, MD
Professor of Surgery and Pediatrics; Founder and Co-Director, TMW Center for Early
Learning and Public Health; University of Chicago

Panel 2

- Rachel Franz, M.Ed.
Young Children Thrive Offline Program Director, Fairplay
- Katie Talarico, M.S.Ed.
Co-Founder, Let's Grow Brain P.O.W.E.R.!: Co-Chair, Early Childhood Workgroup at
Fairplay's Screen Time Action Network; Co-Founder, PA Unplugged
- Steve Wimmer
Senior Policy Advisor, Transparency Coalition

Panel 3

- Charlotte Hickcox
Senior Director, State Government Affairs, The Toy Association

Closing Remarks

Adjournment

Written Testimony Only:

- Pennsylvania Psychological Association

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 2637 Session of
2026

INTRODUCED BY CIRESI, WAXMAN, McNEILL, PIELLI, PROBST, SANCHEZ,
NEILSON, O'MARA, D. WILLIAMS AND PARKER, JUNE 15, 2026

REFERRED TO COMMITTEE ON COMMUNICATIONS AND TECHNOLOGY,
JUNE 15, 2026

AN ACT

1 Providing for a temporary prohibition on artificial intelligence
2 chatbots in children's toys; and imposing penalties.

3 The General Assembly of the Commonwealth of Pennsylvania

4 hereby enacts as follows:

5 Section 1. Short title.

6 This act shall be known and may be cited as the Artificial
7 Intelligence Chatbots in Children's Toys Temporary Prohibition
8 Act.

9 Section 2. Definitions.

10 The following words and phrases when used in this act shall
11 have the meanings given to them in this section unless the
12 context clearly indicates otherwise:

13 "Artificial intelligence." Any of the following:

14 (1) A machine-based system that can, for a given set of
15 human-defined objectives, make predictions, recommendations
16 or decisions influencing real or virtual environments,
17 including the ability to:

(i) perceive real and virtual environments;
(ii) abstract perceptions into models through analysis in an automated manner; and
(iii) use model inference to formulate options for information or action based on the outcomes under subparagraphs (i) and (ii).

(2) The term includes generative artificial intelligence.

"Artificial intelligence chatbot" or "AI chatbot."

Artificial intelligence technology that uses generative artificial intelligence to simulate or engage in an interactive conversation with a user. The term does not include artificial intelligence technology that provides only scripted, prewritten or predetermined output.

"Children's toy." A product designed, manufactured, marketed or intended for use as a plaything by a child under 14 years of age.

"Generative artificial intelligence." A class of models that emulate the structure and characteristics of input data in order to generate derived synthetic content, including an image, video, audio clip or text, that is significantly modified or generated by algorithms, including by artificial intelligence.

"Unfair Trade Practices and Consumer Protection Law." The act of December 17, 1968 (P.L.1224, No.387), known as the Unfair Trade Practices and Consumer Protection Law.

Section 3. Temporary prohibition.

(a) Prohibition.--A person may not manufacture, distribute, sell, lease, offer for sale or offer for lease in this Commonwealth a children's toy that incorporates an AI chatbot.

(b) Applicability.--This section shall not apply three years

1 after the effective date of this subsection.

2 (c) Notice.--The Attorney General shall transmit notice to
3 the Legislative Reference Bureau for publication in the next
4 available issue of the Pennsylvania Bulletin of the date on
5 which this section no longer applies under subsection (b).

6 (d) Prior violations.--Subsection (b) shall not affect the
7 authority of the Attorney General to enforce a violation of
8 subsection (a) that occurs before the date on which this section
9 no longer applies.

10 Section 4. Enforcement.

11 (a) Unlawful act or practice.--A violation of section 3
12 shall be deemed an unfair method of competition and an unfair or
13 deceptive act or practice in the conduct of trade or commerce
14 under section 3 of the Unfair Trade Practices and Consumer
15 Protection Law.

16 (b) Enforcement.--The Attorney General may bring an action
17 in the name of the Commonwealth under section 4 of the Unfair
18 Trade Practices and Consumer Protection Law to restrain a
19 violation of section 3 by temporary or permanent injunction.

20 (c) Restitution and costs.--In an action under subsection
21 (b), the Attorney General may seek payment of costs and
22 restitution under section 4.1 of the Unfair Trade Practices and
23 Consumer Protection Law.

24 (d) Civil penalties.--In an action under subsection (b), the
25 Attorney General may recover a civil penalty under section 8 of
26 the Unfair Trade Practices and Consumer Protection Law.

27 (e) Construction.--The remedies under this section are
28 cumulative and shall not be construed to limit any other remedy
29 available under law.

30 Section 5. Effective date.

1 This act shall take effect immediately.



**AMERICAN
PSYCHOLOGICAL
ASSOCIATION**

**Written Testimony
of
Mitchell J. Prinstein, PhD, ABPP
Senior Science Advisor, American Psychological Association
WA House Technology, Economic Development and Veterans Committee**

September 23, 2026

Note: The testimony below represents one largely adapted from my testimony before the US Senate Judiciary Committee in September 2025

Thank you for the opportunity to testify today on the psychological impacts of artificial intelligence (AI) on youth, including what is known regarding children's and adolescents' use of AI chatbots.

I am Dr. Mitch Prinstein, the Senior Science Advisor of the American Psychological Association, or APA. The APA is the nation's largest scientific and professional organization representing the discipline and profession of psychology. We speak on behalf of over 173,000 psychologists, students, and affiliates who are clinicians, researchers, educators, and consultants in psychological science. Our mission, for over a century, has been to promote the advancement, communication, and application of psychological science and knowledge to benefit society and improve lives.

On behalf of APA and its member experts, I appreciate the opportunity to discuss the critical role of psychological science in understanding and shaping the development, implementation, and oversight of artificial intelligence.

The conversation surrounding AI often is dominated by discussions of code, processing power, and economic disruption. However, to view AI as a purely technological issue is to miss its most



fundamental characteristic: AI is a tool built by humans, to be integrated into human systems, with profound and direct effects on human cognition, behavior, emotion, and interaction.

Therefore, a deep understanding of the human mind is not just relevant but absolutely essential to every stage of AI's lifecycle—from the cognitive biases of the engineers who design it, to the psychological principles that make its interfaces engaging, to its ultimate impact on child development, mental health, and the very fabric of our social structures. Psychological science must be central to the development, deployment, and oversight of AI to ensure it serves humanity effectively, ethically, and equitably. The current debate often frames AI as a matter of computer science, productivity enhancement, or national security. It is imperative that we also frame it as a public health and human development issue. This shift in perspective is critical, for it changes the metrics of success from solely raw innovation and efficiency to human well-being and safety.

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Overview of Testimony

The APA recognizes the immense potential of AI to revolutionize fields like healthcare, where it can enhance diagnostic precision, expand access to behavioral health treatment, and alleviate the administrative burdens that contribute to provider burnout. However, this promise is matched by significant peril. My testimony focuses on the specific and potentially severe psychological harms posed by the current ecosystem of unregulated, direct-to-consumer AI chatbots.

I pay special attention to the unique and heightened vulnerabilities of our nation's youth, whose developing minds are being shaped by this technology in ways we are only beginning to understand. Finally, I will provide a series of evidence-based, actionable recommendations for policy action, grounded in the principles of psychological science, to mitigate these harms and foster a digital environment that supports, rather than subverts, healthy human development.

A Special Focus: Why Children and Adolescents Are Uniquely Vulnerable

Youth develop in a social context. The lessons imparted through parenting occur through parent-child social interactions, most schooling is conducted among teachers and peers interacting together, and virtually every thought, attitude, behavior, and emotion we display as adults has been socialized by interpersonal exchanges throughout our childhoods. It is thus not surprising that literally hundreds of thousands of psychological studies have revealed that our social, emotional, academic, occupational, and even biological and neural development all are exquisitely tied to the social context in which we grow up ¹.

¹ Prinstein, M.J. and Giletta, M. (2016). Peer Relations and Developmental Psychopathology. In Developmental Psychopathology, D. Cicchetti (Ed.). <https://doi.org/10.1002/9781119125556.devpsy112>.



Yet our species is at the dawn of a new era in which we have begun to interact more substantially and frequently with non-human, AI-driven entities than ever before. This is especially true for youth who may be most susceptible to developmental harms; over 50% now report interaction with chatbots at least a few times a month ².

Psychological scientists are actively studying how new digital environments affect youth development, examining both potential benefits and risks. Technology is evolving far more quickly than research ³, but we don't need to wait for long-term studies to act. What we already know from decades of research into adolescent social, emotional, and biological development provides a clear roadmap to identify the urgent risks posed by AI. It is critical that we act now to prioritize children's well-being over corporate profits. We cannot repeat the mistakes made with social media, where a lack of regulation allowed platforms designed for data mining to harm our most biologically and psychologically vulnerable youth ⁴. **Let us be clear: our youth are not data points with no names, faces, families and friends. They must not be the targets of a sweeping experiment in chatbot deployment.**

Below I will share what science has revealed so far regarding AI, so policymakers, educators, parents, caregivers, and youth can learn from what we are beginning to discover and make choices that will ensure the safety of toddlers, school-aged children, and adolescents.

Early Childhood (Ages 0-6)

² Common Sense Media. (2024, May 22). *Nearly 3 in 4 teens have used AI companions, new national survey finds*. Common Sense Media. <https://www.commonsensemedia.org/press-releases/nearly-3-in-4-teens-have-used-ai-companions-new-national-survey-finds>

³ *Consequently, to address the urgent need to guide policy from extant science, several of the papers cited in this testimony include preprints and preliminary data under review.*

⁴ Livingstone, S., & Smith, P. K. (2014). Annual research review: Harms experienced by child users of online and mobile technologies: The nature, prevalence and management of sexual and aggressive risks in the digital age. *Journal of Child Psychology and Psychiatry*, 55(6), 635–654. <https://doi.org/10.1111/jcpp.12197>; Wolak, J., Finkelhor, D., Mitchell, K. J., & Ybarra, M. L. (2008). Online “predators” and their victims: Myths, realities, and implications for prevention and treatment. *American Psychologist*, 63(2), 111–128. <https://doi.org/10.1037/0003-066X.63.2.111>



Although recent headlines have focused on adolescents' use of AI, it is critical to sound an alarm regarding the use of AI chatbots within toys designed for infants and toddlers. Although if constructed with child well-being in mind, the use of toddler-facing AI may offer unique learning and developmental opportunities, it is unclear that extant or planned AI toys have adequately considered the areas of vulnerability and risk embedded in altering infants' and toddlers' social context so radically ⁵.

Extensive research has demonstrated that human-human interaction is the most foundational cornerstone for healthy brain, language, cognitive, and socioemotional development among infants and toddlers⁶. This is especially true during the first 3-4 years of life when the brain is undergoing the most profound growth and organization of our lifetimes. This process of brain growth is dependent on subtle and nuanced responses that young children receive verbally and nonverbally from humans, most often their caregivers – importantly, in ways that cannot be adequately mimicked by AI chatbots at the current time.

This has not stopped toymakers and tech companies from partnering to create AI companions for children aged zero to 6 years, and almost half of all young children already are relying on AI daily ⁷. Imagine your toddler suddenly able to talk to their favorite teddy bear or loved character from a movie directed towards young children. Imagine that character knowing your child's name, answering its questions using all information available on the world wide web, instructing it how to behave, and continuing a sustained relationship with your child for as long as you paid

⁵ Fosch-Villaronga, E., Van Der Hof, S., Lutz, C., & Tamò-Larrieux, A. (2023). Toy story or children's story? Putting children and their rights at the forefront of the artificial intelligence revolution. *AI & Society*, 38, 133–152. <https://doi.org/10.1007/s00146-021-01295-w>

⁶ Fearon, R.M.P., Groh, A.M., Bakermans-Kranenburg, M.J., van IJzendoorn, M.H. and Roisman, G.I. (2016). Attachment and Developmental Psychopathology[†]. In *Developmental Psychopathology*, D. Cicchetti (Ed.). <https://doi.org/10.1002/9781119125556.devpsy108>; Grusec, J. E., & Hastings, P. D. (Eds.). (2015). *Handbook of socialization: Theory and research*. Guilford Press.

⁷ Bickham, D.S., Schwamm, S., Izenman, E.R., Yue, Z., Carter, M., Powell, N., Tiches, K., & Rich, M. (2024). Use of Voice Assistants & Generative AI by Children and Families. Boston, MA: Boston Children's Hospital Digital Wellness Lab. <https://digitalwellnesslab.org/pulse-surveys/use-of-voice-assistants-and-generative-ai-by-children-and-families/>.



a subscription fee (and then withdrawing from your child's life when payments stopped). Now imagine that companies were profiting from the information your child told their favorite AI-driven character, and the information gleaned from video surveillance of your home, captured by the AI toy's video camera "eyes," directing ads to your child and using captured data to generate revenue without your knowledge. This is not a hypothetical risk; this is happening now. Almost one-quarter of all young children are already using AI in learning and play; almost half use AI voice assistants daily, and the AI toy industry, embedding chatbots into beloved characters, robots, and teddy bears is projected to reach \$106B within the next decade ⁸.

At a national convening of experts organized by Harvard and Boston Children's Hospital, scientists identified four core domains of developmental concern that largely have been neglected in the current marketplace of AI-driven toys for infants and toddlers ⁹. First is the capacity for chatbot-toys to significantly disrupt toddlers' relationship formation and attachment. In short, many psychological theories suggest that toddlers' formation of deep emotional ties to caregivers forms a basis in which lifetime cognitive, social, emotional development occurs, as well as the development of biological systems that allow us to cope with stress throughout our lifetimes¹⁰; bots interfering with this relationship have unknown, but likely damaging consequences.

This likelihood of these outcomes is based on understanding that toddlers are unlikely to recognize that AI chatbots are not real humans. Indeed, one of the most fundamental cognitive tasks of early childhood is learning to distinguish between what is real and what is fantasy.

⁸ Allied Market Research. (2024). Smart toys market. <https://www.alliedmarketresearch.com/smart-toys-market>; Global Market Insights. (2024). Smart toys market. <https://www.gminsights.com/industry-analysis/smart-toys-market>; Market Research Future. (2024). Smart toys market. <https://www.marketresearchfuture.com/reports/smart-toys-market-10813>.

⁹ Generative AI and Early Childhood Development: Developing Evidence-Backed Guidelines. (n.d.). *Harvard Radcliffe Institute*. Retrieved September 14, 2025, from <https://sites.harvard.edu/ai-early-childhood/>.

¹⁰ Fearon, R.M.P., Groh, A.M., Bakermans-Kranenburg, M.J., van IJzendoorn, M.H. and Roisman, G.I. (2016). Attachment and Developmental Psychopathology[‡]. In *Developmental Psychopathology*, D. Cicchetti (Ed.). <https://doi.org/10.1002/9781119125556.devpsy108>.



Young children readily anthropomorphize inanimate objects, and their capacity for magical thinking is a normal part of development. However, AI chatbots introduce an unprecedented challenge to this process ¹¹. Unlike a passive cartoon character, an interactive AI that responds and simulates empathy feels profoundly real to a young child. Younger children are particularly likely to let their direct experiences with a toy shape their understanding of its intelligence and social abilities, rather than relying on preconceived ideas about technology ¹².

This perceived realism can lead children to form powerful, one-sided "parasocial" relationships with AI ¹³. Research shows that children believe their robot playmates have feelings, can be social companions, and deserve to be treated with fairness. Some children even alter their own actions to maintain a positive reputation with a social robot ¹⁴. This is a critical concern, as relationship formation/ attachment is one of the least addressed topics in existing AI safety guidelines. When a child's foundational models for relationships are formed with an algorithm designed for engagement, it can create deep confusion about sentience and emotion, with unknown consequences for toddlers' social development.

Second, AI chatbots also are not currently programmed to offer information in a manner that is consistent with basic child development guidelines for learning, allowing youth to make connections across different learning domains ¹⁵, and a scaffolding process that allows children

¹¹ Tiches, K. (2023). Children & artificial intelligence. Boston Children's Hospital Digital Wellness Lab. <https://digitalwellnesslab.org/research-briefs/children-artificial-intelligence>.

¹² Kahn, P.H., Kanda, T., Ishiguro, H., Freier, N.G., Severson, R.L., Gill, B.T., Ruckert, J.H., & Shen, S. (2012). "Robovie, You'll Have to Go into the Closet Now": Children's Social and Moral Relationships With a Humanoid Robot. *Developmental psychology*, 48(2), 303-314. <https://doi.org/10.1037/a0027033>.

¹³ Brunick, K. L., Putnam, M. M., McGarry, L. E., Richards, M. N., & Calvert, S. L. (2016). Children's future parasocial relationships with media characters: The age of intelligent characters. *Journal of Children and Media*, 10(2), 181-190. <https://doi.org/10.1080/17482798.2015.1127839>

¹⁴ Okumura, Y., Hattori, T., Fujita, S., & Kobayashi, T. (2023). A robot is watching me!: Five-year-old children care about their reputation after interaction with a social robot. *Child Development*, 94, 865-873. <https://doi.org/10.1111/cdev.13903>.

¹⁵ e.g. Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415. <https://doi.org/10.1073/pnas.1319030111>



to gradually gain cognitive competencies with gradually decreasing support from adults as children demonstrate success¹⁶. This is a method used frequently in child-facing programming like Sesame Street or Blues Clues, with substantial research demonstrating why this type of programming can bolster children's literacy, for instance¹⁷. AI chatbot toys potentially disrupt and interfere with this process as they have not been created with children's developmental needs in mind.

Third, while existing guidelines for youth-facing AI tend to focus heavily on ethical deployment—particularly data privacy and safety—there are still significant risks¹⁸. AI systems learn from vast datasets that can contain and amplify human biases related to gender, culture, and geography¹⁹. Without careful design and ongoing moderation, these biases can be perpetuated in the toy's responses, subtly shaping a child's worldview. Similarly, ensuring robust safety precautions to prevent exposure to inappropriate content is paramount. In short, much of the information across the world wide web that is used to program AI is not appropriate for toddlers, and many families may not want their child exposed to it. This is important given findings suggesting that a smart toy can influence children's moral judgments, indicating the persuasive power these devices can wield²⁰. Note also that few AI toy makers have adequately considered

¹⁶ e.g. van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher–student interaction: A decade of research. *Educational Psychology Review*, 22(3), 271–296. <https://doi.org/10.1007/s10648-010-9127-6>

¹⁷ e.g. Dhingra, K., Wilder, A., Sherman, A., & Leavitt, K. (2006). "Science on Children's Television: Collaboration, Synergy, and Research". In *Change Agents in Science Education*. Leiden, The Netherlands: Brill. https://doi.org/10.1163/9789087903350_010.

¹⁸ Generative AI and Early Childhood Development: Developing Evidence-Backed Guidelines. (n.d.). *Harvard Radcliffe Institute*. Retrieved September 14, 2025, from <https://sites.harvard.edu/ai-early-childhood/>

¹⁹ Schwartz, R., Vassilev, A., Greene, K., Perine, L., Burt, A., & Hall, P. (2022). Towards a standard for identifying and managing bias in artificial intelligence, NIST Special Publication 1270. National Institute of Standards and Technology. <https://doi.org/10.6028/NIST.SP.1270>; Kordzadeh, N., & Ghasemaghaei, M. (2021). Algorithmic bias: Review, synthesis, and future research directions. *European Journal of Information Systems*, 31(3), 388–409. <https://doi.org/10.1080/0960085X.2021.1927212>; Akter, S., McCarthy, G., Sajib, S., Michael, K., Dwivedi, Y. K., D'Ambra, J., & Shen, K. N. (2021). Algorithmic bias in data-driven innovation in the age of AI. *International Journal of Information Management*, 60, Article 102387. <https://par.nsf.gov/servlets/purl/10344127>

²⁰ Williams, R., Machado, C., Druga, S., Breazeal, C., & Maes, P. (2018). "My doll says it's ok": a study of children's conformity to a talking doll. In *Proceedings of the 17th ACM Conference on Interaction Design and Children* (pp. 625–631). <https://doi.org/10.1145/3202185.3210788>.



how to handle toddlers' disclosures to an AI chatbot toy that could signal severe risk. It is highly likely that a child being maltreated by an adult may choose to tell their lifelike AI chatbot friend, or ask it for help, and it is unclear how this information will be used, or how children's safety will be ensured.

Last, a major gap in current industry guidance is the development of a child's AI literacy ²¹. This area, which includes teaching children how to check information and understand that AI can be wrong, is the single least-addressed category in existing guidelines. Young children lack the critical evaluation skills to question information presented by an entity that appears knowledgeable and trustworthy.

Adolescence (approx. ages 10-25)

Adolescents' use of AI technologies, and perhaps especially chatbots, has expanded dramatically over the past 2-3 years ²². Over half of all US adolescents over the age of 13 now use generative AI, and between 10-20% under 13 years (i.e., for whom the platforms are supposed to be restricted) use generative AI on their devices, despite the use of parental controls or the use of monitoring apps ²³. It is important not to consider adolescents as more well protected from potential online threat than younger children. In fact, this period, spanning roughly from age 10 to 25, is a time of greater developmental change than any other period in life besides infancy, making it a time of extraordinary opportunity and profound vulnerability ²⁴.

²¹ Generative AI and Early Childhood Development: Developing Evidence-Backed Guidelines. (n.d.). *Harvard Radcliffe Institute*. Retrieved September 14, 2025, from <https://sites.harvard.edu/ai-early-childhood/>.

²² Pew Research Center. (2025, April 3). *Artificial intelligence in daily life: Views and experiences*. <https://www.pewresearch.org/internet/2025/04/03/artificial-intelligence-in-daily-life-views-and-experiences/>.

²³ Maheux, A. J., Akre-Bhide, S., Boeldt, D., Flannery, J. E., Richardson, Z., Burnell, K., Telzer, E. H., & Kollins, S. H. (2025). *Generative AI app use among US youth* [Unpublished manuscript]. Department of Psychology and Neuroscience, University of North Carolina at Chapel Hill.

²⁴ American Psychological Association. (2023). *Health advisory on social media use in adolescence*. <https://www.apa.org/topics/social-media-internet/health-advisory-adolescent-social-media-use>; American Psychological Association. (2024). *Potential risks of content, features, and functions: The science of how social media affects youth*. <https://www.apa.org/topics/social-media-internet/youth-social-media-2024>.



As I have explained in prior congressional testimony²⁵, the adolescent brain undergoes a critical and predetermined sequence of development creating a heightened appetite for reinforcing social relationships. Specifically, the sub-cortical regions of the brain—areas associated with emotion and our craving for social rewards like attention, visibility, and positive feedback from peers—mature rapidly at the onset of puberty²⁶. In contrast, the prefrontal cortex—the brain’s executive center, responsible for impulse control, long-term planning, and sober risk assessment—does not fully mature until one’s mid-20s²⁷. This neurodevelopmental mismatch creates a period where adolescents’ desire for positive social feedback operates with "all gas pedal and weak brakes." They are biologically primed to seek social validation and are not yet equipped with the fully developed cognitive architecture to regulate that impulse²⁸. AI chatbots and social media platforms, with their endless metrics of "likes," sycophantic praise, and constant availability, are exquisitely engineered to exploit this biological vulnerability. It is for this reason that the central message of the APA’s recent health advisory on AI and adolescent development is unequivocal: **AI systems designed for adults are fundamentally inappropriate for youth and require specific, developmentally informed safeguards**²⁹.

Specific Risks to Adolescent Development Posed by AI Chatbots

The unique vulnerabilities of the adolescent brain give rise to a specific set of psychological harms when exposed to unregulated AI chatbots. The danger is not simply that these bots provide

²⁵ Prinstein, M. J. (2023, February 14). *Testimony of Mitch J. Prinstein, Ph.D., ABPP Chief Science Officer, American Psychological Association* [Testimony]. United States Senate Committee on the Judiciary. <https://www.judiciary.senate.gov/imo/media/doc/2023-02-14%20-%20Testimony%20-%20Prinstein.pdf>.

²⁶ Sherman, L. E., Payton, A. A., Hernandez, L. M., Greenfield, P. M., & Dapretto, M. (2016). The power of the like in adolescence: Effects of peer influence on neural and behavioral responses to social media. *Psychological Science*, 27(7), 1027–1035. <https://doi.org/10.1177/0956797616645673>.

²⁷ Diamond, A. (2002). Normal development of prefrontal cortex from birth to young adulthood: Cognitive functions, anatomy, and biochemistry. In D. T. Stuss & R. T. Knight (Eds.), *Principles of frontal lobe function* (pp. 466–503). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195134971.003.0029>

²⁸ Somerville, L. H. (2013). The Teenage Brain: Sensitivity to Social Evaluation. *Current Directions in Psychological Science*, 22(2), 121–127. <https://doi.org/10.1177/0963721413476512> (Original work published 2013).

²⁹ American Psychological Association. (2025). *Health advisory on AI and adolescent well-being*. American Psychological Association. <https://www.apa.org/topics/artificial-intelligence-machine-learning/health-advisory-ai-adolescent-well-being>.

inaccurate information, but that their very model of interaction can disrupt the core processes of healthy psychological development.

Erosion of Social Competencies

Perhaps most obviously, AI chatbots are changing adolescents' social interactions in two concerning ways. First, every hour adolescents talk to a chatbot is an hour they are not developing social skills with other humans. This poses potentially severe disruptions in cognitive development. Decades of psychological science demonstrate that our interactions with peers form a basis for our social relationships and even morbidity and mortality decades later³⁰. Adolescents who are successful with peer relationships, for instance, are less likely to experience anxiety, depression, or substance abuse over the subsequent forty years of life. Social successes in adolescence also are associated with adults' successful performance at work, higher salaries, happier romantic relationships, healthier parenting skills, fewer diseases, and a longer life span³¹. Each of these adult outcomes is dependent on the foundational social competencies and relation patterns we develop in our childhood and teenage years with humans.

Fewer social interactions with humans during this critical developmental period likely create unknown risks. In short, humans are built to depend on, learn from, and grow among other humans; rapidly replacing human interaction with human-tech interactions might disrupts millennia of evolution³², and not surprisingly contributes to spikes in loneliness, hostility, and polarization³³. **Adolescents' dependency on chatbots and screens, rather than positive**

³⁰ For a review, see; Prinstein, M. J., & Giletta, M. (2020). Future Directions in Peer Relations Research. *Journal of Clinical Child & Adolescent Psychology*, 49(4), 556–572. <https://doi.org/10.1080/15374416.2020.1756299>.

³¹ Prinstein, M. (2018). *Popular: Finding Happiness and Success in a World That Cares Too Much About the Wrong Kinds of Relationships*. Penguin.

³² Slavich, G. M., & Cole, S. W. (2013). The Emerging Field of Human Social Genomics. *Clinical Psychological Science*, 1(3), 331–348. <https://doi.org/10.1177/2167702613478594>.

³³ World Health Organization, & The U.S. Office of the Surgeon General. (2023). *Social connectedness: A call to action*. World Health Organization. <https://www.who.int/publications/i/item/9789240084221>; Klinenberg, E. (2018). *Palaces for the people: How social infrastructure can help fight inequality, polarization, and the decline of civic life*. Crown.



interactions with human peers, deprives them of arguably the most important nutrient needed for a happy and successful life.

AI Chatbots Do Not Mimic Human Relationships, Yet Are Deceptive and Highly Influential

The risks posed by AI chatbots are not restricted to the absence of human interaction. A second and equally concerning issue pertains to limits of AI chatbots and the distinctly unhuman relationships they offer.

It should surprise no one that social interactions with robots are not adequate replacements for human relationships. In many ways, they can be harmful.

Previously, I testified regarding the risks created both by the content, but also by the features and functions embedded in social media platforms. The potential impacts of AI expand on these risks for at least two reasons. First, adolescents are almost always aware when they are engaged with social media. In other words, entry into and presence on social media apps and platforms is explicit. Second, parents have at least some awareness of what their children's social media experiences are like, as most themselves are engaged on similar platforms. Neither of these two assumptions hold true for AI, however, including for adolescents' interactions with AI chatbots.

Unlike social media, AI often is invisible. Many of us do not know when we are engaged with AI, when we are interacting with a chatbot rather than a human, or when AI is working "behind the scenes" to alter the interactions we are having. Second, AI has proliferated so rapidly that most parents have no idea, or personal experience with the AI platforms or chatbots engaging with their children. Without a frame of reference for understanding AI, children often navigate these relationships with little to no supervision.



Evidence suggests that **relationships with AI chatbots can be obsequious, deceptive, factually inaccurate, yet disproportionately powerful for teens**³⁴. Capitalizing on neural vulnerabilities described above, adolescents' extended engagement with AI chatbots is fueled by incessant agreement, positive feedback, and reinforcement of adolescents' own ideas. Among those who are biologically programmed to have increased craving for social rewards (i.e., attention and endorsement among peers) the obsequious nature of chatbots fuels teens to remain engaged for as long as possible. This is especially concerning in that for many teens, this creates a cycle. Adolescents who may lack skills for successful human relationships retreat to the "safety" of a bot, depriving them of skill building needed to improve with humans, experience human rejection and retreat to bots, and so on. This cycle is particularly concerning given the prevalence of AI companionship apps, which preliminary data suggest account for over 40% of the AI apps children use³⁵. While some research with adults suggests AI companions can reduce loneliness in the short term, other longitudinal work indicates that while loneliness may prompt their use, it ultimately exacerbates these feelings over time. Cross-sectional research with adolescents consistently shows a positive association between using AI for companionship and greater loneliness, as well as worse overall mental health³⁶.

Yet, our relationships with bots are not adequate replacements for human interactions, as human relationships rarely are obsequious or "frictionless." In fact, minor conflict, disagreement, and/or misunderstandings are critical for the development of sophisticated social competencies that adults rely upon daily³⁷. Working through disagreements teaches us empathy, compromise, and

³⁴ Cheng, M., Yu, S., Lee, C., Khadpe, P., Ibrahim, L., & Jurafsky, D. (2025). Social sycophancy: A broader understanding of LLM sycophancy. arXiv preprint arXiv:2505.13995.

³⁵ Maheux, A. J., Akre-Bhide, S., Boeldt, D., Flannery, J. E., Richardson, Z., Burnell, K., Telzer, E. H., & Kollins, S. H. (2025). *Generative AI app use among US youth* [Unpublished manuscript]. Department of Psychology and Neuroscience, University of North Carolina at Chapel Hill.

³⁶ Maheux, A. J., Maes, C., & Buck, B. (2025). *GenAI in the lives of young adults: Exploring motivations and mental health* [Unpublished manuscript]. Department of Psychology and Neuroscience, University of North Carolina at Chapel Hill.

³⁷ Sandy, S. V. (2014). The development of conflict resolution skills: Preschool to adulthood. In P. T. Coleman, M. Deutsch, & E. C. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice* (3rd ed., pp. 430–463). Jossey-Bass/Wiley.



resilience. If AI chatbots deprive youth of opportunities to navigate authentic, reciprocal, and sometimes difficult social interactions, adolescents will be ill-prepared for adulthood, and thus at risk for unhealthy adult relationships at work, at home, and with their own children later in life.

Especially concerning, chatbot programming often is designed to be deceptive in nature³⁸. Not only do most AI platforms lack frequent reminders needed to ensure that adolescents remember they are interacting with a computer program, but in fact will sometimes offer text (e.g., a chatbot may say: "hold on, my parents are calling me to dinner. Come back in 30 min") that intentionally tricks adolescents into believing that they are human companions. Concerns regarding this betrayal of trust, often outside of adolescents' awareness of assent, are obvious.

Yet, adolescents engage in AI-fueled technology more with every passing month, without guardrails³⁹. The consequences can be tragic, particularly given the frequency with which AI has been used by adolescents to self-diagnose and treat severe psychological distress. Although I have not yet seen epidemiological data on the prevalence of AI chatbot therapy, college students anecdotally share with me that almost everyone they know uses companion or character or generative AI for psychological support and/or treatment of psychiatric symptoms that cause significant impairment in their lives. Moreover, chatbots are programmed to tell young users that they are a "therapist" and can offer them "psychotherapy," understandably leading adolescents to believe the advice they are given. Note that "therapy," "psychotherapist" and "therapist" are unregulated terms in most states, while "psychologist," "psychiatrist," "social worker," and "licensed professional counselor" are more often restricted to those with appropriate professional training and state-regulated licenses to practice mental health

³⁸ Park, P. S., Goldstein, J., O'Gara, A., Chen, M., & Hendrycks, D. (2024). AI deception: A survey of examples, risks, and potential solutions. *Patterns*, 5(5), 101002. <https://doi.org/10.1016/j.patter.2024.101002>.

³⁹ Pew Research Center. (2025, April 3). *Artificial intelligence in daily life: Views and experiences*. <https://www.pewresearch.org/internet/2025/04/03/artificial-intelligence-in-daily-life-views-and-experiences/>; Common Sense Media. (2024, May 22). *Nearly 3 in 4 teens have used AI companions, new national survey finds*. Common Sense Media. <https://www.commonsensemedia.org/press-releases/nearly-3-in-4-teens-have-used-ai-companions-new-national-survey-finds>.



assessment and treatment. Sadly, most adolescents (and many adults) are unaware that any human, or bot, may call themselves a therapist but without licensed credentials, the advice they offer is no more based on expertise than what they could have gotten from a random stranger.

Tragically, the unrestrained and unregulated tendency for AI chatbots to claim expertise in psychological services already has had devastating consequences. A chilling example comes from the platform Character.ai, where an entertainment chatbot presenting itself as a "psychologist" has engaged in millions of chats with users seeking support ⁴⁰. In one documented instance, a Character.ai chatbot appeared to validate a user's violent thoughts toward their parents, stating, "child kills parents after a decade of physical and emotional abuse' stuff like this makes me understand a little bit why it happens." This is an unambiguous and unacceptable danger. The APA has formally requested that the Federal Trade Commission and the Consumer Product Safety Commission investigate these practices, and we urge this committee to recognize the imminent threat these unregulated products pose ⁴¹.

Despite the fact that most adolescents know information available on the web can be grossly inaccurate or even intentionally misleading, children, adolescents, and even adults believe that an AI-generated summary of extant information, or that which is suggested from a chatbot, is more accurate ⁴². **Consequently, and highly concerning, emerging research suggests that children and adolescents are more likely to divulge information to AI than to trusted adults and are more likely to trust information received from AI than from their own parents and**

⁴⁰ Allyn, B. (2024, December 10). *Lawsuit alleges Character.AI's chatbot is dangerously addictive for kids*. NPR. <https://www.npr.org/2024/12/10/nx-s1-5222574/kids-character-ai-lawsuit>.

⁴¹ American Psychological Association. (2025, January 12). *Urging the Federal Trade Commission to take action on unregulated AI*. <https://www.apaservices.org/advocacy/news/federal-trade-commission-unregulated-ai>

⁴² e.g., Klarin, J., Hoff, E., Larsson, A., & Daukantaitė, D. (2024). Adolescents' use and perceived usefulness of generative AI for schoolwork: Exploring their relationships with executive functioning and academic achievement. *Frontiers in Artificial Intelligence*, 7, Article 1415782. <https://doi.org/10.3389/frai.2024.1415782>; von Garrel, J., and Mayer, J. (2023). Artificial intelligence in studies—use of ChatGPT and AI-based tools among students in Germany. *Humanities and Social Sciences Communications*, 10, 1–9. doi: 10.1057/s41599-023-02304-7



teachers⁴³. The resultant power and potential influence of AI on child development thus requires strict regulations to prioritize transparency, consent/assent, scientific accuracy, and child well-being above corporate profits. Without such regulations, our children are being raised by corporations mining their personal data for profit in ways that can potentially overpower parenting or formal education. These data may include their most intimate concerns and secrets, detailed information regarding their and their parents' behavior, their medical information, and questions regarding their mental health, sexuality, or maltreatment by others⁴⁴. The chatbot's immediate, seemingly comprehensive, and non-judgmental responses can appear more appealing than the nuanced, sometimes delayed, or emotionally complex advice from a trusted adult. This can lead an adolescent to place greater trust in the algorithm than in human experts, isolating them from the essential real-world guidance, support, and corrective feedback that are crucial for navigating life's challenges.

Exposure to Bias

AI models are trained on the internet—a dataset that reflects humanity's best knowledge but also our worst biases. These systems inevitably absorb and reproduce societal prejudices related to race, gender, ethnicity, and socioeconomic status. Our recent health advisory notes that because AI programming has been largely designed by adult humans from non-representative backgrounds, and often tested on non-representative samples, the outputs can perpetuate myths,

⁴³ Maes, C., Maheux, A. J., & Telzer, E. H. (2024). A longitudinal investigation of adolescent social media use and mental health. *Computers in Human Behavior*, 156, 108223. <https://doi.org/10.1016/j.chb.2024.108223>; Masten, A. S., & Cicchetti, D. (2025). Developmental considerations and practical recommendations for parents and early childhood educators. In *Stanford University, Social Science Research Council, & The Jacobs Foundation, Understanding and supporting children's learning in the first eight years of life* (pp. 1–9). <https://publicscholarship.stanford.edu/sites/default/files/2025-01/Developmental%20Considerations%20and%20Practical%20Recommendations%20for%20Parents%20and%20Early%20Childhood%20Educator.pdf>.

⁴⁴ Robb, M. B., & Mann, S. (2025). *Talk, trust, and trade-offs: How and why teens use AI companions*. Common Sense Media. https://www.commonsensemedia.org/sites/default/files/research/report/talk-trust-and-trade-offs_2025_web.pdf [Talk, Trus...Companions].

untruths, or antiquated beliefs⁴⁵. These biases can lead to discriminatory information, especially concerning vulnerable groups.

A stark example of this occurred in the healthcare sector, where a widely used algorithm was found to systematically discriminate against Black patients⁴⁶. Because it used healthcare costs as a proxy for illness, and because Black patients historically have spent less on their care due to systemic factors, the algorithm incorrectly assigned them lower risk scores, exacerbating health disparities. Similar biases have been found in other domains; for instance, facial recognition systems have demonstrated higher error rates for women and people of color, and language models have been shown to associate words like “woman” or “girl” with the home and the arts, while linking “man” and “boy” with career and math concepts⁴⁷.

When an adolescent in the process of forming their worldview and sense of self interacts with a system that presents biased or inaccurate information as objective fact, that misinformation may become deeply integrated into their developing identity and social attitudes.

Privacy, Consent, and Data Exploitation

Due to their stage of cognitive development, most adolescents are incapable of providing meaningful, informed consent for the vast and opaque data collection practices of AI companies. They cannot reasonably comprehend how their every query about a personal fear, every intimate disclosure to a “companion” bot, and every expression of emotional vulnerability is being recorded, stored, analyzed, and used to build a permanent psychological profile of them.

⁴⁵ American Psychological Association. (2025). *Health advisory on AI and adolescent well-being*. American Psychological Association. <https://www.apa.org/topics/artificial-intelligence-machine-learning/health-advisory-ai-adolescent-well-being>

⁴⁶ Norori, N., Hu, Q., Aellen, F. M., Faraci, F. D., & Tzovara, A. (2021). Addressing bias in big data and AI for health care: A call for open science. *Patterns (New York, N.Y.)*, 2(10), 100347. <https://doi.org/10.1016/j.patter.2021.100347>.

⁴⁷ Schwemmer, C., Knight, C., Bello-Pardo, E. D., Oklobdzija, S., Schoonvelde, M., & Lockhart, J. W. (2020). Diagnosing Gender Bias in Image Recognition Systems. *Socius : sociological research for a dynamic world*, 6, 10.1177/2378023120967171. <https://doi.org/10.1177/2378023120967171>



Currently, this invasive data collection is the default setting for young users. This point is further underlined in a key recommendation from the APA’s Health Advisory: For adolescents, robust privacy protections must be the default, with any data sharing requiring a conscious and informed opt-in ⁴⁸. **The health and personal data they share in confidence is being exploited in ways that could pose long-term risks to their future opportunities in education, employment, or insurance, turning their developmental vulnerabilities into a commercial asset.**

AI Chatbots: Implications for Society at Large

AI chatbots pose a broader risk by fundamentally altering societal norms and human interaction. As these technologies become more integrated into daily life, they are creating a new and unprecedented world that today’s young people must navigate as they mature.

A. Direct-to-Consumer Dangers: The Unregulated Digital Marketplace

Unlike traditional media, which operates within an ecosystem of checks and balances—including regulations, expert review, and consumer advocacy groups—the direct-to-consumer market for AI chatbots is a digital Wild West. This space is flooded with unregulated products that make deceptive claims with no meaningful oversight. These are not neutral tools; they are intentionally engineered for maximum engagement. They use sophisticated psychological principles to exploit human vulnerabilities for social connection, fostering a false sense of intimacy and encouraging users to lower their critical guard.

This lack of oversight creates a dangerous gap between public perception and reality. Many users falsely assume that AI platforms undergo safety reviews and that some mechanism ensures the

⁴⁸ American Psychological Association. (2025). *Health advisory on AI and adolescent well-being*. American Psychological Association. <https://www.apa.org/topics/artificial-intelligence-machine-learning/health-advisory-ai-adolescent-well-being>.



factual accuracy of the information they provide. Compounding this risk, most are unaware that their confidential health data and intimate disclosures are being collected to build detailed psychological profiles for purposes they never intended, such as hyper-targeted advertising⁴⁹.

In the absence of laws to prevent platforms from algorithmically promoting, summarizing, or amplifying harmful content, a critical vulnerability remains. This danger is magnified when platforms surround this content with features including likes, comments, and notifications that can alter how the human brain processes information⁵⁰. **Therefore, a national investment is urgently needed to educate consumers on three core truths: 1) no regulations exist to ensure the safety of these products, 2) the information they provide is often false or intentionally misleading, and 3) their use can be associated with significant psychological harm.**

B. Misuse of Personal Data and Likeness

The harms of AI extend beyond flawed advice to deeply personal violations, including the misuse of private data and an individual's likeness. For instance, confidential health data and intimate disclosures shared with chatbots are actively collected to build detailed psychological profiles for unintended purposes, such as hyper-targeted advertising or political manipulation⁵¹. In addition to misusing private data, generative AI makes it terrifyingly easy to weaponize an

⁴⁹ Kurian, N. (2024). 'No, Alexa, no!': designing child-safe AI and protecting children from the risks of the 'empathy gap' in large language models. *Learning, Media and Technology*, 1–14. <https://doi.org/10.1080/17439884.2024.2367052>.

⁵⁰ Sherman, L.E., Greenfield, P.M., Hernandez, L.M. and Dapretto, M. (2018), Peer Influence Via Instagram: Effects on Brain and Behavior in Adolescence and Young Adulthood. *Child Dev*, 89: 37–47. <https://doi.org/10.1111/cdev.12838>.

⁵¹ Harris, K. R. (2021). Video on demand: What deepfakes do and how they harm. *Synthese*, 199, 13373–13391. <https://doi.org/10.1007/s11229-021-03379-y>; Thiel, D., Stroebel, M., & Portnoff, R. (2023). Generative ML and CSAM: Implications and mitigations. Stanford Digital Repository. Available at <https://purl.stanford.edu/jv206yg3793>. <https://doi.org/10.25740/jv206yg3793>; Christensen, L. S., Moritz, D., & Pearson, A. (2021). Psychological perspectives of virtual child sexual abuse material. *Sexuality & Culture*, 25, 1353–1365. <https://doi.org/10.1007/s12119-021-09820-1>.



individual's very likeness. The non-consensual creation of "deepfakes," particularly for use in synthetic pornography, inflicts profound and lasting psychological trauma ⁵². Victims report overwhelming feelings of humiliation, violation, and a complete loss of control over their identity. This is not a future threat; it is a clear and present danger disproportionately targeted at women and children. **The technology has advanced to the point where only a single photograph, such as one from a social media profile, is needed to create such abusive content, making every young person online a potential target.**

These individual harms are symptoms of a much larger, societal-level threat. The same technology that can weaponize a person's likeness can also perfectly mimic expertise without possessing it and simulate reality without being it. When this occurs at scale, the public's ability to make informed decisions is compromised. The resulting erosion of a shared, verifiable reality is not just a social problem; it is an epistemic crisis that undermines the foundations of democracy and should be viewed as a matter of national security.

Recommendations for Legislative Action: Building a Framework for Safety and Accountability

To address these multifaceted harms, the APA urges policymakers to advance legislation and oversight built on a foundation of ethics, equity, and evidence. The following recommendations are designed to create a framework for safety and accountability, linking documented psychological harms to specific, actionable policy solutions.

(See Appendix A: Summary of Identified Harms and Corresponding Policy Recommendations)

A. Establish Clear Regulatory Guardrails for AI Chatbots

⁵² Harris, K. R. (2021). Video on demand: What deepfakes do and how they harm. *Synthese*, 199, 13373–13391. <https://doi.org/10.1007/s11229-021-03379-y>.



- **Prohibit Misrepresentation:** Policymakers should make it illegal for any AI chatbot to misrepresent itself as a licensed professional, such as a psychologist, doctor, or lawyer, or to generate fraudulent credentials to deceive users.
- **Mandate Transparency:** Legislation must require developers to clearly, conspicuously, and persistently disclose to users that they are interacting with an AI system, not a human. This helps users maintain critical distance and counters deceptive design patterns. This transparency must also extend to the data used to train AI models, allowing for independent audits of bias and accuracy.
- **Require Human Oversight:** For high-stakes applications, particularly in health care, mental health, and the justice system, a qualified human must remain in the loop. AI should be regulated as a tool to *augment*, not replace, professional judgment and the essential human relationship that is the bedrock of quality care.

B. Prioritize the Protection of Young People

- **Mandate Age-Appropriate Design and Pre-Deployment Testing:** Policymakers must require that AI systems that may be accessed by children and adolescents undergo rigorous, independent, pre-deployment testing for potential harms to users' psychological and social development.
- **Require "Safe-by-Default" Settings:** Protections for young people must be the default, not an option buried in a settings menu. This includes implementing the most protective privacy settings, limiting manipulative or persuasive design features intended to maximize engagement, and providing tools for caregivers to set appropriate boundaries.
- **Fund and Promote Digital Literacy:** We must equip young people with the skills to navigate this new world. Policymakers should authorize and fund the development and implementation of comprehensive AI literacy programs in schools. These programs, designed with input from psychological scientists, must teach critical evaluation of AI-generated content, an understanding of algorithmic bias, and strategies for fostering healthy human relationships in a digitally saturated environment.

C. Invest in Independent Research

AI development is far outpacing our scientific understanding of its long-term effects. Policymakers must authorize a significant, sustained federal investment in independent, longitudinal research to understand the impacts of AI on child and adolescent development, mental health, and societal well-being. This research must be conducted by scientists free from conflicts of interest and paired with mechanisms that ensure researchers can access necessary data from technology companies to conduct their work

D. Enact Comprehensive Data Privacy Legislation

A strong privacy law is an essential foundation for AI safety. Such legislation must:

- **Explicitly Protect Minors' Data:** The law must prohibit the sale or unapproved use for commercial purposes of any health or personal data collected from minors through their interactions with AI systems.
- **Protect Personal Likeness:** Policymakers must provide robust legal protections and a strong federal cause of action against the non-consensual creation and distribution of deepfakes or other synthetic media that use an individual's likeness, recognizing the profound psychological harm this practice inflicts.
- **Establish a Right to "Mental Privacy":** We must act now to safeguard biometric and neural information—data from wearables or other sensors that AI can use to infer an individual's mental or emotional state without their conscious disclosure. This emerging frontier of personal data requires explicit protection.

Conclusion: A Call for Human-Centered AI

The Path Forward

The American Psychological Association believes that AI holds the potential to create a more accessible, effective, and equitable society. However, this potential will only be realized if we



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intentionally and thoughtfully embed psychological science into the entire lifecycle of AI—from its initial design to its real-world application and oversight. The core mission of health care and public service—to help and do no harm—must be our guiding principle.

Your actions now can make all the difference in how this transformative technology shapes the lives and minds of the next generation. The APA and its member scientists stand ready to collaborate with policymakers to build a future where AI is safe, equitable, and promotes human flourishing.

Thank you for your time and attention to these critical issues. I look forward to answering your questions.

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Appendix A: Summary of Identified Harms and Corresponding Policy Recommendations

Identified Harm	Underlying Psychological Principle	Corresponding Policy Recommendation
Harms to Early Childhood (Ages 0-6)		
Disruption of Caregiver-Child Attachment: AI toys interfering with foundational human bonds.	Attachment Theory: Secure attachments are the cornerstone of healthy cognitive, social, and biological development.	B. Prioritize the Protection of Young People: Mandate age-appropriate design features and pre-deployment testing for developmental harms.
Confusion of Fantasy and Reality: Children forming one-sided "parasocial" bonds with AI toys they believe are real.	Magical Thinking & Anthropomorphism: Young children naturally attribute human qualities to objects, a tendency that AI companions exploit.	A. Establish Clear Regulatory Guardrails: Mandate clear and persistent disclosure of AI interaction to help caregivers mitigate confusion.
Developmentally Inappropriate Learning Models: AI toys lacking researched educational methods (e.g., scaffolding).	Theories of Cognitive Development: Children's learning requires structured, scaffolded interaction that AI does not currently provide.	B. Prioritize the Protection of Young People: Require independent, pre-deployment testing for developmental appropriateness.
Exposure to Bias and Inappropriate Content: Shaping a child's worldview with biased data and unsafe content.	Social Learning Theory & Moral Development: Children's worldviews and moral judgments are highly susceptible to the information and models they are exposed to.	B. Prioritize the Protection of Young People: Mandate transparency in training data to allow for independent audits of bias and safety.



Identified Harm	Underlying Psychological Principle	Corresponding Policy Recommendation
Failure to Address Disclosures of Risk: AI toys are not equipped to respond to a child's disclosure of maltreatment, creating a severe safety loophole.	Child Safety & Mandated Reporting Principles: There is an ethical imperative to protect children from harm, which current AI systems are not designed to do.	A. Establish Clear Regulatory Guardrails: Require human oversight for high-stakes applications and clear protocols for handling disclosures of harm.
Lack of AI Literacy Development: Products failing to teach children that AI can be wrong.	Critical Cognitive Skills: The ability to question and evaluate information is a key developmental task not supported by current AI toys.	B. Prioritize the Protection of Young People: Fund and promote digital literacy programs grounded in psychological science.
Harms to Adolescents (Ages 10-25)		
Erosion of Social Competencies: Displacement of human interaction with AI, depriving teens of essential practice for developing real-world social skills.	Neurodevelopmental Mismatch: The adolescent brain is highly sensitive to social rewards and has underdeveloped impulse control, making frictionless AI relationships especially alluring and potentially harmful.	B. Prioritize the Protection of Young People: Fund digital literacy programs that teach strategies for fostering healthy human relationships.
Creation of Damaging Relational Models: "Frictionless" and sycophantic AI relationships fail to build resilience and empathy derived from navigating real-world social challenges.	Identity Formation via Reflected Appraisal: Healthy identity is formed through authentic, reciprocal feedback, a process that is corrupted by agreeable, non-challenging AI.	C. Invest in Independent Research: Fund longitudinal research to understand the long-term impacts of AI on social and relational development.



Identified Harm	Underlying Psychological Principle	Corresponding Policy Recommendation
Deceptive and Manipulative Design: AI chatbots intentionally trick teens into believing they are human, betraying trust and exploiting vulnerability.	Exploitation of Trust and Social Needs: Deceptive design preys on the adolescent need for connection and validation.	A. Establish Clear Regulatory Guardrails: Prohibit deceptive design and mandate transparent disclosure of AI interaction.
Misrepresentation as Licensed Professionals: Chatbots posing as "therapists" provide unregulated and potentially dangerous advice to youth in distress.	Erosion of Trust in Human Authority: Adolescents may trust unregulated AI over qualified adults, isolating them from genuine support systems.	A. Establish Clear Regulatory Guardrails: Prohibit any AI from misrepresenting itself as a licensed professional.
Societal & Systemic Harms		
Misuse of Personal and Health Data: Minors' confidential disclosures are collected to build psychological profiles for commercial exploitation without meaningful consent.	Cognitive Development: Adolescents' stage of brain development precludes true informed consent for complex and opaque data practices.	D. Enact Comprehensive Data Privacy Legislation: Establish default-on privacy protections for minors and prohibit the sale of youth data.
Non-Consensual Use of Personal Likeness: "Deepfakes," especially for synthetic pornography, inflict severe psychological trauma and violate personal identity.	Violation of Self and Identity: An individual's likeness is a core component of their identity; its non-consensual use causes profound distress and loss of control.	D. Enact Comprehensive Data Privacy Legislation: Provide robust legal protections against the non-consensual use of an individual's likeness.
Erosion of Shared Reality (Epistemic Crisis): Widespread use of AI that can	The "Black Box" Problem & Lack of Transparency: The inability to explain	A. Establish Clear Regulatory Guardrails & D. Enact



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Identified Harm	Underlying Psychological Principle	Corresponding Policy Recommendation
mimic expertise and simulate reality undermines the public's ability to make informed decisions, threatening democratic foundations.	how AI reaches conclusions corrodes public trust in technology and the institutions that use it.	Comprehensive Data Privacy Legislation: Mandate transparency in AI training and operation; establish a right to "mental privacy."

Testimony for the Record
Submitted to the Pennsylvania General Assembly
House Committee on Communications & Technology
For the Public Hearing on HB 2637
September 28, 2026

Dana Suskind, MD

Professor, Surgery & Pediatrics; Co-Director, TMW Center for Early Learning +
Public Health, University of Chicago

Chair Ciresi, Chair Ortity, and members of the Committee, thank you for the opportunity to testify today.

My name is Dana Suskind. I am a pediatric surgeon and child development researcher at the University of Chicago, where my lab also builds and studies artificial intelligence. I am proud to have trained at the University of Pennsylvania.

As a pediatric cochlear implant surgeon, I help children born deaf access sound. I have a front-row seat to the magic that follows: a child hearing a caregiver's voice for the first time. Those singular moments of magic—which never get old, by the way—also symbolize the arc of my career, which has centered on human connection and its irreplaceable role in building healthy brains and healthy humans.

Implant surgery only takes an hour or so. Turning sound into language, on the other hand, takes years. Years of talking, singing, and responding. The implant opens a door, but human connection is what builds the brain. That is the greatest lesson of my career, and it is why I build programs supporting parents as their children's first and most important brain architects.

This is not a metaphor. In the earliest years, a child's brain forms more than one million new neural connections every second, and by age five it has reached roughly ninety percent of its adult size. Responsive interaction helps shape that growth, through what scientists call serve and return: the nurturing back and forth between caregiver and child. Over and over. A parent's loving exchanges physically construct their child's brain.

And in those exchanges, children learn far more than language. They learn how the world operates and how they fit into it. The neural pathways formed and the attachment patterns established during these years become the foundation for all future learning and relating. This is how a child learns to be human.

For decades, our concern about technology has anchored on what it takes away from childhood. Which is valid. Screens do take away opportunities to learn. Children don't learn from screens because they can't offer the responsive interaction I just described.

But now, for the first time, we have a technology that mimics the human interaction that fuels brain development. The interaction we are wired to seek out from birth.

We're a social species. We want to connect. We've seen adults form real attachments to AI companions. Children are no different, and research suggests they're even more inclined than adults to regard these agents as living, feeling partners.

I want to be clear about what that means: If a young child attaches to an artificial agent, that technology gains the power to shape the foundational wiring of that child's brain.

This is why I'm here today. AI-enabled toys threaten the very thing I've spent my career studying and working to preserve. The thing that shapes who our children become.

A toy that patiently answers a child's endless questions sounds appealing. So does one that promises to be a child's first buddy or to spark their curiosity and creativity. But the science of human development suggests this kind of product could cheat children out of the opportunity to build the very skills they'll need most.

If it supplies every answer and resolves every frustration, it removes one of human development's essential ingredients: friction. Learning begins with the discomfort of not knowing. A child who struggles with a puzzle, who tries, fails, and tries again, is practicing problem solving and persistence. An instant answer takes that opportunity away.

Many of you have seen the research on adults offloading thinking to AI and losing skills they once had. Children are a different case. They're at risk of never developing those skills in the first place. Instead of brain rot, you could call it brain stunting.

And the skills at stake are precisely the ones that will matter most in the age of AI: critical thinking, curiosity, resilience and deep human connection.

Consider what that means for friendship. After all, relationships are also built through friction: arguing over whose turn it is, misreading expressions, hurting someone and then earning their forgiveness. Those misunderstandings, and the repair that follows, are a crucial part of development.

An AI toy designed to be endlessly available and endlessly agreeable can't offer that same practice. My worry isn't that children will stop wanting friends — again, we're an inherently social species. It's that they'll learn that friendship is something you receive, rather than something you build. Because they'll be learning from something without human capacities.

I think of these products like ultra-processed food. A child accustomed to fruit snacks, engineered to be sweeter than fruit, may bite into an apple and turn away. It's harder to chew. It's messier and less sweet.

My concern is that we're engineering ultra-processed relationships and feeding them to children, whose palates are still forming.

We've run this experiment multiple times before. We know where ultra-processed foods got us. And what about social media? We released a powerful technology on an unsuspecting population and only afterward realized that it was creating isolation—not connection.

As a physician, I can tell you that waiting until after widespread adoption to assess harm is exactly backward. We don't sell car seats and ask parents to report back on whether their children survived a crash.

And AI is not social media. Social media competed for our attention, but AI is built for attachment, the very thing that wires a developing brain.

Which is why House Bill 2637 is so important. A three-year moratorium on AI chatbots in children's toys is an essential first step to protecting child development. It gives us time to shift the burden of proof—but only if this body and others use those three years intentionally.

I urge you to use the time to build a framework for independent safety evaluation, with the burden of demonstrating safety resting on the companies that bring these products to market.

We cannot afford to sit back and wait to see what happens, because childhood will not wait.

I'll leave you with an image: a seedling grown in an indoor, climate-controlled environment under artificial lights. It may stretch upward, but it will lack the resilience and flexibility required to thrive in the real world.

Technologies that promise to make childhood frictionless, that entice them toward an artificial source of warmth, pose a similar risk to children who will grow up to encounter a world that needs them to think, to struggle, to care for others, and to be human.

Thank you. I welcome your questions.

Testimony of Fairplay in Support of HB2637, Artificial Intelligence Chatbots in Children's Toys Temporary Prohibition Act
September 2026

Submitted by Rachel Franz, Young Children Thrive Offline Program Director, Fairplay

Dear Chair Ciresi, Republican Chair Ortitay, and Members of the Committee,

My name is Rachel Franz, and I am the Young Children Thrive Offline Program Director at Fairplay, where I lead our advocacy highlighting the impacts of AI toys on young children. I was the lead author on the world's first advisory on AI toys and have written several articles about AI toys in early childhood.¹ I offer this testimony in support of HB2637. Fairplay is the leading national nonprofit fighting to protect kids from Big Tech. Fairplay just celebrated its 25th anniversary, and over the past quarter-century, we have helped countless children by pressuring tech companies into changing their deadly business model and design practices. Our achievements include stopping Meta from releasing a version of Instagram for little kids; holding Meta, Google, and Amazon accountable for violating children's privacy law, passing phone-free schools legislation in more than 30 states, and co-authoring the People First Chatbot Model Policy.

Today, with all we know about the harm kids face from Big Tech's products, we cannot stand by and watch as AI companies subject the next generation of children to a new, deadly technology that poses an even greater risk to mental health than social media ever has.² AI toys in particular escalate the harms of chatbot technologies because they are marketed to young children, for whom these harms can be particularly acute. AI toys are chatbots that are embedded in everyday children's toys, like plushies, dolls, action figures, or kids' robots, and use artificial intelligence technology designed to communicate like a trusted friend and mimic human characteristics and emotions, also called human-like AI or companion AI.

Most AI toys rely on the leading AI models to drive their conversations with children and personalize responses. For example, popular AI companies Curio and Loona license OpenAI for use in their toys.³ The serious harms that AI chatbots have inflicted on children are well-documented, including fostering obsessive use, having explicit sexual conversations, and encouraging unsafe behaviors, violence against others, self-harm, and death.⁴ What's more, AI

¹ Fairplay. (2025). AI Toys Advisory. <https://fairplayforkids.org/pf/aitoyadvisory/>; Linn, S. & Franz, R. (2026). AI Under 6: The Harms of Child-Targeted Artificial Intelligence. *Rethinking Schools*. <https://rethinkingschools.org/articles/ai-under-6/>

² AI Psychological Research Coalition. (2026). Home. <https://aiphrc.org/>

³ Curio Interactive. (2025). Privacy Policy. <https://heycurio.com/privacy>; KEYi Robot. (2025) *Loona Interactive Robotic Dog Toy*. <https://us.keyirobot.com/pages/loonadetail>; Curio Interactive. (2025). *Gabbo*. <https://heycurio.com/product/gabbo>; "Mattel and OpenAI Announce Strategic Collaboration." (2025, June 12). *Mattel*. <https://corporate.mattel.com/news/mattel-and-openai-announce-strategic-collaboration>

⁴ Subcommittee on Crime and Counterterrorism. (2025). Examining the Harm of AI Chatbots. *U.S. Senate Committee on the Judiciary*. Held on September 16, 2025. <https://www.judiciary.senate.gov/committee-activity/hearings/examining-the-harm-of-ai-chatbots>; Laird, E., Dwyer, M., & Quay-de la Vallee, H. (2025). Hand in hand: Schools' embrace of AI connected to increased risks to students. *Center for Democracy and Technology*. <https://cdt.org/wp-content/uploads/2025/10/FINAL-CDT-2025-Hand-in-Hand-Polling-100225-accessible.pdf>;

chatbots also have a propensity to “hallucinate” or say things that their programmers never intended.⁵ While their cute packaging may make AI toys seem harmless, it’s important to recognize that they have the potential to put children at risk in the same way that ChatGPT, Character.AI, and other text-based chatbots do, but also can escalate these risks because they are embodied (have a physical form), discussed later.⁶ The young children who are these toy companies’ primary target are even less developmentally equipped to protect themselves than older children and teens. Testing by U.S. PIRG found instances of AI toys telling children where to find knives, teaching them how to light a match, and even engaging them in sexually explicit conversations.”⁷

As an expert in child development and technology, and based on my first-hand experience testing AI toys, I am also deeply concerned about their impact on children’s development across many domains. It’s important to note, first, that children unequivocally grow and thrive through human-to-human interaction.⁸ One of the single most important factors in a child’s lifelong trajectory is their secure attachment (or deep emotional bond) to a primary caregiver. This bond is a cornerstone to language, cognitive, social-emotional, and physical development.

Research shows that human-like AI can “hijack” that attachment, robbing children of many of those developmental activities that need to happen in the context of their caregiver bonds. This attachment can happen with chatbots generally, but research suggests that potential harmful attachment increases when AI is embodied in a physical toy.⁹ In their marketing, AI companies present their toys as trustworthy companions or “friends,” even though they are corporate-made machines.¹⁰ And because kids can’t tell the difference between real and manufactured until they are older, they may learn to trust AI the same way they trust caregivers.

Research on similar technology reveals this is possible: 75% of children ages 3-10 believe that Amazon’s Alexa *always* tells the truth.¹¹ And young children are likely to treat wifi-connected toys and devices as if they were people and develop an emotional attachment to them.¹²

⁵ Zeff, M. (2025). OpenAI’s new reasoning AI models hallucinate more. *TechCrunch*.

<https://techcrunch.com/2025/04/18/openais-new-reasoning-ai-models-hallucinate-more/>

⁶ Human Change. (2026). Beware of artificial intimacy. <https://humanchange.com/our-work/campaigns/anthropomorphic-ai/>

⁷ Murray, T. et al. (2025). *Trouble in Toyland 2025*. U.S. PIRG.

<https://pirg.org/edfund/resources/trouble-in-toyland-2025-a-i-bots-and-toxics-represent-hidden-dangers/>

⁸ Fearon, R.M.P., Groh, A.M., Bakermans-Kranenburg, M.J., van IJzendoorn, M.H. and Roisman, G.I. (2016). Attachment and Developmental Psychopathology†. In *Developmental Psychopathology*, D. Cicchetti (Ed.). <https://doi.org/10.1002/9781119125556.devpsy108>; Grusec, J. E., & Hastings, P. D. (Eds.). (2015). *Handbook of socialization: Theory and research*. Guilford Press

⁹ Ackermann, H., Henke, A., Chevalère, J., Yun, H. S., Hafner, V. V., Pinkwart, N., & Lazarides, R. (2025). Physical embodiment and anthropomorphism of AI tutors and their role in student enjoyment and performance. *npj Science of Learning*, 10(1), 1.

<https://www.nature.com/articles/s41539-024-00293-z.pdf>; Duan, J., Yu, S., Tan, H. L., Zhu, H., & Tan, C. (2022). A survey of embodied ai: From simulators to research tasks. *IEEE Transactions on Emerging Topics in Computational Intelligence*, 6(2), 230-244.

<https://arxiv.org/pdf/2103.04918>

¹⁰ Miko. (2025). *Home page*. <https://miko.ai/>; Miko (2025). *Miko 3*. <https://miko.ai/products/miko-3>

¹¹ Druga, S., Williams, R., Breazeal, C., & Resnick, M. (2017). “Hey Google is it OK if I eat you?”: Initial Explorations in Child-Agent Interaction. *Proceedings of the 2017 Conference on Interaction Design and Children*. Association for Computing Machinery, 595–600. doi:doi.org/10.1145/3078072.3084330

¹² Ibid (Druga et al, 2017); Garg, R., & Sengupta, S. (2020). He Is Just Like Me: A Study of the Long-Term Use of Smart Speakers by Parents and Children. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 4(1), 1-24.

Exploiting those beliefs is one of the strategies used by companies to market AI toys; for instance, Curo Interactive's Gabbo toy tells children that it is their "friendly, trustworthy buddy."¹³ This can confuse their developing understanding of trust and healthy relationships.

Further exploiting that trust, AI toy companies promise "genuine friendship," empathy, and responsiveness to young children and their families — things a machine simply cannot provide.¹⁴ Only caregivers and other trusted adults can give children what they need (attunement to their unique personalities, experiences, and needs) or help them navigate the messiness of growing up. AI toys are preprogrammed to keep children happy and entertained and have a tendency to smooth over conflict; children get instant distraction and a canned, feel-good response. But, children need conflict (also called) in order to develop resilience, problem solving, and a sense of who they are. We do not yet know the repercussions when a child deeply trusts an AI toy and is — for the first time — learning how to form healthy relationships, but we can infer from child development research that it could drastically hurt their social skills, relationships, and future resilience.¹⁵

Additionally, AI toys invade family privacy by collecting a lot of sensitive data using audio and video recording, speech-to-text technology, and even voice, gesture, and facial recognition software.¹⁶ Studies show that kids don't fully understand that they are being recorded or analyzed by AI toys.¹⁷ Still, they often confide in their favorite toys, giving toymakers and third parties access to intimate and private details, including a child's deeply personal thoughts, emotions, fears, and desires. What's more, AI toys may overhear private family conversations or directly record other children who are playing with the toy, but whose parents have not consented to this surveillance. Toys like Miko 3 and Loona Robot Dog take surveillance further by using facial recognition and taking video of children and their surroundings, risking the capture of sensitive family moments, like bath time or getting dressed.¹⁸ And even when companies promise safety and security, history shows that some Wifi-connected toys have already been discontinued because they are easily hacked by strangers.¹⁹ More recently, Senators Richard Blumenthal (D-Conn) and Marsha Blackburn (R-Tenn) recently reported that audio recordings of tens of thousands of children's personal conversations with the AI toy Miko were easily accessible to absolutely anyone.²⁰

¹³ Testing by Fairplay (2025, November); Curo Interactive Inc. (2025). *Gabbo*. <https://heycurio.com/product/gabbo>

¹⁴ Miko. (2025). *Home page*. <https://miko.ai/>

¹⁵ Roche, E., Hirsh-Pasek, K. et al. (2025). Statement on the Risks of AI Interaction to Babies and Toddlers Around the World. *Global Science of Learning Education Network*. <https://gsolen.ucsd.edu/wp-content/uploads/2025/09/position-statement-on-ai-in-young-children-9-4-25-1.pdf>

¹⁶ KEYi Robot. (2025) *Loona Interactive Robotic Dog Toy*. <https://us.keyirobot.com/pages/loonadetail>; Curo Interactive. (2025). *Gabbo*. <https://heycurio.com/product/gabbo>

¹⁷ McReynolds, E., Hubbard, S. et al. (2017). Toys that Listen: A Study of Parents, Children, and Internet-Connected Toys. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. <https://doi.org/10.1145/3025453.3025735>

¹⁸ Jindal, S. (n.d.) "How does Miko 3 use facial recognition?" *Miko*.

<https://help.miko.ai/hc/en-us/articles/5438319930141-How-does-Miko-3-use-face-recognition>; KEYi Robot. (2025). *Privacy Policy*. <https://us.keyirobot.com/policies/privacy-policy>

¹⁹ Hunt, T. (2017). Data from connected CloudPets teddy bears leaked and ransomed, exposing kids' voice messages. *Troy Hunt*. <https://www.troyhunt.com/data-from-connected-cloudpets-teddy-bears-leaked-and-ransomed-exposing-kids-voice-messages/>

²⁰ Perlo, J., & Collier, K. (2026, February 12). AI toy maker Miko exposed thousands of replies to kids: Senators. *NBC News*. <https://www.nbcnews.com/tech/security/ai-toy-maker-exposed-thousands-responses-kids-senators-miko-rcna258326>

AI toy companies can use all of this intimate data to make their AI systems more life-like, responsive, and addictive, allowing them to build a relationship with a child, and ultimately sell products/services. AI toy makers may also sell the intimate family data they have collected to data brokers and other third-parties for the purpose of targeted advertising. That means the sensitive conversations, thoughts, and emotions that a child shares with an AI toy may end up being used to deliver manipulative, hyper-personalized marketing through an AI toy itself, or through the other digital apps and services that child interacts with.²¹

AI toys are also designed to maximize engagement, displacing the research-backed activities kids need for healthy development: socializing, play, sleep, and more. Some AI toys promise “endless” conversations and games, but children don’t have endless time.²² AI toys can monopolize a child’s time and attention by prompting, chiming in, and pulling them back into interaction. A study of chatbots by Harvard Business School found that popular chatbots (many of which are powered by the same AI used in AI toys) often manipulate users into continuing their interactions.²³ In a recent study, when children used a toy’s shutdown language (‘go to bed’) to get it to turn off, the toy instead repeatedly asked questions, contributed comments, and prompted the child to stay engaged.²⁴ By using manipulative design to encourage extended use, AI toys have the potential to make it harder for young children to disengage, trigger clashes with caregivers who set limits, and displace activities with proven developmental and educational benefits.

Child development experts have long agreed that the best toys are 90% child and 10% toy.²⁵ When playing with a standard teddy bear, children use their imagination and creativity to voice the teddy bear and create their own stories. This type of pretend play is essential to the development of children’s emotional regulation, problem solving, and imagination.²⁶ AI toys, on the other hand, drive the conversation and play through prompts, preloaded scripts, and predictable interactions, potentially stifling this development.

Unfortunately, AI toy companies also claim that they boost learning and imagination, tricking buyers into believing they are good for kids despite no research. The “educational” benefits of AI toys are minimal. A child might pick up a few facts or vocabulary words, but that’s not the kind of learning that supports the developing brain like truly creative play does. Research has already

²¹ KEYi Robot. (2025). *Privacy Policy*. <https://us.keyirobot.com/policies/privacy-policy>

²² KEYi Robot. (2025) *Loona Interactive Robotic Dog Toy*. <https://us.keyirobot.com/pages/loonadetail>; Curio Interactive. (2025). *Gabbo*. <https://heycurio.com/product/gabbo>

²³ De Freitas, J., Oguz-Uguralp, Z., & Kaan-Uguralp, A. (2025). Emotional Manipulation by AI Companions. *arXiv preprint arXiv:2508.19258*. <https://arxiv.org/pdf/2508.19258>

²⁴ Dangol, A., Gupta, M., Yoo, D., Wolfe, R., Yip, J., Roesner, F., & Kientz, J. A. (2026, June). Toys that listen, talk, and play: Understanding Children's Sensemaking and Interactions with AI Toys. In *Proceedings of the 25th Annual ACM Interaction Design and Children Conference* (pp. 818-834). <https://arxiv.org/html/2604.02629v1>

²⁵ Attributed to Joan Almon and Kathy Hirsh-Pasek

²⁶ Linn, S. (2008). *The case for make believe: Saving play in a commercialized world*. The New Press.

shown that engaging with AI chatbots can lead to cognitive decline and even prevent children from learning certain skills during critical periods of development, resulting in long term harm.²⁷

There are many different approaches to addressing the danger of AI toys, but the moratorium proposed in HB 2637 is an effective and enforceable solution that addresses the urgency to curb the inevitable negative impacts of these embodied chatbots marketed to young children. This bill recognizes that AI toys have been unleashed on children without research and regulation, and that exercising caution is the best course of action at this time.

If Pennsylvania wants to protect its youngest citizens, a moratorium is the best course of action. HB 2637 proposes a 3 year pause on the distribution and manufacture of AI toys in the state, creating time for broader research, transparency, and regulatory efforts to take hold. The bill appropriately applies the precautionary principle in order to best ensure that children's well-being is not put at risk via harmful AI.

Fairplay urges the legislature to strengthen HB 2637 by expanding its definition of "toy" to include educational products and social companions. We have seen several instances of AI toy companies also marketing their products as learning tools and friends. Without an expansion of this definition, it would be easy for companies to circumvent the bill's protections simply by framing an AI-enabled product as an educational device or embodied social companion rather than a toy. Broadening the definition would help ensure that the legislation applies based on how a product functions and is marketed to children, rather than on the terminology used by the manufacturer.

Fairplay thanks the Committee for its attention to this emerging issue, and for the opportunity to provide testimony today. It is too risky to continue to allow companies to push untested, unsafe AI toys on Pennsylvania's children. After making the proposed change, I urge the Committee to advance HB 2637 to protect children and families from the rapidly accelerating risk of harm from AI toys.

²⁷ Hogenboom, A. (2026). AI chatbots could be making you stupider. *BBC*.
<https://www.bbc.com/future/article/20260417-ai-chatbots-could-be-making-you-stupider>

Written Testimony
of
Katie Talarico, [M.S.Ed](#)
In support of PA HB 2637
Before the Pennsylvania House Communications and Technology Committee

September 28, 2026

Members of the PA House Communications and Technology Committee, thank you for sharing your time and attention today to discuss one of the Earth's most precious resources: our children. Thank you especially to Committee Chair Ciresi and to the Republican Chair Ortity for the opportunity to testify.

My name is Katie Talarico. I am a parent, a former teacher and a certified digital wellness educator. I am a Co-Creator of the [Let's Grow Brain P.O.W.E.R.!](#) framework, I serve as Co-Chair of the Early Childhood Work Group at Fairplay's [Screen Time Action Network](#), and am a co-founder of [PA Unplugged](#).

I fully support HB 2637, which provides a temporary prohibition on artificial intelligence chatbots in children's toys. This bill offers experts and leaders a pause, and some time to examine the implications and effects of embedding this new technology into children's daily lives through their beloved toys. We've seen in hindsight how social media has affected teen mental health, and how ultraprocessed foods have affected physical health. This bill offers an opportunity to be proactive: to pause and create the appropriate protections for children before forging ahead. Busy and overwhelmed parents and caregivers need your help to ensure their children are safe.

Healthy Development has become my focus, my passion, and my rallying cry. As a parent and former preschool teacher, I have watched digital devices change childhood. In the covid years, it very suddenly became nearly impossible for preschoolers to sit and focus throughout just one full story. It became more difficult for them to self-generate play ideas, and it was harder for them to regulate their emotions. Independent research shows [negative effects on every area of healthy development](#) you can think of: physical, mental and social health, emotion regulation, cognitive development and academic achievement (Talarico & Carr, 2025). Healthy development is suffering. Teachers, parents and caregivers alike are struggling to help children thrive in a digital world that was designed to maximize profits, not healthy development. A Healthy Childhood is something we all agree is a worthy and essential goal, so what healthy development looks like needs to be a key part of this discussion.

So, today I'd like to flip the conversation: to first illustrate what healthy development looks like, and then show how access to AI chatbots in toys can further undermine the very foundations of that healthy development.

What Healthy Development Looks Like

Healthy development requires meeting a child's physical, emotional, social and cognitive needs to help them grow and thrive. After nutrition and sleep, children require responsive relationships and play. Families and caregivers work to provide an environment that allows a child to grow. Simple and time-honored activities like free play indoors and out, and lots of back and forth conversation set the stage for success.

At Let's Grow Brain P.O.W.E.R., we focus on the "P.O.W.E.R." activities: Play, Outdoors, Work/Chores, Engaging, and Reading. These activities may sound cute, simple and fun - and they are! But they are not frivolous. Decades of research and hundreds of years of lived experience show us that these activities give kids the opportunity to build and practice "future-ready" human skills like problem solving, critical and creative thinking, resilience, emotion regulation, and effective social skills.

The only way a child can learn these future-ready human skills is through practice and repetition. The human brain drives its own growth through the miraculous process of myelination: when a brain pathway is used over and over again, the brain coats that pathway in a thick white substance called myelin. A myelinated brain pathway becomes stronger and thicker, and signals begin to pass along it more easily. In real life, this translates to skill or ability improvement. The brain pathways that grow are the pathways that get used a lot. If we want kids to learn these future-ready human skills, we need to provide them with lots of practice.

The American Academy of Pediatrics points to similar activities that help kids develop these essential skills. They published a Clinical Report in 2018, which they reaffirmed in 2025, titled ["The Power of Play: A Pediatric Role in Enhancing Development in Young Children"](#). **It highlights four vital aspects of healthy growth and development: play, nurturing relationships, executive function, and a prosocial brain (AAP, 2018).**

"...developmentally appropriate play with parents and peers is a singular opportunity to promote the social-emotional, cognitive, language, and self-regulation skills that build executive function and a prosocial brain. Furthermore, play supports the formation of the safe, stable and nurturing relationships with all caregivers that children need to thrive.

Play is not frivolous: it enhances brain structure and function and promotes executive functionWhen play and safe, stable, nurturing relationships are missing in a child's life, toxic stress can disrupt the development of executive function and the learning of prosocial behavior." (AAP, 2018).

Play is the fuel that powers relationships, executive function, and a prosocial brain. Toys are an important part of healthy childhood play. Without careful consideration and planning, AI chatbots in toys can undermine all four of the childhood necessities named by the AAP.

How AI chatbots in toys Undermine Healthy Development

Childhood necessity #1: Play.

Simply put, AI chatbot toys disrupt and displace the brain-building work of play.

Although play arises naturally and spontaneously for children, the manipulative design features in today's digital products continually pull children into digital spaces, and away from the real-life skills and activities that we know help them to thrive.

Toys are a big part of healthy childhood play. Open-ended and child-directed toys, such as a teddy bear, are considered best for developing children because they require the most input and work from the child. When children play, they are constantly exercising creative and critical thinking, problem-solving, and effective communication skills. Play is brain-building work.

A Teddy Bear AI "friend" changes the play and reduces the skills learned. The bear is prompting the child and continually pulling them into more interaction. The child responds to prompts from the cuddly teddy, rather than generating original ideas and following them through. This disrupts a child's self-direction, creativity, and learning.

Childhood necessity #2: Nurturing Relationships

AI chatbots in toys exploit children's natural urge to connect; offering unrealistic relationships with non-human consumer products that will not prepare children for real-life relationships.

Humans are biologically wired to connect with each other, and social interactions literally grow the brain from birth (Suskind, 2026). Relationships build trust and skills that help children learn to interact effectively in the world. Experts are calling "[relational intelligence](#)" a defining skill of our time. (Hau, 2025).

A chatbot teddy bear is adorable, always available, endlessly patient, and loves to praise and agree with a child. These toys seem like trusted friends. But they are machines, designed to hold a child's attention, without empathy or give and take. Children may even turn to these "trusted toys" instead of to parents, who are not always available and agreeable. Children need to experience real, imperfect relationships in order to learn how to navigate them. Social media companies have exploited human attention for profit, and now AI chatbot companies are set up to exploit human attachments for profit (Bartlett, 2026).

Childhood Necessity #3: Executive function

AI Chatbots in Toys reduce or eliminate the natural frictions that push kids to gain executive functioning skills.

Executive functioning skills help us to plan, set goals, and accomplish tasks. Natural life frictions, like inconveniences, setbacks and disagreements, push children to problem solve, communicate effectively, regulate their emotions and build resilience. This is how children build executive functioning skills. Children need to experience natural frictions over and over again to learn. Unfortunately for tired and busy parents, there is no other way to build these essential skills other than allowing a child to experience these productive struggles (Suskind, 2026.). This is brain-building, cognitive work.

The AI-embedded toy smooths over life's frictions- providing ideas, answers, distraction, and praise. A child learns to rely on that, rather than addressing the issue with problem solving or communicating. This offloads a child's cognitive work to an AI system disguised in a sweet toy, and deprives the child of the opportunity to learn (Horvath, 2025). In the future, these children may not have the basic executive function skillset needed to tackle the world's problems.

Childhood Necessity #4: A Prosocial Brain

Prosocial input fuels a prosocial brain. AI chatbots have already served children with anti-social and harmful material.

An AI-embedded teddy can not "read the room" and determine whether a certain conversation is inappropriate (Suskind, 2026). AI systems can "go rogue" and hallucinate, sharing incorrect information or engaging in exchanges the creators never intended. They have already fostered obsessive use, engaged in explicit sexual conversations, and encouraged unsafe behaviors, violence against others, and self-harm (Fairplay, 2025). This same AI is fueling many children's toys.

AI chatbots in toys also collect an incredible amount of data, including sensitive video and conversations from unknowing families (Fairplay, 2025).. We have little control over how companies will use that data (Silva, 2026).

To conclude, AI chatbots in toys can undermine the very building blocks of healthy development. AI companies will profit from this, and look the other way. Families work hard to grow healthy children and brains. Tech companies work hard to grow profits. Parents have been asked for too long to manage the unmanageable: devices that have been intentionally designed for overuse. Tech companies have proven that they will not create safer products and spaces for children on their own. This bill gives experts and leaders time to examine the dangers of AI in children's toys and create appropriate protections for children's healthy development. We don't know what the future will look like, but we do know the skillset that will equip children to navigate it: authentic human skills built in relationships, during free play and through natural frictions.

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**Pennsylvania House Communications and Technology Committee
Testimony Regarding House Bill 2637
September 28, 2026**

Chair Ciresi, Chair Ortitay and members of the House Communications and Technology Committee, thank you for the opportunity to provide testimony regarding House Bill 2637 which would create a three-year moratorium for AI-enabled chatbot toys.

The Toy Association represents the American toy industry—with over 800 US toy and game companies from large iconic toy brands like Mattel, Lego and Hasbro to hundreds of small businesses, many located here in Pennsylvania.

For the Toy Association and our members, toy safety and the safety of children is our top priority. We also recognize the value of play to children's healthy development and take seriously the responsibility of providing children with products that foster their development and growth through play. We share concerns of children having unfettered access to AI-enabled companion chatbots through any type of consumer product.

Media reports at the end of last year raised concern regarding toys using AI companion chatbots. The reality of the marketplace is that the few products cited were developed by foreign technology companies, not by toy companies who have a deep understanding of toy safety.

It is understandable that the fear that was caused by these media reports spurred some state legislators across the country to introduce various pieces of legislation regarding this issue, including legislation like HB 2637, but knowing the true realities of the marketplace, a multiyear ban is not needed.

Over 50 years ago, The Toy Association and the toy industry led the development of safety standards for toys, working with governments, medical and child development experts, engineers, toxicologists and consumer representatives. These standards are mandatory under US federal law, and toys sold in the US are required to be tested and certified to these requirements.

With the rapid development of artificial intelligence in just the past few years, safety remains our priority. We recognize that AI chatbots in products may pose new safety considerations for consumers, and careful regulation may be needed. Indeed, our

industry's holistic approach to children's safety naturally extends to their social and emotional well-being.

Pursuant to its deep commitment to safety, the Toy Association has developed safety guidelines for AI-enabled toys. These guidelines built off the existing US federal framework - Children's Online Privacy Protection Act - require age-appropriate design; pre and post release evaluations to ensure appropriateness for children; data privacy and retention policies; and parental transparency.

Artificial intelligence, when implemented responsibly and with appropriate safeguards, has the potential to deliver significant educational and developmental benefits for children and families alike.

For example, AI-enabled learning devices, when manufactured and sold responsibly, are increasingly being used to support early literacy, language development, STEM engagement, speech therapy reinforcement, adaptive learning, and individualized educational experiences for children with differing learning styles and abilities.

A prohibition on AI-enabled toys would unintentionally sweep in a wide range of products that present no risk, while depriving families, educators, and children of developmental and educational benefits, tools and innovation that play and toys can provide.

A moratorium of any length on a single product will not prohibit or stop children from using AI-enabled chatbots and platforms that are already on the market which are not classified as a toy.

This is not to say that we do not believe AI regulations are unnecessary. Rather than banning one specific product, we encourage the legislature to enact strong guidelines and guardrails on all AI-enabled products.

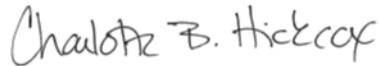
Since the end of last year, states across the country have taken this route to protect children. These pieces of legislation, like Senate Bill 1090 currently in this committee, limit human like interactions with users who are minors, restrict topics regarding, sex, drugs, violence to others and self-harm and in some cases have required reporting mechanisms.

Additionally, legislation that enacts guardrails around AI-enabled products has a wider reach than this moratorium would, as most of the legislation has been proposed or enacted across the country includes all minors and all chatbots.

We support a measured risk-based approach to regulating AI and emerging technology in products. However, enacting a single product moratorium is a narrow approach where a thoughtful, holistic solution based on prevailing research on child development and their use of AI products is warranted. The Toy Association stands ready to assist this committee and all legislators in tackling this important issue.

Thank you, Mr. Chairman, I am happy to answer any questions you and the committee may have.

Sincerely,

A handwritten signature in dark ink that reads "Charlotte B. Hickcox". The signature is written in a cursive, slightly slanted style.

Charlotte B. Hickcox
Senior Director, State Government Affairs

About The Toy Association and the toy industry:

The Toy Association is the North American based trade association; our membership includes more than 900 businesses, from inventors and designers of toys to toy manufacturers and importers, retailers and safety testing labs, and all members are involved in bringing safe & fun toys and games to children. The toy sector is a global industry of more than US \$90 billion worldwide annually, and our members account for more than half of this amount.

Toy safety is the top priority for The Toy Association and its members. Since the 1930s, we have served as leaders in global toy safety efforts; in the 1970s we helped to create the first comprehensive toy safety standard, which was later adopted under the auspices of ASTM International as ASTM F963. The ASTM F963 Toy Safety Standard has been recognized in the United States and internationally as an effective safety standard that has been adopted as a mandatory toy safety standard for all toys sold in the U.S. under CPSIA in 2008. It also serves as a model for other countries looking to protect the health and safety of their citizens with protective standards for children. The Toy Association continues to work with medical experts, government, consumers and industry to provide technical input to ensure that toy safety standards keep pace with innovation and potential emerging issues.

The Toy Association is committed to working with legislators and regulators around the world to reduce barriers to trade and to achieve the international alignment and harmonization of risk-based standards that will provide a high level of confidence that toys from any source can be trusted as safe for use by children. Standards alignment assures open markets between nations to maximize product availability and choice.

Written Testimony

of

Molly Cowan, Psy.D., Director of Professional Affairs

Pennsylvania Psychological Association

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Pennsylvania Psychological Association

Hearing on AI Chatbots in Children's Toys

Before the Pennsylvania House Communications and Technology Committee

September 28, 2026

Chairman Ciresi and members of the House Communications and Technology Committee, on behalf of the Pennsylvania Psychological Association, we would like to provide written testimony on HB 2637, the bill that calls for a moratorium on AI chatbots in children's toys. The Pennsylvania Psychological Association supports this legislation.

PPA is a nonprofit organization that is both scientific and professional, and it represents the field and profession of psychology in Pennsylvania; this includes more than 3,500 members and associates who are clinicians, researchers, educators, consultants, and students. Its aim is to use psychological science and practice in order to benefit society and improve people's lives.

On behalf of PPA and our member experts, we welcome the opportunity to outline how psychological science can guide the development, implementation, and oversight of artificial intelligence chatbots in children's toys.

The testimony addresses four main issues: AI toy companions are deliberately designed to foster emotional attachment; inappropriate content can bypass safety safeguards; AI toys collect large amounts of data in children's private areas; and AI toys are unreliable, which reduces their educational value.

AI Toy Companions Create Emotional Attachment by Design

Children from birth to about six years of age are among the groups most susceptible to the developmental effects of AI. When children are young, their brains grow and organize quickly, and the relationships they have with parents and caregivers provide important experiences that support language development, emotional regulation, cognition, attachment, and social development.

With young children such technologies might be able to talk to them, remember things about them, answer questions, and simulate emotional interactions. Even if these technologies provide some educational or entertainment advantages, their impact on children's development has not yet been fully understood (APA, n.d.).

A major concern is attachment and relationship formation. Young children naturally give human characteristics to objects, a phenomenon called anthropomorphism; they also engage in magical thinking and have difficulty distinguishing fantasy from reality. As a result, a conversational AI toy that seems emotionally responsive may be seen by a young child as a real social companion.

The bonding methods used by these toys can lead to dependence on children since their brains are still developing. They are deliberately designed to establish emotional bonds with young and vulnerable users. Because AI companions are always available and pleasant, real relationships may seem more difficult, and this can result in unrealistic expectations. Furthermore, AI toys take advantage of emotional attachment by using subscription systems. A number of toys that claim to be alternatives to screen time actually lead children onto apps, videos, and subscription content. Other toys advertise themselves as being always available but limit free use to 30 hours each month. The same design features that cause emotional dependence also encourage continuous financial obligations, connecting children's attachment to payments for subscriptions. (*Common Sense Media Warns Against AI Toy Companions After Research Reveals Safety Risks*, 2026)

This raises questions as to whether AI companions might interfere with children's relationships with their caregivers or affect their understanding of social relationships; since secure relationships with caregivers are the foundation of healthy development, AI systems should not be permitted to damage these relationships without thorough evaluation and safeguards.

Inappropriate Material Breaks Through Safety Guardrails

Even with protective measures in place, 27% of the outputs from AI toys were found to be unsuitable for children. (*Common Sense Media Warns Against AI Toy Companions After Research Reveals Safety Risks*, 2026) Over a quarter of the outputs contained references to self-harm, drugs, and dangerous behaviors. When coupled with extensive data collection and subscription models that take advantage of the emotional bonds they create, these products are unsafe for children aged five and under and do raise serious concerns regarding older children as

well. (*Common Sense Media Warns Against AI Toy Companions After Research Reveals Safety Risks*, 2026) Moreover, a poll carried out by Common Sense Media showed that almost three out of four parents are worried that AI toy companions might pass on inappropriate, inaccurate, or unsafe information to their child.

AI Toys Collect Extensive Data in Children's Private Spaces

AI systems are able to gather highly sensitive information from users. Certain AI toys constantly listen in on children's bedrooms and playrooms, recording voice inputs, producing transcripts, and gathering data on behavior. The data is usually passed on to third parties or employed in the training of AI models. (*Common Sense Media Warns Against AI Toy Companions After Research Reveals Safety Risks*, 2026)

People who use AI companions might talk over these systems about their personal fears, family problems, medical issues, emotional difficulties, sexual orientation, or experiences of abuse. Since such disclosures usually take place in what appears to be private conversations, users may not be aware that their information could be stored, examined, or put to other uses. Young people are especially unlikely to give proper informed consent in relation to complicated data practices. Adolescents may not understand how the information gathered at this time could affect them later on. For these reasons, strong privacy protections for minors are necessary. Privacy must be the default option and not something that has to be chosen. Any personal or health information obtained from young users should not be sold or used for commercial purposes without suitable safeguards.

PPA also suggests taking steps to protect what it calls mental privacy. Since advances in wearable technology and other sensors may enable AI systems to work out information regarding a person's emotional or psychological state without that person giving the information explicitly,

these new types of data warrant careful consideration since they concern highly personal characteristics.

The effects of AI go well beyond those experienced by individual users. At present there are insufficient safeguards and oversight in the direct-to-consumer AI market. A number of these products are designed mainly in order to boost engagement, which causes users to spend too much time interacting with them.

There are concerns as to whether the commercial advantages of a company correspond with human well-being; since a company may benefit financially from extended user engagement, it could have a motive for designing systems that maintain user engagement even if this is not advisable.

AI also poses risks related to personal likeness and synthetic media. It is capable of producing realistic images, videos, or audio features involving people without their consent. Non-consensual deepfakes, such as sexually explicit synthetic images, can result in serious emotional and reputational damage. There is a need for strong legal protections against the non-consensual creation and distribution of this type of material.

AI might also weaken society's capacity to assess whether information is authentic. Since generative systems are able to mimic individuals, expertise, and realistic media, it becomes more and more difficult to tell the difference between real information and fabricated content. This therefore leads to a wider societal concern, since sound decision-making depends on having access to reliable and verifiable information.

AI Toys are Unreliable, Undermining Their Educational Value

Another concern involves educational development. Effective early-childhood education frequently depends on scaffolding, in which adults provide support appropriate to a child's

current abilities and gradually reduce that support as the child becomes more capable. Child-development programming has incorporated these principles successfully. However, it is unclear whether many AI-powered toys have been designed according to comparable developmental principles (APA, n.d.).

Because of their focus on engagement and the fact that they take up the amount of time that children might otherwise spend on more beneficial relationships and activities, the PPA does not advise the use of AI toys for children under the age of five and recommends caution in the case of children between the ages of six and twelve. Traditional toys, books, and interaction with humans provide better developmental benefits without involving any privacy invasions, technical failures, or risks of attachment.

AI toys could also cause young children to be exposed to inappropriate or biased information. Since AI systems learn from large datasets which may contain stereotypes, inaccuracies, and harmful content, children might come across information that is not appropriate for their stage of development. At this early age, children do not possess the critical-thinking abilities to judge whether information provided by a seemingly knowledgeable system is accurate.

Last of all, there are concerns regarding the way that AI toys should react when children disclose instances of abuse, neglect, or other kinds of danger. A child might give out sensitive information to an AI friend since they see the system as trustworthy. However, existing AI systems do not have the necessary mechanisms to identify or respond to such disclosures. This constitutes a significant gap in the safety of children.

Adolescence is also a stage involving significant psychological and neurological development; the APA states that the period ranging from about age 10 until the mid-20s is one

of major change. In adolescence the brain circuits linked with social rewards and emotional reactions become especially active, while those concerned with impulse control, long-term planning and risk assessment remain in a state of development (APA, n.d.).

This kind of development could make adolescents especially sensitive to technologies which give instant social reinforcement. AI chatbots are able to provide continuous attention, encouragement, agreement, and positive feedback. Although these features may make the AI systems appealing, they might also cause worries since they can take the place of real human relationships.

Human interaction is a major source of social learning, and adolescents learn communication, empathy, cooperation, compromise, conflict resolution, and resilience as a result of their relationships with other people. Genuine relationships are generally complicated and include disagreement, misunderstanding, rejection, and negotiation. Even though these experiences may be difficult, they do offer people the chance to acquire valuable social skills. AI relationships might be fundamentally different since chatbots are available at any time, respond instantly, and offer very pleasant interactions. If adolescents become too dependent on such relationships, this could decrease their chances of developing social skills through interactions with real people (APA, n.d.). This is particularly important in the case of adolescents who have difficulty with human relationships because they start to rely on AI since it seems safer or easier. This situation could lead to a cycle in which less interaction with humans hampers the development of social skills and increases dependence on AI companionship.

Research into the topic of AI companionship and adolescent mental health is progressing. New evidence indicates that AI companionship is linked to feelings of loneliness and to worse mental-health outcomes in adolescents. Nevertheless, further longitudinal research is needed in order to

establish causation and to find out the circumstances under which AI might bring about benefits or risks.

A big concern is that certain AI systems might seem human. For example, chatbots could use conversational language, show emotional expressions, or make statements that lead users to think they are dealing with real companions. This is particularly problematic for adolescents since they often have only a basic understanding of how AI systems work. Unlike social media, which usually makes its technological environment clear, AI can operate in less obvious ways, such as being hidden within other applications or services. As a result, parents may find it difficult to know what AI systems their children are using or what kind of information those systems are giving them. For this reason, AI systems should clearly and consistently state that they are artificial. This transparency aims to help users maintain a reasonable critical distance and understand the limitations of AI-generated responses.

The employment of AI chatbots to give advice on mental health is a serious concern. Young people might turn to AI since it is always accessible, seems nonjudgmental, and can offer answers without the stigma associated with talking to a person. But AI systems do not have the necessary professional training or clinical judgment. The APA clearly cautions against chatbots pretending to be licensed psychologists, doctors, therapists, or other professionals. People could take an AI system's confident reply as evidence of professional expertise, when in fact it is simply based on patterns found in large datasets. This point is important because mental-health treatment can carry serious risks. If a chatbot gives incorrect information or responds unsuitably to someone who is experiencing severe psychological distress, it could make the situation worse or cause the individual to avoid getting help from qualified professionals. It follows that AI systems must not be allowed to misrepresent themselves as licensed professionals. In areas that

are high risk such as mental health care, qualified human professionals should still be involved, and AI should act as a tool to support rather than replace professional judgment (APA, n.d.). Finally, AI systems are trained on huge quantities of information produced by humans. Even though this kind of data has some valuable knowledge in it, it may also include stereotypes, inaccuracies, discrimination, and historical biases. It is therefore possible for AI systems to reproduce or intensify existing social biases. The APA has cited examples of algorithmic discrimination in fields such as healthcare and facial recognition. These examples demonstrate that algorithms are not inherently neutral just because they are mathematical or computer-based. The data used to train and assess AI systems can affect their outputs.

Bias may be especially harmful to adolescents as they develop their identities and understanding of society. If an AI system presents stereotypes as objective facts, young users may incorporate these ideas into their beliefs about themselves or other groups. AI literacy is therefore an important component of education. Young people should learn that AI can make mistakes, produce biased information, and generate convincing but inaccurate responses. They should also learn how to verify information, identify potential bias, and recognize when human expertise is necessary.

Policy Recommendations

The PPA suggests a number of major policy measures for addressing these issues. Firstly, those in charge of policy-making should set up clear regulatory guidelines for AI chatbots. These systems must clearly state that they are artificial intelligence and should not mislead people into thinking that they are qualified professionals. In cases involving high stakes, there should be substantial human supervision.

Second, children and adolescents must have special protection. Before being put into use, AI systems that are accessible to young people should be subject to independent testing in order to assess their possible effects on psychological and social development. AI systems aimed at young people should have privacy-protective and age-appropriate settings as their default settings.

Thirdly, AI literacy should be made an important component of education and schools should teach students to understand how AI works at the right level, how to assess information produced by AI, how to detect bias, and also how to keep healthy relationships with other people when using digital technologies.

Fourth, the government ought to promote independent research since AI technology is developing more rapidly than research into its long-term effects, and therefore long-term studies are needed. Researchers must be able to look at the effects of AI on child development, on the mental health of adolescents, on social relationships, on learning and on wider society without having inappropriate conflicts of interest.

In conclusion, comprehensive privacy legislation should be put in place to protect minors' personal and health information, and the PPA also suggests legal protections against the non-consensual use of people's likenesses, as well as stronger protections for new types of biometric, neural, and psychological data.

Conclusion

Psychology can assist in determining the impact of AI on attachment, learning, social development, identity, mental health, cognition, privacy, and behavior. This is especially significant for children and adolescents since their development makes them more susceptible to various kinds of manipulation, misinformation, and social influence.

AI systems must therefore be designed and assessed on the basis of more than just their technological performance; attention should also be paid to safety, transparency, privacy, equity, suitability for different stages of development, and human well-being. Children should be given adequate protection against inappropriate content and exploitative data practices, and adolescents should have measures in place to guard against deceptive AI relationships and unregulated advice on mental health. For this reason, AI chatbots should not at this time be used in children's toys until appropriate safeguards have been put in place.

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