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Written Testimony

of

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Examining the Harm of AI Chatbots

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Chairman Hawley, Ranking Member Durbin, and members of the Subcommittee, 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, Chief of Psychology at 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 congressional 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].

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

[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.

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)

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

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[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

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 toddlers[6]. 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 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-

[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-andgenerative-ai-by-children-and-families/.

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 lifetimes[10]; 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. Young children readily anthropomorphize inanimate objects, and their capacity for magical thinking is a normal part of development. However, AI chatbots introduce an unprecedented

[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.

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 to gradually gain cognitive competencies with gradually decreasing support from adults as

[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

children demonstrate success[16]. 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 instance [17]. 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 risks [18]. AI systems learn from vast datasets that can contain and amplify human biases related to gender, culture, and geography[19]. 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 wield [20]. Note also that few AI toy makers have adequately considered how to handle toddlers' disclosures to an AI chatbot toy that could signal severe risk. It is highly

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[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.

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].

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[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 testimony[25], 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 puberty [26]. 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-20s[27]. 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 impulse [28]. 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 later [30]. 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 span [31]. 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 evolution[32], and not surprisingly contributes to spikes in loneliness, hostility, and polarization [33]. **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 disproportionally 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 use[35]. 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 health [36].

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 daily [37]. 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 nature [38]. 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 guardrails[39]. 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

teachers[43]**.** 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 others [44]. 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,

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[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 beliefs [45]. 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 patients [46]. 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 concepts [47].

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.

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[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 advertising [49].

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 information [50]. **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 manipulation [51]. 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 Congressional Action: Building a Framework for Safety and Accountability

To address these multifaceted harms, the APA urges Congress 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:** Congress 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:** Congress 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. Congress 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. Congress 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 federal 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:** Congress 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

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 this subcommittee and the entire Congress 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.

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

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."