



July 7, 2023

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Director
White House Office of Science and Technology Policy
1600 Pennsylvania Ave NW
Washington, DC 20500

Response to Request for Information on National Priorities for Artificial Intelligence (88 FR 34194)

Submitted Electronically

Dear Dr. Prabhakar:

The American Psychological Association Services, Inc. (APA Services) respectfully submits the following response to your Request for Information to aid in the creation of a national strategy concerning Artificial Intelligence (AI). APA Services is the companion organization of the American Psychological Association, which is the nation's largest scientific and professional nonprofit organization representing the discipline and profession of psychology, as well as over 146,000 members and affiliates who are clinicians, researchers, educators, consultants, and students in psychological science.

Helping ensure that technology shapes the future for the better requires understanding the psychology of human-technology interaction. Just as new technological tools are emerging, the psychological science on human interaction with new products and services is also developing. A burgeoning area of psychological science involves the development, use, and impact of artificial intelligence.

APA strongly supports the development of evidence-based guidelines and regulations regarding the use of AI technology, particularly in behavioral health care. AI technology must undergo rigorous design and development quality control processes to mitigate the biases to which it is susceptible. Ongoing research is needed to determine the efficacy of the varied AI-based tools that currently are and will become available. Psychologists may be uniquely positioned to contribute to these research efforts as their expertise in representative sampling may help to mitigate biased datasets; psychologists also are well equipped to study the impact of interactions between people and human-like AI-tools on both the individual users and society more broadly. Additionally, without established regulatory and reimbursement pathways these technologies will fail to reach scalability; therefore, APA encourages continued collaboration between the FDA & CMS to develop regulatory and reimbursement pathways for the use of AI technology in mental health care.



Psychologists who study human intelligence are unlocking ways to enhance artificial intelligence and to ensure its ethical and appropriate use. Applied psychologists are studying how important characteristics of AI technologies impact identity and psychological wellbeing. Clinicians are navigating an increasingly complex environment where AI tools can assist in evaluation and diagnosis. Meanwhile, research points out that the deployment of AI is not a one-size-fits-all solution and is perceived differently by different groups of people. For example, even when factors such as age, gender, education, technology skills, and country-level GDP per capita are held constant, those living in societies with greater inequality are more likely to perceive AI as a threat to their role in the workplace.¹

Consistent with the answers presented below, it is imperative that psychologists be included in efforts to create, test, study, deploy, and regulate new artificial intelligence technologies.

Protecting rights, safety, and national security:

1. What specific measures – such as standards, regulations, investments, and improved trust and safety practices – are needed to ensure that AI systems are designed, developed, and deployed in a manner that protects people’s rights and safety? Which specific entities should develop and implement these measures?

- APA strongly supports the White House’s efforts to create a framework for an AI Bill of Rights. We have taken this framework and created our own set of policy principles that should be central to policies and regulations pursued by the White House and others in government.
 - APA believes that artificial intelligence should:
 - **Be Human-Centric** – People must remain a central part of technologies involving artificial intelligence, including in the development, deployment, and evaluation stages.
 - **Elevate Ethics & Diversity** – Diversity must be present in the individuals, backgrounds, perspectives, and thought processes of those responsible for the creation and deployment of new technologies. Companies must endeavor to embed diversity and reduce unconscious and conscious discrimination in both the development of AI tools and their deployment.
 - **Be Well-Researched** – Psychological science focused on the development and deployment of artificial intelligence is a relatively new area of study and more research is needed to ensure effective development of these technologies and to understand the impact of these technologies on human behavior.
 - **Be Effective & Risk Adverse**– New uses for AI technologies are discovered every day and deployment of these tools is often done without

¹ Shoss, M. K., & Ciarlante, K. (2022). Are Robots/AI Viewed as More of a Workforce Threat in Unequal Societies? Evidence From the Eurobarometer Survey. *Technology, Mind, and Behavior*, 3(2: Summer 2022). <https://doi.org/10.1037/tmb0000078>



- proper consideration of ethics and efficacy. AI must be properly tested, and the use of these technologies must be limited to applications where it is safe and effective in achieving the intended purpose.
- **Prioritize Privacy** – The data collection fueled by the increased deployment of AI tools is leading to increased risks for individual data privacy. Companies must redouble their efforts to protect data and ensure privacy around data collected by AI technologies. **This should include copyright and trademark protection.**
 - **Be Transparently Deployed** – The prevalence of AI tools deployed in the creation of and distribution of content is often unknown by the end user, fueling misunderstandings and misconceptions about the technologies; companies should take steps to increase transparency around the presence of these tools to ensure individuals are aware of the role AI might play in impacting their experience in real world and online environments.
- APA strongly supports the need for additional investments in research related to artificial intelligence. From the current technological and research standpoint, it is almost impossible to predict the long-term impact of AI-informed technologies. There is an imperative that as the technologies grow in their capabilities and prevalence, that research surrounding their impact also increases. Future research funding in this area should ensure that psychological and behavioral science is adequately represented. The impact of AI on mental and behavioral health must continue to be examined to ensure we mitigate any harmful impacts caused by new systems.
 - The Office of Science and Technology Policy is well situated to create cross-cutting government policies related to AI. We also believe that there is a role for the National Science Foundation, the National Institutes of Health, specifically the National Institute of Mental Health, and the National Institute on Minority Health and Health Disparities. It is imperative that the government take concrete steps now to form governing bodies and research efforts to better understand the impact of AI.
 - AI, like humans, are varied; yet, people often see AI as homogeneous. This may result in AI failures being treated as global rather than specific, affecting perception and trust in AI.² Trust between humans is earned. The human, the AI, and the context in which AI is employed determine trust in the technology, and the limits of this trust must be closely considered.

2. How can the principles and practices for identifying and mitigating risks from AI, as outlined in the Blueprint for an AI Bill of Rights and the AI Risk Management Framework, be leveraged

² Longoni, C., Cian, L., & Kyung, E. J. (2023). Algorithmic Transference: People Overgeneralize Failures of AI in the Government. *Journal of Marketing Research*, 60(1), 170–188. <https://doi.org/10.1177/00222437221110139>; Kaplan, A. D., Kessler, T. T., Brill, J. C., & Hancock, P. A. (2023). Trust in Artificial Intelligence: Meta-Analytic Findings. *Human Factors*, 65(2), 337–359. <https://doi.org/10.1177/00187208211013988>



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most effectively to tackle harms posed by the development and use of specific types of AI systems, such as large language models?

- One piece we recommend be represented in a revised Blueprint for an AI Bill of Rights is the need for these technologies to remain human-centric. Including humans in the development, testing and deployment of these new technologies can help ensure that checks for ethics, diversity, and humanity are central to new product development.

3. Are there forms of voluntary or mandatory oversight of AI systems that would help mitigate risk? Can inspiration be drawn from analogous or instructive models of risk management in other sectors, such as laws and policies that promote oversight through registration, incentives, certification, or licensing?

- As with other areas of technology, there remains an imperative for diversity, ethics, and inclusion to be a central component of any oversight model. Requiring diversity training, especially in teams developing AI tech can be an important first step to ensuring teams developing these new products are well versed in the components of DEI, which in turn can help to reduce the possibility of a biased product.³

- As with other areas of science development, IRBs and other ethical standards review boards should be empowered to review new AI developments. These bodies have longstanding expertise in protecting research subjects and controlling the negative impacts of new technologies.

- Data privacy training should be embedded into processes for the development, deployment, and evaluation of AI tools. AI technologies collect and store large amounts of data, including personally identifiable data. Adequate steps must be taken to ensure that the data collected by these tools is meeting privacy laws and copyright policies.

- As with a requirement for data privacy, so should there be requirements for transparency around AI tools. Access for researchers should not be limited to only those that work within the company developing the tools.

8. How does AI affect the United States' commitment to cut greenhouse gases by 50-52% by 2030, and the Administration's objective of net-zero greenhouse gas emissions no later than 2050? How does it affect other aspects of environmental quality?

- Climate change impacts us all, but we also know it does not and will not impact us all equally. Research shows us that the impacts of climate change will be felt most by those who are economically disadvantaged, from indigenous and communities of

³ Cowgill, Bo and Dell'Acqua, Fabrizio and Deng, Sam and Hsu, Daniel and Verma, Nakul and Chaintreau, Augustin, Biased Programmers? Or Biased Data? A Field Experiment in Operationalizing AI Ethics (June 1, 2020). In Proceedings of the 21st ACM Conference on Economics and Computation (pp. 679-681)., Columbia Business School Research Paper Forthcoming, Available at SSRN: <https://ssrn.com/abstract=3615404> or <http://dx.doi.org/10.2139/ssrn.3615404>



color, children, older adults, individuals with disabilities or pre-existing mental health conditions, or live in rural areas, or are outdoor workers.⁴ Beyond the individual, APA has found that such disasters and impacted living conditions can also disrupt social groups, households, and communities through threatening cohesivity and increasing conflicts and population displacement.⁵ The mental health impacts associated with climate change include stress, anxiety, depression, mood disorders, PTSD, suicide, neurological complications, cognitive deficits, reduced memory, higher exposure to violence and crime, and higher rates of incarceration. Growing recognition of these issues has led to policy efforts to achieve climate justice, part of the broader movement for environmental justice.⁶

Equitable research approaches and comprehensive data collection are necessary to track public understanding of environmental inequities or their determinants that can inform training programs, communications, and decision-making tools, including in how new AI tools might help to mitigate and adapt to our changing climate.⁷ To achieve accurate data on the impacts of climate change, data must be disaggregated to better understand the specific needs of various communities facing climate impacts.⁸

Proposals in this area should include funding for the development of open data repositories for research use, accessible to both academics and non-academics, and

⁴ Clayton, S., Manning, C. M., & Hodge C. (2014). *Beyond storms & droughts: The psychological impacts of climate change*. Washington, DC: American Psychological Association and ecoAmerica.

⁵ American Psychological Association, APA Task Force on Climate Change. (2022) *Addressing the Climate Crisis: An Action Plan for Psychologists*, Report of the APA Task Force on Climate Change. Retrieved from <https://www.apa.org/science/about/publications/climate-crisis-action-plan.pdf>.

⁶ Henry, C., Rockström, J., & Stern, N. E. (Eds.). (2020). *Standing up for a sustainable world: Voices of change*. Edward Elgar Publishing. <https://www.elgaronline.com/view/edcoll/9781800371774/9781800371774.xml>; Jafry, T. (Ed.). (2019). *Routledge handbook of climate justice*. Routledge. <https://www.routledge.com/Routledge-Handbook-of-Climate-Justice/Jafry/p/book/9780367732592>; Méndez, M. (2020). *Climate change from the streets: How conflict and collaboration strengthen the environmental justice movement*. Yale University Press. <https://yalebooks.yale.edu/book/9780300232158/climate-change-streets>; NAACP. (2021). *Fossil fueled foolery: An illustrated primer on the fossil fuel industry's deceptive tactics* (2nd ed.). *NAACP Environmental and Climate Justice Program*. <https://naacp.org/resources/fossil-fueled-foolery-20>; Pearson, A. R., Tsai, C. G., & Clayton, S. (2021). Ethics, morality, and the psychology of climate justice. *Current Opinion in Psychology*, 42, 36-42. <https://doi.org/10.1016/j.copsyc.2021.03.001>; Robinson, M., & Shine, T. (2018). Achieving a climate justice pathway to 1.5 °C. *Nature Climate Change*, 8(7), 564–569. <https://doi.org/10.1038/s41558-018-0189-7>; Rouf, K., & Wainwright, T. (2020). Linking health justice, social justice, and climate justice. *The Lancet Planetary Health*, 4(4), e131-e132. [https://doi.org/10.1016/S2542-5196\(20\)30083-8](https://doi.org/10.1016/S2542-5196(20)30083-8).

⁷ Bullard, R. D., & Wright, B. H. (1993). *Environmental justice for all: Community perspectives on health and research needs*.

⁸ Rubin, V., Ngo, D., Ross, Á., Butler, D., & Balaram, N. (2018). *Counting a diverse nation: Disaggregating data on race and ethnicity to advance a culture of health counting a diverse nation*. www.policylink.org



coordination mechanisms among academic researchers across the social and behavioral sciences and with the integration of community partners, in ways that can inform the development of public communications, education, and health advocacy tools to inform public understanding and decision making.⁹ Research funding should also highlight investigators from groups historically impacted by institutional practices and policies that have exacerbated disparities. Qualitative and community participatory research, paired with environmental justice grants, are key to assisting communities directly impacted by injustices.¹⁰ Community listening sessions and town halls are needed to facilitate direct community engagements and gauge research needs in participatory action research.

Advancing equity and strengthening civil rights:

9. What are the opportunities for AI to enhance equity and how can these be fostered? For example, what are the potential benefits for AI in enabling broadened prosperity, expanding economic and educational opportunity, increasing access to services, and advancing civil rights?

- The early evidence shows that decisions about AI and how it is implemented reflect the world view and values of the human beings who design them and set policy for how it is used. Given the massive and increasing influence of AI on people's lives, it is critical to better appreciate how people understand and react to such influence, especially when the AI is perceived to be biased or unfair.
- There are some fundamental research opportunities the government must investigate. AI Ethics and Psychology is an evolving discipline essential to the study of how AI learns from society and humans and how AI makes consequential decisions in critical settings.¹¹ Studies have demonstrated that AI automatically learns implicit biases from language corpora and accordingly perceives the world in a biased manner.¹² These implicit biases that have been documented in social psychology for decades include racial, gender, sexuality, ability, and age attitudes.¹³ There is even evidence that AI has been responsible

⁹ National Academies of Sciences, Engineering, and Medicine. (2022). *Communities, Climate Change, and Health Equity: Proceedings of a Workshop—in Brief*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26435>.

¹⁰ Petersen, D., Minkler, M., Vásquez, V. B., & Baden, A. C. (2006). Community-based participatory research as a tool for policy change: A case study of the Southern California Environmental Justice Collaborative. *Review of Policy Research*, 23(2), 339–354. <https://doi.org/10.1111/j.1541-1338.2006.00204.x>

¹¹ Caliskan, A., Bryson, J.J., & Narayanan, A., (2017). Semantics derived automatically from language corpora contain human-like biases. *Science*, 356(6334), 183-186. [10.1126/science.aal4230](https://doi.org/10.1126/science.aal4230).

¹² Pandey, A., & Caliskan, A., (2021). *Disparate Impact of Artificial Intelligence Bias in Ridehailing Economy's Price Discrimination Algorithms*. In Proceedings of the 2021 AAAI/ACM Conference on AI, Ethics, and Society. 822-833.

¹³ Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102(1), 4–27. <https://doi.org/10.1037/0033-295X.102.1.4>; Greenwald, A. G., McGhee, D. E.,



for keeping Black patients from receiving adequate mental health care.¹⁴ Moreover, these findings provide insights about how language might be impacting the social cognition of both AI and humans.

- There are, additionally, ethical implications for what AI learns, how AI learns, and AI's subsequent decision-making. For example, developing transparency enhancing algorithms for measuring and simulating AI bias and equity would make it possible to analyze the ethical implications of AI in a variety of domains including natural language and computer vision.¹⁵ Alternatively, these AI methods could examine and analyze current and historical social and human cognition.¹⁶ Research programs focused on this area would allow for understanding how AI is co-evolving with humanity, as AI is shaping society and impacting individuals' lives in an accelerated manner and at an unprecedented scale.
- Given evidence that AI can reproduce discrimination and bias against individuals and groups, it is imperative the government leverage psychological science and examine people's expectations about and reactions to the fairness and potential discrimination of AI versus human agents. An emerging line of research suggests that people expect AI to be less biased than humans in some cases while being less outraged when they learn of bias from an AI versus human actors.¹⁷ Algorithms appear less discriminatory than humans, perhaps incorrectly engendering trust and comfort from human users.
- Without the inclusion of psychological science, we risk harming already disadvantaged populations and creating systems that perpetuate harmful stereotypes and bias. AI systems are often trained using large data sets of human attributes or demographics that have the potential to integrate biases related to gender identity, race, and other characteristics. These systems then spread the biases in their interactions with humans or other technology-informed systems, with implications for equity and fairness. Psychologists' research on the various forms of resulting bias and the detrimental impacts are being used to develop data sets that are less biased and AI systems that can detect and compensate for biases in data. Findings from this research should be incorporated into future deployments of artificial intelligence tools, especially when being funded or used by the federal government.

& Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74(6), 1464–1480. <https://doi.org/10.1037/0022-3514.74.6.1464>.

¹⁴ Ziad Obermeyer et al. ,Dissecting racial bias in an algorithm used to manage the health of populations.Science 366,447-453(2019).DOI:10.1126/science.aax2342.

¹⁵ Steed, R., & Caliskan, A. (2021). A set of distinct facial traits learned by machines is not predictive of appearance bias in the wild. *AI Ethics* 1, 249–260. <https://doi.org/10.1007/s43681-020-00035-y>.

¹⁶ Caliskan, A., & Lewis, M. (2020, July 16). Social biases in word embeddings and their relation to human cognition. <https://doi.org/10.31234/osf.io/d84kg>.

¹⁷ Jago, A. S., & Laurin, K. (2021). Assumptions About Algorithms' Capacity for Discrimination. *Personality and Social Psychology Bulletin*. <https://doi.org/10.1177/01461672211016187>.



12. What additional considerations or measures are needed to assure that AI mitigates algorithmic discrimination, advances equal opportunity, and promotes positive outcomes for all, especially when developed and used in specific domains (e.g., in health and human services, in hiring and employment practices, in transportation)?

- Technology aimed at identifying and treating social isolation, mental and physical health issues, and providing new tools from transportation to caregiving show promise in improving health, specifically for older adults.¹⁸ Some of these tools provide a means for helping predict health risks or recommend personalized treatment plans, and others interface directly with patients in the form of therapeutic chatbots.¹⁹

13. How might existing laws and policies be updated to account for inequitable impacts from AI systems? For example, how might existing laws and policies be updated to account for the use of generative AI to create and disseminate non-consensual, sexualized content?

- Moving forward with something equivalent to the AI Bill of Rights recently proposed by the White House, or incorporating the principles shared above in response to questions above would represent an important step towards ensuring a safe and equitable development and deployment of new AI technologies. We would also encourage the White House and other policymaking/regulatory bodies to continue a dialogue with nonprofits, researchers, and practitioners to ensure a robust understanding of how AI is impacting peoples lives and business models. We understand that this technology is moving quickly and we must set forward policies that allow for rapid but safe developments. **Bolstering democracy and civic participation:**

16. What steps can the United States take to ensure that all individuals are equipped to interact with AI systems in their professional, personal, and civic lives?

- One piece that we understand is essential to individuals successfully interacting with technologies is digital literacy training and education. Teaching individuals how these technologies work and how they might impact your life, even when not interacting with them, can provide a more harmonious coexistence. Emerging science offers preliminary support for the efficacy of Digital Citizenship and Digital Literacy to increase the frequency of positive interactions online; however, more research is needed in this area.²⁰ Some competencies of digital literacy training are:

- questioning the accuracy and representativeness of online content

¹⁸ World Economic Forum. (2021). *AI and Ageing: Workshop 1 Report*. World Economic Forum. https://www3.weforum.org/docs/WEF_AI_and_Ageing_Workshop_Report_2021.pdf

¹⁹ Fiske, A., Henningsen, P., & Buyx, A. (2019). Your Robot Therapist Will See You Now: Ethical Implications of Embodied Artificial Intelligence in Psychiatry, Psychology, and Psychotherapy. *Journal of Medical Internet Research*, 21(5). <https://www.jmir.org/2019/5/e13216/>

²⁰ Common Sense Media. (2019, May 10). Digital citizenship | Common Sense Education. <https://www.commonsense.org/education/digital-citizenship>; Magis-Weinberg, L., Muñoz Lopez, D. E., Gys, C. L., Berger, E. L., & Dahl, R. E. (2022). Short research article: Promoting digital citizenship through a school-based intervention in early adolescence in Perú (a pilot quasi-experimental study). *Child and Adolescent Mental Health*. Advance online publication. <https://doi.org/10.1111/camh.12625>.



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- understanding the tactics used to spread mis- and disinformation
- limiting “overgeneralization” and “misestimation” errors that lead users to incorrectly estimate others’ behaviors or attitudes based on social media content (or reactions to content)
- signs of problematic technology use
- how to build and nourish healthy online relationships
- how to solve conflicts that can emerge on technology platforms
- how to refrain from excessive social comparisons online and/or better understand how images and content can be manipulated
- how to recognize online structural racism and critique racist messages
- how to safely communicate about mental health online²¹

Promoting economic growth and good jobs:

18. How can the United States harness AI to improve the productivity and capabilities of American workers, while mitigating harmful impacts on workers?

- Psychologists are not only working on understanding perceptions of AI in the workplace, but also are involved in developing AI for more effective use in the workplace. For example, psychologists recently used job descriptions, in tandem with natural-language processing algorithms, to estimate the knowledge and skills necessary for existing and even future jobs.²²

Additional input:

29. Do you have any other comments that you would like to provide to inform the National AI Strategy that are not covered by the questions above?

- Finally, APA applauds the White House’s commitment to addressing the behavioral health crisis in the US. While we need to continue to support and expand the mental and behavioral health care workforce, artificial intelligence and innovative technologies have the potential to positively impact the health care system and the future of service delivery. For example, AI technologies may improve patient care by enhancing diagnostic precision, allowing for more individualized treatment, and improving engagement. AI technologies may assist psychologists and other health professionals in their clinical work by automating administrative tasks and supporting clinical decision

²¹ Balt, E., Mérelle, S., Robinson, J., Popma, A., Creemers, D., van den Brand, I., van Bergen, D., Rasing, S., Mulder, W., & Gilissen, R. (2023). Social media use of adolescents who died by suicide: Lessons from a psychological autopsy study. *Child and Adolescent Psychiatry and Mental Health*, 17(1), 48. <https://doi.org/10.1186/s13034-023-00597-9>.

²² Putka, D.J., Oswald, F.L., Landers, R.N. *et al.* (2023). Evaluating a Natural Language Processing Approach to Estimating KSA and Interest Job Analysis Ratings. *Journal of Business and Psychology*, 38, 385–410. <https://doi.org/10.1007/s10869-022-09824-0>



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making. Additionally, AI could foster the early detection of behavioral health concerns and enable the scaling of interventions to reach a much broader segment of the population than currently can access care. For example, digital therapeutics can be used to deliver evidence-based interventions on a scale that vastly exceeds the capacity of the current clinician workforce. These developments, if realized, represent meaningful improvements in the lives of individuals, significant benefits to overall population health, and possible decreases in health care costs.

Yet, the use of AI technology within mental health care raises several ethical considerations. First, AI can be susceptible to bias; if the datasets used to train AI technologies are incomplete or reflect systemic biases, then the resulting AI technologies also will reflect those biases. Ultimately, this could exacerbate existing disparities and inequities. Secondly, given the sensitivity of mental health data, there needs to be considerable attention to data safeguarding to prevent public harm. Users of apps, chatbots, and other AI-based technology need to understand the privacy implications, including what personal data is being collected, how it is stored, who has access to it, and what happens to their data after they stop using the tool. Thirdly, greater transparency is needed regarding the development and technology underlying AI-based tools, as well as rigorous testing of the AI-based tools to foster public trust, to establish efficacy, and to minimize unintended consequences.

Ultimately, finding a balance between continued health care innovation and public safety is imperative.

Thank you again for the opportunity to weigh in on these questions. To the extent that our psychologists can serve as a resource to your office, please feel free to reach out to Corbin Evans (Senior Director Congressional & Federal Relations, Science Advocacy) at CEvans@apa.org or C. Vaile Wright, Ph.D. (Senior Director, Health Care Innovation) at CWright@apa.org.

Sincerely,

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