United States Senate

May 15, 2018

Dr. Francis Collins
Director
National Institutes of Health
9000 Rockville Pike
Bethesda, Maryland 20892

Dear Director Collins:

We write to request information on the scientific basis for technology addiction and its effect on childhood development. As parents and educators grapple with how to balance the benefits of technology with the risks to our children's mental and emotional health, it is essential that scientific evidence inform a prudent and measured approach.

Digital technology has undoubtedly improved society and enhanced our ability to learn and connect. The number of connected devices has nearly tripled since 2012, and recent advances in machine learning and computing power have facilitated complex data analysis. However, the widespread advertising-based revenue model creates financial incentives for companies to design products that maximize user engagement and screen time. As technology integrates more fully into our daily lives, we must consider the consequences on our health and well-being.

We are particularly concerned about technology's negative consequences on the development of children and adolescents. Past studies from academia and nonprofit organizations show that technology-driven stress leads to depression, lack of focus, sleep deprivation, and fragmented communities.[1] Psychologists and academics have produced alarming studies describing the negative outcomes of social media and digital interactions on children and adolescents.[2] Former engineers, designers, and executives of leading tech companies have also spoken out recently on the dangers of the products they helped create.[3]

Technological progress has benefited society, but we must not neglect its consequences as we continue to innovate. To address the open question of whether we are addicted to technological

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[1] See Center for Humane Technology, "Facebook segregates users into 'echo chambers'," http://humanetech.com/problem/.

[2] Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). "Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth." *Psychological Bulletin, 140*(4), 1073-1137. https://www.ncbi.nlm.nih.gov/pubmed/24512111; Van Geel M, Vedder P, Tanilon J. "Relationship Between Peer Victimization, Cyberbullying, and Suicide in Children and Adolescents: A Meta-analysis." (2014). JAMA Pediatrics. 168(5):435–442. https://jamanetwork.com/journals/jamapediatrics/fullarticle/1840250; Patchin, Jusin W. et al. "Digital Self-Harm Among Adolescents." (2017). Journal of Adolescent Health. 61 (6): 761-766. http://www.jahonline.org/article/S1054-139X(17)30313-0/fulltext; Temple JR, Paul JA, van den Berg P, Le VD, McElhany A, Temple BW. "Teen Sexting and Its Association with Sexual Behaviors." (2010). Arch Pediatr Adolesc Med. 166(9):828–833. https://jamanetwork.com/journals/jamapediatrics/fullarticle/1212181

[3] https://www.nytimes.com/2018/02/04/technology/early-facebook-google-employees-fight-tech.html

devices and platforms, Congress must understand the current scientific consensus, potential gaps in research, and the best way to build a body of evidence that can inform effective policymaking. Technology companies must also engage in this national dialogue and provide researchers the necessary data required for their studies.
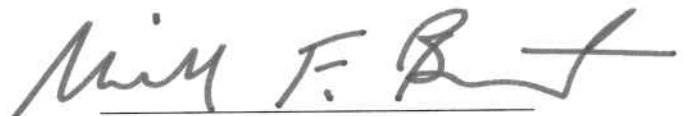
As Congress considers public health issues related to technology addiction, including its effects on children's health, we ask NIH to provide a briefing and a written response to the following questions by June 15th, 2018:

1. Is there consensus in the scientific community on whether our society is becoming addicted to technology?
2. What are the public health effects of social networking apps that are purposefully designed to maximize user engagement? What are the public health consequences specifically on children and adolescents?
3. Have there been independent scientific analyses on the psychological effects of certain mobile application features? Are technology companies and app developers providing sufficient data?
4. How does the increased use of technology affect child development?
5. What gaps exist in our understanding of technology and its influence on child development?

We appreciate your attention to this important matter.

Sincerely,

Brian Schatz
United States Senator

Michael F. Bennet
United States Senator