

Social Media Engagement, Mental Well-Being, and Digital Citizenship Among U.S. Youth: A Review

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Abstract

Abstract— In the United States, social media is a defining aspect of adolescence, and over nine out of 10 youth aged 13–17 report using at least one of the major platforms at least once a day. Drawing on peer-reviewed research, national survey data and policy reports that have been published up to 2022, this review explores the three interrelated dimensions of youth online life: patterns of social media engagement, associations between social media use and mental well-being, and the evolution of digital citizenship. The results are suggestive of a complex, non-linear relationship between screen use and outcomes to psychological functioning, dependent on active versus passive use, platform affordances, individual vulnerability and social context. Overall, cyberbullying, upward social comparison and problematic use are consistently associated with increased depression and anxiety symptoms, whereas identity exploration, peer support and civic participation are consistently associated with protective factors when engaged in purposefully and competently. A unified framework of digital citizenship is suggested, comprising a set of skills related to online safety, ethics, critical media literacy and civic engagement, and bringing together the psychological and civic aspects of young people's use of the internet. The review highlights methodological weaknesses, such as the use of a cross-sectional, self-report design, and recommends further studies, including longitudinal studies, platform-specific studies, and equity research, to guide school curricula, clinical practice, and federal policy.

INTRODUCTION

Today's U.S. teens live in a qualitatively different digital media world than previous generations. The Pew Research Centre carried out a national survey in 2022 which found that 95% of teens (aged 13–17) have a smartphone, and 97% of teens use the internet every day, up from nearly half in 2014–15 [1]. This change has paralleled the documented increase among adolescents in psychological distress. The prevalence of anxiety, depression and behavioral problems among U.S. children and adolescents has risen substantially in the last five years, leading the American Academy of Pediatrics and the U.S. Surgeon General to declare a national youth mental health emergency [20].

Given these two trends, the increase in social media saturation and the decrease in mental health for young people, it is only natural that there are speculations regarding causation. But the reality is much more complicated than early alarmist reports indicated. Average effects of social media on adolescent mental health have been described as "weak" (or "inconsistent") [2] in umbrella reviews of the literature conducted up to 2021, while noting that vulnerable sub-groups (such as low-income youth, adolescent girls, and sexual minority youth) may be at significantly higher risk. Adolescents also share mixed experiences, both positive and negative, such as feeling connected with faraway friends, affirmed by their peers, and informed about civic and political issues and communities that support them.

This review brings together the current evidence on social media engagement with youth (covers the landscape and typology of social media with adolescents) and the relationship between social media engagement and mental health (associations of social media engagement and mental health), as well as digital citizenship as an educational and civic response (digital citizenship as an educational and civic response). This is a call to transcend the dichotomous "harmful versus benign" framing currently in use in public discussion and to find a research and policy agenda based on developmental science, educational practice and platform accountability.

LANDSCAPE OF SOCIAL MEDIA ENGAGEMENT AMONG U.S. YOUTH

The intensity and diversity of media platforms are defining features of adolescent media use in the United States today. The Common Sense Census found that tweens (aged 8 to 12) spent an average of 5 hours 33 minutes and teens (aged 13 to 18) an average of 8 hours 39 minutes on entertainment screen media per day in 2021, up significantly from pre-pandemic levels [10]. Of this figure, social media is increasing in relevance. YouTube, TikTok, Instagram and Snapchat are used by 95%, 67%, 62% and 59% of teens, respectively, according to Pew data from 2022, while Facebook has dropped to 32% [1].

An important factor from the developmental literature is that there is no one-size-fits-all usage of "social media." Vannucci and Ohannessian found clear sub-groups of early adolescent users (high, moderate, low) differentiated by the frequency of user engagement with multiple platforms and related to different psychosocial trajectories, finding that high-frequency users on multiple platforms to be more likely to experience internalizing symptoms than their less focused peers [6]. Also, the social media affordances put forward by Nesi, Choukas-Bradley and Prinstein suggest that the social media interaction doesn't just mirror real-world peer interaction, but is actually transformed by affordances such as asynchronicity,

permanence, publicness, availability, cue absence, quantifiability and visualness [3, 4]. Affordances have implications for adolescents' experience of friendship, romance, peer status and conflict.

Another way of organizing the literature is between active engagement (posting, messaging, commenting, creating) and passive engagement (scrolling, browsing, viewing). Passive use, in particular, has been related to greater upward social comparison, albeit inconsistently, and to lower subjective wellbeing; whereas active and communicative use is more often related to subjective feelings of connection [2, 11].

SOCIAL MEDIA AND MENTAL WELL-BEING

DEPRESSION, ANXIETY, AND PSYCHOLOGICAL DISTRESS

Small but statistically significant relationships between increased rates of depression, anxiety and psychological distress and social media use have been reported in a number of meta-analytic and systematic reviews of the literature [12]. The effect sizes are small and variable between studies, however. To get an idea of magnitude, Orben and Przybylski calculated that digital screen time explains only 1% of the variance in adolescent well-being, a figure similar to that of having to wear glasses or not [19]. Twenge and colleagues, who analyzed slightly different data sets with different statistical methods, have suggested that these effect sizes are an underestimate of the risks for heavy drinkers and for subgroups, including adolescent girls, in which depressive episodes and self-harm have increased the most since 2011 [5].

There is no disagreement about the data, but rather differences in data interpretation, as described in the most recent umbrella review of 25 meta-analyses, systematic, and narrative reviews [2]. The authors call for research designs that seek to move beyond the traditional "screen time" approach to more granular (platform- and person-specific) approaches.

CYBERBULLYING AND ONLINE VICTIMIZATION

There are also some of the more well-documented risks, such as cyberbullying. Based on data from Pew from 2022, 46% of teens in the United States have been targets of at least one of six types of cyber harassment, and 15- to 17-year-old girls were disproportionately targeted by rumor spreading and constant monitoring [9]. Even among the tween (9–12 years old) group, one in five had experienced cyberbullying as the target, witness, or perpetrator, according to Patchin and Hinduja [7]. The prevalence of being a victim of cyberbullying was found to be 9.6% of the Adolescent Brain Cognitive Development (ABCD) Study sample, which consisted of 11–12 year-old U.S. children, with high risk among sexual minority youth as reported by Nagata et al. [8]. Victimization is positively and prospectively associated with depression and anxiety, as well as suicidal thoughts.

PROBLEMATIC SOCIAL MEDIA USE

In addition, there has been a sustained focus on patterns of compulsive or problematic use. Boer et al. did a longitudinal latent class growth analysis of young adolescents and found a class of adolescents with symptoms of problematic use that got worse over time and who expressed decreasing life satisfaction and psychosomatic complaints [13]. The results of this study are consistent with the hypothesis that it is dysregulated engagement, rather than exposure itself, that is the more significant risk marker, and with clinical suggestions to view problematic use as a behavioural addiction.

POSITIVE DIMENSIONS OF ENGAGEMENT

However, the evidence is not entirely dire. Craig et al. created and tested the Social Media Benefits Scale for LGBTQ+ youth, and found that social media can provide identity affirmation, community, positive representation and coping resources that are often lacking in offline spaces [17]. New national survey data shows that a majority of U.S. teens say social media makes them feel closer to what's happening in their friends' lives and more connected to the larger community. In an annual review of the literature, Odgers and Jensen point to the fact that there are many commonly cited concerns and claims about the impact of digital technology on adolescent development that lack the best available evidence, and that the negative impacts are focused on youth who are vulnerable to digital technology [11].

DIGITAL CITIZENSHIP: CONCEPTS, SKILLS, AND PRACTICES

When unstructured or dysregulated use is a risk, then structured, skilled, and ethical use is a protective factor. Digital citizenship provides an integrating educational and civic framework. Choi presents digital citizenship as the skill to participate responsibly, critically, and effectively in an interconnected digital society, which has four dimensions of digital citizenship: ethics, media and information literacy, participation/engagement, and critical resistance [14]. In their seminal measurement research, Jones and Mitchell propose two clusters of behaviors as the basis for a definition of youth digital citizenship: online respect and civic engagement online [15].

The conceptualizations move away from the earlier "internet safety" curriculum, which was mostly protectionist and fear-inducing, to ones that engage and empower young people with agency and equip them for their roles as participants in networked publics. The Common Sense K–12 Digital Citizenship Curriculum is one example of how this has changed, as it covers topics such as media balance, privacy, digital footprint, relationships/communication, cyberbullying and news and media literacy, which were created in partnership with Harvard's Project Zero [16]. Studies of its implementation have found it to be effective in terms of measurable improvements in student knowledge and behavioral intentions, although there is limited longitudinal outcome data.

Digital citizenship is inherently related to civic development. Boulianne and Theocharis (2013) conducted a meta-analysis of 106 studies which found a positive, though weak, relationship between digital media use and civic and political involvement among youth, especially when digital media is used for information seeking, discussion, and mobilization, rather than passive consumption [18]. The discovery is significant because it re-imagines the potential of social media not as simply a space of psychological threat, but as a democratic space through which its infrastructure may be exploited for democratic purposes, depending on the citizenry skills users carry with them.

INTERSECTIONS: ENGAGEMENT, WELL-BEING, AND CITIZENSHIP

The three domains mentioned above are often studied separately, but, in practice, are highly interdependent. Adolescents who are able to develop critical media literacy skills are better equipped to assess the content they see (which is usually image-oriented and algorithmically curated), that has been associated with body-image concerns and upward social comparison [2, 11].

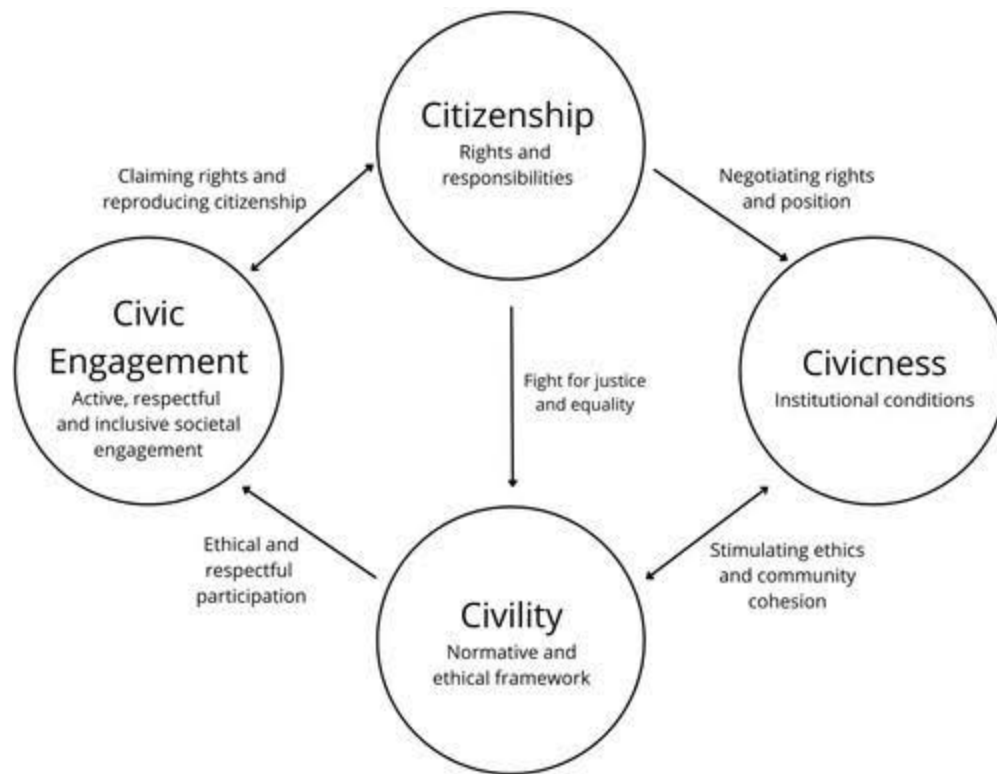


Figure 1: INTERSECTIONS: ENGAGEMENT, WELL-BEING, AND CITIZENSHIP

Youth with knowledge of norms around privacy and consent are less likely to be perpetrators or targets of cyberbullying [7, 15]. Civic learning and expression on platforms are related to increased sense of belonging and increased sense of efficacy, both of which are protective mental-health factors among teens [17, 18].

It has been suggested that digital citizenship competencies are important developmentally because the affordances of the social media environment, like quantifiability (visible metrics of approval) and permanence (an enduring record of interactions), increase the stakes of how adolescents perform in their social media interactions, thereby requiring a qualitatively different set of skills for competent navigation than those required in face-to-face social settings [3, 4]. This implies that mental-health interactions and the education of digital citizenship shouldn't be thought about as two mutually unique streams in their own right, but instead as key parts of the same development support mechanism.

EDUCATIONAL AND POLICY RESPONSES

In 2022, the U.S. federal, state, and institutional reactions to youth online risk started to gain momentum. In 2021, the U.S. Surgeon General's advisory on youth mental health explicitly called out social media as an environmental factor that needs to be addressed. State legislatures are increasingly requiring digital citizenship or media literacy to be part of K–12 education, but can differ widely in how this is delivered. The federal government proposed bills that would enable independent researchers to have access to platform data, which was considered to be a prerequisite for evidence-based regulation, like the Platform Accountability and Transparency Act.

What has changed from simply holding assemblies to developing integrated curricula to teach digital citizenship at a variety of grade levels [16]. There are some common characteristics of effective programs, such as treating students as active co-participants rather than passive recipients, integrating skill instruction with opportunities for authentic online participation, and involving parents and caregivers, who have personal information literacy that strongly influences the home information environment. Clinical responses in turn have evolved to include social media use as part of children's primary care or as a component in adolescent mental health screening.

DISCUSSION AND RESEARCH GAPS

There are three methodological restraints that remain in the field. One is that most of the published studies are based on a single cross-sectional self-reported assessment of screen time, which is only weakly correlated with logged screen time. Second, the collection of measures of "social media use" masks important variation between platforms, activities and content types. Third, most large-sample research conflates adolescents, without accounting for the differential risk and benefits faced by girls, sexual and gender minorities, and youth of color [2, 8, 17].

Future research priorities are: (i) platform-specific and feature-specific studies that consider algorithmic curation as a variable of interest; (ii) longitudinal, multi-wave designs using objective behavioral measurement; (iii) intersectional analyses to determine who benefits, who is harmed, and under what conditions; (iv) experimental and quasi-experimental evaluation of the links between digital citizenship curricula and mental health and civic outcomes; and (v) independent researcher access to internal platform data that is unavailable in current studies.

CONCLUSION

Social media isn't a clear-cut problem or a clear-cut solution for U.S. youth. The best interpretation of the evidence as of 2022 is that outcomes vary by uses, purposes, and providers of platforms, and by what citizenship skills youth cultivate in using platforms. Re-framing the digital citizenship issue from the issue of "screen time" to the issue of capacity development is a shift in the direction of the research, educational and policy futures. This orientation brings together the mental health and civic development priorities of adolescents' online lives in one developmental agenda and acknowledges adolescents as actors in the digital public sphere they will bequeath, rather than subjects.

REFERENCES

- [1] V. P. Dennen, S. A. Rutledge, L. M. Bagdy, S. Bunn, D. Jung, C. Cargill, et al., "Virtual independence: Teen social media use during the summer of quarantine," in Proc. Int. Conf. Web Based Communities and Social Media, Jul. 2021, pp. 211–215.
- [2] P. M. Valkenburg, A. Meier, and I. Beyens, "Social media use and its impact on adolescent mental health: An umbrella review of the evidence," *Current Opinion in Psychology*, vol. 44, pp. 58–68, Apr. 2022, doi: 10.1016/j.copsyc.2021.08.017.
- [3] J. Nesi, S. Choukas-Bradley, and M. J. Prinstein, "Transformation of adolescent peer relations in the social media context: Part 1—A theoretical framework and application to dyadic peer relationships," *Clinical Child and Family Psychology Review*, vol. 21, no. 3, pp. 267–294, Sep. 2018, doi: 10.1007/s10567-018-0261-x.

- [4] J. Nesi, S. Choukas-Bradley, and M. J. Prinstein, "Transformation of adolescent peer relations in the social media context: Part 2—Application to peer group processes and future directions for research," *Clinical Child and Family Psychology Review*, vol. 21, no. 3, pp. 295–319, Sep. 2018, doi: 10.1007/s10567-018-0262-9.
- [5] J. M. Twenge, T. E. Joiner, M. L. Rogers, and G. N. Martin, "Increases in depression, self-harm, and suicide among U.S. adolescents after 2012 and links to technology use: Possible mechanisms," *Psychiatric Research and Clinical Practice*, vol. 2, no. 1, pp. 19–25, Jun. 2020, doi: 10.1176/appi.prcp.20190015.
- [6] A. Vannucci and C. M. Ohannessian, "Social media use subgroups differentially predict psychosocial well-being during early adolescence," *Journal of Youth and Adolescence*, vol. 48, no. 8, pp. 1469–1493, Aug. 2019, doi: 10.1007/s10964-019-01060-9.
- [7] J. W. Patchin and S. Hinduja, "Cyberbullying among tweens in the United States: Prevalence, impact, and helping behaviors," *Journal of Early Adolescence*, vol. 42, no. 3, pp. 414–430, Mar. 2022, doi: 10.1177/02724316211036740.
- [8] C. Longobardi, G. Gullotta, S. Ferrigno, T. Jungert, R. Thornberg, and M. Settanni, "Cyberbullying and cybervictimization among preadolescents: Does time perspective matter?," *Scandinavian Journal of Psychology*, vol. 62, pp. 259–266, 2021.
- [9] M. Carvalho, C. Branquinho, and M. G. G. de Matos, "Cyberbullying and bullying: Impact on psychological symptoms and well-being," *Child Indicators Research*, vol. 14, no. 1, pp. 435–452, 2021, doi: 10.1007/s12187-020-09756-2.
- [10] V. Rideout, A. Peebles, S. Mann, and M. B. Robb, "The Common Sense Census: Media Use by Tweens and Teens, 2021," *Common Sense Media*, San Francisco, CA, USA, Mar. 2022. [Online]. Available: <https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-tweens-and-teens-2021>
- [11] C. L. Odgers and M. R. Jensen, "Annual research review: Adolescent mental health in the digital age—facts, fears, and future directions," *Journal of Child Psychology and Psychiatry*, vol. 61, no. 3, pp. 336–348, Mar. 2020, doi: 10.1111/jcpp.13190.
- [12] B. Keles, N. McCrae, and A. Grealish, "A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents," *International Journal of Adolescence and Youth*, vol. 25, no. 1, pp. 79–93, 2020, doi: 10.1080/02673843.2019.1590851.
- [13] M. Boer, G. W. J. M. Stevens, C. Finkenauer, and R. J. J. M. van den Eijnden, "The course of problematic social media use in young adolescents: A latent class growth analysis," *Child Development*, vol. 93, no. 2, pp. e168–e187, Mar./Apr. 2022, doi: 10.1111/cdev.13712.
- [14] M. Choi, "A concept analysis of digital citizenship for democratic citizenship education in the internet age," *Theory & Research in Social Education*, vol. 44, no. 4, pp. 565–607, 2016, doi: 10.1080/00933104.2016.1210549.
- [15] L. M. Jones and K. J. Mitchell, "Defining and measuring youth digital citizenship," *New Media & Society*, vol. 18, no. 9, pp. 2063–2079, Oct. 2016, doi: 10.1177/1461444815577797.

- [16] C. James, E. Weinstein, and K. Mendoza, "Teaching Digital Citizens in Today's World: Research and Insights Behind the Common Sense K–12 Digital Citizenship Curriculum," Common Sense Media, San Francisco, CA, USA, 2021. [Online]. Available: <https://www.commonsense.org/education/toolkit/teaching-digital-citizens-in-todays-world>
- [17] S. L. Craig, A. D. Eaton, L. B. McInroy, V. W. Y. Leung, and S. Krishnan, "Can social media participation enhance LGBTQ+ youth well-being? Development of the Social Media Benefits Scale," *Social Media + Society*, vol. 7, no. 1, pp. 1–13, Jan.–Mar. 2021, doi: 10.1177/2056305121988931.
- [18] S. Boulianne and Y. Theocharis, "Young people, digital media, and engagement: A meta-analysis of research," *Social Science Computer Review*, vol. 38, no. 2, pp. 111–127, Apr. 2020, doi: 10.1177/0894439318814190.
- [19] A. Orben and A. K. Przybylski, "Screens, teens, and psychological well-being: Evidence from three time-use-diary studies," *Psychological Science*, vol. 30, no. 5, pp. 682–696, May 2019, doi: 10.1177/0956797619830329.
- [20] L. A. Lebrun-Harris, R. M. Ghandour, M. D. Kogan, and M. D. Warren, "Five-year trends in US children's health and well-being, 2016–2020," *JAMA Pediatrics*, vol. 176, no. 7, e220056, Jul. 2022, doi: 10.1001/jamapediatrics.2022.0056.