

12 Problematic Digital Media Use and Addiction

Sarah E. Domoff, Aubrey L. Borgen, Bonny Rye,
Gloria Rojas Barajas, and Katie Avery

Adolescents spend considerable amounts of time using digital media and social media. Although risks and benefits exist, clinicians, teachers, and parents have grown concerned about problematic use, or excessive use that interferes with adolescents' health, well-being, and development. In this chapter, we explain the difference between problematic and typical media use; detail the measurement of problematic media use; review existing prevention and treatment approaches for problematic use; and provide recommendations for clinicians working with adolescents. As this research is still in its early stages, we conclude with directions for future research.

Problematic vs. Normative Digital Media Use

Historically, conceptualizations of pathological use of digital media have relied on other behavioral disorders, such as pathological gambling. Indeed, Dr. Kimberly Young pioneered early studies on internet addiction (e.g., Young, 1998a), forging the path for subsequent research on identifying how one's use of digital/electronic communication and media may contribute to poor functioning and well-being. Adapting criteria from the DSM-IV-TR (American Psychiatric Association [APA], 2000)'s description of pathological gambling, Young created one of the first known measures of such problematic use: the Internet Addiction Scale (Young, 1998a). Since then, several measures using a similar paradigm have been developed targeting a range of electronic communication and digital media uses, ranging from pathological video game use (Gentile, 2009) to instant messaging addiction (Huang & Leung, 2009) to compulsive texting (Lister-Landman et al., 2017).

Across these measures, a constant is that pathological or problematic use is defined as excessively using digital media or internet/electronic communication to the point of dysfunction. In other words, similar to other "addictions" or "abuse," frequency of use is not the defining or sole factor. It should be reiterated that *how* one uses digital or social media and the impact of such use on one's functioning (e.g., in relationships, at work or school, with peers) delineates problematic versus normative use. Put in other terms, an adolescent may use social media very frequently and not have it negatively impact their

life, whereas another adolescent may use social media to a lesser extent and it could have dire consequences for their well-being. Duration or amount of use may matter to a degree (i.e., of course, problematic social media use correlates with higher amounts of use); however, only considering duration of social media use misses the mark for capturing this idea. In this chapter, we discuss this conceptualization further, and explicate current research on assessing, preventing, and treating problematic social media use. We also highlight clinical practices carried out at the Problematic Media Assessment and Treatment Clinic (www.sarahdomoff.com) and other best practices for mental health clinicians seeking to more routinely assess and treat these concerns.

Internet Addiction, Social Media Addiction, and Other Problematic Digital Media Use

Prior to the release of the most recent edition of the DSM – the DSM-5 (APA, 2013), the majority of research on problematic use of digital media used internet addiction criteria (Young, 1998b; based on pathological gambling criteria from the DSM-IV-TR) to conceptualize dysregulated or “addictive” media use (Domoff, Borgen, et al., 2019). Currently, definitions of dysregulated (also termed “addictive” or “excessive”) digital media use draw from the DSM-5 criteria for internet gaming disorder (APA, 2013) or theories rooted in behavioral addiction (Domoff, Foley, & Ferkel, 2020). Since then, research has expanded the term “problematic” to encapsulate both one’s own dysregulated use *and* digital media use or internet/electronic communication that may harm individuals other than the user themselves.

For example, Billieux et al. (2015) proposed a Pathway Model of Problematic Mobile Phone Use, which consists of pathways to three types of problematic mobile phone use: (1) addictive patterns of use (i.e., the primary focus of this chapter); (2) antisocial patterns of use (e.g., cyber-bullying or use in situations that would be deemed socially inappropriate); and (3) risky patterns of use (e.g., phone use while driving or in other situations where physical harm may ensue and unsafe sexting). Although the majority of the following sections will focus on dysregulated use, researchers and clinicians should be aware of these other components of social media interactions and excessive phone use. We elaborate further on antisocial and risky use of social media or digital devices in the clinical implications sections. Similarly, although online gaming is outside the scope of this chapter, it should be noted that many popular games are social in nature and involve multiple players (e.g., massively multiplayer online games). We refer readers to Gentile et al. (2017) for a review of internet gaming disorder and clinical implications for adolescents.

In addition to recent theoretical advances in defining problematic media use, there is a growing body of literature indicating that reward systems in the

brain are activated when adolescents use digital media (e.g., gaming disorder; Wegmann & Brand, 2020) and social media (e.g., Nasser et al., 2020) – providing a compelling basis for concerns about their addiction potential. For example, Sherman et al. (2016) examined adolescents' brain reactivity when viewing pseudo Instagram photos. They found that seeing photos with many “likes” was associated with reactivity of several regions of the brain, including those connected to reward processing (interestingly, these authors also found reward regions were activated when “liking” photos, as well, see Sherman et al., 2018). Although this area of research is still new, the initial evidence suggests that engaging with social media (and other types of digital media) are rewarding to adolescents.

Assessing, Preventing, and Treating Problematic Digital Media Use

Assessing Problematic Digital Media Use

There are several measures of various types of problematic digital media use with strong psychometric properties. Although most have been validated with adult samples, we review three that have been developed for adolescents and are specific to social media use. One measurement that has been used to assess problematic digital media use is the Bergen Social Media Addiction Scale (BSMAS), previously known as the Bergen Facebook Addiction Scale (Andreassen et al., 2012). This scale assesses how social media is used rather than the social media platform specifically (Lin et al., 2017) and social media use is assessed over the past year (Watson et al., 2020). The BSMAS is comprised of 18 items that assess 6 symptoms of addiction: salience, mood modification, withdrawal symptoms, tolerance, conflict, and relapse (Andreassen et al., 2012).

The BSMAS' Cronbach's alpha is 0.83 (Andreassen et al., 2012), suggesting strong internal consistency. Regarding convergent validity, this scale associated with the Addictive Tendencies Scale, the Facebook Attitudes Scale, and the Online Sociability Scale (Andreassen et al., 2012).

The Addictive Patterns of Use (APU) Scale is another reliable and valid measure that can be used to screen for smartphone addiction (Domoff, Foley, & Ferkel, 2020). The scale consists of nine items that ask adolescents to rate their frequency of symptoms of addictive phone use (Domoff, Foley, & Ferkel, 2020), based on criteria for internet gaming disorder from the DSM-5, adapted to smartphones. Items include “During the last year, how often have there been times when all you could think about was using your phone?” and “Have you experienced serious conflicts with family, friends, or partner because of your phone use?” (Domoff, Foley, & Ferkel, 2020). In addition to completing the nine items, adolescents are asked to list the features of their

phone that they use the most, allowing researchers to identify the types of apps or smartphone functions that may be most problematic. Recently, additional research further supports the validity of APU, with this measure associating with media use (e.g., TV viewing frequency; Domoff, Sutherland, et al., 2020a) and other dysregulated behaviors (e.g., food addiction, dysregulated eating; Domoff, Sutherland, et al., 2020b).

Finally, the Social Media Disorder (SMD) Scale (van den Eijnden et al., 2016) similarly uses criteria of internet gaming disorder, but applied to social media use, to assess symptoms of dysregulated social media use. The developers recognize nine criteria to define disordered social media use within the adolescent population: preoccupation, tolerance, withdrawal, relapse, mood modification, external consequences, deception, displacement, and conflict (van den Eijnden et al., 2016). This scale is made up of 27 items, 3 items for each of the 9 criteria listed previously; a short version that consist of 9 items was also developed that selected the highest loading items on each of the 9 criteria (van den Eijnden et al., 2016). A cut-off score for disordered use was identified as endorsement of at least five of the nine criteria on the scale (van den Eijnden et al., 2016). Positive correlations between social media disorder symptoms on this scale and depressive mood, hyperactivity, and inattention have been demonstrated (van den Eijnden et al., 2016).

Rates of problematic social media use (or high scores on measures of “addictive” or disordered social media use) tend to fall around 7%, across 29 countries (Boer et al., 2020; consistent with gaming disorder rates, Gentile et al., 2017). That is, based on data from countries in Europe, the Middle East, and North America, approximately 7% of adolescent social media users experience impairment due to their use (Boer et al., 2020), such as trouble sleeping/poor quality sleep (e.g., Vernon et al., 2016) and poorer academic functioning (Domoff, Foley, & Ferkel, 2020). Given how recently problematic social media use measures were developed, there is limited research on whether this prevalence has changed over time. However, in terms of how the COVID-19 pandemic is impacting rates, early evidence suggests that burden caused by COVID-19 is associated with greater addictive social media use (Brailovskaia & Margraf, 2021) and some evidence that problematic social media use has increased in some samples from before to during the pandemic (among adolescents in Italy; Muzi et al., 2021). Future research should prioritize examining longitudinal trajectories of problematic social media use, particularly given drastic increases in media use during the COVID-19 pandemic.

Preventing Problematic Social Media Use

Due to the burgeoning interest in social media and smartphone use among adolescents, there has been a vast amount of research highlighting correlates of social media use overall. However, there has been limited research investigating correlates or contributors to problematic social media use. Many researchers

have hypothesized that there is a relationship between problematic social media use and adverse mental health symptoms, with the most consistent research supporting links via disrupted sleep and shortened sleep duration (e.g., Vernon et al., 2016). There have also been various studies outlining demographic factors and social factors that are associated with dysregulated social media use. Across the studies described, it is critical to note that we focus on dysregulated use (often called *problematic* in subsequent research) and not amount of social media use. The research on duration or amount of social media use and various correlates is mixed and inconsistent (Odgers et al., 2020), and is too indiscriminate to adequately capture the scope of adolescents' social media interactions. It is also important to note that, unless specified, most research is correlational and should not be inferred as causal.

Internalizing symptoms, such as depressive and anxiety symptoms, correlate with disordered social media use. Bányai et al. (2017) conducted a longitudinal study assessing how problematic social media use and depressive symptoms were related. It was found that both problematic social media use and depressive symptoms grew over a two-year span and that changes in problematic use correlated with changes in depressive symptoms (Bányai et al., 2017). Another study found direct associations between problematic social media use and depressive symptoms and indirect associations between problematic social media use and self-esteem (Kircaburun et al., 2019). It has also been found that those with a higher baseline of depressive symptoms showed a sharper incline in problematic use (Raudsepp & Kais, 2019).

Various demographic factors such as gender and age have shown differing associations with problematic social media use. Gender has been found to have an impact on how social media impacts adolescents. That is, for boys, anxiety was a predictor for higher social media use while for girls, problematic social media use associates with depression (Oberst et al., 2017). For adolescent girls, it is suggested that problematic social media use and depressive symptoms work in a cyclical fashion, whereas depressive symptoms exacerbate problematic social media use, which then further worsens depressive symptoms (Kuss & Griffiths, 2017). This suggests a possibility that adolescent girls with depressive symptoms may struggle to identify adequate coping techniques and instead use social media to ineffectively manage their symptoms (Gámez-Guadix, 2014). Another study found that younger adolescents and female adolescents had higher levels of problematic social media use (Kircaburun et al., 2019). Additionally, the type of social media behavior plays a role in how it impacts the social media user. There is a relationship between passive social media use (e.g., scrolling, low social interaction) and anxiety and depression symptoms, while active social media use (e.g., commenting, liking, communicating with peers) was related to lower symptoms of depression and anxiety in adolescents (Thorisdottir et al., 2019).

Several social factors have been shown to relate to problematic use in adolescents. Social norms and friends' social media use frequency was directly

associated with frequency of social media use, leading to an association with problematic use (Marino et al., 2020). Another study found that social connectedness and general belongingness were indirectly related to problematic social media use (Kircaburun et al., 2019). Fear of missing out and perceived academic competence predicted addiction to social media among high school students in one study (Tunc-Aksan & Akbay, 2019).

Regarding protective factors, self-esteem has been shown to be a moderator of problematic social media use and depression in adolescents (Wang et al., 2018). It has been proposed that adolescents with higher levels of self-esteem feel more confident in coping with adversity and are therefore less likely to have depression and subsequent problematic social media use (Wang et al., 2018). For girls who use Facebook actively and have perceived online social support have shown to benefit from social media use, and perceived online social support was found to have a negative association with adolescent girls' depressed moods (Frison & Eggermont, 2016).

Treating Problematic Digital Media Use

Prevention Programs

Given the limited research on risk and protective factors of problematic social media use, it is not surprising that we could not identify any published, empirically supported problematic social media use prevention programs. However, the authors of this chapter have developed and have recently tested the Developing Healthy Social Media Practices (DHSMP) Prevention to address this gap. The DHSMP Prevention program was developed to promote healthy social media use and mitigate risks associated with social media use among youth in grades 6–8. DHSMP Prevention is a classroom-based prevention program, consisting of 6 classes, approximately 45 minutes per session. The program consists of providing adolescents with psychoeducation on: (1) positive and negative effects of social media use (i.e., content of social media and user engagement); (2) the impact of various social media use practices on adolescent health and well-being (i.e., context of use); (3) how to critically evaluate content provided via social media (i.e., deciphering whether social media posts/shares are legitimate or “fake news”); (4) how to cope with cyber-bullying; (5) privacy and safety online; and (6) social gaming-specific risks and benefits (e.g., loot boxes and financial risks; app/game design principles to encourage longer game play; fostering positive interactions when gaming).

The DHSMP Prevention program has been piloted with approximately 160 6th graders in one public middle school in the Midwest. Acceptability and efficacy of this program indicate high acceptability based on student ratings, and increased skills in healthy social media use. Specifically, youth reported (on a scale from 1 to 5, with 5 being more confident/likely): feeling confident in

their ability to recognize when social media use is harmful ($M = 3.84$, $SD = 1.26$); feeling more confident in identifying times and places when they shouldn't be using social media ($M = 4.18$, $SD = 0.96$); being likely to reduce their use of social media around bedtime, mealtime, while talking with friends and family, during class, and while doing homework ($M = 4.04$, $SD = 1.22$); being likely to use the privacy tips they learned ($M = 3.85$, $SD = 1.14$); feeling more confident in recognizing what cyber-bullying is ($M = 4.48$, $SD = 0.84$); and a greater likelihood to use strategies to cope with being cyber-bullied ($M = 3.58$, $SD = 1.26$). Although not a randomized clinical trial (RCT), preliminary results suggest that a school-based psycho-education program on how to use social media in healthy ways may increase relevant skills in early adolescents. Currently this program is being tested in a nonrandomized trial to further establish its potential efficacy.

Treating Problematic Digital Media Use

Even though problematic digital media use is a significant issue among adolescents, there are no validated treatment options specific to social media use. Research in this area has focused on treating internet gaming disorder (IGD) or internet addiction (IA), with very few studies investigating the treatment of problematic social media use (Pluhar et al., 2019). However, the research about IGD and IA treatment provides a basis for future directions in helping adolescents improve their social media use.

Cognitive Behavioral Therapy: Many research studies investigating the treatment of IA have focused on methods influenced by cognitive behavioral therapy (CBT). One of these investigated treatments is CBT for IA (CBT-IA; Young, 2013). The first phase of CBT-IA focuses on the behavior of individuals with IA, particularly time management and engagement in offline activities. The second phase focuses on the cognitive aspects of IA, introducing participants to challenging and restructuring their maladaptive cognitions about internet use. Finally, the third phase of CBT-IA uses concepts of harm reduction therapy to address any other environmental or psychological problems that are associated with IA (Young, 2011). This treatment model has been tested in a sample of individuals meeting criteria for IA. Adult participants engaged in the 12-week treatment, and a significant majority (70%) were able to manage their symptoms 6 months after completing treatment (Young, 2013).

Using concepts of CBT-IA, a recent study investigated the effectiveness of a treatment model for social media addiction. This treatment model focused primarily on the cognitive aspects of social media addiction, using the methods of cognitive reconstruction, reminder cards, and diary techniques (Hou et al., 2019). College students with high scores on the BSMAS (Andreassen et al., 2017) engaged in a short-term intervention that took place over two weeks. Compared to a group that did not receive the intervention,

those in the treatment group experienced decreases in symptoms related to social media addiction, increased self-esteem, and increased sleep quality (Hou et al., 2019). While this study included a small sample of college students, it provides a basis for future research of using CBT to treat problematic social media use.

Abstinence Treatments: As with other types of addictive or problematic behaviors, abstinence from social media has been proposed as a potential treatment option for problematic use. Research about abstinence from social media has mixed results: Some studies have found that withdrawing from Facebook for a week can benefit individual well-being (Tromholt, 2016), while other suggest that complete withdrawal from social media can result in negative effects on highly addicted individuals (Stieger & Lewetz, 2018). Using an ecological momentary intervention, researchers found that abstaining from social media for an entire week can result in frequent relapse and withdrawal symptoms such as craving, boredom, and increased social pressure to be on social media. Long-term abstinence of social media, especially among heavy users, may have just as many (or more) negative effects than positive effects.

However, integrating CBT components and short-term abstinence may result in a useful treatment for problematic social media use. Instead of instructing participants to take a week-long break from social media, researchers for one study instructed adults to take eight 2.5-hour breaks from social media over the course of two weeks (Zhou et al., 2020). As identified by these researchers, the main goal of abstinence is for the participant to begin engaging in substitution behaviors, which can just as easily be accomplished in short breaks from media. During the two-week intervention, participants also recorded their behaviors, feelings, and thoughts in daily records; the researchers included a control group that only completed these diaries, without participating in the abstinence process. Participants who engaged in both abstinence and daily records reported the largest increase in life satisfaction after the intervention. While this study still included a small sample (33 adults in the intervention group), this provides preliminary evidence for combining short-term abstinence and aspects of CBT in treating problematic social media use (Zhou et al., 2020).

Other Treatment Modalities: Additional research about treatment with adolescents indicates that group therapy and parent involvement may be particularly useful. Group therapy with other adolescents provides a form of offline social support that is beneficial to those experiencing IA (Kim, 2008). Meta-analyses of IA group therapy have provided support for this type of treatment, especially in groups of approximately 9–12 adolescents (Chun et al., 2017). In addition, parent training targeted at managing behavior associated with IA can be a helpful treatment component (Du et al, 2010). Both of these treatment modalities should be assessed in future research with adolescents experiencing problematic digital media use.

Clinical Implications

Because of the possible negative consequences of problematic digital media use, it is important that mental health care providers for adolescents are aware of risk factors and early indicators. The American Academy of Pediatrics has recommended that clinicians conduct routine screenings for problematic internet use and has also provided useful recommendations for how to go about initiating a screening routine (D'Angelo & Moreno, 2020). Three areas of competency are important for clinicians screening adolescents for problematic use: knowing risk factors, using a validated screening tool, and identifying when screening will occur. There are multiple factors that indicate an adolescent may be at risk for developing problematic digital media use, which include being male (Widyanto & Griffiths, 2006). Other studies have suggested that some mental health diagnoses can be risk factors for problematic use, most notably ADHD and depression (Pluhar et al., 2019). However, anxiety, sleep disorders, and autism spectrum disorder have also been found to be common diagnoses among adolescents with other types of problematic digital media use. When first meeting with a teen, other risk factors to keep in mind include: dependence on the Internet for relationships and managing mood, narcissistic traits, experiences of FOMO (fear of missing out), dissatisfaction with family relationships, or mental health issues among parents (D'Angelo & Moreno, 2020).

Once a clinician is aware of risk factors affecting their adolescent client, it is important to use a validated screening measure (see Domoff, Borgen, & Robinson, 2020 for additional screening questions for overall problematic digital media use). One of these screening measures is the Problematic Media Use Measure (PMUM; Domoff, Harrison, et al., 2019). The PMUM contains 27 items that were created based on criteria for IGD, and measure how media use is interfering with individual functioning. The PMUM is a parent-report measure that has been validated for use with children aged 4–11 years. Additionally, a short-form (PMUM-SF) has been validated with nine items. Both the original and PMUM-SF are helpful for screening young adolescents for problematic media use. Currently, a self-report version of the PMUM is being validated in the USA and internationally to facilitate screening of problematic media use in older adolescents. Additionally, the APU scale is useful for screening for problematic smartphone and social media use, specifically. Both the PMUM and APU are freely available for clinicians (request access via www.sarahdomoff.com).

Researchers at the University of Wisconsin have provided two screening instruments on their website: the Adolescents' Digital Technology Interactions and Importance (ADTI) Scale and the Problematic and Risky Internet Use Screening Scale (PRIUSS). While the PRIUSS is meant to be used as a screener for adolescent problematic digital media use, it has primarily been

validated among older adolescents and young adults, including samples of 18- to 25-year-olds (Jelenchick et al., 2015). The ADTI has been validated among a sample of 12- to 18-year-old adolescents (Moreno et al., 2020). Both of these screening instruments may be useful to clinicians in determining need for intervention services, and can be found at <http://smahrtresearch.com/use-our-methods/>. Additionally, a three-item PRIUSS has been validated (PRIUSS-3; Moreno et al., 2016).

After screening for problematic digital media use, we recommend administering narrow-band measures of media-specific problems, combined with a clinical interview. For example, at the Problematic Media Assessment and Treatment Clinic (www.sarahdomoff.com), we use the Video Game Addiction Scale (revised; Gentile, 2009) and the Social Media Disorder Scale (van den Eijnden et al., 2016) to further assess criteria for gaming disorder and problematic social media use, respectively. As mentioned, we also screen for other types of risky digital media use, including assessing the content that youth are exposed to, the individuals with whom youth interact online, the context of use (e.g., around bedtime, during other important activities), and parental management of adolescents' digital media use. Although these implications are specific to screening and assessment in outpatient settings, mental health clinicians in the inpatient setting should review clinical recommendations outlined by Burke et al. (2020) for hospitalized youth and social media use in this setting.

Limitations and Future Research Directions

Measures and Consistency of Terminology

Assessing problematic digital media use has proven to be a difficult task because of the inconsistency in terminology and conceptualization of “problematic.” We argue that problematic should not be defined by amount of use – instead, clinicians should screen for dysregulated use (“addictive”), risky use (i.e., while driving, intimate/private interactions with unknown individuals), and antisocial use (cyber-bullying, trolling, etc.) routinely with each adolescent. An additional limitation is that screening tools, such as the APU (Domoff, Foley, & Ferkel, 2020) and PMUM (Domoff, Harrison, et al., 2019), do not yet have clinical cut-off scores, necessitating their validation in clinical samples to better identify youth at risk.

Research Design

As research in the area of problematic digital media use continues to grow, many limitations in this area of investigation have come evident. One of the

primary limitations is accurate reporting of digital media use, particularly among adolescents. Research suggests that individuals of every age find it difficult to accurately report how much time they are spending using digital media each day (Ohme, 2020). While accurate reporting of screen time is important for research, it is even more important for researchers to measure how adolescents are using digital media and what daily activities the use is interfering with, as those are the primary concerns when determining problematic use.

To get around the limitations of adolescent self-report, some researchers are beginning to use technology to track technology use. Passive sensing technology in smartphones is gaining traction as a convenient way to measure adolescent behavioral patterns like app usage or interactions on social media, in addition to physical health indicators such as movement and sleep (see Trifan et al., 2019 for a review of passive sensing research). The first validated passive sensing app that measures adolescents' mobile device use (e.g., type of app used, duration, timing of use) has recently been supported as feasible to use and acceptable to adolescents and their parents (Domoff et al., 2021). This app, eMoodie, has ecological momentary assessment (EMA) capacity and uses gamification principles to foster completion of surveys and EMA on adolescents' mobile devices (see www.emoodie.com for more information). Using research designs that include objective, accurate measures of problematic digital media use will bring researchers closer to the goal of determining etiology and planning treatment.

Clinical Trials

Another area for improvement in this area of research is increased implementation of clinical trial studies. As the conceptualization and assessment of problematic digital media use expands, opportunities for clinical trial research will become more feasible. One of the few RCTs that has been conducted concerning treatment for problematic digital media use in adolescents was primarily aimed at internet addiction (Du et al., 2010). While the study provided evidence for using CBT to treat internet addiction in adolescents, they identified their limitation of only including participants without comorbid disorders. Anecdotally, problematic digital media use commonly occurs among adolescents who have been diagnosed with other mental health disorders. In order for clinical trials to be generalizable to clinic settings, samples should include adolescents who have comorbid disorders. Additionally, it is important that clinical trials include broader types of problematic digital media use, instead of only internet addiction. The lack of treatment options for these adolescents, in addition to the growing prevalence of problematic digital media use, indicate the need for increased clinical trial research.

Sample Demographics and Diversity

Research into problematic digital media use and internet/social media addiction is being propelled forward by the growing need for identification and resource development. This is most apparent within the growing population of youth who are native to the digital social networking world as well as among those learning to incorporate these new dimensions of their virtual selves into their social networking immigrant lifestyles (Prensky, 2001). Future investigation should seek to address the research limitations of clinical studies in order to maximize generalizability, while also parsing out what may be facilitating differential susceptibility for risks or rewards related to social media usage. In examining the limitations of samples, there is a need for validation of aforementioned screeners and assessment in non-WEIRD (Western, educated, industrialized, rich, and democratic) populations; further, problematic social media research has quite limited samples in terms of racial/ethnic diversity and across socioeconomic strata. Given that lower-income youth and racially/ethnically diverse youth have higher rates of digital media use (and may have different risks related to social media use; e.g., harassment, victimization), future research must address this major limitation of social media research.

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