



**CHILDREN'S MENTAL
HEALTH REPORT**
SOCIAL MEDIA, GAMING
AND MENTAL HEALTH

Understanding the
online lives of children
and adolescents



The Child Mind Institute is an independent, national nonprofit dedicated to transforming the lives of children and families struggling with mental health and learning disorders. Our teams work every day to deliver the highest standards of care, advance the science of the developing brain and empower parents, professionals and policymakers to support children when and where they need it most.

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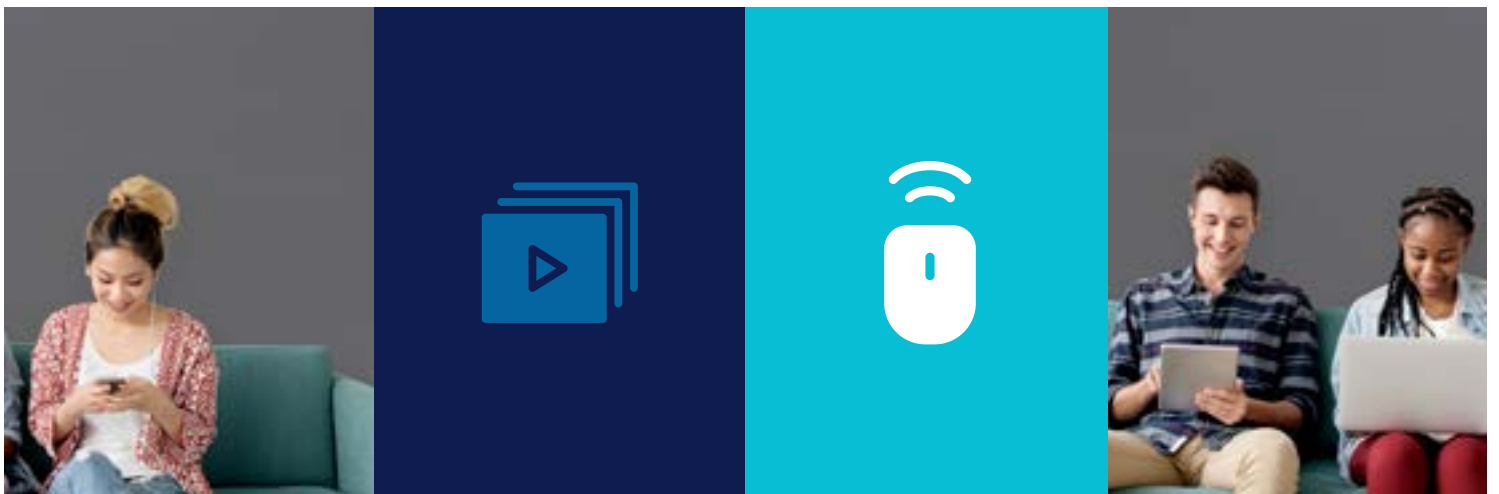
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Summary

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CHILDREN'S MENTAL HEALTH REPORT SOCIAL MEDIA, GAMING AND MENTAL HEALTH



SOCIAL MEDIA AND CONNECTEDNESS

81% of teens say social media makes them feel more connected to their friends



AUTISM AND GAMING

Autistic teens are five times more likely to watch TV or play games than use social media or messaging

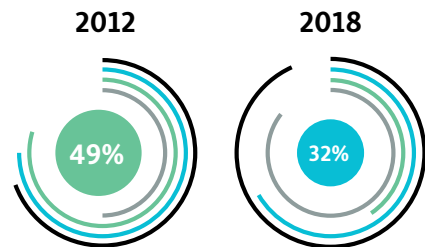


MORE SOCIAL, LESS SLEEP

Teens who spend three hours a day on devices are more likely to get less than seven hours of sleep

IRL VS. ONLINE

In 2012, 49% of teens rated their favorite way to communicate with friends as "in person," compared with only 32% in 2018



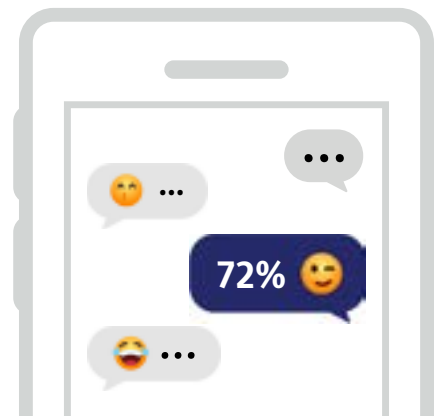
PROBLEMATIC INTERNET USE (PIU)

1% to 10% of children and adolescents have excessive and impairing online behavior



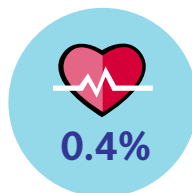
ADDICTED TO SMARTPHONES

72% of teens feel compelled to immediately respond to texts, social posts and notifications



TECH IS JUST ONE PART OF TEEN LIFE

Recent research suggests screens and the internet explain 0.4% of variation in well-being



INTRODUCTION

What We Know About Kids and Teens Online

Like many technological accomplishments, always-on global connectivity — smartphones, the internet, social networks — is also a cause of concern. The ascendance of digital communication and entertainment over “in real life” communal activities is viewed warily by parents, teachers, legislators, and even young people themselves. Is being online making our kids unhappy? Is it hurting them?

The link between online activities and mental health symptoms is increasingly supported by research. In several recent studies, young users who spend more time on Instagram, Facebook and other platforms have higher rates of reported depressive and anxiety symptoms than those who spend less time online. A 2019 study of more than 6,500 12- to 15-year-olds finds that more than three hours of social media use a day is linked to depressive symptoms.¹

On the other hand, studies have found that moderate online gaming and interaction protects against mental health symptoms.² There is strong anecdotal evidence from surveys and testimonials of young people that communicating online makes them feel better about themselves and more connected.³ Moreover, there is increasing evidence that online education and treatments may improve mental health

and encourage help-seeking behavior.^{4,5} In fact, online treatments are now recommended as first-line mental health intervention in Australia and New Zealand.^{6,7}

Overwhelmingly, our studies of the connection between technology use in young people and bad outcomes (sadness, isolation, mental health problems) have difficulty assigning “directionality” or causation. Does Instagram make teens depressed — or do depressed teens seek solace on Instagram? Does a little Fortnite make a kid well-adjusted — or do well-adjusted kids play games in moderation?

It's hard to tell, although research in this area is improving (see the Child Mind Institute Healthy Brain Network findings discussed in this report). What these correlations do provide are clear

warning signs of young people who are struggling. Knowing more about what social media and games may do for youth (negative and positive) helps adults guide them more effectively in a connected world.

This Child Mind Institute Children's Mental Health Report focuses on the positive and negative mental health effects of social networking, messaging, photo sharing and multiplayer gaming in young people. It also presents new findings from a Healthy Brain Network study of the links between mental health outcomes and problematic internet use, or PIU, a proposed diagnosis of excessive and impairing online behavior. Finally, it highlights protective effects of online communities and presents clinically supported guidelines for social media and internet use in this population.

1. Riehm, K.E., Feder, K.A. & Tormohlen, K.N. (2019). Associations Between Time Spent Using Social Media and Internalizing and Externalizing Problems Among U.S. Youth. *JAMA Psychiatry*. Published online September 11, 2019. doi:10.1001/jamapsychiatry.2019.2325 2. Przybylski, A. K. & Weinstein, N. (2017). Quantifying the Relations Between Digital-Screen Use and the Mental Well-Being of Adolescents. *Psychological Science*, 28(2), 204–215. <https://doi.org/10.1177/0956797616678438> 3. Rideout, V. and Robb, M. B. (2018). Social media, social life: Teens reveal their experiences. San Francisco, CA: Common Sense Media. 4. Cohen, Y., Kimball, H. & Martinelli, K. (2018). Children's Mental Health Report: Understanding Anxiety in Children and Teens. New York: Child Mind Institute. 5. Mills, L., et al. (2019). A cluster randomized controlled trial of an online psychoeducational intervention for people with a family history of depression. *BMC Psychiatry*, 19(1), 29. doi:10.1186/s12888-018-1994-2 6. Reynolds, J., Griffiths, K. M., Cunningham, J. A., Bennett, K. & Bennett, A. (2015). Clinical Practice Models for the Use of E-Mental Health Resources in Primary Health Care. *JMIR Mental Health*, 2(1), e6. doi:10.2196/mental.4200 7. Malhi, G. S., et al. (2015). Clinical practice guidelines for mood disorders. *Australian & New Zealand Journal of Psychiatry*, 49(12), 1087–1206. doi: 10.1177/0004867415617657

DEFINING SOCIAL MEDIA AND GAMING | The ways in which young people interact, share and play online have multiplied over the years. Here is a breakdown of current social media platforms.

YouTube

What is it? YouTube is a video-sharing platform. Many adolescents follow “vloggers,” or video bloggers, who gain billions of views from their humorous commentary. Users socialize on the platform by “liking” and commenting on videos.

Instagram

What is it? Instagram is a photo- and video-sharing platform. Users create profiles and generate a feed of content by following others whose photos they can comment on or “like.” Instagram also features direct messaging and Snapchat-like “Stories,” where users can post content that disappears in 24 hours.

Snapchat

What is it? What began as a novelty nude-photo-sharing app, where photos quickly “expired” and disappeared, is now a feature-heavy social media platform. With Snapchat, users can now send videos and pictures that last longer, chat, use filters, access news, play games and share “Stories” visible to all followers that remain on a user’s profile for 24 hours.

Facebook

What is it? Facebook is one of the original social networks. Users create personal profiles; features range from sharing links and photos to commenting, participating in groups and direct messaging. Although Facebook used to be incredibly popular with adolescents, its popularity in this group has decreased significantly.

Texting

What is it? Texting is direct communication between one user and their contacts. Traditional texting is one-on-one, but many adolescents participate in group chats with their peers. Along with standard texting applications included on smartphones, such as Messages, stand-alone platforms like WhatsApp and GroupMe allow texting as well. Teens also send pictures and videos over text.

Twitter

What is it? Twitter is a fast-paced social media platform where users create profiles and can share content in text, pictures and videos, and through “retweets,” which re-post content originally posted by another user. Direct messaging is also available.

Gaming

What is it? Gaming refers to playing electronic games, whether on video game consoles (Xbox, PlayStation), computers or mobile phones. A person who is into gaming is often called a gamer. Although solitary gaming is still popular, online multiplayer video games have made gaming a group activity. Increasingly, online gaming has a deep social and chat component that connects far-flung gamers over voice or text communication in the context of the game.

RISKS AND REWARDS | The reality of photo sharing, social networks and multiplayer gaming is both a crisis and an opportunity.

One of the biggest differences in the lives of current teenagers and young adults, compared to earlier generations, is that they spend much less time connecting with their peers in person and more time connecting electronically. There is growing evidence of a link between social media, depression and isolation among young people. At the same time, teens and young adults routinely report that communicating online makes them feel better about themselves and more connected socially.¹

Emotional and social self-regard

A 2018 survey of teens aged 13 to 17 found that 81% of participants say social media makes them feel more connected to their friends. Two-thirds of those surveyed say these sites help them identify different points of view. Twenty-five percent of teens say social media is important for their creative identity, and 25% say specifically that using social media makes them feel less lonely.²

Protective factors

Some studies have found that moderate online gaming and interaction protect against mental health symptoms. A study of the online habits of more than 120,000 young people found that less than an hour of gaming a day may have positive effects, such as increased emotional resilience and problem-solving skills.³

Hate online

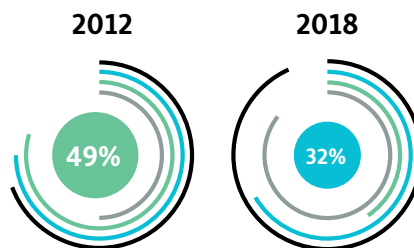
Content online can be unregulated and inappropriate. Another 2018 survey found that 64% of teen social media users say they “often” or “sometimes” come across racist, sexist, homophobic or religion-based hate content.⁴ When the survey was previously completed in 2012, just 43% of respondents encountered racist content.

Cyberbullying

Bullying online is linked to depression and suicidal ideation for both victims and perpetrators. This link is stronger for at-risk youth, including those with learning disorders and chronic mental health disorders, who are twice as likely to be bullied as their typically developing peers.⁵

Social media and perceived isolation

A 2017 study of a national sample of young adults (aged 19 to 32) showed correlation between the time spent on social media and perceived social isolation (PSI), though directionality can't be determined.⁶



Indeed, young people say they value face-to-face social interaction less over time. In 2012, 49% of teens rated their favorite way to communicate with friends as “in person,” compared to only 32% in 2018.⁷

WELCOMING COMMUNITIES



Some teenagers aren't successful in connecting with peers offline, because they are isolated geographically or don't feel accepted in their schools and local communities. For those kids, electronic connection can be lifesaving.

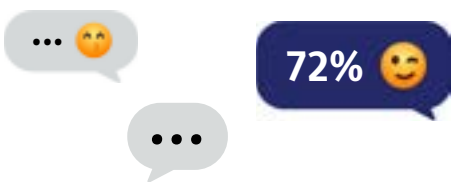
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IS SCREEN ADDICTION REAL? | Kids can't get hooked on games or phones like drugs, but use can be impairing.

Parents routinely express worries that their children are addicted to their devices, the internet and video games. Two phenomena contribute to this worry: the sheer amount of time kids spend on screens, and their resistance to cutting back. Indeed, young people themselves sometimes use the word “addiction” to describe their own behavior. While excessive internet use doesn't seem to fit the criteria for medical addiction, it points to concerning behaviors and underlying mental health problems.

Feels like “addiction”

In a 2016 survey, half of teenagers said they “feel addicted” to their mobile device, and 72% said they felt the need to immediately respond to texts and social networking messages.¹



But the amount of time teenagers spend on phones and other devices isn't an accurate measure of whether it is unhealthy. Many things kids do on their devices are age-appropriate activities that have simply been done offline in the past: socializing with peers, pursuing hobbies, shopping, listening to music, doing schoolwork, watching TV.

“Using” the internet

Research reviews suggest that problems online are often the extension of offline behaviors and characteristics.² Experts suggest that online habits are problematic when they become:³

- compulsive or habitual, rather than just excessive
- motivated by the desire for mood alteration
- related to offline interpersonal problems

Internet gaming disorder

Research shows that excessive gaming — spending two-thirds or more of free time — is correlated with negative mental health outcomes including anxiety, depression and substance use.⁴ Internet gaming disorder (IGA) is a proposed diagnosis for gaming behavior that causes “significant impairment or distress” in several aspects of a person's life. Proposed symptoms include unsuccessful attempts to quit gaming, giving up other activities, continuing to game despite problems, deceiving family members or others about the amount of time spent on gaming and using gaming to relieve negative moods.⁵

Problematic internet use (PIU)

PIU describes unhealthy internet use that puts youth at risk for impairment in their everyday lives.⁶ Reviews suggest that PIU co-occurs with mental health disorders, most prominently depression and ADHD.⁷ A recent meta-analysis also shows links to stress and low self-esteem and suggests that PIU and psychopathology can reinforce

each other in “a vicious cycle.”⁸ One recent survey of 6,000 Australian youth has found a correlation between problematic internet use or behavior and recent suicide attempts, suffering from high levels of psychological distress and consumption of alcohol.⁹



INTERNET USE AS A SYMPTOM, NOT A DISORDER

When children seem unhealthy focused on video games to the point of social isolation, the behavior may be a product of other mental health problems. They may be using online communities and the instant rewards of gaming to cope with social anxiety, depression or a learning disorder. Addressing these problems can reduce “internet addiction” through treatment of underlying conditions.

1. Felt, L. J. & Robb, M. B. (2016). Technology addiction. San Francisco, CA: Common Sense Media. 2. George, M. J. & Odgers, C. L. (2015). Seven Fears and the Science of How Mobile Technologies May Be Influencing Adolescents. *Perspectives on Psychological Science*, 10(6), 832–851. doi:10.1177/1745691615596788 3. Caplan, S.E. (2018). *The Changing Face of Problematic Internet Use*. New York: Peter Lang. 4. Przybylski, A. K. (2014). Gaming and Psychosocial Adjustment. *Pediatrics*, 134(3). doi: 10.1542/peds.2013-4021 5. American Psychiatric Association. (2013). *Diagnostic and statistical manual (DSM-5)*. Arlington, VA: Author. 6. Aboujaoude, E. (2010). Problematic internet use: an overview. *World Psychiatry*, 9(2), 85–90. 7. Carli, V., et al. (2013). The Association between Pathological Internet Use and Comorbid Psychopathology: A Systematic Review. *Psychopathology*, 46(1). doi: 10.1159/000337971 8. Elhai, J.D., Dvorak, R.D., Levine, J.C. & Hall, B.J. (2017). Problematic smartphone use. *Journal of Affective Disorders*, 207, 251–259. https://doi.org/10.1016/j.jad.2016.08.030 9. Rikkers, W., Lawrence, D., Hafekost, J. & Zubrick, S. R. (2016). Internet use and electronic gaming by children and adolescents with emotional and behavioral problems. *BMC Public Health*, 16. doi:10.1186/s12889-016-3058-1

PROBLEMATIC INTERNET USE: THE HEALTHY BRAIN NETWORK STUDY | The Child Mind Institute's Healthy Brain Network study finds a connection between PIU and both depression and ADHD.

Problematic internet use (PIU) is a way to describe excessive and impairing online behavior, found in approximately 4% of youth aged 11 to 17.¹ The Child Mind Institute's Healthy Brain Network community study finds a connection between PIU and both depression and ADHD. The study did not find a clear link between excessive internet use and anxiety, which has been previously reported.²

The Healthy Brain Network

The Child Mind Institute Healthy Brain Network is a community study collecting data from 10,000 children and adolescents in the New York City metropolitan area to better understand mental health and learning disorders in this population. The study is building the largest, most comprehensive data resource on the developing brain by collecting brain images and psychiatric, behavioral, genetic, environmental and lifestyle information. In the process, children receive no-cost evaluations and referrals for treatment.

Summary of findings on PIU

An analysis of a subset of the Healthy Brain Network dataset (564 participants aged 7 to 15, with an average age of 11) provides empirical evidence for links between PIU and depressive disorders and attention-deficit hyperactivity disorder (ADHD). These consistent and significant associations are present in both the self-report and parent report. Surprisingly, perhaps because of the young average age of participants, this study does not show clear links between PIU and physical fitness.

Determining PIU

The Internet Addiction Test (IAT) is administered to Healthy Brain Network participants. Sample questions include:

- How often do you find that you stay online longer than you intended?
- How often do you form new relationships with fellow users?
- How often do others in your life complain to you about the amount of time you spend online?
- How often do you lose sleep due to being online?
- How often do you choose to spend more time online over going out with others?

Excessive time online leads to functional impairment

In the study, impairment is determined by a test called the Columbia Impairment Scale. This test asks questions about thoughts and feelings, making friends, school performance and how kids spend their time. The study finds that problematic internet use predicts impairment, even when accounting for the impairment of a co-occurring (or "co-morbid") mental health disorder. If a teen has PIU and ADHD, for instance, the study finds that even when we factor out the impairment of the ADHD, PIU still interferes with a child's day-to-day activities all on its own.

PIU and sleep

In the study, excessive internet use was linked to sleep disturbances, even after accounting for lifestyle and the effects

of ADHD and depression. This suggests that internet use may directly influence sleep behavior, or vice versa.

No evidence of a link to anxiety

The study does not confirm earlier research linking PIU and anxiety symptoms. Researchers have theorized that individuals with anxiety, particularly social anxiety, use online relationships to compensate for poor real-life ones in a similar way as posited for individuals suffering from depression. However, many of these previous studies did not account for co-morbidity with ADHD and depression.

INTERNET USE ISN'T JUST PROBLEMATIC FOR TEENS



The average age in the study is less than 11 years old. It shows that youth this age may be negatively affected by PIU, and highlights the importance of exploring the effects of the internet in younger groups.

SOCIAL MEDIA, GAMING AND ADHD | Screens don't cause ADHD, but the link between attention problems and fast-paced games is real.

How can children who find it almost impossible to focus on the lesson at school nonetheless sit in front of a video screen, transfixed, for hours? Parents often wonder at the child who fits all the criteria for attention deficit hyperactivity disorder (ADHD) except when they are playing video games. What explains this? What is the link between the two? Do video games cause ADHD? Do they make it worse?

Correlation, not causation

A large meta-analysis of studies over 25 years found links between media use (including television and video games) and ADHD symptoms.¹ An Iowa State University study of 3,000 children and adolescents followed over three years found that children who spent more time playing video games were more impulsive and had more attention problems. Researchers suggest that video game playing can compound existing attention problems.²

Bursts of attention

Many experts point out that it makes sense the kids with ADHD would find games more compelling than the average person. The continuous activity doesn't require sustained attention, and constant shifts in focus provide instant gratification and reward. Children with ADHD are very drawn to these artificial stimuli that move more quickly and reward more spontaneously than anything in the real world. Social media functions similarly.

Not just video games

A study following 3,000 10th graders into their senior year in high school between 2014 and 2016 found a small but significant causal link between self-reported digital media use and

later self-reported ADHD symptoms. The study found that kids who said they used digital media more also had an increase in self-described ADHD behaviors from the beginning to the end of the study. Digital media use in the study included checking social media sites; posting, sharing or looking at photos or videos; texting or chatting; listening to music; playing games; and watching movies, among other activities.³



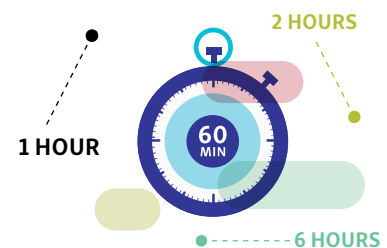
The strongest associations were between ADHD and playing video games alone and video chatting.

Problematic internet use and ADHD

A meta-analysis of the link between problematic internet use (PIU), a proposed diagnosis of excessive and impairing online behavior, and various symptoms of mental health disorders found strong evidence for a link with ADHD. Of 20 studies reviewed, all of them found a link between atypical internet use and symptoms of ADHD,

though they do not suggest directionality. In addition, the associations were higher among males in all age groups.⁴

LIMITS ON SCREEN TIME



The American Academy of Pediatrics recommends no screen time for infants and toddlers other than video chatting with relatives, an hour per day of total media screen time for elementary school children, and two hours for kids in secondary school. American children currently average more than six hours of screen time per day.

1. Nikkelen, S.W.C., Valkenburg, P.M., Huizinga, M. and Bushman, B.J. (2014). Media Use and ADHD-Related Behaviors in Children and Adolescents: A Meta-Analysis. *Developmental Psychology*, 50(9) 2228–2241 2. Gentile, D. A., Swing, E. L., Lim, C. G. & Khoo, A. (2012). Video game playing, attention problems, and impulsiveness. *Psychology of Popular Media Culture*, 1(1), 62–70. doi.org/10.1037/a0026969 3. Ra, C.K., Cho, J. & Stone, M.D. (2018). Association of Digital Media Use With Subsequent Symptoms of Attention-Deficit/Hyperactivity Disorder Among Adolescents. *JAMA*, 320(3), 255–263. doi:10.1001/jama.2018.8931 4. Carli, V., et al. (2013). The Association Between Pathological Internet Use and Comorbid Psychopathology. *Psychopathology*, 46(1). doi: 10.1159/000337971

SOCIAL MEDIA, GAMING AND DEPRESSION | Do online communities contribute to depression or help young people cope?

Social media changes the nature of interactions among children and adolescents, which may contribute to depression. A 2019 study of more than 6,500 12- to 15-year-olds finds that more than three hours of social media use a day is linked to internalizing disorders including depression.¹

Social isolation...

A recent study of a national sample of young adults (aged 19 to 32) showed correlation between the time spent on social media and perceived social isolation (PSI).² This phenomenon — “fear of missing out,” or FOMO — occurs when seeing other people’s social interactions online causes feelings of isolation. Instagram shows up in surveys as the platform that most leads young people to report feeling anxiety, depression and worries about body image.

...or a lifeline for lonely adolescents?

In one study, 10- to 16-year-old participants who reported being lonely were also found to communicate online significantly more frequently about personal and intimate topics than did those who did not self-report being lonely. These results suggest that using the internet allowed them to fulfill certain critical needs of social interactions, self-disclosure and identity exploration online — tasks they were not able to do or had difficulty doing face-to-face in their communities.³

Theories of causation

Some researchers believe that depression leads to problematic online and smartphone behavior. For instance, reassurance-seeking tied to depression can manifest through repeated phone-checking behaviors. On the other hand, some longitudinal studies have found that college students who are identified as heavy users of computers, social media and mobile phones report increased levels of stress, depression and sleep disturbance over time.⁴

Social media, sleep and depression

Sleep is often identified as a likely factor connecting internet use and depression symptoms. Adolescents who used social media more — both overall and at night — and those who were more emotionally invested in social media experienced poorer sleep quality, lower self-esteem and higher levels of depression.⁵



More than three hours a day
More than three hours of social media use a day is linked to depression in adolescents aged 12 to 15.

HOW PARENTS CAN HELP⁶

- ★ Talk to children about online use and problems they may face
- ★ Become educated about different technologies kids use
- ★ Be a “digital neighbor”: actively monitor online activities and talk with children about their profiles

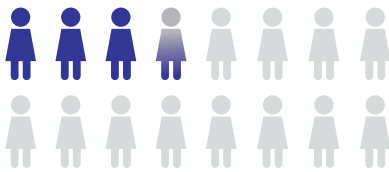
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SOCIAL MEDIA, GAMING AND EATING DISORDERS | For the significant number of adolescents who already struggle with maintaining a healthy body image, social media can push dangerous ideas.

Social media is ever-more image obsessed, filled with pictures and artfully curated profiles that highlight the importance of looks to identity. Adolescents who struggle with their own body image or who have unhealthy attitudes about eating can find an infinite number of reasons to feel unsure about their self-worth. In some cases, there are even communities that promote eating disorders or impossible beauty ideals. It's important to help teens distinguish between reality and fantasy online.

Prevalence

About 1%–2% of young women have had an eating disorder in the last year.¹ A larger number of teens, 14%–22%, have eating-disordered behaviors, though they don't have a full-blown disorder.²



Adolescents are susceptible because the influence of their peers increases as they grow. Research shows that members of the same friend group often have similar dieting and extreme weight loss behaviors and binge-eating habits.³

The “thin ideal”

Like most media, social media is a vector for the idea that a skinny body is the best body. When adolescents encounter this “thin ideal” content online, it can have a profound effect. One study of high school girls found that time spent on the internet was significantly related to internalization of the thin ideal, body surveillance and drive for thinness.⁴

Depression, self-esteem and peer competition

Social media's influence on eating disorders can contribute to other mental health issues. Along with increased body dissatisfaction, one study found that female undergraduates exposed to thin-ideal advertisements had an increase in negative mood and lower self-esteem.⁵ Social media can also encourage competition among peers, which is linked to body dissatisfaction and eating-disordered behavior.⁶

Dangerous online communities

“Pro-ana” sites promote disordered eating with so-called tips and tricks to getting dangerously thin.⁷ Adolescents who are already struggling with anorexia may seek sanctuary in these online platforms, using them as an escape from perceived hostility to their choices from friends and family.⁸ Research shows that these communities can exacerbate eating disorders and serious health problems.⁹

COMMON EATING DISORDERS

★ **Anorexia nervosa:** food restriction, low body weight and distorted body image

★ **Bulimia nervosa:** out-of-control eating along with purging, fasting or extreme exercise

★ **Binge-eating disorder:** quickly eating large amounts, accompanied by feeling loss of control

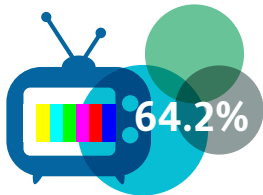
1. American Psychiatric Association. (2013). Diagnostic and statistical manual (DSM-5). Arlington, VA: Author. 2. Swanson, S. A., Crow, S. J., Le Grange, D., Swendsen, J. & Merikangas, K. R. (2011). Prevalence and correlates of eating disorders in adolescents. *Archives of General Psychiatry*, 68(7), 714–723. 3. Hutchinson, D. M. & Rapee, R. M. (2007). Do friends share similar body image and eating problems? *Behaviour Research and Therapy*, 45(7), 1557–1577. 4. Tiggemann, M. & Slater, A. (2013). NetGirls: The Internet, Facebook, and body image concern in adolescent girls. *International Journal of Eating Disorders*, 46(6), 630–633. 5. Bessenoff, G. R. (2006). The thin ideal. *Psychology of Women Quarterly*, 30(3), 239–251. 6. Ferguson, C. J., Muñoz, M. E., Garza, A. & Galindo, M. (2014). Peer, television and social media influences on body dissatisfaction, eating disorder symptoms. *Journal of Youth and Adolescence*, 43(1), 1–14. 7. Norris, M. L., Boydell, K. M., Pinhas, L. & Katzman, D. K. (2006). Ana and the Internet. *International Journal of Eating Disorders*, 39(6), 443–447. 8. Dias, K. (2003). Pro-anorexia narratives in cyberspace. *Journal of International Women's Studies*, 4(2), 31–45. 9. Brotsky, S. R. & Giles, D. (2007). Inside the “pro-ana” community. *Eating Disorders*, 15(2), 93–109.

SOCIAL MEDIA, GAMING AND AUTISM | Adolescents with ASD often turn to technology to cope with the social world.

Although autistic adolescents don't seem to use social media platforms as much as their typically developing peers, they are drawn to another aspect of tech: gaming. Like chatting or photo sharing, it can be risky in excess, but also a helpful way to engage with the challenges of autism.

Are autistic kids online?

The social communication deficits and restricted or repetitive behaviors that characterize autism spectrum disorder (ASD) mean these adolescents often struggle to engage in social relationships. Internet and video gaming can be attractive remedies.



One study found that among 11,000 13- to 16-year-olds with ASD, 64.2% spent most of their free time using media like television and video games, while only 13.2% spent time on social media like email and internet chatting.¹ A study of 202 adolescents with ASD found they spent 62% more time using screens than in all non-screen activities combined.²

Gaming and ASD: The cons

Additionally, a study of adolescents with ASD found that 98% used computers for five hours per day.³ Boys with ASD are at greater risk for problematic video

game use than boys with typical development.⁴ Another study found that autistic traits were related to decreased emotion regulation, lower school connectedness and increased internet gaming addiction (IGA).⁵ Researchers believe that improving emotion regulation and school connectedness could reduce the risk of IGA.

Technology and ASD: The pros

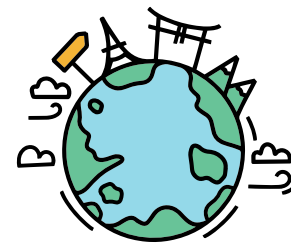
Although excessive gaming is a concern, the attraction to technology also makes it a powerful coping tool for youth with ASD. Research shows that adolescents with ASD who watched television with parents or engaged with friends online reported more positive interpersonal relationships.⁶ Additionally, electronic screens and media have been used to reduce anxiety and uncooperative behavior among children with ASD.⁷

Cyberbullying and autism

Adolescents with autism self-report higher rates of being a victim or perpetrator of cyberbullying than were reported by their parents. Increased age and having more severe behavioral problems were

significantly associated with being victims or perpetrators of cyberbullying. Being a victim but not a perpetrator of cyberbullying was significantly associated with depression, anxiety and suicidality.⁸

ADOLESCENCE IN A NEW ARENA



Texting and use of social media sites have become important channels for adolescents connecting to others and being validated. Role-playing games allow kids to interact not only with local friends, but with like-minded people around the world.

1. Mazurek, M. O., Shattuck, P. T., Wagner, M. & Cooper, B. P. (2012). Prevalence and correlates of screen-based media use among youths with ASD. *Journal of Autism and Developmental Disorders*, 42(8), 1757–1767. 2. Mazurek, M. O. & Wenstrup, C. (2013). Television, video game and social media use among children with ASD and typically developing siblings. *Journal of Autism and Developmental Disorders*, 43(6), 1258–1271. 3. Kuo, M. H., Orsmond, G. I., Coster, W. J. & Cohn, E. S. (2014). Media use among adolescents with autism spectrum disorder. *Autism*, 18(8), 914–923. 4. Mazurek, M. O. & Engelhardt, C. R. (2013). Video game use in boys with autism spectrum disorder, ADHD, or typical development. *Pediatrics*, 132(2), 260–266. 5. Liu, S., Yu, C., Conner, B. T., Wang, S., Lai, W. & Zhang, W. (2017). Autistic traits and internet gaming addiction in Chinese children. *Research in Developmental Disabilities*, 68, 122–130. 6. Kuo (2014). 7. Isong, I. A., Rao, S. R., Holifield, C., Iannuzzi, D., Hanson, E., Ware, J. & Nelson, L. P. (2014). Addressing dental fear in children with autism spectrum disorders. *Clinical Pediatrics*, 53(3), 230–237. 8. Hu, H. F., Liu, T. L., Hsiao, R. C. et al. (2019). *Journal of Autism and Developmental Disorders*. 49, 4170. doi: 10.1007/s10803-019-04060-7.

SOCIAL MEDIA, GAMING AND SLEEP | Risks of social media persist even when adolescents “unplug” at night.

Adolescents face a sleep-deficiency epidemic that is exacerbated by always-on smartphone and social media culture. While adolescents should get nine hours of sleep per night, most get about seven.¹ Lack of sleep can lead to difficulty paying attention, lower grades, increased stress and interpersonal tension.² More severe effects include harmful behaviors such as abusing prescription drugs, smoking or drinking to try to get a good night's rest.

Smartphones and sleep duration

In one study, teens who spent three or more hours a day on electronic devices were 28% more likely to get less than seven hours of sleep, and teens who visited social media sites every day were 19% more likely not to get adequate sleep.³



Sixty percent of adolescents are looking at their phones in the last hour before sleep, and they get on average an hour less sleep than peers who don't use phones before bed.

Computer

One large study of almost 10,000 teens aged 16 to 19 found a significant dose-response relationship between using a personal computing device before bed and sleep deficiency (less than five hours). Devices included PC,

cell phone, MP3 player, tablet, game console and TV.⁴

Sleep quality

Sleep quality suffers, too. Adolescents with greater social media use are more likely to have sleep disturbance,⁵ and nighttime social media use is predictive of poorer sleep.⁶ Excessive text messaging interrupts sleep.⁷ Thirty-six percent of teens wake up and check their mobile device for something other than the time at least once a night.

Other mental health issues

Teens who don't sleep enough report higher levels of depressive symptoms than well-rested peers (31% vs 12%).⁸ In a study of 467 Scottish adolescents, heavier social media users experienced poorer sleep quality, lower self-esteem and higher levels of anxiety and depression.⁹ Additionally, problematic internet use and internet gaming are associated with poor sleep,¹⁰ and researchers believe the high correlation between internet use and depression may stem from difficulty with sleeping.¹¹



TIPS TO “UNPLUG” AT NIGHT

- ★ Designate “screen-free time” starting at least one hour before bed.
- ★ Use an actual alarm clock instead of a phone.
- ★ Create another comfortable space in the house where adolescents can use tech.

1. Mindell, J. A. & Owens, J. A. (2003). A Clinical Guide to Pediatric Sleep: Diagnosis and Management of Sleep Problems. Philadelphia: Lippincott Williams & Wilkins. 2. Noland, H., Price, J. H., Dake, J. & Telljohann, S. K. (2009). Adolescents' sleep behaviors and perceptions of sleep. *Journal of School Health*, 79(5), 224–230. 3. CDC (2015). Teens, Social Media and Sleep: The Numbers. 4. Hysing, M., Pallesen, S., Stormark, K. M., Jakobsen, R., Lundervold, A. J. & Sivertsen, B. (2015). Sleep and use of electronic devices in adolescence. *BMJ open*, 5(1), e006748. doi:10.1136/bmjopen-2014-006748 5. Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B. & Primack, B. A. (2016). The association between social media use and sleep disturbance among young adults. *Preventive Medicine*, 85, 36–41. 6. Woods, H. C. & Scott, H. (2016). #Sleepyteens: Social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem. *Journal of Adolescence*, 51, 41–49. 7. Van den Bulck, J. (2003). Text messaging as a cause of sleep interruption in adolescents, evidence from a cross-sectional study. *Journal of Sleep Research*, 12(3), 263–263. 8. Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G. & Schulenberg, J. E. (2016). *Monitoring the Future*. Ann Arbor: Institute for Social Research, The University of Michigan. 9. Woods, et al. 10. Tan, Y., Chen, Y., Lu, Y. & Li, L. (2016). Exploring associations between problematic internet use, depressive symptoms and sleep disturbance. *International Journal of Environmental Research and Public Health*, 13(3), 313. 11. Lam, L. T. (2014). Internet gaming addiction, problematic use of the internet, and sleep problems: a systematic review. *Current Psychiatry Reports*, 16(4), 444.

RESOURCES FOR PARENTS AND CAREGIVERS

Parents should check in regularly with kids about gaming and social media use. Make sure it's positive and healthy; if you think it's not, guide them toward new habits. If you notice signs of depression, take them seriously. Ask your child how she is doing, and don't hesitate to consult a mental health provider.

Helping your kids engage in healthy online behavior

☉ Focus on balance

Make sure your children are also engaging in social interaction offline and have time for activities that help build identity and self-confidence.

☉ Turn off notifications

These tempt users to interrupt what they're doing to engage with their phones. Don't let them!

☉ Look out for teens at higher risk of depression

Negative effects of social media can have more impact when confidence is down.

☉ Model restraint and balance in your own media diet

Disengage from media to spend quality family time together, including phone-free dinners.

☉ Conduct parental "mediation" of media use

Co-viewing/playing and being online together let you share your values, casually monitor use and learn together. This strategy has been linked to more positive outcomes of media use.

☉ Establish phone-free time before sleep

Enforce a policy of no smartphones in the bedroom after a specific time and overnight.

☉ Teach mindful use of social media

Encourage teens to be honest with themselves about how they feel and to disengage from interactions that increase stress or unhappiness.

Resources for family decision making on internet and screen use

☉ Media Guidelines for Kids of All Ages

Tips for making sure your children's screen time is healthy

childmind.org/article/media-guidelines-for-kids-of-all-ages

☉ When Should You Get Your Kid a Phone?

It's not just a question of the right age

childmind.org/article/when-should-you-get-your-kid-a-phone

☉ How Using Social Media Affects Teenagers

Experts say kids are growing up with more anxiety and less self-esteem

childmind.org/article/how-using-social-media-affects-teenagers

☉ When Should You Come Between a Teenager and Her Phone?

The pros and cons of every parent's nuclear option

childmind.org/article/when-should-you-come-between-a-teenager-and-her-phone

☉ Can Screen Time Be Educational for Toddlers?

How to choose media that's good for young children

childmind.org/article/value-screen-time-toddlers-preschoolers

RESOURCES FOR PARENTS AND CAREGIVERS (CONTINUED)

Mindful media use (good for parents, too!)

🕒 Check in with yourself

Work on being more self-aware about your response to using social media. Ask yourself: How is this app or picture making me feel? Look for changes in your mood and see if you notice patterns. Don't judge how you are feeling — but do acknowledge the emotion. Being conscious of feeling jealous or sad can be powerful. It helps take some of the bite out of the bad feeling.

🕒 Mindful reality check

Mindfulness can also give you a reality check. If something is consistently making you feel bad, practicing mindfulness can help you identify that and see if there is something you can do that might help. Taking the time to notice — and value — how you are feeling is an important skill that will make you happier and more confident in all areas of your life.

🕒 Use technology

Using technology to track technology is another strategy. There are apps designed to help you track how you use your phone. And iPhones can show you how much time, battery and data you're using on each app. See how much time you spend on certain things. What are you doing? What are your emotions? Seeing the data helps you notice patterns and develop better habits.

🕒 Perspective

The best way to get a little perspective is to take occasional breaks from social media. Do yoga, go for a run, spend time with friends or in nature. Doing things offline can be a big stress reliever in a way that scrolling through a feed never will. Try to practice self-awareness during offline activities, too. Notice what genuine "fun" feels like. You might surprise yourself.

Seven Strategies for Managing Social Media¹

- 🕒 Plan, in advance, how much time you'd like to budget for each social media platform.
- 🕒 Notice when you reach for your phone.
- 🕒 Take some of those social media apps off your phone.
- 🕒 Move the icons for social media apps off of your homepage.
- 🕒 Turn off the notifications.
- 🕒 Learn how much time you're actually using on social media.
- 🕒 Consider a social media fast.

¹. Adapted from: Nowell, D. (2016, February). The Sirens of Today: ADHD, Social Media, and Self-Regulation. *Attention*. Retrieved from: https://chadd.org/wp-content/uploads/2018/06/ATTN_02_16_SirensOfToday.pdf

PARTNER VOICES

Social Media, Social Life

An essay from Common Sense Media

At Common Sense, we frequently wrestle with questions about the effects of smartphones and social media on teens. What is all this tech use doing to teens' well-being? Our own research survey, *Social Media, Social Life*, shows that twice as many 13- to 17-year-olds own a smartphone today than they did just six years ago (41% in 2012 compared to 89% in 2018.) During that same period, the percentage of teens who use social media multiple times a day also doubled, from 34% to 70% (Rideout & Robb, 2018).

Concerns over the negative consequences of social media have grown in tandem with its popularity.

Grim reports on teen suicide, addiction, cyberbullying and eroding social skills have caused parents, teachers and the tech industry itself to look at social media as a potential contributor to these issues. But looking only at the relationship between how much social media teens use and their levels of anxiety and depression does not consider different teens' experiences.

It's certainly possible that the internet can cause vulnerable teens to become more depressed, anxious or isolated. But at the same time, teens who are already experiencing mental health problems are finding support and resources on the internet. Many teens and young adults who experience depression are seeking out health information online and using digital tools to help address their problems (Rideout & Fox, 2018). And according to *Social Media, Social Life*,

very few teens say that using social media has a negative effect on how they feel about themselves; many more say it has a positive effect.

Where does that leave parents who worry about their children's social media use? There are no easy answers. Less time on social media may be beneficial for some. Cleaning up social feeds to remove accounts that cause stress and sadness and following people who enrich mental well-being are steps that teens can take, with parents' help if appropriate. But let's remember this: as we adapt to new ways of communicating, we must continue to listen to teens' voices with empathy and openness.



Social Media and Substance Use

An essay from Center on Addiction

As a parent and caregiver, it's often tempting to pull back in terms of monitoring a teen's social media use, especially as they get older, trying to balance privacy with signs of risky behaviors. As unpopular as it may be, it's important to keep an eye on teens' social media activities in order to be aware of and respond appropriately if they are frequenting sites or channels that promote substance use.

Substance use is prevalent and often glorified on social media channels frequented by teens, with tobacco, e-cigarette, alcohol and, increasingly, marijuana products directly advertised

and promoted. Companies marketing these products skirt traditional media regulations prohibiting or restricting advertising to minors. They use influencers, comments, discounts, games and images of young people using their products very effectively to promote these products.

Additionally, research conducted by Center on Addiction shows that teens who frequent social media sites portraying images of "kids drunk, passed out, or using drugs," are more likely to engage in tobacco, alcohol and marijuana use.¹ Substance use displayed in this way normalizes its use for young people.

What can parents and caregivers do? Encourage teens to share what they've seen on social media related to substance use by asking open-ended questions ("What do your friends post

on social media about drinking?" "How do you think vaping ads attempt to manipulate young people?"). Try to convey the message that your interest is meant only to help protect teens from harm and not to be voyeuristic or intrusive. Parents and other caregivers can adhere to this by looking only for indications of risk rather than day-to-day harmless social interactions.

1. The National Center on Addiction and Substance Abuse at Columbia University. (2012). National survey of American attitudes on Substance Abuse XVII: Teens. New York: Author.



PARTNER VOICES

ADHD, Addiction and Video Games: An Unsurprising Trio

An essay from Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD)

Electronic device use in general — and video games in particular — can be benign in moderation but destructive in excess. This capacity, similar to drugs and alcohol, is why in 2018 the World Health Organization recognized internet gaming disorder. This disorder is distinguished from simple excessive video gaming by craving, impaired control, priority given to gaming over other activities, and continuation or escalation despite negative consequences. Both addiction and excessive use can interfere with normal development by occupying

time needed for socialization and broader activities.

People with ADHD are more likely than typical peers to play video games excessively, although the majority of those with ADHD are not addicted. There is accumulating evidence that the same brain circuits and neurotransmitters that are low-functioning in ADHD are also low in individuals addicted to video games (whether or not they have ADHD), and that video games activate brain reward circuits and increase dopamine similarly to stimulant medication and addicting drugs. This suggests that people with ADHD, who have underactive reward circuits and low dopamine, are especially at risk for dependence not only on substances, but also on the pleasure, escape and fast action of video games.

Internet use and video gaming are part of the current culture. Therefore,

parents of children with ADHD need to guide them in appropriate participation in that culture. Research suggests that up to an hour a day can build useful skills and up to two hours does not seem especially harmful, but additional time is increasingly associated with impairments mentally, socially and emotionally.

Children may need support in limiting their device time. Parents may need to set smartphones to disable apps after a certain hour. Treatment of underlying mental health problems may be necessary. A person with ADHD might find medication useful in controlling gaming time along with other challenges of the disorder. In-person social or athletic activities may help fill the time previously occupied by video games. Accentuating the positive may help eliminate the negative.



Suicide Contagion and Social Media



An essay from The Jed Foundation

If your child is persistently upset during or after using social media, it is important to take a closer look. This is particularly true if you also notice significant or persistent changes in moods or behaviors. This can mark the difference between stress, which is normal, and distress, which should be of concern.

In general, both stress and distress are perceived as suffering and both can feel seriously burdensome — at least for a while. Stress, however, typically serves to motivate action in service of resolution, whereas distress feels chronic and unresolvable. Here are a few signs of emotional distress that you might notice:

- ⦿ Comments, posts or hashtags that convey hopelessness, isolation or feeling like a burden
- ⦿ Persistent irritability
- ⦿ Engaging in impulsive behaviors like reckless driving or elevated substance use
- ⦿ Trouble sleeping or excessive sleeping
- ⦿ Withdrawal from daily or regular life (especially favorite activities or people)
- ⦿ Changes in school performance

If you're concerned, how do you bring it up? It is always good to ask what is going on. Sometimes teens are relieved to share. But be prepared to be stonewalled. This may not have anything to do with you; for many teens there is just something about telling a parent that makes whatever it is feel too real.

Finally, comments about ending one's life — even if said sarcastically or as a joke — should be taken very seriously. If a teen is having thoughts of ending his/her life, you might notice:

- ⦿ Comments like "I don't want to be here anymore" or "It'd be better if I was gone"
- ⦿ Saying goodbyes or giving personal possessions away
- ⦿ Showing intense and urgent negative emotions such as shame, guilt or feeling trapped

If you notice any of these kinds of posts or communications, seek professional help through local resources (primary care clinician, local mental health resources, 911) or through the National Suicide Prevention Lifeline at **1-800-TALK (8255)** or by texting **"start"** to **741-741 (Crisis Text Line)**.

CONCLUSION

“Are social media and gaming bad or good for kids’ mental health?” This is one of the most common questions that parents and educators ask the child psychologists and psychiatrists at the Child Mind Institute. The honest answers are “both” and “it depends on the child.”

Those answers are backed up by research, including the academic literature described in this report. While most youth see the internet as neutral, significant minorities believe that apps like Facebook and Instagram have either positive or negative effects.¹ The widespread impact of screens, smartphones and the internet on adolescents may be overstated; one recent paper suggests that these digital factors explain at most 0.4% of variation in adolescent well-being.²

But the effects on specific youth can be significant. More time spent using social media is tied to more mental health symptoms.³ Additionally, higher emotional investment in social media is correlated with higher levels of anxiety.⁴ It remains unclear whether social media causes negative outcomes or whether struggling youth turn to social media to soothe their symptoms.

But they are also the kids who benefit from finding communities to embrace them, from being able to interact freely and practice social skills in a

safe space online. Social media can have positive effects on social-emotional well-being — making teens feel less lonely and more confident — and these effects are greatest in the most isolated youth.

Above all, we need more specific and more detailed research into how young people use apps, phones and the internet and what the effects are. In particular, we need a much better understanding of the rapid increase in apps and other technologies which claim to be helpful for youth struggling with mental health symptoms but lack good evidence.⁵

Children and teens seem very grown-up these days, competent with technology and image making. If we do our job as parents and educators, taking advantage of the information available to us, we can steer at-risk children toward beneficial online experiences and help them benefit from this new way of communicating.

USING THIS REPORT AT HOME AND IN SCHOOL

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1. Anderson, M. & Jiang, J. (2018). *Teens, social media & technology*. Retrieved from Pew Research Center website: <https://www.pewinternet.org/2018/05/31/teens-social-media-technology-2018/> 2. Orben, A. & Przybylski, A.K. (2019). The association between adolescent well-being and digital technology use. *Nature Human Behaviour*, 3, 173–182. 3. Vannucci, A., Flannery, K. M. & Ohannessian, C. M. (2017). Social media use and anxiety in emerging adults. *Journal of Affective Disorders*, 207, 163–166. <https://doi.org/10.1016/j.jad.2016.08.040> 4. Woods, H. C. & Scott, H. (2016). #Sleepyteens: Social media use in adolescence. *Journal of Adolescence*, 51, 41–49. <https://doi.org/10.1016/j.adolescence.2016.05.008> 5. Christensen, H., et al. (2019). Towards a consensus around standards for smartphone apps and digital mental health. *World Psychiatry*, 18(1), 97–98. doi:10.1002/wps.20592