

# Policy Brief: Improving Adolescent Mental Health in the Digital Age

Using what we know about digital media practices of adolescents to develop effective public outreach in California



Melanie E. Schindell

Department of Public Policy and Administration

California State University, Sacramento

Culminating Project, Spring 2022

Advisor: Edward L. Lascher, Jr.

Contents

Executive Summary..... 1

    Design Considerations..... 1

    Content Recommendations ..... 2

        For Adolescents ..... 2

        For Parents and Caregivers..... 2

        Terms Used in this Policy Brief ..... 3

Introduction ..... 4

What is the Status of Adolescent Mental Health?..... 5

    In the United States..... 6

    In California ..... 6

How and Why are Adolescents Using Electronic Devices?..... 8

    What Electronic Devices are They Using? ..... 8

    What Content are They Accessing Online?..... 8

    What Motivates Use of Electronic Devices? ..... 9

How is Digital Media Impacting Adolescent Mental Health?..... 10

    What Adolescents Think..... 10

    What Caregivers Think ..... 11

    What Researchers Think ..... 11

Suggestions for the *Children and Youth Behavioral Health Initiative* Public Outreach Campaign13

    Design Considerations..... 13

    Content Recommendations ..... 13

        For Adolescents ..... 13

        For Parents and Caregivers..... 14

    Final Considerations ..... 14

Endnotes ..... 15

## Executive Summary

This policy brief examines how the **digital media** (bolded terms are defined on page 3) habits of **adolescents** should be considered in the public outreach campaign being developed for the [\*Children and Youth Behavioral Health Initiative\*](#), passed by the California State Legislature in 2021. The digital media habits of adolescents are relevant to the public outreach campaign as a factor impacting mental health outcomes, and as an important design consideration to insure the campaign reaches the maximum number of young people.

Ninety-five percent of adolescents own a smartphone by the time they are 14-years-old, with most also having access other **electronic devices** such as a desktop or laptop computer and gaming console. They are heavy users and early adopters of new social media platforms, but there are differences in social media platform preferences by demographic characteristics. For example, LGBTQ+ (lesbian, gay, bisexual, transgender and queer or questioning) adolescents, prefer social media platforms that allow for more anonymous interactions. Additionally, Teens report using their smartphones for a variety of reasons, including passing the time, connecting with people, learning new things, and avoiding interactions with others.

Many people believe that increasing rates of digital media use are a contributing factor in the declining **mental health** outcomes of adolescents in the last 20 years. However, the evidence to support this claim is mixed. Researchers have identified that the mental health impact of digital media use varies by a variety of demographic characteristics. Among males and females, nearly all mental health impacts, both good and bad, associated with digital media use are found in females but not males. Also, associations for **mental health challenges** and digital media use are most likely among adolescents who are already experiencing mental health challenges. Findings also indicate that not all digital media has the same impact. Online gaming, which adolescents often engage in with friends they know offline, is associated with a neutral or positive impact. In contrast, social media can have a negative impact on mental health particularly that of females. However, females without access to social media can develop to feelings of social isolation, since such access plays such a large role in adolescent communication.

The information presented in this brief has implications for the design and content of a mental health outreach campaign targeting adolescents and their caregivers. The workgroup involved in the public outreach campaign for the *Children and Youth Behavioral Health Initiative* should consider the following design consideration and content recommendations to insure maximum impact of the planned campaign.

### Design Considerations

**Design for Mobile Devices.** Materials designed to reach adolescents directly need to be fully accessible on a mobile device with a smaller screen, and lower processing speed.

**Publish on Social Media Platforms Used by the Target Population.** Ensure outreach materials are published on social media platforms that are regularly used by the specific population it is designed to reach.

**Keep Up with Changes in Technology and Use Patterns.** Be prepared to update the format of outreach materials to ensure they continue to align with the way adolescents use electronic devices and digital media.

### Content Recommendations

#### For Adolescents

**Highlight Use Behaviors that can be Problematic and Share How to Avoid Them.** Provide adolescents with information on how to identify problem use in themselves and provide resources on how to get help.

**Share Information About How to Stay Safe in Online Spaces.** Especially for youth looking for support from people they don't know personally it is important that they know how to keep themselves safe.

**Communicate Risk Factors for Specific Groups of Adolescents to those Groups.** Customize outreach materials so they provide the most relevant information for how adolescents identify.

#### For Parents and Caregivers

**The Type of Digital Media Consumed Matters.** Providing caregivers with the latest information on how different types of digital media impacts adolescent mental health will allow them to focus rules, and mentor their children on the media types that are more likely to have negative effects.

**The Amount of Time Spent on Using Digital Media Matters, but Differs Based on the Type of Digital Media Being Used.** How adolescents are spending their time online matters, and certain categories of use may need to be monitored more closely than others.

**How to Spot Signs of Problem Use in Their Adolescent Child.** Parents need to know how to distinguish between frequent use and problem, addiction-like, use so they can support their children in establishing and maintaining healthy habits.

## Terms Used in this Policy Brief

**Adolescence** is a distinct developmental stage that begins at the onset of puberty and ends with the assumption of adult responsibilities such as becoming economically independent, finishing formal education, or becoming a parent. Scholar's differ on the precise start and end but it is typically described as beginning around 10 to 11 years old and ending around 18 to 24 years old.<sup>1 2</sup>

**Digital media** is content that is consumed through an electronic device. The forms of digital media discussed in this brief are those available online, such as video, social media, texting/email, and gaming.

**Electronic device** is an umbrella terms used to describe physical objects, such as smartphones, laptops, and gaming consoles used to access the digital media.

**Mental health** refers to an individual's emotional, psychological, and social well-being, which affects their ability to regulate their emotions when obstacles arise and manage activities of daily life.

**Mental health challenge** broadly describes individuals who experience compromised mental health, which may not be at the level sufficient to be diagnosed as a mental illness but still negatively impacts their life.

**Mental illness** refers to a diagnosed mental disorder such as depression, anxiety, mood disorder, or anorexia nervosa that impacts individuals thinking, emotional regulation, and behavior.<sup>3</sup>

**Parent** and **caregiver** are used interchangeably throughout this brief to describe adults who are actively engaged in raising a child, regardless of their biological relationship, or lack thereof.

**Teen** is an adolescent between the age of 13 and 18 years old.

**Young adult** is an adolescent between the age of 18 and 24 years old.

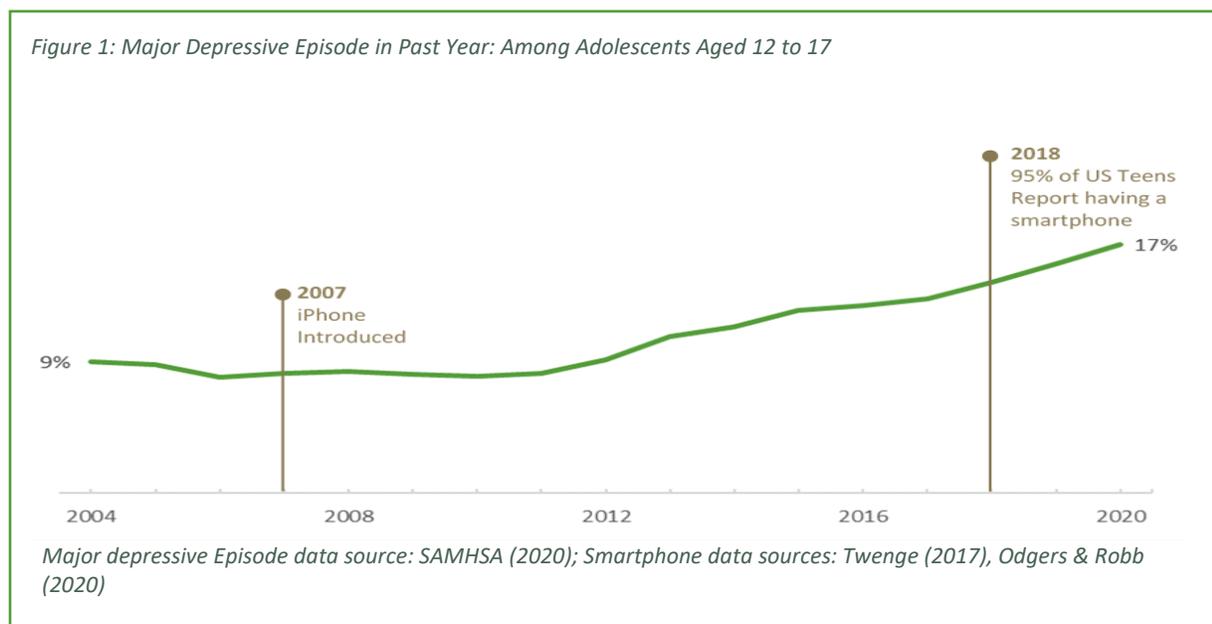
## Introduction

*How much time should my fourteen-year-old spend on Netflix? Is it okay for my twelve-year-old to play Minecraft online? What should I say to my sixteen-year-old who spends all their time on Instagram? How do I keep my eleven-year-old from seeing inappropriate content online? How do I talk to my 20-year-old about their obsessive attachment to their smartphone?*

These are just a few questions today's parents and other adult caregivers must navigate regarding the role electronic devices, digital entertainment, and social media will play in the lives of their children. This is not a new challenge for parents, as the prominence of electronic technologies in the lives of young people has steadily grown over the past twenty years.<sup>4</sup> But the rate at which new technologies are developed and widely adopted has increased exponentially in the last decade, making it challenging for caregivers to stay up-to-date on the latest "must-know" information about the growing digital lives of their children.

At the same time as this rapid expansion of electronic devices and digital media in our society, adolescents have experienced growing rates of mental health challenges, such as depression and anxiety disorder.<sup>5</sup> The rise of both new technology and mental health challenges has led many parents, researchers, and public agencies to conclude that there is a causal relationship between the two—that increased use of electronic devices and consumption of digital media causes mental health challenges. However, recent studies show a more complicated relationship between adolescent mental health and the use of electronics.<sup>6</sup> This suggests a shift in thinking may be needed among caregivers and other adults who work with youth. We may need to move away from the simplistic view that minimizing the use of electronic devices will prevent mental health challenges and toward a stronger focus on how and what young people are doing on devices and how this use impacts their mental health.

Figure 1: Major Depressive Episode in Past Year: Among Adolescents Aged 12 to 17



The California State Legislature has recognized the role digital media plays in the lives youth when it passed the *Children and Youth Behavioral Health Initiative* in 2021. The initiative seeks to reshape the way behavioral health services, which includes mental health services, are provided throughout the state. Specifically, it calls for the creation of an "online ecosystem" that integrates services offered across agencies and levels of government and provides youth and families greater access to services online. It also calls for a greater focus on prevention and outreach, with one of four focus areas on raising awareness and engagement of communities and families. One of the strategies employed is "conducting culturally and linguistically appropriate campaigns to educate the public and raise behavioral health literacy."<sup>7</sup>

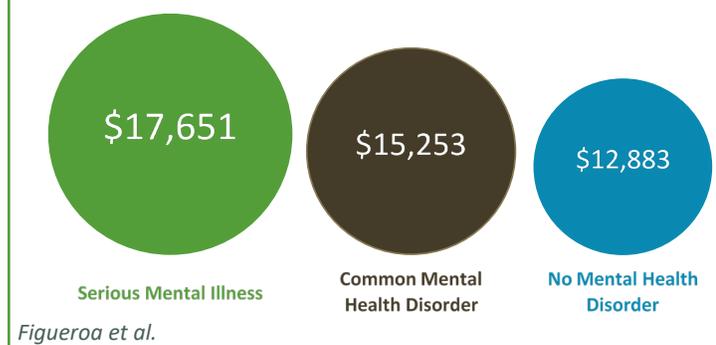
This policy brief examines how digital media use should be included in the public outreach campaign developed for the initiative. First the brief summarizes of the status of adolescent mental health in the United States, with a focus on California's youth. Second, it provides current information on how adolescents are using digital media. Third, the brief details how key stakeholders—youth, parents, and researchers—view the impacts of digital media on adolescent mental health. Finally, it concludes with recommendations for the *Children and Youth Behavioral Health Initiative* public outreach campaign based on how adolescents use digital media and what we know about how it impacts their mental health.

## What is the Status of Adolescent Mental Health?

Adolescence is a time when serious mental health challenges often first emerge. Outcomes during this age range are predictive of the individual's mental and physical health outcomes throughout their life, making early detection and intervention essential.<sup>8</sup> A 2020 study of Medicare beneficiaries found adults with a serious mental illness, such as major depressive disorder, incurred roughly \$2,400 more in annual health care costs compared to

adults with a less severe mental illness, such as anxiety or depression, and nearly \$4,800 more than adults without any known mental illness.<sup>9</sup> Sadly, many adolescents in the United States, including those in California, experience serious mental health challenges despite what we know about the importance of this developmental phase. With timely support and effective treatment, it is possible to prevent mental health challenges from becoming a diagnosable mental illness.<sup>10</sup> This highlights the importance for government to support mental health in adolescents since it is predictive the amount of health services used and outcomes achieved throughout adulthood.

Figure 2: Average Spending on Medical Services for Medicare Beneficiaries by Mental Health Status in 2015

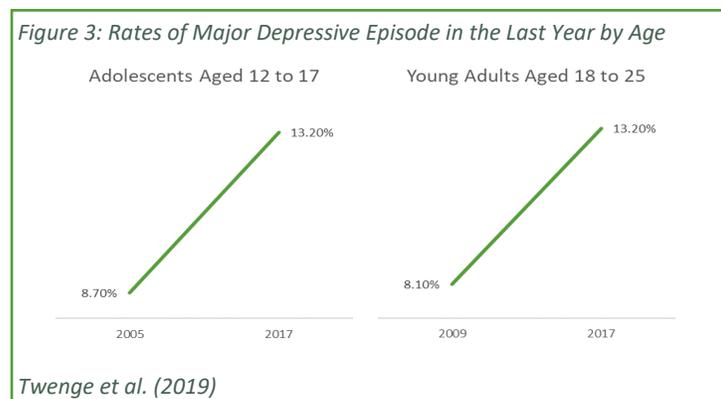


## In the United States

In 2021 four in ten adolescents in the United States experienced symptoms of moderate to severe depression.<sup>11</sup> The rate of mental health challenges was more common among certain groups of young people. In a recent national study, 39.0% of Latinx and 36.5% of Black adolescents met the criteria for mood disorder compared to 30.5% of White adolescents.<sup>12</sup> The rate of death by suicide has increased for all adolescent groups over the past twenty years. In particular, the number of young female adolescents (10-14 years old) who die from suicide has increased dramatically over the last 20 years from 0.5 per 100,000 in 1999 to 2 per 100,000 in 2018.<sup>13</sup> Although this is still a small percentage, the trend overall and specifically among young adolescent females is concerning.

The COVID-19 pandemic, which started to impact daily life in the United States in early 2020, is in decline at the writing of this brief. However, it disrupted all aspects of life for adolescents, from how school is held, to how they socialize with friends, to the dynamics of their home lives. For some adolescents, the pandemic led to their caregivers working full time at home. But for many, it brought the loss of employment and income for their caregivers which added stress and practical challenges to their lives. During the first year of the pandemic, the rate of mental health challenges among adolescents increased, with a rise in the percent of adolescents who experienced moderate to severe depression from 25% in 2018 to 38% in 2020. For adolescents who experienced a COVID-19 illness in their family, the prevalence of moderate to severe depression was even greater, with 51% of adolescents who experienced a COVID-19 illness in their family compared to 36% who did not.<sup>14</sup>

Although this dramatic rise is concerning, the rate of adolescents who experience mental health challenges began increasing long before the start of the COVID-19 pandemic. The National Comorbidity Study of 2001-2002 found that approximately 22% of adolescents met the diagnostic criteria for a mental health challenge in their lifetime.<sup>15</sup>



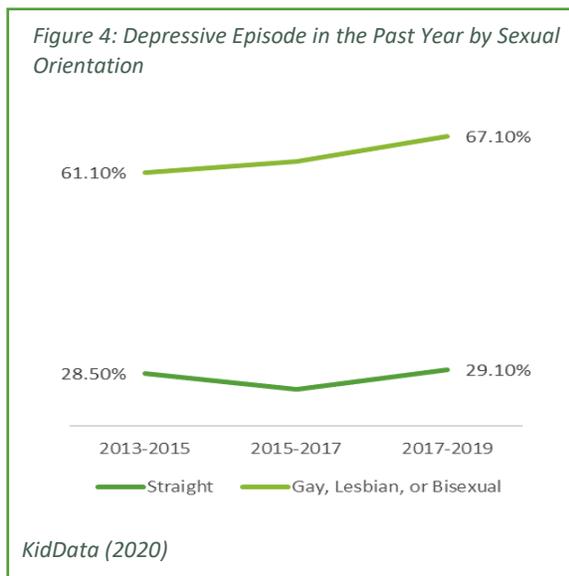
Between 2011 and 2017-18, the rate of adolescents who reported feelings of depression increased by 60%.<sup>16</sup> And, between 2005 and 2018, around 20% of teens reported receiving treatment for a mental health issue.<sup>17</sup>

## In California

Following national trends, a substantial number of adolescent Californians are experiencing mental health challenges. A depressive episode is a period of two or more weeks in which an individual feels sad or hopeless almost every day. More than three in ten California adolescents between the ages of 12 and 17 were estimated to have experienced a depressive episode using data collected in 2017 through 2019. For the youngest members of that age range, 12 and 13,

the percentage who experienced a depressive episode increased by 6% between 2011-2013 to 2017-2019.<sup>18</sup>

The rate of California adolescents who experienced a depressive episode was higher for some groups than for others. For example, during the same 2017-2019 time period, around four in ten females in seventh grade were estimated to have experienced a depressive episode in the past year. Nearly half of the oldest group of females, in the eleventh grade, were estimated to have experienced a depressive episode in the last year. Adolescents who identified as multiracial were also more likely to have experienced a depressive episode, with nearly four in ten estimated to have experienced a depressive episode in the past year. Most alarmingly, 67% of adolescents who identified as gay or bisexual were estimated to have experienced a depressive episode in 2017-2019, an increase of 6% from 2013-2015. Additionally, nearly 50% of adolescents who were unsure of their sexual orientation were estimated to have experienced a depressive episode in 2017-2019, which was a steep increase from 2015-2017 when roughly 30% of this group were estimated to have experienced a depressive episode.<sup>19</sup>



The troubling mental health trends that were already present among California’s adolescents before the start of the COVID-19 pandemic continued through 2020 when social distancing measures were put in place. For example, suicide deaths and visits to the emergency room for self-harm among California adolescents between the ages of 10 and 18 years old increased; suicide deaths rose from 3.0 to 3.6 per 100,000 from 2019 to 2020, and visits to the emergency room for self-harm rose from 112.9 to 113.2 per 100,000 at the same time.<sup>20</sup> These rates suggest the pandemic may have accelerated the rise of the concerning mental health challenges many adolescents in California were already experiencing prior to the pandemic.

Pairing the rates of California adolescents experiencing mental health challenges with actual population counts for the state helps translate these figures into the true number of young Californians facing these challenges. Over 3.6 million California residents are between eleven and seventeen years old and 30% in this age group are estimated to have mental health challenges.<sup>21</sup> This means that over one million adolescents in California may experience a depressive episode this year. It is challenges such as those presented in this brief that led the advocacy group Mental Health America to rank California 36 out of 51 in its 2021 ranking of states based on the prevalence of mental illness among California youth and a lack of access to care in the state.<sup>22</sup>

## How and Why are Adolescents Using Electronic Devices?

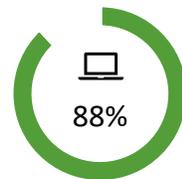
Three questions need to be answered to determine what impacts electronic devices and digital media may have on adolescent mental health: *What electronic devices are they using? What content are they accessing online? What motivates their use?*

### What Electronic Devices are They Using?

Nearly all teens in the US own or have access to at least one electronic device. In fact, most own or have access to multiple devices that are capable of accessing the internet, such as a smartphone, desktop or laptop computer, or gaming console.<sup>23</sup>



**Smartphones.** In 2018 95 % of teens reported owning or having access to a smartphone. Near universal ownership of smartphone phones was consistent across all demographic characteristics, with slightly more females and teens from higher income households reporting smartphone ownership.<sup>24</sup>



**Desk or Laptop Computers.** Computer ownership is somewhat less common. Eighty-eight percent of teens reported owning or having access. Unlike smartphone ownership, there were differences in computer ownership by ethnicity, Hispanic teens reported owning computers at a rate that was 7% less than the rate reported by White teens. There were also differences in ownership by income, 75% of teens from families with annual incomes less than \$30,000 owned a computer, while 96% of teens in families with annual incomes \$75,000 or more owned a computer.<sup>25</sup>



**Gaming Consoles.** The lowest, but still substantial, percentage of teens reported owning gaming consoles. Eighty-four percent of all teens reported owning a gaming console. Demographic differences existed in ownership of gaming consoles; 92% of males reported owning or having access to a gaming console compared to 75% of females. There were also differences in ownership by race and ethnicity; 87% of White teens owned a gaming console, while 81% of Hispanic and 78% of Black teens owned a gaming console.<sup>26</sup>

The high level of ownership for smartphones, desktop and laptop computers, and gaming consoles indicates that most teens have access to all three types of devices. This is likely a driver of the 45% of teens who report being online "nearly constantly."<sup>27</sup>

### What Content are They Accessing Online?

Adolescents access information through the internet using a variety of online platforms, which facilitate the exchange of information between individual and groups users (individuals, business, government).<sup>28</sup> The popularity of specific online platforms among adolescents can change rapidly, limiting the value of data collected even in the last several years. For example,

TikTok, a social media platform that allows users to share and view short videos up to 60 seconds in length, became available in the United States in 2018 and by 2020 was the seventh most widely used social media platform by teens and young adults in the county with 24% using it.<sup>29 30</sup>

In 2020, the most common social media platforms used by adolescents in the United States were YouTube (77%), Instagram (63%), Facebook (50%), and Snapchat (48%).<sup>31</sup> However, there differences in the platform preferences appear to vary by demographic characteristics. In a 2018 survey, the top four platforms among teens were similar with some shifts in order ranking among the top for platforms: YouTube (85%), Instagram (72%), Snapchat (69%) and Facebook (51%).<sup>32</sup> Even though YouTube was the platform used most by all groups of teens, 20% more males used it than any other platform. Instagram, the second most popular platform among all teens was driven by higher use by females, and older teens, between the age of 15-17 years old. In contrast, Black teens and those with an annual household income of less than \$30,000 preferred Snapchat after YouTube as their platform of choice. Hispanic and Black teens were more likely to use Facebook compared to White teens; however, both groups were more likely to use YouTube, Instagram and Snapchat. In a different study, LGBTQ+ (lesbian, gay, bisexual, transgender and queer or questioning) middle schoolers were more likely than their heterosexual peers to use niche social media platforms such as Tumblr, and Discord, which allow users more anonymity.<sup>33</sup> Although these data are several years old, and the platform preferences of teens have likely changed somewhat, it illustrates that different groups of young people access online content on different platforms and that there may be specific characteristics of platforms that contribute to those preferences.

### What Motivates Use of Electronic Devices?

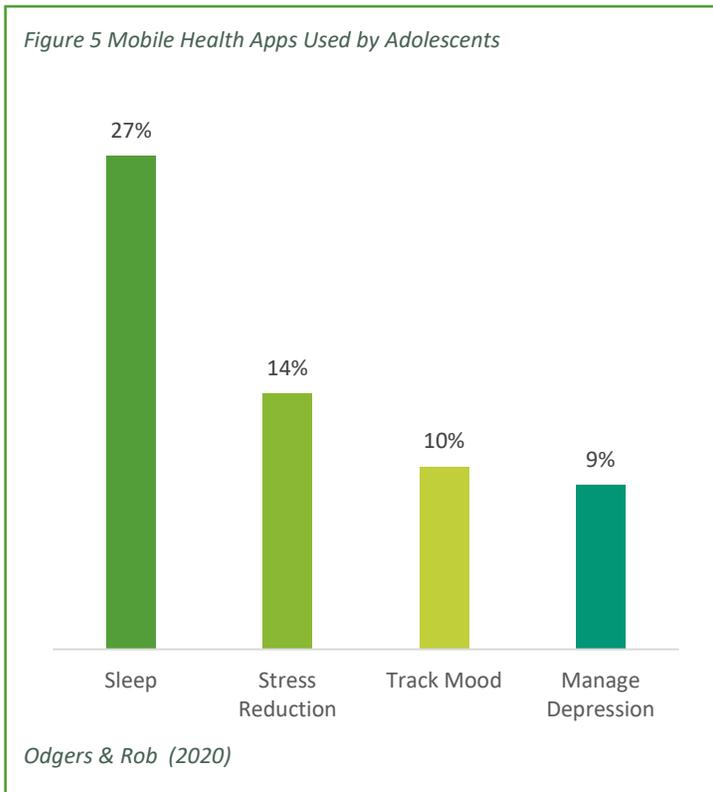
With nearly all teens owning smartphones, an increasing amount of their internet consumption is done on them.<sup>34</sup> Teens report using their smartphones for a variety of reasons, including passing the time, connecting with people, learning new things, and avoiding interactions with others.<sup>35</sup> We also know that young people with moderate to severe depressive symptoms go on social media to feel less alone (28%) and to get support or advice when they need it (26%).<sup>36</sup>

Adolescents are also increasingly going online to seek information and tools to support health and mental health issues, which can have meaningful public policy implications in the design of applications and public outreach campaigns intended to reach them.

**Researching Health Issues.** In 2018 and again in 2020 nearly 9 out of 10 teens reported looking up health information online. Many of the health topics adolescents researched online were related to mental health such as stress (39%), anxiety (42%), depression (38%), sleep disorders (25%). Female teens and older adolescents, between 18 and 22 years old, were more likely to research health information generally and mental health issues specifically, compared to male teens and adolescents 17 years old or younger. Black adolescents across the age spectrum were less likely than their White and Latinx peers to look for health information, especially information about anxiety, stress, and depression. In fact, Black adolescents used the internet to look up these issues between 15- to 19 percentage points less than White adolescents. Adolescents with moderate to severe depressive symptoms were more likely to

seek out information on the internet about anxiety, depression, sleep disorders, stress than their peers. Nearly all (92%) adolescents who identified as LGBTQ+—a group that disproportionately suffers from depression (24% mild, 65% moderate to severe)—looked for health information online.<sup>37</sup>

**Using Mobile Health Apps.** Many adolescents (69%) were also using mobile applications or apps—internet-based applications designed to run on a mobile device and often for a narrowly targeted purpose.<sup>38 39</sup> Adolescents reported using apps related to sleep (27%), stress reduction (14%), tracking mood (10%), and depression (9%). Again, more young adults and female teens reported using mobile apps related to mental health compared to their peers. For specific types of apps, White adolescents reported using a sleep app more than their peers, and Black adolescents were more likely than their peers to use apps related to depression. Adolescents with moderate to severe depressive symptoms were more likely than their peers to use apps for sleep, stress reduction, and depression. Similarly, the majority of LGBTQ+ youth used at least one mobile health app.<sup>40</sup>



**Search for Peer Support.** Many young adults, adolescents with moderate to severe depressive symptoms, and LGBTQ+ youth reported going online to look for other people who were experiencing similar health concerns as themselves.<sup>41</sup>

## How is Digital Media Impacting Adolescent Mental Health?

To develop effective outreach materials on the effects of digital media on adolescent mental health it is important to understand what youth, and their caregivers, perceive the impacts to be as well as what formal research has found.

### What Adolescents Think

Given the high rate of social media use by adolescents it is not surprising that in 2018 most teens believed that social media had no effect (45%) or a mostly positive impact (21%) on people their age.<sup>42</sup> Indeed 2020, 21% reported that social media made them feel less alone, and 20% said it allowed them to get support or advice with they needed it.<sup>43</sup> Adolescents with moderate to severe depressive symptoms said that social media was very important to help

them feel less alone, and get support or advice when they needed it compared to their peers. Interestingly, 43% of adolescents reported that using social media when they felt down or anxious made them feel better.

In the same survey, severely depressed adolescents were more likely to report social media made them anxious, lonely or depressed, even when compared to their peers who were experiencing depressive symptoms that were less pronounced. The number of individuals experiencing severe depressive symptoms was small in the sample, so these results should be interpreted with caution. Still, it is important to consider the different responses to social media adolescents have based on not only the presence or absence of depressive symptoms, but also the severity of the symptoms as well as the ability of these youth to recognize the effects on their own mental health.

### What Caregivers Think

Parents and other adult caregivers of adolescents play a critical role in setting the level of access youth have to digital media, and help adolescents develop skills and acquire knowledge that is needed to navigate technological advancements appropriately. As the adults with front row access to how adolescents use digital media, their observations provide critical insight on the topic. In a 2018 survey more than six in ten caregivers worried about the amount of time their teen spent in front of screens, and the majority were concerned that their teens use of digital media was causing them to lose their ability to communicate in person. Most parents also worried that their teen shared too much about their life online, that that they would be bullied online, and that they would send or receive explicit messages. Somewhat incongruently, in the same survey 90% of caregivers felt confident about their ability to teach their teen about appropriate online behavior and nearly as many believed they knew how much screen time was appropriate for their child.<sup>44</sup>

### What Researchers Think

The relationship between electronic media and adolescent mental health has been a topic of interest for social science researchers since 2012. This interest aligns with the timing of smartphones becoming widely available in the United States and a decline in the mental health outcomes of adolescents. The timing of these two developments led many researchers, parents and policy makers to believe there was a causal link between increased access to the internet and adolescent mental health.<sup>45</sup> However, the results from this field of research has been mixed with some studies concluding there is a connection between electronic media and negative mental health outcomes in adolescents, and others finding the association to be minimal or not present at all.<sup>46 47</sup> Two reasons for these mixed results are: 1) most research has used cross-sectional data making it impossible to draw a direct causal link; and 2) disagreement over the magnitude of the effect that is meaningfully important from a clinical and public policy perspective.<sup>48 49</sup>

Recent studies, conducted between 2018 and 2022, have focused more narrowly on how specific groups of adolescents may be impacted by digital media, and how specific forms of digital media may impact adolescent mental health. These more narrowly defined studies provide helpful insight into how adolescents use digital media and why mental health impacts seem to differ across groups.

**The Type of Digital Media Consumed Matters.** Adverse impacts of digital media on adolescent mental health appear to relate most specifically to social media use.<sup>50 51 52</sup> The latest research finds that other forms of digital media such as text/emailing, gaming, and video streaming do not relate to adverse mental health indicators. There is a suggestion that texting/emailing and synchronous gaming with friends can strengthen relationships.<sup>53</sup>

**Gender is a Factor.** The relationship between digital media use and mental health, both positive and negative, is strongest among adolescent females.<sup>54</sup> Despite consuming more digital media than females, none of the studies reviewed identified any link between mental health challenges in males and media consumption. In one study the relationship between social media use and depressive symptoms and self-harm behaviors fluctuated with the amount of time spent on social media. For females, daily social media use of less than 30 minutes was linked with less depression and self-harm behaviors.<sup>55</sup> However, more than an hour a day of social media, and especially more than three hours a day, was associated with more depression and acts of self-harm for females. Interestingly, females who did not use social media at all had higher indications of mental health challenges than those who used it a little each day.

**The Intensity of Social Media Use Has an Impact.** One recent longitudinal study found that most participants consistently used social media between 30 to 60 minutes a day throughout adolescence and it was not associated with any specific mental health outcomes.<sup>56</sup> However, the study also identified two smaller groups of participants: "peek users", who increased from moderate use in early adolescence to high usage in mid- adolescence and then decreased again in late adolescence, and "increasers," whose use continued to grow from early to mid to late adolescence without declining. For peek users and increasers, more frequent social media use was associated with adverse mental health outcomes. Especially for increasers who were found to have a greater likelihood of having problematic, addiction-like use. In a similar but not identical finding, addiction-like social media use, but not high use, was associated with adverse mental health findings.<sup>57</sup> This suggests there may be observable indicators that adolescents are heading toward problematic social media use, distinct from high-frequency use.

**LGBTQ+ Adolescents Use Social Media for Emotional Support and Identity Exploration.** Few studies have been conducted on the effects of social media on the mental health of LGBTQ+ adolescents, so findings are limited. But these studies indicate that many use social media in ways specifically related to their LGBTQ+ identify as a method of self-expression and way to experiment with their identity anonymously, especially if they are not able to obtain support offline. Additionally, around half of the LGBTQ+ adolescents who participated in a 2020 survey said going on social media makes them feel better when they are feeling down, while only 13% said it made them feel worse.<sup>58</sup>

The research presented indicates that the impact of digital media on mental health likely varies based on individual characteristics of adolescents. It also provides evidence that effects of digital media on adolescent mental health can vary by media type. These finding as well as what we have learned about how adolescents use digital media can be used to develop outreach materials for youth and the adults in their lives, such as parents, teachers, mental health practitioners, and others. It can also help adults understand adolescent behaviors and

create prevention campaigns that support adolescent mental health in our current digital environment.

### Suggestions for the *Children and Youth Behavioral Health Initiative* Public Outreach Campaign

The effects of digital media, especially social media, on adolescent mental health are complex. There is still debate among researchers on the size of the effect that should be present to make findings meaningful for clinical and public policy decisions. Despite this debate, there is a lot we do know. The omnipresence of digital media in the lives of adolescence make it an important consideration as California embarks on the *Children and Youth Behavioral Health Initiative* public outreach campaign.

Adolescents are consuming many hours of digital media daily, particularly content accessed on smartphones. They are using digital media for a variety of reasons, including to feel connected to peers and disconnect from life stressors. While most adolescents believe digital media has a positive or no effect on their mood, some adolescents and most caregivers are worried about the impacts.

The information summarized in this brief has implications for both the design and content of a mental health public outreach campaign targeting adolescents and their caregivers. The workgroup involved in the public outreach campaign for the *Children and Youth Behavioral Health Initiative* should reflect on the following design consideration and content recommendations to insure maximum impact of the planned campaign.

### Design Considerations

The design considerations explain ways the materials produced for the campaign should be designed to insure they reach the intended audience of adolescents.

**Design for Mobile Devices.** Most of the digital content being consumed by adolescents is done so on a smartphone. Materials designed to reach adolescents directly need to be fully accessible on a mobile device with a smaller screen, and lower processing speed.

**Publish on Social Media Platforms Used by the Target Population.** Factors such as race and ethnicity, age, and sexual orientation impact the social media platforms used by adolescents. Ensure outreach materials are published on social media platforms that are regularly used by the specific population it is designed to reach.

**Keep Up with Changes in Technology and Use Patterns.** The devices and platforms adolescents use to access digital content will continue to evolve quickly. Be prepared to update the format of outreach materials to ensure they continue to align with the way adolescents use electronic devices and digital media.

### Content Recommendations

The content recommendations outline information to share as a part of the campaign about how digital media impacts adolescent mental health to raise awareness of these issues. They also aim to provide youth and their adult caregivers strategies to navigate digital media use and avoid negative impacts.

For Adolescents

**Highlight Use Behaviors That Can Be Problematic and Share How to Avoid Them.** Many adolescents worry about how social media impacts their mood and general well-being. Provide them with information on how to identify problem use in themselves and provide resources on how to get help.

**Share Information About How to Stay Safe in Online Spaces.** Some adolescents are looking for emotional support online. Especially for youth looking for support from people they don't know personally it is important that they know how to keep themselves safe.

**Communicate specific risk factors related to vulnerable groups.** The research shows that mental health impacts differ by demographic characteristics. Customize outreach materials so they provide the most relevant information for how adolescents identify.

For Parents and Caregivers

**Share how impacts differ by the type of digital media consumed.** Mental health impacts of digital media differ based by type. Providing caregivers with the latest information on how different types of digital media impacts adolescent mental health will allow them to focus rules, and mentor their children on the media types that are more likely to have negative effects. It can also help them to lay aside concerns on uses that may not impact mental health, or may even fulfill an important mental health need for their child such as connecting with peers.

**The Amount of Time Spent Using Digital Media Matters, but Differs Based on the Type of Digital Media Being Used.** From a mental health perspective, blanket time limits on the use of digital media may not be needed. How adolescents are spending their time online matters, and certain categories of use may need to be monitored more closely than others.

**How to Spot Signs of Problem Use in Their Adolescent Child.** Most adolescents are on social media daily, and derive social benefits from their online experiences. Parents need to know how to distinguish between frequent use and problem, addition-like, use so they can support their children in establishing and maintaining healthy habits.

Final Considerations

The *Children and Youth Behavioral Health Initiative* public outreach campaign provides an important first step for California in addressing the role digital media has in the mental health outcomes of adolescents. While this policy brief is narrowly focused on utilizing current information for public outreach, there are more opportunities to use the information compiled for it. For example, one of the initiative's main goals is to expand the use of technology to provide services to children and families; the information provided in this policy brief offers design considerations that apply directly to this work. Additionally, digital media and smartphone use policies vary widely throughout California public schools; this policy brief provides insights that can help develop comprehensive policies regarding digital media and access to personal electronics during the school day. Finally, the information in this policy brief is relevant to mental health providers who work with adolescents. With digital media playing such a large role in the lives of adolescents, mental health providers who work with them must understand how their clients use digital media and electronic devices as well as how to evaluate how that use may be impacting their overall mental health.

It is important to note that the information presented in this brief is current for this point in time only. The field of research on adolescent mental health and the impacts of digital media is very active with new information being published regularly. At the same time, new ways of consuming digital media and different forms of digital media are being developed continuously. Policymakers, service providers, and other adults involved in the lives of adolescents must prioritize staying informed on how adolescents use digital media and how that use may impact their mental health. Doing so will allow them to ensure related materials, services, and policies are adjusted as needed to stay in alignment with the undoubtedly new ways adolescents will be using digital media in the near future.

## Endnotes

---

- <sup>1</sup> World Health Organization (n.d.) Overview. In *Adolescent health*. Retrieved from: <https://www.who.int>
- <sup>2</sup> Odgers, C. & Robb, M. B. (2020). *Tweens, teens, tech, and mental health: Coming of age in an increasingly digital, uncertain, and unequal world, 2020*. San Francisco, CA: Common Sense Media.
- <sup>3</sup> American Psychiatric Association (2018). What is Mental Illness? In *Patients and Families*. Retrieved from [www.psychiatry.org](http://www.psychiatry.org)
- <sup>4</sup> Twenge, J. (2020). Why increases in adolescent depression may be linked to the technological environment. *Current Opinion in Psychology*, 32, 89–94. <https://doi.org/10.1016/j.copsyc.2019.06.036>
- <sup>5</sup> Twenge, J. (2017). *IGen : why today's super-connected kids are growing up less rebellious, more tolerant, less happy-- and completely unprepared for adulthood (and what this means for the rest of us)*. Atria Books.
- <sup>6</sup> See endnote 2.
- <sup>7</sup> California Department of Health and Human Services (n.d.). Program Description. In *Children and Youth Behavioral Health Initiative*. Retrieved from <https://www.chhs.ca.gov/home/children-and-youth-behavioral-health-initiative/>
- <sup>8</sup> Rivenbark, J.G., Odgers, C.L., Caspi, A., Harrington, H., Hogan, S., Houts, R.M., Poulton, R. and Moffitt, T.E. (2018), The high societal costs of childhood conduct problems: evidence from administrative records up to age 38 in a longitudinal birth cohort. *The Journal of Child Psychology and Psychiatry*, 59: 703-710. <https://doi.org/10.1111/jcpp.12850>
- <sup>9</sup> Figueroa JF, Phelan J, Orav EJ, Patel V, Jha AK. Association of Mental Health Disorders With Health Care Spending in the Medicare Population. *JAMA Netw Open*. 2020;3(3):e201210. doi:10.1001/jamanetworkopen.2020.1210
- <sup>10</sup> Kim-Cohen J, Caspi A, Moffitt TE, Harrington H, Milne BJ, Poulton R. Prior Juvenile Diagnoses in Adults With Mental Disorder: Developmental Follow-Back of a Prospective-Longitudinal Cohort. *Arch Gen Psychiatry*. 2003;60(7):709–717. doi:10.1001/archpsyc.60.7.709

- 
- <sup>11</sup> Rideout, V., Fox, S., Peebles, A., & Robb, M. B. (2021). *Coping with COVID-19: How young people use digital media to manage their mental health*. San Francisco, CA: Common Sense and Hopelab.
- <sup>12</sup> Georgiades, K., Paksarian, D., Rudolph, K. E., & Merikangas, K. R. (2018). Prevalence of mental disorder and service use by immigrant generation and race/ethnicity among US adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 57(4), 280-287.
- <sup>13</sup>Centers for Disease Control and Prevention (2018) *Youth Risk Behavior Surveillance—United States, 2017*. Retrieved from CDC website:  
<https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2017/ss6708.pdf> .
- <sup>14</sup> See endnote 11.
- <sup>15</sup> Burstein, M., Swanson, S., He, J. P., & Merikangas, K. R. (2010). Prevalence, overlap, and correlates of anxiety disorders in the U.S. National Comorbidity Survey Replication Adolescent Supplement (NCS-A). *Comprehensive Psychiatry*, 51(6), e2-e3.  
<http://dx.doi.org/10.1016/j.comppsy.2010.06.019>
- <sup>16</sup> See endnote 4.
- <sup>17</sup> Mojtabai R., Olfson M. (2020) National Trends in Mental Health Care for U.S. Adolescents. *JAMA Psychiatry*. 77(7):703–714. doi:10.1001/jamapsychiatry.2020.0279
- <sup>18</sup> KidData. (n.d.). Retrieved from:  
<https://www.kidsdata.org/demographic/1/adolescentteenagers/summary#2/demographics> Accessed on February 9, 2022
- <sup>19</sup> See endnote 18.
- <sup>20</sup> California Department of Public Health (n.d.) *California Suicide and Self-Harm Trends in 2020*. Retrieved from the CDPH website:  
<https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/SACB/CDPH%20Document%20Library/Suicide%20Prevention%20Program/SuicideAndSelfHarmIn2020-DataBrief-ADA.pdf>.
- <sup>21</sup> See endnote 18.
- <sup>22</sup> Reinert, M., Nguyen, T., & Fritze, D. (2021) *2021 The State of Mental Health in America*. Mental Health America. Retrieved from: <https://www.mamh.org/assets/files/2021-State-of-Mental-Health-in-America.pdf>
- <sup>23</sup> Anderson M., Jiang, J. (2018) *Teens, Social Media & Technology 2018*. Retrieved from Pew Research Center website: <https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/>
- <sup>24</sup> See endnote 23.
- <sup>25</sup> See endnote 23.
- <sup>26</sup> See endnote 23.
- <sup>27</sup> See endnote 23.
- <sup>28</sup> OECD (2019), "What is an "online platform"?", in *An Introduction to Online Platforms and Their Role in the Digital Transformation*, OECD Publishing, Paris, <https://doi.org/10.1787/19e6a0f0-en>.

- 
- <sup>29</sup> A Brief History Of TikTok And Its Rise to Popularity (2020) Retrieved from:  
<https://www.big3.sg/blog/a-brief-history-of-tiktok-and-its-rise-to-popularity>
- <sup>30</sup> Statista Research Department (2022) Research of leading social networking sites used by teenage and young adult online users in the United States as of 3<sup>rd</sup> quarter 2020. Retrieved from: <https://www.statista.com/statistics/199242/social-media-and-networking-sites-used-by-us-teenagers/>
- <sup>31</sup> See endnote 30.
- <sup>32</sup> See endnote 23.
- <sup>33</sup> Charmaraman, L., Hodes, R., & Richer, A. (2021). Young Sexual Minority Adolescent Experiences of Self-expression and Isolation on Social Media: Cross-sectional Survey Study. *JMIR mental health*, 8(9), e26207. <https://doi.org/10.2196/26207>
- <sup>34</sup> See endnote 23.
- <sup>35</sup> Schaeffer, K. (2021). *Most U.S. teens who use cellphones do it to pass time, connect with others, learn new things*. Retrieved from Pew Research Center website: <https://www.pewresearch.org/fact-tank/2019/08/23/most-u-s-teens-who-use-cellphones-do-it-to-pass-time-connect-with-others-learn-new-things/>
- <sup>36</sup> See endnote 2.
- <sup>37</sup> See endnote 2.
- <sup>38</sup> See endnote 2.
- <sup>39</sup> Mobile Application (Mobile App) (2020). Retrieved from: <https://www.techopedia.com/definition/2953/mobile-application-mobile-app>
- <sup>40</sup> See endnote 2.
- <sup>41</sup> See endnote 2.
- <sup>42</sup> See endnote 23.
- <sup>43</sup> See endnote 2.
- <sup>44</sup> Anderson, M. (2019). *How parents feel about—and manage—their teen’s online behavior and screen time*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2019/03/22/how-parents-feel-about-and-manage-their-teens-online-behavior-and-screen-time/>
- <sup>45</sup> See endnote 5s.
- <sup>46</sup> Kreski, N., Platt, J., Rutherford, C., Olfson, M., Odgers, C., Schulenberg, J., & Keyes, K. (2021). Social Media Use and Depressive Symptoms Among United States Adolescents. *Journal of Adolescent Health*, 68(3), 572–579. <https://doi.org/10.1016/j.jadohealth.2020.07.006>
- <sup>47</sup> Odgers, C. & Jensen, M. (2020), Annual Research Review: Adolescent mental health in the digital age: facts, fears, and future directions. *The Journal of Child Psychology and Psychiatry*, 61: 336-348. <https://doi.org/10.1111/jcpp.13190>
- <sup>48</sup> Valkenburg, P., Meier, A., & Beyens, I. (2022). Social media use and its impact on adolescent mental health: An umbrella review of the evidence. *Current Opinion in Psychology*, 44, 58–68. <https://doi.org/10.1016/j.copsyc.2021.08.017>

- 
- <sup>49</sup> Twenge, J. Haidt, J., Lozano, J., & Cummins, K. (2022). Specification curve analysis shows that social media use is linked to poor mental health, especially among girls. *Acta Psychologica*, 224, 103512–103512. <https://doi.org/10.1016/j.actpsy.2022.103512>
- <sup>50</sup> Lee, S., Lohrmann, D., Luo, J., & Chow, A. (2022). Frequent Social Media Use and Its Prospective Association With Mental Health Problems in a Representative Panel Sample of US Adolescents. *Journal of Adolescent Health*. <https://doi.org/10.1016/j.jadohealth.2021.11.029>
- <sup>51</sup> McAllister, C., Hisler, G., Blake, A., Twenge, J., Farley, E., & Hamilton, J. (2021). Associations Between Adolescent Depression and Self-Harm Behaviors and Screen Media Use in a Nationally Representative Time-Diary Study. *Research on Child and Adolescent Psychopathology*, 49(12), 1623–1634. <https://doi.org/10.1007/s10802-021-00832-x>
- <sup>52</sup> Booker, C., Kelly, Y. & Sacker, A. Gender differences in the associations between age trends of social media interaction and well-being among 10-15 year olds in the UK. *BMC Public Health* 18, 321 (2018). <https://doi.org/10.1186/s12889-018-5220-4>
- <sup>53</sup> McAllister, C., Hisler, G., Blake, A., Twenge, J., Farley, E., & Hamilton, J. (2021). Associations Between Adolescent Depression and Self-Harm Behaviors and Screen Media Use in a Nationally Representative Time-Diary Study. *Research on Child and Adolescent Psychopathology*, 49(12), 1623–1634. <https://doi.org/10.1007/s10802-021-00832-x>
- <sup>54</sup> See endnote 49.
- <sup>55</sup> See endnote 47.
- <sup>56</sup> Coyne, S., Padilla-Walker, L., Holmgren, H., & Stockdale, L. (2019). Instagrowth: A Longitudinal Growth Mixture Model of Social Media Time Use Across Adolescence. *Journal of Research on Adolescence*, 29(4), 897–907. <https://doi.org/10.1111/jora.12424>
- <sup>57</sup> Boer, M., Stevens, G., Finkenauer, C., de Looze, M., & van den Eijnden, R. (2021). Social media use intensity, social media use problems, and mental health among adolescents: Investigating directionality and mediating processes. *Computers in Human Behavior*, 116. <https://doi.org/10.1016/j.chb.2020.106645>
- <sup>58</sup> See endnote 33.