Teaching By Example

Media and Parenting Practices that are - and are not - Related to Adolescent Mental Health

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Notes and Acknowledgements

The Wheatley Institution produces consequential scholarship in key topics consistent with its core mission of lifting society by preserving and strengthen core social institutions.

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Executive Summary

Most parents would agree that being on social media is an important part of being an adolescent today. However, many parents are also extremely concerned about technology. Today's parents are faced with new decision points about when and how to allow - or prohibit - access to different apps, devices, and streaming services. They carry fears about potential negative impacts on their children' lives, development, and futures.

In our experience, parents want to support their adolescent children, but don't always feel confident about digital decisions. They also want clear guidance - ideally, a "magic formula" - that will prevent their teens from experiencing negative outcomes from being on social media. Frustratingly, most research studies on teen technology use do not support simple, one-size-fits-all rules or formulas. However, emerging evidence does show that there are certain media use patterns and parenting practices that are related to both positive and negative outcomes from teen social media use.

This report examines how specific teen use patterns and parenting practices are related to adolescent mental health and other developmental outcomes - and what parents can do as they try to mitigate harm. We conducted a study comprised of two national quota samples to explore these aims. The first sample involved 1,231 adolescents (ages 10-17) from across the United States and focused on links between teen social media use and mental health. The second sample involved 201 adolescents (ages 10-17) and their parents who answered questions about social media, mental health, and parenting practices related to media use. Below we outline things that appear to matter for adolescent mental health – and things that do not.

What (Surprisingly) Doesn't Matter All That Much?

By Themselves, Time Spent on Social Media and Age at First Smartphone Are Not Reliable Predictors of Teen Risk

Our data indicated that there is no "ideal" age for adolescents to receive their first smartphone. In fact, children who got their first phone earlier tended to have slightly better outcomes than those who got their phone later. (This may reflect that parents who give children phones at younger ages do so because their children show signs of readiness.) Overall, the data do not indicate that later is necessarily better. Instead, these findings support using a child-specific approach to smartphone timing decisions that prioritizes maturational factors more than relying on a numerical age.

We also found that simple measures of the raw amount of time teens spend on social media are not associated with their mental health outcomes. While these findings seem counter-intuitive, they are actually quite consistent with other current studies on teen social media use. Evidence increasingly suggests that the ways teens use technology is more significant than simply knowing how much they use it.



In sum, it appears that there is no one-size-fits all approach to when to get children a cell phone and no clear universal time limit that will protect kids from mental health and body image struggles. Our findings re-affirm the reality of differential susceptibility, which is the premise that youth differ in their vulnerability to various risks that come along – including smartphone and social media use. It is likely that both of these matters are highly dependent on individual characteristics, with some children being more equipped to get a phone earlier and use more social media than others. Thus, we call for a move beyond simply counting screen time. Simply telling teens to limit their screen time will do little solve the current mental health problem in the United States. Instead, we must look to other details of their media use – and contextual factors related to media – including those we describe below.

> Evidence increasingly suggests that the ways teens use technology is more significant than simply knowing how much they use it.

What is Risky for Teen Mental Health?

Teens Unhealthy Social Media Habits May Put Them At Risk

Though time of use is not a strong predictor of mental health outcomes, certain habits around social media tend to be related to worse mental health. For example, making online social comparisons was particularly bad for body image. In fact, adolescents were almost twice as likely to have a poor body image if they regularly made social comparisons online.

Interestingly, our results revealed that frequently curating social media feeds is associated with poor mental health. For example, those who routinely curated their feeds were much more likely to be in the highest depression group, with 86% of females and 79% of males who reported “almost always” curating their feeds being in the highest depression category, compared to 35% of females and 22% of males who reported never cleaning their feeds. We included this practice in the study because we thought it might be protective. But our findings may indicate that those who often curate their feeds are more obsessive about who they follow, and/or the act of curating could be negative because it encourages these youth to (re)focus on who they like and don’t like (or who has been mean or not mean to them).

Parents Unhealthy Media Habits May Put Their Children at Risk

In general, parent media use is an even stronger predictor of their child's mental health than the child's own social media use. We found that depression was higher in teens when their parents reported higher levels of personal social media use. Specifically, about 10% of teens are depressed when their parent uses social media at a low level, compared to nearly 40% of teens being depressed at the highest levels of parent social media use – meaning that adolescents are nearly four times as likely to be depressed if their parents are high level social media users.

Additionally, about 50% of adolescents reported that "parental technoference" is an issue in their homes – meaning that parents allow technology to interfere with their interactions with their child. This pattern is strongly related to child outcomes. For example, among adolescents who reported low parental technoference, only 8% (fewer than 1 in 12) struggled with depression. However, among adolescents who reported high parental technoference, 63% - almost 2 in 3 – struggled with depression. Adolescents feel frustrated that their parents appear distracted, especially if they are trying to tell them something important. This may indirectly impact adolescent mental health and behavioral outcomes, especially if children feel like their parents invalidate their experiences by being less than present in the moment.

What May Protect Teen Mental Health?

The Specific Ways That Teens Use Social Media Matter for Their Mental Health

The nature of social media use matters for developmental outcomes. For example, being active while using social media – such as making positive comments to others, instant messaging, posting content, or liking content – is related to a number of developmental outcomes. For example, almost 83% of adolescents who said they used social media in mostly active ways also scored in the highest range in terms of positive body image - compared with only 37% of adolescents who never used social media in active ways.

These results suggest that adolescents might double their likelihood of having a positive body image if they mostly use their smartphones in active ways. However, we also found that less than 1 in 5 adolescents consistently use social media in an active way. Instead, most adolescents use their phones passively (e.g., scrolling without interaction), which was not related to any positive or negative outcomes. Some studies have found a risk associated with predominantly passive browsing; we did not find an overarching negative influence of passive use, but we do see evidence that predominantly active use is a protective pattern.

We also wondered if certain habits around being thoughtful about social media use would be related to positive outcomes for youth. In general, we found that intentionally taking a break from phones or social media was associated with slightly less depression for youth – and most youth (94%) say that they do this at least occasionally. This may signal that taking breaks helps some adolescents use their phones in mindful ways - perhaps stepping back when they feel that they are getting stressed or overloaded.

There were also some very interesting findings for gender identity. Indeed, gender identity is essential to understanding media effects, and transgender and non-binary (TGNB) youth require intentional, focused consideration. For example, transgender or non-binary (TGNB) adolescents seem to especially benefit from using their phone in active ways. Almost 100% of TGNB adolescents who reported never using social media in active ways were high on emotional problems. In comparison, only 17% of TGNB youth who reported almost always using social media in active ways were high on emotional problems – a huge difference! Additionally, TGNB youth appeared to have the opposite patterns for curating their feeds and taking intentional breaks. For TGNB youth, curating followers tended to be highly protective with 94% of TGNB adolescents being in the high depression group who reported never engaging in this behavior, while only 64% of those in group who were very aware of who they were following. Additionally, taking breaks from social media may actually be quite harmful for TGNB adolescents. Among TGNB youth who were high on depression, fully 94% reported taking frequent breaks from their phones. In comparison, only 26% of TGNB youth who never took intentional breaks from their phone were high on depression. Prior research indicates that online spaces allow TGNB youth to feel connected to others who identify similarly; they can find spaces to belong where they can feel connected, accepted, and loved. Thus, it makes sense that they are particularly attuned to creating extremely safe spaces for themselves online where they have more control over their direct environment. Taking breaks (even when intentional) may take away from this sense of belongingness which may increase feelings of depression for these individuals.

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Attending a School with a Strong Digital Wellness Program is Related to Better Mental Health for Teens.

Attending a school with a strong digital wellness program is related to less depression, emotional problems, conduct disorders and better body image for adolescents. However, the majority of adolescents (54%) say that their school isn't doing a good job teaching them media literacy skills. This appeared to be particularly important for developing a good body image. For example, almost 80% of youth who reported that their schools try to teach how to use phones and social media in healthy ways also reported excellent body image, compared with only 45% of youth who reported poor digital literacy programs at their school. In other words, adolescents were almost twice as likely to have good body image if they attended a school they perceived to be doing well at teaching digital well-being in the classroom. Unfortunately, media literacy programs in the United States are extremely inconsistent. A recent report found that only 14 states in the United States have taken significant legislative action to include quality media literacy education for K-12 students, leaving many adolescents unable to access media related education.

Parents Matter – Responsive and Engaged Parenting is the Strongest Predictor of Teen Mental Health

We found that parents talking to adolescents about media and helping them become critical thinkers around adolescents' social media use is generally protective for mental health. However, the strongest results in the entire study were around general parenting. Specifically, warm, responsive, and engaged parenting is strongly protective for teen mental health. For example, only 13% of children who reported the warmest parenting were high on depression, compared to 88% in the least warm group. There was also a striking difference for conduct problems, with only 1% of adolescents in the warmest parenting were high on depression, compared to 88% in the least warm group. There was also a striking difference for conduct problems, with only 1% of adolescents in the warmest parenting group showing these types of behaviors, compared with 94% at the lowest levels. In other words, it appears that we should be less concerned about teaching parents specific skills related to media management and instead focus on teaching general parenting skills and engagement. This will likely have the greatest impact on adolescent mental health.

We also found that when parents have strict rules around media they tend to backfire. We found the highest rates of depression (54%) among those adolescents whose parents had the highest levels of rules and restrictions. In contrast, only about 5% of adolescents had high levels of depression when parental rules were less rigid around media.

It appears that we should be less concerned about teaching parents specific skills related to media management and instead focus on teaching general parenting skills and engagement. This will likely have the greatest impact on adolescent mental health.

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INTRODUCTION

"The Facebook Papers" - a collection of leaked internal research documents - reveal that the company investigated questions about youth well-being and uncovered heightened risks for some adolescents who use the platform (The New York Times, 2021, WSJ, 2021). Internal researchers shared with colleagues their concerns that Instagram exacerbates body image issues for teenage girls. "The Facebook Papers" sparked congressional investigations and efforts to update regulations in ways that more fully protect youth, as well as collective demands for transparency about internal research findings from social media companies.

Thus, concern about adolescents and technology use remains ever relevant. Most adolescents are now growing up with smartphones in hand and with an active presence on social media. Public health data on adolescent mental health underscore the urgency of rising anxiety and depression among adolescents, particularly girls (CDC, 2020; Geiger & Davis, 2019; Twenge et al., 2019). These trends have rightly fueled fears about negative consequences of social media use for teens, even though research continues to point toward more complexity and nuance (Odgers & Jensen, 2020).

Most adolescents are now growing up with smartphones in hand and with an active presence on social media.

This study was designed to further explore the complex interplay teen's social media use and their mental health; as well as the role that parenting practices play in impacting these trends. Specially, this report examines how specific teen use patterns and parenting practices are related to adolescent mental health and other developmental outcomes - and what parents can do as they try to mitigate harm. We conducted a study comprised of two national quota samples to explore these aims. The first sample involved 1,231 adolescents (ages 10-17) from across the United States and focused on links between teen social media use and mental health. The second sample involved 201 adolescents (ages 10-17) and their parents who answered questions about social media, mental health, and parenting practices related to media use.

An important consideration is that these data are cross-sectional, and findings are correlational rather than causal. The developmental outcomes we examine in the current study are multi-faceted and complex. Thus, our data can speak to correlations, which may highlight general trends between media use and developmental outcomes. However, a holistic view of these outcomes is essential. Media use is but one part of a wider picture of teen life and well-being.

METHODS

Overview of Data and Project

> Media use is but one part of a wider picture of teen life and well-being.

This study consisted of two national quota samples in the United States. Data were collected independently by Qualtrics from their existing data panel during 2021. All participants for both studies completed an informed consent form prior to being asked any questions in the survey. Parents gave consent for their minor children to participate. The study was reviewed and approved by the Institutional Review Board of the first author's university. Participants were treated in accordance with the APA's Code of Conduct and Ethical Principles and Guidelines. As part of that informed consent, participants were assured of the confidentiality of their data (including that their parent would not have any access to their responses for the parent dataset). Following completion of the survey, participants were compensated directly by Qualtrics, at the standard rates they utilize for online panels. A detailed description of both samples and study procedures is included as an Appendix at the end of this report.

Teen Sample

The first data set included a sample of adolescents (ages 10-17) from across the United States who agreed to participate in an online survey about their social media use, mental health, and body image. This national quota sample of 1,231 adolescents was obtained using a Qualtrics panel and was collected between May and August 2021. The sample was recruited from across the United States based on quotas for age, race, education level, and geographic region aimed at creating a demographically diverse sample. Approximately 55% of the sample identified as female, 39% as male and 6% as transgender, non-binary, or other. In terms of race/ethnicity, 57% identified as White, 15% as Black, 9% as Asian, .3% as American Indian/Alaska Native, 15% as Hispanic/Latin, .1% as Pacific Islander, and 3.3% as mixed or other race/ethnicity. Average household income was between $60,000 and $75,000 per year (with 25% of the sample below $50,000 per year and 35% of the sample above $100,000 per year).

Parent Sample

The second dataset consisted of a national quota sample of 211 parent- adolescent dyads was obtained using a Qualtrics panel which was collected between May and August 2021. Just over half (55%) of adolescents identified as male, with 44% female, and 1% who identified as TGNB. Parents ranged in age from 28 to 67 years old (46% female, 53% male, 1% non-binary). The sampling strategy aimed to match as close to the demographic profile of the United States (in terms of race/ethnicity and household income). The sample was fairly racially/ethnically diverse, with 56% identifying as White, and 20% Hispanic/Latinx, 12% Black, 5% Asian, and 6% as mixed race or other. Average household income was between $60,000 and $75,000 (with 30% of the sample below $50,000 per year and 25% of the sample above $100,000 per year).

Parents and their adolescents were asked to answer a variety of questions about parenting, media, and mental health. We examined the adolescent/parent relationship over media, parent media use, specific parenting around media, and then parenting in general, as well as how these differences predict adolescent depression, emotional problems, conduct disorder, and body image. There was great variability in racial diversity, parent education, working status, and income level (please contact the first author for details). We also asked both parents and adolescents to describe the very best thing that parents are doing to help their children become healthy media users. We share a collection of these qualitative comments alongside quantitative findings, to give additional insight into potential recommendations.

A note on statistical analyses

We examined gender, family structure, and age differences in each analysis, but did not find evidence of any moderation. These findings should be viewed with caution, particularly a) given the sample size and relatively low number of each particular age and b) prior research that points to differential and developmental sensitivities relevant to media effects (e.g., Orben et al., 2022). Thus, we do not report these analyses in this report. The major analysis consisted of a series of logistical regressions constructed in Stata. examining the major social media variables as predicting our developmental outcomes. The full model can be obtained by contacting the first author. Comparison group differences were analyzed using multivariate analysis of variance.

SECTION 1

Youth and Social Media: Preferences, Patterns, and Protective Practices

In the world of academic research, researchers continue to tackle similar questions about digital youth, including influences of social media on psychosocial well-being and developmental outcomes. Current evidence generally supports differential susceptibility, which is the premise that youth differ in their vulnerability to various risks that come along with smartphone and social media use. Differences include characteristics such as gender and age (with girls more susceptible, especially when they use large amounts of social media at younger ages; Abi-Jaoude et al., 2020; Coyne et al., 2021); dispositional differences (like tendency toward social comparison; Feinstein et al., 2013); and actual experiences on-screen, like the content that is engaged with and the social interactions that youth have (cybervictimization, for example, is a relevant risk for those who experience it; Landstedt & Persson, 2014).

Youth differ in their vulnerability to various risks that come along with smartphone and social media use.

Still, there are heated debates over screen time and big questions about how best to support youth who are growing up in the current landscape. In this context, we designed this study to identify social media practices with significant links to developmental and mental health outcomes. By "developmental outcomes" we are specifically referring to one or more of the following variables measured in our study: depression, emotional problems, conduct behavioral problems, and body image. In this report, we share focused analyses on these outcomes and their connections to:

Age of first cell phone: At what age did adolescents receive their first smartphones? Does the age at which youth got their first cell phone predict their current developmental and mental health outcomes?

Favorite social media app: For those adolescents who use social media, which apps do adolescents endorse as their "favorite" -- and does this preference have any connection to any current developmental and mental health outcomes?

Time: How much time do adolescents perceive spending on social media each day? Are there differences in adolescents' developmental and mental health outcomes based on self-reported social media time?

Habits: What proportion of adolescents report disruptive or addictive-like social media behaviors? How often do adolescents report actively taking breaks from their cell phones?

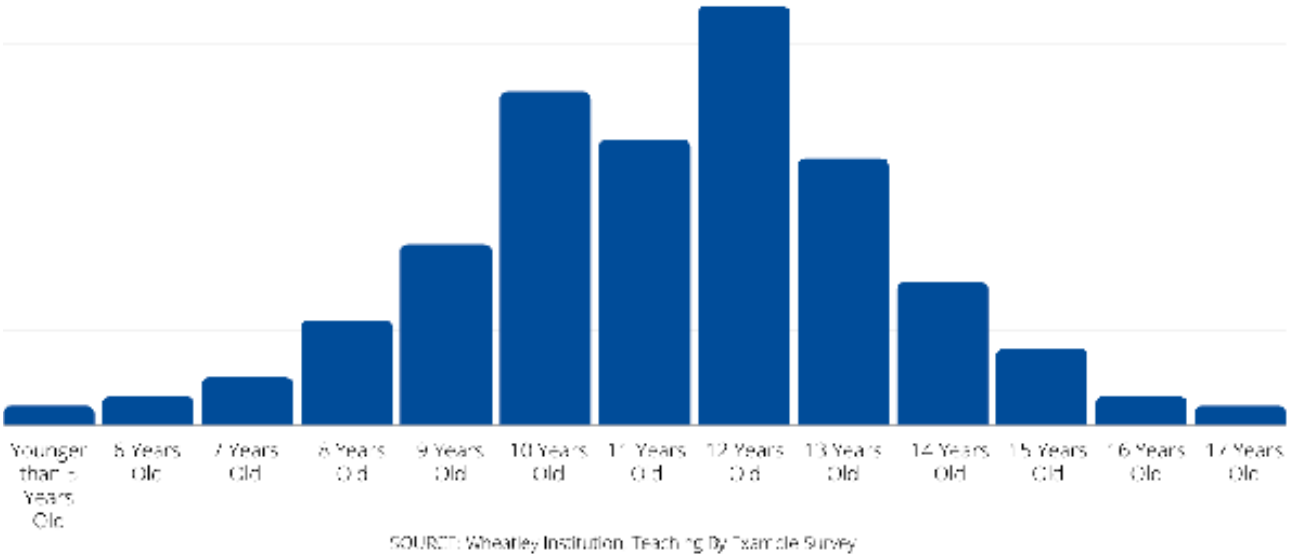
School media literacy: Do school-based interventions to support healthy phone/social media use predict developmental and mental health outcomes for adolescents?

Age of First Smart Phone

In our sample, 92% of adolescents said they currently have a cell phone and the vast majority (99.5% of those with a cellphone) have a smartphone. The age of first smartphone ownership varied somewhat: the most common age to receive a smartphone was between ages 10-12 (see figure 1), though notably, more than 1 in 3 adolescents (~36%) received their first smartphone before turning 11 years old and 73% of adolescents received their first smartphone by the age of 12.

We wondered whether we would find any notable differences in developmental outcomes for those who got their first phone before age 11, between ages 11-13 and at 14 or older. However, age of smartphone ownership was not related to any of the developmental outcomes we examined in the study.

Figure 1 - The Age of First Smartphone Ownership



SOURCE: Wheatley Institution Teaching By Example Survey

This goes against some conventional wisdom that there is an "ideal" age at which to get your child a smartphone, or that a delay is always necessarily always "better." Indeed, as experts on media and children, "when is the right age to give my child a cellphone?" is among the most common questions we get asked. Instead of trying to purport the perfect age, these findings fuel our support for more child-specific and family-specific considerations. Developmentally, some children are ready earlier for the responsibilities of owning a cell phone, while some are likely not ready until later in development. This may well be why we do not find a clear relationship between the age at which adolescents get their first phones and their developmental outcomes: parents may give children phones at younger ages when they view a child as being at a lower risk for mental health or other problems. Families, too, certainly have different circumstances that may necessitate giving youth earlier access to phones or that may lead parents to delay the decision to give adolescents access to a personal cell phone. health.

Additionally, it is possible that parents who provide phones at early ages may be more careful about parent oversight and access restrictions. Indeed, anecdotally, we notice that there is a wide range of practices that parents and children use when their child first receives their first smart phone – from extreme restrictions on online access contacting others to unfettered access to the Internet. Again, the relationship between media use and developmental outcomes is complex and age alone does not appear to be the most important factor when thinking about the impact of media on child mental health.

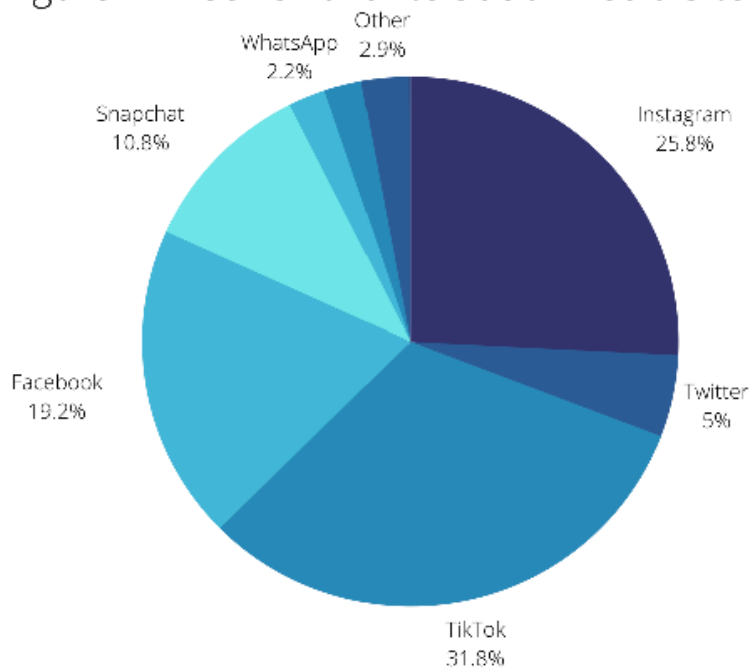
Favorite Social Media Site

We asked adolescents to pick a favorite social media site from among 8 popular platforms or an 'other' option (see Figure 2). Tiktok (31.75%) and Instagram (25.80%) were the most popular favorites, followed by Facebook (19.24%) and Snapchat (10.79%). These results show significant gender and age differences (see Figure 3). Notably, boys preferred Facebook and Instagram at all ages compared to other sites. Girls - particularly those currently in mid- to later adolescence - preferred Tiktok and Instagram. TGNB youth in the current sample preferred Tiktok and "other sites" (i.e., not one of the major apps asked about on the survey).

We found several differences in developmental outcomes that were correlated with (predicted by) adolescents' favorite platforms. To be clear: these data do not establish any causal links. That is, it would be a mistake to interpret the findings as evidence that one platform is causing a particular issue and another platform is not. This is especially so because it is feasible that youth who are already struggling in a specific way are more likely to gravitate toward a platform. We do not know. Still, we report several significant links we found in our data because we recognize they may be helpful as the public continues to examine various risks and how they may be amplified and/or relevant to young social media users on different platforms.

For example, adolescents had the best body image when they preferred Facebook to any other site. Figure 4 shows the percentage of adolescents who had high body image compared to their preferred social media site. Notably, 87% of those who prefer Facebook had high body image, compared to only 53% who preferred Tiktok. Preferring Facebook was also associated with fewer mental health problems, with only 48% of adolescents being high on depression (compared with 70% who preferred Twitter). Additionally, only 39% of adolescents reported emotional problems when preferring Facebook, compared to more than 50% for every other site. There were no differences in preferred site for conduct problems.

Figure 2 - Teen's Favorite Social Media Site



SOURCE: Wheatley Institution, Teaching By Example Survey

Figure 3 - Teens Favorite Social Media Site By Gender Identity

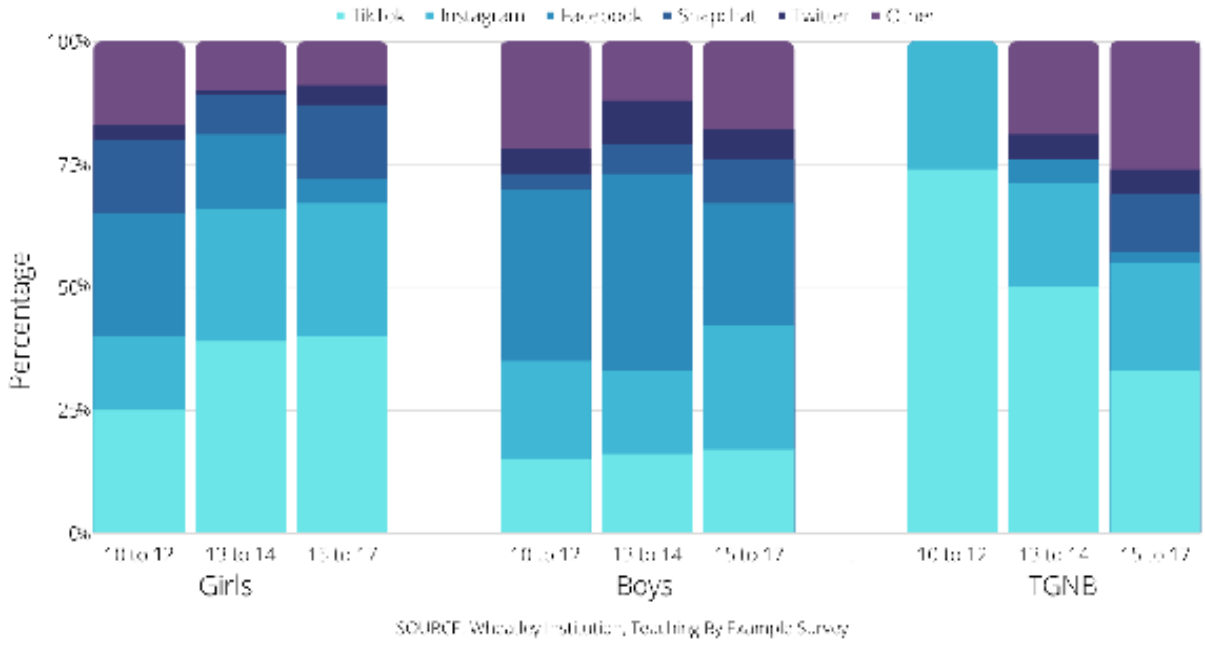
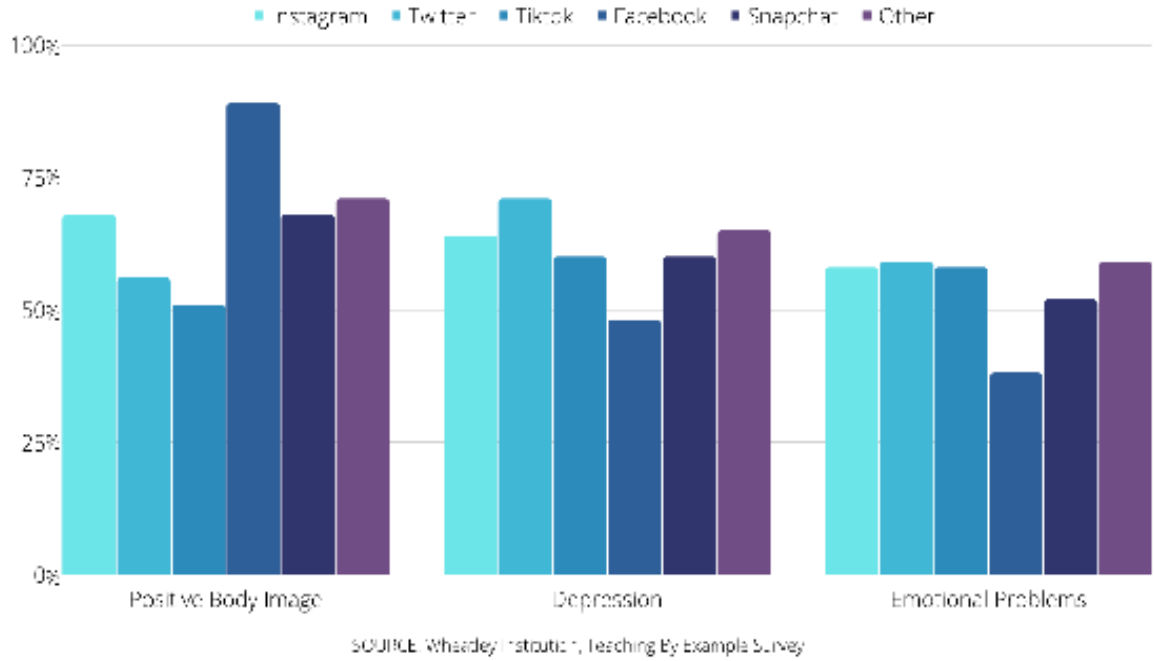


Figure 4 - Preferred social media site and adolescent outcomes



Overall, it may be important to examine the different sites that youth are using as part of continued efforts to understand and study the intersections of social media use with developmental outcomes and mental health. Again, these analyses do not reveal causal relationships. It is likely that many adolescents use multiple social media sites in a given day. Additionally, some adolescents may use a specific social media site to fulfill a certain need - for example, turning to a site they feel provides more connection when they feel depressed or desire connection. Thus, effects are likely bi-directional in nature and should be viewed with this consideration in mind.

Time Spent on Social Media

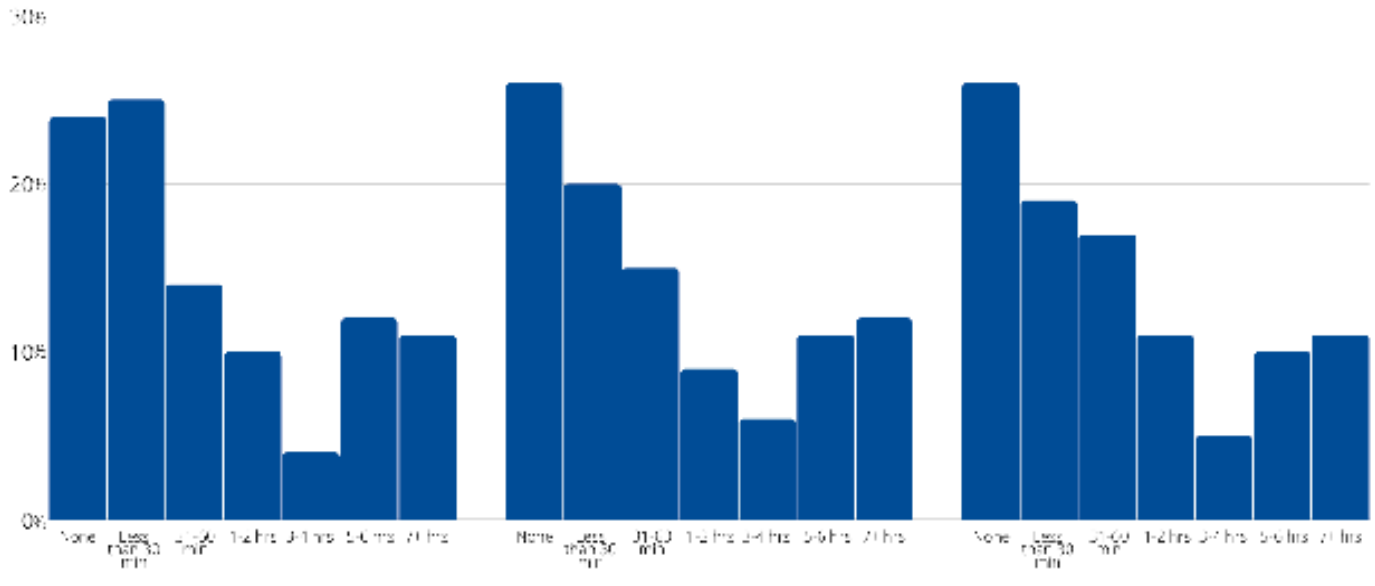
Approximately 6% of adolescents reported they have never used social media. Younger adolescents and boys were most likely to be in this group of 'never-users.' Though 94% of adolescents said they use social media, there is great variation in the amount of time adolescents report spending on social media each day (See Figure 5).

Just over 25% of the sample reported not using social media at all in a typical day, suggesting that social media use is not quite as ubiquitous in adolescence as is found in earlier studies, and possibly signaling a change in what appeared to be a trend toward universal adoption (Anderson & Jiang, 2018). Adolescents in this group have used social media at some point, but everyday use is not their norm. Being in this group of 'occasional users' was not predicted by gender identity, age, or race.

Approximately 75% of adolescents who have ever used social media reported that they do so daily with the average time spent on a typical day around 30 minutes to 1 hour. Around 1 in 5 adolescents said they spend less than 30 minutes on social media on a typical day, while around 1 in 10 adolescents said they spend 7 or more hours on social media each day.

Interestingly, time spent on social media was not related to child age – meaning younger adolescents did not necessarily spend less time on social media than older adolescents (See Figure 5). Additionally, there was no difference in time on social media by gender identity (though there were differences when we examined gender differences by preferred social media site as detailed later in the report).

Figure 5 - Teen's Estimates of Their Daily Social Media Usage



SOURCE: Wheatley Institution, Teaching By Example Survey

Time spent on social media was not related to any developmental outcome in this study. In other words, none of the outcomes we assessed - depression, emotional problems, conduct behaviors, and body image - differed purely as a function of social media time, even if adolescents were using seven hours or more of social media a day compared to zero.

There is a common narrative that mental health would "get better" if adolescents would simply spend less time on their phones and social media. However, the current data suggests this is not necessarily the case, which aligns with quite a bit of prior research (e.g., Appel et al., 2020; Coyne et al., 2020; Huang, 2018; Meier & Reinecke, 2020). For example, Orben, and Przybylski, (2019) analyzed data involving more than 1,000 adolescents and found that screen time accounts for only 0.4% of the variance associated with depression and anxiety. This was about the same effect size as eating potatoes had on mental health (an association the news media rightly rarely highlights). In other words, 99.6% of the variance in mental health was explained by other factors (such as getting a good breakfast or the amount of time sleeping).

This does not mean that social media is irrelevant to adolescent mental health, but rather supports the notion that screen time may not be the critical variable. Instead, the context and content of use may matter much more than sheer time spent online. For example, we could hypothetically have two adolescents who have very different experiences on social media. The first adolescent only spends one hour on social media but might have extremely negative experiences, perhaps being cyberbullied and leaves feeling excluded and hopeless about life (even though they only spent one hour on social media). The second adolescent could spend four hours on social media but could have totally different experiences – perhaps spending the time making meaningful connections with friends and family and leaves feeling supported and loved. Thus, we examined different context of social media use in the following section to answer the question, "if time spent on social media does not matter as much as we expected – what does?"

This does not mean that social media is irrelevant to adolescent mental health, but rather supports the notion that screen time may not be the critical variable. Instead, the context and content of use may matter much more than sheer time spent online.

Active and Passive Social Media Use

Our data suggest that the amount of time an adolescent spends on social media is less important than what an adolescent does while they are using social media - with a relevant distinction between active and passive use. Active social media use includes actively posting, liking, and commenting on other people's posts. Passive social media use may involve reading comments, watching videos or viewing pictures, or mindlessly scrolling.

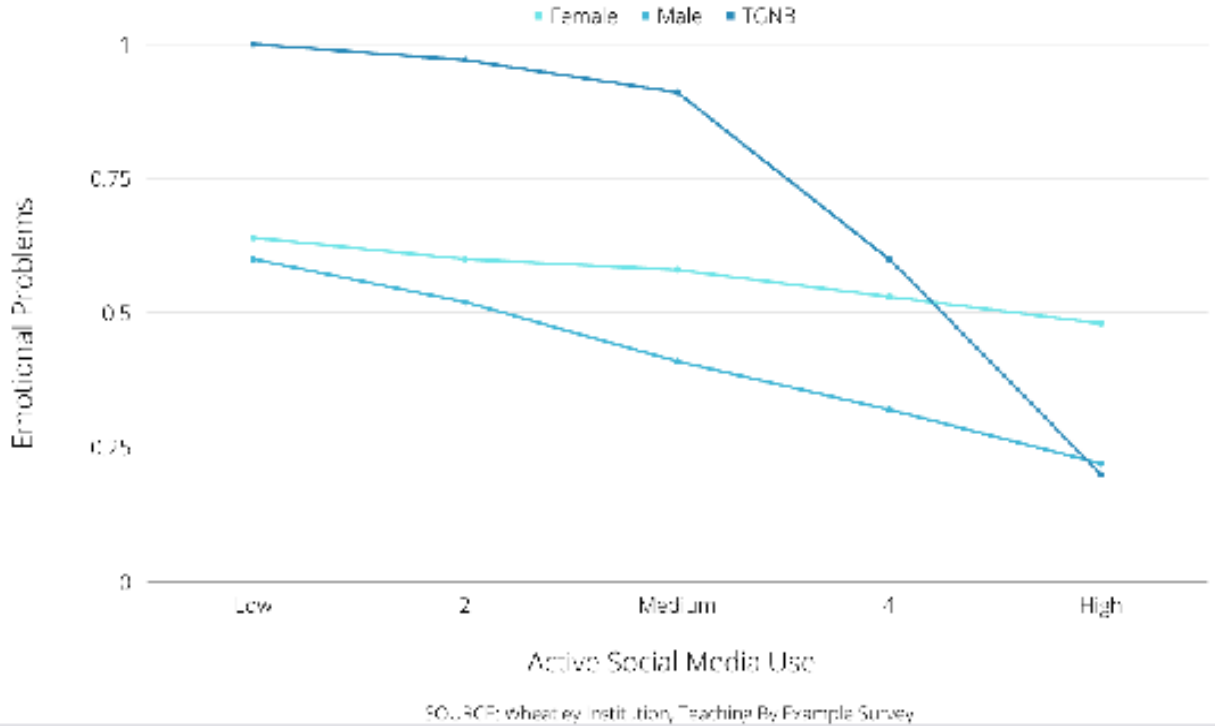
In general, adolescents in our sample said they are much more likely to use social media in passive ways as compared to active ways. Only 3% of adolescents said they never use social media in passive ways, while 31% reported exclusively using social media in this manner. Conversely, around 18% of the sample reported typically using social media in active ways. Boys were more likely to use social media in active ways compared to girls or TGNB adolescents. Importantly, the vast majority of adolescents use social media in both active and passive ways at least some of the time.

Generally, passive use was not predictive of any of our outcomes, but, generally active use tended to be protective for several outcomes. Specifically, more active use patterns were related to better body image for the majority of adolescents in our sample: almost 83% of adolescents who said they use social media in mostly active ways also score in the highest range in terms of positive body image--compared with only 37% of adolescents who never used social media in active ways.

Additionally, the protective role of generally active use patterns appears especially relevant for TGNB youth. Almost 100% of TGNB adolescents who reported never using social media in active ways were high on emotional problems. In comparison, only 17% of TGNB youth who reported almost always using social media in active ways were high on emotional problems (See Figure 6).

Our findings align with some previous research showing that the active versus passive distinction might be important to our understanding of adolescent mental health (e.g., Rideout, 2016; Thorisdottir et al., 2019. And yet, recent investigations find that person-specific differences are key. Previous studies suggest that effects of passive use on adolescents' emotions depend on individual differences in how they react to the content they see during their browsing (e.g., feeling envy, feeling enjoyment; Valkenburg et al., 2021), which may be why we do not find main effects of generally passive use. Adolescents may benefit from being able to differentiate active from passive activities as they take stock of their own screen time, and identify the value of active uses that support positive social connections and well-being.

Figure 6 - Teen's Active Social Media Use and Emotional Problem Level



SOURCE: Wheatley Institution, Teaching By Example Survey

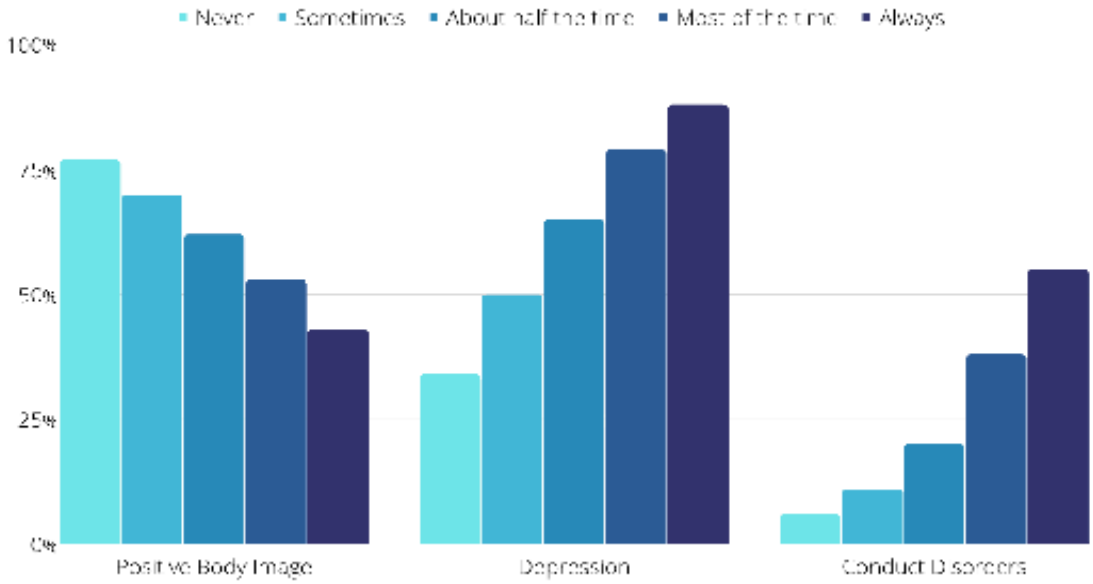
Social Comparisons

For adolescents in our sample, engaging in social comparisons while on social media was associated with worse developmental outcomes. This confirms quite a bit of research showing that online social comparisons tend to be problematic for adolescents and an important risk factor related to mental health (e.g., Jiang & Ngien, 2020). Comparison can take different forms, but in the context of this study, we are specifically referring to comparison as an act of viewing the posts made by others and comparing others' lives to what is occurring in their own life.

We found that higher levels of social comparisons on social media were associated with higher depression, emotional problems, and conduct disorders, as well as worse body image.

We found that higher levels of social comparisons on social media were associated with higher depression, emotional problems, and conduct disorders, as well as worse body image (See Figure 7). For example, 86% of adolescents who said that they always compare themselves to others online showed high depression, compared to only 35% of adolescents who said that they never engage in online social comparisons. Additionally, 77% of adolescents had high body image who said they never or rarely engaged in social comparisons, compared with only 44% who said they always compared themselves with others. Our data also suggest a link between online social comparison and significant conduct disorders: 6% of adolescents had significant conduct behavioral problems reported never comparing online, compared to 56% who had high social comparisons. Though much of the existing literature has focused on social comparisons and girls - generally in the context of body image - we found that males tended to report higher levels of social comparisons than female or TGNB youth. This, coupled with the link to conduct disorders, may signal another relevant area for future research.

Figure 7 Teen's Social Comparisons on Social Media and Developmental Outcomes

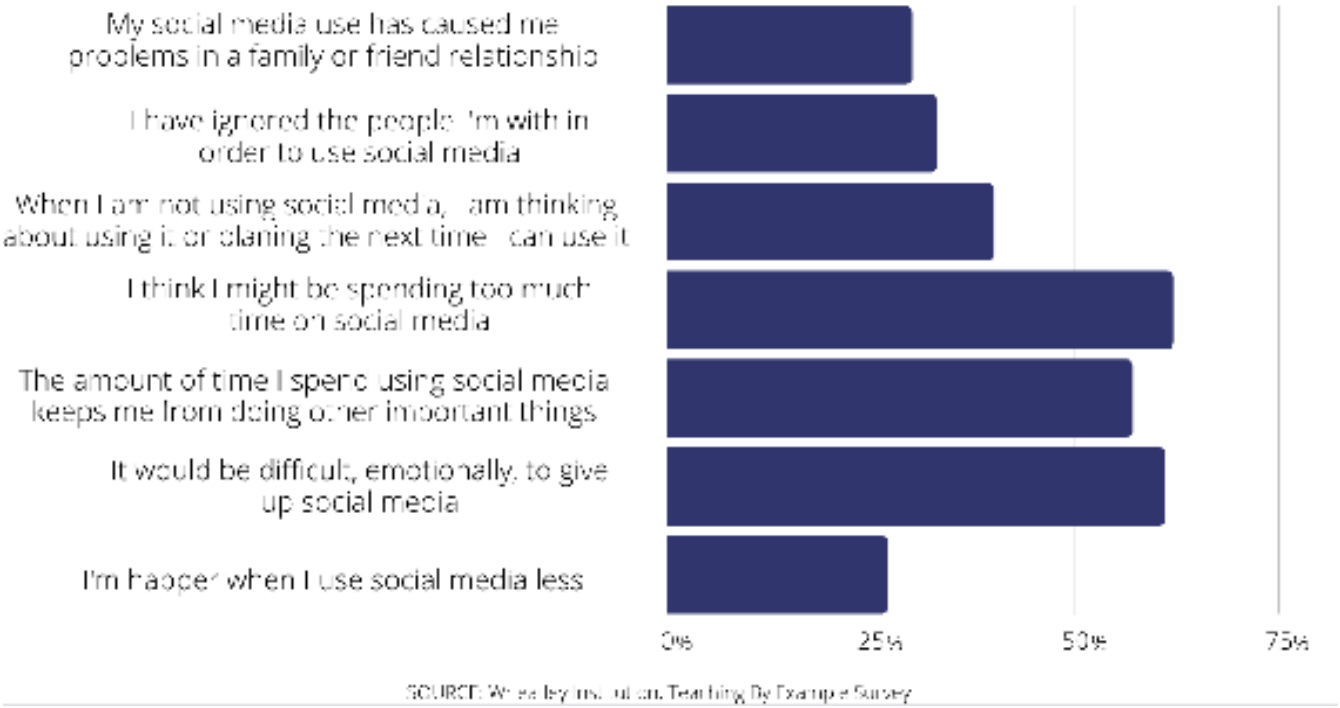


Disruptive or "addiction-like" social media behaviors

More than 60% of adolescents said they think they might be spending too much time on social media.

There is widespread concern about problematic screen habits and social media dependence, though scholars continue to debate whether addiction is the appropriate term to use for such issues. We were interested in adolescents' own reports of symptoms that reflect disruptive or addiction-like behaviors on social media. We also examined how disruptive habits might relate to developmental outcomes for adolescents who use social media regularly. We asked about 7 relevant behaviors (adapted from a scale assessing problematic mobile phone use; Coyne et al., 2018; Merlo et al., 2013). Figure 8 shows each item and the percentage of youth who either agreed or strongly agreed with each statement.

Figure 8 - Disruptive Social Media Behaviors and Addiction-Like Symptoms



SOURCE: Wellesley Institute, Teaching By Example Survey

47% of adolescents did not endorse any of these statements. On the other hand, a majority of adolescents (53%) agreed with at least one of the statements, suggesting that about half of adolescents self-identify an unwanted and/or problematic aspect of their social media use. Approximately 16% of adolescents in our sample endorsed five or more of the statements – though not a clinical cutoff, this might suggest a significant issue with media.

More than 60% of adolescents said they think they might be spending too much time on social media, and nearly 1 in 3 reported that their social media use has caused problems in a relationship with a friend or family member. Forty percent said that when they do not use social media, they are still thinking about using social media, or planning the next time when they could use it.

Girls tended to have higher social media addiction-like symptoms as compared to boys or TGNB youth. On average, girls endorsed 2.4 of the 7 statements, while boys and TGNB each reported an average of 1.5 (equating to about 38% more symptoms for girls overall). Girls may be using social media in ways that have more pervasive disruptions, or they may be more aware of the disruptions and addictive-like symptoms they experience.

Perhaps unsurprisingly, we found that adolescents who reported a greater number of the disruptive/addiction-like behaviors had higher levels of depression, emotional and conduct problems than their peers. Some of the findings are striking. For example, an adolescent is 45% more likely to have emotional problems, 30% more likely to be high on depression, and 51% more likely to show conduct problems when they have the highest levels of disruptive or addictive-like social media behaviors compared to the lowest levels. Boys in particular were likely to show conduct problems when they had the highest levels of disruptive social media use. This confirms a host of research showing that the development of a pathological relationship with social media is consistently related to negative outcomes for users (Coyne et al., 2018; el Asam et al., 2019; Marino et al., 2020).

Our findings about screen time suggest that it isn't necessarily the actual time (i.e., number of minutes) adolescents are using their phones that is the problem.

Our findings about screen time (described above) suggest that it isn't necessarily the actual time (i.e., number of minutes) adolescents are using their phones that is the problem. Yet a number of adolescents appear to use social media in ways that they see as negatively impacting their functioning and/or relationships. These insights about disruptive social media uses thus suggest another potentially important layer to understanding adolescents' technology experiences.

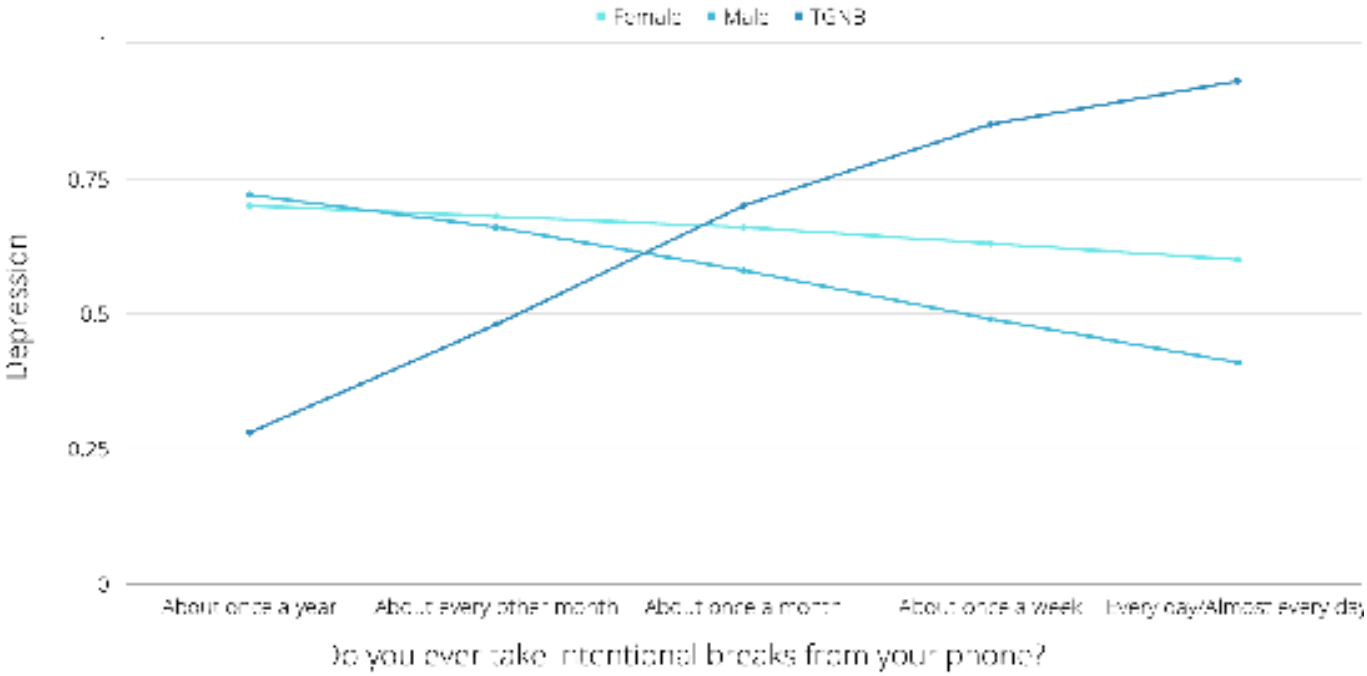
Technology Breaks

Do adolescents ever take intentional breaks from their phones and, if so, how often? We asked adolescents how often they take an intentional break from their phone, such as by putting their phone on airplane mode, leaving it out of reach, or leaving it in another room.

While no adolescents in our sample reported that they never take intentional breaks from their cell phone, adolescents certainly varied in the frequency with which they said they take breaks. Almost half of youth surveyed (45%) said that they take a phone-break daily, while almost 30% take a break once a month or less.

For the most part, taking intentional breaks was not associated with adolescent developmental outcomes. However, there were some interesting findings when we examined differences by gender identity, and specifically for TGNB youth. For adolescents who are not TGNB, taking intentional breaks did not appear to substantially impact depression – if anything, taking tech breaks slightly reduced the risk of depression. This may signal that taking breaks helps some adolescents use their phones in mindful ways - perhaps stepping back when they feel that they are getting stressed or overloaded.

Figure 9 - Intentional Breaks From Social Media and Teen Depression Levels



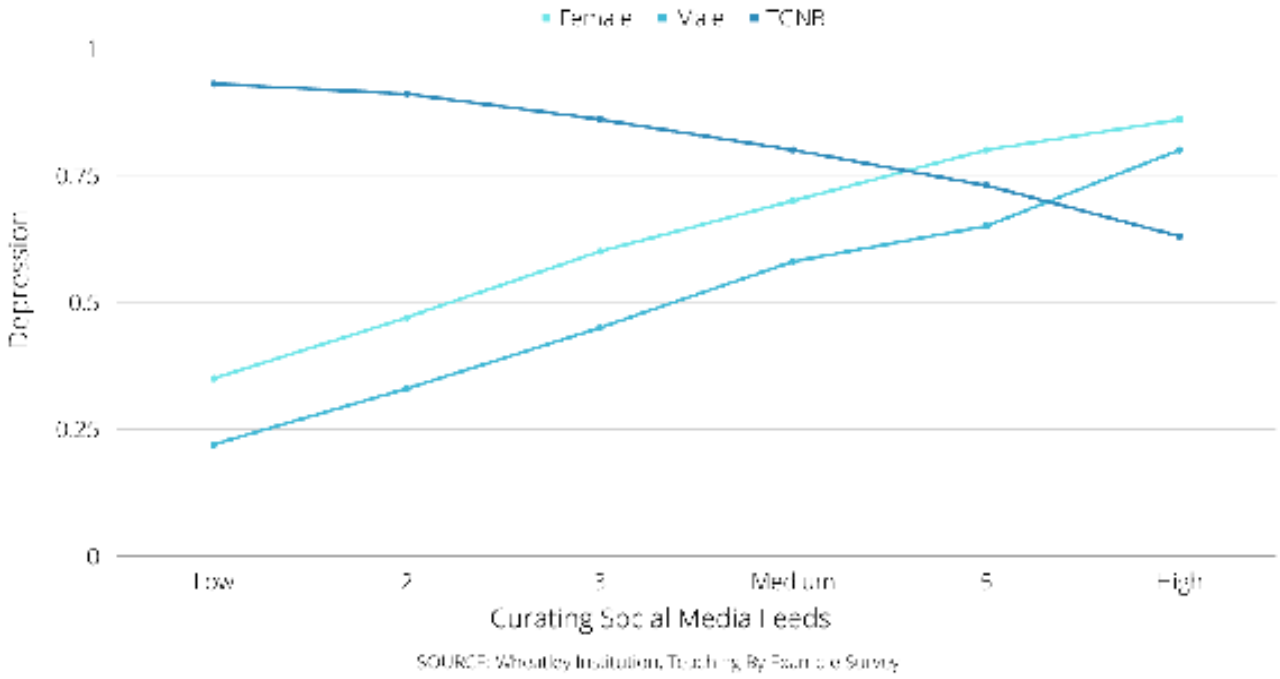
However, for those who are TGNB, there was a large and significant risk associated with taking tech breaks, which predicted increases in depression and emotional problems for TGNB youth (see figure 9). For example, among TGNB youth who were high on depression, fully 94% reported taking frequent breaks from their phones. In comparison, only 26% of TGNB youth who never took intentional breaks from their phone were high on depression. This goes against some conventional wisdom that taking breaks is healthy and helpful; for TGNB youth, the opposite appears true. Why might this be? Prior research indicates that online spaces allow TGNB youth to feel connected to others who identify similarly; they can find spaces to belong where they can feel connected, accepted, and loved (Jia et al., 2020; McInroy et al., 2019). Thus, taking breaks (even when intentional) may take away from this sense of belongingness which may increase feelings of depression for these individuals. More generally, this findings pattern underscores the critical importance of exploring differences in social media experiences, including risk and protective factors, as they relate to gender identity and may differ for TGNB youth.

Prior research indicates that online spaces allow TGNB youth to feel connected to others who identify similarly; they can find spaces to belong where they can feel connected, accepted, and loved.

Cleaning/Curating Social Media Followers

We asked adolescents how often they purposefully cleaned or curated who they follow on social media. There was quite a range of responses with about 14% of never doing any cleaning or curating and around 5% cleaning or curating their followers all the time. Interestingly, our data suggest a somewhat complicated story related to the value (or riskiness) of this practice. Again, we found a strong gender identity effect (see figure 10). In short, cleaning/curating feeds was generally associated with negative developmental outcomes – except for TGNB youth, who again had the direct opposite pattern. For TGNB youth, curating followers tended to be highly protective with 94% of TBNG adolescents being in the high depression group who reported never engaging in this behavior, while only 64% of those in group who were very aware of who they were following. TGNB youth are much more likely to be victimized than other adolescents, both on and offline. Thus, it makes sense that they are particularly attuned to creating extremely safe spaces for themselves online where they have more control over their direct environment. This appears to be an effective social media practice as it was related to lower levels of depression.

Figure 10 - Curating Social Media Feeds and Teen Depression Levels



SOURCE: Wheatley Institution, Teaching By Faith Survey

For youth who are not TGNB, cleaning/curating feeds tended to be associated with negative outcomes. For example, those who routinely curated their feeds were much more likely to be in the highest depression group: 86% of females and 79% of males who reported almost always curating their feeds were in the highest depression category, compared to 35% of females and 22% of males who reported never cleaning their feeds. This may seem counter-intuitive because one might expect that unfollowing unwanted accounts would be protective. Our data do not confirm that it is not: perhaps what we have captured is that those who are struggling most in general are also struggling more for control over social media, which is reflected in active curation attempts and aligns with the direction of our findings about taking tech breaks. Or, perhaps those who simply care less about social media are less impacted by it. Those who often curate their feeds might be more obsessive about who they follow, and the act of curating may be negative for these youth because it encourages them to focus on who they like and don't like (or who has been mean or not mean to them). But again, TGNB youth had the directly opposite experience.

Digital Well-being at School

We asked adolescents about their schools trying to help them learn how to use technology (phones, social media) in healthy ways. Approximately 46% of our sample either agreed or strongly agreed that their school had done a good job with social media literacy. This is compared with 32% of adolescents who disagreed or strongly disagreed and 21% who were neutral.

Digital wellness programming at school appears to be a highly relevant protective factor: significantly and beneficially associated with every developmental outcome assessed in the current study. Adolescents who reported that their school has helped them learn how to use their phones or social media in healthy ways had lower levels of depression, emotional problems, and better body image than adolescents who reported their schools are not teaching them these skills. Less than 50% of adolescents showed high levels of depression who strongly agreed that their school was doing a good job with social media literacy, their school was doing a good job with social media literacy. This was compared with 72% of adolescents who had high depression and reported their school was doing a poor job at social media literacy. The body image findings were particularly striking: almost 80% of youth who reported outstanding digital well-being programs at school reported excellent body image, compared with only 45% of youth who reported poor digital literacy programs at their school.

It is possible that there is a third-variable effect at play (for example, that students who report their schools have done a good job teaching social media literacy simply feel more connected to their schools and teachers overall.) And yet: educating individuals on media use and its impacts is a documented, an effective way to prevent negative mental health outcomes because it gives users the tools needed to interpret media effectively, avoid media that is harmful to their mental health, and avoid or learn to understand and manage social comparison which is associated with depression and a poor body image (Cortesi et al., 2020; Keles et al., 2020). Our data support a positive link between school social media literacy and positive developmental outcomes.

Currently, media literacy programs in the United States are extremely inconsistent. A recent report found that only 14 states in the United States had taken significant legislative action to include quality media literacy education for K-12 students, with Ohio and Florida having the most supportive policies (Media Literacy Now, 2020). Whether and how policies translate to curricula - and what those curricula cover and how effectively - is a crucial question. Some schools invest in high quality programs where students are taught critical thinking skills around media over the course of several years. Others have programs that are lower quality and might only be taught sporadically, if at all. In addition to increased attention to digital access divides, digital literacy divides represent an important equity issue (e.g., Watkins et al., 2018).

We advocate for high quality programming about healthy technology use for every student, every student across America. This might require major investments (financially or time) by governments or schools but represents an actionable step with demonstrable links to developmental and mental health outcomes.

A Note on Gender Identity Differences

There were significant gender identity differences for all outcomes measured in the study. TGNB youth had the highest levels of depression, emotional problems, conduct problems, and the worst body image compared to other youth. This confirms research showing that TGNB youth are at a much higher risk for developing negative outcomes than other adolescents (Delozier et al., 2020; Price-Feeney et al., 2020) However, these differences did not appear to be a reflection of their social media practices (i.e. that they simply spent more time on social media). This finding reflects previous research that time on social media may actually be protective for some TGNB youth (Allen et al., 2021). Social media might also provide TGNB youth a place to belong or escape bullying in their offline worlds. Indeed, TGNB are likely careful about who they interact with online as they attempt to create safe spaces for themselves.

SECTION 2

Parenting Practices and Adolescent Mental Health

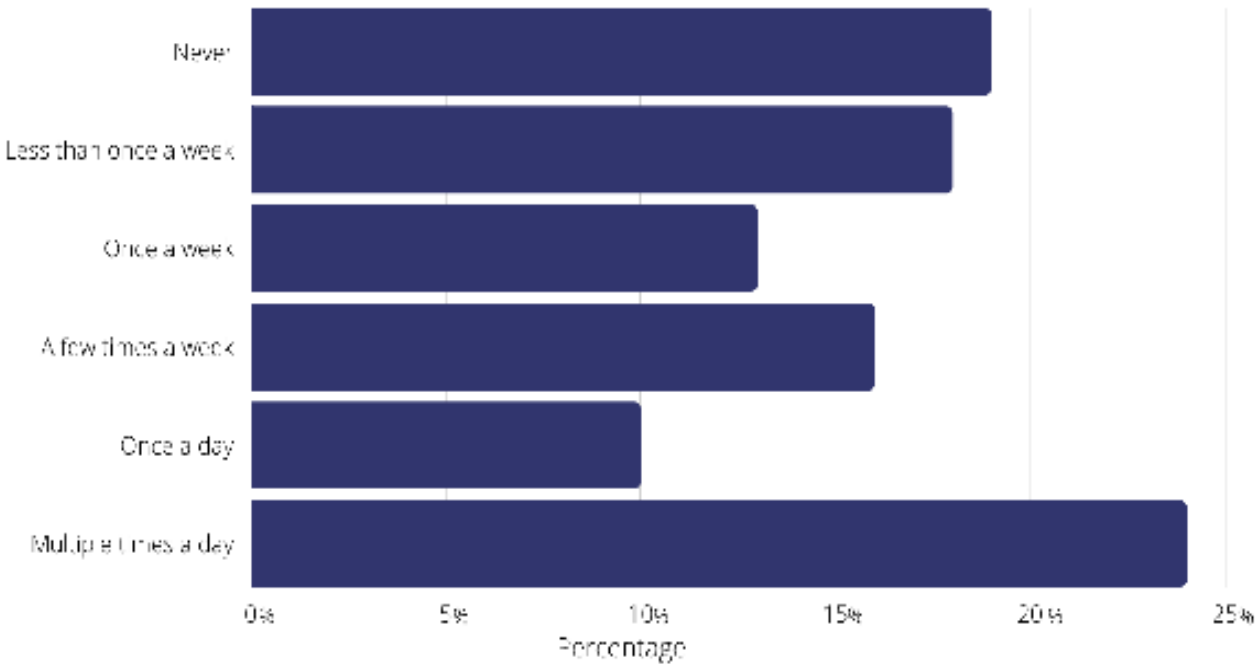
Most parents would agree that being on social media is an important part of being an adolescent today. However, parents are also extremely concerned about technology. Today's parents are faced with new decision points about when and how to allow (or prohibit) access to different apps and devices. They carry fears about potential negative impacts on their children' lives, development, and futures. In our experience, parents want to support their adolescent children, but don't always feel confident about digital decisions. They also want clear guidance - ideally, a "magic formula" - that will prevent their adolescents from developing negative outcomes as a result of being on social media. Frustratingly, most research on adolescents and technology use doesn't support simple, one-size-fits-all rules or formulas.

Research has found that parental behaviors and the parent-child relationship around media tend to predict positive outcomes (Kerr et al., 2004). However, this research often examines media in general, and rarely encompasses both parent and child opinions on what's happening in the home.

Parent/Adolescent Relationship with Media

Is fighting with adolescents over phones simply a given for modern families? Our data don't suggest this is the case. Instead, there is meaningful variability (see figure 11). More than 1 in 3 parents say they argue with their adolescent about their adolescent's mobile devices at least once a day, and 24% do so multiple times per day. At the same time, 40% of parents say they "never" argue with their adolescents or do so "less than once a week."

Figure 11 - Parents' Estimates of How Often They Argue With Their Child Over Their Cell Phone



SOURCE: Wheatley Institution, Teaching By Example Survey

We also directly asked parents if their child's cell phone use had hurt or helped their relationship with their child. Again, there was meaningful variability. Just over 35% of parents said their child's media use had helped their relationship, while 17% of parents said it had hurt their relationship with their adolescent. Just under half (47%) of parents said that their child's mobile device use made no difference in the relationship at all.

One might expect that frequent fighting over phones is closely linked to cell phones harming parent-child relationships – but this isn't quite what our data reveal. Perhaps unsurprisingly, the vast majority of parents who reported never or rarely arguing with their child over cell phones also said that their child's cell phone had made no difference in the relationship between them (79%). But our data suggest that even routine fighting over phones doesn't inevitably harm parent-child relationships. While 20% of parents who reported arguing frequently with their child over their child's mobile device use said that their child's mobile device use had hurt their relationship, a far greater number - 67% - actually said that their child's mobile device use had helped their relationship.

Why might this be the case? We found that these adolescents simply use all types of media more – likely in ways that strengthen the parent-child relationship, and also that lead to more regular conflict.

suggest that adolescents having mobile devices, such as cell phones, inevitably undermines parent-child relationships, nor that their mobile devices inevitably lead to fighting. Further, even when mobile devices do lead to frequent parent-child conflict, there appear to be ways that this conflict can be managed such that it doesn't undercut relationship quality.

Notably, neither of these variables – parent-child conflict over phones and whether adolescents' mobile device use hurt or helped the parent-child relationship- appeared to impact on the adolescent outcomes measured in this study. In other words, adolescents did not have worse mental health or body image when parents reported they argued regularly with their children over their mobile devices or reported that their adolescent's mobile device use had hurt their relationship. This corroborates a relatively large body of evidence that indicates media effects are complex and nuanced (Kross et al., 2021; Odgers & Jensen, 2020), perhaps because individual adolescents have unique characteristics and experiences (Beyens et al., 2020; Valkenburg & Peter, 2013).

Parent Media Use

We examined two types of parental media practices: parents' own time on social media (reported by parents themselves) and their technoference (as reported by their adolescent children). There was a wide range of time that parents spent on social media each day (see Figure 12), with 1-2 hours being the most common answer. Only 2% of parents of teens spent no time on social media, while 15% spent over 7 hours each day. In comparison, 10% of adolescents in this sample spent no time on social media in a given day, while 11% spent over 7 hours each day. Parents spent statistically more time using social media each day than their adolescents did.

Parent time on social media is strongly related to adolescent time on social media.... It may be that parents create a culture around normative social media use in their homes that adolescents pick up on and then emulate.

Parent time on social media is strongly related to adolescent time on social media. Indeed, 80% of adolescents who spend more than 8 hours a day on social media also have parents who spend at least 7 hours a day on social media. It may be that parents create a culture around normative social media use in their homes that adolescents pick up on and then emulate.

We also examined how parental time spent on social media was related to adolescent mental health outcomes and body image. We found that depression was higher in adolescents when their parents reported higher levels of personal social media use. Specifically, 7-10% of kids are depressed at lower levels of parent social media use (less than 30 min a day), while 34-41% of kids are depressed at the highest levels of parent social media use (higher than 7 hours). This is also likely a reflection of high adolescent social media use (given that parent and adolescent use tend to be related).

Figure 13 shows what percentage of adolescents are in the higher depression group by parent social media use. It is essential to note that these are correlational data and do not indicate causality (i.e., it would be a mistake to interpret the data as confirmation that high parental investment in social media is causing adolescent depression). What does it mean that these variables are statistically linked? Our findings on technoference (see next section) point to ways that a parent's technology use can disrupt meaningful parent-child connection, which may be relevant here.

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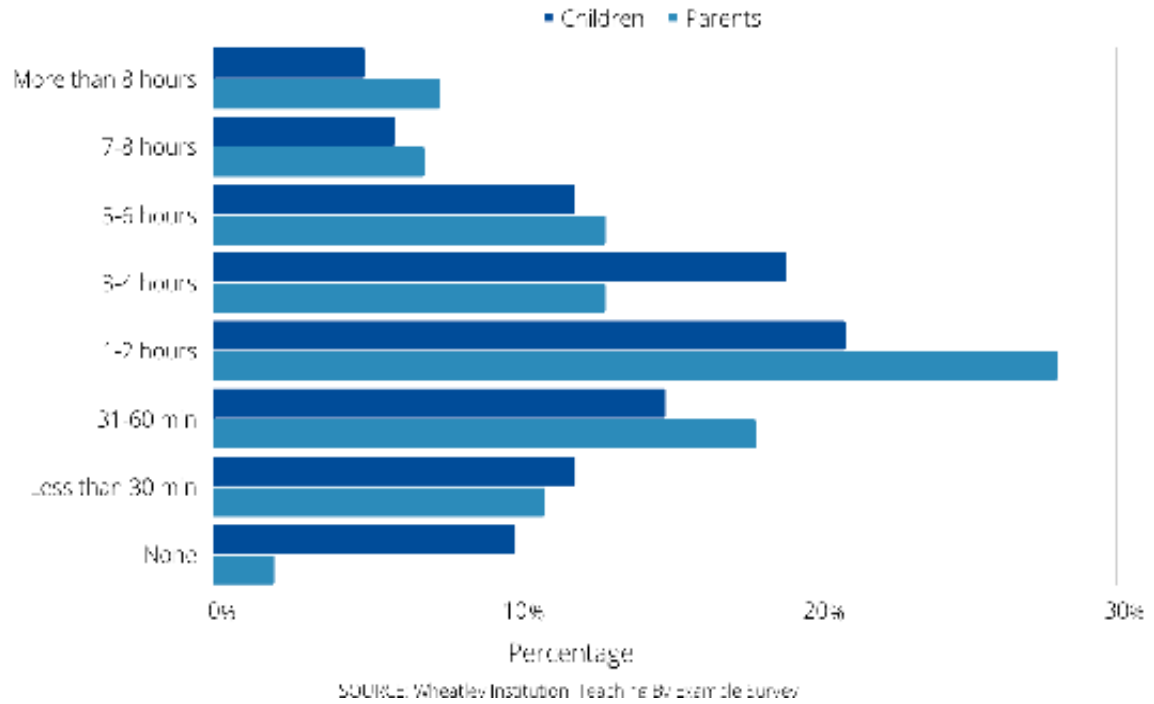
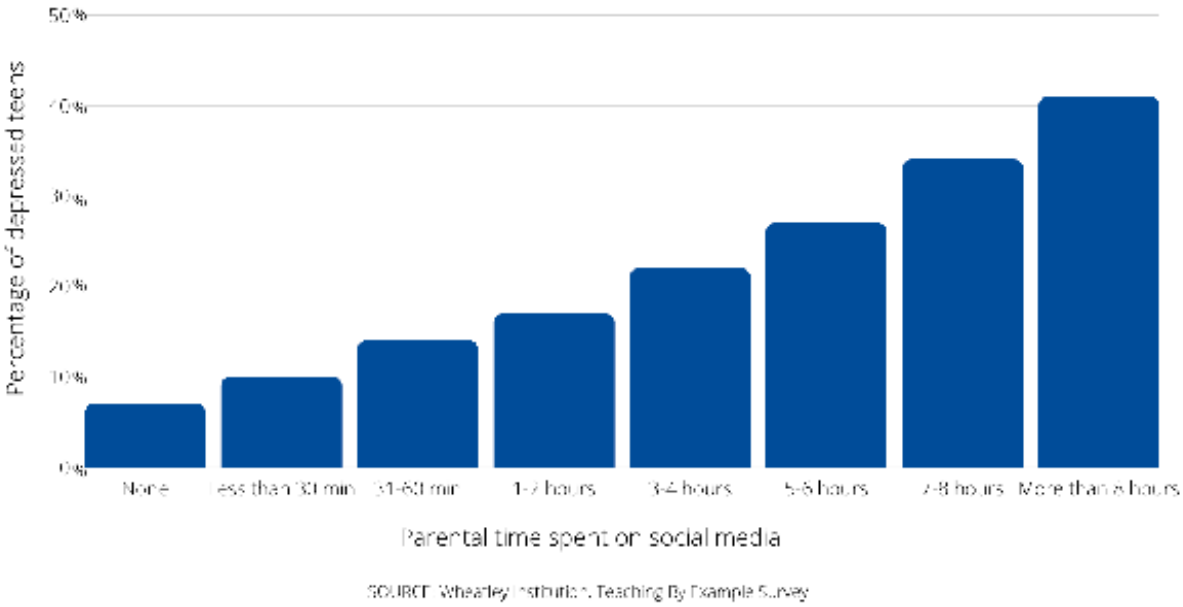
Figure 12 - Time Spent on Social Media Each Day by Parents and Children



SOURCE: Wheatley Institution Teaching By Example Survey

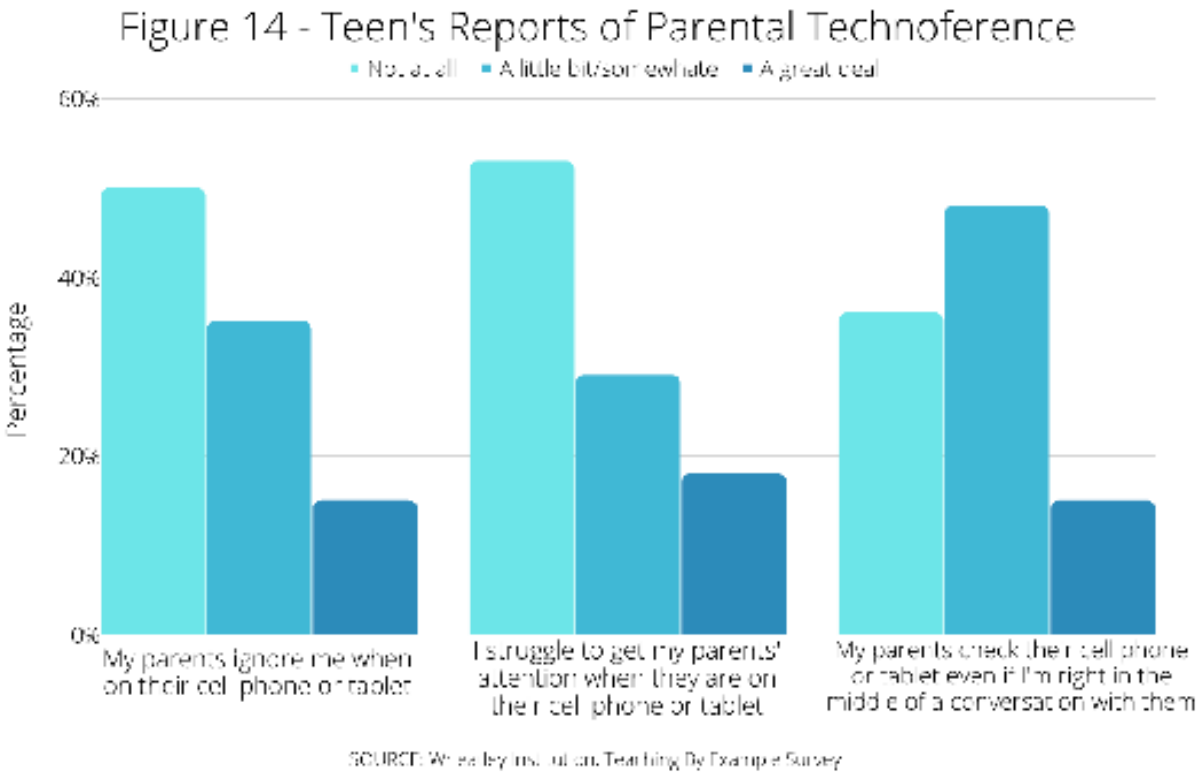
Figure 13 - Parent's Daily Social Media Use and Teen Depression Levels



SOURCE: Wheatley Institution, Teaching By Example Survey

It is likely that parents set the tone on media expectations and how much media is used in the home. It is possible, too, that parents are spending a lot of time on social media in response to their adolescent's struggles with mental health, perhaps seeking reprieve from family stress, connection with other parents, and/or access to resources. These possibilities are not mutually exclusive. Thus, we hope future research examines both the content and context of parental social media use as linked to adolescent mental health before making too many conclusions.

We also directly examined parental technoference: parental media use that interferes with the conversations, interactions, and relationship between the parent and their adolescent. As an example of technoference, an adolescent could be trying to get their parent's attention to talk to them about a school assignment or personal issue, and the parent appears distracted with their phone, perhaps texting or scrolling on social media. We asked adolescents how often this type of behavior occurred when with their parents. Figure 14 shows the percentage of adolescents reporting different types of parental technoference. Notably, we also asked parents how often they engaged in this type of behavior with their adolescent and their answers were surprisingly similar.



SOURCE: Wireless Innovation, Teaching By Example Survey

> An adolescent could be trying to get their parent's attention to talk to them about a school assignment or personal issue, and the parent appears distracted with their phone, perhaps texting or scrolling on social media.

About half of teens said there is no parental technoference happening in their homes. This suggests that a meaningful percentage of parents avoid disruptive tech distraction, prioritize being present when they are with their children, and have developed ways to appropriately use their phones when they are around their children-- at least from the perspectives of their children.

However, around 15% of teens reported that parental technoference occurred a great deal in their homes, and that they struggled to get their parents attention. Parental technoference was strongly related to adolescent outcomes. For example, among adolescents who reported low parental technoference, 8% (fewer than 1 in 12) struggled with depression. Among adolescents who reported high parental technoference, 63% - almost 2 in 3 – struggled with depression. We found similar patterns for both emotional problems (6% of those adolescents who reported low technoference had

emotional problems, compared to 66% of those adolescents who reported high parental technoference) and for conduct disorders (1% of those adolescents who reported low parental technoference compared with 22% of those adolescents who reported high parental technoference).

Prior research suggests that some technoference is relatively common, and that adolescents themselves report feeling like their parents are less responsive when technoference occurs (Stockdale, 2018). Other research suggests that parental technoference with young children is also common and is associated with negative childhood outcomes (Zayia, 2021). Our results show a marked difference in adolescent mental health for those who reported low versus high parental technoference (Stockdale, et al., 2018). It may be the case that both parental technoference and adolescent mental health struggles are symptoms of other strains, or that they are more causally linked.

By using a digital device when a teen is trying to get their attention, parents may inadvertently send a message that their phone is more important than their child – at least in that moment. When this becomes a routine, it may undercut adolescents' feelings that they are seen and valued by their parents. Adolescents may also feel frustrated that their parents appear distracted, especially if they are trying to tell them something important. This may indirectly impact adolescent mental health and behavioral outcomes, especially if children feel like their parents invalidate their experiences by being less than present in the moment.

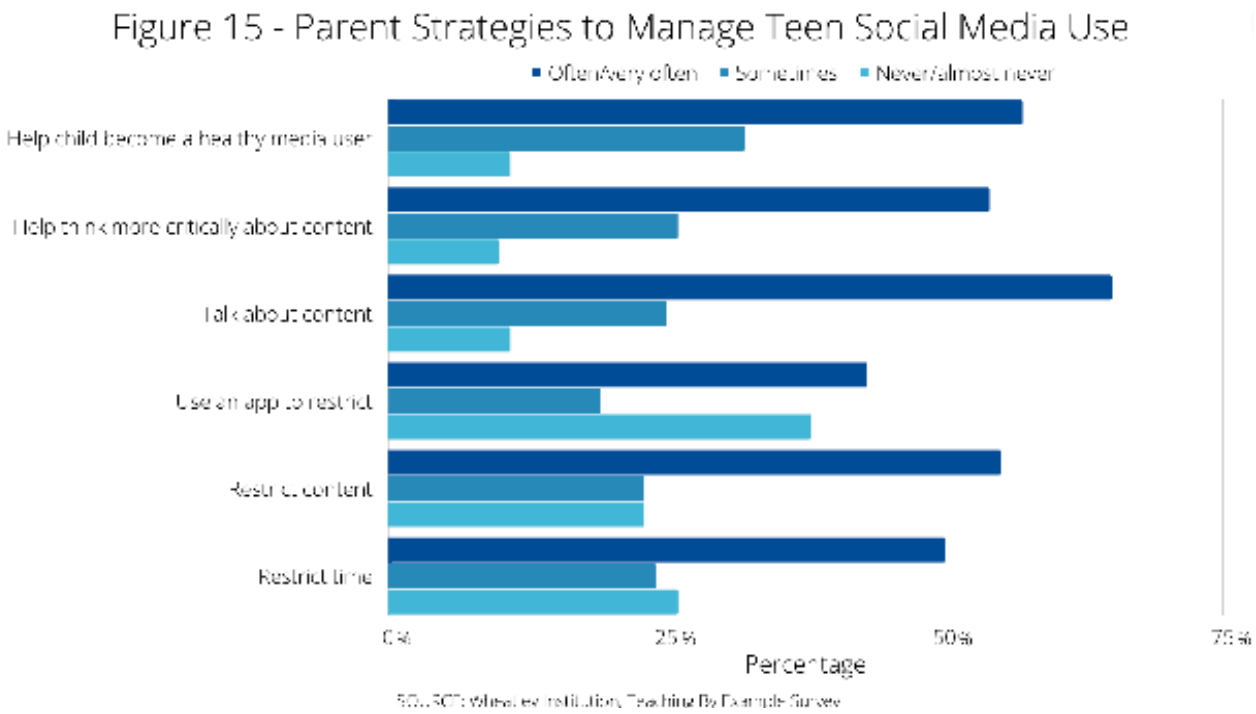
In their remarks about the very best ways parents support healthy media use, adolescents also repeatedly emphasized their parents' modeling and technology habits. Example responses included, "Give me a good example by their behavior"; "They lead by example. They don't text and drive. They don't allow phones or tablets at dinner or other family times" and "They put family above media."

Parental Strategies to Monitor Media

Parents use a variety of strategies to help manage their adolescents' media use. Many parents (74%) try to restrict how much time their adolescent spends using media and what content (73%) they are consuming (see Figure 15), with quite a few using an app or other electronic strategy (62%) to manage child media time and content. Additionally, many parents (89%) report talking to their children about media content and trying to help them become more critical consumers of media in general (90%). Additionally, only 11% of parents stated that they didn't think they were helping their child become a healthy media user.

In their open-ended responses, some adolescents specifically emphasized the value of parents' help regulating their media time and balancing tech with other activities. This included scheduling tech time and breaks ("My mom gives me a schedule that I try to use tells me to take breaks once I[n] a while"), as well as directly displacing some media time with other worthwhile activities ("[My parents] take me outside for nature walks and hikes or they take me to the beach. Both are places I don't really need social media"; "My mom encourages me to do something with her or find something interesting to do.").

Our quantitative findings do not suggest that more strict media parenting is necessarily protective. We found the highest rates of depression (54%) among those adolescents whose parents had the highest levels of rules and restrictions. In contrast, only 3-7% of adolescents had high levels of depression when parental rules were less rigid. There are a number of possible explanations for this finding. One



possibility is that adolescents who are already depressed may have parents who are trying to restrict media content in an effort to help their mental health. Another possibility is that adolescents whose parents impose many strict rules about media may feel like they don't have a voice or that their parents don't trust them, – especially if parents don't explain the rationale behind the media rules or seek child input (Nathanson, 2002). Given the cross-sectional nature of the study, we are unable to speak to the direction of effects. However, our data appear to corroborate the idea that moderate levels of rules and restrictions (done in an autonomy supportive way with child input) may be the sweet spot for most adolescents (Padilla-Walker & Coyne, 2011).

What's helpful will almost certainly change over time and should reflect age-appropriate considerations as adolescents get older. For example, effective support might shift from direct involvement and monitoring for younger adolescents to practices that signal interest and attention, while also respecting privacy. One adolescent described this shift as essential, noting that the best thing their parents did to help them become a healthy media user was, "Monitored me when I was younger, ask me now that I'm older about what I use, make me take breaks."

Families are often encouraged by researchers, schools, and medical professionals to create a family media plan. In our sample, about 50% of parents reported that they had some sort of family media plan. However, simply having a plan did not necessarily result in positive outcomes for adolescents. For example, 20% of adolescents whose parents reported that the highest family media planning also scored high on conduct disorders. In all other groups (including those without a media plan at all), conduct problems were negligible. Again, this may be reactive on the part of the parent, where they sense problems in their adolescent and so they crack down through creating a plan. Alternatively, this might represent a more controlling type of parenting where adolescents feel they need to seek attention and assert their autonomy in less than desirable ways. Either way, we urge more research on what makes for effective family media plans. In the meantime, we encourage parents to develop family media plans in ways that involve adolescent input and help open lines of communication and support.

In a similar vein, simply talking with teens about media content did not have an impact on child outcomes in this study. Parents described how often they "talked to [their] child about what they see in the media. For example, violence, sex, body image, cyberbullying". At first, we were surprised that active parental conversations about media content were not linked to the adolescent outcomes we assessed. Ultimately, though, we think this lack of a significant finding in our current data set a) stems from the complexity of the relationships between parenting practices, media use, and adolescent outcomes, and b) reflects that the content and tone of these conversations is more important than just having or not having them. The latter appears supported by the qualitative data, as some adolescents explicitly name such conversations as the very best thing their parents do to support healthy media use. In their own words, "My parents talk to me openly and honestly about things I see on social media. If I have questions about something I seen" and "I think by providing regular information to me on the accurate use of social media [my parents support healthy media use]."

Parent Engagement and Warmth

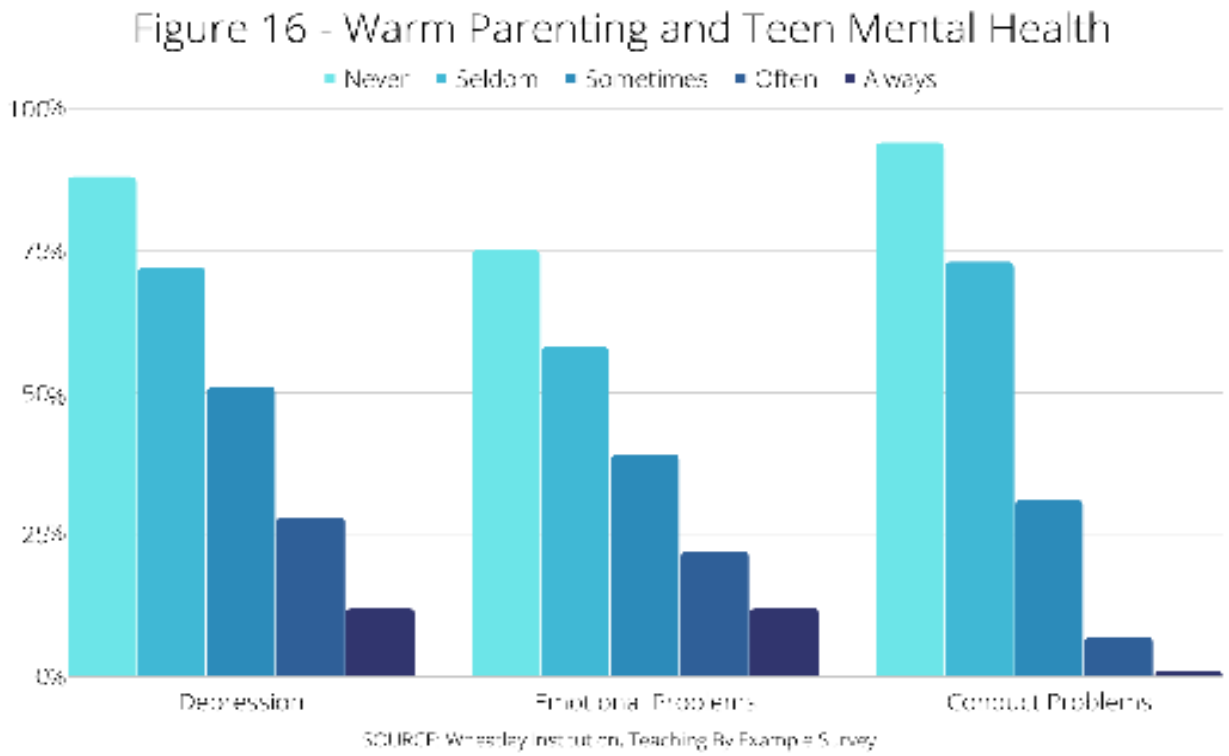
We also asked adolescents several questions about their parents that were not directly related to media. One key area of questions related to parental warmth. Around 50-60% of the sample (depending on the question) reported that their parents showed high levels of responsiveness, comfort, understanding, and that they had warm and loving times together. However, approximately 15% of adolescents in our sample reported these behaviors were rare or never happened.

Warm parenting was strongly associated with child mental health (see Figure 16). For example, only 13% of children who reported the warmest parenting were high on depression, compared to 88% in the least warm group. There was a striking difference for conduct problems, with only 1% of adolescents in the warmest parenting group showing these types of behaviors, compared with 94% at the lowest levels.

We understand that many parents are worried about the impact of media on their children's mental health, and certainly technology is a relevant variable that warrants careful attention and consideration. However, our research suggests that warm, responsive, loving parenting is more important for promoting adolescent mental health than any of the questions we asked regarding specific parenting practices related to media.

To be sure, warm parenting is not a guarantee against a child struggling with their mental health; there are teens with depression in every single category. The development of positive mental health during adolescence is often multi-faceted and generally, there is no single "cause" of psychiatric disorders. However, warm parenting appears to make a difference where adolescents' mental health is concerned.

Adolescents who report warm parenting also describe how their parents' approaches spillover in ways that support healthy media use. For example, "They listen and treat me as an equal instead of assuming I'm up to no good"; "[My parents] are there to answer questions I may have to deal with any problems that arise with others"

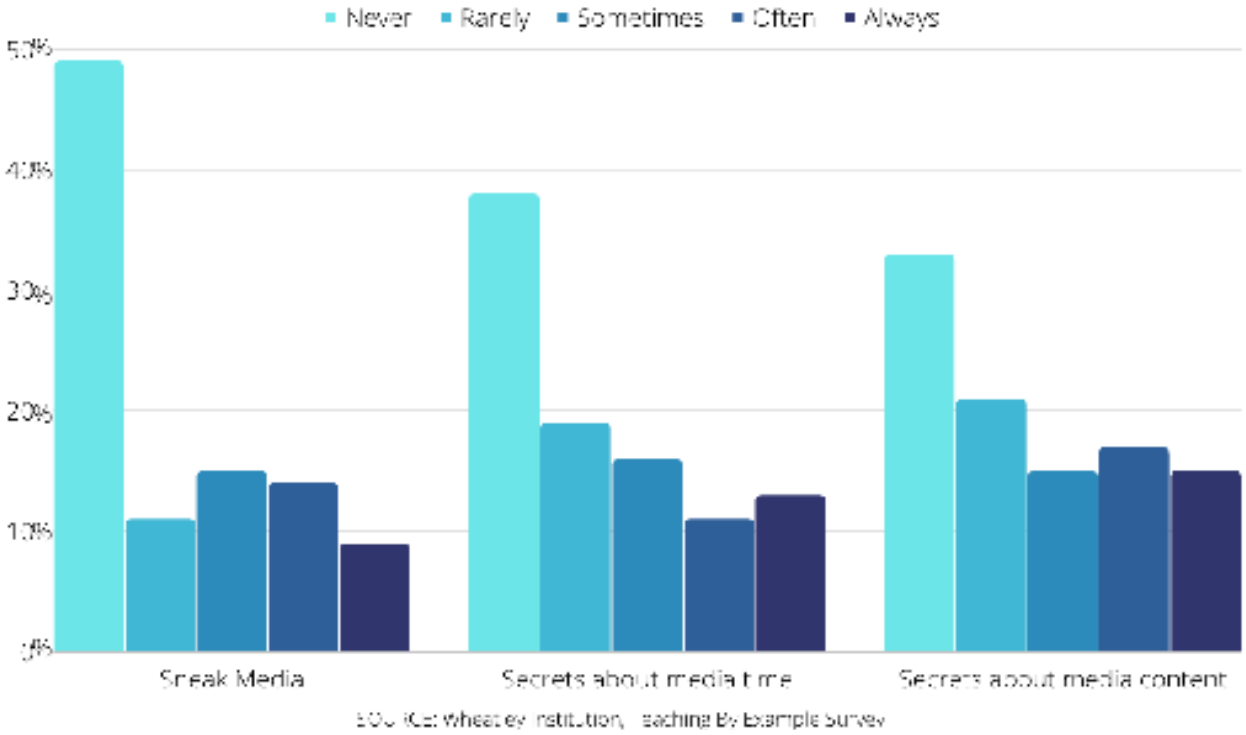


Sneaking Media

One additional category of adolescents' media-specific behaviors appears important and likely a product of the general parenting environment: adolescents sneaking or concealing their media use. While a meaningful proportion of adolescents say they do not ever sneak media (49%) or lie to their parents about what they are watching (33%), many adolescents engage in this behavior at least occasionally and around 13% often or always conceal their media habits from their parents (see Figure 17). Notably, adolescents report sneaking more media when their parents have stricter rules around technology. This behavior appears to have a significant link to mental health: 78% of teens who constantly hide what they do on media from parents also have high levels of depression, compared to only 5% of those who say they never conceal their media habits from their parents. Certainly, it is possible that those who are struggling the most have more media experiences to hide (Padilla-Walker & Son, 2019).

We hope that parents create a culture of love and support around media where teens feel like they can talk to their parents about what they see, instead of feeling like they need to hide what they are doing. Creating this open environment where teens can come to their parents when they encounter something that makes them uncomfortable is likely protective for mental health.

Figure 17 - Adolescent Media Concealment



EOU iCat Wheatley Institution, Teaching By Example Survey

Discussion and Implications for Parents

Concerns about technology use and adolescent mental health naturally lead to questions like, “How much screen time is fine versus when does it become a problem?” and “At what age is it okay to give my child a cellphone?” Findings from our national two-survey study of more than 1,200 adolescents signal the challenge of providing clear-cut guidelines in response to such questions.

While there is great variation in the amount of time adolescents report spending on social media each day, none of the outcomes we assessed - depression, emotional problems, conduct behaviors, and body image - differed purely as a function of social media time. This was true even if adolescents were using seven hours or more of social media a day compared to zero. Further, the age at which adolescents first got cellphones predicted some differences in depression, emotional problems, and body image - but the findings were nuanced and complex.

To be clear: this does not mean that social media use and screen time are not linked to mental health outcomes, that early access to cellphones is a good idea, or that unlimited screen time is “fine.” Rather, the current findings signal the complexity of empirically justifying blanket guidelines for adolescent screen time or for a universal ‘first phone’ age. Instead, our data arguably support calls for attention to individual differences and circumstances as families consider whether, when, and how to allow access to such technologies.

Two further findings from our study are noteworthy when considered in tandem: (1) Adolescents who reported a greater number of disruptive tech habits had higher levels of depression, emotional problems, and conduct problems, and worse body image than their peers. (2) A majority of adolescents - 73% - received their first smartphone by age 12 and more than 1 in 3 received their first smartphone before age 11. Developmental sensitivities during adolescence include self-regulation that is still developing and heightened sensitivity to rewards.

Our data arguably support calls for attention to individual differences and circumstances as families consider whether, when, and how to allow access to such technologies.

Also, it is important to note that 1 in 4 adolescents in our sample did not regularly use any social media, which challenges the idea that 'all' adolescents are social media users. Among those adolescents who do use social media, their preferred sites vary, including in ways that differ meaningfully by age and gender. However, overall, more than 60%, of adolescents did report that they think they might be spending too much time on social media and nearly 1 in 3 reported that their social media use has caused problems in a relationship with a friend or family member.

Finally, about half of adolescents (46%) reported their schools try to teach them healthy ways to use technology like cellphones and social media. Those adolescents whose school provided such teaching had lower levels of depression, emotional problems, conduct disorders, and better body image. It is possible that those adolescents who say their schools help them learn healthy tech-skills also attend schools that provide other important supports that bolster their well-being. That is, we cannot conclude that school-based literacy is the specific cause of the aforementioned outcomes. Nonetheless, it is beneficially associated with every developmental/mental health outcome we measured and appears a relevant and actionable protective factor.

Limitations

Though this study involved a national, diverse sample of adolescents of multiple ages, there were a few significant limitations of note. First, all data was self-reported which may be subject to some bias. Second, all individuals were members of a Qualtrics panel. There is some research which suggests that panel members are similar to the wider population and that Qualtrics panels in particular, tend to be highly demographically and politically diverse (e.g., Boas, et al., 2018). However, participants likely differ from the wider population in some ways and should be viewed with some caution.

Implications for Parents

Parent-Child Conflict Over Technology

1. Parent-child conflict over technology is not an unavoidable dimension of contemporary parenting. Talk to other parents in your community about the ways that they introduced phones to their children, including what worked best and what lessons they learned. Discuss media use with your adolescent – and do so in a way that shows that you respect your adolescent's opinions and experiences.

2. Don't shy from conflict over mobile devices, including cell phones, just because you fear these conflicts will result in a worse relationship with your child. Instead, consider how you can set helpful and healthy digital boundaries, take an active interest in your child's digital life, and hear them out when conflicts arise.

3. If conflict over cell phones is at a high point for your family, offset with positive experiences with your child online. This may seem counter-intuitive, but research shows positive outcomes for teens when families use social media together (Coyne et al., 2014). Both adolescents and parents in this study, for example, named the value of parents gaming with kids, watching shows with together, and parents taking an interest in adolescents' social media posts.

Parent Social Media Use

1. Consider moderating the time you spend on social media and assess what messages your personal tech habits might be sending to your kids. Prioritize daily opportunities for connection without technoference by creating times for focused connection when phones are not present or competing for attention.

2. Talk to your kids about technoference, and model ways you try to limit it.

Setting Rules and Boundaries

1. Don't overdo it with media rules and restrictions. This tends to backfire for adolescents. Instead, seek ways to develop your adolescent's autonomy and buy-in by asking them to become involved in any rule setting about media.

2. Consider creating a family media plan around what culture you want around media in your home, though recognize that simply having a family media plan is not a panacea. Seek adolescent input and ensure the plan is not overly restrictive or rigid.

3. You can talk to your adolescent children about media topics like risky content, body image, and cyberbullying (and we recommend you do!). Parents can be valued and important sources of information and guidance.

Parent Connection and Guidance

1. The parent/child relationship is one of the best predictors of child mental health. What's more, parental warmth appears to be a more important protective factor for mental health than any specific media rule or practice. We believe the data support some flexibility around media use.

2. Try using media as one way to connect with your child and to build that relationship. This is clearly not the only way to strengthen family bonds, but research suggests it can be effective (Coyne et al., 2014). As a bonus, it will also clue you into adolescents' digital experiences and their reactions to online content, which creates an opportunity to support healthy skills and habits of mind.

3. Encourage an open dialogue around media with your child, where they can come to you with questions or concerns without fear of immediate consequences or judgment.

References

Abi-Jaoude, E., Naylor, K. T., & Pignatiello, A. (2020). Smartphones, social media use and youth mental health. Canadian Medical Association Journal, 192, E136–E141. https://doi.org/10.1503/cmaj.190434

Allen, B. J., Stratman, Z. E., Kerr, B. R., Zhao, Q., & Moreno, M. A. (2021). Associations between psychosocial measures and digital media use among transgender youth: Cross-sectional study. JMIR Pediatrics and Parenting, 4(3), e25801. https://doi.org/10.2196/25801

Appel, M., Marker, C., & Gnambs, T. (2020). Are social media ruining our lives? A review of meta-analytic evidence. Review of General Psychology, 24(1), 60–74. https://doi.org/10.1177/1089268019880891

Anderson, M., & Jiang, J. (2018). Teens, social media & technology 2018. Pew Research Center. http://publicservicesalliance.org/wp-content/uploads/2018/06/Teens-Social-Media-Technology-2018-PEW.pdf

Beyens, I., Pouwels, J. L., van Driel, I. I., Keijsers, L., & Valkenburg, P. M. (2020). Social Media Use and Adolescents' Well-Being: Developing a Typology of Person-Specific Effect Patterns [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/ftygp

Boas, T. C., Christenson, D. P., & Glick, D. M. (2018). Recruiting large online samples in the United States and India: Facebook, Mechanical Turk, and Qualtrics. Political Science Research and Methods, 8(2), 232–250. https://doi.org/10.1017/psrm.2018.28

Byrne, S. (2009). Media literacy interventions: What makes them boom or boomerang? Communication Education, 58(1), 1–14. https://doi.org/10.1080/03634520802226444

Cohen, R., Newton-John, T., & Slater, A. (2017). The relationship between Facebook and Instagram appearance-focused activities and body image concerns in young women. Body Image, 23, 183–187. https://doi.org/10.1016/j.bodyim.2017.10.002

Cortesi, S. C., Hasse, A., Lombana, A., Kim, S., & Gasser, U. (2020). Youth and digital citizenship+ (plus): Understanding skills for a digital world. SSRN Electronic Journal. Published. https://doi.org/10.2139/ssrn.3557518

Coyne, S. M., Hurst, J. L., Dyer, W. J., Hunt, Q., Schvanaveldt, E., Brown, S., & Jones, G. (2021). Suicide risk in emerging adulthood: Associations with screen time over 10 years. Journal of Youth and Adolescence, 50, 2324–2338. https://doi.org/10.1007/s10964-020-01389-6

Coyne, S. M., Padilla-Walker, L. M., Fraser, A. M., Fellows, K., & Day, R. D. (2014). "Media time = family time": Positive media use in families with adolescents. Journal of Adolescent Research, 29(5), 663–688. https://doi.org/10.1177/0743558414538316

Coyne, S. M., Padilla-Walker, L. M., Holmgren, H. G., & Stockdale, L. A. (2018). 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

Coyne, S. M., Rogers, A. A., Zurcher, J. D., Stockdale, L., & Booth, M. (2020). Does time spent using social media impact mental health?: An eight year longitudinal study. Computers in Human Behavior, 104, 106–160. https://doi.org/10.1016/j.chb.2019.106160

Data and Statistics on Children's Mental Health | CDC. (2020, June 15). Centers for Disease Control and Prevention. https://www.cdc.gov/childrensmentalhealth/data.html

Delozier, A. M., Kamody, R. C., Rodgers, S., & Chen, D. (2020). Health disparities in transgender and gender expansive adolescents: A topical review from a minority stress framework. Journal of Pediatric Psychology, 45(8), 842–847. https://doi.org/10.1093/jpepsy/jsaa040

el Asam, A., Samara, M., & Terry, P. (2019). Problematic internet use and mental health among British children and adolescents. Addictive Behaviors, 90, 428–436. https://doi.org/10.1016/j.addbeh.2018.09.007

Feinstein, B. A., Hershenberg, R., Bhatia, V., Latack, J. A., Meuwly, N., & Davila, J. (2013). Negative social comparison on Facebook and depressive symptoms: Rumination as a mechanism. Psychology of Popular Media Culture, 2(3), 161–170. https://doi.org/10.1037/a0033111

Geiger, A. W., & Davis, L. (2019, July 12). A growing number of American teenagers – particularly girls – are facing depression. Pew Research Center. https://www.pewresearch.org/fact-tank/2019/07/12/a-growing-number-of-american-teenagers-particularly-girls-are-facing-depression/

Goodman, R., Renfrew, D. & Mullick, M. (2000). Predicting type of psychiatric disorder from Strengths and Difficulties Questionnaire (SDQ) scores in child mental health clinics in London and Dhaka. European Child & Adolescent Psychiatry 9, 129–134. https://doi.org/10.1007/s007870050008

Hodes, L. N., & Thomas, K. G. F. (2021). Smartphone Screen Time: Inaccuracy of self-reports and influence of psychological and contextual factors. Computers in Human Behavior, 115. https://doi.org/10.1016/j.chb.2020.106616

Huang, C. (2018). Time spent on social networking sites and psychological well-being: A meta-analysis. Cyberpsychology, Behavior, and Social Networking, 20, 346–354. https://doi.org/10.1089/cyber.2016.0758

Jia, R. M., Du, J. T., Zhao, Y. (Chris), & Velasquez, D. (2020). LGBTQ+ individuals seeking information and support from online communities to navigate unpleasant emotions. Proceedings of the Association for Information Science and Technology, 57(1). https://doi.org/10.1002/pra2.375

Jiang, S., & Ngien, A. (2020). The effects of instagram use, social comparison, and self-esteem on social anxiety: A survey study in Singapore. Social Media and Society, 6(2). https://doi.org/10.1177/2056305120912488

Keles, B., McCrae, N., & Grealish, A. (2019). A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents. International Journal of Adolescence and Youth, 25(1), 79–93. https://doi.org/10.1080/02673843.2019.1590851

Kerr, D. C., Lopez, N. L., Olson, S. L., & Sameroff, A. J. (2004). Parental discipline and externalizing behavior problems in early childhood: The roles of moral regulation and child gender. Journal of abnormal child psychology, 32(4), 369-383. https://doi.org/10.1023/B:JACP.0000030291.72775.96

Kross, E., Verduyn, P., Sheppes, G., Costello, C. K., Jonides, J., & Ybarra, O. (2021). Social media and well-being: Pitfalls, progress, and next steps. Trends in Cognitive Sciences, 25(1), 55–66. https://doi.org/10.1016/j.tics.2020.10.005

Landstedt, E., & Persson, S. (2014). Bullying, cyberbullying, and mental health in young people. Scandinavian Journal of Public Health, 42(4), 393–399. https://doi.org/10.1177/1403494814525004

Marino, C., Gianluca, G., Angelini, F., Vieno, A., & Spada, M. M. (2020). Social norms and e-motions in problematic social media use among adolescents. Addictive Behaviors Reports, 11. https://doi.org/10.1016/j.abrep.2020.100250

McInroy, L. B., McCloskey, R. J., Craig, S. L., & Eaton, A. D. (2019). LGBTQ+ youths' community engagement and resource seeking online versus offline. Journal of Technology in Human Services, 37(4), 315–333. https://doi.org/10.1080/15228835.2019.1617823

Media Literacy is literacy in the 21st century. (2021, March 4). Media Literacy Now | Advocating for Media Literacy Education. https://medialiteracynow.org/

Meier, A., & Reinecke, L. (2020). Computer-mediated communication, social media, and mental health: A conceptual and empirical meta-review. Communication Research,1–28. https://doi.org/10.1177/0093650220958224

Mendelson, B. K., Mendelson, M. J., & White, D. R. (2001). Body-esteem scale for adolescents and adults. Journal of Personality Assessment, 76(1), 90–106. https://doi.org/10.1207/s15327752jpa7601_6

Merlo, L. J., Stone, A. M., & Bibbey, A. (2013). Measuring problematic mobile phone use: Development and preliminary psychometric properties of the PUMP scale. Journal of Addiction, 2013, 1–7. https://doi.org/10.1155/2013/912807

Nathanson, A. I. (2002). The unintended effects of parental mediation of television on adolescents. Media Psychology, 4(3), 207–230. https://doi.org/10.1207/S1532785XMEP0403_01

Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. Journal of Abnormal Child Psychology, 43(8), 1427–1438. https://doi.org/10.1007/s10802-015-0020-0

Odgers, C. L., & Jensen, M. R. (2020). Annual research review: Adolescent mental health in the digital age: Facts, fears, and future directions. Journal of Child Psychology and Psychiatry, 61(3), 336–348. https://doi.org/10.1111/jcpp.13190

Orben, A., & Przybylski, A. (2019). The association between adolescent well-being and digital technology use. Nature Human Behavior, 3, 173–182. https://doi.org/10.1038/s41562-018-0506-1

Padilla-Walker, L. M., & Coyne, S. M. (2011). "Turn that thing off!" parent and adolescent predictors of proactive media monitoring. Journal of adolescence, 34(4), 705-715. https://doi.org/10.1016/j.adolescence.2010.09.002

Padilla-Walker, L. M., & Son, D. (2019). Longitudinal associations among routine disclosure, the parent–child relationship, and adolescents' prosocial and delinquent behaviors. Journal of Social and Personal Relationships, 36(6), 1853-1871. https://doi.org/10.1177/0265407518773900

Pew Research Center (2018). Youth Statistics: Internet and Social Media. Accessed online[December7,2021]at:http://actforyouth.net/adolescence/demographics/internet.cfm

Price-Feeney, M., Green, A. E., & Dorison, S. (2020). Understanding the mental health of transgender and nonbinary youth. Journal of Adolescent Health, 66(6), 684–690. https://doi.org/10.1016/j.jadohealth.2019.11.314

Rauch, S. M., & Schanz, K. (2013). Advancing racism with Facebook: Frequency and purpose of Facebook use and the acceptance of prejudiced and egalitarian messages. Computers in Human Behavior, 29(3), 610–615. https://doi.org/10.1016/j.chb.2012.11.011

Riesch, S. K., Jackson, N. M., & Chanchong, W. (2003). Communication approaches to parent-child conflict: young adolescence to young adult. Journal of pediatric nursing, 18(4), 244-256. https://doi.org/10.1016/S0882-5963(03)00083-6

Rideout, V. (2016). Measuring time spent with media: The Common Sense census of media use by US 8-to 18-year-olds. Journal of Children and Media, 10(1), 138–144. https://doi.org/10.1080/17482798.2016.1129808

Robinson, C. C., Mandleco, B., Olsen, S. F., & Hart, C. H. (2001). The Parenting Styles and Dimensions Questionnaire (PSQD). In B. F. Perlmutter, J. Touliatos, & G. W. Holden (Eds.), Handbook of family measurement techniques: Vol. 3. Instruments & index (pp. 319 - 321). Thousand Oaks: Sage.

Shewark, E. A., Matern, M., Klump, K. L., Levendosky, A. A., & Burt, S. A. (2022). Interpersonal complementarity as a predictor of parent–child relationship quality. Journal of Family Psychology. https://doi.org/10.1037/fam0000964

Stockdale, L. A., Coyne, S. M., & Padilla-Walker, L. M. (2018). Parent and child technoference and socioemotional behavioral outcomes: A nationally representative study of 10- to 20-year-old adolescents. Computers in Human Behavior, 88, 219–226. https://doi.org/10.1016/j.chb.2018.06.034

Thorisdottir, I. E., Sigurvinsdottir, R., Asgeirsdottir, B. B., Allegrante, J. P., & Sigfusdottir, I. D. (2019). Active and passive social media use and symptoms of anxiety and depressed mood among Icelandic adolescents. Cyberpsychology, Behavior, and Social Networking, 22(8), 535–542. https://doi.org/10.1089/cyber.2019.0079

Twenge, J. M., Cooper, A. B., Joiner, T. E., Duffy, M. E., & Binau, S. G. (2019). Age, period, and cohort trends in mood disorder indicators and suicide related outcomes in a nationally representative dataset, 2005–2017. Journal of Abnormal Psychology, 128(3), 185–199. https://doi.org/10.1037/abn0000410

Valkenburg, P. M., Beyens, I., Pouwels, J. L., van Driel, I. I., & Keijsers, L. (2021). Social media browsing and adolescent well-being: Challenging the "passive social media use hypothesis." PsyAriXiv Prepints. Published. https://doi.org/10.31234/osf.io/gzu3y

Valkenburg, P. M., & Peter, J. (2013). The Differential Susceptibility to Media Effects Model: Differential Susceptibility to Media Effects Model. Journal of Communication, 63(2), 221–243. https://doi.org/10.1111/jcom.12024

Valkenburg, P. M., Piotrowski, J. T., Hermanns, J., & de Leeuw, R. (2013). Developing and validating the perceived parental media mediation scale: A self-determination perspective. Human Communication Research, 39, 445–469. doi:10.1111/hcre.12010

Zayia, D., Parris, L., McDaniel, B., Braswell, G., & Zimmerman, C. (2021). Social learning in the digital age: Associations between technoference, mother-child attachment, and child social skills. Journal of School Psychology, 87, 64–81. https://doi-org.erl.lib.byu.edu/10.1016/j.jsp.2021.06.002

Appendix: Study 1

Sample

This study's national quota sample of 1,231 adolescents was obtained using a Qualtrics panel and was collected between May and August 2021. The sampling strategy aimed to match as close to the demographic profile of the United States (in terms of race/ethnicity and household income). In terms of race/ethnicity, 57% identified as White, 15% as Black, 9% as Asian, .3% as American Indian/Alaska Native, 15% as Hispanic/Latin, .1% as Pacific Islander, and 3.3% as mixed or other race/ethnicity. Average household income was between $60,000 and $75,000 per year (with 25% of the sample below $50,000 per year and 35% of the sample above $100,000 per year).

Parents gave consent for their minor children to participate. The study was reviewed and approved by the Institutional Review Board of Brigham Young University. Participants were treated in accordance with the APA's Code of Conduct and Ethical Principles and Guidelines.

Survey Items

Age of First Smartphone

If adolescents reported that they had a cell phone, they were asked if they had a Smartphone. If they responded that they did have a Smartphone, we then asked how old they were when they got their FIRST Smartphone (ranging from 5 to 17 years old).

Favorite Social Media Site

Adolescents were asked if they ever use social media, and if they said that they did, then we asked what social media site they used most. They selected their answer from the following list of social media sites: Instagram, Twitter, TikTok, Facebook, Snapchat, WhatsApp, Reddit, MarcoPolo, or adolescents could type in an "Other" option. This question was based on a scale from Rauch & Schanz (2013).

Time Spent on Social Media

The amount of time adolescents typically spend on social media was self-reported. They were asked, "How much time do you spend using Social Media each day (e.g., Instagram, Snapchat, Twitter, Facebook)?"

Response Categories: 1 = None, 2 = Less than 30 minutes, 3 = 31-60 minutes, 4 = 1-2 hours, 5 = 3-4 hours, 6 = 5-6 hours, 7 = 7-8 hours, 8 = More than 8 hours

Note: On the one hand, it is important to note that self-reports of media time are imprecise; personal estimates are not reliably accurate indicators of precise screen time (Hodes & Thomas, 2021). On the other hand, screen time self-reports do provide information about adolescents' perceptions of their screen time, and they offer a way of differentiating particularly light and heavy users.

Depression

The PHQ 8-item depression inventory was used to assess adolescent's depression symptoms. Adolescents reported how often they were bothered by certain depressive symptoms within the last two weeks.

Response Categories: 1 = Not at all, 2 = Several days, 3 = More than half of the days, 4 = Nearly every day

Items:

1. Little interest or pleasure in doing things.
2. Feeling down, depressed, or hopeless.
3. Trouble falling or staying asleep, or sleeping too much.
4. Feeling tired or having little energy.
5. Poor appetite or overeating.
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.
7. Trouble concentrating on things, such as reading or watching TV.
8. Moving or speaking so slowly that other people have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual.

Emotional Problems & Conduct Behaviors

Adolescents indicated how true (either not true, somewhat true, or certainly true) different statements were about them. Five statements related to emotional problems and five statements related to conduct behaviors. These two subscales are from the Strengths and Difficulties Questionnaire (Goodman et al., 2000).

Emotional Items:

1. I get a lot of headaches.
2. I worry a lot.
3. I am often unhappy or downhearted.
4. I am nervous in new situations.
5. I have many fears.

Conduct Items:

1. I usually do as I am told.
2. I am often accused of lying or cheating.
3. I take things that are not mine.
4. I get very angry.
5. I fight a lot.

Body Image

Adolescents reported how often they agreed with three statements about body image. One item was reverse coded. Higher scores indicated better body image. Items were taken from a body esteem scale (Mendelson et al., 2001).

Response Categories:
1 = Never
2 = Seldom
3 = Sometimes
4 = Often
5 = Always

Items:
1. I like what I see when I look in the mirror.
2. I'm pretty happy about the way I look.
3. There are lots of things I'd change about my looks if I could.

Taking Intentional Breaks

Adolescents were asked how often they take intentional breaks from their phones (e.g., by putting their phone on airplane mode, leaving it out of reach or in another room).

Response Categories:
1 = Never or Rarely
2 = About once a year
3 = About every other month
4 = About once a month
5 = About once a week
6 = Every day or almost every day

Active (or Passive) Media Use

Adolescents were asked how often they participated in certain habits while on social media to determine if they were active or passive social media users. Three items measured active use, while one item measured passive use.

Response Categories:
1 = Never , 2 = A little bit, 3 = About half the time, 4 = Frequently, 5 = All the time

Items:
1. Post on this social media site. (active)
2. Make comments or like other people's posts. (active)
3. Chat with my friends via social media. (active)
4. Mostly scroll through other people's posts without commenting or posting myself. (passive)

Digital Well-Being in Schools

Adolescents rated how much they agreed with the statement, "my school tries to help us learn how to use our phones or social media in healthy ways."

Response Categories:
1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree

Social Comparison

Adolescents reported the frequency of social media social comparison by how responding often they did three things while on their most used social media site. This was a modified scale from Nesi & Prinstein (2015).

Response Categories:
1 = Never, 2 = Sometimes, 3 = About half the time, 4 = Most of the time, 5 = Always

Items:
1. Compare yourself to others.
2. Compare my life with other people's lives.
3. See if others think I am cool, funny, or popular.

Disruptive or "addictive-like" Social Media Symptoms

To assess disruptive or "addictive-like" social media behaviors, adolescents were first asked if they used either social media or video games more (or something else and not social media or video games). Adolescents who did report that they used social media more, then responded how much they agreed or disagreed about seven items related to their social media habits. This scale was adapted (Coyne et al., 2018) from a scale that originally assessed problematic cell phone use (Merlo et al., 2013).

Response Categories:
1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree

Items:
1. I'm happier on days when I use social media less.
2. It would be very difficult, emotionally, to give up social media.
3. The amount of time I spend using social media keeps me from doing other important things.
4. I think I might be spending too much time on social media.
5. When I am not using social media, I am thinking about using it or planning the next time I can use it.
6. I have ignored the people I'm with in order to use social media.
7. My social media use has caused problems in a family or friend relationship.

Appendix: Study 2

Sample

This study included a national quota sample of 211 parent- adolescent dyads was obtained using a Qualtrics panel which was collected between May and August 2021. The sampling strategy aimed to match as close to the demographic profile of the United States (in terms of race/ethnicity and household income). The sample was fairly racially/ethnically diverse, with 56% identifying as White, and 20% Hispanic/Latinx, 12% Black, 5% Asian, and 6% as mixed race or other. Average household income was between $60,000 and $75,000 (with 30% of the sample below $50,000 per year and 25% of the sample above $100,000 per year).

Parents gave consent for their minor children to participate and consent for their own parental participation. The study was reviewed and approved by the Institutional Review Board of Brigham Young University. Participants were treated in accordance with the APA's Code of Conduct and Ethical Principles and Guidelines.

Survey Items

Parenting & Media Habits

Arguing about Mobile Device Use

Parents were asked how frequent they argued with their child about their child's mobile device usage.

Response Categories:
1 = Multiple times a day, 2 = Once a day, 3 = A few times a week, 4 = Once a week, 5 = Less than once a week, 6 = Never

Mobile Devices Help/Hurt Relationship

Parents reported about how their child's media use affected the parent-child relationship. Parents were asked if they believed their child's use of mobile devices specifically helped or hurt their relationship or made no difference.

Response Categories:
1 = Mainly helped, 2 = Mainly hurt, 3 = Made no difference, 4 = Don't know

Parent Social Media Use

The amount of time parents and adolescents typically spend on social media was self-reported. Parents and adolescents were both asked (separately), "How much time do you spend using social media each day (e.g., Instagram, Snapchat, Twitter, Facebook)?"

Response Categories:
1 = None, 2 = Less than 30 minutes, 3 = 31-60 minutes, 4 = 1-2 hours, 5 = 3-4 hours, 6 = 5-6 hours, 7 = 7-8 hours, 8 = More than 8 hours

Parent Technoference

Adolescents reported on how often their parents' media use interfered with parent-child interactions (Stockdale et al., 2018). Adolescents reported how often three technoference habits occurred.

Items:
1. My parents ignore me when they are on their cell phone/ tablet.
2. I struggle to get my parents attention when they are on their cell phone/ tablet.
3. My parents check their cell phone/ tablet even if I'm right in the middle of a conversation with them.

Response Categories:
1 = Not at all, 2 = A little bit, 3 = Somewhat, 4 = A great deal

Media Monitoring

Parents and adolescents both reported (separately) on how often parents did six specific actions to monitor their adolescent's media use and was loosely based on Valkenburg et al.'s (2013) work.

Parents' Items:
1. I talk to my child about what they see in the media. For example, violence, sex, body image, cyberbullying.
2. I help my child think more critically about what they see in the media.
3. I restrict how much time my child spends using media.

4. I restrict what types of content my child can watch in media.
5. I use an app or electronic strategy to restrict my child's media use.
6. I think I am helping my child to become a healthy media user.

Adolescents' Items:
1. The adults that I live with talk to me about what I see in the media. For example, violence, sex, body image, cyberbullying.
2. The adults that I live with help me think more critically about what I see in the media,
3. The adults that I live with restrict how much time I spend using media.
4. The adults that I live with restrict what types of content I can watch in media.
5. The adults that I live with use an app or electronic strategy to restrict my media use.
6. The adults that I live with are helping me to become a healthy media user.

Response Categories:
1 = Never, 2 = Almost Never, 3 = Sometimes, 4 = Often, 5 = Very Often

Family Media Plan & Culture

Parents were asked to report how accurate three statements about their family media culture were about their experience at home.

Items:
1. We have a culture of no screens for at least some of our family time. e.g., family dinner, family activities.
2. We have a family media plan so media expectations are clear.
3. Phones are not allowed in children's bedrooms at night.

Response Categories:
1 = Not at all, 2 = A little bit, 3 = About half the time, 4 = Most the time, 5 = Always

Parental Warmth

Adolescents were asked to think about the adults that they lived with and respond to three statements about how responsive, comforting, warm, and loving these adults were (Robinson et al., 2001).

Statements:
1. Are they responsive to your feelings and needs?
2. Do they give you comfort and understanding when you're upset?
3. Do you have warm and loving times together with them?

Response Categories:
1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always

Sneaking Media

Adolescents reported how frequent they concealed or disclosed media from their parents (Padilla-Walker & Son, 2019) by four different statements.

Statements:
1. I sneak media in my own home/outside my own home that I know my parents wouldn't want me to see.
2. I keep secrets from my parents about how often I use media.
3. I keep secrets from my parents about content I come across in the media.
4. I talk to my parents about the media I use.

Response Categories:
1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always

Note: Though the survey was completely anonymous, it is possible that social desirability is at play here, and adolescents under-reported their concealment.

Adolescent Outcomes

Depression

The PHQ-8 depression inventory was used to assess teens' depressive symptoms. Adolescents reported how often they were bothered with eight different symptoms (of depression) over the last 2 weeks.

Items:
1. Little interest or pleasure in doing things.
2. Feeling down, depressed, or hopeless.
3. Trouble falling or staying asleep, or sleeping too much.
4. Feeling tired or having little energy.
5. Poor appetite or overeating.
6. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.
7. Trouble concentrating on things, such as reading or watching TV.
8. Moving or speaking so slowly that other people have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual.

Response Categories:
1 = Not at all, 2 = Several days, 3 = More than half of the days, 4 = Nearly every day

Emotional Problems & Conduct Behaviors

Teens indicated how true (either not true, somewhat true, or certainly true) different statements were about them. Five statements related to emotional problems and five statements related to conduct behaviors. These two subscales are from the Strengths and Difficulties Questionnaire (Goodman et al., 2000).

Emotional Items:
1. I get a lot of headaches.
2. I worry a lot.
3. I am often unhappy or downhearted.
4. I am nervous in new situations.
5. I have many fears.

Conduct Items:
1. I usually do as I am told.
2. I am often accused of lying or cheating.
3. I take things that are not mine.
4. I get very angry.
5. I fight a lot.

Body Image

Teens reported how often they agreed with three statements about body image. One item was reverse coded. Higher scores indicated better body image. Items were taken from a body esteem scale (Mendelson et al., 2001).

Items:
1. I like what I see when I look in the mirror.
2. I'm pretty happy about the way I look.
3. There are lots of things I'd change about my looks if I could.

Response Categories:
1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always