

Managing Expectations: Technology Tensions among Parents and Teens

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ABSTRACT

Extensive scholarship has investigated technology use among families. Existing work has focused primarily on parents' reactions to and restrictions of their children's technology use; here, we explore the underlying tensions surrounding technology use in the home. We draw on historical perspectives of adolescence and family life to better understand technology's impact on present-day parents and teens. Through an interview study with 18 parent-child pairs (19 parents; 23 children, ages 10-17), we find a number of technology tensions, including 1) parents' underestimation of children's technology use; 2) children's perception that parents only tell them which behaviors to avoid; 3) both parents' and children's poor adherence to household technology rules; and 4) parents' and children's desire for mutual attention. We argue that the use of personal devices introduces distinctive challenges into modern family life, due to the limited visibility (or *practical obscurity*) of personal device use, expectations of constant connectivity, and overly-romanticized notions of family time. We consider the historical evolution of both teenage and family life, and conclude that consistent and realistic expectations around work, attention, and adolescence may help families better manage household technology use.

Author Keywords

Parents; teens; adolescence; family time; technology; home; attention; rules.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION

Teenagers use mobile phones and social media almost constantly [26], and children are gaining access to these devices and platforms at increasingly younger ages [27]. As a result, parents are presented with the challenge of keeping

up with their children's use and adapting their parenting strategies accordingly. A growing body of research has explored the tensions parents and children experience as they navigate these new digital boundaries [1,7,15,22,32]. Broadly, this body of work finds that parent involvement, mediation, co-viewing, and open communication tend to be correlated with better outcomes (e.g., reduction in risky behavior, improved parent-child relationships) [10,25,30].

Despite these findings, technology use remains a persistent source of tension for many families. Many parents feel unknowledgeable and anxious about what their children are doing online, while parents can also exhibit risky behaviors themselves [7,19,33]. Most prior research has investigated parents' reactions to their children's Internet use [10,25,30] or parents' own use of technology [1,15,22,32]. This research builds on that prior work, but focuses on the tensions which exist around household technology use. This research addresses two open questions:

1. *What tensions exist between parents and children around technology use in the home?*
2. *Why do family technology tensions arise, and how might families manage them?*

To identify parent-child tensions surrounding technology use and attitudes, we conducted interviews with 18 parent-child pairs (a total of 19 parents and 23 children) about how they and their families used technology. Interviews were conducted separately and then compared during analysis. Results contribute four overarching tensions which characterize family technology use. First, parents underestimate how many and which social media sites their children use. Second, while parents report that they communicate with their children about technology use, their children say that parents only tell them which behaviors to avoid. Third, parents enact household technology rules, but both parents and children break those rules (e.g., no phone use at the dinner table). Fourth, children do not want more attention from their parents, but they do want attention to be reciprocally paid. We argue that family technology tensions have emerged which differ from prior ones (e.g., tensions around television watching), because of the practical obscurity—or limited visibility—afforded by personal devices. We extend scholarship around constant connectivity in the workplace to show how work expectations impinge upon home life (e.g., dinner time). This work contributes insights into the limitations of the

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construct of adolescence—as neither child nor adult—in the context of household technology use. It further suggests that parents, rather than simply saying “no” or setting rules which are not followed, should instead set expectations around mutual attention, whether attending to a device, an activity, or each other. At the same time, perceptions of “family time” should be revised to better align with evolving technology use in modern households.

RELATED WORK

Children, teens, and adolescence

Prior to the eighteenth century, childhood ended when work began—“almost from the time they could walk,” children were expected to contribute to the household, at which point adulthood began [18]. As Aries [3] argues, “the idea of childhood was bound up with the idea of dependence... one could leave childhood only by leaving the state of dependence.”

In the late eighteenth century, as industrialization forced the separation of work from the home, two competing views of childhood emerged: first, that “childhood was held to last hardly beyond infancy... once he had passed the age of five or seven, the child was immediately absorbed into the world of adults” [3]. This early concept of childhood remained consistent among lower class families, in which children served a significant economic role [18]. A different understanding emerged in the middle class, rooted in the moralist traditions of the church: a long childhood, which “expressed the realization of the innocence and the weakness of childhood, and consequently the duty of adults to safeguard the former and strengthen the latter” [3]. Beginning in the nineteenth century, the success of educational institutions led to the adoption of an intermediary stage between childhood and work—the age of school, in what would become our modern understanding of adolescence.

Following the Great Depression, G. Stanley Hall’s vision of adolescence “galvanized a movement to keep the young from growing up too rapidly” [18]. In the twentieth century, “going to school became the key teenage experience” [18]. The word teenager did not enter modern parlance until the 1940s, when “the word was coined to describe an age group that had suddenly become of great interest to marketers and social reformers” [18]. As Hine [18] suggests, “the word ‘teenager’ tells us only that the person described is older than twelve, younger than twenty... the word actually masks tremendous differences in maturity between different members of the age group.”

The difficulty in defining categorically “teenage” traits, both across dissimilar age groups and between individuals, leaves adolescents in a sort of developmental purgatory, as they make “sudden shifts from dependence to maturity and back” [18]. This has led to a representation of the teenage years as inescapably fraught. Hine [18] argues that the very concept of the teenager “rests in turn on the idea of the adolescent as a not quite yet competent person, beset by

stress and hormones.” Families with teenage children often expect “a certain disagree of discomfort,” with conflict, oppositionalism and defiance viewed as normative in adolescent development [39]. Hine [18] suggests that today’s teenagers “serve a sentence of presumed immaturity, regardless of their achievements or abilities... teenagers are losing their license for irresponsibility while, at the same time, they continue to be denied a role in their society.”

Parent and Teen Relationships

As Laslett and Wall [23] note, the industrial revolution also catalyzed “the simplification of social relationships based on kinship, the decline of the tribe and the clan, [and] the decay of familiar authority.” Rather than the patriarchal family units of centuries past, “the industrial revolution paved the way for the emergence of the democratic type of family,” accelerated in the United States by the rise of public schooling [23]. The industrial revolution saw a separation of family experience from “the organization of everyday life,” leading to romanticized notions of what time spent with family is and what can be accomplished within it [13]. Family time became a respite from the demands of modern life [16].

In the early twentieth century, a “strict separation of public and private spheres” emerged in the middle classes, modeled through the single-family home [15]. Livingstone [29] argues that the home was “constructed as a refuge, a place for nurturing positive values and for the socialization of children.” In the present day, expectations of constant connectivity and availability [31,43] burden working parents, who must balance vocational demands with family life [20]. Family time is increasingly perceived as “a time [to be] engaged with each other, to have everyone involved and be aware that they [are] involved with each other” [13]. Families expect that their time spent together will be positive and lead to an increased sense of togetherness; however, expectations of family time often differ from actual experiences [13]. Contradictions between romanticized ideals and actual experiences of family time may result in disillusionment and guilt.

Conflicts between parents and teens often arise due to differences in expectations and conflicting ideas around social conventions. What to parents may be seen as “involving codes of right and wrong—either moral codes or codes based on social conventions” is considered by teens to be “matters of personal choice” [39]. Parents view their teenage children as “more obligated” to disclose personal information to parents than teens consider themselves to be [37]. For teens, mutual trust and parental acceptance are predictors both for reduced secrecy and increased disclosures [37]. Although both parents and teens generally agree that teens are deserving of some amount of privacy, parents also feel “none of their children’s possessions should ethically be exempt from parental monitoring” [11].

Teens, however, feel strongly that “cell phones, particularly text messages, [are] private” [11].

As teens begin to spend less time at home and more time with peers, parents seek more knowledge about their children’s activities [37]. A common child-rearing strategy is to provide children with a set of rules and then “track compliance with those rules,” taking disciplinary action when rules are violated [38]. Some research associates high levels of parental monitoring with “less delinquency or antisocial behavior, less illegal substance use, less tobacco use, less risky sexual activity, better school performance, and fewer deviant friends” [21]. However, “most measures of parental monitoring are really assessments of parental knowledge” [12]. Parents accrue more—and more accurate—information about their children’s activities from their children’s own disclosures [38]. Perceived trust, security, and involvement between parents and teens lead to increased disclosures and, by extension, less discordance [37,38]. Misperceptions between parents and their teenage children have negative implications for both the teen’s own behavior as well as the parent-teen relationship. In the case of risky driving behaviors, teens who disagreed with their parents were significantly more likely to engage in risky driving behaviors than teens who agreed [5]. The authors posit that, for some families, “the only time [a rule] is discussed is when it has been violated” [5]. A child who experiences a strong emotional bond with a parent is less likely to do anything that might compromise that relationship, such as risking a parent’s embarrassment or disapproval [38]. However, a parent-child relationship which prevents children from engaging in potentially deviant behavior requires the willingness, action, and cooperation of both parent and child [38]. As Steinberg [39] argues, “early adolescence is an important period for the negotiation of autonomy-related changes in the parent-child relationship.”

Parents and Teens Online

The rise of technology in family life—from radios to televisions to mobile phones—further complicates family relationships and the boundaries of adulthood.

Teens are active technology users; 24% of teens report being online “almost constantly,” in large part due to the ubiquity of mobile devices [26]. Among teens who access the internet via a mobile device, 94% go online daily, compared to 68% percent of teens who do not have mobile internet access [26]. Teens are also avid users of social media platforms: 71% of teens ages 13 to 17 use Facebook, 52% use Instagram, and 41% use Snapchat, with teens also reporting use of Twitter, Google+, Vine, Tumblr, and other sites. 71% of teens report active use of more than one social media site. In addition to social media use, 90% of teens with a cell phone or smartphone exchange text messages [26]. Though statistics often focus on teens, parents are also pervasive technology users, and their use of sites like Facebook has been growing [9,15,22,32].

Parents who use technology in the presence of their children sometimes experience guilt, and may deliberately engage in periods of non-use to set an example for and be more responsive to their children [19]. However, social media also offers a number of benefits for parents. Social media sites are particularly beneficial for new mothers, who “can experience social exclusion, particularly during the early weeks when infants are solely dependent on their mothers” [15]. Mothers share birth announcements on social media sites and use Facebook to share baby photos [22,32]. Mothers use the anonymous parenting forum YouBeMom to “discuss their lives in ways that they may not in other settings,” such as complaints about spouses or sexual confessions [36]. Fathers use social media to ask parenting questions, to compare themselves with other parents, and to access social support [2].

Many parents struggle “with their own unfamiliarity with technology,” and desire greater transparency in children’s Internet use [45]. Parents employ a number of direct and indirect strategies in an attempt to regular their children’s technology use [14]. Parents also turn to non-technical methods for regulating behavior, such as imposing time limits, taking devices away, or enforcing physical boundaries for where devices can be used [11]. The effort parents exert negotiating the management of their children’s digital footprints is what some scholars have referred to as a “third shift,” an extension of parents’ first and second shifts (paid labor and homemaking, respectively) [1]. However, parents and teens often disagree “about how much and what kinds of autonomy teens should have, and how much authority parents should have” [45].

Parents of adolescents “have to balance their children’s growing independence with their own concerns for safety; they have to make decisions about which rules to relax and which to enforce” [14]. The mediation strategies parents employ depend heavily on parents’ own digital literacies [45]. As Cranor et al. [11] note, “parents cannot necessarily draw from their own teenage experience when making decisions about privacy for their children.” Wisniewski et al. [44] suggest that children of parents who rely on direct intervention approaches, such as the use of parental controls or setting a child’s privacy settings for them, are indeed exposed to fewer online risks—however, their “ability to engage with others online and to learn how to effectively cope with online risks” is also reduced. Furthermore, teens whose parents encourage them to engage with others online are “more morally advanced than younger teens who were prevented from having these experiences” [44]. Instead, as Petronio [35] suggests, negotiating privacy rules together “may prove a way for parents to signal that, although they want to know what the child is doing, they recognize their child has a right to claim control over certain information considered within the child’s domain.”

Teens report a number of visibility-obscuring strategies in their use of technology, such as placing a phone underneath

a desk to text during school hours, or relying on instant messaging applications to “blend into their computer work... rendering [them] temporarily invisible” [17]. boyd and Marwick [8] describe teens’ practice of social steganography, in which they hide private messages to friends in public statuses. In legal scholarship, “practical obscurity” has been used to describe information that may not be completely concealed, but is not easily accessible. For example, as records become digitized, information which was previously obscured (or hard to find) may be more easily discoverable. Stutzman and Hartzog [40] describe steps online users take to maintain practical obscurity, such as modifying privacy settings, adopting pseudonyms, and manipulating search engines. They argue that practical obscurity is an important consideration when managing multiple profiles in online settings.

METHODS

We conducted semi-structured interviews with parents and their children to learn about their experiences using and managing technology and social media. We conducted interviews with at least one parent and one child from 18 families. We purposively sampled parents of children aged 10-17, to focus on the transitional age at which many children begin to gain access to their own mobile phones and social media accounts through the age of their transition into early adulthood.

To recruit participants, we posted online recruitment messages to local parenting groups on Facebook and to Craigslist. We also posted flyers to local community centers and relied on snowball sampling within the networks of our study participants. In an effort to diversify our sample, we created targeted recruitments to attract fathers and single parents. All participants were United States residents with at least one child. Of the parents interviewed (n=19), 15 were mothers. Of the mothers interviewed (n=15), two shared custody with their children’s fathers, and one was a single mother. One mother interviewed was married to her female partner, but shared custody of her son with his father. Of the fathers interviewed (n=4), one shared custody of his 2 teenage daughters with their mother. The remaining 3 fathers were in heterosexual marriages with children living at home full-time.

Children interviewed (n=23) ranged in age from 10 to 17, according to our recruitment messaging, though families in our study had other children at home ranging in age from 4 to 20. Eleven families had 2 children, four families had 3 children, one family had 4 children, one family had 7 children, and one family had 1 child. Some families (n=4) had college-aged children living outside of the home. Of the children interviewed (n=23), 10 were female and 13 were male. In families where more than one child expressed interest (n=5), we interviewed 2 children who fit our recruitment requirements. In one family, both the mother and the father expressed interest in participating. We conducted a total of 42 interviews (see Tables 1a,b). The

Parents		Children	
Mothers	15	Girls	10
Fathers	4	Boys	13
Children’s Ages	Interviewed	Other children	
<10	0	7	
10-11	1	2	
12-13	10	1	
14-15	8	2	
16-17	4	3	
>18	0	5	

Table 1a, b. Participant demographics. Individual family structures have been aggregated to maintain privacy.

interviews were all conducted face-to-face in a medium-sized city in the United States. Throughout, we use pseudonyms to refer to participants. We use “teen” to refer broadly to the age range of 10-17 and the term “adolescent” to refer to the developmental period. We also use the term “child” when in context of the parent-child relationship.

We conducted interviews between August 2014 and December 2014. Interviews typically lasted about one hour, and ranged from 25 to 90 minutes, with parent interviews tending to last longer than child interviews. We conducted interviews until reaching data saturation in the stories we heard from participants. All 42 interviews were conducted face-to-face, with one set of interviews occurring in the participants’ home, two in public places, and the remainder conducted at the researchers’ institution. In all cases, two researchers conducted interviews in separate locations, to ensure parents and children were not visible or audible to one another. Parents were verbally walked through the consent process and signed a consent form to indicate their consent to participate as well as their consent for their child’s participation. Children were verbally walked through a simplified assent process and signed a paper assent form. Each participant was compensated \$25 for their time (a total of \$50-\$75 per family). We did not view or access any participants’ social media accounts during or outside of the interviews.

Participants were asked to tell us about their families and about technology use in their homes. Participants were asked about family relationships; both parents and children were asked about the ease of talking with each other, as well as the attention paid both to themselves and each other. Participants were asked to describe both a typical weekday and weekend at home, with emphasis on times when the family spends time together (such as dinnertime). We asked participants to describe what family time meant to them, and then to describe whether or not their families used devices during family time. We specifically asked about dinner times, bedtimes, and nighttime routines and

expectations. Participants were also asked about the ways in which they communicate with their families, how much time they spend using technology and about parental concerns regarding children's technology use.

We transcribed the interviews and used an inductive approach to develop codes [42]. To do this, the research team individually read through interviews and noted codes by hand. Later, after discussing the codes as a research team, we created a more comprehensive list of codes (34 in total). We then coded interviews using Atlas.TI, frequently discussing codes to maintain agreement. Though interviews with parents and their children were conducted individually and privately, interview transcripts were paired as parent-child(ren) pairs before coding.

A note on privacy: A number of details and reporting have been anonymized to protect the identity and privacy of individual participants, as well as to prevent parent and child participants from identifying one another. A unique privacy consideration for paired interviews (unlike interviews with single participants) is that if a parent identifies herself in our paper, she may learn information about her child that compromises the child's right to privacy as a participant (or vice versa). Therefore, we obscure paired information in cases where an individual—or her family member—may be deanonymized.

RESULTS

Parents Underestimate Teens' Social Media Use

Parents underestimate how many and which social media sites their teenage children are using. Most parents knew their children were texting, but were not aware of the use of additional chat applications, such as Kik (instant messaging) or Oovoo (video chat). Parents were also often unaware of teen's use of newer social media applications (e.g., Vine, a platform for sharing short video clips). Some children intentionally obscured their use of applications parents considered contentious, such as Snapchat, a chat application in which messages self-destruct. Other parents knew their teens had created accounts on particular platforms, but underestimated their overall investment in the channel. Laura reported that her son and daughter were avid social media users, but that they did little beyond text messaging and Instagram: "They don't have Facebook. They don't do Snapchat." However, Laura's daughter told us she used Facebook to follow updates from her theater guild; she was also a frequent Tumblr user. Laura's son reported heavy use of Snapchat which he used to stay in touch with family and even other friends' parents.

Some parents relied on restrictive mediation strategies to exercise control over their children's usage. Bill and Michelle said they frequently asked their sons to delete applications from their devices:

"Both of them had Twitter, and [we] just didn't see a point for them to have it. It was just something that was gonna take up their time and

[they could] possibly see some inappropriate things."

Bill had also asked his children to delete Snapchat: "I just didn't like the idea of not being able to see what was on it." Ellen said one of her sons had also been using Snapchat: "I got upset... that they disappear. That people can send you terrible things and they can disappear." Ellen was particularly worried about pornography, and asked her son to delete the application; she said her two older children were no longer using Snapchat. However, when asked if he used Snapchat, Ellen's son Jake said he used the app frequently. Jake also reported using Snapchat to talk with his siblings. Furthermore, when asked if his parents knew that he used Snapchat, Jake said: "Yes."

Though Bill and Michelle carefully monitored their children's social media platforms, including monitoring their text messages, neither parent was aware that one child used Kik (and thus they were not monitoring its use). Christina's daughter did not yet have a phone, but used various social media applications on her iPod to stay in touch with friends. Christina would often overhear her daughter having conversations with a friend before bed, but was not sure which app (or apps) she was using to make calls: "I should know this, but I don't." Even when parents knew which sites and applications their children were using, many expressed a limited understanding of how the sites worked. Both of Roxanne's sons were active Vine users, a video-sharing application which Roxanne told us she was still familiarizing herself with: "I didn't even know what that was until about a month ago—the vines and the retweets and finding out what all that is." Similarly, Dawn knew her daughter was using Snapchat to stay in touch with her cousin, but said she "still [doesn't] understand how that's used." Some parents appeared to be exhausted with trying to keep up:

"My son would like to talk more about Pokémon with me, and I do not want to know. And my daughter wants to talk about Minecraft till my ears fall off."

Kate expressed similar sentiments. She knew her son was playing Pokémon, but would prefer he talked about it with his friends: "If you trade those ones, then you can get this, and this monster is that, and blah blah blah... Pokémon or whatever. I feel kind of bad to say, uh, why don't you go talk about that with Brady or something." Roxanne, too, said that social media "is all I hear about":

"Will gets in the car—'You're not going to believe [it]! I have 70 followers.' And then he's saying stuff like retweet and I'm sitting there like... what are you talking about? What's a retweet? I don't know what that means. And then Micah's like, 'Yeah, I got 740 followers on Instagram.' They talk constantly about it."

Although parents underestimated which sites their children were using, many teens felt their parents overestimated the time they spent on social media each day. One teen said he spent less than 30 minutes per day on social media sites but frequently used his iPad for homework. When asked how much time his parents think he spends on social media, he said: "I'm convinced they think I don't sleep."

Some parents were aware of gaps in their own understanding, and expressed concern that their children might take advantage of their unfamiliarity. Many parents attributed gaps in their own technological literacy to their own upbringings: "I am probably the most inept, because I am older than anybody else in the family. And I went to college at that time when computers were really just starting, and it was very optional. You had a cellphone, but it was an emergency phone. The kids are much more adept than I am in that."

Parents Communicate; Teens Just Hear "No"

Although many parents felt they were adequately communicating with their children about social media and technology use, children reported that parents simply told them what not to do; pornography, profanity, and inappropriate pictures were commonly mentioned examples. When asked if his family had conversations about technology use, Kyle reported that the conversations were "always about posting bad things on Twitter":

"So, like, profanity is a huge no-no... especially because that could reflect poorly on [my parents]. If I tweet something bad or post something on Instagram that's bad—just anything that's mean or that could result in something bad."

Similarly, Sam said "My dad takes more of an authority position: 'You do something bad and you will be found. This is not a good thing. Don't do anything stupid.'" There was ambiguity around what "bad" actually meant, and most teens reported only knowing this boundary when they had violated it. When asked if he and his parents had had specific conversations about technology, Dan said:

"Sometimes if I tweet during school my dad is like, 'Why are you tweeting during school?' or 'This is a bad tweet.' And he'll tweet at me and be like, 'Take this down!' So I guess that's communication, technically."

Linda frequently asked her daughter to delete social media posts: "She'll post pictures of her just waking up—you know, her hair's not done, or she had a messy room, even clothes that were not appropriate. She didn't want to [delete them], but I'm the parent, so... not up for discussion." Parents overwhelmingly expressed similarly reactive rather than proactive strategies for discussing social media use with their children, primarily through monitoring. Sarah said:

"There have been times when Kyle tweeted something that we made him take down—[it] exhibited lack of judgment, or swearing, or you know, just being obnoxious. We reserve the right anytime to just check and see what's going on."

Many teens expressed frustration with parents' monitoring, particularly when attempts at conversation were dismissed. Shawn tried to talk with his parents about his desire for privacy: "I have things [that are] personal, that I don't want to share with other people, like everyone else. But my dad feels that he has a right to know—'I own your phone, I pay for the bill, so I have a right to look at this.' That bothers me." Laura dismissed a similar conversation with her daughter, who had asked, "'What about my privacy?' I'm like, you can have your privacy when you pay for yourself and live on your own." When asked a similar question, Laura's daughter said "I feel like they should just be able to trust me better."

Some parents, however, reported that conversations initiated by their children were welcomed. Helen said: "We've also had conversations where the kids have told us we're using our devices too much. We appreciate having it pointed out, because you're right. It's not a good example." When asked if she had any explicit conversations about social media use with her children, Laura described specific behaviors she had told her son and daughter not to engage in: "Don't post any inappropriate pictures of yourself. Limit your [screen] time. Don't let anybody use your phone." Still, Laura worried she was not engaging her children in productive discussion about their own technology use:

"That explicit conversation hasn't really happened the way it should. It really is something that my husband and I have talked a lot about, and yet... life gets in the way."

Other parents relied on religious education or moral obligation in place of specific conversations about technology and social media use. When asked if he and his parents had ever had a conversation about what he should or should not be doing online, Shawn said they had only one conversation, three years prior: "It was a lot about... it was really religious. 'Jesus wouldn't do this.'"

Both parents and children reported that conversations about technology frequently revolved around safety, which some teens found repetitive: "After a while it's repetitive, because of teachers and parents and so many people who told us how to stay safe online." Matthew felt that online safety was a less effective conversation to have with his children: "How to be safe in public is not any different on a server. I don't see it as different from what we teach them as parents about being a person in the world." Despite compelling intentions from parents, who seek to—and do in fact—talk about technology with their teens, our data suggest that many families still struggle to communicate effectively.

Family Technology Rules are Made, Then Broken

Parents created a variety of technology rules for their families. While all participants had rules around technology use, both parents and children reported breaking them. Children reported frequent instances of parents using phones during dinner time or other family times. Children, however, excused these violations if they perceived them to be work-related. Violet said:

“Because of [my dad’s] schedule, he has a bunch of people that need to communicate with him. [His baseball players] always text him when they need to know times for practice, and his assistant coaches, and then all of his people from work. We joke that he’s worse than we are.”

Similarly, Shawn reported that both his parents occasionally used their phones during family time. Shawn said this rule violation felt disrespectful:

“I feel a bit disrespected... well, it depends what the call is for. Something random like a friend or something, I feel a bit ignored. But if it’s for work, I completely understand.”

Michelle and Bill emphasized that their household had very strict rules about phone use. When asked if anyone had their phones at the dinner table, Michelle said: “Nope.” However, when asked if anyone checked their phone during dinner, her son said: “Yeah, any of us will. A lot of times our [phones] are on silent anyway. But if it’s a call, then my dad will go answer it.” Kyle said that although his parents often broke technology rules, he understood that his parents had work responsibilities: “I think it’s sort of hypocritical, but they also have a lot more to keep track of. I know that they’re not just on Instagram and Twitter, you know, just scrolling through their feeds and stuff.” Jaclyn said that it was not appropriate for her mother to use her phone during family time, regardless of whether or not it was for work: “It kinda makes me feel like she’s not listening or paying attention.”

Many parents reported breaking their own rules. When asked if phones were allowed at the dinner table, Heather said: “Not during dinner, no. I think it just goes back to the whole idea that dinner is the most important family communication time. It’s an old fashioned ideal.” However, when asked if she had ever checked her phone during dinner, Heather said, “Uh-huh. Yup, I do.” Matthew also expected his children to avoid phone use during dinnertime, but understood if his children broke the rule, given that he broke it too:

“I expect them to be understanding if I get a text during dinner. It’s probably work-related, and I probably need to check it. But I wouldn’t expect them to adhere to the standard of behavior that I myself don’t adhere to. When you ask them to adhere to something that’s not realistic, you can

lose their adherence to things that are really important.”

Some teens made explicit connections between their parents’ lack of adherence to household rules and their own behaviors. Justin reported that phones were not allowed during family time, but that her father often violated this rule: “My dad’s really obsessed with his phone. I think I’m just mirroring him.” Periodic device “shut-offs” in favor of offline activities—like reading or playing outside—were also common. As Ellen said, “I’d rather them be doing things with their hands... crafts and building things and drawing.” Other parents restricted some use, but encouraged more constructive behaviors: “We will say, ‘Time to do something constructive.’ But that can be using a screen. Playing Minecraft is constructive.”

Children expressed frustration with limits to screen time, especially when they believed their parents misperceived their actual device use, lacked understanding of the device’s value, or underestimated their school and work responsibilities. Jaclyn said her mother thought she spent too much time online, but Jaclyn wished her mother understood social media better: “She thinks I just watch videos and stuff when I’m really doing something productive.” Christina reported that she tried to restrict her son’s screen time before bed:

“He uses his iPad all the time [in the evenings]. He’s either doing his fantasy football or looking up videos or whatever he’s doing on it... chatting with his buddies.”

When asked if he used technology at night, Christina’s son said he needed to, in order to finish his homework: “All my books and stuff are on the iPad. Sometimes, if I have a lot of homework, I’ll end up staying up until like 12 or 1.” Christina knew that Shawn needed to study, but that she “can’t tell if he’s studying or goofing off.” Helen tried to limit her son’s Internet access, but expressed frustration with enforcing her own rule: “Sometimes it’s absurd, because he wants to know what something is, and we don’t know the answer. There’s really only one way to answer it.” Laura also tried to enforce a ‘no devices during family time’ rule, but she could not always tell when to intervene:

“They could be looking up something that we’re talking about. Or they could be pulling up a song. It’s not like they’re necessarily texting somebody else or whatever... there’s a lot of things that they could be doing, so I don’t even know what they’re up to.”

Families Want Shared Expectations, Not More Attention

Parents and teens were both asked if they felt they paid enough attention to one another. Perhaps counterintuitively, neither parents nor children desired more attention from one another. Instead, participants wanted their expectations of attention to be shared, whether attention was paid to a device, an activity, or to each other. Evelyn reported that

her mother often had her phone out, because her mother's partner had a dangerous job. Evelyn felt it was acceptable to attend to her device whenever her mother was doing the same: "Usually, if she has her phone, then we're allowed to have ours." Austin also noted the importance of shared expectations, saying that it felt uncomfortable when one person was on their phone but not the other: "Here's my iPhone, there's you. I'm looking at Twitter, you're looking at me on my phone looking at Twitter."

Although many participants acknowledged situations in which it would not be appropriate to attend to a device, some participants reported checking their devices anyway. Participants often attributed this compulsion to visible and audible device cues, which command the user's attention:

"We have alerts that come to our phones. Every time somebody posts—constantly. There's times when I try to just put them down... and our phones are just going off, going off, going off."

Dawn and her daughter had recently set their phones aside for several hours in order to escape the continual allure of their devices: "[My daughter] wasn't happy. I made them read." Heather's family discouraged device use during dinnertime, but she used an iPad while cooking:

"Often I'm using recipes that are on my phone or my iPad. If notifications are coming in, I'm immediately reacting to that sound or that buzz or that visual, so I will switch over."

Linda said she would only attend to device notifications during dinner if they were on her work phone; she said her children would never check their notifications during dinnertime, "but they would probably want to." Teens also reported a reliance on device notifications to indicate when their attention was required: "I have the SportsCenter notification [app], so it'll send me any major news. So, I can literally wake up and be like, 'Why'd I wake up again?' Oh, yeah! Check my phone. 'Oh, big game!' Alright. Go back to sleep."

Susan said her attention to technological devices sometimes detracted from the attention she was able to pay to her children: "I was busy working, doing reports or something like that. They came down and they were like, 'Bye, mom.' I said bye to them, [but] I don't remember seeing their eyes. I was thinking, 'I've got to remember to shut off the stinking laptop.'" Dawn expressed similar frustration with the constant need to attend to her devices: "It gets to me, you know. It can get to be too much. But then other times... it's a way of life."

Attention also influenced the appropriateness of device use when family members were each focused on a similar activity. Though Christina did not allow phones at the dinner table, she said she would check her phone under certain circumstances, particularly if everyone attended to a particular task:

"You know, we do this all the time—I'm sure you do it, too—you'll go 'we can just Google that.' Everyone whips out their phone, we're all Googling something or other... but it's part of the conversation."

Some participants also reported that attending to a device while watching a movie or in the car (not while driving) was also acceptable, when the primary focus of attention is not each other. Sarah said:

"If we're watching a TV show together... I used to be disgusted by the idea of 'dueling screens.' But then I started to feel, like, what do I really care? If this is your downtime and your social time and we're watching a thing and you wanna be checking your Instagram or whatever, go for it."

Other parents, like Susan, felt device use should be limited to "one thing or the other." Susan reported that both her children preferred to use their phones while watching a movie. She had her children choose: "We'll turn the movie off if you just wanna be instant messaging your friends."

Although device use during family time was discouraged across households, certain instances of togetherness were seen as exceptions, as long as expectations for attention—whether attention to each other or to a particular activity—were shared. Kate said her daughter often checked her cell phone while they were in the car together, and though Kate said she was okay with this use, she also said "it depends if we're actually having a conversation. If we're actually having a conversation and she goes completely silent, then I feel annoyed." Austin also said that phone use during family time depended on the quality of conversation: "It depends if it's really engaged. My mom will pull out her phone and it's like saying 'bye, I'm gonna go on this device and look at the web [instead].'"

The struggle to manage attention extended outside of home use; both parents and teens articulated strategies for determining to what (or to whom) their attention was paid. Dawn said that she would not use her phone while on a date or while talking with someone she just met, but when at home with her family, she often did:

"If I'm sitting around with my family members and I'm having a conversation with my sister, it's nothing. We both will do it. We'll be talking to each other, but it's [different] with somebody that you know and that you're around all the time."

Conversely, Laura said "when you're with your closest people or when you're having a meal with people, that would be an appropriate time to disengage from [your phone]." Graham liked to use his phone while hanging out with his friends, as long as expectations for attention were shared:

“Me and my friends will have group matches on Flappy Golf. You can play multiplayer on it, and that’s fun—so we’ll do that sometimes, or we’ll all watch someone text. We’ll just be messing with someone... like a prank phone call.”

Kyle also said he sometimes used his phone with friends, and especially during meals: “While eating, it’s sort of like... since I’m already doing something that isn’t making my full attention go toward my friends, I might as well go on my phone.” Libby reported that she would not use her phone “in a situation with a group of people and everyone’s talking,” and that it would feel inappropriate if only one person were to attend to a device: “It seems sort of pointless. Like, why are you spending time with them if they’re just on their phone? Why are you talking to people who aren’t there?”

DISCUSSION

Our results highlight four overarching tensions between parents and teens regarding technology use and attitudes. Here, we first describe how the practical obscurity of personal device use creates anxiety for parents, who can see that their children are using a device, but not what they are using it for. We then discuss how expectations of constant connectivity affect parents’ and children’s ability to manage when—and to what—their attention is paid. Last, we draw on historical literature to argue for a more realistic understanding of family time and of adolescence.

Practical Obscurity of Personal Device Use

A primary affordance of social media sites is that of visibility. Social media “affords users the ability to make their behaviors, knowledge, preferences, and connections visible to others” [42]. However, although content posted online may be visible to its creators and to their networks, the individual behaviors of a mobile technology user are rarely visible to observers in the physical world. This creates anxiety and stress for parents, who can see that their children are using a device, but not what they are using it for. Simultaneously, the physical visibility of a child’s device (e.g., holding or checking the phone) may generate anxiety for parents, who are forced to confront and accept how little control they have over these devices and, by extension, over their children’s information consumption, content production, and social lives.

Obscurity refers broadly to the ways in which information can be hidden or kept from others’ reach. In our study, parents expressed frustration with the obscurity of their children’s actual device use. Although many teens reported a reliance on technology to complete homework or other responsibilities (often at the request of schools, who sometimes provide textbooks only digitally), some parents worried that children said they were doing homework when they were actually engaged in other activities, such as the use of social media sites. Many parents tried to exercise control through the creation of rules and limitations (e.g., restricting screen time, requiring homework to be

completed on a shared computer, limiting device use to a certain time of day). However, parents were often unsure when they could acceptably intervene, as children could be engaged in any one of a range of Internet-enabled behaviors—some of which parents considered to be constructive uses of their time.

The practical obscurity of personal device use prevents parents from implementing successful technology rules, and may also contribute to parents’ misconception that children do not use technology to accomplish meaningful goals. However, recent research suggests that technology may support children’s developmental goals, such as information-seeking [6], maintaining privacy [7], exploring emerging identities [41], learning about rules and boundaries [4], and maintaining social relationships [24]. Historically, many of these developmental tasks were accomplished through activities which were visible to parents—for example, a child might maintain social relationships by entertaining visitors, exercise privacy by shutting a bedroom door [28], or seek information by reading an encyclopedia or book. Although teens may accomplish similar tasks through the use of technological devices, this developmental work remains largely invisible to parents. With ubiquitous mobile internet access, parents are unable to see or control what their children are exposed to, who they communicate with, or what they produce [34]; this often causes parents to rely on restrictive mediation strategies, such as restricting device use. Instead, parents should discuss with teens what they should do or can accomplish with technology. Rather than prohibit negative behaviors, parents should encourage positive ones.

Attention Expectations and Management

Prior work shows that teens are online almost constantly [26]; many parents are similarly active. For both parents and teens, we see an emerging kind of constant connectivity [43]—one which challenges family members to divide their time and attention between device use and family interactions. Here we draw on scholars’ discussion of constant connectivity and availability to understand technology tensions among families [31,43].

The ubiquity of mobile devices has led to expectations of professional availability outside of the workplace [31]; interestingly, we see that this constant availability has implications for family life. Mazmanian and Erickson [31] describe “availability” as “the sociotechnical state of being constantly connected and accessible to others.” They focus on the workplace and the service of availability, which, when provided by firms, has evolved into a type of economic currency. We extend these arguments into the family and the home, and explore how constant availability becomes a social exchange, in which the expectation of parents to be constantly accessible requires the negotiation of social currency (namely time and attention) paid to their children. Similarly, teens’ social and school demands require that they negotiate their own time and attention, and

sometimes present a “legitimate” rationale for breaking parents’ technology rules (e.g., no technology late at night).

Mazmanian and Erickson [31] describe a kind of “creeping availability,” or creeping in intensity, “as infrastructure and technologies enable ubiquitous communication and easier transfer of information across distance.” Creeping expectations of availability in quotidian contexts like dinner times may negatively impact when (and why) attention is required, contributing to ambiguity in household rule adherence and overall family tensions. This framing suggests that managing time and attention is not an individual responsibility; instead, for both parents and teens, collective responsibilities and social or institutional loyalties (e.g., workplace, family, school, peers) contribute to expectations of and demands for individuals’ time.

Parents and teens in our study did not desire more attention from one another; instead, they wanted attention expectations to be shared. In our study, the use of a mobile device was considered acceptable during family time *as long as* others’ attention was similarly split, whether attending to a device or to a specific activity like driving or watching a movie. Our research suggests that establishing shared expectations with regards to attention can help families better manage family time.

Adolescence, Work, and Family Time

Household technology use has long been a source of tension between parents and children, whether television use or telephone conversations. As Hine [18] says, “the ways in which young people amuse themselves has been a source of worry at least since the eighteenth century, when elders worried that their daughters were being ruined by too many novels.”

This research surfaces a number of tensions between parents and their teenage children with regards to technology use. Within our study, families expressed difficulty adhering to household technology rules, particularly when devices were prohibited during meals or other family times. Though parents often broke their own rules, many children considered rule violations acceptable when they believed the interruption to be work-related. The reintroduction of work into home contexts positions professional device use as an exception to existing household rules—at the risk of interruptions to mealtime routines and overall feelings of family togetherness. In this way, the assumption that modern professionals will incorporate availability into their lives outside of work [31] may compete with the expectation for parents to attend to their children instead of their devices [19], creating anxiety and guilt for working parents who cannot effectively fulfill either role.

Instead, we propose a reinterpretation of what “family time” should mean today. In particular, romanticized ideals of family time differ from families’ actual experiences. The perception of family time as a time for family members to

be constantly engaged with each other [13] is unrealistic, particularly as expectations of constant connectivity reintroduce work responsibilities into home life. In lived experience, family time can represent a spectrum of activities: families can be copresent but managing their attention individually (e.g., reading a book or using a device); families can be copresent, but attending to a shared activity (e.g., watching a movie together); or, families can be copresent and attending to each other (e.g., playing a game or having a conversation). Though the latter category is what families typically consider to be representative of actual togetherness, a more nuanced interpretation of family time could make expectations of togetherness more attainable, and alleviate guilt for parents and teens who struggle to manage competing demands for their time and attention.

Just as differences in expectations of togetherness create conflict among families, problematic, too, are relatively modern notions of what constitutes adolescent life. The concept of the *teenager*—a word first coined in the 1940s—“has been an impediment that has kept [adolescents] from becoming the people they were ready to be” [18]. Although adolescence has always been a problematic construct, household technology use further highlights these tensions. Teenagers seek independence and privacy [28]; although parents wish to provide their children some privacy [30], the practical obscurity of personal device use serves as a frequent reminder to parents of the privacy they have afforded their children. Teenagers’ primary responsibility is expected to be schoolwork; though many teens in our sample reported frequent use of their devices for school-related purposes, the ability for teens to easily shift between schoolwork and socializing on a single device creates anxiety for parents, who cannot discern whether a device is being used responsibly.

Hine [18] argues that these competing expectations for teenage children—who are expected to be both child and adult, and therefore succeed at being neither—restrict adolescents’ abilities to successfully advance into adulthood, and that instead, teenagers “should be treated as beginners: inexperienced people who are not fundamentally different from adults, but who, because they are dealing with so many new things in their lives, usually need more help, more attention, and more patience than those who have experience.” As with considerations of family time, parents may benefit from more generous—and consistent—expectations of their teenage children.

Limitations

Our sample was not diverse in a number of aspects. We sampled from a single region in the U.S., leading to possible geographic biases. The majority of participants were likely to be middle or upper class, though some participants were likely to be working class based on their professions. Only one participant identified as being in a same-sex relationship. We note that although we closely

analyzed our data to look for differences in technology tensions with respect to children's ages, no patterns emerged, which could be because they do not exist or because of our relatively small sample size. Though we recruited for diverse participants on some measures, namely fathers and single-parents, we did not observe discernable differences between those participants, especially given the small sample sizes of each. This work sets the stage for a larger-scale study with subsampling of these demographics. This study is also subject to self-selection bias, in which more engaged parents may have been more likely to participate in this study. Asking both parents and teens about their personal technology use is also subject to social desirability bias; it is likely some participants engaged in face-saving behaviors.

CONCLUSION

This research surfaces a number of tensions between parents and children about the use of technology. Specifically, parents underestimate their children's social media use. Parents report that they communicate with their children about technology, but children feel their parents only tell them what not to do. Both parents and children describe violating household technology rules. Although parents and children do not desire more attention from each other, they do want their expectations of attention to be shared—that is, agreed-upon contexts when attention is paid to each other instead of a device. We extend the concept of constant connectivity from the workplace into the home, to better understand how these technology tensions arise. We also draw on the concept of practical obscurity, to highlight the ways in which an individual's behaviors might be kept hidden from another through the affordances of personal devices. Finally, we propose a reinterpretation of family time and of adolescence, to acknowledge both the demands on attention personal devices afford as well as the competing expectations of teenage life. Ultimately, realistic and consistent expectations will allow both parents and children to better manage household technology use.

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