

# How Much is “Too Much”? The Role of a Smartphone Addiction Narrative in Individuals’ Experience of Use

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In a mixed methods study of parents and teens (n=200), 87% (n=174) of participants used language consistent with smartphone addiction narratives when asked about their smartphone feelings and use. Mental health researchers and clinicians do not consistently agree about whether smartphone addiction exists nor what it would look like if it does. Our goal in this study was to explore the patterns of responses that people invoked when talking about the role of smartphones in their lives and the lives of those around them. Responses suggested that both parents and teens are aware of and potentially influenced by a narrative that smartphones are addictive and can lead to negative, though largely undefined, consequences. We examine potential origins of this narrative, including media coverage, and examine the critical need for a deeper examination in the CSCW community of how this narrative could be influencing well-being, sense of self, and sensemaking around smartphone use.

CCS Concepts: • **Human-centered computing~Smartphones** • **Human-centered computing~Mobile phones** • Social and professional topics~Adolescents

## KEYWORDS

Smartphones; mobile phones; parents; teens; smartphone addiction; addiction; social discourse

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## 1 INTRODUCTION

We are living in an era of ubiquitous smartphone use and ownership [55]. With smartphones comes unprecedented access to information, communication, and entertainment. These devices have also reconfigured social norms that frame what it is to live, work, and maintain relationships in the ‘information age’ [45,46]. It is no surprise that such changes have ushered in questions in a variety of research communities as well as the general public about the potential effects of smartphone use for individuals, relationships, and communities.

One question, “Are we addicted?” is a growing concern [14]. Common Sense Media (2016) attempted to answer this question in a survey of parents and teens, where 50% of teens self-reported that they “feel addicted to their mobile devices” and 59% of parents reported that they “feel their teens are addicted to their mobile devices” [14].

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The language of smartphone addiction has become standard in mainstream media and numerous research studies now take smartphone addiction and/or overuse as an unquestioned premise for research on assessing and overcoming smartphone addiction (e.g., [23,34,35,35,36,44,52]).

However, addiction studies scholarship is more cautious with the use of this label [9,32,67]. When gaming addiction was proposed by the World Health Organization, nearly 40 top scholars repeated the message that we should err on the side of caution in labeling everyday behaviors as addictions [67]. Authors argued that, “Moving from research construct to formal disorder requires a much stronger evidence base than we currently have. The burden of evidence *and* the clinical utility should be extremely high, because there is a genuine risk of abuse of diagnoses” [67]. Kardefelt-Winther and colleagues also remind us that behavior should not be conceptualized as a “behavioral addiction” if the behavior is better explained by an underlying disorder, that functional impairment that results from the activity is a willful choice, if the behavior does not lead to “significant functional impairment or distress for the individual,” or if it is part of a coping strategy [32]. The bar to achieve a clinical label of addiction should be high and the use of such loaded language could have consequences for both users and researchers.

Despite this urge for caution, we find that people use this language when discussing their attitudes, feelings, and beliefs towards their smartphone and/or towards smartphones in general. The insights we put forth in this paper revolve around the following questions: One, what contextual factors might influence how people describe their use of smartphones, and in particular the overwhelming majority of people who used a language of addiction, defensiveness and concern? Two, how is such language being used to describe everyday engagements with smartphones and what work is it doing for the people using it? And three, what are the negative ramifications that people associate with smartphone use?

These questions emerged from inductive findings from a mixed methods research project that included both an experimental component and a debrief survey and interview (see below for full description of methods). Given no hypotheses regarding addiction in our study, we were initially surprised by the degree to which participants used related language when describing smartphone use. Of the 200 parents and teenagers who participated in the experiment, nearly 90% invoked language that reflected awareness of concerns about smartphone addiction in relation to individual engagements with smartphones. These statements included “I should probably use it less”, “I’m an addict” or “I love it, but could totally live without it,” asserted equally by parents and teens.

Some people described concerns about their “addictions” to their smartphones while others distanced themselves through statements about their ability to live without their devices. Both kinds of statements were often uttered in conjunction with, and as a coda to, declarations of love, attachment, and usefulness of devices. And when probed about details of the negative effects of smartphone use, responses were often vague, calling upon negative outcomes put forth by popular media or local authorities rather than personal experience.

We make sense of these findings through the lens of social narratives, or cultural discourses, and find that people are living in terms of a pervasive narrative of smartphone addiction [24–26]. The strength of the addiction narrative is such that people appear to be forced to make sense of and come to terms with this narrative in relation to their everyday engagements with smartphones. Further, these narratives have power even when such engagements have become

normalized for people who do not appear to be experiencing obsessive, pathological, or damaging relationships with their devices.

We conclude with a discussion of the power of media attention and a call to reexamine researchers’ relationship to narratives perpetuated in popular media. The CSCW community should more deeply engage with the ways in which our research can perpetuate these social narratives that, in turn, affect individual experience of technology. Given the current ubiquity of smartphones in many areas of the world, it is incumbent on us to pay attention to the power of these narratives and critically examine what we are measuring when research labels individuals as “addicts.” We then call for greater attention to methodologies that measure smartphone “addiction” in order to delineate whether metrics are, in fact, measuring clinical addiction or simply parroting an addiction narrative.

## 2 RELATED WORK

### 2.1 Smartphone Addiction in Research

Current scholarship asserts evidence of mobile phone addiction [3,6,61,65]. Similar to the definition of internet addiction [40], in this literature, smartphone addiction is regarded as problematic [40] or excessive use of the phone to the point of psychological dependence [13] that “displaces [the person’s] social or personal needs in a way that they cannot control” [43,69]. Survey studies that build on these definitions assess smartphone addiction using participants’ reported use and attitudes toward mobile phones [6,61,65]. For example, Salehan and Negabhan argue that extensive use of technology can lead to addiction [61]. Other studies show that users might quit using technology or social media due to the fear of themselves being addicted [6,65]. Fears around addiction to digital media use is also a prevailing concern in families [62]. A large-scale survey of over 470 parents finds that fears of addiction predominated parental concerns [62]. However, participants of these studies referred to “addiction” in a colloquial sense rather than as a formal diagnosis [6,63].

Other work reporting that large numbers of people are addicted to phones used survey items, such as “using the mobile phone takes up a lot of my time” and “when I do not have my mobile phone I feel disconnected,” that do not account for the context of phone use [50,61]. Smartphones have reconfigured our social norms around living, working, and maintaining relationships [45,46]. Thus, instead of being a symptom of addiction, considerable use might be a signal of being able to complete work, maintain relationships, or participate in society [37].

Similar to what our findings reveal, participants in current literature often use the language of addiction when responding to open-ended survey questions and/or interview questions [3,6]. For example, drawing on ethnographic and survey data on college students’ phone use, Ames found that although not all students saw themselves as “addicts”—which they defined as “people who are absorbed in their phones and oblivious to the world around them”—they categorized others as such [3, p. 1496]. However, as with the case of survey studies, the contextual factors that might influence how people describe their smartphone use as well as how and why they are using this language, remains under examined. These studies also only provide a cursory overview of participants’ symptoms of addiction. Missing from this literature is an empirical and nuanced understanding of what impairing smartphone addiction actually looks like, how it should be diagnosed, or steps for treatment.

Building on studies that suggest that smartphone addiction is a problem for many, researchers in the CSCW and CHI communities have explored ways to develop effective addiction intervention mechanisms. For example, Wisniewski and colleagues showed how resilience might reduce the negative effects associated with internet addiction for adolescents, and considered incorporating resilience into design solutions to prevent addictive behaviors [69]. Researchers have also developed and examined mobile apps that enable users to identify addictive smartphone apps [42]; assess smartphone addiction [39,64]; limit smartphone use (e.g., AppDetox [44], Lock n' Lol [34,35], NUGU [36], SAMS [39], and TILT [23]); or focus on the task at hand (e.g., SCAN [52]). Within the CSCW community specifically, Ko and colleagues presented NUGU, a group-based intervention app for improving the self-regulation of smartphone use [36]. In addition, Park and colleagues presented Social Context-Aware smartphone Notification system (SCAN), a mobile app that defers smartphone notifications to enable users to better focus during in-person social interactions [52].

Despite the prevalence of research using the language of smartphone addiction, researchers on behavioral addictions have cautioned against the formalization of addiction diagnoses [9,28,32]. Billieux and colleagues remind us that evidence of smartphone addiction is weak and inconclusive; the research construct is only supported by exploratory studies relying on self-report data collected from convenience samples [9]. These scholars also argue that there is “a crucial lack of evidence that similar neurobiological and psychological mechanisms are involved in the etiology of mobile phone addiction compared to other chemical and behavioral addictions” [9]. As noted in the Introduction, addiction specialists are wary of labeling common behaviors as addictions [32].

In this paper we are not attempting to delineate between addictive and non-addictive behavior. Rather, we provide evidence that parents and teens are aware of the prevailing narrative of addiction around smartphones, and that this narrative could be playing a role in shaping their experience of use. Regardless of the lack of concrete evidence of how or when smartphone addiction could exist, parents and teens often used the language of smartphone addiction while attempting to make sense of their own device usage and/or the use of others.

### 3 METHODS

Data for this paper emerged from a subset of data collected during a mixed methods (experiment and interview) study of how the presence of smartphones<sup>2</sup> might potentially impact parent-teen interactions. Research participants were initially unaware of the experiment's purpose and told that we were interested in “parent-teen interactions.” After the experiment, we conducted open-ended interviews with each parent and teenager separately and in tandem. Interviews centered on the experiences with smartphones in daily life. The experimental design (interacting in the presence of a smartphone) was not communicated to participants until debriefing.

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<sup>2</sup> Although the experiment included participants who owned any type of mobile phone, this paper refers to smartphones throughout to represent the majority of participants' smartphone ownership and to be more representative of the current “smartphone” vs “mobile phone” addiction narrative.

### 3.1 Procedure

Prior experiments have indicated that the presence of a smartphone could potentially impact reported interaction and relationship quality [48,57]. Concerned with the use of these studies to support strong claims regarding the impact of smartphones on all relationships, we chose to replicate and extend these studies with parents and teens in order to understand more deeply the specific ways in which parent-teens engage with smartphones during communication. Results include data collected across 100 parent-teen pairs ( $n = 200$ ; 67% females, 33% males).<sup>3</sup> Teens were 12-19 years old and all of them were still living with at least one of their parents/guardians. Results do not include 21 parent-teen pairs who were removed due to various experimental issues (e.g., presence of additional notification devices during the experiment such as smartwatches ( $n = 4$ ), participants reporting that they thought the study was about phones in the questionnaire ( $n = 4$ ), participants self-selecting to a particular condition – with some parents insisting on bringing their phone instead of their child ( $n = 4$ ), participants’ lack of technology in the home ( $n = 8$ ), language barriers ( $n = 1$ )).

The average age of parents was 48.42 years ( $SD = 6.07$ ) and the average age of teens was 16.04 years ( $SD = 2.24$ ). Average income was \$139,319 ( $SD = \$120, 897$ ), average number of siblings was 2.29 ( $SD = .93$ ), and ethnicity was 30.5% Caucasian, 54% Asian, 15% Hispanic, and .5% African American. Due to study design, all participants were required to live close enough to travel to the university. However, participants were spread out geographically across 53 zip codes in densely populated counties in the United States. We reached out to different teen groups in the area, contacting various parenting groups, high school teachers, community college professors, and university professors.

Research procedures involved a parent and child discussing “the most meaningful events of the past year” for ten minutes with or without the presence of a mobile device (random assignment depending on condition). Conversation topic was a pure replication of previous works. After the conversation, parents and teens were separated into different rooms to complete two sets of questionnaires. The first questionnaire included questions pertaining to participants’ reported experience of the conversation they just had and current mood. Smartphones were never mentioned. At the end of the first questionnaire, we asked participants what they thought the study was about to ensure that they were unaware that the study involved smartphones. Participants who described anything relating to technology or smartphones were removed from the study ( $n = 4$ ).

The first half of the second questionnaire involved repeated measures of the first questionnaire assessing interpersonal relationships and general mood. The second half involved two previously validated phone-use scales [58,60], assessing attitudes towards one’s own device and attitudes towards ones’ parent or child’s device usage, one 7-point Likert scale of participant’s comfort using their phone, and one final open-ended question asking participants

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<sup>3</sup> Participant pseudonyms and number pairs have been randomized to ensure anonymity and confidentiality. Pseudonyms were randomly assigned using the random name generator, Random Name Generator. Participant number pairs were randomly assigned to link parent (“P”) and teen (“T”) pairs together (e.g., P2/T2). Participant ages were also randomly altered by +1/0/-1 to maintain anonymity. Potentially identifiable information (e.g., hobbies) have also been slightly altered to maintain confidentiality throughout.

to describe how they felt about their phone. This open-ended question was included to parse any potential differences between parents' and teens' affect towards their smartphone.

Immediately following questionnaires, parents and teens were interviewed separately (30-minute semi-structured interviews) regarding their feelings and experiences with smartphones in everyday life (e.g., "How would you describe your feelings about your phone in general? How would you describe your parent/child's feelings towards their phone?"). Before beginning interviews, researchers explained to participants that the goal of the study was to better understand participants' unique experiences with smartphones. Researchers emphasized to participants that while interviews would be focusing on phones, that researchers were not looking for any answers in particular and that researchers were not attempting to say that phones were "good" or "bad."

The largest limitation in this study is the possibility that although we instructed participants that we were not looking for any answers in particular, that participants still felt pressure to defend their smartphone use. We recognize that even as we attempted to minimize this pressure and/or socially desirable responses it is impossible to eradicate such bias in an experimental setting. Therefore, it is possible that participants were more likely to reference smartphone addiction language if they felt that we were negatively assessing their use. However, if the assumption or socially desirable response is a reflection of negative assessments of smartphone use, our findings regarding the presence of a narrative of addiction around smartphone use would be strengthened in this experimental setting.

### 3.2 Data Analysis

Data analysis for this paper is a subset of data collected from the larger mixed-methods study of the presence of smartphones during parent-teen interactions. Future papers will explore the relationship of parent-teen findings. This paper explores a finding that inductively emerged in data collection and analysis. After the completion of each research session, questionnaire data was entered into a database. We began to notice that numerous participants were using the open-ended question at the end of the post experiment survey that asked "How [do] you feel about your phone?" to defend or qualify their smartphone usage. In reading participants' responses to this open-ended question, we were struck by the number of people who employed language that expressed concern, vigilance, or defensiveness around smartphone use, often with words of addiction and obsession. This language also was used unprompted across participant interviews.

In substance abuse research, people who fear addiction labelling tend to verbally insist that usage is not a problem and that they can stop whenever they want [10,21,33]. While we are not attempting to delineate addictive behavior or assess whether participants displayed addictive tendencies, we found these unsolicited assertions striking. Why would people feel the need to offer up generalized qualifications or defensive assertions distancing themselves from their own reported smartphone behavior? As noted above, it is possible that participants assumed that researchers were attempting to assess problematic use. However, even if this assumption by participants was true, this phenomenon would further provide evidence that the smartphone addiction narrative is a pervasive experience for participants and something that scholars must take seriously and understand more deeply. If, for example, participants expect scientists to be concerned about smartphone use, all research regarding screen-time rules in the home, tools for monitoring and reviewing screen usage, and so on must be reconsidered in light of this phenomenon.

To better explore this phenomenon, we engaged in a grounded theory process of inductively

coding all 200 open-ended survey question, “How do you feel about your phone”. We initially looked for any loaded language around smartphone use and found such language in well over half of the open-ended survey responses across both parents and teens. After reviewing these passages we discovered that this language fell into three *language patterns*, which are categories of statements denoted by specific words as well as overall constructs. What we term language patterns is distinct from linguistic and language patterns as described by linguists and focusing on the use of specific morphemes that indicate membership in a community [20]. These patterns include: direct invocations of addiction/obsession language (e.g., “I am/I am not addicted to my phone”); defensive assertions that they did not need their phone or had full control over use (e.g., “I can stop/be without it whenever I want”); and fears and concerns about personal use and use of those around them (e.g., “I am concerned about my use and others.”).

We then moved to analyzing post-experimental semi-structured interviews. We deductively coded approximately 100 hours of interview transcripts with the previously induced survey language patterns (language that suggested addiction/obsession, distancing/defensiveness, and/or concern/shame) around smartphone use as our starting point. Interviews were also inductively coded for: positive experiences with smartphones; the presence of smartphones in family life; references to media portrayals about smartphone dangers; generalized statements regarding the negative effects of smartphones; other sources of negative messaging around of smartphone use (school assemblies etc); expressions of guilt or vigilance around use patterns; and expressions of love and appreciation around use patterns. These data were then analyzed in conjunction with flagged responses to the open-ended survey question in a second round of iterative coding, memoing, and dialoging between co-researchers in a classic grounded theory process [12].

## 4 RESULTS

Of the 200 participants enrolled in this study, 61% of responses to the open ended survey question illustrated at least one of the three language patterns described above. Including interview data, the number of people who invoked these same language patterns (in both survey and interviews and/or in survey/interviews alone) rises to 87%. Of these participants, 47% were parents and 53% were teens. The near equal distribution between parents and teens is interesting in light of reported parental pressures to monitor and protect teens from screens as well as general assumptions that teens universally love their phones. Teen concerns about their relationship with phones is noteworthy. Examples and implications for each language pattern found in these data are located below.

Altogether these language patterns suggest that: one, people are living in terms of a prevailing narrative of addiction that could be influencing how they describe their everyday engagements with smartphones; two, in using such language people appear to be distancing themselves and/or feeling guilty about smartphone use, even when such use is described as useful and often overwhelmingly positive; and three, when pushed to articulate the negative ramifications of smartphone use often people can find difficulty locating concrete examples of impairment or problematic use and instead often call upon vague injunctions put forth by popular media and local authorities.

### 4.1 Pattern 1: “I am/I am not addicted” or “I’m not obsessed”

In the first language pattern, participants called upon language of addiction and/or attachment when describing their feelings about their phone. They either labeled themselves as “addicts” or

voluntarily emphasized how *not* attached they are. For example, while Kathy described using her phone to “keep everything in check,” she was adamant that it is not an “obsession”:

*I am glad I have a phone so I can be in touch with my kids and be able to access my emails and daily information I need to keep everything in check, but I don't like to use it for spending time on it. I don't enjoy texting as much as having a conversation with someone. Cell phone is a necessity but not an obsession.* – Kathy (52), P16, survey

The difference between necessity and addiction or obsession is a key one for researchers and laypeople alike. Food, air, and water are all necessities; however, only food is regularly maligned as something to which one can become addicted. What then, is the difference, how and why do smartphones fall into the potential obsession category?

In a similar vein, several participants asserted that their phone was not their only source of “happiness:”

*My phone is an amazing piece of technology that can connect me to my friends or family at any time, and I can do many great things like take pictures and play games on it. However, it does not replace “normal” human-to-human conversation/interaction by any means, and it is definitely not my only source of entertainment or happiness in my life.* – Marshall (17), T2, survey

Even though Marshall described his phone as “amazing” at connecting him with friends or family, he qualified that this form of communication does not substitute for face-to-face communication. Further, while Marshall differentiated between face-to-face communication and technology-mediated communication, he also described a possible relationship between the two: the phone allowing him to schedule meetups or coordinate hangouts with friends and family. This tension demonstrates how people can recognize the entertainment and happiness the phone can bring, but still choose to layer these positive experiences with a negative gloss.

Much like Marshall above delineated “normal” from presumably “abnormal” interaction, other participants reported concerns that these positive associations might undermine their deeper human capacities to experience joy and happiness. For example, Steve commented:

*I am happy I have a phone because of its utility – looking up directions etc. But it doesn't “make me happy.” And it does consume time and energy that sometimes should be spent in another way.* – Steve (46), P56, survey

Several participants actually used the word “addicted” throughout surveys and interviews to assert that they did not suffer from this affliction (24.5%). For instance, parent Renee stated:

*I like having my phone but I'm not addicted to it. It is a helpful and convenient gadget.* – Renee (45), P29, survey

While Renee's statement makes a definitive claim of non-addiction, another parent, Harvey, appeared to struggle with distinguishing between expectations of use, his own patterns of use, and the relationship between use and stress. It is unclear from his following statement if stress is caused by work-related communication or the feeling that he might be using the phone more than he should:

*I am pretty neutral on my phone. I don't feel addicted to it. I need it for work so sometimes it causes me stress.* – Harvey (46), P48, survey

Throughout this language pattern, we see participants struggling to find the right words to describe their experience with their devices. They rarely expressed deep concern about



pathological use patterns and impairment. Rather, they appear to be describing behaviors of everyday smartphone use with inflammatory language that in practice describes “heavy use.” For example, while trying to make sense of the considerable amount of time she spends using her phone for work, one parent, Patti, wavers and ends up saying that she must be: “*I don’t know what the right word is, addicted?*” (46, P22, interview).

As participants attempt to describe what appears to be heavy, but not necessarily pathological use patterns, the language of smartphone addiction is called into action. For example, Shawn turned to the “addicted” label while attempting to understand and communicate his use practices:

*I do feel like I may be "addicted" to my cell phone, but at the same time, I think it's because I get bored during summer and don't have much else to do. I like the things I am able to do with my cell phone and I like using it, but I am also fine doing things without it. - Shawn (18), T3, survey*

After labeling himself as a phone addict, Shawn further critiqued what it means to be labelled an addict by reflecting on potential reasons for heavy use, commenting on positive elements of use, and finally defending his ability to stop use. The addiction narrative appears to resonate similarly with the following parent, Brad. He compared phone use to drug use, despite claiming no experience with drugs:

*I have never done [drugs] but I think it's like a drug where people just get – even I get addicted to it because it's just meaningless, but yet you use it because it gives some kind of relief to your thought process, stress, and all. – Brad (43), P77, interview*

In these responses we see a negative association with turning towards an external source for information, entertainment, or amusement. For Brad, any positive associations he has with his phone to facilitate relaxation is interpreted as a shameful and addictive practice. Listing benefits that one experiences through the device and labeling those enjoyments as “addiction” is also illustrated in Dorothy’s description of her addiction:

*[Social media] is an easy way to say, 'here's what I'm doing today,' 'I'm thinking about you,' or 'I saw this and it reminded me of you.' And it's a quick way to connect in a way that isn't verbal. So we definitely use that to interact. I would say that [we] are mostly introverts, and definitely pictures and texts are easier than words. All that to say yeah, I'm pretty addicted to my phone. – Dorothy (44), P86, interview*

Dorothy labeled her considerable phone use as addiction, though she describes her “addiction” as allowing her to stay connected with her family and friends – rather than impairing her life. Thus, the question becomes why she is invoking this term. Is Dorothy concerned about a clinical pathology, has she accepted the addiction narrative in a manner that is undermining her sense of well-being, or is she simply nodding to the social narrative as she believes the narrative is pervasively accepted? Regardless of underlying motivations, across these responses we see the people calling on a language of addiction to describe various degrees of smartphone use.

## 4.2 Pattern 2: “I can Stop/Be Without It Whenever I Want”

In the second language pattern, participants used language that emphasized how they could “live without their phone” if necessary. Similar to the prior narrative pattern of addiction/attachment, such statements often combined a positive description of the device with a statement that undermined positive associations or engagements with the device. What made this pattern

distinctive was language that signaled additional defensive or distancing moves. These participants thus often began by stating what they enjoyed about their phone but concluded with an assertion that they were not attached to their phone and that it had little to no influence over them. For example, the following parent, Mike, conveyed that the phone did not “control” his life:

*I appreciate what it does for me: email, weather, call family and friends, get info, tells time, shows calendar events, sets alarms (which I need) but I'm not attached to it – I use it. It does NOT control me. – Mike (63), P57, survey*

In asserting his independence from the smartphone, Mike appears to be anticipating a narrative of addiction and thus feels the need to tell researchers he is not slave to the phone. Mike's strong response also reveals the degree to which he could be living in terms of this narrative.

If we look at similar responses (such as Mike's daughter Sandy) we can see how such assertions may be less about signaling to others that one isn't controlled by the device and more about an internal struggle regarding what she should consider appropriate use. Sandy states:

*I do love my phone, but I can be without it and it's not my favorite thing ever; I enjoy it, but it doesn't make me the happiest I've ever been (does that make sense?) – Sandy (19), T57, survey*

Sandy “loves” her phone, but it is important to her to simultaneously communicate that it is not a problematic kind of love. Another teen, Aubree, begins by listing the things that she enjoys about her phone, but ends by showcasing how her emotions are not regulated by the device:

*The phone helps me communicate to people, listen to music, and play games. But if I don't have it, I won't be sad about it. – Aubree (18), T89, survey*

Numerous participants, both parents and teens, reveal a similar struggle around their feelings toward the phone. They rarely expressed unqualified appreciation of the device. Such ambivalence suggests that these participants have been exposed to the broader narrative that any phone use is potentially problematic but don't necessarily experience negative consequences of phone use in their lives. The confusion we hear in these statements indicates that these participants are not simply parroting the narrative. Rather, these statements reveal experienced confusion, shame, ambivalence and vigilance against the purported lure of the device.

Other participants were less explicitly positive about their phones but similarly asserted non-attachment. Such responses, like that from the following teen Levi, seem to suggest that even the notion of having a phone always with them might be read as problematic; something that could reflect negatively on him as a person.

*I usually always have my phone with me outside of the house, but it is something I can live without if I need to. – Levi (13), T50, survey*

Levi explicitly communicated that he does not *need* it. Again, it is difficult to interpret who Levi is trying to convince. It is possible that he is struggling with the internal conflict of knowing that he does bring it everywhere, but not knowing whether this behavior is healthy or not. Without a clear metric of self-assessment, Levi is simultaneously describing an attachment to the tool and claiming that he can live without the device if he “needs to.” The need to provide researchers (or himself) this reassurance indicates the influence of the broader narrative of problematic smartphone use and addiction.

Assertions of emotional stability echo many participants' desire to present themselves as not

overly reliant on the smartphone. For example, similar to Sandy saying it does not make her the “happiest I’ve ever been,” another teenager, Lili, explicitly mentioned that not having the device would not affect her mental state:

*I thoroughly enjoy using my phone as a tool and as a source of entertainment, but I would be content if I lost it or have it taken away from me.* – Lili (16), T98, survey

Again, we see participants seemingly resistant to report an unproblematic or unqualified appreciation of phones. Coupled with a lack of understanding of how to assess smartphone addiction, participants regularly compared their experience of the phone with ideas of what problematic behavior looks like in others. For example, Sherry compared herself to others who she believes *really* have a problem:

*I enjoy having my phone for safety purposes and to ensure my [children] and husband can reach me at any time. I don’t use it to have long conversations on it. I don’t feel like I have to have it with me at all times. I, in fact, get annoyed with friends who are constantly “tied” to it!* – Sherry (57), P4, survey

In asserting herself as different from those who are “tied” to the device, Sherry both recognizes the addiction narrative and justifies her own use as important for ensuring her family’s safety. These data suggest that such comparative moves might serve to reduce feelings of guilt and concern regarding personal use patterns by pinpointing friends who are more “tied” than oneself.

Several people echoed these distancing moves but went further by providing detailed rationales for *why* they would be okay without their phones. For example:

*I enjoy having my phone with me just in case anything happens to me, but also so I can talk with my friends. Not having a phone wouldn’t bother me as much because I have lived a long time without one; I don’t feel the need to constantly use it.* – Tobias (15), T49, survey

*Personally, I am neutral to my phone. I only use it for work, ensuring that kids arrive and reach their destinations and looking up places or addresses. I’m okay with or without, it’s more a functional tool rather than a networking device for me. Proof: we have [#] gigabytes of data that we share as a family each month—mine is usually less than [#] gig of use.* – Christina (45), P58, survey

In these statements, Christina appears to be looking for concrete evidence that she does not have a problematic relationship with her device and Tobias calls upon his “long” experience not having a phone to assert he would be ok without it. Absent from these statements is a clear sense of how an unhealthy relationship might manifest in daily life. For example, while Christina calls upon her quantified data use as evidence, she does not clarify how different amounts of data consumption might relate to problematic use of the device (e.g., data is not used equally across applications and paid cellular data is not used when the phone is connected to a wireless network, so data consumption does not equate to time on the device, no less a toxic relationship).

### 4.3 Pattern 3: “I’m Concerned About My Use and the Use of Others”

In the third language pattern, participants focused on expressing concern and/or guilt around smartphones. These language patterns may reflect participants’ general anxieties about personal

use and the use of their family and friends but did not include explicit language of addiction/obsession or clear distancing moves.

*4.3.1 Expressions of negative impact.* Many participants talked about the potentially negative impacts of phone use on themselves and others. Examples of concerns include issues related to health, relationships, productivity, and overdependence on smartphones. However, rarely were these concerns backed up by clear examples from everyday life. For some participants, awareness of potentially negative impacts of phone use did not appear to emerge from lived experience, but rather called upon shared stories of smartphone addiction. This suggests that for these participants lived experience did not align with narratives about the addictive and harmful effects of smartphones. In fact, many of these statements tended to follow descriptions of positive engagement with the phone. Participants who referenced the negative impact of phones tended to report vague examples. When pushed further, participants often found difficulty recalling concrete examples of negative impact. This phenomenon is illustrated through a detailed example of one participant below:

For example:

*As much as I enjoy talking to friends and the ease of communicating, I think my phone is preventing me from doing important things, like going to sleep early or paying special attention to those around me. – Natalia (18), T5, survey*

Here, Natalia described concerns around her own behavior, and later in her interview, she also recounted concerns about her siblings' productivity in the presence of devices:

*It's more about the two younger [siblings]...they use their iPads a lot when they're home. They just play games and watch video, and we're trying to get them to use those less and do other things more. Because we're worried that they're lying around too much...I don't think anyone in my family lets their phone get in the way of their work and chores and what they have to do. The little ones don't necessarily have work to do, but we still don't want them to just be lying...we want them to be, I don't know, up and being active. But they both do – one does [swimming] and one does [karate]. So they're not, like, not getting exercise. That's fine. – Natalia (18), T5, interview*

Both the time spent using the iPads and the visual representation of inactivity seems to bother Natalia in a way she cannot easily explain. She ended her response asserting that her siblings' use is "fine." However, the "worry" for her siblings remains even though there are no tangible indicators that their use might have serious negative effects. And yet still later, Natalia described her concern over "effective" use regardless of her own self-control:

*There are a lot of useless things on my phone. Like things that kill a lot of my time that I don't necessarily want to kill? Maybe if I do have downtime I'll like them, but then I get caught up on them when I want to be applying my time differently. I would like to use it more effectively depending on the situation I'm in. – Natalia (18), T5, interview*

For Natalia, smartphone concerns appear to extend not only across her own productivity and health, but also across the productivity and health of her siblings. However, when asked to recall explicit examples of negative effects, Natalia could only recall time "getting away" from her when she attempts to go to sleep earlier. Teens like Natalia may see themselves as lacking guidance as to what healthy levels of smartphone use would be or how unhealthy levels would manifest. In this context, it becomes difficult to address any concerns and uneasiness around smartphone use without a coinciding guideline or role model of what is "appropriate."

The example of Natalia highlights the complexity of trying to make sense of the assumption that smartphone use is problematic. Like many, Natalia carries the assumption that smartphone use has negative consequences but her attempts to describe what they are and how they manifest reveal the lack of substantial grounding for these concerns. However, the lack of explicit examples does not indicate that smartphone use is not problematic for Natalia. Rather, it reveals the difficulty in assessing problematic use. It is possible that Natalia does associate negative outcomes with her smartphone use, but without additional assistance or guidance it is difficult to pinpoint problematic smartphone behaviors and solutions.

**4.3.2 Feelings of guilt.** In addition to the attempt to delineate negative impacts of smartphone use generalized concerns can also translate into a pervasive sense of guilt and unease. For example, Tina and her daughter Ellie both described feeling guilty about how they view and use their phones. Ellie used this language in the open-ended survey question when asked how she felt about her phone. After noting positive (but not the most positive) feelings about her phone, Ellie qualified in her survey response:

*b/c it is my source of connection to my friends that I am always hanging out with. I feel secure knowing I have a way to check in on people/family... there are times that I feel guilty that I rely so much on it.* – Ellie (16), T60, survey

It is worth noting that Ellie’s guilt is attached to her reliance upon the phone and divorced from any stated negative ramifications of use. Ellie’s mother, Tina, suggested a similar guilt on her own survey response. The presence of quotes around the word unplug further indicates that this pressure and even verbiage comes from outside of herself:

*I like knowing that I am connected to my family and friends. I also am happy knowing that I am "on top" of work items...I do need to "unplug" more often.* – Tina (49), P60, survey

This response suggests that if Tina acts on the guilt experienced from the device and is successful at “unplugging,” she risks displacing this guilt to other areas of her life; if she chooses to “unplug,” she jeopardizes her ability to stay “on top” of work items and connected to her family and friends. This quote suggests that without clear direction of how to disconnect while maintaining work and social demands, the guilt experienced by the phone could lead to feelings of inadequacy and personal failure. These data also suggest that without clear models of when and under what conditions smartphone practices are problematic, individuals appear to be framing *all* smartphone use through the lens of phone addiction and thus feel guilty about any amount of use.

#### 4.4 Exposure to the Addiction Narrative

The vast majority of teens we interviewed described having been exposed to negative messaging about phones. Such messaging is not purely relegated to popular media. Across the board, teens reported attending school-sponsored assemblies and/or completing homework assignments about the dangers of technology that included such smartphone fear-based messages. Parents also described smartphone workshops and parenting classes regarding how to navigate and monitor smartphone use within the home.

As noted above, when asked to delineate the dangers of phone use in interviews, parents and teens generally called upon vague statements that suggested that smartphones are problematic. Smartphones were described as: getting in the way of “being present;” harmful to relationships;

and “well, just bad.” When asked to elaborate on details about these dangers, participants were often stymied; they repeated broad statements and were unable to qualify what they meant by “being present,” what happens to “relationships” when smartphones are present during interactions, or what “bad” phone use looks like in practice. Both parents and teens lamented that “everyone” uses their phones “too much”:

*I just feel like everybody’s on their phone too much. I don’t know. Cyber bullying, people – I don’t know... I feel like people now – cyber bullying is easier to do and – I don’t know. I’m spending too much time. – Stacey (19), T96, interview*

In struggling to make sense of her own phone use Stacey calls upon social fears that resonate with the addiction narrative we put forth in this paper. However, when in trying to locate examples of what will happen if people spend “too much” time on devices, she found it difficult to pinpoint explicit and relatable examples to her own experience. Yet, even without being able to articulate the damages of using the phone “too much,” Stacey still settled on the fact that she feels that she is spending “too much” time on the device. Statements like these suggest that while people are invoking the addiction narrative in making sense of how they use smartphones the narrative does not fully align with their own experience. Thus, the question arises, where is the narrative coming from?

Numerous participants made references to the media when accounting for their perspectives around phone “addiction” and problematic phone use. For example, Sara described using her smartphone less after reading an article that reported that usage among all teenagers had increased. Interestingly, Sara did not have examples of how her phone use was problematic beyond it being a “real bad habit.” Her only reported other to limit her phone use was the news article.

*[I read] an article somebody wrote about what life would be like without having iPhones and everything, and how dramatically the use of phones has been upgraded. I was pretty surprised, I didn’t know it went up that much. I was like oh wow, us teens these days. Dang...I agreed with it because I know it’s been a real bad habit of all of us who have been on our phones instead of actually going out there...So I showed [her mom] about it and I was like, “This is crazy!” And she’s like, “Yeah, you contribute to that percentage.” And I looked at her and I was like, “Okay, I think I should stop using your phone that much,” and she was like, Yeah, I think so.” Okay. I think I’ll make that work. – Sara (14), T2, interview*

These data suggest that messages from mainstream media are sticky. When asked to qualify his concerns the following parent, Sean, described an article he read years prior:

*Probably the most interesting article I’ve read though was – I want to say the article’s maybe three or four years old. It wasn’t just about cell phones, but it was just about electronic devices in general. It was...about how it affects our brains—the lights and everything else affect our brain patterns—and how it can become addicting and how really too much usage is not good for us. – Sean (46), P11, interview*

Another parent, Vicki, recalled reading articles about the downfall of millennial’s social and interpersonal skills:

*A couple articles about cell phone and technology in general and how it’s interesting how “millennials,” they call them, when they’re going for job interviews and things they don’t know how to have a conversation or they have problems with interviews. So now they have*

*classes to teach people how to interview and how to talk to people because they're just so used to just texting and using their phones. They're not used to making eye contact and things like that so it's interesting...I could totally see it coming. Yeah, I mean, yeah, we're going to lose the art of conversation and that's just the world that changes.* – Vicki (54), P31, interview

These articles intuitively make sense to Vicki; if people spend a lot of time looking down at their devices, avoiding eye contact could become normalized. Although Vicki doesn't report that this phenomenon is occurring with millennials today, she claims she can “totally see it coming.” Teens were also aware of articles that perpetuate the idea that a decline in social skills can be attributed to increased use of the phone. Connie takes an active stance against this message:

*[The article] was talking about how teens are addicted to their cell phones and not learning social skills. I've seen a couple articles about that... I read them just like to have a perspective. It helps me think about how it [phone use] shouldn't affect me.* – Connie (17), T24, interview

The insistence that phones are harmful can be disheartening for teens who have been phone users since a young age. Teens have to make sense of a narrative that implies they have been stunting their own health and well-being throughout the entire duration of smartphone ownership. Like Connie, several teens questioned this narrative. Katherine pushed back by questioning whether phones could be interpreted to help people actually communicate better:

*I think they're [news articles] a little biased. They're done in such a negative manner, like oh, you'll never communicate with each other if you're always on your phone. I think it helps some people communicate better because they might be more awkward in person, kind of like me. So I find it easier to talk to my friends though the computer or on my phone I guess.* – Katherine (16), T6, interview

The work done by teens like Katherine to make sense of their life experience in terms of the current narratives highlights the importance of developing a more nuanced narrative around the motivations, experiences, and ramifications of smartphone use.

#### 4.5 Effects of Media's Narrative of Phone Addiction

Given the finding that these participants are aware of a prevailing narrative of smartphone addiction and calling upon this language to make sense of their everyday engagements with smartphones, the question then becomes how are these messages affecting parents and teens? From qualitative survey and interview data gathered in a lab setting, it is difficult to assess the extent of the ramifications of such exposure to the addiction narrative. However, the language used in interviews suggests that there may be substantial effects.

These data reveal uncertainty and defensiveness around the fact that people are regularly using smartphones even as they are exposed to the narrative that smartphones are addictive and can damage individual well-being and social relationships. Such concern, combined with a lack of specificity about what exactly to be concerned about, how to assess levels of unhealthy use, or what to do with potential concerns (other than total disconnect) leaves people in a difficult spot. The narrative does not fully align with their experience, but if they accept the narrative they are unable to trust first-hand experiences. How they make sense of this disconnect is complex. However, these data suggest that the addiction narrative could be simultaneously undermining actual positive experiences with smartphones while not providing practical tools for assessing or addressing potentially problematic smartphone behaviors.

*4.5.1 Undermining positive experiences with phones.* Across these data, participants appeared to distance themselves from positive feelings about one's relationship with their phone. The following quotes highlight a thread that was apparent throughout these data; people are often unwilling to make positive affirmations of phone use without gestures suggesting shame and/or guilt. Chelsea had numerous positive things to say about her phone and how she and her children use phones to stay connected with each other. She joyfully describes the use of emojis within the family as well as the joking and sweet texts they send back and forth to each other. According to Chelsea both she and her children "love" their phones. However, when asked if there are times she chooses not to use her smartphone, her responses suggest a more complicated relationship with the device.

*We have made attempts to not have it out when we go out to dinner, or occasions like that. But they're rare when we agree to do it... I mean there's not much resistance, we just see whether we can do it.* – Chelsea (43), P93, interview

When pushed to describe why she feels like they *should* stop using their phones during meal times Chelsea equivocated:

*It's just like...what people are talking about, what's in the news, and they feel like people are not interacting socially. But I don't know, not in my case, I don't think so.* – Chelsea (43), P93, interview

While participants invoked numerous negative smartphone messages present in the media, they often did not talk about these concerns when describing their day-to-day phone use. Such disconnect between one's own experience of a device as well as the pervasive language of fear and pathology could breed insecurity and shame about what might otherwise be seen as a positive experience for connecting with friends and family, being informed about the world, and maintaining lasting relationships (all reasons that people describe "loving" their devices).

*4.5.2 Lack of practical solutions.* In line with substance addiction models, the media, school assemblies, and parenting workshops suggest severely restricting if not regularly going "cold turkey" and stopping the use of phones to avoid the problematic ramifications of smartphone use. The issue with this messaging is two-fold. First, it does little to help individual users assess whether or not they do have a problematic relationship with their device. And second, current workplace and community norms make total disconnect a relatively impractical solution. Smartphones are part of the development of teenage social relationships and maintenance of family relationships. They are often necessary for living up to expectations at school and work. Participants are using their devices to complete homework and keep up with professional emails. Thus, disconnecting is often not doable or desirable for parents and teens.

That said, the current narratives around smartphones often do not involve more nuanced analyses of what smartphone functions might be worth restricting and/or how to become more self-reflective about current usage patterns and whether or not they are healthy for that individual and those around them. Instead of providing such nuanced analyses, media often puts forth black-and-white ideas of participating in phone "sabbaticals" or "Sabbaths" [17,56]. Participants were aware of these suggestions and found them both appealing and frustrating. Bill, a parent, was taken with this concept:

*I read an article...this is probably a year or more ago, about people taking phone sabbaticals. So I say, "Guys, we should do that...you just [put your phone away] all day." Because there's this sense of oh, it's very convenient to have. Somehow being attached to*



*something that you feel like you have to have it with you is troubling to me. And we all agreed, “That would be really good.”* – Bill (51), P96, interview

Bill considered instituting this plan and suggested that if everyone in his family agreed, it would be a good idea. Yet, his family has not done so. Asked why, Bill said that it was impractical in practice due to feeling the need to be accessible in case of emergencies:

*If something happened, like for example, [when me children are out of town] and OK, I want my phone next to me in case something – but I guess the point here being I think it would be really cool [to just put the phone away about be like], “You know what? Turning this thing off and I’m not going to see it again till [tomorrow].” Almost like I don’t agree that anything should control me.”* – Bill (51), P96, interview

These responses indicate how the smartphone addiction narrative plays out in everyday life. The addiction narrative that Bill has become aware of through popular media suggests that he and his family should be concerned about their use of smartphones and provides only one possible “solution” to this “problem” - total disconnect. However, not only is the problem not fully experienced by Bill and his family (aside from a vague sense that he doesn’t want to be using anything that might “control” him), the proposed solution is not viable given their lifestyle and expectations of connectivity. A recognition that being able to be aware of an emergency, or connect with friends and family, might be positive ramifications of smartphones is minimized in the prevailing narrative of smartphone addiction. Thus, Bill is unable to celebrate the benefits of his device. His language (and his affect when speaking) made it appear as if he feels guilty about not disconnecting.

Without greater attention to the role of the addiction narrative in people’s assessment of their own patterns of smartphone use we cannot begin to give practical advice of how to integrate smartphones into everyday life in a manner that emphasizes the positive and minimizes the potentially negative ramifications of these devices.

## 5 DISCUSSION AND CONCLUSION

The emergence of new technologies that change how we gather information, learn about the world, communicate with each other, and amuse ourselves have long inspired fear, concern, and forms of moral panic and outrage. News stories that decry the addictive and antisocial effects of radio, comic books, telephones, and T.V. are humorous in retrospect [4]. However, recent stories published in mainstream media outlets reveal that such a panic around smartphones is in full swing. Mainstream media now boldly declares that smartphone addiction is as bad as drug abuse [47] and that smartphones are ruining our lives [54]. The media also highlights the rise of smartphone addiction among both children and adults [7,68], and citing “top addiction experts and researchers,” to make claims such as “teenagers are replacing drugs with smartphones” [22] and “giving your child a smartphone is like giving them a gram of cocaine” [53].

Attention grabbing headlines such as: “3 Ways Your Smartphone Wrecks Your Sanity, Productivity, and Focus” [5]; “Your iPhone is Making You Depressed;” and “Heavy Smartphone Use Can Lead to Depression, Anxiety [27,49] suggest that use of phones will undermine individual well-being. Articles such as “Are Smartphones Killing Our Conversation Quality?,” “How Your Cell Phone Hurts Your Relationships” and “Just SEEING a Cell Phone is Bad for Your Relationship” [18,19,41] are unequivocal in their assertions that use of phones will damage interpersonal relationships. And articles such as, “Is Your Child a Phone ‘Addict’?” and “Kids

Feel Unimportant to Cell Phone Addicted Parents” [2, 4] strongly suggest that phones are damaging for both parents and children.

While popular media regularly publishes articles such as these, the question of whether or not they are affecting individual users has yet to be explored. In this paper, we argue that such articles could contribute to a prevailing narrative of smartphone addiction that affects how people relate to and describe their everyday engagements with smartphones. Whether or not the participants in this study saw these particular headlines, in talking about their relationship with their phones they overwhelmingly use language that suggest awareness of the addiction narrative. Further, such awareness appeared to translate into concern, confusion, and defensiveness about how they and those they love interact with smartphones.

These data suggest that the addiction narrative can influence how people make sense of their engagement with smartphones and outlines the language patterns that people invoke in this sensemaking process. We find that nearly 90% of parents and teens use language of addiction/obsession, distancing/defensiveness, and/or concern/shame when responding to open-ended survey and interview questions about their relationship with their phones. Further, we find that people receive the message of smartphone addiction from a variety of places, including school assemblies and local authorities, as well as popular media.

Previous research has documented the complex, and often opposing, discourses surrounding smartphone use in mainstream media. Analyzing advertising imaging in magazines from 2002-2010, Harmon and Mazmanian show how users are presented with conflicting messages about desirable smartphone behavior. These contradictory messages both warn users of addiction and simultaneously call for increased use [29]. The power of social narratives in shaping individual sense of self and social relations is well documented. Sociologist Anthony Giddens’s discussion of reflexive modernity similarly theorizes how, in post traditional societies, media plays a critical role in framing how individuals make sense of and experience themselves and their surroundings [8]. According to Giddens, “*The reflexivity of modern social life consists in the fact that social practices are constantly examined and reformed in the light of incoming information about those very practices, thus constitutively altering their character*” [26, p. 38].

Literary scholar James Gee takes a similar perspective in his injunction that discourse analysis should be accompanied by an attention to ‘figured worlds.’ Figured worlds, or the shared “picture of a simplified world that captures what is taken to be typical or normal,” [24] are perpetuated through media messaging. In delineating the differences between what people say they believe (espoused worlds), the stories of daily life that shape how we judge ourselves and others (evaluative worlds), and the theories of the world that consciously or otherwise guide our actions (worlds-in-(inter)action), Gee provides a framework for understanding how widespread media messaging can shape our beliefs, judgments, and actions [24]. However, our understanding of the long-term effects for mass communication technologies to quickly develop and to widely disseminate narratives remains limited.

We assert that without looking at closely at social narratives (i.e. social discourse or figured worlds) as contextual factors that influence how and why people are calling upon addiction language to make sense of smartphone use we cannot fully understand the role of devices play in everyday life. As smartphones become all the more ubiquitous it is incumbent on us, as researchers, to better understand the effects they are having. This means going beyond addiction rhetoric to explore how a possible smartphone addiction might manifest and how to address it. It also means exploring the productive and positive ramifications of such devices. Finally, it means taking seriously the fact that users are influenced by prevailing social narratives and such

narratives can substantially affect how people understand their lives, their behaviors, and their role in society. The deep ambivalence expressed in much of these data suggest that people do not currently have a language that allows them to both appreciate and be appropriately concerned about the power of connectivity, availability, entertainment, and information access that smartphones embody.

Mainstream media regularly calls upon scholarly research to illustrate the smartphone addiction narrative. In August 2016, CNN declared that the data garnered by numerous smartphone studies “strongly suggest[s] that many may, indeed, be addicted to their smartphones” [59]. The very title of the article, “What Your Personality Says About Your Smartphone Addiction” [59] implies that smartphone addiction is a widespread phenomenon that everyone experiences. Whether or not media is appropriately citing related research, such links to research provide a veneer of credibility to messages that traffic in fear and hyperbole. Current research in games studies also shows that news stories are more likely to pick up inflammatory and negative research findings, regardless of the quality of the research conducted [16].

As media articles regularly cite academic research to proclaim the message of smartphone addiction, researchers should pay close attention to how the assumptions, measures, and findings of academic work may be perpetuating a particular narrative. Our results indicate the need for more research that might provide needed nuance and understanding of a possible smartphone addiction phenomenon. Currently, smartphone addiction is most often assessed using self-reported questionnaires borrowed from assessment tools designed for other behavioral addictions (e.g., gambling) [9]. However, research has shown that it is inadequate to substitute one behavior for another when developing assessment instruments for behavioral addiction [9,28,31,32]. These metrics do not account for the situated and complex nature of phone use, thereby potentially increasing the rate of incorrectly labeling individuals as addicts [9,38]. These self-reported scales are also subjective and prone to recall errors [66]. Consequently, in attempts to design more objective measures, some researchers have developed specific measurement tools that provide calculations of phone use to assess smartphone addiction [11]. But, these measures also suffer from the complicated nature of parsing beneficial versus detrimental phone use [38].

We call for more stringent methodologies to diagnose and understand smartphone addiction as a clinical pathology. We are not suggesting that smartphone addiction does not exist. Rather, in conjunction with previous work, we suggest that researchers should develop and employ more robust measures that differentiate clinical addiction from what can be considered normalized and widespread usage patterns in the digital age [38]. Such work should include measures of clinical addiction, clear outcomes of addictive use patterns, and reasonable steps that people can take if they believe they have a problem.

On a separate note, future work could explore how individuals’ views of smartphone use and addiction affect family conflict. Arresting headlines such as “New Report Finds Teens Feel Addicted to Their Phones, Causing Tension at Home” perpetuate the myth that addiction is the leading cause of parent-teen smartphone conflict [15]. While such articles might resonate with smartphone tensions experienced in the home, there is little research to support that these tensions are a direct outcome of smartphone addiction. Mainstream media and its audience might be misattributing the cause of tension to smartphone addiction, thus further perpetuating the addiction narrative. Hence, more studies are needed to understand how and why these conflicts happen. By shedding light on the factors underlying parent-teen conflicts around

smartphones, we can move away from reactionary assumptions that smartphone “addiction” is the only culprit.

Finally, in order to address individuals’ concerned, guilty, and vigilant experiences of personal and family smartphone usage, we call upon the CSCW community to work toward developing an accurate and compelling alternative narrative. Research methodologies should be examined in order to achieve a more nuanced understanding of the effect of smartphone use on and individuals and families. Both parents and teens should be released from vague, underspecified, and all-encompassing fears around smartphone use. Scholarship suggests that cultural narratives wield substantial power in shaping how people relate to themselves and those around them [34]. If we believe that participants in our studies are operating in terms of a prevailing narrative of smartphone addiction we should be wary of responses to research that play on these concerns – family media rules, children and screen time, and so forth. Thus, CSCW’s attention to effects of the prevailing smartphone addiction narrative is pressing.

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