

# Smartphones: The weight in our pockets

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## Abstract

The *Economist* states that in Great Britain 60% of teenagers and 37% of adults report that they feel that they are highly addicted to smartphones. Although these statistics are limited to one country, it reinforces the fact that smartphones are now seen as a necessity, rather than a technological luxury. Smartphones are making people feel obligated to constantly stay connected, whether for work purposes, personal communication, or as a gateway to popular social media platforms. Smartphones are contributing to one's ability to work and are even impacting the confidence of individuals who use these devices. But all of these benefits have their downsides, as shown by users who report that they are feeling trapped and addicted. Studies demonstrate that even the temporary removal of these devices can cause anxiety in their users. The tension that is caused by this separation indicates an unhealthy dependency on smartphones. This paper is a presentation of research done on current-day smartphone usage among young adults and on the traits of behavioral addiction. This research was done to find the causes of compulsive smartphone usage, and its correlation with behavioral addiction. Modern day smartphone usage patterns indicate that it has the significant potential to become a behavioral addiction. Based on this conclusion, several options are presented to help control behavioral addictions that center around smartphone usage.

*Keywords:* smartphones, technology, behavioural addiction, young adults

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## Introduction

The smartphone has greatly changed the way we interact with our world, and is continuing to evolve as the technologies behind smartphones continue to improve. This device has been widely adopted by youth and young adults globally, and the smartphone is now seen as a necessity instead of a fun luxury. But how are smartphones being used in the present day, and how are they influencing the behaviors of the young adults who use them? How is that usage evolving? Smartphones are undeniably having an incredible influence. As that influence increases, so too does the control that these devices have over their users. Why is this important? Young people are becoming increasingly dependent on their smartphones. The pattern of smartphone usage and behaviors that this usage creates can spiral into smartphone addiction. Although some claim that large amounts of smartphone usage don't necessarily equate to an addiction, studies have shown that the patterns behind significant amounts of smartphone usage demonstrate suspicious traits. This includes anxiety caused by being separated from a smartphone and feelings of stress that smartphones create in their users. These negative consequences of smartphone usage are exacerbated by the fact that young people use smartphones to meet innate needs for social interaction. Attempting to find the root causes of compulsive smartphone usage and acknowledging the power that smartphones can have

provides their users with an excellent foundation to reflect on the influence of smartphones in their lives. Additionally, it allows them to make lifestyle changes or choose healthier alternatives to meet their needs for social connectivity or information.

To understand the role that smartphones are playing in the lives of youth, the relevancy of smartphones will be investigated to establish if the potential addiction to these devices has significant relevance to youth. Following that is a discussion on behavioral addictions and what addictions actually are in an attempt to discern these patterns in smartphone usage. Next, common smartphone usage and behavior will be analyzed to determine if that usage indeed indicates addiction. Once the specifics of smartphone addiction have been established, the discussion will focus on how it is impacting youth and why they are developing these behaviors, and the discussion concludes with some of the consequences of these behaviors.

## The increasing relevance of smartphones

Smartphones are starting to be seen as necessary technology. They are mandatory for participating in certain social networks and their small form-factor provides a convenient, portable, and instant connection to the World Wide Web. According to Kang and Jung in their article that compares smartphone usage in the United States and Korea,

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“Mobile communication has become embedded in a user’s daily communicative practices...” and “the utility of the smartphone has been evolving rapidly by being used in every sector of individuals’ lives.” (Kang and Jung 2014, 376) Smartphones are also becoming increasingly relevant in a wide variety of fields. The article mentions marketing, business, safety, and even medical fields as places where the smartphone is becoming an important player. But although these usage contexts are an important factor in their spread, their usage isn’t simply limited to professional settings. The article also indicates that the smartphone is beginning to fulfill basic needs, such as “learning, individual capability, safety, and human relationships.” Smartphones “allow users to experience self-actualization (e.g., confidence, capability) in an instant matter.” (Kang and Jung 2014, 377) Youth and young adults are now commonly using smartphones as a tool to fulfill real social needs that arise as they live their lives. Thus it becomes difficult to dismiss the fact that smartphones are becoming a necessity rather than a luxury. I argue that this usage of smartphones is a significant factor for its widespread adoption among youth. Such a widespread adoption of the smartphone as well as the high importance that it is being given creates a very slippery slope into problematic behaviors.

### **Addiction: Not just a bad habit**

A study by British telecommunications regulator Ofcom claims that “60% of teenagers who use smartphones describe themselves as “highly addicted” to their devices.” (Schumpeter 2012, 80) This indicates that even smartphone users themselves feel that they are growing unhealthily dependent on their smartphones. But what exactly constitutes an addiction, and specifically an addiction to something that isn’t a substance like nicotine? This is referred to as a behavioral addiction, which shares many characteristics with substance addictions. But what is the difference between a simple routine and a behavioral addiction? The key to it being a harmful addiction lies in the nature of the urge behind the action and the consequences of not being able to complete the action. An individual can be said to be unhealthily dependent on something if they have “repeated urges to engage in a particular behavioral sequence that is counterproductive” that results in mounting tension until the “behavioral sequence” can be completed. Other characteristics may include “rapid but temporary switching off of the tension by completing the sequence”, which is referred to as a “quick fix”, the gradual return of the urges, and external cues or triggers. (Marks, 1990, 1391) This behavior is widespread among youth, especially in places where it isn’t appropriate.

In the case of smartphone addiction, the action is using the smartphone, and the inability to use the smartphone at

a given moment is what would trigger the consequences. In the statistic mentioned before, 60% of teenagers considered themselves addicted to their smartphones. Obviously, the majority of these individuals aren’t familiar with the characteristics of behavioral addictions, but the concept of an addiction involving a compulsion to perform a task and the associated tension with not completing the task is an intuitive association that can be made with the term “addiction”. Therefore, the figure of 60% may very well accurately represent the number of teenagers that may actually be addicted. Additionally, that figure only accounts for teenagers that reported themselves as addicted and doesn’t include those who may not even know that they are behavioral addicts.

### **The evidence: Is it addiction?**

The additional needs that smartphones can now meet do not necessarily indicate that they are making their users dependent on them. Rather, smartphones can be seen as positive tools to help meet social and practical needs in ways that would have been unimaginable during earlier time periods. Finding a link between high levels of smartphone usage and full-on behavioral addiction is an area that still requires testing and research. (Sapacz, Rockman, and Clark 2016, 155) However, much research has been done to study addictive behavior related to smartphones. In their own tests, Sapacz, Rockman, and Clark demonstrated that their subjects experienced anxiety when they had their smartphones in close physical proximity but were instructed not to use them. The anxiety that this creates is called “state anxiety”, and is considered to be a component of behavioral addiction. (Sapacz, Rockman, and Clark 2016, 158) The anxiety that this causes can be so overwhelming that some choose to use them even if they are prohibited from doing so, whether it be while driving a vehicle on the highway or using it in a social setting where using it is inappropriate. This can be seen specifically with youth at the dinner table, when in the middle of conversations, or during their lectures in their classes.

What does the anxiety caused by having a device within arm’s reach and not being able to use it have to do with addiction specifically? It must be recognized that because smartphones are so accessible, the potential to overuse them is much greater than something like a computer or a television. Their constant availability can “...lead to addiction in the form of frequent checking or habitual checking. (Jeong, Kim, Yum, Hwang 2016, 10) The removal of the ability to constantly check one’s smartphone and the anxiety that results from that is indicative that smartphones are forming addictions. Addiction is specified as being a “pathologic condition that one cannot tolerate without continuous administration of substances”, and then expanded to include behavioral

addictions, which includes the use of smartphones. (Jeong, Kim, Yum, Hwang 2016, 11) This information now provides an uncomfortable context to the anxiety caused by simply not being able to use a smartphone, showing that this is most likely caused by the formation of a behavioral addiction to checking and using these devices. Additionally, according to the same article, smartphone addiction can have significant consequences such as increased “depressive symptoms and substance use as well as decreased well-being”.

Because the smartphone is such a prevalent device, there are many differing opinions on how much power they actually have over their users. Smartphones are undeniably important devices that allow us to communicate with contacts during emergencies or access important information during urgent situations. In an article on the website “Digital Trends”, Dr. Mark Griffiths of Nottingham Trent University states that “just because something is very important in your life, and you carry it everywhere, and when you forget it, you feel like your left arm’s missing, that doesn’t mean you’re addicted.” The logic behind this statement is true: take cars, for example. They are used to get their users around, usually daily, and are largely depended on. Having a vehicle stolen or disabled can fundamentally cripple someone who relies on their car to get them to work. And yet, car users aren’t addicted to their cars, but rather largely dependent on them. The anxiety that comes out of losing a car is due to the actual consequences of being unable to use this tool. The major difference with smartphones is that their users will become anxious simply from not being able to use them temporarily. There was no pressing task that was being hindered in the tests done by Sapacz, Rockman, and Clark.

I’ll interject a personal anecdote to solidify this point: I have gone through both of the scenarios discussed above. My vehicle was stolen from the front of my house, and for several weeks I had no vehicle of my own to use. Additionally, later that year, I broke my foot and lost the ability to drive. The anxiety that was caused by not having a car wasn’t due to me not being able to use it. It was a result of having to be completely dependent on other drivers and vehicles, and created a loss of autonomy and independence that was deeply upsetting. And yet, when I got a new car or regained the ability to drive, I wasn’t suddenly relieved to be able to unlock my car and take it for a spin. Rather, I was overjoyed by the fact that I was once again fully autonomous. However, this story changes when discussing my smartphone usage. Recently, my smartphone manufacturer began a program for repairing faulty batteries for their line of phones. Taking it in for the repair resulted in a period of less than 24 hours where I didn’t have access to a smartphone. Although I was able to bear not being able to drive for an extended period of over a month, I found myself constantly reaching for my empty pocket and continuously being dismayed that I could not use my device. Having my smartphone returned to me felt

like being able to breathe again, which immediately made me think of Sapacz, Rockman, and Clark’s study. I had no missed calls, no missed appointments, no missed emails, and I was able to stay in contact with my loved ones through alternate means. Although this is just a personal anecdote, I completely disagree with Dr. Mark Griffiths, and cite my personal experiences as well as this study to make the claim that smartphones have more of a hold on us than simply being devices that are very important in our lives.

### **Smartphone addiction among youth**

Practically, what does an addiction to a smartphone look like, specifically in the case of youth? Is addiction caused by the convenience of the device, or are there deeper underlying causes? In a study publicized in the *Journal of Black Studies*, “the heavy use of smartphone and Facebook among African American college students” is investigated. (Lee 2014, 44) The study focuses on finding predictors of addiction to smartphones and provides excellent insight into what exactly lies behind the compulsion to use smartphones in American youth. It is important to distinguish between experimental data and predictors; although predictors may provide hints and insights into the roots behind smartphone addiction, they cannot be considered conclusive, but are compelling nonetheless. Their data suggested that “Social interaction anxiety was a significant predictor of smartphone... addiction.” (Lee 2014, 54) Also important to note is that in their study they found no significant correlation between youth that demonstrated “personality traits including extroversion, agreeableness, neuroticism, and conscientiousness.” (Lee 2014, 55) What this lack of correlation indicates is that a wide variety of youth can become addicted to smartphones and that becoming addicted isn’t limited to one small segment of youth with certain personality traits or characteristics. Another study conducted also suggests that “social stress positively influences addicted smartphone behavior.” (Van Deursen 2014, 417) “Smartphones offer a relatively safe environment where people do not have to communicate, socialize, or present themselves [physically].” (Van Deursen 2014, 417) These studies reveal that there is a complicated relationship between smartphone addiction and social pressures indicating that youth are more susceptible to growing addicted to their smartphones as they grow up and their social environments grow more complicated, mature, and stressful.

### **Instant gratification and dependency formation**

The very nature of smartphones and how they work also contributes in developing addictions. A majority of the immediate interactions that follow the unlocking of a

smartphone device can be interpreted as a “reward”: “Behaviors of both process and social oriented smartphone usage types function as a reward: winning games, unlocking new features, or receiving new notifications.” (Van Deursen 2014, 417) This results in repetitive smartphone usage being “rewarded” in the mind of the user and can result in addictive behaviors forming more easily. So smartphones offer a tantalizing way to get large rewards with little to no effort on the part of the user. A young adult that suffers from social stress and social interaction anxiety has a widely available tool available to them to reap instant rewards from their smartphone by utilizing them for instant and “riskless” social interactions with sometimes instant feedback from the device, further encouraging the behavior. This can easily transition into a dependency on the smartphone itself, and it follows that anxiety can build in an addicted user until they are able to “fix” it by unlocking and using their device. This is confirmed in a study that focuses on university students in China and relates smartphone usage and addiction to social capital. It states:

...Shy individuals are particularly apt to lose control of the time spent on smartphones, despite any negative effects their excessive use has already had on their productivity, and shy individuals also get increasingly anxious and feel lost if their smartphones are out of reception range or they have been unable to use the device for some time. (Bian and Leung 2015, 74)

Although addiction isn't limited to a small segment of youth with certain personality traits, Bian and Leung found that those individuals with shy tendencies rely on smartphones as a tool for having social interactions without the need for social cues. This can be extrapolated to include those who aren't as shy, as they may still benefit greatly from being able to have instantaneous social interaction that isn't limited by their physical location. This solidifies the fact that smartphones are now being used for more than just communication and are being used by youth to fulfill deep social needs. This also reveals that this behavior has characteristics of behavioral addiction as seen by the anxiety that is caused by periods of time in which the device cannot be used or accessed.

### **The consequences of smartphone addiction**

Behavioral addictions are characterized by repeated counterproductive behaviors. (Marks 1990, 1391) For example, Bian and Leung's study that was discussed before mentions that excessive smartphone usage can have a negative impact on productivity. This is confirmed in a study conducted by Samaha and Hawi on the consequences of smartphone addiction. One consequence with particular

significance for youth is the impact that a behavioral addiction to smartphone usage has on academic performance. Samaha and Hawi state that “several studies have found a negative association between cellphone use and academic performance.” (Samaha and Hawi 2016, 322) For youth, negatively impacted academic performance is a serious consequence as education and learning form a significant portion of their lives. If academic performance is impacted enough, addiction could seriously affect their future in a negative way.

Another significant negative effect that smartphones can have is the creation of “technostress”, which is defined as “stress caused by information and communication overload.” (Samaha and Hawi 2016, 322) The study demonstrated that “university students with a high risk of smartphone addiction experienced higher levels of perceived stress.” (Samaha and Hawi 2016, 324) Samaha and Hawi also demonstrated that those with higher levels of perceived stress were also more likely to develop smartphone addictions. Although the nature of a smartphone addiction involves instant gratification and reward from checking the device, the continuous cycle of checking a smartphone makes it into a counterproductive behavior that creates stress in the user.

A final consequence of smartphone addiction is the difficulty of actually “quitting”, or controlling excessive smartphone behavior once an addiction has formed. According to Marks, “Both behavioral and chemical addictions are easy enough to stop for a while. The real test is maintaining control for years until it becomes second nature.” (Marks 1990, 1392) This is the most serious consequence of all, as even if a smartphone user realizes that they are addicted, the nature of the behavioral addiction itself can hinder and even prevent the user from fully freeing themselves from their dependency. While the user struggles to free themselves, they must suffer through the other previously discussed consequences.

### **Strategies for controlling smartphone usage**

The very nature of behavioral addictions is that they are not easily treatable. They are very much comparable to a substance addiction, and much research is still being done in an attempt to discover ways to treat these behavioral addictions. (Tinsley, 2010) A study done on Chinese youths that are addicted to the Internet claims that parenting and a good level of self-control are key to preventing addiction. (Jeong, Se-Hoon, Hyoungjee Kim, Jung-Yoon Yum, and Yoori Hwang 2014) Although we may not know the full effects that increased smartphone usage is having, parents may wish to consider focusing on providing positive reinforcement to their children and direct them to other sources of social fulfillment that don't rely on smartphones. Additionally, raising children with greater senses of self-

control may help prevent them from becoming addicted to smartphones when they are eventually introduced to them.

There is no magic bullet to conquering compulsive smartphone usage. Smartphone addiction, as well as addiction to gambling, skin-picking, and other compulsive behaviors are still very mysterious, in the sense that what causes these behaviors and how they can be treated is still for the most part unknown. (Tinsley, 2010) However, I believe that understanding what constitutes an addiction is very important as it prompts users to monitor their own usage, and perhaps take measures to intentionally limit their smartphone usage. In the case of youth, it would be helpful to uninstall social media apps and instead rely on using a desktop computer to access social media. Ultimately, although attempting to rely less on smartphones themselves will aid in curbing excessive usage, behavioral addiction is something that may require specialized treatment. Just as with a substance addiction, if one feels that they are unable to control their own smartphone usage, seeking outside help is advised.

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## Conclusion

Are youth that use smartphones the masters of their devices, or are they instead being mastered by the smartphone? There is a complex relationship between youth and their smartphones, as these devices are being used to meet social needs and moderate the social anxiety that is present throughout the teenage years. It has been demonstrated that a wide variety of personality types suffer from smartphone addiction and that there is growing awareness of this issue, even among the young users themselves. However, this isn't a hopeless spiral into an epidemic of addiction, but rather may be an interesting new aspect of growing up in a modern United States. As social anxiety and anxiety that arises with social interaction decreases with maturity, so too does the dependency on smartphones. So perhaps smartphones aren't masters as much as "social companions" that we grow out of. Regardless, care should be taken when using smartphones, and personal evaluation of how one uses their own smartphone is a useful exercise, as behavioral addictions do have their consequences and can be hard to escape.