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### Platforms of Destruction (First Place)

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Core 100-13, Borderlands of Being Human

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### Platforms of Destruction

In recent years, the acknowledged levels of depression and anxiety have risen significantly in the general U.S. population. This is particularly evident among iGen students, a conveniently observable group. The need for mental health counselors in all levels of education has increased as students express elevated stress. Undeniably, social media use has swiftly expanded over the past 20 years, encompassing the world of online interaction. While there is a direct correlation between the influx of poor mental health and social media use among U.S. teens, causation can be established by examining the nature of addictive technology, studies linking anxiety and depression to social media, physical symptoms in the brain, and the effects on specific individuals and American society at large.

Before any claims are made of destructive technologies, first it is necessary to establish the vast expanse of our mental health epidemic. Depression and anxiety are rising astronomically. The growth of social media coincides with the rapidly increasing presence of anxiety in this country. In 2018, The American Psychiatric Association (APA) released the results of a national poll that confirms Americans feel more anxious now than one year ago. Participants rated their anxiety on a scale from 0-100 and the mean rose by five points from 46 to 51 since 2017 (APA). This nation is rapidly succumbing to anxiety.

Young adults in particular are struggling the most. A study conducted by the Higher Education Research Institute surveyed over 200,000 college freshmen, gathering information

on their emotional health. Over decades of data, the project was able to establish a picture of the steadily worsening condition of students' mental health (Twenge, 2015). Dialing in on the teenage population, another study, conducted by Monitoring the Future, established more specific evidence of depression in high school adolescents. In 2010, such students reported much higher rates of somatic depressive symptoms than in 1980. This survey also concluded that "teens who spend more time than average on screen activities are more likely to be unhappy than those who spend more time than average on non-screen activities" (Twenge, 2018). In addition to the studies pointing to poor mental health, there is physical evidence of the struggle kids are facing. Quite disturbingly, in 2017, the Pediatric Academic Society declared the number of young people who have been hospitalized for suicidal thoughts and actions has doubled over the past 10 years (AAP). In light of these revelations, the need is greater than ever to uncover the source of this crisis.

Despite the declining mental health of Americans, social media is unlikely the only primary cause. In fact, the benefits of social media are numerous. It can be an incredible tool for connection, from everyday relationships to global interactions. Facebook can be a tool to keep in touch with old friends and build new connections. Many teens use social media to find a sense of belonging and genuinely express themselves to like-minded, online friends. Social media can unite groups and provide a platform to share and exchange ideas and enact social good (Anderson & Lee). Stress can come from many other places, such as increasingly demanding workplaces and a tense political environment. It stands to reason that misuse of social media may just be a symptom of preexisting depression and anxiety. People with social anxiety tend to use social media as a buffer. Those who already feel depressed often use social media as a coping mechanism, feeling as if the technology helps uplift them as opposed to

acting as an enforcing downer (Berryman). However, there are a multitude of studies which directly link negative behavior and poor mental health to social media use.

The fault of social media addiction may not necessarily lie with media consumers. Developers are finding ways to make technology addictive; they are essentially programming people. The financial profit media companies make from ads just keeps increasing as people spend more time on their sites and apps. Therefore, the platforms vie for consumer attention through any means necessary. Anderson Cooper, as part of his *60 Minutes* investigation, spoke to a former Apple developer, Tristan Harris. He discovered apps are programmed to compete in a "race to the bottom of the brain stem" to access "the most primitive emotions we have. Fear, anxiety, loneliness, all these things." Harris said, "In the race for attention, I have to do whatever works" (Cooper). Companies big and small use strategies to keep users engaged and addicted.

Out in Silicon Valley, there is a startup called Dopamine Labs which specializes in creating addictive programming, essentially getting people hooked on its media. The founder, Ramsay Brown, explains that engaging people "involves three steps: a trigger, an action and a reward. We use AI and neuroscience to help apps become more engaging and persuasive" (Smart). The technology works "by controlling when and how you give people that little burst of dopamine, you can get them to go from using [the app] a couple times a week to using it dozens of times a week" (Smart). Dopamine Labs has keyed in on scientific and psychological triggers that keep people glued to their screens.

Seemingly harmless or convenient features on the most popular media platforms are designed as traps. Snapchat has the ever-popular feature of "Streaks," which requires users to engage daily and implements a feeling of loss aversion to encourage use. The platforms of Facebook, Twitter, and Instagram all have an endless scroll model so people continuously scroll

in search of the dopamine hits which are programmed to release at the most opportune moments for each person (Cooper). The brain's addiction centers are targeted constantly, and, therefore, social media use can be all-consuming. Thankfully, clinical studies are beginning to explore the harms of this addictive technology.

Various scientific journals have established direct links between social media use and symptoms of anxiety and depression. The *Journal of Affective Disorders* conducted a national 2017 survey which "suggested that higher daily social media use was associated with greater dispositional anxiety symptoms and an increased likelihood of having a probable anxiety disorder in U.S. emerging adults" (Vannucci). The University of Pittsburgh School of Medicine came to the similar conclusion, this time regarding depression, in their intensive questionnaire of young adults "based on total time spent or frequency of visits" (Chowdhry). Essentially, the greater the use, the higher the risks and signs of depression.

An additional two studies, more intensive than the previous surveys, uncovered further evidence to support linear associations of media and poor mental health. The *Computers in Human Behavior Journal* compared subjects who engaged on 0-2 social media platforms vs. subjects who used 7-11 platforms. The participants with higher engagement "had substantially higher odds of having increased levels of both depression and anxiety symptoms" (Primack). Again, a separate study reported by the *American Journal of Health and Behavior* reinforced these findings. They conducted a "multivariable logistic regression model study" in which the subjects were grouped into clusters based on social media use and then their mental health conditions were evaluated. The top two groups for usage had "increased odds of elevated depression and anxiety symptoms" (Shensa). Based on the abundant evidence provided by these studies, social media is playing a significant role in decreasing mental health. After establishing

this connection, it is only appropriate to explore the specific repercussions and interactions which are occurring in the brain.

Social media use is changing brain chemistry and enforcing addictive pathways in teenage brains. It is widely acknowledged that developing brains do not have adequate impulse control. This lack of mature decision making, paired with the plasticity of a not yet fully developed brain, is a recipe for disaster. In order to establish social media's effect on young minds, a study was conducted by the UCLA branch of the Children's Digital Media Center. They performed brain scans on teens while the subjects were actively engaging with their devices. The researchers noted that when receiving "likes" the brain's rewards circuitry lit up, the same circuits which are activated by gambling and eating chocolate (APS). Every social media platform had systems of gratification that stimulate this region of the brain that forms addiction. Teens are actually addicted to their technology.

Addiction physically alters the chemicals in the brain. A study by the Radiological Society of North America found chemical imbalances in the brains of teenagers who exhibited signs of smartphone addiction. This study "measured the levels of a neurotransmitter, GABA" and found "the ratios of GABA significantly correlated to clinical scales of internet and smartphone addictions, depression and anxiety" (RSNA). Essentially, these addictions are provably damaging to mental health.

For individuals who are already struggling with anxiety and depression, social media only worsens their conditions. The CEO of Anxiety UK, Nicky Lidbetter, reported: "If you are predisposed to anxiety, it seems that the pressures from technology act as a tipping point, making people feel more insecure and more overwhelmed" (Fitzgerald). Studies have also linked nighttime cell phone use to depression (Demour). Addicted to their devices, many teens fall

asleep with their phones in hand after scrolling for hours. Not only can the blue light of cell phones decrease melatonin, but the mental stimulation before bed prohibits the brain from relaxing. Lack of sleep provides a better breeding ground for depression to set in (Twenge, 2018). Social media acts like fuel on the fire for the thousands of teenagers who are already struggling with mental wellbeing.

Alongside generalized depression and anxiety, there are many different symptoms experienced by the younger generation as a whole, thanks to media usage. A prominent example is FOMO, fear of missing out. This sensation “has been confirmed to play an important role in the development of maladaptive mobile phone use and its negative consequences for adolescents” (Orburst). When experiencing the nagging worry of missing out, people turn to social media for the hits of dopamine they have subconsciously come to expect. However, often viewing the filtered lives of others only worsens FOMO. This documented anxiety has only gotten worse over the years with the development of new addictive media techniques. No one wants to feel excluded, and social media makes it all too easy to know if that is happening. A shocking “forty-eight percent more kids said they often felt left out in 2015 than in 2010” (Twenge, 2018). Much of this loneliness is derived from toxic comparison to others which causes anxiety.

Social media can be a very stressful experience. People feel pressure to update their personal profiles and have quality content, and they suffer from receiving negative feedback. Teens are not unaware of these negative side effects. In an interview, a 13-year-old, Athena, expressed a strong sentiment felt among her generation: “I’m nervous about what people think and are going to say. It sometimes bugs me when I don’t get a certain amount of likes on a picture” (Twenge, 2018). For many kids like Athena, anxious feelings accompany nearly every

move on media platforms. Recent research suggests that “young people who spend more than two hours per day on social networking sites are more likely to report poor mental health, including psychological distress, symptoms of anxiety and depression” (Hugues). New phobias are even being named to contend with the rising media stress. Nomophobia, “no-mobile-phone phobia,” is anxiety induced by the loss of one’s phone, or merely a dead battery or poor network connection. A 2010 study commissioned by the UK Post Office first coined the term in response to the overwhelming evidence of cell phone related anxiety (Elmore). Even if teens are self-aware of their fears and addictions, breaking free is much easier said than done.

There are significant differences between Generation Z, who grew up with technology, and previous generations. When the iPhone was released, clear changes began to appear in teenage behavior. Generation Z, kids born after 1995, do not hang out in person as much, are in no rush to get a driver’s license, are dating and having sex in high school 30% less than millennials, and they report feeling much lonelier (Twenge, 2018). Social media is consuming their time, energy, and lives.

Technology has an undeniable grasp on the brains of teenagers. Platforms are utilizing more and more addictive techniques, and teens are programmed further into the trap. As young brains develop, their interactions are shaped by anxiety producing apps. The extensive use of screens pulls teens out of reality into a landscape of comparison and time-consuming stress. Social media can take significant credit for the increase of depression and anxiety, both of which are taking this nation’s youth by storm.

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The Pew Research Center published this report on the hyperconnected lives of Americans. The report includes statistics on mobile device use, and thoroughly discusses different negative and positive effects of increased media in our lives based on written responses from survey participants. The topics include: technology's effects on memory and brain wiring, our need for instant gratification, our attention spans, technology's impact on society, how education should be handled, how we interact with technology, and the future we're facing.

While the expanse of this report is very broad, Anderson and Lee seek to provide an incredibly well-rounded perspective on the ever-growing influence of technology in this country. They consult a massive sample of credible supporting and contrasting opinions to uncover the reality and potential of the situation. From this source, I utilized the positive perspectives on technology which are offered. The report helped shape the ideas I present in my concessionary paragraph.

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Psychiatric Association, 7 May 2018, [www.psychiatry.org/newsroom/news-releases/americans-say-they-are-more-anxious-than-a-year-ago-baby-boomers-report-greatest-increase-in-anxiety](http://www.psychiatry.org/newsroom/news-releases/americans-say-they-are-more-anxious-than-a-year-ago-baby-boomers-report-greatest-increase-in-anxiety).

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In this written overview of a *CBS 60 Minutes* segment, Anderson Cooper investigates the concern that people are addicted to their smartphones. He speaks with Tristan Harris, a former programmer and advocate against programming people's brains, who offers knowledge on the workings of Silicon Valley. Ramsay Brown, the founder of Dopamine Labs contributes insight on how this brain programming works. Finally, Cooper engages in a demonstration of the distracting, addictive nature of technology.

Cooper goes straight to the core sources of information concerning brain hacking. The logic and layout of his questioning draws out vital and true information. His correspondents are informed and reliable and ultimately contributed to my knowledge of how programmers and platforms work to foster media addiction.

Demour, Lisa. "New Study Links Phone Use and Mental Health Issues in Teens." *CBS This Morning*, CBS, 3 July 2017.

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Fitzgerald, Britney. "Social Media Is Making Us Anxious, Study Finds." *The Huffington Post*, TheHuffingtonPost.com, 12 July 2012, [www.huffingtonpost.com/2012/07/10/social-media-anxiety\\_n\\_1662224.html](http://www.huffingtonpost.com/2012/07/10/social-media-anxiety_n_1662224.html).

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Primack, Brian A, et al. "Use of Multiple Social Media Platforms and Symptoms of Depression and Anxiety." *Computers in Human Behavior*, vol. 69, Apr. 2017, pp. 1–9. *Science Direct*, [www.sciencedirect.com/science/article/pii/S0747563216307543](http://www.sciencedirect.com/science/article/pii/S0747563216307543).

This scientific study journal report seeks to establish the "the independent role of using multiple social media platforms" in relation to depression and anxiety. Referencing

the Patient-Reported Outcomes Measurement Information System to analyze mental health symptoms, the researches utilize logistic regression models to assess associations uncovered in national surveys. The results establish poor mental health in congruence with more social media platforms.

The study was published in a respected journal, *Computers in Human Behavior*, and conducted by a panel of experienced researchers, and, therefore, contains credible findings. I included the presented data to further my claims of worsening mental health as a result of social media use.

Radiological Society of North America. "Smartphone Addiction Creates Imbalance in Brain." *Science News*, ScienceDaily, 30 Nov. 2017, [www.sciencedaily.com/releases/2017/11/171130090041.htm](http://www.sciencedaily.com/releases/2017/11/171130090041.htm).

Shensa, Ariel, et al. "Social Media Use and Depression and Anxiety Symptoms: A Cluster Analysis." *American Journal of Health and Behavior*, vol. 42 no. 2, March 2018, pp.116-128. *EBSCOhost*, doi:10.5993/AJHB.42.2.11.

Smart, Virginia. "We're Designing Minds!: App Maker Reveals Secrets That Keep Us Addicted to Smartphones | CBC News." *CBC News Marketplace*, CBC/Radio Canada, 3 Nov. 2017, [www.cbc.ca/news/technology/marketplace-phones-1.4384876](http://www.cbc.ca/news/technology/marketplace-phones-1.4384876).

Twenge, Jean M. "Have Smartphones Destroyed a Generation?" *The Atlantic*, Atlantic Media Company, 19 Mar. 2018, [www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198/](http://www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198/).

In an effort to examine if smartphones have destroyed a generation, Twenge provides observational and statistic evidence that while "post-Millennials are safer, physically, than adolescents have ever been... they're on the brink of a mental-health

crisis.” She covers a breadth of subtopics including: changes in how iGen behaves and interacts, depression and social media, and the negative repercussions of technology.

As a professor of psychology and author of books examining generational differences, Twenge provides an informed and valuable perspective. In addition to gaining a better understanding of how technology is harming teenagers, I included many of the statistics and associations Twenge gathers about teen’s mental health and their disposition towards their media.

Twenge, Jean M. "Time Period and Birth Cohort Differences in Depressive Symptoms in the

U.S., 1982–2013." *Social Indicators Research* (2015): Volume 121, Issue 2, pp 437–454.

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This research and survey-based study seeks to “examine the impact of time spent using social media on anxiety symptoms and severity in emerging adults.” Through a “web-based recruitment technique,” information was gathered by a nationally-representative survey revealing that “more daily social media use was significantly associated with a greater likelihood of participants scoring above the anxiety severity clinical cut-off indicating a probable anxiety disorder.”

The statistics and data which this survey presents are reliable due to the nature of the research method and the credibility of the *Journal of Affective Disorders* in which the source is published. I reported the evidence which is presented by the study in my paper to further establish my claims of social media’s connection to depression and anxiety.