Abstract

Examining the Smartphone Use of Jewish Modern Orthodox Adolescents and the

Relationship Between Their Smartphone Use and Psychosocial Well-being and Spirituality

The goal of this study was to assess the smartphone use of Jewish, Modern Orthodox

adolescents and potential correlations between their smartphone use and psychosocial well-

being and spirituality. Hypotheses suggested that a significant percentage of these

adolescents engage in problematic or addictive smartphone use, which correlates to elevated

psychosocial concerns in areas such as anxiety, emotional symptoms, hyperactivity, conduct

problems and peer relations, as well as lower levels of prosocial behavior and spirituality. A

survey was conducted utilizing a sample of 289 Jewish, Modern Orthodox adolescents

currently attending a co-educational Yeshiva High School. Data was analyzed using

independent sample t-tests, yielding results that identified 36% of respondents as problematic

smartphone users. Participates in the problematic smartphone use group were found to

present with higher levels of anxiety, emotional symptoms, hyperactivity and conduct

problems, while no difference was established for peer relations, prosocial behavior and

spirituality. The results of this study confirm the concerns of parents, educators and young

people themselves, regarding the possible addictive nature of smartphone use and the

potential impact of problematic use on psychosocial wellbeing. This data contributes to the

limited research available on adolescent smartphone use and psychosocial wellbeing.

Additional research is needed to investigate the true nature of adolescents' smartphone use in

terms of specific activities and behaviors, the consequences of those actions on psychosocial

wellbeing and protective factors for problematic use.

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Relationship Between Their Smartphone Use and Psychosocial Well-being and Spirituality

by

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Introduction

It is no secret that media use has become a force in American culture and around the world. Smartphones, laptop computers, tablets, smartwatches, and other such devices can be found in the hand of nearly every person in America. We cannot escape the need to be "connected" all day, every day. While some may argue that there truly is a "need" to remain connected, others may contest that the constant connection is weakening our society cognitively, academically, emotionally, psychologically and socially. When contemplating the expectations our culture has set for technology use and the rate of change that is being presented to people, concern for the next generation and the impact on children and adolescents is palpable. Popular media consistently reports on the issue of young people's technology use and researchers are beginning to identify the significant impact of devices like the smartphone. Smartphones are predominantly responsible for the overall increase in media use for most people (Kuss et al., 2013).

In this study, we will explore the impact of smartphone use on adolescents' emotional, social, behavioral and spiritual selves. We will begin by reviewing the literature to guide us in understanding the goals of this research study. First, we will give a brief overview of the research on excessive technology use (specifically Internet addiction and social media) to establish a framework for understanding the possible negative impacts of problematic and unbalanced media use. This will provide us with an initial perspective on excessive smartphone use. We will follow with an exploration of the existing research on the impact of smartphone use. Next, we will discuss common

psychosocial issues facing adolescents and the research studies that have already begun to

connect these concerns to problematic technology use, specifically smartphone use.

Chapter I: Literature Review

Problematic Internet Use

A starting point for understanding the "new age" condition of problematic media use, is to review the research on Internet use and addiction. Beginning in the 1990's, when the Internet became more commonly accessible to people in their homes, until present day when the Internet is at people's fingertips constantly, there has been a monumental transformation in our world. Of primary concern are the consequences that unrestrained use may have on the physical, emotional, mental and social lives of human beings (as well as overall productivity). There is a specific concern related to the use of children and young adults and the impact it is having on each of these fundamental life skills.

It has been well documented that the Internet serves as a forum for entertainment, commerce, information, educational needs, business, and social connectedness (Dalbudak et al., 2013; Lenhart, 2015; Mitchell et al., 2011). Due to the constant advancements in technology, the ever-changing landscape in the functional use of devices, and the number of people that report struggles with managing their use, researchers continue to investigate and debate the conceptual framework of Internet addiction and/or related addictions (Griffiths et al., 2016; Scott et al., 2016; Young, 2017). For example, researchers distinguish between Internet use that is characterized as one-dimensional in nature, such as gambling and gaming, and general use that consists of multifaceted activities, making it difficult to conceptualize an accurate definition of Internet addiction

(Davis, 2001; Griffiths et al., 2016). The ambiguity regarding the correct approach to classifying, detecting and intervening in cases of problematic Internet use (Kardefelt-Winther, 2014) has made it difficult to establish a common language in the mental health community. This resulted in Internet addiction's exclusion from the DSM-V (Spada, 2014), although many still believe that the diagnostic criteria exist for inclusion in the DSM (Kuss et al., 2013; Muller et al., 2016; Weinstein & Lejoyeux, 2010). Even in the absence of clarity regarding Internet addiction as a legitimate disorder, there is extensive research linking behaviors of problematic Internet use to negative psychological well-being (Lai et al., 2015), similar to other addictive behaviors.

Dr. Kimberly Young, a leading researcher in the field of problematic Internet use, has argued that Internet addiction should be included as a separate diagnosis in the DSM (Young, 2009). Young (2009) established that problematic Internet use has the elements of addiction, including excessive use (loss of sense of time, neglect of basic drives), withdrawal (anger, tension, depression), tolerance (need for better equipment, more software, more hours of use) and negative repercussions (arguments, lying, poor achievement, social isolation and fatigue), and should be considered in the same realm as other compulsive disorders (Scott et al., 2016; Young, 2009). Without a universally accepted diagnosis, researchers are attempting to ascertain the driving force behind excessive/problematic Internet use.

Similar to Young, Spada (2014) suggested, that although no definitive criteria have been established to conceptualize problematic Internet use, there are two clearly identifiable elements that should be recognized. Problematic use should be viewed as "excessive or compulsive, along with preoccupation with and loss of control over one's Internet use" (Spada, 2014). It should also be understood through the lens of the "consequences of

spending too much time on the Internet, such as neglecting social activities, relationships, health and work or school duties, and altering sleep and eating habits in a detrimental way" (Spada, 2014).

According to Dalbudak et al. (2013), Internet addiction is "recognized as an individual's inability to control his or her use of the Internet, having negative consequences (e.g., failing in school and having decreased productivity), and resulting in marked distress and/or functional impairment." Weinstein & Lejoyeux (2010) establish the definition as follows: "problematic Internet use, or addiction, is characterized by excessive or poorly controlled preoccupations, urges or behaviors regarding Internet use that lead to impairment or distress." Consistent with other addictive behaviors, each of these definitions emphasize that the behavior reaches a level which notably interferes with one's daily functioning.

One goal of this study is to identify the extent to which adolescents' smartphone use is approaching the level of "problematic" or "addictive." As we will see, there is limited research on problematic or addictive smartphone use, therefore, it is critical to cite the related research on Internet use to gain a broader picture of the extent to which people are struggling with the use of technology.

Impact of Problematic Internet Use

Researchers have explored the impact of problematic Internet use on mental health, linking disorders such as anxiety and depression to maladaptive use. Jenaro et al. (2007) found that college students who use the Internet in excessive doses are more apt to suffer from psychiatric disorders, including insomnia, depression, anxiety and social dysfunction. According to the work of Beranuy et al. (2009), maladaptive Internet use by college age

students is correlated to psychological distress, including symptoms attributed to anxiety and depression.

There are multiple important life functions that have been identified as being negatively impacted by technology overuse, such as academic performance, poor sleep quality, decreased life satisfaction and increased anxiety (Li et.al., 2015; Lepp et al., 2014). The concerns for young people and the general population are extensive, covering a range of issues such as physical health (Cazzulino et al., 2014), appropriate social development, mental/emotional well-being (psychopathology), academic performance (Chen & Peng, 2008) and time management (Pea et al., 2012).

Studies of college age students' Internet use have yielded results that are alarming. Chen and Peng (2008) examined data from a Taiwanese national study among college students to identify the impact of Internet use on academic performance, interpersonal relationships, psychosocial adjustment and self-evaluation. Participants, characterized as heavy Internet users, reported that they were more likely to be depressed, physically ill, lonely, and introverted, in contrast to those identified as non-heavy users, who reported more positive relationships with administrative staff, higher grades and greater learning satisfaction.

This is consistent with the work of several other researchers, reinforcing the cause for concern. Yamada et al. (2016) surveyed college age students attempting to control their Internet use. Despite their desire to limit use, these students were unable to withhold using the Internet at the rate they targeted. Dalbudak et al. (2013) established a correlation between moderate/high Internet addiction and high levels of depression, anxiety and alexithymia. The fact that college age students are struggling to regulate Internet use amplify concerns about

adolescents' ability to self-monitor their Internet activity. The notion that still developing adolescents may be approaching the level of addiction with their technology use is terrifying for parents and educators.

The prevalence of Internet addiction among adolescents and the impact it has on their daily functioning, such as academic achievement (Stavropoulos et al., 2013), physical activity (Lepp et al., 2013) and mental and physical health (Dalbudak et al., 2013) is a major cause for concern, due to the constant access available on a smartphone. Researchers are mindful that smartphone addiction may hold many of the same social and/or psychological consequences as Internet addition since smartphones function primarily through the Internet (Choi et al., 2015) and offer the potential for mobile use.

Smartphone Use

Prior to the launch of the first smartphone by Apple in 2007, there was already extensive research on possible impacts related to problematic Internet use and Internet addiction (cited above). Now that Internet use has become synonymous with smartphone use and people maintain the ability to access the Internet at any time, not just when they are in front of a computer (Elhai et al., 2017, Ofcom, 2017), we must concentrate attention on the impact of heavy, possibly addictive, smartphone use. The boom in smartphone ownership and access by people of all ages has created an unceasing chain of media usage that is impacting a wide variety of life processes, developments and societal norms. The daily smartphone use among adolescents is an ever-growing issue that has parents, educators, researchers, policymakers and mental health professionals scrambling to find strategies to mitigate possible negative outcomes.

A smartphone serves as an "all-in-one" device, giving people unlimited access to social networking services, games, communication, Internet, multimedia and navigation (Choi et al., 2015; Demirci et al., 2015; Hoffner & Lee, 2015; Kwon et al., 2013; Mok et al., 2014; Oulasvirta et al., 2012; Salehan & Negahban 2013). A smartphone holds the capability of functioning as a cell phone and portable computer (Long et al., 2016; Oulasvirta et al., 2012), which requires a shift in the way researchers study the impact of mobile phones and Internet use on people's lives. There is an overlap between smartphone use, cell phone use, Internet use and other technology platforms, because the smartphone has the capacity to encompass all these other functions (Billieux et al., 2015; Choi et al., 2015; Demirci et al., 2015; Hawi & Samaha, 2016).

As with Internet use, there are obvious, well-documented benefits of smartphone use. Billieux et al. (2015) highlighted some of the positives to include significant improvement in communication between individuals and systems, health benefits, behavior altering opportunities such as: "dietary management, smoking cessation, physical activity promotion, and chronic disease management." The argument has been made by Amichai-Hamburger & Furnham (2007) that Internet use presents people, characterized as "socially inhibited" or belonging to a group labeled by a "negative stigma," with the unique opportunity to improve their quality of life and well-being. The anonymity, control over the interaction, and possibility of finding like-minded peers, makes the Internet a catalyst for growth amongst people struggling with social interaction (Amichai-Habmurger & Furnham, 2007).

If you would ask most people (especially "digital natives"), they would justify, with great passion, how their life has been enhanced by smartphone ownership. Furthermore, people have become so reliant on their smartphones that they will express, with the same

passion, their inability to function without their smartphone, even for short periods of time. Smartphones are making life easier for people, with apps that have the potential to manage every aspect of life. Smartphone apps exist for anything and everything, including navigation systems, banking, shopping, stock trading, social media, food delivery, taxi services, gaming, communication, endless information, and education, to name a few. We must accept that smartphones are an integral part of life with countless positive benefits, but it is also our responsibility to examine the impact of heavy, unbalanced and negligent use. Scott et al. (2016) put it well, stating: "The modern digital world offers nonstop technology from which it is almost impossible to unplug, and it is increasingly evident that many psychological problems can be caused or exacerbated by such technology."

In a 2009 study, Kaiser Family Foundation (Rideout, Foehr & Roberts, 2010) continued their examination of the alarming rise in media use among children and adolescents. According to the study of 2,002 participants, ages 8 to 18 years old, these young people are spending more than seven and a half hours daily (7:38) using media, which is an increase of an hour and seventeen minutes from the previous study, in 2004. Additionally, the study reported that children and adolescents are often multitasking, using more than one device simultaneously, resulting in a total of 10 hours and 45 minutes of total media exposure daily. Interestingly, this startling data excludes time spent on the computer for school, as well as texting and talking on the phone. Moreover, this study is already considered outdated since the rate of change in the world of media use is incredibly difficult to quantify.

In 2015, the Pew Research Center (Lenhart, 2015) studied teen media usage by surveying 1,060 adolescents between the ages of 13 and 17 during late 2014 and early 2015. The results of the study found that "88% of American adolescents between the ages of 13 and

17 have or have access to a mobile phone with 73% possessing a smartphone. 87% have access to a desktop or laptop computer and 58% have or have access to a tablet computer" (Lenhart, 2015). In 2018, Pew gathered updated data, in a study of 743 teenagers (ages 13-17), reporting that 95% of participants have or have access to a smartphone device. There are a wide variety of uses reported by adolescents, according the Pew study in 2015, including video gaming, texting, anonymous sharing, social media (specifically Instagram, Snapchat, Facebook, Google+, Vine, Tumblr, and Twitter), discussion boards, among others. The uses are expanding and changing rapidly according to the 2018 Pew study, requiring the inclusion of YouTube and Reddit as additional options for respondents. This new data continues to reinforce the idea that several platforms are utilized by adolescents to engage in social media. Only 24% of teenagers recognized social media as having a mostly negative impact, with 31% identifying social media as a positive influence and 45% showing indifference to its influence. In 2018, 45% of adolescents stated that they are "almost constantly" using the Internet, a significant increase from 24% in 2015. An additional 44% reported use several times daily, with only 11% stating that they use less often (Anderson & Jiang, 2018).

According to the report by Ofcom (2017), analyzing the surveys of 1,846 people 16 years and older (between November and December, 2016) and 3,743 people 16 years and older (between January and February, 2017) in the United Kingdom, 100% of the participants ages 16 to 24 years old reported utilizing a mobile phone. In general, there has been a significant increase in adult smartphone use in the UK from 2010, when 31% were utilizing smartphones to access the Internet, to 2016, when 66% were using smartphones for Internet access. Similarly, tablet use has increased from 5% in 2010 to 49% in 2016. In contrast, people's use of the Internet on a home computer decreased over the same time

period. Mobile devices are enabling people to access the Internet more often and more easily than merely utilizing a home computer (Ofcom, 2017).

Common Sense Media, an "independent nonprofit organization dedicated to helping kids thrive in a world of media and technology," conducted research on adolescent smartphone use in February and March of 2016. Based on interviews of 620 parents and 620 children (12 to 18 years old) from the same households, the organization found that 59% of parents indicated their adolescents are addicted to their mobile devices and 50% of the teenagers themselves reported being addicted to their mobile devices. 78% of the teens said they check their devices at least hourly and 72% said they feel the need to immediately respond to communications and notifications (Common Sense Media, 2016).

Jewish, Modern Orthodox people may find themselves in a precarious position when it comes to smartphone use. In general, the Jewish, Modern Orthodox person seeks to strike a balance between living a traditional Jewish lifestyle, sheltered from potential negativity and immorality in the world, with the responsibility to engage as a productive, contributing citizen in the modern world. Some might consider smartphone use as a microcosm of this dilemma. Smartphones now represent the primary method of communication required to experience and participate in the world, but simultaneously, smartphones offer a window into an unfiltered expanse of immorality, disturbance and complications that are beyond control.

In an effort to address these concerns, The Digital Citizenship Project, an organization founded in 2014 to teach digital responsibility to young men and women primarily attending Jewish Day Schools in North America, conducted research (between 2015-2017) to gather data on the rate of technology ownership, attitudes, behaviors and individual self-concept of 2027 Jewish participants between grades 5 and 12. The students'

religious affiliations were 39% Orthodox, 31% modern Orthodox, 17% Chabad, 8% Conservative and 5% other. The responses yielded results that are meaningful for future research involving population of young Jewish people. Students' personal device ownership data indicated that 46% owned a smartphone, 43% tablet devices, 34% laptops, 33% iPod touch, 2% desktop computers, 20% no device. Even though this more recent study of Jewish youth reported lower percentages than the results of the 2015 Pew study, it may be attributed to the inclusion of younger children. That being said, it is interesting to note that the average age when students reported being given a personal, Internet capable device was 9 years 8 months old. 56% of students reported that they used the Internet for school related activities at least daily, while 80% stated that they use the Internet for non-school related activities at least daily. 77% accessed the Internet on a home computer, 49% on a smartphone and 33% on another handheld device (Shapiro, 2018).

In terms of dependence, 53% reported thinking about getting back online when not using their phones, 43% indicated feeling restless or irritable when not online, 54% stated that they have tried to limit their online activity and 65% expressed that they stay online longer than intended. More than 25% reported hiding their Internet use from others. The survey also provided data about the students' psycho-social well-being: 84% of students reported high levels of subjective well-being, 88% reported social satisfaction, 82% stated that they are satisfied with themselves on a whole (Shapiro, 2018).

The current study will seek to identify the extent of smartphone use by Jewish, Modern Orthodox adolescents, while looking closely at the possible correlation between their smartphone use and psycho-social factors.

Problematic Smartphone Use

The above studies point to the fact that people are approaching unprecedented levels of smartphone access and use. Problematic smartphone use and the possibility of addiction is an obvious concern, particularly since problematic Internet use/Internet addiction has been recognized as a significant issue around the world. Even with this in mind, it is essential to acknowledge that the research on smartphone use as an addictive behavior, in the general population, and specifically with adolescents, is still in the infancy stage. While much of the existing research compares the characteristics of problematic smartphone use to those of other addictive behaviors, such as gambling, it does not account for the full extent of the behavioral and neurobiological specifications of addictive smartphone use (Billieux et al., 2015). Establishing smartphone addiction as a specific disorder in the field of mental health may take significant time. Without extensive research into smartphone addiction, to identify the unique and specific theoretical rationale, it will not be recognized as a disorder (Billieux et al., 2015).

As mentioned previously, the DSM-V did not include Internet addiction as a disorder, nor did it include any mention of smartphone addiction. The only reference to the Internet in the DSM-V is the inclusion of "Internet Gaming Disorder," which is understood to be a specific type of Internet addiction (Karaca et al., 2017). The fact that the DSM now recognizes a non-substance addiction as a psychiatric diagnosis is significant in that it opens the door for other problematic uses, that are not substance related, to be identified as disorders (Samaha & Hawi, 2016). This is important for investigators and practitioners because we remain without any diagnostic criteria or theoretical framework for Internet or smartphone addiction to inform research and intervention.

Researchers continue to conduct studies to analyze smartphone use with the goal of understanding the extent to which people are engaging in the behaviors that contribute to excessive or problematic use. The Smartphone Addiction Scale (Kwon et al., 2013) is one example of a frequently utilized measure that aims to identify addictive smartphone use even though it is not a widely accepted behavioral addiction. Building off the extensive research on Internet addictive behaviors, examiners are proposing that human beings are in danger of becoming addicted to smartphone use. In the absence of distinct diagnostic criteria, Demirci et al. (2015) characterized smartphone addiction as "the overuse of smartphones to the extent that it disturbs users' daily lives," which is aligned with the core definitions of Internet addiction. For the purpose of this study, smartphone addiction is operationally defined by the Smartphone Addiction Scale (SAS) which is divided into 6 factors, including daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse and tolerance (Kwon et al., 2013).

Relationship between Problematic Internet Use and Problematic Smartphone Use

Connecting the research on Internet addiction to smartphone addiction studies will contribute to a more comprehensive assessment of the predictive factors and related issues. There is a strong correlation between these behaviors based on the work of Choi et al. (2015) with college students in South Korea. Choi et al. (2015) surveyed 448 participants to compare the risk/protective factors of smartphone addiction with those of Internet addiction. They discovered that higher levels of Internet addiction are associated with higher levels of smartphone addiction and vice versa, proving a strong link between the behaviors related to problematic Internet and smartphone use.

Increased access to the Internet contributes significantly to the possibility of a person becoming addicted to the Internet (Kuss et al., 2013). Kuss et al. (2013) found that adolescents who reported using the Internet in the kitchen, on their mobile phones and through WIFI were more apt to become addicted to the Internet than those with more limited access. As cited above, the availability of mobile devices has greatly expanded people's use of the Internet, which only increases the chance that a person may become addicted. Extensive research has been conducted to identify many of the issues related to technology, in general, and Internet use more specifically, but there is limited research on the impact of smartphones since becoming accessible to the masses.

Different than Internet use, utilizing smartphones has introduced "checking habits" for users that lead to heightened use. The more often that people habitually check their smartphone, the more prone they are to access additional pursuits on their devices. Since smartphones are constantly availabile, in contrast to computers, it is essential that researchers attend to this transformation in usage (Oulasvirta et al., 2012). The work of van Deursen et al. (2015) further established habitual smartphone use as a major factor leading to addictive smartphone use. As a consequence of engaging in pleasurable activities (and benefiting from the potential rewards) that exist on the smartphone, people may become accustomed to merely checking for notifications on a habitual basis, which compounds the possibility of becoming addicted to using the smartphone (van Deursen et al., 2015).

Skarupova et al. (2016) found only a slight increase in excessive Internet use for adolescents in Europe with access now available on mobile devices. The authors analyzed data from a large European survey on excessive Internet use (EIU) in children ages 9-16. This study compared the responses of children 11-16 years old (n=5018), from seven of the

European countries, to another survey in 2013 of same age children (n=2645), from those specific countries, to identify the impact of mobile devices on overall Internet use.

Although this increase was statistically significant, the authors were surprised that the increase was not greater. This led them to highlight some of the difficulties with identifying the true nature of people's mobile phone (smartphone) use via the current research practices. They posited that adolescents may consider the use of apps on their smartphones as distinct from Internet use. Additionally, many of the activities that people engage in on their smartphones are not necessarily Internet based, resulting in a different perspective on the type of use. The researchers of this study recognized that smartphones have multiple functions and activities that are not necessarily synonymous with Internet use, proving the importance of studying smartphone use distinct from Internet use (Skarupova et al., 2016).

Characteristics of Internet addiction and smartphone addiction are related, but each matter requires individual attention by researchers. There are many unique factors that contribute to the unceasing use of technology and potential addiction. A study of 209 college age students, in southwest United States, by Salehan and Negahban (2013) evidenced that mobile social networking application use significantly predicts smartphone addiction. Similarly, Darcin et al. (2016) explored the impact of social media networking sites on smartphone addiction in university students in Istanbul, with comparable results. This suggests that accessing social networking sites as the primary function of utilizing a smartphone provokes a significantly greater risk for smartphone addiction. This is of major concern due to the extensive amount of social networking use among youngsters, as noted in the Pew study above. Similarly, Kuss et al. (2013) found that Dutch adolescents use of Twitter (social networking application) and online gaming predict Internet addiction for

those teenagers. These activities are another form of use that complicate the overall picture of how people are spending their time using smartphones and the contributing factors that predict problems (Roberts et al., 2014).

Roberts et al. (2014) investigated college students' smartphone activities and how they correlate to smartphone addiction. 188 participants from a university in Texas completed a survey asking them to rate the amount of time they spend engaged in specific tasks on their phones (such as: gaming, texting, emailing, Facebook, Instagram, iTunes) while also measuring level of cell-phone addiction using the Manolis/Roberts Cell-Phone Addiction Scale. While there were significant differences between genders, both females and males spend extensive time using text messages, emails and social media networking applications. They found that time spent engaging in social media networking sites such as Pinterest, Instagram and Facebook were indicators of possible cell-phone addiction for those participants. Although there is a correlation between these cell-phone activities and cell-phone addiction, the authors stressed that other factors may contribute to cell-phone addiction, such as "structural characteristics" that entice and reinforce use, or that cell-phone addiction is just an escape from other significant issues, such as low self-esteem or relationship problems (Roberts et al., 2014).

The symptoms related to smartphone addiction have been detected in people of all ages, including young children (Cho & Lee, 2017). In a study of 386 people in the Netherlands, ages 15 to 88, van Deursen et al. (2015) found that age plays a significant role in smartphone addiction. Interestingly, the results of this study indicated that as people get older they are less likely to develop habitual or addictive smartphone behaviors (van Deursen

et al., 2015), emphasizing the importance of focusing on the activities of adolescents and children.

It is important to recognize that researchers were already identifying problematic mobile phone use as an issue for young people prior to the introduction of the smartphone to the market in 2007. Bianchi and Phillips (2005) highlighted the challenges of managing mobile phone use even during times when it could be dangerous or harmful to the user, such as while driving. According to Walsh et al. (2010) there is some indication that young people are reporting excessive attachment to their mobile devices, which may mirror the characteristics of addiction. The degree to which people have access to the Internet, social networks and gaming through the hand-held, portable smartphone has increased the risk of problematic use (Skarupova et al., 2016). Since the nature of a smartphone is that it can be used anywhere, at any time, this device holds the potential to influence one's entire life, even outside of the home (which was not necessarily the case with the Internet). Additionally, the risk for addiction may increase merely because adolescents are consistently using smartphones without a specific purpose (Lee et al., 2017).

For this study, the focus will be on adolescents, ages 13-18. No peer reviewed articles were identified to have studied problematic smartphone use in adolescents in the United States besides the study conducted by the Pew Research Center (cited above). The current research on problematic or addictive smartphone use is available from studies implemented in countries across the world and/or focus predominately on university age students and older.

Relationship Between Problematic Smartphone (Technology) Use and Psychosocial Issues

As established above, technology use, specifically in the form of smartphone use, presents people with the unceasing demand to remain connected, accessible and active with their devices. Scott et al. (2016) describes the problem as follows: "By increasing the flood of incoming demands on time and energy, the darker side of technology (in the form of connectivity, accessibility, and information overload) can have significant negative effects on mental health. As technological progress continues to push personal and professional limits, it will become increasingly important to understand and address these issues in counseling and other mental health settings." This point sets the stage for the next section of the literature review, where we will delve into research on the correlation between smartphone use and various psychosocial issues.

Elhai et al. (2017) conducted a systematic review of peer reviewed publications, analyzing the correlation between problematic smartphone use and psychopathology. The authors performed an international search for relevant studies between 2008 (following the first public release of a smartphone by Apple in 2007) and September 21, 2015, with the goal of synthesizing contemporary data on this topic. Inclusion requirements were established to incorporate studies that utilized a standardized measure of smartphone/ mobile phone addiction or usage, a standardized measure of psychopathology, and those reporting inferential statistics examining relationships between the two. Only 23 articles were located that met the inclusion requirements and only six of the twenty-three focused specifically on smartphone users. Even with a worldwide search, just six of the articles included participants

solely from primary school and two focused exclusively on high school age students (adolescents): Ha et al. (2008) and Guzeller and Cosguner (2012). It is apparent that limited research exists over the last five years to survey smartphone use by adolescents and any possible correlation to psychopathology. The systematic review by Elhai et al. (2017) did yield findings that suggest a correlation between problematic and general smartphone use and mental disorder constructs such as depression, anxiety and stress, with a significant relation to smartphone addiction.

One of the studies cited by Elhai et al. (2017), the work of Ha et al. (2008), focused on adolescent smartphone use through a study with 595 participants from a technical high school in Korea. Results indicated that the respondents identified as part of the "excessive user group," displayed more symptoms of depression and alexithymia, reported higher interpersonal anxiety and lower self-esteem than those in the comparison group. The study did identify texting as the primary activity of use, but appears limited without accounting for the myriad of uses now available on a cellular device or smartphone (Ha et al., 2008).

The other study of adolescent smartphone use quoted by Elhai et al. (2017) was the work of Guzeller and Cosguner (2012). Their study aimed to evaluate the psychometric properties of the Problematic Mobile Phone Use Scale (PMPUS) utilizing two samples (n=309, n=461) of Turkish high school students. The study yielded scores for the PMPUS that were significantly correlated with depression and loneliness, indicating that adolescents struggling with problematic mobile phone use also report elevated levels of depression and loneliness. The results of this study are limited in that the PMPUS has yet to be established as a diagnostically viable scale (Guzeller & Cosguner, 2012).

Hawi and Samaha (2016) conducted research with 293 university students in Lebanon to identify if the extent to which students are at risk of smartphone addiction will impact achievement of distinctive academic performance. Utilizing the Smartphone Addiction Scale - Short Version (SAS-SV), they found 44.6% of students were at high risk of smartphone addiction and those students were more unlikely to achieve distinctive academic achievement. The authors of the study emphasized concern for the potential that smartphone addiction has to contribute negatively to people's lives even beyond the areas of academic performance, interfering with future careers and overall productivity of societies (Hawi and Samaha, 2016).

Long et al. (2016) cited the Ministry of Industry and Information Technology of China's declaration in January 2016, that more than 1.3 billion Chinese people (95.5%) own a mobile device. Long et al. (2016) conducted a study of 1062 undergraduate students (17 to 26 years old) to identify the prevalence of problematic smartphone use and possible predictors. They found 99.2% of the participants were smartphone users and 21.3% of the students reported problematic smartphone use. According to the authors, the high frequency of problematic smartphone use identified in their study further corroborated other studies that have recommended smartphone addiction be considered a public health issue for Mainland China (Long et al., 2016). (Even with this level of concern, Long et al. (2016) did not feel comfortable utilizing the term "smartphone addiction" due to the lack of universally accepted evidence. Instead Long et al. (2016) operationalized the term "problematic smartphone use (PSU).")

Moreover, Billieux et al. (2015) reported that the World Health Organization (WHO) met in August 2014 "to discuss the public health implications and excessive behaviors

associated with the use of information and communication technology, including mobile phones and smartphones." Globally, books are being written, organizations are being formed, extensive counseling programs are being developed, "detox" facilities are already intervening, school programs are prevalent, and this is only the beginning of the movement to counteract the significant uptick in issues related to problematic smartphone use. In the Jewish community, organizations such as The Digital Citizenship Project are formulating interventions and engaging with Jewish Day Schools throughout North America to neutralize the possible negative outcomes related to problematic or addictive smartphone use by children and adolescents.

Hussain et al. (2017) studied the psychological aspects of smartphone use that impact people ages 13 to 69 in the United Kingdom, specifically focused on problematic use, narcissism, anxiety and personality factors. Although it was not a study of adolescents, (the mean age of the 640 participants was 24.89 with a standard deviation of 8.54) it is a recent study of relevance that provides a snapshot of adolescent smartphone engagement. The study put forth the following important data: 2.7 % of participants were classified as "disordered smartphone users;" daily average time spent on a smartphone was 190.6 minutes; average number of glances at a smartphone screen 39.5; social networking applications were the most commonly used at a rate of 49.9%, followed by instant messaging applications at 35.2% and then music applications at 19.1%. This study, by Hussain et al. (2017), cited lower conscientiousness, lower emotional stability, lower openness, and younger age, as significant negative predictors of problematic smartphone use. An important finding from this study is the recognition that younger age serves as a significant negative predictor for problematic smartphone use, highlighting the potential struggle for adolescents and possibly younger

children. Hussain et al. (2017) reported similar results to Ha et al. (2008) with regard to the impact of cell phone use on emotional stability, as mentioned above. This study supports the findings from previous studies (Oulasvirta et al., 2012; van Deursen et al., 2015) that smartphone addiction or problematic use may be a product of increased time spent using a smartphone (Hussain et al., 2017).

Lemola et al. (2015) aimed to study the impact of smartphones, in contrast to standard mobile phones, on the amount of electronic media adolescents were engaged in prior to going to sleep. The authors analyzed the questionnaires of 362 adolescents in Switzerland, ages 12-17, assessing electronic media use in bed before sleep, sleep difficulties and sleep duration. They found adolescents with smartphones engaged in certain activities such as the Internet, Facebook and texting for greater amounts of time than their peers with regular mobile phones, showing the impact of using a smartphone device on adolescents' volume of use. Additionally, the authors found smartphone owning adolescents were more apt to stay up later at night, which is important since their findings also showed that utilizing electronic media use prior to going to sleep is related to higher levels of depressive symptoms (Lemola et al., 2015). This study highlights the influence of smartphones on adolescents' lives and the possible negative consequences of increased use. This study was limited because it did not make use of a normed measure to gather data on participants' media use. Additionally, the data was collected on general media use rather than specifically focusing on smartphone use. Furthermore, the information was restricted to volume of use rather than attempting to identify the specific features of pathological use.

There is no question that Internet access, combined with standard mobile phone functions of calling and texting, may have detrimental consequences on people's psychological and social well-being. It has been difficult for researchers to pinpoint the true components of smartphone addiction and the impact of use on psychosocial issues. We will elaborate on the research delineating the wide array of psychosocial struggles that excessive smartphone use has the potential to influence. As we focus on the impact of excessive smartphone use, we will discuss various psychosocial concerns already linked to problematic use in the research.

Smartphone Use and Anxiety

We can attest to the fact that media use has officially become a "part of normal life" in America and across the world. On a regular basis, articles and reports are being published and disseminated in the news media and via popular culture on a myriad of issues related to smartphone use. The correlation between media use and **anxiety** is of particular interest when considering the impact on adolescents. The New York Times reported on October 11, 2017, in an article entitled: "Why Are More American Teenagers Than Ever Suffering From Severe Anxiety?" that "anxiety is the most common mental-health disorder in the United States, affecting nearly one-third (31.9%) of both adolescents and adults, according to the National Institute of Mental Health" (Denizet-Lewis, 2017; Merikangas et al., 2010). While this data quoted by the New York Times from the NIMH dates back to the early 2000's, there is no question that anxiety is on the rise. The article also quoted an annual survey conducted by the American College Health Association which reported that 62% of undergraduate students expressed "overwhelming anxiety" which increased 12% from 2011 (Denizet-

Lewis, 2017). Anecdotally, in the author's experience and in conversations with mental health professionals from other Jewish High Schools, anxiety continues to permeate the halls, with students consistently seeking support to cope with feelings of debilitating anxiety. Countless students engage in counseling services with private therapists and/or take medication to manage their symptoms related to anxiety.

We have already established that problematic or even unbalanced Internet use has been identified in the research as negatively impacting important life functions and health. While several studies have linked problematic Internet use to increased anxiety (Choi et al., 2015; Jenaro et al., 2007; Lai et al., 2015), there is limited research on the specific impact of smartphone device use on anxiety.

In a study of 536 university students from Midwest United States, Lepp et al. (2014) measured students' cell phone use and texting and the correlation to satisfaction with life, anxiety and academic achievement. Lepp et al. (2014) concentrated specifically on "average" media users to support the claim that not only those labeled as problematic users are experiencing increased anxiety. The study was the first to discover that "typical" college students, not just those labeled as "problematic users," presented with higher levels of anxiety in connection with increased media use. The students reported spending an average of 278.67 minutes using their cell phones and sending 76.68 text messages each day. Lepp et al. (2014) studied the impact of college age students' computer use and texting activities on academic performance (GPA), anxiety and satisfaction with life (mediated by GPA and anxiety). Based on the study, the college students reporting more extensive use of computers and cell phones also presented with more limited academic success, higher levels of anxiety and lower "satisfaction with life," compared to their peers who reported more limited use of

technology. Academic success was diminished by the possible distraction that cell phones present or due to the excessive amount of time that students spend utilizing their devices rather than attending to their studies (Lepp et al., 2014). This study was limited in that the sample only included college age students from one geographic area in the United States. The authors emphasized the importance of studying younger people in multiple geographic areas, specifically middle school and high school students, because of the growing prevalence of media use among young people.

Jenaro et el. (2007) conducted a research study with 337 college students in Spain to identify pathological Internet and cell-phone use and the psychological, health and behavioral correlates. The responses yielded significant data about the participants' technology use: 6.2% were established as pathological Internet users, 10.4% were pathological cell phone users, and 3.86% were both. Results indicated that college age students classified as "cell-phone over-users," were more prone to suffer from insomnia, somatic complainants, social dysfunction, anxiety and depression. Those characterized as "Internet over users" were more likely to experience insomnia, social dysfunction, depression and anxiety. Even though this study was conducted in 2006, prior to the release of the smartphone, pathological use of the Internet and cell-phones was already correlated to psychological, behavioral and health related issues (Jenaro et al., 2007).

The connection between these various technology uses and negative outcomes lead us to believe that similar problems may exist for excessive smartphone users. In a review of contemporary literature on smartphone use and psychopathology, Elhai et al. (2017) found that general and problematic smartphone use is connected with depression, anxiety and stress. In fact, those characterized as engaging in "problematic smartphone use" suffer from

more severe anxiety and depression. Elhai et al. (2017) reviewed nine articles that studied the correlation between problematic smartphone use and anxiety. Eight of the nine articles establish a significant association between problematic smartphone use and anxiety. This systematic review only included correlational studies, therefore, additional research is necessary to identify whether problematic smartphone use leads to mental health issues or vice versa.

In a study of 319 university students in Turkey, Demirci et al. (2015) utilized the Smartphone Addiction Scale to determine the level of smartphone addiction and the Beck Anxiety Inventory to establish the presence of clinical anxiety, among other measures. The goal of the study was to determine the relationship between smartphone use and sleep quality, depression and anxiety of university students. 71 (22.3%) of the 319 participants were non-smartphone users, 121 (37.9%) were in the low smartphone group and 127 (39.8%) were in the high smartphone group. The results of the study indicated that higher levels of smartphone use were correlated to significantly more anxiety, depression and sleep disturbance, in comparison to those reporting lower levels of smartphone use. As smartphones continue to expand in capability and access, it is vital for research to focus on the impact on mental health. While the study by Demirci et al. (2015) opens the conversation about the connection between smartphone use and mental health in university students, the limited sample makes it difficult to extrapolate to the general population. Specifically, when seeking to understand the impact on Jewish, Modern Orthodox adolescents, the significant differences in beliefs, lifestyle and community require studies that concentrate on this unique population.

Choi et al. (2016) explored the risk and protective factors related to both Internet addiction and smartphone addiction in college students. In a study of 448 college students in South Korea, the results indicated a significant correlation between smartphone addiction and Internet addiction. Additionally, the results established that increased anxiety was associated with higher levels of smartphone addiction and Internet addiction (Choi et al., 2016). As smartphone ownership continues to increase and cases of anxiety rise, it would be prudent to further explore the connection between these two elements.

In a study of 163 participants, Cheever et al. (2014) found that American college students, identified as heavy wireless mobile device users, experienced a steady increase in anxiety over time when they were not in possession of their device, in comparison to those characterized as low users, who saw no variation in their anxiety level. The participants reported spending an average of 13.58 hours using their wireless mobile device each day. College students that reported heavy mobile phone use, displayed significantly higher levels of anxiety than those characterized as low users when they did not have access to check their device, supporting the notion that heavy users become dependent on their mobile phones. Although this study supports the belief that more device use leads to more anxiety related to the device use itself and not to more anxiety in general, it illustrates the relationship and dependence these students have with their devices (Cheever et al., 2014).

Rosen, Whaling, Rab, Carrier and Cheever (2013) identified a connection with adults' anxiety about not checking their text messages, emails and Facebook account and psychiatric disorders, specifically mood and personality disorders. Anxiety about checking one's device may be exacerbated by the presence of a smartphone. It should be anticipated that teens may become anxious during school if they are not allowed to check their devices for a significant

period of time. When considering one's smartphone use, anxiety is clearly a factor, whether people are checking their phones too often or not enough. Developing a balanced approach to utilizing a smartphone is highly recommended for users of all ages.

There are a variety of ways that anxiety is linked to Internet and smartphone use, proving that anxiety is a significant factor that must be considered by all smartphone users. The correlations reported in these studies predate a time when adolescents have more extensive access to smartphone devices with the capacity to access the Internet, social media, communication, gaming, and countless other activities. The continual expansion of smartphone applications and utilities make it difficult for researchers to pinpoint the specific nature of the possible negative correlations between problematic smartphone use and mental health concerns. The multi-function capacity, countless behaviors and numerous motivations/rewards complicate the identification of the accurate source of problematic use or addiction.

Smartphone Use and Emotional Symptoms

The **emotional symptoms** of excessive smartphone users have also been an area of study for researchers. Even in the early years of Internet use in people's residential homes, Krauft et al. (1998) linked heavier use of the Internet to significant declines in social involvement and psychological well-being (in the form of increases in depression). Chen (2012) found, in a study of first year college students in Taiwan, that students reporting high levels of problematic Internet use were more likely to report being depressed, lonely and suffering from a low self-esteem while those with more tempered Internet use reported healthy psychological well-being. Mitchell et al. (2011) gathered data on the impact of

specific Internet activities on well-being and happiness. They found that unbalanced Internet users engaging in activities such as gaming and mischief (defined as illegal downloading, visiting bomb websites, cybersexual behavior, among others) reported lower levels of perceived social support, suggesting deterioration in well-being (or happiness) (Mitchell et al., 2011).

Romer et al. (2013) found that heavy Internet users, between the ages of 14 and 22, reported increased levels of depression. While a correlation was supported by the study of Romer et al. (2013), it is interesting to note that participants who experience depressive symptoms often utilize media and refrain from social and physical activity because of those very symptoms. Therefore, as explained previously, it is not necessarily clear that Internet use is the cause of depression, but on the contrary, unbalanced Internet use may be a result of the depression.

Problems related to emotional symptoms, including anxiety and depression, were found to be correlated to "addictive Internet use," as assessed by the SDQ, in the study of adolescents in Cyprus (Critselis et al., 2014). Critselis et al. (2014) conducted a study of 805 ninth and tenth graders in Nicosia, Cyprus to identify the determinants and psycho-social correlates of Internet addictive behaviors in adolescents. Utilizing the Young Internet Addiction Test (YIAT), the study found that 18.4% of the adolescents reported borderline addictive Internet use and 2.0% reported addictive Internet use. Participants also completed the Strengths and Difficulties Questionnaire (SDQ) to determine the association to psychosocial issues. Those reporting borderline addictive Internet use were significantly more likely to experience abnormal peer relationships, conduct problems, elevated likelihood of hyperactivity and emotional symptoms. As expected, those reporting addictive Internet

use were even more likely to suffer from weakened emotional and psychosocial adjustment. Although this study is limited in that it does not identify the specific characteristics of addictive Internet use and their correlation to the emotional and psychosocial concerns in adolescents, it nevertheless draws an important link between the impact of Internet addictive behaviors and emotional and psychosocial concerns, as defined by the Strength and Difficulties Questionnaire (SDQ) (Critselis et al., 2014).

To gain a perspective on the prevalence and correlates of problematic smartphone use in Mainland China, Long et al. (2016) surveyed 1062 undergraduate students (ages 17 to 26 years old) in 2015. The practical necessity for undergraduate students to maintain connectedness and utilize technology has contributed to the upward trend in smartphone use, leading to the added concern that problematic use may develop. The results of this cross-sectional study indicated that 21.3% (226 participants) of the undergraduate students were characterized as engaging in problematic smartphone use (PSU). Apart from the basic uses of calling and sending text messages, the most repeatedly used functions were social networking services, Internet surfing, and video watching. Interestingly, the assortment of smartphone activities did not significantly influence problematic use versus non-problematic use, once again supporting the importance of further research to differentiate between the wide range of smartphone uses and their impact. The study highlighted several predictors of problematic smartphone use including, majoring in the humanities, elevated monthly family income, elevated **emotional symptoms**, high perceived stress and perfectionism-related factors. Consistent with the previously mentioned studies, the correlation between emotional symptoms, including anxiety and depression, and problematic smartphone use in undergraduate students was significant. The limitation of this study was that the results only

showed correlation and did not indicate causation. It remains unclear whether problematic

smartphone use leads to emotional distress or vice versa (Long et al., 2016).

The expanded capability, rapid advancements, effortless accessibility and intriguing

appeal of the smartphone continue to present people, specifically adolescents, with

challenges in their ability to function in a healthy and balanced manner (Kumcagiz, 2019).

Hussain et al. (2017) reported that their study of 640 international smartphone users, ranging

from age 13 to 69, reinforced previous research that "excessive smartphone users"

encountered more depression symptoms, difficulties in expressing emotion, higher levels of

interpersonal anxiety and low self-esteem. They also found that less emotional stability was

associated with problematic smartphone behavior. These outcomes point to the link between

negative behaviors emerging from problematic smartphone use for people who suffer from

mood swings, anxiety, irritability and sadness (Hussain et al. 2017).

The correlation between smartphone use and emotional symptoms has been identified

in studies that account for well-being and depression. College students reporting less control

over their behavior (external locus of control) are less likely than those who take a greater

responsibility for their behaviors (internal locus of control) to regulate their smartphone use

during inopportune times. This produces negative outcomes such as poor sleep quality,

reduced academic performance and decreased subjective well-being (Li et al., 2015).

Notably, Harwood et al. (2014) discovered a distinction between "use" (total use of

smartphone functions) and "involvement" (cognitive aspects underlying smartphone use) in

that only those reporting more significant smartphone involvement were reporting higher

levels of depression and stress. While anxiety was not identified as a significant issue for

those reporting extensive use or involvement, anxiety was found to be elevated for

individuals sending an elevated number of text messages. The fact that avid technology users are reporting vulnerability with their overall well-being, should encourage people to be more cognizant of their technology habits and mindful of the consequences (Lepp et al., 2014).

Smartphone Use and Hyperactivity/Inattention, Conduct Problems and Peer Relationships

There is minimal research on the connection between adolescent smartphone use and challenges such as conduct problems, hyperactivity and peer relationships. In general, behavioral addictions are correlated to Attention Deficit **Hyperactivity** Disorder (ADHD), with several studies linking the diagnosis of ADHD to Internet addiction and other behavioral addictions (Karaca et al., 2017). In a systematic review of literature on the connection between ADHD and Internet addiction, Karaca et al. (2017) found several studies (reviewed below) that linked excessive Internet use and ADHD in adolescents.

Bozkurt et al. (2013) conducted a study of 60 subjects, ages 10 to 18 years old, in Istanbul, referred due to a behavioral and emotional issues coupled with problematic Internet use. Participants reported using the Internet for an average of 53.7 hours a week and scored 80 or higher on the Young Internet Addiction Scale. The authors reported that 100% of the participants had at least one co-morbid psychiatric disorder and 88.3% had at least two. The most common psychiatric disorder cited by the study was attention deficit **hyperactivity disorder** with 83.3% of the subjects suffering from ADHD together with Internet addiction. The results of this study are limited because of the small sample size and specific nature of the population which only included clinically referred subjects (Bozkurt et al. 2013).

In a study by Lee et al. (2014) of 125 adolescents in Seoul, Korea, results indicated significant comorbidity of Internet addiction and psychiatric disorders. For those participants identified as part of the "addiction group," as defined by results of the Internet Addiction Test (IAT), comorbidity was found with depressive disorder (38.7%), **ADHD** (35.5%), other mood disorders (12.9%), anxiety disorder (8.1%) substance use disorder (4.8%) **impulse control disorder** (4.8%) and other (14.5%).

Seo et al. (2016) researched the impact of "mobile phone dependency" on the psychosocial characteristics of 2,159 South Korean adolescents. The study focused on the impact of the connection between mobile phone dependency and psychosocial issues. The authors investigated the degree to which academic achievement was influenced by **attention**, depression, **social relationships** and academic achievement. The results of the study indicated that attention and depression problems intensified for students displaying mobile phone dependency. Moreover, the attention and depression problems impacted the students' relationships with peers and teachers, as well as their academic achievement (Seo et al., 2016).

One study was found with the objective of identifying the psychosocial correlates associated with Internet addictive behaviors in adolescents. Critselis et al. (2014) utilized the Young Internet Addiction Test and Strengths and Difficulties Questionnaire with adolescents in Cyprus. Results indicated that students characterized as engaging in "borderline addictive Internet use" or "addictive Internet use" were at greater risk for **hyperactivity** and **conduct problems**. Interestingly, this study did not find a correlation between diminished **peer relations** or social skills due to addictive Internet use. Critselis et al. (2014) suggested that

peer relations and social skills problems may be counteracted by the adolescents' activity on social media networks, which have the potential to produce some positive outcomes.

In a study of college age students, Roberts et al. (2015) found that **attention** impulsiveness, understood as the inability to concentrate on the topic at hand, has a significant correlation to cell phone addiction. This is consistent with the findings of Billieux et al. (2007), who reported a significant connection between the dimension of impulsiveness characterized as "lack of perseverance" (understood as the inability to remain concentrated on a tedious or difficult task) and number of calls made per day, duration of calls and perceived cell phone dependence. Both of these studies highlighted distractions related to cell phone use. Roberts et al. (2015) emphasized that: "the wide array of functions available on the modern smartphone provides even the most attentive person an outlet for their boredom."

In a recent study by Wang et al. (2017), data from 768 adolescents in China was analyzed to identify the impact of self-esteem on the correlation between student to student **(peer) relationships** and smartphone addiction. When student to student relationships are strong, it increases adolescent self-esteem, which serves as a protective factor against smartphone addiction. An increase in self-esteem helps to explain why student to student relationships serve to decrease smartphone addiction behaviors in adolescents. Although this is a cross-sectional study and cannot claim to show causality, it clearly delineates a connection between **peer relationships** and smartphone addiction (Wang et al., 2017).

Identifying the association between social anxiety and problematic smartphone (or Internet) use can help to gain a perspective on how excessive use impacts **peer relationships**. Researchers are just beginning to explore this relationship. In a study of 367 university students in Turkey, Darcin et al. (2016) discovered that young adults, using their

smartphones predominantly for social networking, were significantly more likely to approach the level of smartphone addiction in comparison to their peers that utilize their smartphones for communication or Internet use. They also found that people with more profound social anxiety and enhanced feelings of loneliness were more susceptible to smartphone addiction. In many cases, people may be turning to their smartphones to escape feelings of loneliness or the loneliness itself may be prompting the excessive smartphone use. Either way, smartphones play a significant role in the social lives of human beings.

In a study of 152 undergraduate students (ages 18 to 24 years old) at the University of Winnipeg in Canada, Sapacz et al. (2016) found a statistically significant link between social anxiety and higher levels of mobile phone use. The authors discovered a substantial relationship between addiction proneness levels and amount of cell phone use, indicating the possibility that these behaviors are consistent with characteristics of other behavioral addictions. It remains indistinguishable from the research whether social anxiety leads to excessive smartphone use or vice versa. Nevertheless, peer relationships are clearly impacted by the shift in human correspondence which most often takes place by means of a device, such as the smartphone, rather than face to face.

Research studies exploring a correlation between adolescent smartphone use and **conduct problems** were not found. As mentioned above, Critselis et al. (2014) did find a correlation between adolescents' excessive Internet use and conduct problems. The impact of excessive smartphone use on adolescent behavior is essential information to develop an appropriate framework to intervene and support adolescents struggling with these problematic behaviors.

Smartphone Use and Prosocial Behavior

Prosocial behavior can be viewed as a protective factor for excessive or addictive smartphone use. The prosocial behavior factor (operationally defined by the items on the SDQ) integrates the positive behaviors that a person engages in with others. This includes characteristics such as being nice to others, caring about others, sharing and helping (Goodman et al., 1998).

In a study of 509 adolescent participants, ranging from grade 7 to 12 in Hong Kong, Ma et al. (2011) found a correlation between **prosocial** Internet use and **prosocial** daily social behavior. Conversely, the study established a connection between negligent Internet use and delinquent daily social behavior. This study suggests that adolescent social behavior on the Internet and in real life is parallel and strongly intertwined. The study is limited in that it only examined the specific dimension of social behavior without accounting for other elements of personality and life experience. Additionally, it remains unknown how the virtual world and physical world overlap in terms of behaviors and beliefs, making it difficult to draw conclusions about how they relate.

In a study of 2082 adolescents, between the ages of 13 and 18 in Bejing, China, Yang et al. (2015) explored the association between adolescent life of meaning and subjective well-being. Findings suggested that **prosocial behavior** serves as a partially mediating factor in this association. Those reporting higher levels of meaning might be more likely to engage in prosocial behaviors such as enhancing others' welfare and maintaining greater social responsibility. Additionally, prosocial behavior can increase social connections, self-efficacy, social competence and sense of mattering, which all contribute to higher levels of subjective well-being. Interestingly, Yang et al. (2015) determined that "Internet addictive

behavior was identified as a significant suppressor, which undermined the positive association between adolescents' life of pleasure and subjective well-being." Even if Internet use temporarily brings satisfaction, the negative outcomes resulting from addictive use, such as loneliness, depression, social anxiety, and aggressive behavior, will be responsible for a decrease in subjective well-being (Yang et al., 2015).

As established throughout this literature review, Internet and smartphone use have many benefits, but when the use turns to abuse, in the form of addictive behavior, the association with negative consequences, specifically anxiety, academic decline, depression, physical, social and emotional dysfunction, are compelling reasons to reassess the merits. The role that Internet addictive behaviors play in undermining subjective well-being should be a major concern for people. Adolescents are at great risk for these outcomes because their impulse control and emotional regulation are less developed (Yang et al., 2015).

In this study, we will explore the correlation between smartphone use and prosocial behavior as a potential protective factor in counteracting addictive or problematic smartphone use among adolescents.

Smartphone Use and Spirituality

Growth and development in the realm of spirituality has the potential to positively impact a person's well-being (Dowling et al., 2004; Roof, 2015). Specifically regarding adolescent development, spirituality, defined as "seeing life and living in new and better ways, taking something to be transcendent or of great value, and defining self and relation to others in ways that move beyond the petty or material concerns to genuine concern for others," has the power to promote positivity and thriving (Dowling et al., 2004).

Understanding spirituality as a life experience distinct from religion is integral to the study of

its unique influence. Miller and Thoreson (2003) explained that religiousness and spirituality

are "overlapping constructs" without operationalized definitions. That said, there is a

distinction in that religion is specific to "particular beliefs and practices, requirements of

membership and modes of social organization," while spirituality focuses on the transcendent

and how it impacts the individual in specific circumstances (Miller & Thoresen, 2003).

Wuthnow (2010) stated that spirituality represents the general language employed by

people to refer to one's relationship with God. Spirituality is also viewed as an "active" life

experience rather than passive, which requires people to make choices about how they will

engage in spiritual endeavors (Wuthnow, 2010). Many different definitions of spirituality

exist and it remains a difficult construct to conceptualize and study. Roof (2015), in a study

of the relationship between employee engagement and spirituality, defined spirituality as

follows: "Spirituality is the personal relationship or experience with God or the divine that

informs an individual's existence and shapes their meaning, purpose, and mission in daily

life. It does not need to encompass religion nor does it by nature exclude religion." This

understanding of spirituality, while accounting for the connection to religion, provides us

with a sense of the characteristics that are specific to spiritual beings.

There are studies that have linked elements of spirituality with Internet use. In a study

of Christian undergraduate students, Knabb and Pelletier (2014), found that "anxious God

attachment," understood as the "preoccupation with God's abandonment, feelings of

unlovability and a lack of intimacy with God," predict problematic Internet use

(operationally defined by the Problematic Internet Use Questionnaire which includes items

such as preoccupation with spending time online, neglect of responsibilities and relationships

due to online use, trouble cutting down time spent online) and emotional distress. The

authors explained that Internet use could function as a distraction from the difficulties related

to the participants' undefined relationship with God (Knabb & Pelletier, 2014).

In a study of 76 students, ages 11 to 14 attending private Catholic middle schools in

the New York area, Van Dyke et al. (2009) examined the connection between religious

coping and spirituality to adjustment and psychological distress. The study indicated a

positive correlation between daily spiritual experiences, as measured by the Daily Spiritual

Experiences Scale (DSES), and positive affect and life satisfaction. Based on the data,

regression analyses revealed that greater daily spiritual experiences predicted higher scores

on the Psychological Adjustment factor (of the PANAS-C) and lower scores on the

Psychological Distress factor (of the SWLS). These results are noteworthy in that spirituality

may present young people with the means through which to effectively enhance levels of

positive affect and life satisfaction (Van Dyke et al., 2009). Understanding the impact of

smartphone use on the daily spiritual experiences of adolescents is an important topic for

researchers, given the possible positive influence of spirituality on a person's well-being.

Spirituality, even when independent of religiosity, plays a role in the positive development,

or thriving, of adolescents, underscoring the

importance of studying spirituality and its potential relationship to mental health (Dowling et

al., 2004).

Faigin et al. (2014) analyzed the possibility that spiritual struggles may serve as a risk

factor for addictive behaviors. Rather than identifying whether spirituality has the potential to

prevent negative behaviors, this study was seeking to explore the connection between

elements of one's personal level of spirituality, characterized as "tension in the individual's

relationship with the divine…questions and doubts about spiritual beliefs and issues and…spirituality-related conflicts with friends, family and congregations," and negative behaviors. The study found that several addictive behaviors related to caffeine, exercise, food starving, gambling, prescription drugs, recreational drugs, sex, shopping, tobacco and work, were all elevated for students reporting higher levels of spiritual struggles. Notably, Internet use and video gaming were two of only four behaviors that did not increase due to spiritual struggles. There is undoubtedly a connection between spiritual struggles and increased addictive behaviors, but more research is needed to determine the possible impact of spirituality on technology related problematic behavior (Faigin et al., 2014).

In the Jewish community, researchers have begun exploring the connection between one's relationship to G-d and mental health. Krumrei, Pirutinsky, & Rosmarin, (2013), discovered that "both mistrust in G-d and negative religious coping were associated with greater depressive symptoms and both trust in G-d and positive religious coping were associated with lower levels of depressive symptoms… this highlights the potential clinical significance of spirituality to mental health among Jews." Additionally, a recent study by Pirutinsky, Rosmarin & Kirkpatrick (2019), found attachment to G-d to be the strongest predictor of mental health in a sample of Orthodox and non-Orthodox Jews. While there is a clear connection linking a person's relationship with G-d to psychosocial wellbeing, further exploration is necessary to pinpoint the specific nature of influence.

Research on the correlation between smartphone use and spirituality did not yield results. Data examining the relationship between technology use, specifically smartphones, and spirituality in the Jewish community were not found. Spirituality is recognized as a potential protective factor for mental health problems and could play a significant role in

helping to limit behaviors that may become addictive (Underwood and Teresi, 2002).

Concerning the Jewish population, spirituality is viewed as a valuable lifeline for Jews of all

ages and affiliations. Judaic studies coursework in Jewish Day Schools incorporate elements

of spirituality with the goal of enhancing students' connection to G-d. Guiding young people

to recognize and experience spirituality is integral to Jewish education. Spirituality serves as

a powerful positive force in Jewish people's lives and is considered a protective factor from

negative behaviors (Pirutinsky et al., 2019). In this study, we will examine the correlation

between adolescent smartphone use and spirituality as defined by the Daily Spiritual

Experiences Scale (DSES).

Jewish, Modern Orthodox adolescents attending a Jewish Day School have the unique

distinction of engaging in a dual curriculum, covering both Judaic studies coursework and

general studies subjects. Students are responsible to study Jewish texts, including Bible,

Talmud, Jewish philosophy and law, Hebrew language, Jewish history, among other topics.

This is accomplished in tandem with a college preparatory general studies curriculum aimed

at the goal of gaining acceptance to competitive university and college programs. As students

in a private high school, these Jewish adolescents must balance academic pressure, social

expectations, religious obligations and familial influences. Each of these factors contribute to

their mental health and well-being.

It is the responsibility of educators, parents and researchers to delve deeper into the

online behavior of young people and possible consequences (Chen & Peng, 2008), in

addition to thoughtfully contemplating policies for responsible technology use in educational

settings and beyond (Lepp et al., 2014). Moreover, now that preadolescents have access to

devices, we are responsible to address problematic use at a younger age (Lepp et al., 2014).

Mindfulness is necessary to cope with the harmful impact of disproportionate technology use (Saleham, M. & Negahban, A., 2013). Balanced and responsible utilization of one's smartphone has the potential to improve emotional and psychological well-being and limit many negative outcomes (Demirci et al., 2015).

The goal of this study is to assess Jewish, Modern Orthodox adolescents' current perception of their own smartphone use, psychosocial well-being and spirituality. Identifying the degree to which they are utilizing their smartphones and the correlation to these important factors, is essential for parents, educators, mental health professionals and the students themselves to ensure the facilitation of healthy development and to provide adequate support. Furthermore, understanding the correlates will help with the advancement of interventions that will tackle distinctive symptoms, rather than just focusing on limiting smartphone use without context.

Chapter II: Research Questions and Hypotheses

1) Is the smartphone use of Jewish, Modern Orthodox high school students problematic
   to the point that it approaches the level of behavioral addiction?

   a. Hypothesis #1: Similar to the results of large scale surveys, more than 25% of
      Jewish, Modern Orthodox high school students (adolescents) attending a
      suburban Modern Orthodox High School are engaged in problematic (or
      addictive) smartphone use as measured by the Smartphone Addiction Scale –
      Short Version (SAS-SV).

2) Is there a connection between adolescent smartphone use and anxiety?

   a. Hypothesis #2: Adolescents reporting problematic (addictive) smartphone use
      as measured by the Smartphone Addiction Scale (SAS) will experience
      elevated levels of anxiety as measured by the Beck Anxiety Inventory (BAI).

3) Is there a connection between adolescent smartphone use and emotional symptoms?

   a. Hypothesis #3: Adolescents reporting problematic (addictive) smartphone use
      as measured by the Smartphone Addiction Scale (SAS) will

      experience elevated levels of emotional symptoms as measures by the
      Strengths and Difficulties Questionnaire (SDQ).

4) Is there a connection between adolescent smartphone use and behavior problems, specifically hyperactivity, conduct problems and peer relations?

    a. Hypothesis #4: Adolescents reporting problematic (addictive) smartphone use will experience elevated levels of hyperactivity, conduct problems and peer relations as measures by the Strengths and Difficulties Questionnaire (SDQ).

5) Is there a connection between adolescent smartphone use and prosocial behavior?

    a. Hypothesis #5: Adolescents reporting problematic (addictive) smartphone use will indicate lower levels of prosocial behavior as measured by the Strengths and Difficulties Questionnaire (SDQ).

6) Is there a connection between adolescent smartphone use and spirituality?

    a. Hypothesis #6: Adolescents reporting problematic (addictive) smartphone use will indicate lower spirituality scores as measured by the Daily Spirituality Experiences Scales (DSES).

Chapter III: Methodology

The goal of this research study is to identify the extent to which Jewish, Modern Orthodox adolescents are engaged in smartphone use and the correlation between smartphone use and psychosocial well-being and spirituality. The study was conducted utilizing a cross-sectional, close ended design, consisting of the following measures: Smartphone Addiction Scale – Short Version (SAS-SV – 10 Items), Strengths and Difficulties Questionnaire (SDQ – 25 Items), Daily Spiritual Experience Scale (DSES – 16 Items), Beck Anxiety Inventory (BAI – 21 Items). The study used convenience sampling, as the survey was distributed to the students at the high school where the researcher works. The survey was disseminated in a high school setting in the form of an online link (Survey Monkey) under the supervision of school officials. A total of 289 adolescents responded to the survey.

Chapter IV: Sample

The survey was conducted with 289 adolescents (13-18 years old) currently attending a Jewish, Modern Orthodox Co-educational Yeshiva High School. Students were recruited to complete the survey via an email from the general school announcement email address and by school officials. The participants were provided with a link to an online survey via Survey Monkey. An official reminder email was sent four times over the course of the study.

In advance of the survey administration, parents were emailed with details about the survey and the option to opt out without penalty for their child. Students were also provided with the option to opt-out of the study and it was made clear that completing the survey was voluntary. Parents and students were informed of the possible risks of engaging in the study, specifically that the questions could cause the respondent to become upset or agitated due to the nature of the queries about problematic behavior, social emotional well-being and spirituality. All surveys were anonymous and the researchers did not have the ability to identify the respondents. Students were assured that the surveys were completely anonymous and opting out would not result in any penalty. All responses were stored in a secure location on the Survey Monkey database, accessible only to the research team.

Chapter V: Measures

Smartphone Addiction Scale-Short Version (SAS-SV) – 10 Items

Strengths and Difficulties Questionnaire (SDQ) – 25 Items

Daily Spiritual Experience Scale (DSES) – 16 Items

Beck Anxiety Inventory (BAI) – 21 Items

Demographic information: Age, Grade, Gender – Individual Items

Smartphone Addiction

Smartphone Addiction Scale (SAS). As established in the review of literature, there

is a logical connection between Internet addiction and smartphone addiction resulting from

the mobility and ease of access that the smartphone offers for Internet use (Kwon et al.,

2013). To date, no universally accepted definition or diagnostic criteria for Internet addiction

exists. Many researchers have offered descriptive classifications of Internet addiction. For

example, Weinstein & Lejoyeux (2010) proposed the following: "problematic Internet use, or

addiction, is characterized by excessive or poorly controlled preoccupations, urges or

behaviors regarding Internet use that lead to impairment or distress." Although Internet

addiction was not included in the DSM-V (Spada, 2014), the research suggests that excessive

use is cause for major concern and should be treated with professional support and

intervention.

The smartphone provides users with a wide array of utilizations including: portable

media player, photo camera/video camera, social networking, GPS, voice and

written communication device and game platform (Billieux et al., 2015; Choi et al., 2015; Demirci et al., 2015; Kwon et al., 2013). Additionally, "apps" enable people to access the Internet more quickly and easily than through a standard browser. Employing descriptions of Internet addiction as a framework for smartphone addiction, Dimirci et al. (2015) established the definition of smartphone addiction as: "the overuse of smartphones to the extent that it disturbs users' daily lives."

For the purpose of this research study, smartphone addiction was operationally defined through the utilization of the short version of the **Smartphone Addiction Scale** (Kwon et al., 2013). The SAS is a 33-item, self-rating, Likert-type scale adapted from the K-scale, which was developed based on Kimberly S. Young's Internet Addiction Scale. The SAS was originally administered in a study with 197 participants and included 48 items, with the foremost variation being a shift from questions about Internet to smartphone queries. Following the initial factor analysis, the scale was reduced to 33 items with a second factor analysis yielding a Cronbach alpha of 0.967. The second factor analysis revealed six factors that comprise the SAS, including daily-life disturbance, positive anticipation, withdrawal, cyberspace-oriented relationship, overuse and tolerance. Through partial correlation analysis, the authors measured concurrent validity, to compare the SAS to the previously validated measures K-scale and Y-scale. Significant correlations were found indicating that the SAS is a reliable and valid measurement tool to assess smartphone addiction (Kwon et al., 2013).

Demirci et al. (2014) studied the reliability and validity of the Turkish version of the SAS with the internal consistency coefficient value (Cronbach's alpha) of 0.947. There are several studies that have successfully employed the SAS as a valid measure of smartphone addiction behaviors. In a study of the relationship between psychosocial problems and

smartphone addiction, Darcin et al. (2016) utilized the SAS to assess the participants' smartphone use. The study found the psychosocial problem of social phobia to be correlated with the risk for smartphone addiction in college students.

The authors of the Smartphone Addiction Scale (Kwon et al., 2013) introduced a short-version scale with the goal of "evaluating smartphone addiction in a simple and easy way, which will be less expensive and time consuming." The primary function of the Smartphone Addiction Scale – Short Version (SAS-SV) is for screening purposes, to identify people at risk for smartphone addiction. The authors designated 10 items from the 33 items to create a valid and reliable short version of the SAS. Kwon et al. (2013) administered the SAS-SV to 540 students in South Korea, with an average age of 14.5. The internal consistency result of the SAS-SV was (Cronbach's alpha) 0.966, confirming its validity as a screening measure for smartphone addiction.

In a study of 717 high school and university students in Romania, Cocorada et al. (2018) assessed the validity of the Smartphone Addiction Scale – Short Version (SAS-SV). The data established the effectiveness of the short version with results indicating a Cronbach's Alpha of 0.86 proving strong psychometric qualities.

In a study of college age students attending university in the Midwest of the United States by Wolniewicz et al. (2018), 296 participants completed the Smartphone Addiction Scale – Short Version (SAS-SV). The results yielded a coefficient alpha of 0.88, confirming the validity and reliability of the measure. Notably, Wolniewicz et al. (2018), employed the Smartphone Addiction Scale – Short Version as a means of identifying "problematic smartphone use (PSU)" in participants. Establishing problematic smartphone use (PSU) as the term to characterize elevated scores on the Smartphone Addiction Scale -Short Version

(SAS-SV) is a rational approach given that smartphone addiction criteria have not been verified and the SAS-SV is merely a screening tool for addictive tendencies.

The SAS-SV was scored by summing together the responses from each of the 10 statements on the measure. Responses were completed on a 6-point scale ranging from 0=strongly disagree to 6=strongly agree. A score of at least 33 was used as the cut-off for the placement of participants in problematic (addictive) smartphone use group. When analyzing the responses by gender the cut-off was 31 for males and 33 for females.

Anxiety

Beck Anxiety Inventory (BAI). In addition to the data gathered about emotional symptoms from the SDQ, anxiety level was assessed and operationally defined based on the results collected from the Beck Anxiety Inventory (BAI: Beck, Epstein, Brown & Steer, 1988). The BAI was developed over several years, in the early 1980's, with the goal of focusing specifically on anxiety to the exclusion of depression. The BAI was normed by analyzing data from a sample of 1,086 people with affective and anxiety disorders, among other diagnoses. The original questionnaire consisted of 86 items, but was eventually reduced to include 21 items in the final version of the scale. Participants are asked to respond to the 21 items on a 4-point scale ranging from 0=not at all to 3=severely, I could barely stand it. Internal consistency of the scale is strong with a Cronbach's alpha of 0.92. The development of the scale was successful in differentiating between anxiety and depression, providing reliable and valid criteria that is specific to anxiety. This distinction is important for researchers and clinicians in the process of diagnosing and intervening for people with anxiety. For this study, there is a particular interest in identifying the correlation between

excessive smartphone use and anxiety (as explained above), in addition to the other psychosocial issues identified by the SDQ.

The BAI has been utilized extensively in the research of anxiety in clinical and nonclinical samples (Bradhoshi et al., 2015), including the assessment of the correlation between smartphone addiction and anxiety. Two studies were found that utilized the SAS together with BAI to identify the correlation between smartphone addiction and anxiety. Hawi and Samaha (2017) utilized the SAS-SV and BAI to determine the role of anxiety in clinically significant problems in family relations, with results proving the reliability and validity of the BAI in identifying anxiety. Demirci et al. (2015) utilized the Turkish version of the BAI and results showed that higher levels of smartphone use were correlated to significantly more anxiety, depression and sleep disturbance, in comparison to those reporting lower levels of smartphone use.

Bardhoshi et al. (2015) conducted a meta-analysis of studies that utilized the BAI as a means of providing a comprehensive report of the psychometric properties of the BAI. In their meta-analysis of 192 articles, there were 117 studies with a combined sample size of 43,932 participants that reported coefficient alpha results. The weighted average for all of these studies, including both clinical and non-clinical samples, produced an alpha of 0.91, which shows strong reliability for the BAI as a screening tool for anxiety.

Osman et al. (2002) specifically set out to assess the reliability and validity of the BAI with adolescent participants, ages 14-18. The study consisted of a clinical sample of 240 adolescents, ages 14-17, in a psychiatric inpatient facility as well as 167 adolescents, ages 14 to 18, from a regular high school. The Cronbach's alpha was .92 for the clinical samples and

.88 for the high school sample, indicating strong internal consistency and proving that the BAI is a reliable measure for adolescents.

The BAI was scored by taking the total sum of each of the statements. The scores are classified into categories, 0-7 is interpreted as minimal, 8-15 as mild, 16-25 as moderate and 26-63 as severe, in terms of levels of anxiety.

Psychosocial Well-being

Strengths and Difficulties Questionnaire (SDQ). Psychosocial well-being was measured with the **Strengths and Difficulties Questionnaire Self-Report** (Goodman et al., 1998). The SDQ is a self-report scale for people ages 11-16, comprised of five subscales as follows: emotional symptoms (ex. "I worry a lot"; "I am often unhappy, down-hearted or tearful"), conduct problems (ex. "I get very angry and often lose my temper"; "I fight a lot. I can make other people do what I want"), hyperactivity/inattention (ex. "I am restless, I cannot stay still for long"; "I am easily distracted, I found it difficult to concentrate"), peer problems (ex. "I am usually on my own, I generally play alone or keep to myself"; "Other people my age generally like me"), prosocial behavior ("I try to be nice to other people. I care about their feelings"; "I am helpful if someone is hurt, upset or feeling ill"). Each of these factors are operationally defined based on the results collected from the SDQ.

The SDQ was piloted in a study by Goodman et al. (1998) with two participant samples of children 11 to 16 years old in England: 83 for the general community and 116 from a mental health clinic. The internal consistency assessment yielded a Cronbach's alpha coefficient of 0.82 for the full survey, 0.75 for emotional symptoms, 0.72 for conduct problems, 0.69 for hyperactivity, 0.65 for prosocial behavior, and 0.61 for peer problems.

Overall, the study provided evidence for the SDQ as a reliable and valid measure with the capacity to discriminate between low and high risk samples (Goodman et al., 1998).

The SDQ consists of 25 items (five for each scale) asking participants to respond: "not true," "somewhat true," or "certainly true", for each of the queries. The sum of scores from the hyperactivity, emotional symptoms, conduct problems and peer problems subscales can generate a "total difficulties" score. The score from the prosocial behavior factor is not included in the total difficulties score because a lack of prosocial behavior is not conceptually related to the manifestation of psychological problems (Goodman et al., 1998).

Additional reliability and validity analysis was conducted by Goodman (2001), with a considerably larger sample (self-reports of 3,983 11 to 15 years old) and found to be satisfactory. A study of 1015 high school seniors, ages 17-19, in Sweden, validated the use of the SDQ beyond the ages 11 to 16 as originally established (Svedin & Priebe, 2008), which is important for this study because 17 and 18 year old adolescence are included.

The SDQ has been translated into more than 50 languages and is utilized extensively by researchers around the world (Svedin & Priebe, 2008), substantiating its validity to assess externalizing and internalizing problems in children and adolescents. One such study (Critselis et al., 2013) was conducted in Cyprus to evaluate the determining factors and psychosocial concerns related to Internet addictive behavior in adolescents. The SDQ assessed the degree to which psychosocial well-being was impacted by Internet addictive behaviors. Results suggested that adolescents are significantly more likely to suffer from emotional and psychosocial maladjustment associated to addictive Internet behaviors (Critselis et al., 2013).

Another study, by Muller et al. (2016), utilized the SDQ to examine the impact of excessive social networking and Internet addiction on the psychosocial well-being of adolescents. The results indicated that the combination of being an intense social networking user and suffering from Internet addiction, resulted in the adolescents displaying significantly greater psychosocial distress as measured by the SDQ (Muller et al., 2016).

The SDQ was scored by summing the totals for each individual factor, after reverse coding the factors that were positive, where each item scored a 0 for not true, 1 for somewhat true and 2 for certainly true.

Spirituality

Daily Spiritual Experience Scale (DSES). This study utilized the results gathered from participants' completion of the Daily Spiritual Experience Scale (DSES: Underwood & Teresi, 2002) to operationalize the definition of spirituality. The DSES was conceptualized as a measurement tool of an individual's perception of the transcendent (God, the divine) in daily life and the person's perception of his/her interaction with or involvement of the transcendent in life. When establishing this measure, the originators chose to use the word *spiritual,* as opposed to *religious,* with the goal of focusing more on the transcendent and life's meaning, rather than any specific system of worship defined by a particular group (Underwood & Teresi, 2002).

The development of the scale began with in-depth interviews and focus groups with people from a variety of religious perspectives. The author also conducted a review of the literature and available measurement tools on the matter of spirituality. This was followed by different stages of interviews to analyze the items. Finally, data was gathered from a meeting

of the World Health Organizations' Working Group on Spiritual Aspects of Quality-of Life, where representatives from various spiritual orientations including, agnostics, atheists, Buddhists, Christians, Hindus, Jews and Muslims, reviewed the items.

The DSES consists of 16-items focusing on everyday experiences that are not necessarily tied to beliefs, behaviors or any particular religion. This measure was designed with the objective of ascertaining the degree to which spiritual feelings and inner experiences serve as a key element of life for the ordinary person and to determine how these components relate to health and well-being.

For the first 15 queries, respondents select from a Likert-type scale with the following choices, ranging from 1 to 6: *many times a day, every day, most days, some days, once in a while*, and *never or almost never.* Originally, some of the items were cast in negative terms and failed to measure the concept of spirituality accurately, therefore the final product poses all questions in positive terms. Some examples of the questions: *"I feel God's presence;" "I find comfort in my religion or spirituality;" "I feel God's love for me directly."* Question 16 ("In general, how close do you feel to God?") prompts participants to respond with one of the following four options: *not close at all, somewhat close, very close,* and *as close as possible.*

The authors reported data from a pair of studies that administered the DSES. Rush-Presbyterian-St. Luke's Medical Center in Chicago conducted a series of psychometric analyses of the DSES as part of the Study of Women Across the Nation (SWAN), a multisite, multiethnic, multifactorial study of midlife, which included 233 cases. A team of researchers at Loyola University collected data from a sample of 122 people from the University of Chicago area that completed the DSES. The Cronbach's alpha for the DSES, based on these

two analyses, were notably high at .94 and .95, indicating that internal consistency and reliability is strong (Underwood & Teresi, 2002).

The original DSES was developed based on interviews with adolescents and adults (Underwood & Teresi, 2002; Underwood, 2011). Underwood (2011) cited the work of Van Dyke et al. (2009) and Harris et al. (2008), two studies of adolescents that validated the DSES as a reliable measure for teenagers. Harris et al. (2008) administered the DSES to 305 adolescents, ages 12-18, with a Cronbach's alpha of .70, indicating strong internal consistency. The study by Van Dyke et al. (2009) utilized the DSES with young people, ages 11-14, reporting a Cronbach's alpha of .93 which indicates internal consistency equivalent to the original standardization sample.

The DSES was scored by calculating the sum of all 16 items. The lowest possible score is 16 and the highest possible score is 94. An elevated score indicates increased levels of daily spiritual experiences (Underwood & Teresi, 2002).

Chapter VI: Data Analysis

In order to answer the research questions, the data was analyzed using independent sample t-tests. The sample was divided based on problematic smartphone use. Each individual factor, including anxiety, emotional symptoms, hyperactivity, conduct problems, peer relationships, prosocial behavior and spirituality, was investigated to determine if there were differences between the problematic smartphone use group and the non-problematic smartphone use group.

Power Analysis

Power analysis was conducted in order to determine the necessary sample size for this study. Cohen (1988) suggests using a power value of .80 if there is no further basis for another value. In addition, Cohen (1988) defines a small effect size as 2% and a medium effect size as 15%. In educational research, 10% has been an accepted effect size level. In calculating the appropriate sample, .10 was used as the effect size, the power was set at .80, and the significance level was set to equal .05. Therefore, to have optimal power, there should be a minimum of 51 participants in each group.

Chapter VII: Results

Descriptive Statistics

The survey respondents group was comprised of 289 Jewish, Modern Orthodox high school students (adolescents). Within that sample, 190 participants responded to the demographic questions with the following results: 55% were female and 45% were male; 28% in grade 9, 27% in grade 10, 28% in grade 11 and 17% grade 12. Figure 1 depicts the distribution of grades below:
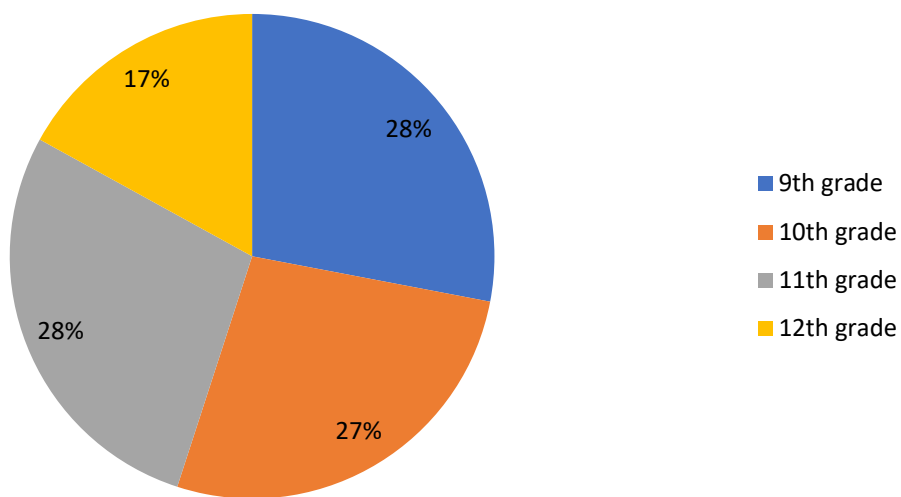
Figure 1. Percentage of respondents by grade

Research Question 1:

Data was collected from the Smartphone Addiction Scale – Short Version (SAS-SV) to identify the extent to which the smartphone use of Jewish, Modern Orthodox high

school students is problematic and possibly addictive. The SAS-SV measures problematic

(addictive) smartphone use with a score of at least 33 for females and a score of at least 31

for males indicating problematic use. Since gender information was not gathered for all of

the respondents, the more stringent cut-off of 33 was utilized for all participants to include a

much larger number of respondents. The questions from the scale were summed and then

divided into categories of problematic and non-problematic usage. Out of 285 responses, 102

(36%) reported problematic (addictive) smartphone use and 183 (64%) indicated non-

problematic use. Figure 2 displays the breakdown below:
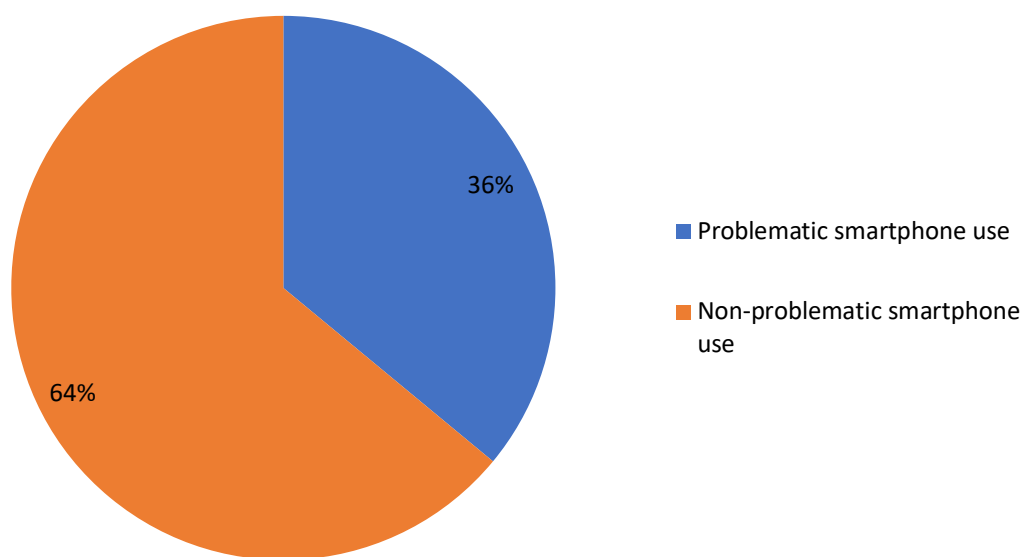
Figure 2. Percentage of problematic smartphone use reported by Jewish, Modern Orthodox

teens.

For further analysis, the sample was divided by gender to explore the smartphone use

of females and males individually. Problematic smartphone use was measured with a score of

33 or above for females and 31 or above for males. From the group of respondents to the gender question, 38% of females reported problematic (addictive) use, with 44% of males indicating problematic (addictive) use.

In an effort to determine the role of specific attributes of smartphone use that are particularly problematic for Jewish, Modern Orthodox high school students, the individual factors of the 10 question Smartphone Addiction Scale – Short Version were analyzed. The means (1 – strongly agree, 6 – strongly disagree) for each query are depicted in figure 3 below:

Query	Mean
Using my smartphone longer than I had intended	4.1
Constantly checking my smartphone so as not to miss conversations between…	3.56
Missing planned work due to smartphone use	3.19
Won't be able to stand not having a smartphone	3.0
I will never give up using my smartphone even when my daily life is already…	2.84
Having a hard time concentrating in class, while doing assignments or while…	2.79
Having my smartphone in my mind even when I am not using it	2.56
Feeling impatient and fretful when I am not holding my smartphone	2.48
The people around me tell me that I use my smartphone too much	2.41
Feeling pain in the wrists or at the back of the neck while using a smartphone	2.09

Figure 3. Descending means for Smartphone Addiction Scale – Short Version (SAS-SV) items.

Legend: Strongly agree | Agree | Weakly agree | Weakly disagree | Disagree | Strongly disagree

Item	Strongly agree	Agree	Weakly agree	Weakly disagree	Disagree	Strongly disagree
Using my smartphone longer than I had intended	21%	34%	15%	8%	11%	12%
Constantly checking my smartphone so as not to miss conversations between other people on Snapchat or Whatsapp	11%	26%	21%	9%	18%	16%
Missing planned work due to smartphone use	7%	20%	19%	11%	23%	19%
Won't be able to stand not having a smartphone	8%	23%	9%	14%	16%	31%
I will never give up using my smartphone even when my daily life is already greatly affected by it	5%	13%	18%	16%	23%	25%
Having a hard time concentrating in class, while doing assignments or while working due to smartphone use	5%	16%	14%	11%	27%	27%
Having my smartphone in my mind even when I am not using it	4%	7%	19%	12%	29%	30%
Feeling impatient and fretful when I am not holding my smartphone	5%	7%	17%	10%	26%	35%
The people around me tell me that I use my smartphone too much	3%	10%	13%	10%	28%	36%
Feeling pain in the wrists or at the back of the neck while using a smartphone	2%	9%	7%	6%	28%	47%

*Figure 4.* Percentage breakdown (descending order based on mean scores) for individual

Smartphone Addiction Scales – Short Version (SAS-SV) items

As established in figures 3 and 4 above, the most problematic areas of smartphone

use for Jewish, Modern Orthodox high school students, with means of 3 and above, are: 1 –

using my smartphone longer than intended (55% of students agree or strongly agree to this

statement), 2 – constantly checking my smartphone so as not to miss conversation between

other people on Snapchat and Whatsapp (37% of students agree or strongly agree to this

statement), 3 – missing planned work due to smartphone use (27% of students agree or

strongly agree to this statement), 4 – won't be able to stand not having a smartphone (31% of

students agree or strongly agree to this statement).

Research Question 2

An independent samples t-test was conducted to determine if participants reported a

difference in anxiety based on degree of smartphone use. There was a significant difference,

$t(181)=-2.25$, $p<.05$, such that those reporting problematic levels of smartphone use had

higher levels of anxiety (M=15.83, SD=13.40) than those reporting non-problematic levels of

smartphone use (M=11.56, SD=11.29). The adolescents in the problematic smartphone use

group scored at the lower end of moderate anxiety according the Beck Anxiety Inventory,

while those in the non-problematic smartphone group reported scores at the lowest level of

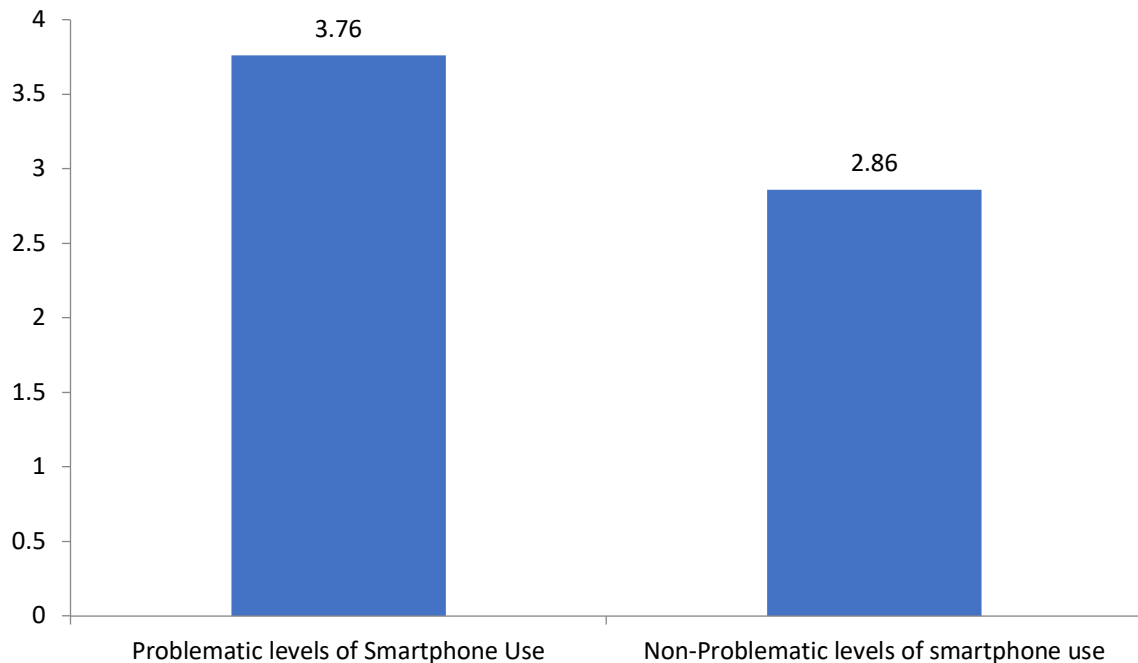mild anxiety.

Figure 5 depicts the differences below:
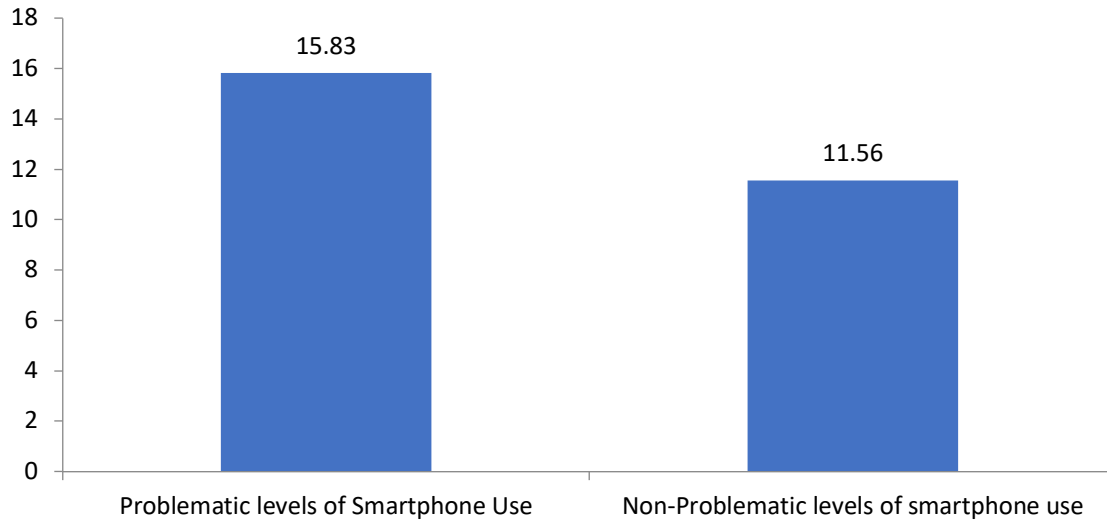
Figure 5. Anxiety levels for those reporting problematic levels of smartphone use compared to those reporting non-problematic levels of smartphone use.

Research Question 3

An independent samples t-test was conducted to determine if respondents indicated a variation in emotional symptoms (as measured by the Strengths and Difficulties Questionnaire) based on degree of smartphone use. There was a significant difference, $t(232)=-2.87$, $p<.01$, such that those reporting problematic levels of smartphone use indicated higher levels of emotional symptoms (M=3.76, SD=2.52) than those reporting non-problematic levels of smartphone use (M=2.86, SD=2.52).

Figure 6 depicts the differences below:

Figure 6. Emotional symptoms for those reporting problematic levels of smartphone use compared to those reporting non-problematic levels of smartphone use.

Gender difference for emotional symptoms

For further investigation, the emotional symptoms index responses of males and females were explored individually to identify differences between the problematic and non-problematic smartphone use groups. No difference in emotional symptoms was identified for male respondents, but for females there was a significant difference t(103)=-2.35, p<.05 such that those reporting problematic smartphone use had higher emotional symptoms levels

(M=4.42, SD=2.42) than those females with non-problematic smartphone use (M=3.32, SD=2.37).

Research Question 4

An independent samples t-test was conducted for the areas of hyperactivity, conduct problems and peer relations (as measured by the Strengths and Difficulties Questionnaire) to identify differences reported by respondents, depending on amount of smartphone use. There was a significant difference in hyperactivity, t(231)=-2.50, p<.05, with those in the problematic smartphone use group reporting higher scores (M=4.20, SD=2.21) than those in the non-problematic smartphone use group (M=3.40, SD=2.67). Additionally, there was a significant difference for conduct problems, t(232)=-2.79, p<.01, with respondents from the problematic smartphone use group indicating higher scores (M=1.81, SD=1.81) than respondents from the non-problematic smartphone use group (M=1.20, SD=1.52). There was no difference detected for peer relations, t(232)=

-1.44, ns, in reference to the intensity of smartphone use reported.

Figure 7 depicts the differences below:

Figure 7. Hyperactivity and Conduct Problems for those reporting problematic levels of smartphone use compared to those reporting non-problematic levels of smartphone use.
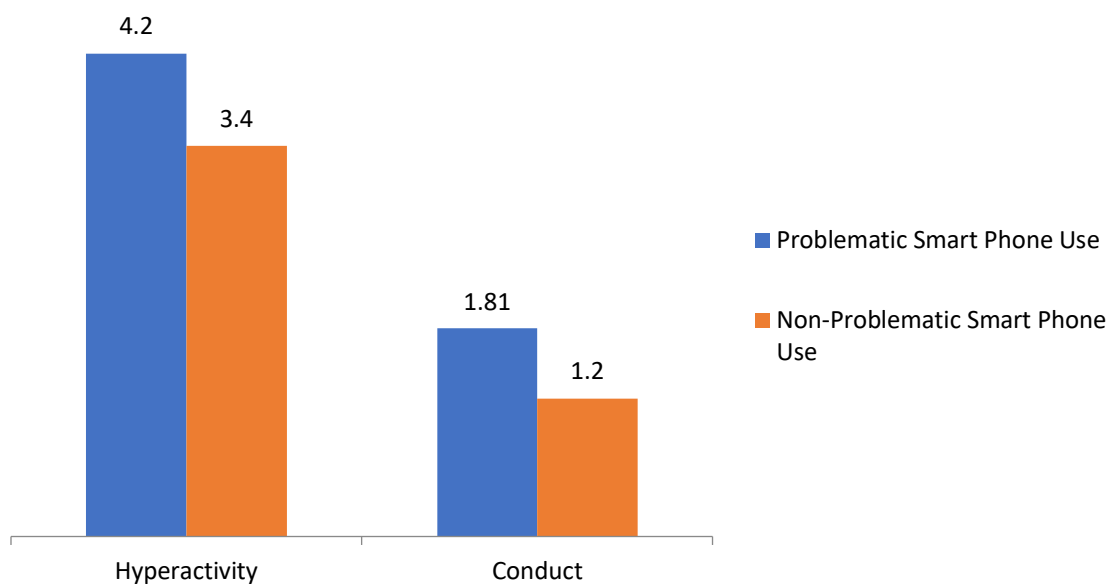
Research Question 5

An independent samples t-test was performed to ascertain if there were discrepancies in prosocial behavior reported by adolescents, depending on the level of smartphone use indicated. There were no differences in prosocial behavior in relation to the extent of smartphone use, t(232)=.80, ns.

Research Question 6

An independent samples t-test was utilized to analyze a potential disparity in the level of spirituality (as measured by the Daily Spirituality Experience Scale, DSES) reported by adolescents, contingent on their level of smartphone use. No differences in spirituality dependent on the level of smartphone use, t(201)=-.29, ns, were identified. Scores from the

non-problematic smartphone use group (M=61.50, SD=20.80) and problematic smartphone

use group (M=60.20, SD=19.39) indicated almost identical results, both falling at the lower

end of the high level of daily spiritual experience.

Chapter VIII: Discussion

The goal of this study is to identify the extent of Jewish, Modern Orthodox adolescents' engagement in smartphone use and the possible correlation between their smartphone use and psychosocial well-being and spirituality. Data was gathered, via a survey, to ascertain Jewish, Modern Orthodox adolescents' current perception of their own smartphone use, anxiety, emotional symptoms, hyperactivity, conduct problems, peer relationships, prosocial behavior and spirituality, to garner a more accurate understanding of the current issues related to smartphone use by adolescents.

Smartphone use. The initial research question evaluated the scope of Jewish, Modern Orthodox adolescents' utilization of their smartphones with the purpose of determining if their degree of usage is considered excessive to the point of approaching behavioral addiction as defined by the Smartphone Addiction Scale – Short Version (SAS-SV). More precisely, the Smartphone Addiction Scale – Short Version (SAS-SV) is meant to serve as a screening tool to identify adolescents who are at risk for smartphone addiction. As discussed throughout this study, smartphone addiction is not an accepted diagnosis nor is the data from the SAS-SV a valid source for diagnosis. That being said, the scale is a valid and reliable assessment of adolescents' vulnerability for smartphone addiction (Kwon et al., 2013).

The hypothesis was that more than 25% of Jewish, Modern Orthodox adolescents, attending a suburban Modern Orthodox High School, are engaged in smartphone use that is problematic (addictive) as measured by the Smartphone Addiction Scale – Short Version (SAS-SV). The Pew Research Center (Lenhart, 2015) surveyed 1,060 adolescents in 2014-2015, finding that 24% acknowledged they are "almost constantly" using their smartphone

during the day. With this data in mind, the hypothesis that at least 25% of adolescents will report problematic usage was logical. The notion that Jewish, Modern Orthodox adolescents are engaged in smartphone use at rate equal or greater, in comparison to the general population, is important data for the Jewish, Orthodox community that tends to underestimate or downplay adolescent involvement in behavioral addictions.

Results from the survey confirmed the hypothesis, establishing that 36% of respondents reported engagement in problematic (addictive) smartphone use. The Smartphone Addiction Scale also differentiates scores by gender with a lower cutoff score for males. When reviewing the set of respondents to the gender question, 44% of males reported problematic (addictive) use and 38% of females reported problematic (addictive) use. This data is congruous with the limited available research on smartphone use, confirming that large percentages of people are participating in smartphone use that is deemed problematic or addictive (Cocorada et al., 2018; Elhai et al, 2017; Hawi & Samaha, 2016; Long et al., 2016). This study contributes to the small number of studies on adolescent smartphone addiction, specifically in America. The findings support the results of studies in Korea (Ha et al., 2008) and Turkey (Guzeller & Cosguner, 2012) cited by Elhai et al. (2017) and the more recent work of Cocorada et al. (2018) in Romania regarding the "excessive" or "problematic" use of smartphones by adolescents.

The Smartphone Addiction Scale – Short Version utilizes 10 questions selected from the original Smartphone Addiction Scale consisting of 33 queries, based on validity and efficiency as "determined by the experts" (Kwon et al., 2013). Utilizing the information in figures 3 and 4, we can identify the most problematic behaviors conveyed by the respondents through the survey. The greatest number of participants (55%) responded they agree or

strongly agree that they are using their smartphone longer than intended (M=4.1), which speaks to the addictive nature of smartphone use for the adolescents surveyed. Interestingly, the second highest score was 37% of respondents indicated they agree or strongly agree that they constantly check their smartphone so as not to miss conversation between others on Snapchat and Whatsapp (M=3.56), which highlights the ever-growing phenomenon known as "fear of missing out" or "FoMO." This is consistent with the recent findings of Wolniewicz et al. (2018), reporting a significant link between increased FoMO and problematic smartphone use (PSU) in college age students attending an American university.

The third most significant response was 27% of respondents stated they agree or strongly agree that they miss planned work due to smartphone use (M=3.19), which alludes to the possible negative impact of important life functions and responsibilities, another key element of addictive behavior. These percentages are concerning, but not surprising, based on observations and anecdotal data from parents, teachers and students themselves.

The prevalence of adolescent smartphone ownership and access (Lenhart, 2015; Ofcom, 2017; Common Sense Media, 2016; Shapiro, 2016) coupled with constant innovations and opportunities available on smartphones, suggest a continued rise in problematic smartphone use (Kwon et al., 2013). It remains difficult to analyze the specific nature of addictive smartphone use due to the wide range of behavioral and psychological factors associated with the variety of uses (Billieux et al., 2015). The Smartphone Addiction Scale (Kwon et al., 2013) focuses primarily on the impact of smartphone use on one's daily life and the extent to which smartphone use disturbs daily functioning, with the goal of detecting susceptibility to smartphone addiction.

The fourth most significant response was 31% of students reported they agree or strongly agree that they will not be able to stand not having a smartphone (M=3.0), which is confirmed on a regular basis when a student's phone is confiscated by a teacher. To illustrate from the author's experience and anecdotal data, students will often tantrum, beg, become angry or cry when notified that their phone will not be returned for several hours. One can see the pain or extreme frustration on their faces and hear the anger from their words when they are told that they have to live without their phones for an extended period. The uncharacteristic responses by students when their phone is confiscated can be explained in the same way we would explain the behavior of a person addicted to a substance – stopping at nothing to continue feeding the addiction, no matter the cost or effort necessary.

Interestingly, the four categories with the most elevated scores span several areas of concern, including the inability to self-monitor, the fear of missing out, the negative impact on important responsibilities and the overall inability to live without a smartphone. Each of these emotional/behavioral consequences require specific attention and intervention. The addictive behavior of smartphone use may lead to additional difficulties and uncharacteristic behaviors that impact many other areas of life. For example, texting while driving can put a person's life at risk, unbalanced use can cause sleep deprivation or physical injuries to one's hands, wrists, neck and/or vision, and for Orthodox, Jews, the desecration of Shabbat can result from the need to remain perpetually connected or occupied.

The data suggests that a significant number of Jewish, Modern Orthodox adolescents are participating in problematic smartphone use and are in danger of being characterized as addicted to smartphone use. While it was anticipated that results would indicate a higher percentage than 25 based on the increase in use reported by the Pew Research Center

(Anderson & Jiang, 2018), the fact that at least 36% of students are reporting problematic use is troubling. When considering that the survey population was comprised of high school students with daily class schedules from 8:00am to 5:00pm, in addition to significant academic and extra-curricular obligations, we must assume that these responsibilities are impacted for students reporting problematic use. Adults should be cognizant of the numerous consequences stemming from adolescents' intense need to fill their time with smartphone use. As parents, educators, medical and mental health professionals, the need to be proactive in communicating with adolescents about appropriate management and healthy choices related to smartphone use is imperative. Education, awareness, guidelines and support should be instituted to encourage sensible and balanced smartphone use by adolescents.

These results force us to contemplate possible correlations and potential impacts of smartphone use, therefore, psychosocial well-being and spirituality were explored concurrently with smartphone use.

Smartphone use and anxiety. The instances of adolescent anxiety are growing at a rapid pace. Based on anecdotal data, the number of students receiving psychology services have greatly increased and the requests for accommodations to manage significant anxiety disorders is surging. Many articles and reports in popular culture have linked the increase in anxiety to technology use (Associated Press, 2019). The fact that technology use has shifted drastically during a time when adolescent anxiety is expanding, necessitates the investigation of a connection between adolescents' excessive smartphone use and elevated anxiety.

The first correlation hypothesis of this study is that adolescents reporting problematic (addictive) smartphone use, as measured by the Smartphone Addiction Scale – Short Version (SAS-SV), will experience elevated levels of anxiety, as measured by the Beck Anxiety Inventory (BAI). Adolescents in the problematic (addictive) smartphone use group indicated higher levels of anxiety in comparison to respondents in non-problematic smartphone use group. While it is difficult to pinpoint the specific nature of the anxiety as it relates to problematic smartphone use, the correlation suggests a connection between this addictive behavior and the significant psychosocial issue of anxiety.

These results confirm the findings of previous research linking excessive technology use to elevated anxiety. Lepp et al. (2014) analyzed the cell phone use of college age students, specifically focusing on non-problematic users, or "typical" users, finding that more cell phone use was connected to increased anxiety. Elhai et el. (2017) performed a systematic review of literature identifying multiple studies reporting a significant correlation between problematic smartphone use and anxiety. Several studies (Elhai et al., 2017; Hussain et al., 2017; Samaha & Hawi, 2016) have been conducted across the globe to ascertain the correlation between smartphone (or Internet use) and emotional dysfunction. Research focusing specifically on adolescents and/or Americans is scant. Even more apparent is the lack of inquiry into the population of Jewish, Modern Orthodox youth, making it difficult to intervene or support these young people appropriately.

There is a clear relationship between the smartphone use and psychosocial issues disclosed by the respondents from the problematic (addictive) smartphone use group. The link between increased smartphone use and the uptick in anxiety disorders should not be taken lightly. Further research is necessary, with the goal of isolating the precise features of

the problematic behavior and consequent disorders. Based on the experiences of the author, working with adolescents in the school setting, the connection between anxiety and smartphone use appears to be valid. Additionally, conversations with internal and private mental health professionals, as well as educators and service providers in other yeshiva day schools, yield similar assessments. Parents and students themselves recognize the link between anxiety and smartphone use based on their inability to regulate use and the increase in stress they are experiencing. More specifically, social media and gaming are viewed as primary culprits, leading to problematic (addictive) behavior. These factors, together with the all-inclusive appeal of the smartphone, in general, leave adolescents feeling emotionally exhausted and anxious.

While the results of this survey build a strong case for a correlation between smartphone use and anxiety, there is no data to determine causation. It is quite possible that problematic smartphone use impacts levels of anxiety, but it is equally plausible that increased anxiety leads to excessive smartphone use, as discussed previously.

*Smartphone use and emotional symptoms***.** In concurrence with the increase in prevalence of anxiety reported by adolescents, instances of emotional symptoms including depression, are on the rise for teenagers (Twenge et al., 2019). The second correlation hypothesis of this study is that adolescents reporting problematic (addictive) smartphone use, as measured by the Smartphone Addiction Scale - Short Version (SAS-SV), will experience elevated levels of emotional symptoms as measured by the Strengths and Difficulties Questionnaire (SDQ).

The results of the full sample of respondents to the SDQ indicated a significant increase in the level of emotional symptoms for respondents in the problematic (addictive) smartphone use group, in contrast to those in the non-problematic smartphone use group, confirming the hypothesis. The data was isolated for those that responded to the gender question. Results indicated that only female respondents reported a significant difference in emotional symptoms between those in the problematic smartphone use group and those in the non-problematic smartphone use group. Male respondents did not display a difference in emotional symptoms between groups. Further investigation is necessary to understand the role that gender plays in the association between problematic smartphone use and emotional symptoms.

Based on the results, there is a significant connection between the problematic use of smartphones and the emotional symptoms of adolescents, which is consistent with studies of the general population on the correlation of smartphone use and emotional symptoms. Hussain et al. (2017) studied people between the ages of 13 and 69, finding that "excessive smartphone users" reported suffering from depression symptoms, difficulties expressing emotion, higher levels of interpersonal anxiety and low self-esteem, at a higher rate than non-excessive smartphone users. Elevated emotional symptoms were identified in several studies of subjects reporting excessive (problematic or addictive) technology use (Internet or smartphones) including the work of Cristelis et al. (2014), Romer et al. (2013), Mitchell et al. (2011) and Demirci et al. (2015).

More recently, Twenge et al. (2018) explored the psychological well-being of adolescents in connection with electronic communication and screen use, taking into account social media, texting, electronic games and Internet use. Results indicated that adolescents,

specifically those in grades 8 and 10 who reported spending more time engaged in media use, were less happy, less satisfied with life and reported lower self-esteem. Conversely, those who indicated spending more time on non-screen activities, such as in-person socialization, exercise, homework, and print media, reported higher psychological well-being. Twenge et al. (2018) showed a strong link between the decline in adolescents' psychological well-being between 2012 and 2016 and the increase in media use by adolescents.

Much like the anecdotal data reported on anxiety, emotional symptoms, such as somatization, fears and depressive thoughts, are prevalent in the high school setting and consistently linked to increased smartphone use by adolescents. Educational programs, group discussions and individual sessions with students address the emotional symptoms described by parents and students. Almost inevitably, smartphone use is at the center of these conversations about healthy and balanced living. Students are often aware of their excessive smartphone use, but they are ignorant of the possible negative consequences and have limited strategies to manage their use. Many adolescents are able to identify a connection between their smartphone use and emotional struggles. They are capable of citing a variety of contributing factors, such as perpetual access to social media, exposure to news and information, unceasing notifications, endless entertainment, relentless communication and general convenience. Each of these functions present adolescents with a potential obstacle to their emotional development and well-being.

Additional research on the specific nature of the emotional symptoms and correlations to specific activities that people access on their devices is imperative to ascertaining appropriate and targeted interventions and supports for those facing psychosocial issues. Moreover, the lack of clarity about whether problematic smartphone use

leads to emotional distress or vice versa (Long et al., 2016) requires further exploration by researchers.

Smartphone use and hyperactivity, conduct problems and peer relations.

Adolescents may experience a variety of issues that interfere with daily life functions apart from the emotional symptoms discussed above. The next area of investigation centers on behavior problems, specifically hyperactivity, conduct problems and peer relations. The third correlation hypothesis of this study is that adolescents reporting problematic (addictive) smartphone use, as measured by the Smartphone Addiction Scale – Short Version (SAS-SV), will experience elevated levels of hyperactivity, conduct problems and peer relations, as measure by the Strengths and Difficulties Questionnaire (SDQ). The results indicated a significant increase in hyperactivity and conduct problems for respondents in the problematic (addictive) smartphone use group, in contrast to those in the non-problematic smartphone group. There was no significant difference recorded with regard to the construct of peer relations.

The results of this portion of the study are consistent with the study of adolescents in Cyprus by Critselis et al. (2014) to decipher the impact of Internet use on hyperactivity, conduct problems, and peer relations. The authors discovered that the risk of hyperactivity and conduct problems, for these youth from Cyprus, was significantly greater if they were characterized as engaged in "addictive Internet use" or even if they were deemed to be in the "borderline addictive" category. Similarly, a study of adolescents in Korea by Kim et al. (2019) found that adolescents in the "smartphone addiction group" were more prone to report significant symptoms of depression, anxiety, ADHD, tobacco use and alcohol use, as

compared to the typical group. The authors highlighted ADHD as having the strongest correlation to smartphone addiction within this sample. ADHD often presents with impulsivity, inability to control behavior and a focus on reward. For adolescents presenting with ADHD, smartphones offer the potential to satisfy certain needs or behavioral tendencies because these handheld devices are highly stimulating, consistently rewarding and instantaneously gratifying (Kim et al., 2019).

Critselis et al. (2014) did not find a correlation between problematic smartphone use and peer relations, citing the benefits of social media networks for social relations as a possible explanation. Socialization is one of the more complicated constructs related to smartphone use due to the range of dimensions for communication. For some, social anxiety can be mitigated because of the nature of communication, while social anxiety and loneliness can be exasperated for others due to elements such as FoMO, jealousy, or deficits in communication skills.

Smartphone use and prosocial behavior. The fourth correlation hypothesis of this study is that adolescents reporting problematic (addictive) smartphone use, as measured by the Smartphone Addiction Scale – Short Version (SAS-SV), will experience diminished levels of prosocial behavior, as measure by the Strengths and Difficulties Questionnaire (SDQ). The results did not indicate any significant difference in prosocial behavior based on the level of smartphone use reported by the participants, therefore, we have no data on its potential to serve as a protective factor in counteracting problematic smartphone use, or whether smartphone use detracts from people's ability to actualize prosocial behavior.

Prosocial behavior, such as being nice to others, caring about others, sharing and helping (Goodman et al., 1998), has the potential to increase subjective well-being (Yang et al., 2015) in contrast to the negative outcomes of problematic smartphone use which are correlated to emotional symptoms and anxiety, as established above. That being said, this study did not find a significant connection between prosocial behavior and non-problematic smartphone use, meaning that those reporting problematic smartphone use reported prosocial behavior at a similar level to those reporting non-problematic smartphone use. In general, identifying protective measures for psychosocial issues is integral to the development of valuable interventions. Prosocial behavior may not be a meaningful support for those experiencing smartphone addiction, even though it has already been established a protective factor for psychosocial concerns (Yang et al., 2015). Additional research is necessary to determine the possible positive impact of prosocial behavior on problematic smartphone use, in addition to the negative impact smartphone use might have on people's prosocial behavior.

Smartphone use and spirituality. The final area of investigation explored the construct of spirituality. The fifth and ultimate correlation hypothesis of this study proposed that adolescents reporting problematic (addictive) smartphone use, as measured by the Smartphone Addiction Scale – Short Version (SAS-SV), will experience lower levels of spirituality, as measured by the Daily Spirituality Experiences Scale (DSES). The results did not indicate any significant difference in the construct of spirituality contingent on the level of smartphone use reported by the participants.

Spirituality is not usually at the forefront of protective measures highlighted by professionals or educators. As Jewish, Modern Orthodox people, the power of augmenting

spirituality should not be dismissed or taken lightly as a method of intervention for struggles with mental health or problematic behaviors. According to Jewish thought and teachings, connecting to G-d, spiritually, through prayer, observance and Torah learning, is a formidable response and management tool for dealing with personal difficulties and negative feelings (Tatz, 1999). Spirituality is not a cure for mental illness or behavioral addictions, but it appears to have the potential to serve as a protective measure for these issues (Pirutinsky et al., 2019). Conversely, problematic smartphone use can have a devasting effect on a person's spirituality and connection to G-d. Spirituality can be negatively impacted by the activities available on one's smartphone such as pornography, binge watching, gambling, gaming or general overuse.

In a study of adolescents in the Czech Republic, Malinakova et al. (2018) reported that the combination of being spiritual (as measured by the Spiritual Well-Being Scale - SWBS) and attending religious activities (as measured by frequency of attending religious sessions) served as a protective factor for excessive Internet use. Interestingly, spirituality was only a significant protective factor for Internet use if it was paired with religious attendance (unlike some of the other areas studied, such as television use or physical activity). Since religious attendance is a major aspect of Jewish, Modern Orthodox life, it stands to reason that the combination of attendance and spirituality may be necessary to ignite the protective potential.

Additionally, further exploration of the impact of spirituality on Jewish, Modern Orthodox adolescents as a protective measure for negative behaviors may have merit considering students indicated a high level of spiritual experience according to the DSES norms. Although the spirituality scores for both the non-problematic and problematic

smartphone groups were almost identical, the construct of spirituality was substantiated as a

positive strength for the general population of respondents. Hence, these adolescents are in

position to access their enhanced level of spirituality as a source for growth and strength.

Perhaps educators and spiritual leaders could focus on harnessing spiritual energy and

potential through educational programs and experiential learning to ameliorate negative

thoughts, behaviors and challenges faced by adolescents. Exploring the connection between

adolescents' level of spirituality, behavioral addictions and psychosocial well-being could

greatly benefit parents, educators, spiritual leaders, mental health professionals and

adolescents themselves in the pursuit of healthy, balanced living.

Limitations

There are several limitations to be considered when reviewing the results of this

study. First, the participants of the study were collected from one suburban, Jewish, Modern

Orthodox yeshiva high school, limiting the capacity to generalize the results to other

populations or demographics. Furthermore, the impact of the results should not be

generalized to other sects of Judaism since there are major differences regarding access to

and perspectives on smartphone use. Additionally, the sample size of 289 adolescents is only

a small snapshot of Jewish, Modern Orthodox adolescents and of the greater population of

adolescents. Even with these limitations, the data on smartphone use and correlations to

psychosocial well-being are important contributions to the negligible available research in

the Jewish community.

As stated throughout, this is a correlation study and, therefore, limited in predicting or

proving cause, even when showing a connection between smartphone use and psychosocial

factors. It remains unclear whether smartphone use contributes to psychosocial issues and spirituality, or whether these constructs influence problematic smartphone use.

The surveys necessitated participants to complete self-assessments of their smartphone use, psychosocial functioning and spirituality through the completion of survey forms. Self-reported data is open to biases and lack of self-awareness may limit the accuracy of information collected.

Elements of gender and age may play a significant role in problematic smartphone use, psychosocial issues and spirituality. This study did not focus on the impact or function of gender and age which could be helpful data to more accurately intervene and support those in need.

As mentioned above, smartphones have the capacity to perform a wide range of functions, engaging users in a variety of interests. Activities such as gaming, social media, communication, and entertainment (Lenhart, 2015), coupled with the constant availability and ease of use, entice people to become captivated by their devices to the point of approaching addiction. In this study, specific areas of smartphone use were not isolated, therefore, it is difficult to gain a perspective on the true nature of the participants' use and the impact it may have on their psychosocial well-being. While the information is valuable in determining that general smartphone use is approaching addiction for many adolescents, the lack of focus on the specific behaviors and activities make it difficult to develop targeted education and programming with the goal producing significant change.

Implications and Future Research

Inevitably, the issue of smartphone use surfaces in conversations with educators and parents about the well-being, growth, success and contentment of adolescents. Unlike some of the other troubles or addictive behaviors impacting adolescents, such as substance use and gaming, problematic smartphone use is a predicament that many adults are concurrently suffering from without necessarily being aware. Smartphone use is not viewed with the same level of concern or alarm as some of these other behaviors, but as psychosocial issues arise for adolescents, technology and media use is increasingly identified as a source of distress. Since adults are engaged in similar behaviors and lack the knowledge, techniques or experience to assist adolescents with the management of this ever-changing and uniquely enticing field of technology, most teenagers are being left to their devices, literally. When discussing the issue with the adolescents themselves, during targeted educational programs or informally, they frequently emphasize the abuse of technology by the adults in their lives as setting the example for their own technology overuse.

Additionally, students often point out the irony that they are being encouraged to become innovators and are praised for their expansive knowledge and creativity in the realm of technology, while simultaneously being told to limit their use of technology. The issues related to technology use for children and adolescents are complicated and confusing for most people. Parents, educators and visionaries, want children to access the many wonders of technology, but they fear the possible negative impact of unbalanced misuse or the unknown damage that smartphone use may be having on the lives of the next generation.

In the school environment, the discussion of smartphone use has exploded, informing daily practices and consistently mentioned as an underlying explanation for increasing issues

encountered by adolescents academically, behaviorally, emotionally and socially. Even in the relatively small sample, the results of this study have confirmed that which educators and parents have been discussing and debating. A significant number (36%) of Jewish, Modern Orthodox adolescents are engaging in smartphone use at a rate that approaches addiction, based on responses to the Smartphone Addiction Scale – Short Version (SAS-SV). In many cases, the adolescents in the problematic (addictive) smartphone use group are simultaneously suffering from psychosocial issues, based on responses to the Beck Anxiety Inventory (BAI) and Strengths and Difficulties Questionnaire (SDQ). The notion that there is a strong connection between serious emotional problems and the increase of smartphone use, has been supported by recent research (Elhai et al., 2017, Lepp et. al., 2014, Twenge et al., 2018) and should motivate researchers to investigate the specific characteristics of these correlations. Longitudinal studies should be performed to gain insight into the long term impact of smartphone use on the well-being of adolescents and younger age children.

The expansion and growth of technology requires increased effort by educators and researchers to identify the trends and protective factors for problematic smartphone use and related psychosocial issues. As mentioned above, the exploration of gender and age differences could help to inform the role of interventions and support for those struggling with addictive behaviors. Additionally, pinpointing the specific nature of the problematic smartphone use and correlated psychosocial issues is imperative to providing targeted support for struggling children and adolescents (Firat et al., 2018). Technology in general, and smartphones specifically, pose a unique challenge for researchers in gaining a perspective on the behaviors and content responsible for triggering addiction. The moment to moment advancements and changes in products make the process of identifying behaviors

more complicated and complex. Focusing on individual users' drives, rather than the device capabilities, may assist in ascertaining and isolating the behaviors that lead to addiction (Choi et al., 2015). Continued research is necessary to distinguish the specific smartphone behaviors and psychosocial issues with the goal of identifying true cause and effect.

As smartphone use increases, society has an obligation to rule out all possible negative outcomes in an effort to sustain healthy and well-balanced human beings. It is crucial that additional, more comprehensive, wide-spread, and targeted studies be conducted to determine the impact of problematic smartphone use on adolescents, children and adults. The Jewish community has the responsibility to follow the words of the Torah: "*v'nishmartem meod l'nafshosechem,* but you shall greatly beware for your souls" (Deuteronomy, 4:15, The Stone Edition of Chumash, Artscroll Series), by taking measures to protect our lives from dangerous or harmful behaviors. We must continue to work together to understand and manage the issue of smartphone use. Concentrating on the future of society by focusing on the well-being of children, is a sensible place to begin. In an effort to confront this expanding challenge, it is crucial that we engage in comprehensive research to assist in the development of interventions for all stakeholders, such as, educational/awareness programs about healthy use of technology, effective and balanced policies, and protective measures against harmful behavior.

References

Akın, A., Altundağ, Y., Turan, M. E., & Akın, U. (2014). The Validity and Reliability of the Turkish Version of the Smart Phone Addiction Scale-short Form for Adolescent. *Procedia - Social and Behavioral Sciences*, *152*, 74–77.

Amichai-Hamburger, Y., & Furnham, A. (2007). The Positive Net. *Computers in Human Behavior*, (2), 1033.

Anderson, M. & Jiang, J. (2018). Teen, Social Media and Technology Overview 2018. *Pew Research Center.* Retrieved from http://www.pewinternet.org.

Associated Press (2019, June 7). Warning: Reading this on a smartphone may cause anxiety, researchers say. *Los Angeles Times,* Retrieved from https://www.latimes.com.

Bardhoshi, G., Duncan, K., & Erford, B. T. (2016). Psychometric Meta-Analysis of the English Version of the Beck Anxiety Inventory. *Journal of Counseling & Development*, *94*(3), 356–373.

Beranuy, M., Oberst, U., Carbonell, X., & Chamarro, A. (2009). Problematic Internet and mobile phone use and clinical symptoms in college students: The role of emotional intelligence. *Computers in Human Behavior*, *25*, 1182–1187.

Bianchi, A., & Phillips, J. G. (2005). Psychological Predictors of Problem Mobile Phone Use. *CyberPsychology & Behavior*, *8*(1), 39–51.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring

clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*(6), 893–897.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. (1988). Beck Anxiety Inventory. Retrieved from *PsycTESTS*.

Beranuy, M., Oberst, U., Carbonell, X., & Chamarro, A. (2009). Problematic Internet and mobile phone use and clinical symptoms in college students: The role of emotional intelligence. *Computers in Human Behavior*, *25*, 1182–1187.

Bianchi, A., & Phillips, J. G. (2005). Psychological Predictors of Problem Mobile Phone Use. *CyberPsychology & Behavior*, *8*(1), 39–51.

Billieux, J., Maurage, P., Lopez-Fernandez, O., Kuss, D., & Griffiths, M. (2015). Can Disordered Mobile Phone Use Be Considered a Behavioral Addiction? An Update on Current Evidence and a Comprehensive Model for Future Research. *Current Addiction Reports*, *2*(2), 156.

Billieux, J., Van Der Linden, M., D'Acremont, M., Ceschi, G., & Zermatten, A. (2007). Does impulsivity relate to perceived dependence on and actual use of the mobile phone? *Applied Cognitive Psychology*, *21*(4), 527–537.

Billieux, J., Van Der Linden, M., & Rochat, L. (2008). The role of impulsivity in actual and problematic use of the mobile phone. *Applied Cognitive Psychology*, *22*(9), 1195–1210.

Bozkurt, H., Coskun, M., Ayaydin, H., Adak, İ., & Zoroglu, S. S. (2013). Prevalence and patterns of psychiatric disorders in referred adolescents with Internet addiction. *Psychiatry & Clinical Neurosciences*, *67*(5), 352–359.

Brooks, S. (2015). Does personal social media usage affect efficiency and well-

being? *Computers in Human Behavior*, *46*, 26–37.

Cao, F., & Su, L. (2007). Internet addiction among Chinese adolescents: prevalence and

psychological features. *Child: Care, Health & Development*, *33*(3), 275–281.

Carrier, L. M., Spradlin, A., Bunce, J. P., & Rosen, L. D. (2015). Virtual empathy:

Positive and negative impacts of going online upon empathy in young

adults. *Computers in Human Behavior*, *52*, 39–48.

Cash, H., Rae, C. D., Steel, A. H., & Winkler, A. (2012). Internet Addiction: A Brief

Summary of Research and Practice. *Current Psychiatry Reviews*, *8*(4), 292–298.

Cazzulino, F., Burke, R. V., Muller, V., Arbogast, H., & Upperman, J. S. (2014). Cell

Phones and Young Drivers: A Systematic Review Regarding the Association

Between Psychological Factors and Prevention. *Traffic Injury Prevention*, *15*(3), 234.

Cheever, N. A., Rosen, L. D., Carrier, L. M., & Chavez, A. (2014). Out of sight is not out

of mind: The impact of restricting wireless mobile device use on anxiety levels

among low, moderate and high users. *Computers in Human Behavior*, *37*, 290–297.

Chen, S.-K. (2012). Internet use and psychological well-being among college students: A

latent profile approach. *Computers in Human Behavior*, *28*(6), 2219–2226.

Chen, Y. & Peng, S. S. (2008). University Students' Internet Use and Its Relationships

with Academic Performance, Interpersonal Relationships, Psychosocial Adjustment,

and Self-Evaluation. *CyberPsychology & Behavior*, *11*(4), 467–469.

Cho, K.-S., & Lee, J.-M. (2017). Influence of smartphone addiction proneness of young

children on problematic behaviors and emotional intelligence: Mediating self-

assessment effects of parents using smartphones. *Computers in Human Behavior*,

303.

Choi, S.-W., Kim, D.-J., Choi, J.-S., Ahn, H., Choi, E.-J., Song, W.-Y., Kim, S. & Youn, H. (2015). Comparison of risk and protective factors associated with smartphone addiction and Internet addiction. *Journal of Behavioral Addictions*, *4*(4), 308.

Chou, W.-J., Liu, T.-L., Yang, P., Yen, C.-F., & Hu, H.-F. (2015). Multi-dimensional correlates of Internet addiction symptoms in adolescents with attention-deficit/hyperactivity disorder. *Psychiatry Research*, *225*, 122–128.

Chun, J. (2018). Conceptualizing effective interventions for smartphone addiction among Korean female adolescents. *Children and Youth Services Review*, *84*, 35–39.

Cocoradă, E., Maican, C. I., Cazan, A.-M., & Maican, M. A. (2018). Assessing the smartphone addiction risk and its associations with personality traits among adolescents. *Children and Youth Services Review*, *93*, 345–354.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences *(2nd Ed.). New York:* Academic Press.

Critselis, E., Janikian, M., Paleomilitou, N., Oikonomou, D., Kassinopoulos, M., Kormas, G., & Tsitsika, A. (2014). Predictive factors and psychosocial effects of Internet addictive behaviors in Cypriot adolescents. *International Journal of Adolescent Medicine & Health*, *26*(3), 369.

Dalbudak, E., Evren, C., Aldemir, S., Coskun, K. S., Ugurlu, H., & Yildirim, F. G. (2013). Relationship of Internet Addiction Severity with Depression, Anxiety, and Alexithymia, Temperament and Character in University Students. *CyberPsychology, Behavior & Social Networking*, *16*(4), 272–278.

De Leo, J. A., & Wulfert, E. (2013). Problematic Internet use and other risky behaviors in

college students: An application of problem-behavior theory. *Psychology of Addictive Behaviors*, *27*(1), 133–141.

Demirci, K., Akgonul, M., & Akpinar, A. (2015). Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *Journal of Behavioral Addictions*, (2), 85.

Demirci, K., Orhan, H., Demirdas, A., Akpinar, A., & Sert, H. (2014). Validity and Reliability of the Turkish Version of the Smartphone Addiction Scale in a Younger Population. *Klinik Psikofarmakoloji Bulteni*, *24*(3), 226–234.

Denizet-Lewis, B. (2017, October 11). Why Are More American Teenagers Than Ever Suffering From Severe Anxiety? *The New York Times.* Retrieved from www.nytimes.com.

Dowling, E. M., Gestsdottir, S., Anderson, P. M., Eye, A. V., Almerigi, J., & Lerner, R. M. (2004). Structural Relations Among Spirituality, Religiosity, and Thriving in Adolescence. *Applied Developmental Science*, *8*(1), 7–16.

Elhai, J. D., Levine, J. C., & Hall, B. J. (2019). Review: The relationship between anxiety symptom severity and problematic smartphone use: A review of the literature and conceptual frameworks. *Journal of Anxiety Disorders*, *62*, 45–52.

Ellison, C., & Fan, D. (2008). Daily Spiritual Experiences and Psychological Well-being Among US Adults. *Social Indicators Research*, *88*(2), 247.

Enez Darcin, A., Kose, S., Noyan, C. O., Nurmedov, S., Yılmaz, O., & Dilbaz, N. (2016). Smartphone addiction and its relationship with social anxiety and loneliness. *Behaviour & Information Technology*, *35*(7), 520.

Faigin, C. A., Pargament, K. I., & Abu-Raiya, H. (2014). Spiritual Struggles as a Possible

Risk Factor for Addictive Behaviors: An Initial Empirical Investigation. *International Journal for the Psychology of Religion*, *24*(3), 201.

Fırat, S., Gül, H., Sertçelik, M., Gül, A., Gürel, Y., & Kılıç, B. G. (2018). The relationship between problematic smartphone use and psychiatric symptoms among adolescents who applied to psychiatry clinics. *Psychiatry Research*, *270*, 97–103.

Flisher, C. (2010). Getting plugged in: an overview of internet addiction. *Journal Of Paediatrics And Child Health*, *46*(10), 557–559.

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child & Adolescent Psychiatry*, *40*(11), 1337–1345.

Goodman, R. (1997). Strengths and Difficulties Questionnaire. Retrieved from *PsycTESTS*.

Goodman, R., Meltzer, H., & Bailey, V. (2003). The Strengths and Difficulties Questionnaire: a pilot study on the validity of the self-report version. *International Review of Psychiatry*, *15*(1/2), 173.

Göran Svedin, C., & Priebe, G. (2008). The Strengths and Difficulties Questionnaire as a screening instrument in a community sample of high school seniors in Sweden. *Nordic Journal of Psychiatry*, *62*(3), 225–232.

Greenwood, S., Perrin, A., & Duggan, M. (2016). Social Media Update 2016. *Pew Research Center*. Retrieved from http://www.pewinternet.org.

Griffiths, M. D., Kuss, D. J., Billieux, J., & Pontes, H. M. (2016). Short Communication: The evolution of Internet addiction: A global perspective. *Addictive Behaviors*, *53*, 193–195.

Güzeller, C.O., & Coşguner, T. (2012). Development of a Problematic Mobile Phone Use
Scale for Turkish Adolescents. *CyberPsychology, Behavior & Social
Networking*, *15*(4), 205–211.

Ha, J. H., Chin, B., Park, D.-H., Ryu, S.-H., & Yu, J. (2008). Characteristics of excessive
cellular phone use in Korean adolescents. *Cyberpsychology & Behavior: The Impact
Of The Internet, Multimedia And Virtual Reality On Behavior And Society*, *11*(6),
783–784.

Hait, B. (2014). *The relationship between role models in high school and college and the
religiosity and spirituality of emerging adult graduates of Jewish Modern Orthodox
high schools and college*. ProQuest Dissertations & Theses.

Harari, E., Glenwick, D. S., & Cecero, J. J. (2014). The relationship between
religiosity/spirituality and well-being in gay and heterosexual Orthodox Jews. *Mental
Health, Religion & Culture*, *17*(9), 886–897.

Harris, S. K., Sherritt, L. R., Holder, D. W., Kulig, J., Shrier, L. A., & Knight, J. R.
(2008). Reliability and Validity of the Brief Multidimensional Measure of
Religiousness/Spirituality Among Adolescents. *Journal of Religion & Health*, *47*(4),
438–457.

Harwood, J., Dooley, J. J., Scott, A. J., & Joiner, R. (2014). Constantly connected – The
effects of smart-devices on mental health. *Computers in Human Behavior*, *34*, 267–
272.

Hawi, N. S., & Samaha, M. (2017). Relationships among smartphone addiction, anxiety,
and family relations. *Behaviour & Information Technology*, *36*(10), 1046–1052.

Hawi, N. S., & Samaha, M. (2016). To excel or not to excel: Strong evidence on the

adverse effect of smartphone addiction on academic performance. *Computers & Education*, *98*, 81–89.

Hing Keung Ma, Li, S. C., & Pow, J. W. C. (2011). The Relation of Internet Use to Prosocial and Antisocial Behavior in Chinese Adolescents. *CyberPsychology, Behavior & Social Networking*, *14*(3), 123–130.

Hoffner, C. A., & Lee, S. (2015). Mobile Phone Use, Emotion Regulation, and Well-Being. *CyberPsychology, Behavior & Social Networking*, *18*(7), 411–416.

Hussain, Z., Griffiths, M. D., & Sheffield, D. (2017). An investigation into problematic smartphone use: The role of narcissism, anxiety, and personality factors. *Journal of Behavioral Addictions*, (3), 378.

Jenaro, C., Flores, N., Gómez-Vela, M., González-Gil, F., & Caballo, C. (2007). Problematic internet and cell-phone use: Psychological, behavioral, and health correlates. *Addiction Research & Theory*, *15*(3), 309–320.

Jiang Long, Tie-Qiao Liu, Yan-Hui Liao, Chang Qi, Hao-Yu He, Shu-Bao Chen, & Billieux, J. (2016). Prevalence and correlates of problematic smartphone use in a large random sample of Chinese undergraduates. *BMC Psychiatry*, *16*, 1–12.

Karaca, S., Saleh, A., Canan, F., & Potenza, M. (2017). Comorbidity between Behavioral Addictions and Attention Deficit/Hyperactivity Disorder: a Systematic Review. *International Journal of Mental Health & Addiction*, *15*(3), 701–724.

Kardefelt-Winther, D. (2014). A conceptual and methodological critique of internet addiction research: Towards a model of compensatory internet use. *Computers in Human Behavior*, *31*, 351–354.

Kim, D., Lee, Y., Lee, J., Nam, J. K., & Chung, Y. (2014). Development of Korean

Smartphone Addiction Proneness Scale for Youth. *PLoS ONE*, *9*(5), 1–8.

Kim, S.-G., Park, J., Kim, H.-T., Pan, Z., Lee, Y., & McIntyre, R. S. (2019). The relationship between smartphone addiction and symptoms of depression, anxiety, and attention-deficit/hyperactivity in South Korean adolescents. *Annals of General Psychiatry*, (1).

Knabb, J. J., & Pelletier, J. (2014). The relationship between problematic Internet use, God attachment, and psychological functioning among adults at a Christian university. *Mental Health, Religion & Culture*, *17*(3), 239–251.

Krauft, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhayay, T., & Scherlis, W. (1998). Internet paradox: a social technology that reduces social involvement and psychological well-being? *The American Psychologist*, (9), 1017.

Krumrei, E., Pirutinsky, S., & Rosmarin, D. (2013). Jewish Spirituality, Depression, and Health: an Empirical Test of a Conceptual Framework. *International Journal of Behavioral Medicine*, *20*(3), 327–336.

Kumara, H., & Kumar, V. (2016). Impact of Cognitive Behavior Therapy on Anxiety and Depression in Adolescent students. *Journal of Psychosocial Research*, *11*(1), 77–85.

Kumcagiz, H. (2019). Quality of Life as a Predictor of Smartphone Addiction Risk Among Adolescents. *Technology, Knowledge & Learning*, *24*(1), 117.

Kuss, D. J., van Rooij, A. J., Shorter, G. W., Griffiths, M. D., & van de Mheen, D. (2013). Internet addiction in adolescents: Prevalence and risk factors. *Computers in Human Behavior*, *29*, 1987–1996.

Kwon, M., Kim, D.-J., Cho, H., & Yang, S. (2013). The Smartphone Addiction Scale:

Development and Validation of a Short Version for Adolescents. *PLoSONE*, *8*(12), 1–7.

Kwon, M., Lee, J.-Y., Won, W.-Y., Park, J.-W., Min, J.-A., Hahn, C., Gu, X., Choi, J.-H., Kim, D.-J. (2013) Development and Validation of a Smartphone Addiction Scale (SAS). PLoS ONE 8(2): e56936.

Kwon, M., Lee, J.-Y., Won, W.-Y., Park, J.-W., Min, J.-A., Hahn, C., Gu, X., Choi, J.-H., Kim, D.-J. (2013). Smartphone Addiction Scale. Retrieved from *PsycTESTS*.

Lai, C. M., Mak, K. K., Watanabe, H., Jeong, J., Kim, D., Bahar, N., Ramos, M., Chen, S.H., Cheng, C. (2015). Original Research: The mediating role of Internet addiction in depression, social anxiety, and psychosocial well-being among adolescents in six Asian countries: a structural equation modelling approach. *Public Health*, *129*, 1224–1236.

Lam, L. T., Zi-wen Peng, Jin-cheng Mai, & Jin Jing. (2009). Factors Associated with Internet Addiction among Adolescents. *CyberPsychology & Behavior*, *12*(5), 551–555.

Lee, H., Kim, J. W., & Choi, T. Y. (2017). Risk Factors for Smartphone Addiction in Korean Adolescents: Smartphone Use Patterns. *Journal Of Korean Medical Science*, *32*(10), 1674–1679.

Lee, J.-Y., Park, E.-J., Kwon, M., Choi, J.-H., Jeong, J.-E., Choi, J.-S., … Kim, D.-J. (n.d.). The Difference in Comorbidities and Behavioral Aspects between Internet Abuse and Internet Dependence in Korean Male Adolescents. *Psychiatry Investigation*, *11*(4), 387–393.

Lee, M. T., Veta, P. S., Johnson, B. R., & Pagano, M. E. (2014). Daily Spiritual

Experiences and Adolescent Treatment Response. *Alcoholism Treatment Quarterly*, *32*(2/3), 271.

Lee, Y.-K., Chang, C.-T., Lin, Y., & Cheng, Z.-H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Computers in Human Behavior*, *31*, 373–383.

Lemola, S., Perkinson-Gloor, N., Brand, S., Dewald-Kaufmann, J., & Grob, A. (2015). Adolescents' Electronic Media Use at Night, Sleep Disturbance, and Depressive Symptoms in the Smartphone Age. *Journal of Youth & Adolescence*, *44*(2), 405.

Lenhart, A. (2015). Teen, Social Media and Technology Overview 2015. *Pew Research Center.* Retrieved from http://www.pewinternet.org.

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2014). The relationship between cell phone use, academic performance, anxiety, and Satisfaction with Life in college students. *Computers in Human Behavior*, 343.

Lepp, A., Barkley, J. E., Sanders, G. J., Rebold, M., & Gates, P. (2013). The relationship between cell phone use, physical and sedentary activity, and cardiorespiratory fitness in a sample of U.S. college students. *The International Journal of Behavioral Nutrition and Physical Activity*, (1).

Li, J., Lepp, A., & Barkley, J. E. (2015). Locus of control and cell phone use: Implications for sleep quality, academic performance, and subjective well-being. *Computers in Human Behavior*, 450.

Malinakova, K., Madarasova Geckova, A., van Dijk, J. P., Kalman, M., Tavel, P., & Reijneveld, S. A. (2018). Adolescent religious attendance and spirituality—Are they associated with leisure-time choices? *PLoS ONE, 13*(6), 1–14.

Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., …

    Swendsen, J. (2010). New research: Lifetime Prevalence of Mental Disorders in U.S.

    Adolescents: Results from the National Comorbidity Survey Replication–Adolescent

    Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent*

    Psychiatry, *49*, 980–989.

Milani, L., La Torre, G., Fiore, M., Grumi, S., Gentile, D. A., Ferrante, M., & Miccoli, S.

    (2018). Internet Gaming Addiction in Adolescence: Risk Factors and Maladjustment

    Correlates. *International Journal of Mental Health and Addiction*, (4), 888.

Miller, W. R., & Thoresen, C. E. (2003). Spirituality, religion, and health: An emerging

    research field. *American Psychologist*, *58*(1), 24–35.

Mitchell, M. E., Lebow, J. R., Uribe, R., Grathouse, H., & Shoger, W. (2011). Internet

    use, happiness, social support and introversion: A more fine grained analysis of

    person variables and internet activity. *Computers in Human Behavior*, *27*(5), 1857–

    1861.

Mok, J.-Y., Choi, S.-W., Kim, D.-J., Choi, J.-S., Lee, J., Ahn, H., … Song, W.-Y. (2014).

    Latent class analysis on internet and smartphone addiction in college

    students. *Neuropsychiatric Disease and Treatment*, 817

Müller, K. W., Dreier, M., Beutel, M. E., Duven, E., Giralt, S., & Wölfling, K. (2016).

    Full length article: A hidden type of internet addiction? Intense and addictive use of

    social networking sites in adolescents. *Computers in Human Behavior*, *55*(Part A),

    172–177.

New Report Finds Teens Feel Addicted to Their Phones, Causing Tension at Home.

Common Sense Media. (2016, May 3). Retrieved from

https://www.commonsensemedia.org.

Ofcom (2017). *Adults' Media Use and Attitudes.* Retrieved from

https://www.ofcom.org.uk.

Osman, A., Hoffman, J., Barrios, F. X., Kopper, B. A., Breitenstein, J. L., & Hahn, S. K.

(2002). Factor Structure, Reliability, and Validity of the Beck Anxiety Inventory in

Adolescent Psychiatric Inpatients. *Journal of Clinical Psychology*, *58*(4), 443.

Oulasvirta, A., Rattenbury, T., Ma, L., & Raita, E. (2012). Habits make smartphone use

more pervasive. *Personal and Ubiquitous Computing*, (1), 105.

Pea, R., Nass, C., Meheula, L., Rance, M., Kumar, A., Bamford, H., … Zhou, M. (2012).

Media use, face-to-face communication, media multitasking, and social well-being

among 8- to 12-year-old girls. *Developmental Psychology*, *48*(2), 327–336.

Petry, N., Rehbein, F., Ko, C.-H., & O'Brien, C. (2015). Internet Gaming Disorder in the

DSM-5. *Current Psychiatry Reports*, *17*(9), 1.

Pirutinsky, S., Rosmarin D. H. & Kirkpatrick, L. A. (2019.) Is Attachment to God a

Unique Predictor of Mental Health? Test in a Jewish Sample. *The International

Journal for the Psychology of Religion*, 29(3), 161-171.

Rideout, V.J., Foehr, U.G., Roberts, D.F. (2010). Generation M2: Media in the Lives of

8- to 18-Year-Olds. *A Kaiser Family Foundation Study.* Retrieved from

https://files.eric.ed.gov/fulltext/ED527859.pdf

Roberts, J. A., Pullig, C., & Manolis, C. (2015). I need my smartphone: A hierarchical

model of personality and cell-phone addiction. *Personality and Individual

Differences*, *79*, 13–19.

Roberts, J. A., Yaya, L. H. P., & Manolis, C. (2014). The invisible addiction: Cell-phone activities and addiction among male and female college students. *Journal of Behavioral Addictions*, (4), 254.

Romer, D., Bagdasarov, Z., & More, E. (2013). Older Versus Newer Media and the Well-being of United States Youth: Results From a National Longitudinal Panel. *Journal of Adolescent Health*, *52*(5), 613–619.

Roof, R. (2015). *The Association of Individual Spirituality on Employee Engagement: The Spirit at Work. Journal of Business Ethics* (Vol. 130, p. 585).

Rosen, L. D., Carrier, L. M., & Cheever, N. A. (2013). Facebook and texting made me do it: Media-induced task-switching while studying. *Computers in Human Behavior*, (3), 948.

Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior*, *29*(3), 1243–1254.

Salehan, M., & Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, *29*, 2632–2639.

Samaha, M., & Hawi, N. S. (2016). Full length article: Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Computers in Human Behavior*, *57*, 321–325.

Sands, R. G. (2007). Gender differences in the construction of spirituality, work, learning, and community by "baalei teshuvah." *Sex Roles*, (7–8), 527.

Sangawi, H., Adams, J., & Reissland, N. (2018). The impact of parenting styles on

children developmental outcome: The role of academic self-concept as a

mediator. *International Journal Of Psychology: Journal International De

Psychologie*, *53*(5), 379–387.

Sapacz, M., Rockman, G., & Clark, J. (2016). Are we addicted to our cell

phones? *Computers in Human Behavior*, 153.

Schein, J. (2016). Technology: So Pervasive in Jewish Living, So Absent from Jewish

Educational Research. *Journal of Jewish Education, 82*(4), 329–350.

Scott, D., Valley, B., & Simecka, B. (2017). Mental Health Concerns in the Digital

Age. *International Journal of Mental Health & Addiction*, *15*(3), 604.

Seo, D. G., Park, Y., Kim, M. K., & Park, J. (2016). Mobile phone dependency and its

impacts on adolescents' social and academic behaviors. *Computers in Human

Behavior*, *63*, 282–292.

Shapiro, E. (2018). The Digital Citizenship Project. Manuscript in preparation.

Škařupová, K., Ólafsson, K., & Blinka, L. (2016). The effect of smartphone use on trends

in European adolescents' excessive Internet use. *Behaviour & Information

Technology*, *35*(1), 68–74.

Spada, M. M. (2014). Mini Review: An overview of problematic Internet use. *Addictive

Behaviors*, *39*, 3–6.

Stavropoulos, V., Alexandraki, K., & Motti-Stefanidi, F. (2013). Recognizing internet

addiction: Prevalence and relationship to academic achievement in adolescents

enrolled in urban and rural Greek high schools. *Journal of Adolescence*, *36*(3), 565–

576.

Strittmatter, E., Kaess, M., Parzer, P., Fischer, G., Carli, V., Hoven, C. W., …

Wasserman, D. (2015). Pathological Internet use among adolescents: Comparing gamers and non-gamers. *Psychiatry Research*, *228*(1), 128–135.

Tatz, A. (1999). *The Thinking Jewish Teenager's Guide to Life.* Southfield, MI: Targum Press.

Thomée Sara, Härenstam Annika, & Hagberg Mats. (2012). Computer use and stress, sleep disturbances, and symptoms of depression among young adults – a prospective cohort study. *BMC Psychiatry*, (1), 176.

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

Twenge, J. M., Martin, G. N., & Campbell, W. K. (2018). Decreases in psychological well-being among American adolescents after 2012 and links to screen time during the rise of smartphone technology. *Emotion*, *18*(6), 765–780.

Underwood, L.G. (2011). The Daily Spiritual Experience Scale: Overview and Results. *Religions*, (1), 29.

Underwood, L. G., & Teresi, J. A. (2002). Daily Spiritual Experience Scale. *PsycTESTS*.

Underwood, L. G., & Teresi, J. A. (2002). The daily spiritual experience scale: development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *Annals of Behavioral Medicine*, 24(1), 22–33.

van Deursen, A. J. A. M., Bolle, C. L., Hegner, S. M., & Kommers, P. A. M. (2015).

Modeling habitual and addictive smartphone behavior: The role of smartphone usage types, emotional intelligence, social stress, self-regulation, age, and gender. *Computers in Human Behavior*, *45*, 411–420.

Van Dyke, C. J., Glenwick, D. S., Cecero, J. J., & Se-Kang Kim. (2009). The relationship of religious coping and spirituality to adjustment and psychological distress in urban early adolescents. *Mental Health, Religion & Culture*, 12(4), 369–383.

Walsh, S. P., White, K. M., & McD Young, R. (2010). Needing to connect: The effect of self and others on young people's involvement with their mobile phones. *Australian Journal of Psychology*, *62*(4), 194–203.

Wang, P., Zhao, M., Wang, X., Xie, X., Wang, Y., & Lei, L. (2017). Peer relationship and adolescent smartphone addiction: The mediating role of self-esteem and the moderating role of the need to belong. *Journal of Behavioral Addictions*, (4), 708.

Weinstein, A., & Lejoyeux, M. (2010). Internet Addiction or Excessive Internet Use. *American Journal of Drug & Alcohol Abuse*, *36*(5), 277–283.

Wolniewicz, C. A., Tiamiyu, M. F., Weeks, J. W., & Elhai, J. D. (2017). Problematic smartphone use and relations with negative affect, fear of missing out, and fear of negative and positive evaluation. *Psychiatry Research*.

Wood, M., Center, H., & Parenteau, S. C. (2016). Social media addiction and psychological adjustment: religiosity and spirituality in the age of social media. *Mental Health, Religion & Culture*, *19*(9), 972–983.

Wuthnow, R. (2007). *After the Baby Boomers: How Twenty- and Thirty-Somethings Are Shaping the Future of American Religion*. Princeton; Oxford: Princeton University Press. pp.112-135.

Yamada, T., Moshier, S. J., & Otto, M. W. (2016). No site unseen: predicting the failure to control problematic Internet use among young adults. *Cognitive Behaviour Therapy*, *45*(6), 496–500.

Yang, Y., Li, P., Fu, X., & Kou, Y. (2017). Orientations to Happiness and Subjective Well-Being in Chinese Adolescents: The Roles of Prosocial Behavior and Internet Addictive Behavior. *Journal of Happiness Studies*, *18*(6), 1747–1762.

Yıldız, M. A. (2017). Emotion regulation strategies as predictors of internet addiction and smartphone addiction in adolescents. *Journal of Educational Sciences & Psychology*, *7*(1), 66.

Yen, C.-F., Tang, T.-C., Yen, J.-Y., Lin, H.-C., Huang, C.-F., Liu, S.-C., & Ko, C.-H. (2009). Symptoms of problematic cellular phone use, functional impairment and its association with depression among adolescents in Southern Taiwan. *Journal of Adolescence*, *32*(4), 863–873.

Yen, C.-F., Chou, W.-J., Liu, T.-L., Yang, P., & Hu, H.-F. (2014). The association of Internet addiction symptoms with anxiety, depression and self-esteem among adolescents with attention-deficit/hyperactivity disorder. *Comprehensive Psychiatry*, *55*(7), 1601–1608.

Ying-Fang Chen, & Peng, S. S. (2008). University Students' Internet Use and Its Relationships with Academic Performance, Interpersonal Relationships, Psychosocial Adjustment, and Self-Evaluation. *CyberPsychology & Behavior*, *11*(4), 467–469.

Young, K. (2009). Internet Addiction: Diagnosis and Treatment Considerations. Journal of Contemporary Psychotherapy. 39. 241-246.

Appendix A

IRB Number 2018-9305

We would like to inform you about a research study on therelationship between smartphone use of Jewish Modern Orthodox adolescents and their social-emotional wellbeing and spirituality. We are working to see if increased levels of smartphone use are correlated to social-emotional concerns and limitations in spirituality. We ask you to join this study because youare a Modern Orthodox Jewish adolescent that engages in smartphone use. You do not have to participate, it is your choice. Your decision will not affect your rights or benefits or your academic standing.

If you say yes, we will ask you to take the following survey. It will take approximately 10 minutes to complete.

If you are uncomfortable answering some questions you may stop at any time. Your participation in this survey will contribute to the growing need for data on the impact of smartphone use on adolescents in the Jewish community and assist in the development of targeted education and programming to help adolescents, their parents, educators and professionals in supporting them during this age of technology. You will receive no direct benefit by completing this survey. We will not pay you to join this study.

The survey is completely anonymous and cannot be tracked back to the respondent.

If you have any questions you can call Joshua Wyner at 516-569-3807. You can call and ask questions at any time.

You may have questions about your rights as someone in this study. If you have questions, you can call the Einstein Institutional Review Board. Their number is 718-430-2237.

Click "OK" and "Next" if you agree to participate and continue on to the survey.

1. Please rate your level of agreement to the following statements about your smartphone use.

	Strongly disagree	Disagree	Weakly disagree	Weakly agree	Agree	Strongly agree
Missing planned work due to smartphone use	○	○	○	○	○	○
Having a hard time concentrating in class, while doing assignments or while working due to smartphone use	○	○	○	○	○	○
Feeling pain in the wrists or at the back of the neck while using a smartphone	○	○	○	○	○	○
Won't be able to stand not having a smartphone	○	○	○	○	○	○
Feeling impatient and fretful when I am not holding my smartphone	○	○	○	○	○	○
Having my smartphone in my mind even when I am not using it	○	○	○	○	○	○
I will never give up using my smartphone even when my daily life is already greatly affected by it	○	○	○	○	○	○
Constantly checking my smartphone so as not to miss conversations between other people on Snapchat or Whatsapp	○	○	○	○	○	○
Using my smartphone longer than I had intended	○	○	○	○	○	○
The people around me tell me that I use my smartphone too much	○	○	○	○	○	○

Strengths and Difficulties Questionnaire

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2. For each item, please mark the box for Not True, Somewhat True, or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain. Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	○	○	○
I am restless, I cannot stay still for long	○	○	○
I get a lot of headaches, stomach-aches, or sickness	○	○	○
I usually share with others, for example CDs, games, food	○	○	○
I get very angry and often lose my temper	○	○	○
I would rather be alone than with people of my age	○	○	○
I usually do as I am told	○	○	○
I worry a lot	○	○	○
I am helpful if someone is hurt, upset or feeling ill	○	○	○
I am constantly fidgeting or squirming	○	○	○
I have one good friend or more	○	○	○
I fight a lot. I can make other people do what I want	○	○	○
I am often unhappy, depressed or tearful	○	○	○
Other people my age generally like me	○	○	○
I am easily distracted, I find it difficult to concentrate	○	○	○

	Not True	Somewhat True	Certainly True
I am nervous in new situations. I easily lose confidence	○	○	○
I am kind to younger children	○	○	○
I am often accused of lying or cheating	○	○	○
Other children or young people pick on me or bully me	○	○	○
I often offer to help others (parents, teachers, children)	○	○	○
I think before I do things	○	○	○
I take things that are not mine from home, school or elsewhere	○	○	○
I get along better with adults than with people my own age	○	○	○
I have many fears, I am easily scared	○	○	○
I finish the work I'm doing. My attention is good	○	○	○

DSES

3. The list that follows includes items you may or may not experience. Please consider how often you directly have this experience, and try to disregard whether you feel you should or should not have these experiences.

	Many times a day	Every day	Most days	Some days	Once in a while	Never
I feel God's presence.	○	○	○	○	○	○
I experience a connection to all of life.	○	○	○	○	○	○
During worship, or at other times when connecting with God, I feel joy which lifts me out of my daily concerns.	○	○	○	○	○	○
I find strength in my religion or spirituality.	○	○	○	○	○	○
I find comfort in my religion or spirituality.	○	○	○	○	○	○
I feel deep inner peace or harmony.	○	○	○	○	○	○
I ask for God's help in the midst of daily activities.	○	○	○	○	○	○
I feel guided by God in the midst of daily activities.	○	○	○	○	○	○
I feel God's love for me, directly.	○	○	○	○	○	○
I feel God's love for me, through others.	○	○	○	○	○	○
I am spiritually touched by the beauty of creation.	○	○	○	○	○	○
I feel thankful for my blessings.	○	○	○	○	○	○
I feel a selfless caring for others.	○	○	○	○	○	○
I accept others even when they do things I think are wrong.	○	○	○	○	○	○
I desire to be closer to God or in union with the divine.	○	○	○	○	○	○

4. In general, how close do you feel to God?

○ Not at all

○ Somewhat close

○ Very close

○ As close as possible

5. Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today.

	Not at all	Mildly, but it didn't bother me much	Moderately - it wasn't pleasant at at times	Severely - it bothered me a lot
Numbness or tingling	◯	◯	◯	◯
Feeling hot	◯	◯	◯	◯
Wobbliness in legs	◯	◯	◯	◯
Unable to relax	◯	◯	◯	◯
Fear of worst happening	◯	◯	◯	◯
Dizzy or lightheaded	◯	◯	◯	◯
Heart pounding/racing	◯	◯	◯	◯
Unsteady	◯	◯	◯	◯
Terrified or afraid	◯	◯	◯	◯
Nervous	◯	◯	◯	◯
Feeling of choking	◯	◯	◯	◯
Hands trembling	◯	◯	◯	◯
Shaky/unsteady	◯	◯	◯	◯
Fear of losing control	◯	◯	◯	◯
Difficulty in breathing	◯	◯	◯	◯
Fear of dying	◯	◯	◯	◯
Scared	◯	◯	◯	◯
Indigestion	◯	◯	◯	◯
Faint/lightheaded	◯	◯	◯	◯
Face flushed	◯	◯	◯	◯
Hot/cold sweats	◯	◯	◯	◯

About You

6. What is your gender?

○ Male

○ Female

7. How old are you?

[   ]

8. What grade are you in?

○ 9th

○ 10th

○ 11th

○ 12th