

The Impact of Social Media Usage Among Teens During COVID-19

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Abstract

Social network usage is common around the globe and is prevalent in almost every home and every socioeconomic stratum, especially among children and adolescents during lockdown, and the usage rate has even increased post-COVID-19. Social Networks are also part of our current education system, whereby internet usage is the source of communication with colleagues and peers and is fundamental in creating new platforms and modes of modality in teaching. Social media can be defined as internet-based platforms that can be accessed through web addresses or mobile devices, computers, or any device applications on which users can create public or semi-public profiles, interact with others, and share user-generated content [25]. The Genesis 2021 report indicated that adolescents' smartphone usage increased significantly, reaching 95 %. Today's teens are exposed to risk factors due to social interaction over the Internet. It has been determined that this increased use of social media has been a breeding ground for frequent problems that are related to mental health, such as depression, anxiety, and addiction to social media; and most significantly, issues related to lack of sleep, diet and nutrition, cyberbullying, psychological aspects, behavioral problems, sexual issues, body image perception, physical activity, online grooming, sight, headache, and dental cavities. [3]. The purpose of this study is to determine to what extent the use of social media negatively affects teens.

Keywords: social media, Covid, teens, adolescents, impact, Internet, mobile devices, computers, cell phones, depression, anxiety, addiction, Adverse Childhood Experiences, ACE

Introduction

Social network usage is common around the globe and is prevalent in almost every home and every socioeconomic stratum, especially among children and adolescents during lockdown, and the usage rate has even increased post-COVID-19. Social Networks are also part of our current education system, whereby internet usage is the source of communication with colleagues and peers. Furthermore, social networks are fundamental in creating new platforms, and modes of teaching. According to Carr & Hayes (2015), internet usage has provided a means of communication with peers. It has provided a source for teaching in schools by enabling various forms of communication and bringing people together by facilitating instant connections, interactions, and even face-to-face conversations through Zoom. Social media can be defined as internet-based platforms that can be accessed through web addresses or mobile devices, computers, or any device applications on which users can create public or semi-public profiles, interact with others, and share user-generated content [25].

COVID-19 was seen as a disruption of everyday life in 2020. Globally and suddenly, media devices and internet access rapidly increased. The Genesis 2021 report indicated that adolescents' smartphone usage increased significantly, reaching 95 %. About 59 % of adolescents admitted that they use their smartphone more frequently as compared to the past, with a daily use of more than 3

hours in 46 % of cases; much of this usage involved TikTok at 62 % and YouTube at 58 % (Tra-Digitale-e-Cyber-Risk-MOIGE-1. Pdf., 2023). Also, the 2022 Global Wellbeing Report stated that adolescents spend, on average, 3 hours per day on social media [8]. Vogels et al. (2022) also reported that 97 % of teens between 13-17 years old use the Internet daily, and about 36 % say they spend too much time on social media [32].

Today's generation is heavily exposed to several risk factors due to social interaction over the Internet, including but not limited to cyberbullying, which affects about 7 % of children aged eleven to thirteen years old and about 5.2 % of children between the ages of fourteen to seventeen years old. It has been determined that this increased use of social media has been a breeding ground for frequent problems that are related to mental health, such as depression, anxiety, and addiction to social media; and most significantly, issues related to lack of sleep, diet and nutrition, cyberbullying, psychological aspects, behavioral problems, sexual issues, body image perception, physical activity, online grooming, sight, headache, and dental cavities. [3].

The degree of social media usage in children is known to be a significant predictor of depression and increases with each additional hour of social media use. The state of emergency and social isolation during the COVID-19 pandemic were said to be a determinant in

increased screen time, not only as a source of online education but to access social media continuously. Recent data also suggested that 48 % of adolescents spend an average of 5 hrs. per day on social media, and 12 % spend more than 10 hrs. per day on social media. During the pandemic, depressive symptoms were determined to have been reactive to the context of being afraid of the virus, which necessitated social isolation [3].

Social Adolescents are considered more susceptible to the negative aspects of social media than their adult counterparts because of their increased time spent on social media and the fact that their brain is developing in emotional regulation and motivation [29]. Also, social media produces an almost constant stream of unpredictable social rewards and chastisements in the form of posts from other users, composed of likes, comments, and messages. The frequent and inconsistent nature of these notifications results in a robust conditioning response, especially in the developing brain of an adolescent [21]. According to [17], this hypersensitivity can increase adolescents' willingness to engage in risky or prosocial behaviors as peers encourage.

Problem Statement

Social media usage has become problematic among teens, with an increasing prevalence of mental health outcomes like depression, anxiety, and stress. Teens who have experienced ACEs are more likely to engage in problematic social media use, such as excessive use, addiction, and cyberbullying. It has also been speculated that social media platforms provide an escape from daily struggles or serve as a means of seeking validation and support from others. [1]. The National Survey of Children's Health conducted in 2019 also reported that teens who experienced Adverse Childhood Experiences (ACEs) were more likely to use social media as a coping mechanism, with 41 % of teens who experienced four or more ACEs reporting heavy use of social media to deal with stress, compared to only 19 % of teens who experienced no ACEs [18].

A recent study published in 2020 in the International Journal of Environmental Research and Public Health reported that teens who experienced ACEs, mainly four or more, were more likely to engage in excessive social media behaviors [10]. These findings suggest that there is likely a significant correlation between ACEs and problematic social media usage in California teens. Parents, educators, and mental health professionals need to be aware of this link so that they may be able to utilize it to provide appropriate support and resources for teens who may be struggling with traumatic events or ongoing concerns.

Purpose of Study

The purpose of this study is to determine to what extent the use of social media negatively affects teens. Adolescents with a history of adverse childhood experiences (ACEs) are likelier than their non-ACE-experiencing counterparts to develop unfavorable health behaviors. Statistics about this population usually come from studies that look at groups of adolescents who identify with 4 or more ACEs. As the general public's use of social media has become more

ubiquitous, it is likely that these high-risk youth are using social media with excessive regularity [10]. Observing the impacts of problematic social media usage is essential because of the negative mental, physical, and social health consequences reported to accompany it. Reports indicate that adolescents with more hours spent on social media are at an increased risk of having moderate to severe depression and anxiety symptoms [23].

Significance of the Study

Several studies have indicated that one of the most significant difficulties experienced by adolescents is a conflict of values linked to their continuous search for identity and belonging. This is compounded by a desire to achieve self-direction by going into the unknown, interacting with strangers on social media sites, and entering a network of virtual relationships via the Internet. This corresponds with the study that demonstrated Facebook's role in modern upbringing by providing a platform for children and young people to discover ideas and convictions that powerfully shape their future character values and determine their life trends.

Traditional upbringing institutions cannot monitor new behavioral patterns resulting from friction with the outside world caused by social media. The study observed that many young people have become isolated from their communities, hiding behind computer screens to connect with the virtual community instead. It recommended the need to regulate the method and hours of social media use while determining the quality of permitted sites and programs and considering the increasing demand for periodic supervision of children by their families. In this context, according to recent statistics, 22 % of adolescents access their favorite social sites more than ten times a day, and more than half of adolescents enter these sites more than once a day, 75 % of adolescents have a mobile phone, 25 % of them use their phones to access these sites, and 54% use it to send text messages via short message service (SMS), while 24 % use it for instant messaging [12].

Research Methods and Statistical Analysis

This cross-sectional study used secondary data from The California Health Interview Survey (CHIS) from the 2021-2022 survey year. Surveys were conducted in all 58 counties of California for adolescents between the ages of 12 and 17. Included in this study were responses from 1169 adolescent participants. All participants completed the survey fully, and there were no missing values. This group included both males and females (57 % males, 43 % Females) from all racial and ethnic backgrounds (15 % Asian, 59 % white, 14 % other single race, and 11 % more than one race) and all poverty levels (0-99 % FPL 9 %, 100-199 % FPL 15 %, 200-299 % FPL 10 %, & 300 % FPL and above 66 %).

This study compared two main questions. The polar interrogative question, "Is the participant someone who identifies as having had at least 1 adverse childhood experience?" and a 4-point forced Likert scaled question, "How often does the participant use a computer or mobile device for social media." The 4-point forced scale question

results were displayed as follows: Almost constantly, many times a day, a few times a day, and less than a few times a day. Additionally, the study compared the social media question to four potential ACE/PEARLS predictive questions: Have you ever lived with a parent who got divorced, ever been a victim of violence or witnessed violence in your neighborhood, ever lived with a parent who died, ever lived with a family member who was arrested, ever been mistreated due to race/ethnicity, & how often did you experience difficulty in surviving on the family's income.

Dependent variables

The dependent variable studied is how often the individual uses a computer or mobile device for social media. Their choices for this variable are less than a few times a day, a few times a day, many times a day, almost constantly. This is considered a dependent variable because this is a decision that the adolescent has autonomy over. The choice to be on social media almost constantly can have repercussions in other parts of a person's life. This study reviews if the independent variable affects social media usage.

Independent variable

This study focuses on teens who have had an adverse childhood experience. This is an independent variable because this is not a choice the teen made; instead, it is something that happened to them. Studies have shown that this negative life occurrence can cause a person to be more closely linked to adverse health behaviors. This questionnaire could not ask specific questions about abuse and neglect that would appear on an ACEs scale. However, it did ask about home occurrences that would qualify. This study aims to determine if excessive social media usage is one of those adverse health behaviors.

Research Hypothesis

The hypothesis for this study is that adolescents who have experienced at least 1 adverse childhood experience are more likely to engage in excessive social media usage, as evidenced by reporting to be on social media via computer or mobile device "almost constantly" as compared to adolescents who have not experienced adverse childhood experiences.

Findings

The descriptive analysis included frequency distribution, chi-square test (X² test), and Pearson Correlation (r test) testing as reported by Pearson correlation and 2-tailed significance (p-value). The chi-square test compares observed results with expected results to determine if there is a relationship between the two variables or if the observed values are a random occurrence. Pearson's correlation is a common way of measuring the direction and strength of the relationship between two data sets.

The frequency table indicated that 40 % of the sample population confirmed that they had experienced at least 1 adverse childhood experience (ACE) compared to 60 % that stated they had not had any. Though the survey did not provide a comprehensive list of damaging

childhood experience survey questions regarding abuse or neglect, they did include a few items of interest regarding home life that would be associated with an ACEs scale. These items had: ever lived with a parent who got divorced (19 % said yes), ever been a victim of violence or witnessed violence in your neighborhood (12 % said yes), ever lived with a parent who died (4 % said yes), ever live with a family member who was arrested (5% said yes), ever been mistreated due to race/ethnicity (16 % said yes), and how often did you experience that it was hard to get by on the family's income (8 % reported struggling often or very often).

The frequency of the social media question broke down as follows: of the 1169 surveyed, 27% reported using social media almost constantly, 39% reported using social media many times a day, 22 % said using social media a few times a day, and 13% reported using social media less than a few times a day. If the ACEs or supporting questions have no correlations with social media usage, these percentages should remain mostly consistent.

Results from both the chi-square and Pearson's tests comparing having at least 1 ACE with social media usage confirmed that these two factors were correlated (X² = < .001, DF = 3; p = < .001, r = .14). Other factors relating to ACE/PEARLS scale items that also had a direct correlation with social media use were: victims of violence or witnesses to violence in the neighborhood (X² = .004, DF = 3; p = < 0.001, r = .10), someone living in the home had ever been arrested and booked for breaking the law (X² = .002, DF = 3; p = < .001, r = .10), and how hard is it to get by on family's income (X² = < .001, DF = 9; p = 0.006, r = 0.08).

Factors that were not strong correlators were adolescents who had experienced discrimination based on race/ethnicity (X² = .058, DF = 3; p = .011, r = 0.07), adolescents living with a divorced or separated parent (X² = < .001, DF = 6; p = .466, r = -.02) and adolescents living with a parent who had died (X² = .075, DF = 3; p = .113, r = .05).

Conclusions

The strength of this study comes from the reliability and diversity of the data set. The California Health Information Survey (CHIS) annual survey by UCLA's School of Public Health at their Center for Health Policy Research. This Center is one of the top sources of health policy information for the State of California. Additionally, it is one of the nation's leading health policy research centers. The Center aims to improve public health by collecting data for advancing health policy research, public service, community partnerships, and education. Various charitable and governmental organizations fund CHIS to promote insights into health issues affecting Californians.

The data is collected annually to ensure that the information retains its relevancy. It is done by surveying a large, representative sample of the state's major and minor racial and ethnic populations via telephone and internet questionnaires. CHIS set minimum target numbers for all 44 geographic areas to ensure a statistically representative sample. CHIS regularly conduct surveys in languages other than English and

tries to target specific minority populations, such as American Indian and Asian subgroups, to ensure a fully representative sampling. The sample size of this study is 1,169 participants, both male (52.3 %) and female (47.7 %), between the ages of 12 and 17. The diversity in sample size helps extrapolate to the community at large while decreasing the likelihood of a type II error in calculation. The fact that all the participants live in communities across the same state indicates similarities in available technology, access to internet capabilities, and cultural tendencies.

This study confirmed a correlation between teens' social media usage and their history of adverse childhood experiences. At the reporting level of at least 1 ACE, this correlation exists in a low level of strength ($r = .14$), but the likelihood of the relationship was significant ($p < .001$). The surveyed population did not detail how many or which types of ACEs they experienced in this group. However, previous research expects this to be a positive relationship, and the more ACEs a person experiences, specifically 4 or more, the stronger this relationship will become [27].

Raney, et.al., (2022) reported identifying low-strength relationships with community factors. Victims of violence or witnesses to violence

in neighborhoods had a strength of $r = .10$. This factor is unique because it goes beyond the home environment and looks at the lasting impact exposure that community violence can have on a person. A review into the characteristics of teens that commit violence, such as school shootings, indicates a high correlation with social media usage before the violent act [11]. This correlation between community violence exposure and social media becomes vital as providers look for ways to decrease community violence and identify those suffering from it. Further testing into the predictability of this linkage should be conducted to determine its value in targeting at-risk youth for early intervention and preventing instances of community violence, such as public shootings. The final significant finding in this study revolved around a commonly identified vital determinant of health: how hard is it to get by on the family's income? This had the lowest strength correlational relationship between the findings ($r = 0.08$). Even though there remains a digital divide in the State of California between lower-income homes and higher-income homes, it appears that families are adopting internet-capable devices as necessities due to an increasing reliance in society on digital dependency.

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