



## Excessive Internet Use Among Adolescents in Yemen: Prevalence, and Health Implications

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### ABSTRACT

The research examines the effects of internet and social media utilisation on the physical and mental health of students aged 15-19 at Al-Bayhani School in Aden, Yemen. The study included 64 students from a total population of 205, who were evaluated on their perceptions of the impact of internet and social media usage on their health. The findings indicated that 75% of children allocate 2 to 6 hours each day to internet usage, exhibiting uniform habits across all school levels. This study also indicated that 23.4% of students encountered heightened isolation, while 60.9% reported experiencing anxiety in the absence of internet connection. Physical health problems including ocular or cervical discomfort, adverse impacts on physical activity and sleep quality, and a considerable detrimental influence on academic performance. The research highlights the necessity for judicious and ethical internet utilisation to alleviate these hazards and optimise its advantages for students.

**Keywords:** Excessive Internet Use, Adolescents, Yemen, Mental Health, Social Media, Public Health.

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## INTRODUCTION

The rise of digital technology has made social media platforms central to adolescents' lives, significantly influencing their time management, attention, and health. Studies from the United States and China highlight the impact of social media, showing how it can divert attention from essential tasks like homework and face-to-face interactions. Research by Rideout and Robb (1) found that many adolescents report being frequently distracted by social media during focus-demanding activities. This is echoed by Siebers et al. (2), who observed heightened distraction during periods of increased social media engagement. The model of differential susceptibility to media effects, proposed by Valkenburg and Peter (3), suggests that individual differences may determine the level of distraction caused by social media.

Social media plays a significant role in adolescents' lives, with popular platforms like Facebook, Instagram, Twitter, and Pinterest shaping social dynamics. According to Statista (4), these platforms were among the most widely used in 2017. Such widespread engagement with social media can serve both as an avenue for positive interaction and a potential source of distraction, influencing adolescents' daily routines. Media usage among young people has increased steadily, often surpassing other activities in terms of time spent. For example, a national survey in Minnesota (2009) found that adolescents aged eight to 18 years spent an average of over seven and a half hours per day on media, more time than they spent in school or with family (Brown & Bobkowski, 5; Brown & Witherspoon, 6). This shift has implications for academic focus and interpersonal relationships.

The relationship between internet use and adolescent health is complex, often showing a curvilinear pattern where excessive internet use is linked to declining health outcomes. Studies by Belanger et al. (7) and Li and Ding (8) support this, highlighting that too much internet use can lead to negative physical and psychological effects. These

findings emphasize the importance of studying internet and social media use in a health context. Overuse of these platforms is associated with symptoms like eye strain, fatigue, anxiety, and mood disturbances. While research on social media use and its health effects is abundant in the U.S. and China, there is a noticeable gap in studies focused on Yemen and the Arab world. This research aims to address this gap by exploring the patterns of internet and social media usage among adolescents in Aden, Yemen, and examining their perceived effects on physical and psychological health.

This study is particularly important given the economic challenges and limited access to infrastructure in Yemen, where internet use, though more restricted compared to other regions, has become integral to youth culture. Social media and the internet facilitate communication and global connections, but concerns about their impact on adolescents' health are growing (9). Excessive use can lead to psychological issues such as anxiety, depression, and loneliness, often fueled by social comparisons and cyberbullying (9). In addition, the sedentary lifestyle associated with prolonged screen time raises concerns about physical health, contributing to obesity, cardiovascular issues, and sleep disturbances (10).

Despite these risks, the internet and social media also offer positive benefits, such as social support, information access, and self-expression. The impact of these technologies on health is multifaceted, influenced by individual psychological factors, social support, and usage patterns. This study will explore the perceived impact of internet and social media on the physical and psychological health of students at Al-Bayhani School in Aden, focusing on both the duration of social media use and specific health outcomes.

## METHODOLOGY

### Study Design

This study employed a cross-sectional descriptive survey design to assess the perceived health



impacts of internet and social media use among young students. A structured questionnaire was administered to gather data on students' internet usage patterns, social media engagement, and perceived effects on physical and psychological health.

### **Study Setting**

The research was conducted at Al-Bayhani School in Aden, Yemen, a coastal city that represents a unique socio-economic and cultural backdrop where technological access is rising, albeit limited by infrastructure constraints and socio-economic challenges. The school serves a diverse population, providing an appropriate environment to assess the internet and social media usage of adolescents in this region.

### **Study Population**

The target population consisted of students aged 15 to 19 years enrolled at Al-Bayhani School. This age range was selected because these adolescents are typically highly engaged with social media and internet usage, making them an ideal demographic to assess the potential health implications of their digital habits.

### **Sampling Technique**

A simple random sampling technique was employed to select participants from a list of eligible students at the school. Out of a total population of 205 students, 64 students were randomly selected to participate in the study. This sample size was determined based on feasibility considerations and was deemed sufficient to provide an initial understanding of internet use behaviors and their perceived impact on health.

### **Inclusion and Exclusion Criteria**

Inclusion criteria for the study included students aged 15-19 years enrolled at Al-Bayhani School who consented to participate. Exclusion criteria included students who did not consent to

participate or who were outside the specified age range.

### **Data Collection**

Data were collected using a structured, self-administered questionnaire designed to capture key aspects such as demographic information (age, gender, grade level), internet and social media usage patterns (frequency and duration of use, preferred platforms, and primary activities online), and health perceptions (students' perceptions of physical health issues like sleep disturbances, eye strain, and headaches, as well as psychological health effects such as stress, mood changes, and anxiety associated with their internet and social media usage). The questionnaire was developed in consultation with experts in adolescent psychology and health to ensure that it effectively captured relevant health perceptions linked to internet use. A pilot test with 10 students from a neighboring school was conducted to refine the questions for clarity and relevance before full data collection.

### **Study Variables**

The independent variable in this study was the time spent on internet and social media platforms (measured in average hours per day), while the dependent variables included physical health perceptions (indicators such as self-reported sleep quality, incidence of headaches, eye strain, and general fatigue) and psychological health perceptions (indicators such as self-reported levels of anxiety, mood swings, stress, and perceived social comparison effects).

### **Data Analysis**

Data were entered into SPSS (Statistical Package for the Social Sciences) for analysis, which included both descriptive and inferential statistics. Descriptive analysis involved calculating frequencies and percentages to describe the demographic characteristics of the sample, internet usage patterns, and reported health perceptions.



Inferential analysis utilized chi-square tests to examine the association between internet usage frequency (categorized into low, moderate, and high) and health perceptions (both physical and psychological). Correlation analysis was also conducted to assess potential links between usage duration and specific health effects, such as sleep quality and anxiety levels.

### Questionnaires

The questionnaire, originally prepared in Arabic, is structured to address multiple dimensions of internet and social media usage, including:

1. Awareness of the dangers of excessive internet use.
2. Time Spent Online per day, categorized into intervals (less than 2 hours, 2-4 hours, etc.).
3. Types of Online Activities: Students could select all applicable options, such as social media, games, video streaming, chatting, and academic research.
4. Applications and Games Used: Students were asked to identify the specific apps and games they spend the most time on.
5. Psychological Effects: Questions included experiences of anxiety or distress when unable to access the internet, social isolation, online bullying, and stress or anxiety related to social media.
6. Physical Effects: Questions assessed the impact of internet use on physical activity, sleep quality, eye and neck pain, and weight gain due to prolonged screen time.

7. Academic Impact: Students reported whether they believed social media affected their concentration and academic performance.

8. Other Effects: This includes changes in eating habits and general satisfaction with internet and social media use.

### Ethical Considerations

Prior to conducting the study, ethical approval was obtained from the school administration. Participation was voluntary, and informed consent was sought from both the students and their parents or guardians. The purpose of the study, as well as the confidentiality of the data, was explained to all participants. The collected data were anonymized, with personal identifiers removed to protect participants' privacy. Additionally, participants were informed of their right to withdraw from the study at any time without consequences. In addition, the ethical approval obtained from the university of Science and Technology Aden Yemen number MEC- AD046

### RESULTS

Most students (75%) spend 2 to 6 hours on the internet daily, indicating a moderate to high level of internet engagement. The data shows that internet use is consistent across grade levels, suggesting that internet use habits are established early in secondary school and remain steady Table (1).

**Table (1):** Demographics and Internet Usage Patterns n=64.

Characteristic		Frequency	Percent
Students' years	First Year Secondary	28	43.8%
	Second Year Secondary	20	31.3%
	Third Year Secondary	16	25.0%
Daily Internet Use Duration	Less than 2 hours	13	20.3%
	2-4 hours	21	32.8%
	4-6 hours	21	32.8%
	More than 6 hours	9	14.1%



Table (2) showed that while 53.1% of students are aware of internet risks, a substantial portion feels their awareness is inadequate or superficial. Social impacts include increased isolation (23.4%) and

frequent anxiety without internet access (60.9%). A small number (14.1%) report online bullying, which could contribute to negative mental health effects.

**Table (2):** Internet Awareness, Social Impacts, and Psychological Well-being n=64

Characteristic		Frequency	Percent
Awareness of Internet Risks	Yes, sufficient	34	53.1%
	Yes, insufficient	18	28.1%
	Yes, no attention paid	8	12.5%
	No awareness	4	6.3%
Impact on Relationships	Brought closer	11	17.2%
	Increased isolation	15	23.4%
	No effect	38	59.4%
Anxiety without Internet Access	Yes	39	60.9%
	No	25	39.1%
Experience of Bullying Online	Yes	9	14.1%
	No	54	84.4%

Table (3) revealed that over half of the students (56.3%) report physical discomfort, such as eye or neck pain, due to internet use. Physical activity and sleep are also affected, with nearly two-thirds

reporting negative impacts on both. Only 12.5% report weight gain, indicating that while physical discomfort is common, it may not always correlate with sedentary weight gain.

**Table (3):** Physical and Psychological Effects of Internet Use n=64.

Characteristic		Frequency	Percent
Physical Discomfort (Eye/Neck Pain)	Yes	36	56.3%
	No	28	43.8%
Impact on Physical Activity	Significant negative impact	15	23.4%
	Slight negative impact	24	37.5%
	No effect	25	39.1%
Impact on Sleep Quality	Significant negative impact	12	18.8%
	Slight negative impact	26	40.6%
	No effect	26	40.6%
Weight Gain	Yes	8	12.5%
	No	56	87.5%

Table (4) indicated that most students report a negative impact on their academic performance due to internet use, with 46.9% experiencing significant effects. While changes in eating habits are minimal,

64.1% report acquiring both positive and negative habits from the internet, reflecting its dual role in providing both beneficial and detrimental content.



**Table (4): Academic Impact and Habitual Changes Due to Internet Use n=64**

Characteristic		Frequency	Percent
Impact on Academic Performance	Major negative impact	30	46.9%
	Slight negative impact	28	43.8%
	No effect	6	9.4%
Changes in Eating Habits	Noticed changes	10	15.6%
	No changes	49	76.6%
	Noticed other changes	4	6.3%
Habits Learned from Internet	Positive habits	15	23.4%
	Both positive and negative habits	41	64.1%
	No new habits	8	12.5%

**DISCUSSION:**

This study revealed that excessive internet use among students has multifaceted effects on their physical, mental, and social well-being. Overall, students reported negative impacts on physical activity, sleep quality, study focus, and increased anxiety levels when disconnected from the internet.

In terms of physical activity and sleep quality, findings from this study align with those of Brown & Bobkowski (11), who conducted research in Minnesota, USA. They found that adolescents using digital media for more than seven hours daily experienced declines in both physical activity and sleep quality. This decline was attributed to long hours spent in sedentary positions and nighttime internet use. In our study, 60.9% of students reported using social media in dark places, which adversely affected their sleep quality and contributed to physical health issues such as eye strain and neck pain. This consistency underscores that extended internet usage can universally limit physical engagement and disrupt sleep across various populations.

Regarding mental health and social relations, the findings are supported by research from Siebers et al. (12), which identified a strong association between frequent social media use and increased anxiety,

particularly when adolescents faced prolonged periods offline. In our study, 60.9% of students expressed feelings of anxiety when unable to access the internet, indicating a potential dependency on digital connectivity for emotional regulation. This suggests that internet dependency is not only prevalent but may also contribute to emotional distress and disruption in students’ social relationships, as evidenced by 23.4% of students reporting feelings of isolation from family and friends.

When examining social media’s impact on academic achievement, some studies, such as that of Belanger et al. (13) conducted in China, suggest that social media use has a limited impact on academic performance, provided students manage their usage within reasonable hours. However, our study found that 46.9% of students felt that excessive internet use significantly negatively affected their academic focus. This discrepancy may stem from differences in the intensity of usage or educational environments, suggesting that regional or cultural variations could influence the relationship between social media usage and academic impact.

In terms of effects on physical health and eating habits, while some international studies have documented internet usage contributing to



unhealthy eating patterns, a study by Rideout & Robb (14) reported minimal association between internet use and dietary changes. In contrast, our findings indicated that 15.6% of students noticed changes in eating habits associated with prolonged internet use. This variance could be influenced by lifestyle factors unique to the student population in Yemen or the possibility that internet use may replace physical meal times or lead to more frequent snacking.

Overall, the study's findings align with global research on the negative impacts of excessive internet and social media use on sleep, physical health, and mental well-being. However, the differences observed in academic impact and dietary habits highlight that these effects may not be universally experienced and may vary due to cultural and environmental influences.

## CONCLUSIONS

This study on the impact of internet and social media use among students at Al-Baihani Model High School reveals significant effects on both physical and mental health. A large portion of the students reported negative outcomes, including reduced physical activity, disrupted sleep patterns, and increased anxiety, especially when deprived of internet access. Additionally, overuse affected social relationships and academic focus, indicating a pattern of dependency on digital platforms that may hinder students' holistic development. The findings underscore a complex relationship between internet use and adolescent health, with both detrimental effects and, in fewer cases, perceived positive impacts. However, the overall trend points to the need for balanced internet habits, especially for adolescents who are still developing cognitive and social skills.

## RECOMMENDATIONS

### 1. Educational Programs on Healthy Internet Use:

Schools should incorporate internet literacy into their curriculum, focusing on the importance of balanced usage and the risks of overuse. Workshops

that address online dependency, encourage offline socialization, and provide tips for managing screen time can help students build healthier habits.

### 2. Guidelines for Responsible Internet Use:

Implementing school and home guidelines to limit recreational internet and social media usage can mitigate negative impacts. Setting specific timeframes, such as restricting usage in dark settings or late at night, can improve sleep quality and physical health.

### 3. Parental and Community Involvement:

Parents and guardians should be encouraged to monitor their children's internet use and promote offline activities that foster physical and social development. Schools can collaborate with the community to provide alternatives, like after-school sports or club activities, reducing the dependency on online interactions.

### 4. Mental Health Support Services:

Schools could benefit from offering counseling services or mental health resources that address digital dependency and related anxieties. Guidance counselors can support students in managing stress and developing healthy coping strategies without relying heavily on internet access.

### 5. Further Research on Localized Effects:

Future research should explore specific cultural and environmental factors affecting internet use in similar settings. Such studies can provide more tailored recommendations and support effective interventions that resonate with the local community.

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