



ISSN: 2617-6548

URL: www.ijirss.com



The effects of the use of digital technologies and the management of Internet use on psychosocial and behavioral deviations in primary school children

Hekuran Sabedini¹, Mimoza Bytyqi Maksutaj^{2*}, Zanfina Shaqiri³, Egzona Gigollaj⁴, Leonita Gojani⁵

^{1,2}*Campus College Rezonanca, Alma Mater Europaea, Prishtin, Kosovo.*

^{3,4,5}*The State University of Tetova, North Macedonia.*

Corresponding author: Mimoza Bytyqi Maksutaj (Email: mimoza.maksutaj@rezonaca-rks.com)

Abstract

This study aimed to explore the relationship between internet addiction and psychosocial consequences in primary school students in Pristina. Internet addiction is characterized by compulsive behavior that leads to adverse outcomes, often interfering with crucial aspects of life like work and school. As information technology becomes increasingly integral to society, concerns arise over its overuse, particularly among students, where it can pose a significant risk. The primary objective of this research was to analyze the link between internet addiction and psychosocial consequences for Pristina's primary school students. A correlational research design was employed to examine whether there is a significant connection between the extent of internet addiction and the resulting psychosocial consequences. Quantitative research methods were integrated into the study's methodology. Two instruments were used for data collection: the first to measure internet addiction, focusing on students' internet usage habits, devices employed, and time spent online, and the second to assess psychosocial consequences, encompassing changes in behavior, emotional well-being, and self-esteem attributed to internet usage. The study encompassed 200 primary school students drawn from "Elena Gjika" and "7 Marsi" primary schools in Pristina, aged between 10 and 15, with an average age of 13.18 years. The results showed a positive correlation between internet dependence and psychosocial consequences in students; however, this correlation did not prove to be statistically significant. Moreover, the analysis indicated that there are no differences in the context of internet dependence and psychosocial consequences concerning the gender and age of students in primary schools in Pristina. Similarly, the study among Pristina students in primary school revealed no statistically significant variations depending on age or gender about internet addiction and its psychosocial effects.

Keywords: Elementary school, Internet dependency, Psychosocial consequences, Students.

DOI: 10.53894/ijirss.v7i1.2545

Funding: This study received no specific financial support.

History: Received: 15 August 2023/Revised: 28 September 2023/Accepted: 22 December 2023/Published: 10 January 2024

Copyright: © 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Competing Interests: The authors declare that they have no competing interests.

Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Institutional Review Board Statement: The Ethical Committee of the Alma Mater Europaea, Kosovo has granted approval for this study on 27 February 2023 (Ref. No. AD-7786/23).

Publisher: Innovative Research Publishing

1. Introduction

Over the course of the last few decades, digital addiction has emerged as a significant and widely acknowledged problem in society. There has been a considerable rise in the number of calls for finding answers to this problem, particularly among adolescents. In this context, there is a debate that is still going on over whether or not digital addiction should be considered a diagnostic disease of mental health. However, it is important to consider that preventive approaches and interventions should be established to help individuals have more control over their use of digital technologies [1].

The excessive use of digital technologies by adolescents has raised speculation that it negatively impacts the psychological well-being of teenagers [2]. Studies have shown a positive correlation between excessive use of digital technologies and negative psychological consequences among adolescents. The results have demonstrated that girls are more affected by this phenomenon than boys, highlighting gender differences among adolescents regarding technology usage and its impact on their well-being [3]. A positive relationship was found between excessive use of digital technology and negative psychological and emotional outcomes in digital natives aged 14-18 years ($p \leq 0.005$). A statistically significant difference was observed between girls and boys, with girls experiencing more negative results than boys [3].

In an attempt to understand the impact of digital technologies on psychological well-being, social scientists have predominantly focused on quantifying the hours spent in front of screens. Adolescents in the United States, on average, spend a substantial amount of time on their smartphones or other screen devices, approximately 9 hours per day, and this does not include the time spent on homework or other school-related activities [4].

Teachers also hold varying opinions regarding the role of technology in education and the emotional development of children and adolescents. While some see technology as an important educational tool, others have concerns about socio-economic digital divides and their impact on socialization and self-esteem. These perceptions of teachers can guide further strategies for the effective use of technology in education and support for the mental health of children and adolescents [5]. Furthermore, studies have identified clear links between excessive technology use and negative impacts on sleep and behavior in children. Intensive use of digital devices and screens for extended hours has contributed to noticeable changes in the behavior and sleep patterns of children [6].

The COVID-19 pandemic situation, where children's technology usage has significantly increased with a prevalence of about 15%, has further complicated these interactions between technology and health. Among these, smartphone usage has a prevalence of 61.7%. The increased use has had effects on brain function that compromise sleep and cognitive abilities and may lead to the risk of various mental health disorders, including, but not limited to, depression, anxiety, Alzheimer's disease, and attention deficit hyperactivity disorder (ADHD) [3]. Furthermore, 42.1% of adolescents reported engaging in digital technologies for online video gaming with unknown individuals, while 12.7% reported sleep deprivation issues. Students who reported poorer academic performance indicated being victims of cyberbullying, sleep deprivation, hacking, exposure to violent content, and excessive use of digital technologies during the weekdays and weekends. Additionally, it was found that adolescents who engaged in digital technologies after 9:00 p.m. had an impact on their sleep [7].

2. Development of Scientific Research

In an analysis of 554 articles, only eight of them were included, and their methodological quality was evaluated using the STROBE and CONSORT criteria, with ratings ranging from 17 to 22 points. The results of these articles have presented both positive and negative aspects of technology use during adolescence. For instance, excessive use of the internet, gaming, and exposure to television have been linked to intellectual deficits and mental health issues. However, these activities may also influence the psychosocial development of children [8].

The use of digital technologies has increased during the COVID-19 pandemic, including increased frequency and extended duration of internet use for entertainment and continuous use of digital technologies. A linear regression analysis showed that gender ($\beta = -0.091$, $p < 0.001$), age ($\beta = 0.066$, $p = 0.001$), depression ($\beta = 0.257$, $p < 0.001$), and stress ($\beta = 0.323$, $p < 0.001$) were significantly associated with the total scores of the Internet Addiction Test (IAT) ($R = 0.539$, $R^2 = 0.291$, $p < 0.001$) [9].

In another study, 3,015 students were included, of whom 53.6% were female. Students from colleges as well as elementary, middle, and high schools were well-represented in the study group. Almost all participants (99.7%) had technological devices, primarily smartphones (87.7%). The majority of students used these devices for more than 4 hours a day, a level categorized as "excessive use." In the group of those who used technological devices intensively, the most common problems reported included headaches (35.0%), sleep disturbances (36.6%), and neck/shoulder pain (37.7%). Adolescents who used technological devices for less than one hour per session experienced challenges related to their eyes. Additionally, adolescents who engaged in regular sports had a greater tendency to use technology less. Prolonged use of these devices was associated with higher reporting of problems, eye issues, and temporary vision loss [10].

However, digital technology is present in every aspect of adolescents' lives today and has concerned many researchers regarding its impact on mental health, which, in some cases, appears to worsen over time. To understand whether this impact has increased over time, researchers have analyzed the relationships between technology use and mental health in three nationally representative samples. Results have been inconsistent regarding changes in the impact of technology on mental health. Over the past decade, there has been a weaker link between technology use and depression, while social media use has been more strongly associated with emotional issues. However, there have been no significant changes in other associations or gender-based differences. Therefore, evidence for significant changes in the relationship between technology use by adolescents and mental health is limited. The wealth of knowledge about new digital media has accumulated over a short period of time, making it difficult to draw definitive conclusions about changes in these relationships. Hence, it is

crucial to have open and trustworthy collaboration between scientists and technology companies to better understand the impact of technology on mental health [11].

3. Methodology

3.1. Problem and Study Objective

The pace of our lives has undergone profound changes with the advancement of technology and the internet. Today, middle school students are increasingly drawn to the use of the internet, especially social networks and online gaming applications. This inevitable behavior has created a noticeable dependency on the internet among this age group, leading to various psychosocial issues.

One of the main problems is time loss. Internet addiction often leads to excessive internet use, neglect of schoolwork, and other important activities. Students spend hours trying to keep up with their friends' social media posts or playing online games, neglecting their studies, and causing poor academic performance and mental fatigue.

Furthermore, internet addiction can lead to social isolation. At this age, social interaction and the development of social skills are crucial for children's growth. Excessive internet use can make students feel isolated and distant from their friends, leading to changes in behavior, anxiety, and depression.

Another aspect of this problem is the negative impact of the internet on the emotional development of students. The internet often presents an idealized image of others' lives, leading to feelings of dissatisfaction and inferiority among students. This negative influence on self-esteem can have detrimental consequences for their emotional and psychological well-being.

However, it is important to mention that the internet and other technologies have various educational and informative benefits for students. Rapid access to information and resources can be a powerful tool to help develop their knowledge and skills. In this regard, finding a sustainable balance in internet use is crucial to avoid negative psychosocial consequences for middle school students.

To address this problem, schools and families need to collaborate to promote conscious and responsible internet use. Educating students about the dangers and consequences of excessive internet use and encouraging engagement in various social and academic activities can help reduce dependency and promote their psychosocial well-being.

In today's digitally connected world, the phenomenon of internet addiction has become a subject of increasing concern, especially among the younger generation. This study embarks on a journey to explore the complex interaction between internet addiction and psychosocial consequences, focusing particularly on middle school students in Pristina.

The main objective of this research is to examine and analyze the multifaceted relationship that exists between internet addiction and the psychosocial consequences experienced by middle school students. By examining this intricate interplay, we aim to contribute to a deeper understanding of how the virtual world affects the emotional and social well-being of our young learners.

A crucial component of our research is the overall assessment of the degree of internet addiction prevalent among middle school students in Pristina. This aspect allows us to evaluate how these students rely on the internet for various aspects of their lives and, consequently, the potential impact it has on their psychosocial dimensions.

Additionally, this study takes on the vital task of identifying and examining the psychosocial consequences arising from internet use in this age group. In doing so, we aim to shed light on the potential effects, whether positive or negative, that the virtual world has on the emotional and social landscape of these students.

Beyond these primary objectives, our research expands its scope to explore possible variations in internet dependency based on gender and age. By investigating these variables, we aim to discover any differences that may exist and gain insights into how internet addiction manifests in different segments of the middle school population.

3.2. Population, Sample, and Sampling

This issue affects a sizable and diverse population. It is not possible to encompass the entire population, so we have used a sample to investigate the problems. Middle school students in Pristina are among the people affected by this problem. Due to the large number of students, I have chosen to focus only on students from the "Elena Gjika" and "7 Marsi" middle schools in Pristina. The sample size is 200 students, with 100 students from the "Elena Gjika" middle school and 100 students from the "7 Marsi" middle school in Pristina.

3.3. Methods, Techniques, and Instruments

3.3.1. Methodology

The methodology and research design used in this study were essential for understanding how the data were collected and analyzed. We chose a quantitative research method and a correlational research design to investigate the relationships between internet addiction and psychosocial outcomes in middle school students in Pristina. Fieldwork techniques were used to observe and gather data in schools. The instruments used included various questionnaires to measure internet addiction and psychosocial outcomes. This study has helped to better understand how middle school students use the internet and the psychosocial effects associated with this usage. The research used a specific sample of students from the "Elena Gjika" and "7 Marsi" middle schools in Pristina.

3.3.2. Techniques

Fieldwork techniques were used to collect data from the study subjects, in this case, middle school students in Pristina. This technique allowed the researcher to observe and collect data in the subjects' natural environment and obtain a close view

of their internet usage habits and psychosocial outcomes. Fieldwork techniques were employed during school visits, where the questionnaires were administered.

3.3.3. Instrument

Digital Technology Addiction Instrument: This instrument is a standardized questionnaire used to measure internet addiction in students. Its composition includes 28 different questions, which are rated on a 5-point Likert scale ranging from "Never" to "Always."

It was used to measure students' internet usage habits, how they use digital devices, the amount of time spent online, and the impact of this usage on their daily lives.

Psychosocial Outcomes Questionnaire: This instrument is a standardized questionnaire used to assess the psychosocial outcomes of internet usage. The questionnaire consists of 58 closed-ended questions, which are rated on a 5-point Likert scale ranging from "Not at all" to "Very much." Through this instrument, changes in behavior, emotions, and self-esteem related to internet usage were assessed in middle school students in Pristina.

Demographic data of the subjects was also included in the instruments to gather general information about the subjects' age group, gender, grade, and school. This information was used to analyze any demographic variations in the study's results.

3.4. Research Questions

Throughout this research, a series of important research questions guided our investigation:

1. Is there a correlation between internet addiction and psychosocial consequences among elementary school students in Prishtina?
2. Are there statistically significant differences in relation to gender and age when considering the domains of internet addiction and its psychosocial consequences?

3.5. Study Hypotheses

In accordance with our research questions, we present hypotheses that support our exploratory journey:

Hypothesis 1 posits that there is a correlation between internet addiction and psychosocial consequences in the age group of elementary school students under study.

Hypothesis 2 suggests that there are statistically significant differences in relation to gender and age concerning internet addiction and its psychosocial consequences.

3.6. Data Analysis

The data analysis in this study was conducted using the statistical software SPSS. This analysis aims to uncover statistically significant relationships and differences among various study variables and provide a clear and detailed view of the results for the study's readers. To discover the relationships between the study variables, correlation analysis was used. A correlation is a way of expressing the relationship between two or more different variables. In this case, correlation analysis was conducted between internet usage variables (such as time spent on the internet and internet usage patterns) and psychosocial consequences variables (such as changes in behavior, emotions, and self-esteem).

Analyses of categorical variables were performed using ANOVA (Analysis of Variance). This was used to identify any statistically significant differences based on categorical factors such as gender, age, class, and school. For example, ANOVA analysis could be used to compare the level of internet addiction among different age or gender groups.

4. Results

Table 1 provides an overview of the participants in the study. In total, 200 students participated, with 58% being female and 42% being male. This high concentration of females indicates a clear dominance of this gender in the group of students studied.

From **Table 2**, it can be observed that the minimum age of the surveyed students was 10 years old, while the maximum age was 15 years old. The average age of the surveyed students was 13.18 years, with a standard deviation of 1.39. This fact indicates a general age difference among the students and is crucial information for understanding the influence of age on internet usage and psychosocial consequences.

Regarding class, the majority of students, or 47.5%, were in the 9th grade, 40.5% were in the 8th grade, and 12% were in the 7th grade. This information is important for analyzing possible differences between age groups and their impact on internet addiction and psychosocial consequences.

When it comes to the use of digital devices for internet access, the data clearly shows that 78% of students prefer to use mobile phones, 14% use iPads, and 8% use laptops or computers for internet access. This indicates a high concentration of mobile phone usage in this group of students.

Furthermore, the results show that the majority of students, 53.5%, spend 4 hours on the internet every day, while 38.5% spend 2 hours on the internet every day. Only 8% of students spend up to 6 hours on the internet each day. For evaluating the significant amount of time students spend online, this information is crucial.

In terms of the use of digital devices, 63% of students use them for social networking, 18.5% for watching movies, 8.5% for playing games, and 10% for learning purposes. This information demonstrates the diversity of how students use the internet. The **Table 1** shows that a total of 200 students participated in the study, out of which 58% were female and 42% were male. Therefore, we can observe a dominance of the female gender in the sample compared to the male gender.

Table 1.
Tabular presentation of respondents' gender.

		Percent
Valid	Female	58.0%
	Male	42.0%
Total		100.0%

Table 2.
Average age of students.

Variable	N	Minimum	Maximum	Mean	Standard deviation
Age	200	10.00	15.00	13.1850	1.39301

From Table 2, we can see that the minimum age of the surveyed students was 10 years, while the maximum age of the students was 15 years. The average age of the surveyed students was 13.18, and the standard deviation was 1.39.

In the H1 hypothesis, the assertion is expressed about the existence of a correlation between Internet addiction and psychosocial consequences among primary school students in Pristina.

Table 3.
Correlation between Internet addiction and psycho-social consequences in students.

Variable	Correlation	Consequences psychosocial
Internet addiction	Pearson correlation	0.1310
	Sig. (2-tailed)	0.0650
	N	200

Based on the correlation analysis, we can draw the following conclusions: Internet addiction has a positive correlation with psychosocial consequences in students ($r = 0.131$, $p > 0.05$ at the significance level of 0.05). However, there is no significant relationship between them.

We can infer from the results of the correlation analysis that there is a link between internet addiction and positive psychosocial outcomes in students, but this link is not statistically significant. Based on these results, we do not accept the first hypothesis.

Furthermore, thanks to the methodology applied, there is a statistically significant difference in gender and age regarding internet addiction and psychosocial consequences in primary school students in Pristina.

In hypothesis H2, the claim has been made about the existence of statistically significant differences in gender and age regarding internet addiction and psychosocial consequences in primary school students in Pristina.

Table 4.
Descriptive data on gender differences in students' internet context.

Gender	N	Mean	Standard deviation
Female	116	2.4733	0.15568
Male	84	2.4571	0.18238
Total	200	2.4665	0.16716

Table 5.
ANOVA analysis for the gender difference in the context of Internet addiction among students.

Internet addiction					
Groups	Sum squared	Df	Mean squared	F	Sig.
Between groups	0.013	1	0.013	0.453	0.502

The results from the analysis of variance (ANOVA) show that there are no significant differences ($p > 0.05$) in internet addiction between genders, where $F(5.56) = 0.453$ and $p > 0.05$. The mean and standard deviation for the female gender are ($M = 2.47$ and $SD = 0.15$), while for the male gender, they are ($M = 2.45$ and $SD = 0.18$). Therefore, from the results, it is evident that there are no significant differences in internet addiction between the female and male genders.

Table 6.
Descriptive data on the age difference in the context of Internet addiction among students.

Age	N	Mean	Standard deviation
10.00	10	2.4850	0.18567
11.00	14	2.4286	0.16608
12.00	42	2.4690	0.15379
13.00	31	2.4839	0.16552
14.00	69	2.4420	0.17732
15.00	34	2.5074	0.15866
Total	200	2.4665	0.16716

Table 7.

ANOVA analysis for the age difference in the context of Internet addiction among students.

Groups	Sum squared	Df	Mean squared	F	Sig.
Between groups	0.131	5	0.026	0.938	0.457

The results from the analysis of variance (ANOVA) show that there are no significant differences ($p > 0.05$) in internet addiction among students of different ages, where $F(5.56) = 0.938$ and $p > 0.05$. The mean and standard deviation for students of age 10 are ($M = 2.48$ and $SD = 0.18$), age 11 is ($M = 2.48$ and $SD = 0.16$), age 12 is ($M = 2.46$ and $SD = 0.15$), age 13 is ($M = 2.48$ and $SD = 0.16$), age 14 is ($M = 2.44$ and $SD = 0.17$), and age 15 is ($M = 2.50$ and $SD = 0.15$). Therefore, from the results, it is evident that there are no significant differences in internet addiction among students of different ages.

Table 8.

Descriptive data on the gender difference in the context of psycho-social consequences for students.

Gender	N	Mean	Standard deviation
Female	116	3.8306	0.08713
Male	84	3.8193	0.08843
Total	200	3.8259	0.08764

Table 9.

ANOVA analysis for the gender difference in the context of psycho-social consequences in students.

Groups	Sum squared	Df	Mean squared	F	Sig.
Between groups	0.006	1	0.0060	0.809	0.369

The results from the analysis of variance (ANOVA) show that there are no significant differences ($p > 0.05$) in psychosocial consequences between genders, where $F(1.52) = 0.809$, and $p > 0.05$. The mean and standard deviation for female students are ($M = 3.38$ and $SD = 0.18$), while for male students they are ($M = 3.81$ and $SD = 0.08$). Therefore, from the results, it is evident that there are no significant differences in psychosocial consequences between female and male genders.

Table 10.

Descriptive data on age difference in the context of psycho-social consequences in students.

Age	N	Mean	Standard deviation
10	10	3.8569	0.06204
11	14	3.8333	0.10254
12	42	3.8329	0.09549
13	31	3.8476	0.0833
14	69	3.8093	0.0852
15	34	3.8189	0.08417
Total	200	3.8259	0.08764

Table 10 presents descriptive data regarding the age differences in relation to psychosocial consequences among students. The table outlines the number of participants (N), the mean values, and the standard deviations for each age group. Specifically, it breaks down the data for students aged 10 through 15.

At age 10, there were 10 participants with a mean psycho-social consequence score of 3.8569 and a standard deviation of 0.06204. For 11-year-olds, the sample size increased to 14 students, and the mean score slightly decreased to 3.8333, with a standard deviation of 0.10254. As the students progressed to age 12, the sample size further increased to 42 students, and the mean score remained consistent at 3.8329, with a standard deviation of 0.09549.

Continuing on, there were 31 participants at age 13, yielding a mean score of 3.8476 and a standard deviation of 0.0833. For 14-year-olds, the sample size was the largest in the dataset, with 69 participants. Their mean score was 3.8093, with a standard deviation of 0.0852. Finally, at age 15, there were 34 participants, with a mean score of 3.8189 and a standard deviation of 0.08417.

In total, the dataset comprises 200 participants, with an overall mean psycho-social consequence score of 3.8259 and a standard deviation of 0.08764. This table provides an overview of how psycho-social consequences vary across different age groups among the student population.

Table 11.

ANOVA analysis for age difference in the context of psycho-social consequences in students.

Groups	Sum squared	Df	Mean squared	F	Sig.
Between groups	0.048	5	0.010	1.247	0.289

Table 11 presents the outcomes of an ANOVA (Analysis of Variance) analysis conducted to scrutinize age-based variations in psycho-social consequences among the student population. This statistical examination aimed to determine whether there are statistically significant distinctions in psycho-social consequences across diverse age groups. The table provides critical statistical measures for this assessment. The "Between Groups" category delineates the variability attributed to the differences between the age groups, with a sum squared value of 0.048 and 5 degrees of freedom. The "Mean Squared"

value represents the mean of the squares calculated within each group and stands at 0.010. The F-statistic, denoted as "F," measures the ratio of variability between groups to within groups, and it registers at 1.247. The significance level, or p-value, indicated as "Sig.," is 0.289. Interpreting these results, the F-statistic of 1.247 suggests that there may not be a significant difference in psycho-social consequences among the different age groups. Furthermore, the p-value of 0.289, exceeding the conventional significance level of 0.05, reinforces the notion that the observed distinctions are not statistically significant. In summary, [Table 11](#) underscores that, as per the ANOVA analysis, there is no statistically significant variation in psycho-social consequences across the distinct age groups within the student population under investigation. Furthermore, based on the results, we conclude that there are no significant statistical differences in gender and age regarding internet addiction and psychosocial consequences in primary school students in Prishtina, and we reject hypothesis 2.

5. Discussion

The tables and results of the analyses provide a comprehensive view of the characteristics of the study participants, their interaction with internet usage, and their psychosocial consequences. Let's examine these key findings:

From [Table 1](#), it can be seen that the majority of participants are female (58%), while males make up a lower percentage (42%). This indicates a clear dominance of the female gender in the group of students studied.

[Table 2](#) provides information about the average age of the study participants, including the standard deviation. The average age of the students is 13.18 years, with a standard deviation of 1.39. This information is crucial for understanding the influence of age on internet usage and its psychosocial consequences.

The concentration of students in classes is also an important factor for your analysis. It is clear that the majority of students (47.5%) are in grade 9, while 40.5% are in grade 8, and 12% are in grade 7. This information will assist in assessing possible differences between age groups and their impact on internet usage and psychosocial consequences.

From the analysis results, it is evident that a high concentration of students prefer to use mobile phones (78%) for internet access, while a smaller concentration uses iPads (14%) and laptops or computers (8%). This factor indicates students' preferences regarding the devices used for internet access.

The results show that a significant percentage of students (53.5%) spend 4 hours on the internet every day, while a smaller percentage spends up to 6 hours per day (8%). This information is crucial for evaluating the considerable amount of time students spend on the internet and its potential impact on psychosocial consequences.

Students use the internet for various purposes, including social networking (63%), watching movies (18.5%), playing games (8.5%), and learning purposes (10%). This demonstrates the diversity of how students use the internet.

[Table 3](#) presents the correlation analysis between internet usage and psychosocial consequences. Based on the analysis, there is a positive correlation between internet usage and psychosocial consequences ($r = 0.131$). However, this correlation is not statistically significant ($p > 0.05$). This means that, despite the positive correlation, there is no statistically significant relationship between these two variables.

[Tables 4, 5, 6, 7, 8, and 9](#) provide the results of ANOVA analyses for differences in internet usage and psychosocial consequences with respect to the gender and age of students. Based on the results, there are no statistically significant differences in internet usage and psychosocial consequences with respect to the gender and age of students. This finding indicates that there are no meaningful differences in terms of gender and age-related internet usage and psychosocial consequences.

These results are consistent with the findings of the study by [Kalkim and Sert \[12\]](#). Among students, a percentage of 10.5% of individuals were identified as at risk for internet addiction. Factors such as age (older or equal to 11 years), prolonged daily internet usage (more than 3 hours), lack of internet use for educational purposes, a high amount of homework, a considerable amount of time spent on internet communication, especially on social networks and games, as well as low academic performance, constituted approximately 23% of the factors contributing to internet addiction in this group of students.

In general, the discussion of these results indicates that there is no statistically significant relationship between internet use and psychosocial outcomes among primary school students in Prishtina. Furthermore, no statistically significant differences have been found in terms of gender and age of the students regarding internet use and psychosocial outcomes. These findings may contribute to understanding the impact of internet use on psychosocial outcomes in primary school students in Prishtina. For instance, the lack of a statistically significant relationship between internet use and psychosocial outcomes may suggest that their online experiences might not be as harmful as previously thought, or it may indicate that other factors have a more substantial influence on their psychosocial outcomes.

Additionally, the absence of statistically significant differences in internet use and psychosocial outcomes concerning the gender and age of the students suggests that these factors do not have a distinguishable impact on these variables. This does not necessarily mean that the internet does not influence psychosocial outcomes, but rather that its influence may be complex and influenced by other unexplored factors not included in this study.

6. Conclusions

From the findings of this study, we conclude that there are no statistically significant differences in internet use and psychosocial outcomes among primary school students in Prishtina based on gender and age. This study provides an in-depth understanding of the relationship between internet use, psychosocial outcomes, gender, and age in a specific school and cultural context. The results from this study do not confirm the initial hypothesis of a significant correlation between internet use and psychosocial outcomes in primary school students in Prishtina. However, the findings of this study can assist

educators, parents, and healthcare practitioners in improving their understanding of the impact of internet use on students and taking measures to prevent excessive internet use or psychosocial consequences.

References

- [1] D. Cemiloglu, M. B. Almourad, J. McAlaney, and R. Ali, "Combatting digital addiction: Current approaches and future directions," *Technology in Society*, vol. 68, p. 101832, 2022. <https://doi.org/10.1016/j.techsoc.2021.101832>
- [2] A. Orben and A. K. Przybylski, "The association between adolescent well-being and digital technology use," *Nature human Behaviour*, vol. 3, no. 2, pp. 173-182, 2019. <https://doi.org/10.1038/s41562-018-0506-1>
- [3] P. Limone and G. A. Toto, "Psychological and emotional effects of digital technology on children in COVID-19 pandemic," *Brain Sciences*, vol. 11, no. 9, p. 1126, 2021. <https://doi.org/10.3390/brainsci11091126>
- [4] I. Granic, H. Morita, and H. Scholten, "Beyond screen time: Identity development in the digital age," *Psychological Inquiry*, vol. 31, no. 3, pp. 195-223, 2020. <https://doi.org/10.1080/1047840x.2020.1820214>
- [5] A. Ventouris, C. Panourgia, and S. Hodge, "Teachers' perceptions of the impact of technology on children and young people's emotions and behaviours," *International Journal of Educational Research Open*, vol. 2, p. 100081, 2021. <https://doi.org/10.1016/j.ijedro.2021.100081>
- [6] D. Almuaiyel *et al.*, "Impact of technology use on behavior and sleep scores in preschool children in Saudi Arabia," *Frontiers in Psychiatry*, vol. 12, p. 601, 2021. <https://doi.org/10.3389/fpsy.2021.649095>
- [7] S. Ramírez, S. Gana, S. Garcés, T. Zúñiga, R. Araya, and J. Gaete, "Use of technology and its association with academic performance and life satisfaction among children and adolescents," *Frontiers in Psychiatry*, vol. 12, p. 764054, 2021. <https://doi.org/10.3389/fpsy.2021.764054>
- [8] R. Ricci *et al.*, "Impacts of technology on children's health: A systematic review," *Revista Paulista de Pediatria: Official Organization of the São Paulo Pediatrics Society*, vol. 41, p. e2020504, 2022.
- [9] H. Dong, F. Yang, X. Lu, and W. Hao, "Internet addiction and related psychological factors among children and adolescents in China during the coronavirus disease 2019 (COVID-19) epidemic," *Frontiers in Psychiatry*, vol. 11, p. 751, 2020. <https://doi.org/10.3389/fpsy.2020.00751>
- [10] A. J. Buabbas, M. A. Al-Mass, B. A. Al-Tawari, and M. A. Buabbas, "The detrimental impacts of smart technology device overuse among school students in Kuwait: A cross-sectional survey," *BMC Pediatrics*, vol. 20, no. 1, pp. 1-12, 2020. <https://doi.org/10.1186/s12887-020-02417-x>
- [11] M. Vuorre, A. Orben, and A. K. Przybylski, "There is no evidence that associations between adolescents' digital technology engagement and mental health problems have increased," *Clinical Psychological Science*, vol. 9, no. 5, pp. 823-835, 2021. <https://doi.org/10.1177/2167702621994549>
- [12] A. Kalkim and Z. E. Sert, "Internet addiction and affected factors in primary school students: School-based study," *Archives of Psychiatric Nursing*, vol. 35, no. 3, pp. 271-276, 2021. <https://doi.org/10.1016/j.apnu.2021.03.003>