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ORIGINAL

The Effect of Awareness of the Negative Effects of Internet Addiction on Reducing Addictive Behavior

El efecto de la conciencia de los efectos negativos de la adicción a Internet en la reducción del comportamiento adictivo

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ABSTRACT

Introduction: internet addiction is currently a recognized health as well as a social issue among adolescents. This study was therefore designed to assess the relationship between the awareness of the negative impacts of Internet addiction and how the awareness of the impacts influences addictive behaviors.
Method: the sample comprised 765 students (375 males and 390 females) enrolled in 10 secondary schools in Babylon Governorate, Iraq using a simple random sample Data were obtained using a structured questionnaire, including three parts demographic details, an Internet addiction scale, and a developed questionnaire to measure how much the participants aware about Internet addiction.
Results: out of 765 secondary school students, 51 % were females and 49 % were males. Among them, 9,9 % were identified as having a high level of Internet addiction, with the majority being males (78,7 %). Additionally, 59,9 % had a fair level of academic awareness of the effects of internet addiction, with females showing higher awareness compared to males. The level of addiction is not affected by the degree of awareness regarding the negative impact of Internet addiction on their academic performance at a significant level of P-value >0·05.
Conclusion: evidently, the findings of the study revealed that possessing the knowledge of the unfavorable consequences of Internet dependence is a crucial part of minimizing this problem but it is inadequate to eradicate it outright.

Keywords: Academic; Awareness; Internet Addiction; Students; Public Health.

RESUMEN

Introducción: la adicción a Internet es actualmente un problema social y de salud reconocido entre los adolescentes. Por lo tanto, este estudio fue diseñado para evaluar la relación entre la conciencia de los impactos negativos de la adicción a Internet y cómo la conciencia de los impactos influye en las conductas adictivas.
Método: la muestra estuvo compuesta por 765 estudiantes (375 hombres y 390 mujeres) matriculados en 10 escuelas secundarias en la gobernación de Babilonia, Irak, usando una muestra aleatoria simple. Los datos se obtuvieron usando un cuestionario estructurado, que incluye detalles demográficos en tres partes, una escala de adicción a Internet y un desarrollaron un cuestionario para medir qué tan conscientes estaban los participantes sobre la adicción a Internet.
Resultados: de 765 estudiantes de secundaria, el 51 % eran mujeres y el 49 % eran hombres. Entre ellos, el 9,9 % fue identificado con un alto nivel de adicción a Internet, siendo la mayoría hombres (78,7 %). Además, el 59,9 % tenía un nivel aceptable de conciencia académica sobre los efectos de la adicción a Internet, y las mujeres mostraron una mayor conciencia en comparación con los hombres. El nivel de adicción no se ve afectado por el grado de conciencia sobre el impacto negativo de la adicción a Internet en su rendimiento

académico en un nivel significativo de valor P >0,05.
Conclusión: evidentemente, los hallazgos del estudio revelaron que poseer el conocimiento de las consecuencias desfavorables de la dependencia de Internet es una parte crucial para minimizar este problema, pero es inadecuado para erradicarlo por completo.

Palabras clave: Académico; Concientización; Adicción a Internet; Estudiantes; Salud Pública.

INTRODUCTION

The Internet has been a significant presence in daily life since gaining popularity in the 1990s, becoming an integral part of modern life in general.[1] Internet infrastructure has improved substantially in recent years, making access more widely available and affordable in various locations such as homes, workplaces, libraries, and coffee shops.[2,3]

The world's population has benefited from the wide range of applications and advantages provided by the Internet. These include resources for education, entertainment, gaming, and internet browsing. As more people gain access to the internet and more electronic tools become available, social interactions, self-esteem, and sociability can be enhanced through online communication.[4,5] The global population of social network users is increasing daily. Currently, the majority of people, especially young people, regularly use social networks. As a result of their growing internet use, children are exposed to some negative effects.[6]

The inability to control one's desire to spend time online and the lack of appreciation for time spent offline are symptoms of internet addiction. Because they are often tense and combative, internet addicts harm relationships at work, in the home, and in social situations. Internet addiction is one such negative effect of individuals' excessive internet use [7] and can lead to physical, psychological, and social problems.[8] Internet addiction increases the likelihood of a variety of detrimental social and health outcomes, including diminished academic performance, and detrimental impacts on personality, anxiety, and depression,[9]

The most typical signs of internet addiction include poor decision-making, excessive use, intolerance for withdrawal, and irresponsible use.[10] Many studies have examined the adverse effects of internet addiction on adolescents' academic performance. For instance, Benjet et al.[11] found that excessive internet use leads to notable decreases in academic performance and concentration levels. Additionally, Chemnad et al.[12] indicated that students who spend extended periods online are less capable of managing their academic time effectively. However, there is a notable lack of studies focusing on students' awareness of the impact of internet addiction on their academic lives within the current literature. Although more students need to utilize the Internet, others are becoming more concerned about its negative aspects

Regular internet use can be detrimental to both academic achievement and conventional social engagement. A large number of pupils need to make academic progress. They were up late at night accessing the internet, which caused them to skip their assignments. People's typically more leisure-oriented lifestyles have led to a rise in internet usage. It looks intriguing at first, then becomes routine, and ultimately, it could turn into an addiction. Furthermore, it can negatively impact academic performance in teens, who are more inclined to succumb to these types of distractions.[13] Social networking sites and online gaming websites are currently two of the most widely used internet apps. Students need to be aware of how these new online behaviors impact their academic performance.[14,15]

While numerous studies have delved into the prevalence and consequences of internet addiction, fewer have looked at the role of awareness in lessening these effects. Specifically, there is limited research on how understanding the negative impacts of internet addiction can influence adolescents' behaviors and reduce their addiction levels. Therefore, further research is necessary to comprehend the extent to which students are aware of the impact of internet addiction on their academic performance.

This study aims to provide new insights that could help in developing more effective intervention strategies to assist students in better managing their internet use and to address these gaps by analyzing the relationship between awareness of the negative effects of internet addiction and its influence on addictive behaviors. By focusing on this relationship, this study seeks to contribute to the existing body of knowledge by highlighting the importance of educational interventions and awareness programs in combating internet addiction among adolescents.

Aims

This study aimed to investigate the impact of awareness of the negative effects of internet addiction on reducing addictive behaviors. Additionally, we seek to provide evidence-based recommendations to help individuals and organizations address and mitigate this phenomenon.

METHOD

The current study used a cross-sectional descriptive research method to collect data from ten secondary schools in the Babylon Governorate, Iraq. The data collection period spanned from December 10, 2022, to December 30, 2023. This approach enabled the simultaneous gathering of data to facilitate the investigation of the relationship between awareness of internet addiction and addictive behaviors at a specific moment.

Participants

In this study, 765 high school students were involved, with 390 females and 375 males from grades 10 to 12. The students were recruited from ten high schools in Babylon Governorate, Iraq. The selection process was as follows: The schools were chosen from a comprehensive list of all high schools in the governorate, which were categorized into five sectors based on the statistical booklet for the academic year 2023-2024 provided by the General Directorate of Education in Babylon, Department of Educational Planning/Statistics. Schools were selected from each sector to ensure representation of both urban and rural areas. Using a random number generator, 10 schools were randomly selected from this list to ensure that each school had an equal probability of being chosen. To ensure balanced representation, two schools, one for females and one for males, were randomly selected from each sector, representing both urban and rural areas of the governorate.

Instrument

The questionnaire is composed of closed-ended questions, which often include multiple-choice answers that respondents must select from a predetermined list of options. All parts of the study were covered by the three sections that made up the questionnaire. The first part included the sociodemographic characteristics of the participants (sex and grade level), and the second part included a scale to identify Internet Addiction level among participants. The Internet Addiction identification test is described in the second section. The Internet addiction test was introduced in 1996 at the University of Pittsburgh in Bradford, United States, by psychologist and psychiatrist Kimberly Young and is one of the most reliable scales for evaluating the Internet Addiction level. The tool was modified and developed by the researcher to suit the purposes of the current study. This test consists of 20 items with a 3-point Likert scale (always, sometimes, and never). The researcher built the third part of the questionnaire to measure the awareness of secondary school students of the academic effects of the Internet Addiction Scale consisting of 20 items on a 3-point Likert scale (Aware, Somewhat aware, and I do not aware).

Validity of the Study

To ensure that the questionnaire was suitable, clear, and able to meet the research objectives, its face validity was thoroughly assessed. The researcher presented the initial version of the questionnaire to fifteen professors who specialize in various fields of nursing from different Iraqi universities, each with over twenty years of experience.

These experts were asked to evaluate: The clarity of the items, The wording of the questions, and The appropriateness of the items in measuring the intended characteristics.

The experts provided detailed feedback and suggested several changes to improve the questionnaire. Based on their input, the following significant revisions were made:

Removing Redundancies: Some phrases were deleted because they were similar to other items, ensuring that each question was unique and essential and Improving Clarity: The wording of several items was changed to enhance their clarity and ensure that respondents would easily understand them.

The final version reflects the collective expertise of the professors, ensuring that it is both clear and comprehensive, and effectively measures the intended characteristics.

The Study Instrument Reliability

The instrument reliability was applied by the researcher to test the internal consistency of the tool on the pilot sample, which consisted of (70) students, to assess the reliability of the internal tool before data collection.

Internal consistency reliability was computed via the Calculation of Cronbach's alpha stability coefficient. The results precedent that the reliability coefficient for the internet addiction scale) was 0,91, the scale (Awareness of Psychosocial Effects of Internet Addiction) was equal to 0,82, and the scale (Awareness of Academic Effects of Internet Addiction) was equal to 0,79.

The stability of the scale is intended to give the same results if the analysis is done more than once by the same researcher at different times. The researcher tested the stability of the study instrument to measure the consistency of results by administrating the same instruments to the same participants in comparable circumstances at different times. Test results that were repeated were compared (test-retest reliability). After calculating the correlation coefficient between students' scores in the two measures, it was 0,82 on the

internet addiction scale and 0,79 on awareness of psychosocial and academic effects. Which reflects the high reliability of the questionnaire.

Alpha-Cronbach and person correlations are calculated by using the SPSS version 24 of reliability analysis.

Data Collection

The data were gathered by utilizing a structured questionnaire and an interview technique with the participants from 5th October until 30th November 2023. After formal approval was obtained, students were selected equally from the three grades (10 to 12) of each school. The questionnaire was distributed to the students who expressed their willingness to participate after it was explained to them that the questionnaire did not require mentioning the student's name and that their information would be confidential and for the study only.

Data Analysis

Descriptive statistics were used to provide a general picture of the level of awareness and internet usage behaviors among sample members. The means, percentages, and standard deviations were calculated. Inferential analysis, which includes correlational analysis through the use of Pearson's coefficient, was also used to analyze the relationship between the level of awareness and addictive behaviors. The significance of the correlation was evaluated using p-values, with a threshold of 0,05 to determine if the relationship was statistically significant. In the predictive analysis, we used logistic regression analysis to determine the extent of the effect of awareness on reducing addictive behaviors while controlling for demographic variables. IBM (SPSS) statistics/ was used for both data entry and analysis. In this study, a p-value of 0,05 was used to determine statistical significance. A p-value less than 0,05 indicates strong evidence against the null hypothesis, suggesting that the observed effect is statistically significant.

Ethics Approval

The research was performed following ethical principles originating from the Declaration of Helsinki. The study was designed to respect and protect the rights and well-being of all participants.

Approval and Consent: The study received ethical approval from the local ethics committee under Document No. 2079 (June 11, 2023). All participants provided informed consent in writing and verbally before the sample collection began. This consent included a clear explanation of the study's purpose, procedures, and the specific variables being measured.

Variables Studied: Dependent Variable: Level of Internet Addiction, measured using a standardized scale. Independent Variables: Awareness of Academic Effects of Internet Addiction, assessed using a specific awareness scale. Control Variables: Demographic variables including age, sex, and educational level.

RESULTS

The total sample that participated in the current research consisted of 765 secondary school students of both sexes, with 390 females (51 %) and 375 males (49 %). The respondents were recruited from three grade levels, with the highest participation rate from the tenth grade (285, 37,3 %), followed by the twelfth grade (244, 31,9 %), and the lowest percentage of participants from the eleventh grade (236, 30,8 %). (table 1)

Table 1. The distribution of the study sample Based on demographic data (N = 765)

Demographic Variables	Rating & Intervals	F	%
Sex	Male	375	49,0 %
	Female	390	51,0 %
Grade Level	Tenth	285	37,3 %
	Eleventh	236	30,8 %
	Twelve	244	31,9 %
Total		N= 765	100 %

F: frequency, N: number, %: percentage

The Internet Addiction Scale, consisting of 20 questions, was used to measure the level of addiction among the participants by answering a question in a way that applied to them by choosing from one of three options (always, sometimes, never). Then, the level of addiction was calculated according to the arithmetic mean for each question. High Addiction (H.A.): Mean > 2,33, Moderate Addiction (M.A.): Mean = 1,67 – 2,33, Low Addiction (L.A.): Mean < 1,67). (table 2)

Table 2. Level of Internet Addiction among the Study Sample

Scale	Min.	Max.	Mean	S.D	Score	n	%
Internet Addiction Scale (20 Q)	2,00	2,90	2,4367	,20713	High	35	69,9 %
					Moderate	30	30,1 %
					Low	0	0
Awareness of the Academic Effects of Internet Addiction Scale (20 Q)	1,60	3,00	2,26	,27074	Good	01	39,3 %
					Fair	56	59,6 %
					Poor	8	1,0 %
					Total	65	100 %

S.D: Standard Deviation, High Addiction: Mean > 2,33, Moderate Addiction: Mean = 1,67 – 2,33, Low Addiction: Mean < 1. Good Awareness: Mean > 2,33, Fair Awareness: Mean = 1,67 – 2,33, Poor Awareness: Mean < 1,67.

The results from table 2 indicate that out of 765 secondary school students, 69,9 % of them had a high level of Internet addiction, while 30,1 % had a moderate level of addiction. Furthermore, the table shows that 59,6 % of the participants reported having a fair understanding of the impacts of Internet addiction, 39,3 % reported a good level of understanding, and 1,0 % reported a low level of awareness.

Table 3. Level of Internet Addiction among the Study Sample According to Sociodemographic Characteristics

Demographic Variables	Rating & Intervals	Internet Addiction levels		
		High n (%)	Moderate n (%)	Low n
Sex	Male	295 (78,7 %)	80 (21,3 %)	0
	Female	240 (61,5 %)	150 (38,5 %)	0
Grade Level	Tenth	194 (68,1 %)	91 (31,9 %)	0
	Eleventh	156 (66,1 %)	80 (33,9 %)	0
	Twelve	185 (75,8 %)	59 (24,2 %)	0

As shown in table 3, 69,9 % of the research sample suffers from a high degree of internet addiction. Compared to girls, who scored 61,5 %, males had the highest Internet Addiction rate, at 78,7 %. Compared to respondents with other educational levels, the twelve-grade respondents had the greatest addiction rate (75,8 %), followed by the tenth-grade respondents (68,1 %) and the eleventh-grade respondents (66,1 %).

Table 4. Level of Awareness of the Academic Effects of Internet Addiction According to Sociodemographic Variables for the Study Sample

Demographics Variables	Rating & Intervals	Level of Academic Awareness		
		Good n (%)	Fair n (%)	Poor n (%)
Sex	Male	100 (26,7 %)	269 (71,7 %)	6 (1,6 %)
	Female	201 (51,5 %)	187 (47,9 %)	2 (0,5 %)
Grade Level	Tenth	78 (27,4 %)	205 (71,9 %)	2 (0,7 %)
	Eleventh	99 (41,9 %)	132 (55,9 %)	5 (2,1 %)
	Twelve	124 (50,8 %)	119 (48,8 %)	1 (0,4 %)

N: number, %: percentage

The data in table 4 indicate that 59,6 % of the study sampled had a fair level of academic awareness about the effects of internet addiction. Compared with males, females had a 51,5 % greater level of academic awareness, while males had a 26,7 % greater level. Twelve-grade students had the highest academic awareness rate (50,8 %), followed by eleven-grade students (41,9 %) and tenth-grade students (27,4 %).

Table 5. The correlation coefficient between internet addiction and awareness of its academic effects on the study sample

Dependent Variable	Independent Variables	X	S.D	R	Sig.
Internet Addiction	Awareness of Academic Effects of Internet Addiction	2,2637	,27074	-,051	,163

R: Person correlation coefficient, S.D: standard deviation, Sig: Significance

The data in table 5 revealed a value of (,051) with a sig-value of (,163) at a p-value> 0,05, which demonstrated

that there is a non-statistically significant relationship between Internet Addiction and awareness of its academic effects among the study sample.

Table 6. The Impact of Predictive Factors on the Study Sample's Degree of Internet Addiction

Dependent Variable	Predictors Variables (exploratory)	R	R^2	F.test	B	T.test	Sig.	IF
Internet Addiction	Awareness of Academic effects of Internet addiction	,105	,011	4,240	-,012	-,393	,695	1,148

R: Person correlation coefficient, Sig: significance, B: beta, VIF: variance inflation factor.

Table 6 shows that the multiple linear regression is statistically significant, as evidenced by the F test value of (4,240). The findings showed that the predictive variables demonstrated a 1,1 % variance in internet addiction according to the determination of the coefficient (R2) and the Pearson correlation value (-,105). The beta value of the variable of awareness of academic effects was 0,012, which is not statistically significant; this can be deduced from the value of the T-test with a sig-value of ,695, which is a P value < 0,05, meaning that a rise in the level of awareness of academic effects has no statistically significant impact on the internet addiction level.

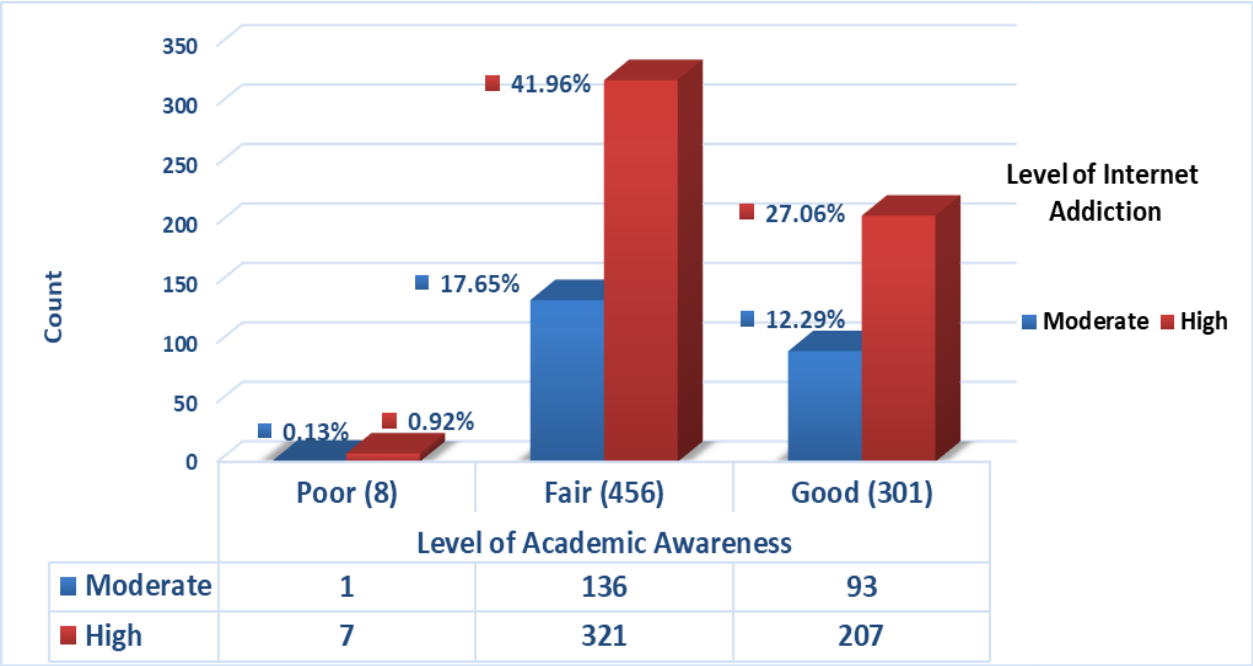

Figure 1. Levels of internet addiction based on participants' awareness of its academic effects

Figure 1 shows that 41,96 % of the students who had a fair level of awareness of the academic effects caused by internet addiction had a high level of Internet Addiction at 41,96 % while 17,56 % had a moderate level of addiction. On the other hand, 27,06 % of the students with a good level of awareness had a high level of internet addiction, and 12,29 % had a moderate level. Participants with poor awareness had a high addiction of 0,92 % and a moderate addiction of 0,13 %.

DISCUSSION

A total of 765 students of both genders participated in the cross-sectional descriptive survey, comprising ladies (n = 390; 51 %) and boys (n = 375; 49 %). They belonged to the Tenth, Eleventh, and Twelfth-grade levels. Determining the Internet Addiction level of secondary school pupils in Babylon Province is the primary goal of this study.

Table 2 shows that 69,9 % of the secondary school students had a high level of Internet Addiction and 30,1 % had a moderate level of Internet Addiction The scale as a whole had a weighted mean of (2,43) > (2,33), with 17 items indicating a high Internet Addiction level. The findings of this study show that Internet Addiction is highly prevalent in secondary school pupils. Previous research findings published,[16,18,19,27] corroborate this conclusion. All of the findings of this study supported the notion that Internet Addiction is common among secondary school pupils in several Western and Eastern nations.

Furthermore, table 2 shows that overall, awareness of the academic effects of the scale had a weighted mean of (2,26) < (2,33). The results of this table indicate that most secondary school students have a fair level of awareness about the consequences of internet addiction on their academic achievement. Academic life, which includes the stages a person goes through to obtain education and certification, is considered one of the most important areas of a person's life and can have an impact on other aspects of their lives. One of the fundamental issues in the academic lives of individuals and educational institutions in every nation is the problem of academic decline and low student performance. This study was carried out to detect students' awareness of the negative effects that they may be exposed to in academic life as a result of incorrect use of the internet. Prior research has demonstrated the detrimental impact of internet addiction on students' academic performance. Overuse of the internet can lead to distractions and make it more difficult to focus on academic work. A person who is addicted to the internet may find it difficult to concentrate for extended periods and to consistently study. Additionally, students who spend much time on the internet may struggle with time management since they spend so much time on social networking sites, watching movies online, and playing video games. As a result, less time is allocated for the study. The findings of these studies confirmed the negative impact of IA on students' academic achievement.[20,21] This does not mean that all students who use the internet frequently experience negative effects on academic achievement, as the effect depends on an overreliance on the internet and an imbalance between study time and other activities. Therefore, it is necessary to control the use of the internet, set a specific time for studying, and monitor the balance between virtual and real life. This finding is consistent with those obtained by Díaz Cárdenas et al and Kapus et al.[22,23]

The percentage of males with internet addiction (78,7 %) was greater than that of females (61,5 %), as indicated by the table 3 data. This outcome was consistent with several earlier investigations carried out.[24,25,26,27] All of the findings of these studies suggested that men are more likely than women to be addicted to the Internet. These findings, however, conflict with those of,[28,29] and [30] who found that women are more likely than men to be hooked to the internet. Different conclusions were reached by Kapus et al and Shen et al.[24,30], who discovered that internet addiction is identical for males and females of both genders. The respondents from the 12th grade had the highest percentage of addiction (75,8 %) of the other educational stages; this result is consistent with those obtained by Chen, Dong, & Li and Öner & Arslantaş.[8,31] Their results confirmed that the level of internet addiction increases with the progress of the student in the study grades.

Table 5 shows that there is no association between Internet addiction and awareness of its academic effects among the study sample. The results in table 6 indicate that the increase in the level of awareness of academic effects did not have a statistically significant impact on the degree of Internet addiction It is evident from the results of the aforementioned tables that Internet addiction predominates and is widely distributed among high school students. These findings highlight that mere awareness of the negative impacts of Internet addiction is not sufficient to alter addictive behaviors among students. This underscores the need for more comprehensive intervention programs that not only educate students but also provide practical strategies to manage and reduce Internet usage.

CONCLUSIONS

Based on the results of this study, we found that internet addiction was not affected by the degree to which students were aware of potential negative effects. This result indicates that individuals' awareness of the negative effects of internet addiction may not be sufficient to reduce addictive behaviors. This may be due to other factors that affect addictive behaviors, such as environmental, psychological, and social factors.

It is worth noting that these results may open doors to additional research to understand other variables that affect addictive behaviors on the internet and to develop new strategies to combat this problem. This could include conducting further studies to understand the psychosocial factors that play a role in the development and maintenance of IA, as well as developing awareness programs and targeted health interventions that reduce these harmful behaviors.

Research implication

This research highlights the importance of promoting awareness about the negative effects of internet addiction among young people and society in general. These results can be used by teachers, parents, and health counselors in designing awareness programs and workshops aimed at increasing awareness and motivating young people to take preventive measures. This research highlights the need to develop new strategies to intervene in the problem of internet addiction. This research highlights the importance of cooperation between different sectors, such as education and health, to address the problem of internet addiction, as the results can be used to direct health and educational efforts toward designing effective programs to intervene in addictive behaviors and motivate young people to implement safe and responsible use of the internet.

Therefore, this study can contribute to the development of governmental and institutional policies and procedures to protect young people from the dangers of internet addiction. It is an important reference for

forming public policies aimed at reducing irresponsible internet use and preserving the health and safety of users.

This will provide a platform for additional research to understand other factors that may influence addictive behaviors on the internet. The findings can direct future research toward exploring the environmental, psychological, and social factors that are associated with IA and its development

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CONFLICT OF INTEREST

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