

## The Influence of Online Socialization on Social Networks Addiction in Adolescents

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**ABSTRACT:** *Social Networks has become an essential tool for adolescents, playing a key role in various aspects of their lives, including socialization with peers, leisure, and education. Therefore, the planning and implementation of sports activities are recommended to prevent social networks addiction. This research aims to analyze whether sex and sports participation influence variables such as obsession with social networks, lack of personal control over social networks use, excessive use, and satisfaction from being connected to social networks. For data analysis, a quantitative, descriptive, cross-sectional, and correlational design was used. The sample consisted of 522 adolescents aged between 14 and 18 years ( $16.34 \pm 1.25$  years) from different educational institutions in Madrid. The instruments used included the Social Networking Addiction Test (SNA) and Factor II of the Social Media Addiction Scale-Student Form. The results confirm that there is a dependency between online socialization preferences among adolescents who do or do not engage in sports. Those who do not participate in sports prefer virtual social interactions, which significantly affects their digital consumption.*

**Keywords:** *adolescence, addiction, social networks, sports, digital responsibility, online sociability*

### I. INTRODUCTION

The use of social networks (hereinafter referred to as SMNs) among minors has significantly increased in recent years, becoming a habitual practice for various purposes such as entertainment, communication, and education. As a result, adolescents find it difficult to distinguish between virtual and in-person social interactions across different contexts (personal, family, social, and educational). Digital interactions dominate all aspects of their lives, offering them the appeal of anonymity, quick self-expression, and easier socialization with peers [1].

Additionally, SMNs provides young users with a sense of belonging and social recognition, giving them great satisfaction when interacting virtually with their peer group [2]. However, despite the advantages of digital socialization in terms of meeting new friends and expanding their SMNs, it also poses certain risks to their physical and emotional health [3]. Therefore, adolescents must be informed about the associated dangers [4].

In this regard, the World Health Organization (WHO) classifies SMNs addiction as “problematic internet use” rather than including it in the current classifications of behavioral or non-substance addictions [5]. However, other types of behavioral addictions, such as video game addiction, are recognized [6]. The WHO’s European report warns that minors are particularly affected by SMNs related issues due to its improper use [7].

Similarly, some experts classify SMNs addiction as a severe behavioral disorder among young people [8]. Nevertheless, there is no consensus in national and international research regarding the diagnostic criteria used to assess the prevalence of SMNs dependence disorder [9;10], mainly due to differences in the instruments and samples used [11].

Regardless, certain characteristics must be present to evaluate a dependent behavior toward SMNs: obsessive thoughts about using SMNs, lack of personal control over digital consumption, and emotional changes (such as sadness, anxiety, and aggression) when unable to access the virtual environment. These factors lead to conflicts in various aspects of young people's lives [12].

Along these lines, data from the National Statistics Institute indicate that minors' average daily screen time is around five hours, with approximately three hours dedicated to SMNs [13]. However, other studies suggest even higher usage times, ranging from six to fourteen hours per day [14]. Since the COVID-19 pandemic, digital consumption among young people has become increasingly uncontrolled, fluctuating between 20 minutes and 24 hours depending on the day [15]. This increase in dependent behaviors toward SMNs has led

to a decline in healthy activities such as sports, fostering sedentary lifestyles. Consequently, greater participation in healthy recreational activities is essential to prevent risky behaviors among minors [16].

In this regard, sports are a preventive factor against risky behaviors in minors, providing both mental and physical health benefits [17], promoting healthy habits and encouraging personal values such as teamwork and cooperation [18]. Furthermore, sports participation helps students develop personal responsibility, sociability, social skills, and self-control [19], distancing them from addictive behaviors related to SMNs use [20]. For this reason, it is crucial for adults to motivate young people to participate in sports [21] and promote these activities to reduce or prevent risky behaviors among adolescents [22].

Based on the above the objective of this study is to analyze the influence of sports participation on adolescents' virtual social interactions. The research proposes the following hypothesis: There is a dependency between online socialization preferences among adolescents who do or do not engage in sports, with non-athletes showing a stronger preference for virtual social interactions, affecting their digital consumption.

## II. RESEARCH METHOD

### 2.1 Design

This study was conducted using a quantitative, descriptive, correlational, and cross-sectional design. Both Pearson's Chi-Square statistic was applied to compare the association between the variable "sport" (yes/no) and the items of social interaction (I neglect my friends or family because I'm connected to SMNs, My partner, friends and family have called my attention to the dedication and time I spend on SMNs, As soon as I wake up, I'm already connecting to SMNs, I spend a lot of time each day connecting and disconnecting from SMNs, I spend a lot of time connected to SMNs, When I'm in class without connecting to SMNs I feel bored, I think the intensity and frequency with which I enter and use the SMNs is a problem.

### 2.2 Participants

The target population consisted of students enrolled in Compulsory Secondary Education, Baccalaureate, and Vocational Training. The sample was obtained through convenience sampling from educational centers in three districts of Madrid (Centro, Chamberí, and Fuencarral). The final sample consisted of 522 adolescents. Of the participants, 64.4% were females, 34.1% were males, with 1.5% excluded due to non-specification of their sex (whether male or female), ranging in ages from 14 to 18 years old ( $M= 16.3359$ ,  $SD= 1.24980$ ).

### 2.3 Research Instruments

The survey was developed using Google Forms and administered online, incorporating psychometrically validated measurement instruments. A survey was conducted among adolescents aged 14 to 18 years. The virtual questionnaire includes the following tests:

- a. The Social Networking Addiction Test (SNA) [23], which assesses three dimensions: obsession with SMNs, lack of personal control in the use of SMNs, and excessive use of SMNs. It consists of 24 Likert-type items where the student must select one of the following response options: always, almost always, sometimes, rarely, and never. It has a reliability index of 0.88.
- b. The Social Media Addiction Scale-Student Form [24], where only Factor II: Satisfaction was utilized to measure the pleasure an individual experiences while being connected. It includes 7 Likert-type items with response options ranging from never to always. It exhibits an internal consistency of 0.93.

### 2.4 Process

Firstly, we contacted educational institutions through an informative letter explaining the type of research to be conducted with the students, ensuring anonymity and confidentiality of data.

Secondly, after obtaining consent from the institutions, permission was sought from the parents (via email), attaching necessary documents.

Upon obtaining permissions, the questionnaire was administered to the students using Google Forms.

Researchers conducted the survey in person in some institutions while using email in others.

The questionnaire was administered to natural groups or classes between October 2022 and February 2023. The duration of the questionnaire was 20 minutes.

All students were adequately informed about the purpose, the confidential and voluntary nature of their participation (after parental approval), the anonymity of their responses, and that this research was approved by the University of Extremadura.

## III. DATA ANALYSIS

A descriptive and graphical analysis was carried out for the variables under study in our research. The data were analyzed using the IBM SPSS statistical software version 26. The main statistical parameters were calculated to determine the characteristics of the sample. In our case, as normality criteria were not met, non-parametric tests were applied. For inferential analysis, Pearson's Chi-Square test was used to determine whether

there was a dependency between practicing or not practicing sports and the items of social interaction. All statistical tests were conducted with a 95% confidence level.

#### IV. RESULTS

First, significant differences were observed between adolescents who engage in sports and those who do not in the various analyzed items related to online social interactions (Table 1).

**Tabla 1**

*Comparison between the variable "sport" and the different analyzed items of social interaction*

		Do you play sports?				Test
		NO		YES		Chi
		N	%	N	%	Cuadrado p-valor
I neglect my friends or family because I'm connected to SMNs	Never/Almost never	57	32,8%	215	62,5%	p<0,01**
	Sometimes	115	66,1%	122	35,5%	
	Always/Almost always	2	1,1%	7	2,0%	
My partner, friends and family have called my attention to the dedication and time I spend on SMNs	Never/Almost never	58	33,0%	203	58,7%	p<0,01**
	Sometimes	115	65,3%	131	37,9%	
	Always/Almost always	3	1,7%	12	3,5%	
As soon as I wake up, I'm already connecting to SMNs	Never/Almost never	24	13,6%	166	48,1%	p<0,01**
	Sometimes	103	58,5%	120	34,8%	
	Always/Almost always	49	27,8%	59	17,1%	
I spend a lot of time each day connecting and disconnecting from SMNs	Never/Almost never	25	14,2%	162	46,8%	p<0,01**
	Sometimes	123	69,9%	141	40,8%	
	Always/Almost always	28	15,9%	43	12,4%	
I spend a lot of time connected to SMNs	Never/Almost never	21	11,9%	155	44,9%	p<0,01**
	Sometimes	118	67,0%	149	43,2%	
	Always/Almost always	37	21,0%	41	11,9%	
When I'm in class without connecting to SMNs, I feel bored	Never/Almost never	68	38,6%	222	65,1%	p<0,01**
	Sometimes	106	60,2%	112	32,8%	
	Always/Almost always	2	1,1%	7	2,1%	
I think the intensity and frequency with which I enter and use the SMNs is a problem	Never/Almost never	78	44,3%	224	65,1%	p<0,01**
	Sometimes	92	52,3%	104	30,2%	
	Always/Almost always	6	3,4%	16	4,7%	

\* p < .05; \*\* p < .01; \*\*\* p < .001

The data obtained in Table 1, show that after performing the Chi-Square test of independence, significant p-values ( $p < 0.01$ ) were obtained, confirming the dependence between the variable "sport" (yes/no) and the different analyzed items of social interaction. The following results were observed:

Regarding "I neglect my friends or family because I'm connected to SMNs" a higher percentage of adolescents who engage in sports responded "never" or "almost never", 62.5% compared to 32.8% of those who do not practice sports.

In "My partner, friends and family have called my attention to the dedication and time I spend on SMNs", a higher percentage of adolescents who engage in sports responded "never" or "almost never", 58.7% compared to 33% of those who do not.

For "As soon as I wake up, I'm already connecting to SMNs", 48.1% of students who practice sports responded "never" or "almost never," compared to 13.6% of those who do not.

Regarding "I spend a lot of time each day connecting and disconnecting from SMNs", a greater percentage of adolescents who do sports answered "never" or "almost never", 46.8% compared to 14.2% of those who do not.

In "I spend a lot of time connected to SMNs", higher percentages were observed among students who engage in sports, with 44.9% responding "never" or "almost never", compared to 11.9% of those who do not.

Regarding "When I'm in class without connecting to SMNs, I feel bored" a higher percentage of adolescents who practice sports responded "never" or "almost never", 65.1% compared to 38.6% of those who do not.

For "I think the intensity and frequency with which I enter and use the SMNs is a problem", a higher percentage of adolescents who engage in sports answered "never" or "almost never", 65.1% compared to 44.3% of those who do not.

Therefore, the data support the hypothesis that there is a dependence on online socialization preferences between adolescents who engage in sports and those who do not, with non-athletes showing a greater preference for virtual social interactions.

## V. DISCUSSION

Following the results of this study, it can be noted that there are significant differences in online social interactions between adolescents who practice sports and those who do not, with non-athletic adolescents preferring virtual social interactions, which affects their digital consumption. These findings align with the studies by [25], which demonstrate that adolescents who do not engage in sports have a higher number of virtual social interactions due to the absence of physical activity [26]. This also confirms the findings of [25], which indicate that the lack of sports activities increases risk behaviors related to SMNs addiction among adolescents [27], leading to emotional health issues that exacerbate their digital consumption [28].

Furthermore, the data obtained in this study indicate that adolescents who do not engage in sports spend significantly more time connected to SMNs compared to those who do. These findings support the research of [29], which states that adolescents who do not practice sports spend excessive time on SMNs applications without being aware of how long they have been browsing due to the lack of healthy recreational activities. Similarly, the studies by [30] show that minors who regularly participate in sports spend less time on SMNs, and the research by [31] indicates that virtual social interactions increase as physical activity decreases.

In the same vein, according to the data obtained, adolescents who engage in sports almost never neglect their friends or family due to SMNs use. Additionally, they are not reprimanded for the time and dedication they devote to SMNs, unlike those who do not practice sports. These findings support the research of [28], which highlights that sports foster a socially optimal motivational climate, improving social relationships and distancing adolescents from the virtual sphere. Furthermore, the study by [2] demonstrates that students who practice sports are less likely to have conflicts with family or friends over the time spent online, as they almost never neglect their social relationships due to virtual activities.

Another key aspect to highlight is the daily frequency of SMNs use. This study reflects that adolescents who do not engage in sports spend significantly more time throughout the day connecting and disconnecting from SMNs compared to those who do. This finding reaffirms the research of [2], which indicates that adolescents spend a considerable amount of time logging in and out of applications, exhibiting digital discontrol due to the lack of healthy recreational activities.

Regarding the study's results, it is observed that adolescent athletes almost never feel bored in class when they are not connected to SMNs, unlike non-athletes. This finding is consistent with the research of [20], which demonstrates that athletes have strong social skills and prosocial behaviors that distance them from technology, allowing them to enjoy the learning process. Similarly, adolescents who do not engage in sports tend to connect to SMNs immediately upon waking up, unlike those who participate in physical activities. These findings support the research of [32], which indicates that sedentary students have a greater need for online connectivity due to excessive use and lack of technological control.

Similarly, this study demonstrates that adolescents who practice sports almost never perceive the intensity and frequency of their SMNs use as a problem, unlike non-athletes. These findings confirm the

research of [32], which indicates that minors who do not engage in healthy recreational activities, such as sports, perceive their time spent online as problematic due to the digital discontrol they experience.

## VI. CONCLUSIONS

The results obtained in this research on the influence of online socialization on SMNs addiction among adolescents aged 14 to 18 demonstrate the following:

Firstly, there is a dependency between online socialization preferences and whether adolescents engage in sports. Those who do not participate in sports tend to prefer virtual social interactions, which affects their digital consumption. Therefore, a relationship exists between online social interactions and sports participation among adolescents, with non-athletic individuals showing a greater inclination toward virtual interactions. This finding suggests that adolescents who do not engage in sports spend significantly more time connected to SMNs compared to those who do. Furthermore, students who practice sports almost never neglect friends or family due to SMNs use. Additionally, they are not reprimanded for the time they spend on SMNs, unlike those who do not engage in sports. Likewise, this study indicates that students who do not participate in sports spend a considerable amount of time logging in and out of SMNs throughout the day, unlike their athletic counterparts. Similarly, the sports students when they are in class without connecting with SMNs never or almost never feel bored unlike non-sportsmen. Furthermore, those who exercise never or almost never believe that the intensity and frequency with which they log on and use SMNs is a problem compared to those who are sedentary and do not exercise.

**Limitations:** The first limitation of this study is its cross-sectional design, which does not allow for the investigation of causal relationships between the analyzed variables. Another limitation is that the data were collected in an urban setting, without access to data from rural areas. Finally, the data were collected in the post-COVID-19 pandemic period; therefore, these findings may be influenced by the confinement periods experienced by the population.

**Contributions of the Work.** Recommendations: Practical application of the findings is advised both in the classroom and in the family environment. The study highlights warning signs related to SMNs abuse and identifies preventive indicators, such as sports activities, that help reduce excessive digital consumption among adolescents. These findings should be shared with educators and parents. Raising awareness of the risks of excessive SMNs use among professionals and families can promote responsible usage among adolescents. For this reason, adults must establish rules and limits regarding minors' use of technology, raising their awareness of the dangers it poses to their physical and psychological health, which can also affect other areas of their lives, such as personal, family, and social spheres. Additionally, planning sports activities for this population should be implemented to promote healthy leisure activities. Therefore, the implementation of sports activities will help children to get away from the virtual world and will promote personal values such as fellowship and team spirit.

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