

## Extracurricular Activities for Adolescents to Prevent Social Networks Addiction

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**ABSTRACT:** Currently, social networks use among adolescents has increased significantly, becoming part of their daily routines for various purposes (entertainment, education, leisure, etc.). However, many adolescents are unaware of the negative symptoms social media can cause, affecting their physical and psychological health and leading to adverse consequences in different areas of their lives (personal, family, school, and social). For this reason, planning extracurricular activities for this population is recommended to promote healthy leisure, introduce routines disconnected from the virtual world, and demonstrate the positive impact these activities can have on all aspects of their lives. This research aims to analyze whether there are sex differences in adolescent participation in extracurricular activities and whether the lack of engagement in such activities increases certain variables, such as obsession with and excessive use of social networks. A quantitative, descriptive, correlational, cross-sectional design was employed for data analysis. The sample comprised of 522 adolescents aged between 14 and 18 years ( $16.34 \pm 1.25$  years) from various educational institutions in the city of Madrid. The instruments used included the Social Networking Addiction Test (SNA) and Factor II of the Social Media Addiction Scale-Student Form. Results confirm there is a dependency between sports activity and the sex of adolescents, with female adolescents participating less in such activities, leading to increased compulsive use of social networks. Additionally, the study highlights there is a significant difference between adolescents who participate in extracurricular activities and those who do not, regarding their level of obsession with and excessive use of social networks. It was found that adolescents who do not engage in extracurricular activities have higher levels of compulsive digital consumption.

**Keywords:** adolescents, addiction, social networks, extracurricular activity, sex.

### I. INTRODUCTION

It has been shown that extracurricular activities have a significant positive impact on all areas of adolescent development (personal, family, social, and academic) [1]. Moreover, these activities help adolescents acquire skills such as problem-solving, critical thinking, and interpersonal abilities, fostering maturity [2].

Adolescents often integrate social networks (hereinafter referred to as SMNs) into their daily routines for purposes like communication, entertainment, and social reinforcement, often without realizing that they may not be using them responsibly [3]. Additionally, cyberspace provides opportunities for minors to socialize, enabling the creation and collaboration of online content that connects them with their peer groups, as well as exploring videos of their role models [4]. Furthermore, excessive use of SMNs generates a sense of belonging, social recognition, and satisfaction [3], which can lead to physical and mental health problems [5]. It should be noted that the impact of SMNs on young people can be either positive [6] or negative [7;8], depending on whether they are used responsibly or not. This impact relates to how adolescents expose themselves in virtual environments and the virtual social interactions they establish with others, usually their peer groups [9]. Therefore, engaging adolescents in a higher number of extracurricular activities can prevent other risky behaviors, such as compulsive digital use [10].

The World Health Organization refers to addiction to SMNs as "problematic internet use" but does not include it within the diagnostic criteria of current classifications for non-substance addictions [11]. However, video game addiction is recognized in diagnostic classifications as a type of behavioral addiction [12]. In this regard, some researchers consider addiction to SMNs a very serious behavioral disorder that is commonly observed among adolescents [13]. Nonetheless, there is no national or international scientific consensus on the diagnostic criteria to be used for assessing the prevalence of SMNs addiction disorder [14; 15]. This lack of

consensus makes it difficult to determine precisely the number of adolescents affected, as discrepancies arise in research findings, possibly due to the different instruments and samples used [16].

Moreover, the diagnostic criteria for addiction to SMNs include obsessive and repetitive use of SMNs, mood changes (sadness, anxiety, irritability) when disconnected, and lack of personal control over digital use. Consequently, compulsive digital consumption leads to problems in various areas of life (personal, family, social, and academic) [17].

The National Institute of Statistics (INE) reports that many adolescents spend over five hours online daily, approximately two and a half of which are spent on SMNs [18], with some studies indicating even higher use (6 to 14 hours) [19]. The COVID-19 pandemic exacerbated this trend, with up to 85% of adolescents using SMNs frequently, and only 16.9% benefiting from parental controls to ensure safe usage [20]. Therefore, increasing adolescent participation in extracurricular activities is crucial for preventing risky behaviors driven by excessive technological use [21].

Similarly, according to data from the National Statistics Institute [18], young people aged 16 to 24 tend to excessively use technology, with similar rates between sexes. This is largely because the internet is accessible in all situations and locations, requiring only a device to connect, which facilitates access for minors. Additionally, internet use is starting at increasingly younger ages [22], and adolescents are spending more time online compared to adults [23], which distances them from engaging in healthy leisure activities [24].

It has also been observed that minors experience symptoms of anxiety and depression, as well as aggression and sudden behavioral changes, when they cannot access virtual platforms. This increases digital consumption obsessions, excessive use, and satisfaction derived from being online [25]. Consequently, many choose to isolate themselves within technology as a result of unmet needs or expectations in face-to-face settings. This behavior poses risks of personal and social isolation, along with other physical and emotional health problems for minors [26]. Furthermore, excessive use of SMNs causes psychological disturbances, negatively affecting minors' self-image in terms of perceived qualities and stable internal attributes [27]. For this reason, those who engage in higher digital consumption exhibit lower self-concept in educational and social domains [28]. Ultimately, SMNs have a significantly detrimental impact on minors' overall health. Research confirms that some minors are unaware of the physical and mental health conditions caused by excessive technology use [26]. However, minors acknowledge that compulsive digital consumption can lead to SMNs addiction and other associated negative consequences [29].

In this same vein, it is crucial to highlight the increase in sedentary and inactive behaviors among adolescents due to excessive SMNs use [28]. For this reason, promoting healthy lifestyle habits, such as engaging in extracurricular activities away from screens, is essential to prevent digital dependency [30]. Extracurricular activities offer numerous benefits for adolescents' physical and mental health by encouraging healthy behaviors and improving their relationships with their surroundings [31]. Additionally, they provide minors with personal resources and tools that foster personal and social well-being, making them a powerful protective factor [32]. Thus, the attitude of minors is critical when participating in extracurricular activities, as their motivation is the driving force that inspires them to step away from the virtual world and engage with the real one [33]. This interaction with peers promotes values such as cooperation, autonomy, and team belonging [34]. For these reasons, it is essential for young people to receive information about the dangers of the online world and training on non-technological resources and tools to encourage responsible digital use [35].

Based on the above, the objective of this study is to analyze sex differences in adolescents' participation in extracurricular activities and determine whether not engaging in extracurricular activities increases variables such as obsession with and excessive use of SMNs. The following hypotheses are proposed:

**Hypothesis 1:** There is a dependency between sports activity and the sex of adolescents, with female adolescents participating less in such activities, leading to increased compulsive use of SMNs.

**Hypothesis 2:** There is a significant difference between adolescents who participate in extracurricular activities and those who do not, regarding their level of obsession with and excessive use of SMNs.

## II. RESEARCH METHOD

### 2.1 Design

This study was conducted through a quantitative, descriptive, correlational, and cross-sectional design. Both Pearson's Chi-Square statistic was applied to determine the dependency between the variables gender and extracurricular activities, as well as the Mann-Whitney U statistic to identify whether there are significant differences in obsession and excessive use of SMNs social networks among those who participate in extracurricular activities and those who do not.

### 2.2 Participants

The target population consisted of students attending Compulsory Secondary Education, Baccalaureate, and Vocational Training. The sample was obtained through convenience sampling from educational institutions. 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) [36], 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 [37], 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. In our case, as normality criteria were not met, non-parametric tests were applied. For inferential analysis, the Mann-Whitney U test was used to compare the means of the two groups and determine if there is a significant difference between them. Additionally, Pearson's Chi-Square test was employed to assess the dependency between extracurricular activities and gender. All statistical tests were conducted with a 95% confidence level.

## IV. RESULTS

For the first hypothesis, aimed at identifying the preferences of minors for engaging in extracurricular activities based on the gender of adolescents, the following statistical analyses were conducted: Firstly, it was observed that there are significant differences between the two groups (male and female adolescents) in their participation in extracurricular activities (Table 1).

**Table 1: Comparison between the variables Extracurricular Activity and Sex of adolescents**

		Sex	
		Man	Woman
¿Do you participate in any extracurricular activity?	NO	27,0%	42,6%
	SÍ	73,0%	57,4%

Chi cuadrado ( $p < 0,05$ )

The data in Table 1, show that, after performing the Chi-Square test for independence, a significant  $p$ -value ( $p < .05$ ) was obtained, confirming the difference between sexes in their participation in extracurricular activities (73% male adolescents versus 57.4% female adolescents), with higher scores observed in males. Therefore, the data in Table 1 support the hypothesis that there is a dependency between sports activities and the sex of adolescents, with female adolescents participating less in such activities, which influences their compulsive use of SMNs.

Regarding the second hypothesis, aimed at understanding the preferences of minors for participating in extracurricular activities compared to those who do not, the following statistical analyses were conducted:

Firstly, it was observed that the means of the two groups (male and female adolescents) in the analyzed variable (extracurricular activity) are different. This suggests that adolescents have a higher level of SMNs obsessions depending on whether or not they engage in extracurricular activities and exhibit differing levels of excessive SMNs use based on their participation in extracurricular activities.

Subsequently, the Mann-Whitney U test confirmed the previous findings ( $p < .05$ ), showing statistically significant differences in the variable "excessive use of SMNs" and "obsession with SMNs" distinguishing between adolescents who engage in extracurricular activities and those who do not. The results indicate that those who do not participate in extracurricular activities exhibit excessive use of SMNs (Table 2).

**Table 2** Comparison between dependent variables (obsession with SMNs and excessive use of SMNs) and the variable the independent variable extracurricular activity.

			Obsession with social networks (SMNs)	Excessive use of social networks (SMNs)
Do you participate in any extracurricular activity?	NO	Half	15,94*	15,37*
		DT	6,79	5,82
	YES	Half	13,33*	12,50*
		DT	6,37	6,36

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

Therefore, the data in Table 2 show that the Mann-Whitney U statistic indicates statistically significant differences in the variables "Obsession with SMNs" and "Excessive use of SMNs" between those who participate and those who do not participate in extracurricular activities. This confirms Hypothesis 2: There is a significant difference between adolescents who participate in extracurricular activities and those who do not, regarding their level of obsession with and use of SMNs.

## V. DISCUSSION

Following the results of this study, it can be noted that there are significant gender differences in participation in extracurricular activities, with adolescent females participating less frequently and displaying higher levels of compulsive digital consumption. These findings align with research by [2], which confirms that adolescent females have lower participation rates in extracurricular activities compared to males due to other interpersonal preferences linked to gender stereotypes. Females tend to avoid sports and extracurricular activities in favor of activities like listening to music or engaging in SMNs [37]. Additionally, [38] demonstrates that adolescent females engage in fewer extracurricular activities because they feel a greater need to stay connected compared to adolescent males. Our research further confirms a significant association between the variable of extracurricular activity participation and the sex of the participants. These findings are supported by studies such as [39], which state that females are more addicted to social media than males, leading to reduced extracurricular participation and increased sedentary behavior. Similarly, research by [40] indicates that females have a higher dependency on social media than males, partly due to their lack of participation in extracurricular activities. The findings of [41] also reveal that the absence of extracurricular activities among adolescent females contributes to SMNs addiction, especially in those from low socioeconomic backgrounds [37].

In the same vein, studies by [37] and [42] emphasize the influence of sex on participation in extracurricular activities, highlighting disparities in access based on social context.

Finally, this research concludes that increased use of social media correlates with decreased participation in extracurricular activities among adolescents. A significant relationship was found between the sex of adolescents, their engagement in extracurricular activities, and the degree of obsession and excessive use of SMNs.

In reference to the extracurricular activity variable, the results confirm that adolescents who do not engage in extracurricular activities utilize SMNs more frequently and exhibit more obsessive behaviors regarding its use compared to those who participate in such activities. This is corroborated by research from [43], which indicates that adolescents who avoid extracurricular activities and excessively use SMNs experience poorer emotional health, with heightened obsessions and compulsive digital consumption in their daily lives, unlike their peers who engage in extracurricular activities.

Moreover, engaging in extracurricular activities reduces excessive use of SMNs, while not participating increases its abusive consumption. These findings are supported by studies such as [44], which demonstrate that reduced physical activity leads to increased social media usage, and by [30], which reveal that adolescents who dedicate more time to technology engage in fewer extracurricular activities. Similarly, [43] emphasize that extracurricular activities reduce risky behaviors, such as excessive social media use, and different experts [2] also highlight the significant impact of extracurricular activities on developing personal skills, such as critical thinking, which helps adolescents recognize the dangers of technological applications. Therefore, students who participate in extracurricular activities use social media less frequently and are less obsessed with staying connected. Along these lines, [43] confirm that participating in extracurricular activities reduces or eliminates risky behaviors and promotes mental health.

## VI. CONCLUSIONS

Based on the results obtained in this research on the influence of extracurricular activities in preventing SMNs addiction among adolescents aged 14 to 18, the following conclusions are drawn:

Firstly, there is a dependency between sports activity and the sex of adolescents, with female adolescents participating less in such activities, leading to increased compulsive use of SMNs.

Secondly, there is a significant difference between adolescents who participate in extracurricular activities and those who do not, regarding their level of obsession with and excessive utilization of SMNs.

### 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 the post-COVID-19 pandemic period; therefore, these findings may be influenced by the confinement periods experienced by the population. Finally, the data were collected in an urban setting, without access to data from rural areas.

### 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 extracurricular 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 extracurricular activities for this population should be implemented to promote healthy leisure activities. These initiatives should teach routines away from screens and the virtual world, encouraging face-to-face interactions, strengthening parent-child relationships, fostering teamwork, and instilling values, norms, and supervision from adults.

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