Risk of Psychoactive Substances Consumption and its Association with Problematic Videogame and Social Media Use in University Students

Riesgo de consumo de sustancias psicoactivas y su relación con el uso problemático de videojuegos y redes sociales en estudiantes universitarios

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Abstract

Introduction: The level of consumption risk is established on the basis of a person's exposure to certain risk factors or individual, family, or social characteristics that allow or increase the use of psychoactive substances (PAS).

Objective: To associate the level of PAS consumption risk with the problematic use of videogames and social networks to determine their potential role as social risk factors.

Method: A quantitative, non-experimental, cross-sectional, descriptive, and correlational study was conducted with a sample of 736 students. The data collection instruments used included a sociodemographic questionnaire, ASSIST v3.1 screening tests, the Social Media Addiction questionnaire, and the Videogame-Related Experiences questionnaire.

Results: Some findings suggest a correlation between greater exposure to the consumption of alcoholic substances, tobacco, and cannabis derivatives and higher levels of problematic use of social media and videogames.

Conclusions: Increased consumption risk can be related to gender but is not dependent on family type, while tobacco, alcohol, cocaine, inhalant, sedative, and opiate use depend on numerous factors.

Key words: Psychoactive substance use, behavioral addictions, university students, video games, social networks, problematic use.

Resumen

Introducción: El nivel de riesgo de consumo se establece a partir de la exposición que tiene una persona a ciertos factores de riesgo o características individuales, familiares o sociales, que posibilitan o aumentan el consumo de sustancias psicoactivas (SPA).

Objetivo: Este estudio tuvo como propósito relacionar el nivel de riesgo de consumo de SPA con el uso problemático de videojuegos y redes sociales, a fin de establecer su posible papel como factores de riesgo de tipo social.

Método: Se realizó un estudio de tipo cuantitativo con un diseño no experimental transversal de alcance descriptivo correlacional con la participación de 736 estudiantes. Se emplearon como instrumentos de recolección de datos el cuestionario sociodemográfico, prueba de tamizaje ASSIST 3,1, cuestionario de adicción a redes sociales – ARS y el cuestionario de Experiencias Relacionadas con los Videojuegos – CERV.

Resultados: Algunos resultados sugieren mayor exposición al consumo de sustancias alcohólicas, derivados del tabaco, del cannabis y mayores niveles en el uso problemático de redes sociales y videojuegos.

Conclusiones: A partir de lo hallado, las evidencias apuntan a que el aumento de riesgo no depende de la tipología familiar, al contrario de lo que pasa con el sexo, a su vez el consumo de tabaco, alcohol, cocaína, inhalantes, sedantes y opiáceos dependen de variaciones.

Palabras clave: Consumo de sustancias psicoactivas, adicciones comportamentales, estudiantes universitarios, juegos de video, redes sociales, uso problemático.

1. INTRODUCTION

Generational changes and technological evolution result in societal changes. Among contemporary issues, social relationships mediated by electronic devices and the link developed between users and technology, especially observed in youngsters, are of considerable research interest.

University students, who are usually going through the early stages of life, for example, show such behaviors in a multifaceted way. According to Suárez (2017), "the heterogeneity within the category of youth and the diversity of young people, as they belong to different gender and social positions, cannot be ignored" (p. 40).

University students seek to fit in and contribute to a distinctive social group that matches their expectations, preferences, and emotions, thus achieving social well-being. Zubieta and Delfino (2010) state that life satisfaction is positively associated with three dimensions: integration, contribution, and social updating.

García and Trujillo (2022) note that the COVID-19 lockdown in 2020 and the resulting social isolation caused increased anxiety levels in university students, slightly greater in the male population, alongside higher rates of mental health problems (Prada, Gamboa, & Hernández, 2021). Meanwhile, Harvey, Arteaga, Córdoba, and Obando (2021) established that in situations of social isolation, students' family bonds strengthened, although the increase in spare time devoted to videogames and social media, among others, was also predictable (López, Orozco, Ramírez et al. 2021).

University life represents a major change, where students face new social and cultural scenarios. Further, as they enter university, students engage in making decisions involving their future employment and economic possibilities. University also helps students expand the frontiers of knowledge and life opportunities, as well as the possibilities to get to know and explore new spaces and experiences (Jiménez & Ojeda, 2017; Díaz, Velásquez, Rincón, Blanco & Correa, 2022). At this point, however, they may get close to several psychoactive substances, such as cocaine, psychostimulants, opioids, alcohol, designer drugs, and cannabis, among others, which expose youngsters to the risk of addiction (Becoña & Cortés, 2016).

Furthermore, alongside such consumption, young people may engage in activities or behaviors that significantly interfere with their quality of life by creating a risk situation for the potential addiction to work, sex, gambling

(pathological gambling), shopping, technological products, and information technologies in general (Restrepo et al., 2020). Jorquera et al. (2021) point out that students are stressed out by the changes brought about by university education, pressure to succeed, demands of the institution, and entry into the working world, not to mention the peculiar circumstances caused by the Covid-19 pandemic.

Addictions are considered a global problem that may develop from an early age demanding timely care as they may bring along different psychosocial effects, including the following negative factors: i) aggressiveness; ii) social isolation; iii) poor academic performance; iv) criminal behavior; v) pathological gambling; vi) substance use; and vii) medical disorders (Tejeiro et al., 2009).

It is important to differentiate addictions associated to psychoactive substances and behavioral addictions. As for the first category, Fernández-Castillo et al. (2016) conclude that drug addiction is increasing globally and has negative effects on individuals, their families, and society in general. When individuals go through adolescence and youth, their decision-making and problem-solving abilities vary with advancing stages of development due to the maturity process stemming from each individual's context (Díaz et al., 2022). Martínez-Silvente et al. (2017) claim that when university students consume psychoactive substances, different factors of their personality come into play, such as their skills, habits, beliefs, expectations, and other aspects of their environment, like their family and social relations. As for behavioral addictions, several studies mention the emergence of new forms, such as addiction to social media, videogames, pathological gambling, and compulsive sexual behavior, among others (Pérez de Albéniz, Rubio, Medina & Buedo, 2021).

For instance, Barrero (2019) claims that excessive internet use can lead to biological disorders, such as changes in the quality of sleep and mental health problems, like depression, anxiety, self-perception, and suicidal ideation. Similarly, Maqueda and Ruiz-Olivares (2017) confirm an association between "a higher use of substances such as alcohol and cannabis and an increased risk of showing pathological gambling behavior" (p. 21).

This study attempts to establish the associations between risk assessment for the addiction to psychoactive substances, video games, and social media in young university students. Considering the academic and scientific relevance of this study, it can be used to develop intervention proposals aimed at increasing university students' quality of life.

1. METHOD

1.1. Study Type and Design

A quantitative, non-experimental, cross-sectional, descriptive/correlational study was carried out.

1.2. Participants

Participants were recruited through simple random sampling. They constituted a total of 736 university students from Manizales, whose ages ranged between 16 and 65 years, currently enrolled in public and private higher education institutions. The participants belonged to different regions of the country and were completing technical, technological, professional, specialization, and master's programs, under face-to-face, virtual, and distance modalities, taking day, night, online, and weekend classes.

1.3. Procedures

The Research Ethics Committee of the Luis Amigó Catholic University reviewed and approved the project and accepted the informed consent and assent forms sent to the participants before the instruments were applied. The ethical considerations of the research, proposed objectives, confidentiality criteria for the treatment of personal data, voluntary participation in the study, and right to withdraw from the study were explained to the participants. Next, data were collected from different higher education institutions in Manizales from May to September 2020 by applying the instruments described below using online questionnaires.

1.3.1. Information Collection Instruments

Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST v.3.1). Created by researchers and physicians specializing in addictions; sponsored by the World Health Organization (WHO), ASSIST comprises eight questions that delve into the risk levels of the use of tobacco derivatives, alcoholic substances, cocaine, cannabis, amphetamine-type stimulants, inhalants, hallucinogens, sedatives, and opioids, among other substances (WHO, 2011).

Videogame-Related Experiences Questionnaire (CERV, for its Spanish acronym). Made up of 17 Likert-type scale items arranged into 4 response options, *never* or *rarely*, *sometimes*, *quite often*, and *almost always*, divided into two dimensions, i) dependency and avoidance and ii) negative consequences, exploring aspects related to concern, denial, and increased tolerance alongside negative effects, reduction of activities, loss of control,

avoidance, and the desire to gamble (Chamarro et al., 2014).

Social Media Addiction (SMA) questionnaire. Composed of 24 Likert-type scale items with five response types: always, most of the time, sometimes, rarely and never, which constitute three factors associated with social network addiction, namely i) obsession with social networks, ii) lack of personal control over their use, and iii) excessive social media usage (Escurra and Salas, 2014).

1.4. Data Analysis

The information was analyzed using IBM's SPSS Statistics 25. First, exploratory data analysis was carried out to validate normality criteria through the Kolmogorov–Smirnov test, followed by a reliability study of instruments using Cronbach's alpha. The third step involved the descriptive analysis of variables, subsequently performing a comparative test using Mann–Whitney U and Kruskal Wallis statistical tests. Finally, a correlational analysis was performed through Spearman's rho coefficient.

2. RESULTS

The study participants were 736 university students from Manizales, aged between 16 and 65, with a mean age of 25.5 years old (SD= 6.855), of which 56.0% are women, 43.7% are men, and 0.3 of them defined themselves as intersex individuals. As for the socioeconomic level, 28.8% belong to the low status, 66.4% to the mid-level, and 4.8% were from the high socioeconomic class. As for the marital status of the study participants, 81.3% are single, 10.3% live in consensual unions, 6.4% are married, 1.8% of them are divorced and 0.3% are widowed.

Regarding the education received, 93.5% participants were enrolled in professional training programs, whereas 2.6% were postgraduate students, and 3.8% of them were completing technical and technological programs, under face-to-face (84.6%), distance (14.3%), and virtual (1.1%) learning modalities, attending day (53.5%), night (40.9%), weekend (4.6%), or remote lessons (1.0%).

2.1. Exploratory and Reliability Analysis

After carrying out normality tests, it was possible to conclude that the data was abnormal (p-value <0.05); thus, non-parametric tests are used for comparative and correlation analyses. As a second step, each instrument's reliability was evaluated through Cronbach's alpha; the results are listed in Table 1.

Table 1.

Reliability analysis of instruments.

INSTRUMENT	CRONBACH'S ALPHA
ASSIST 3.1 questionnaire	0.893
Videogame-Related Experiences Questionnaire – CERV	0.924
Dependency and avoidance	0.879
Negative consequences	0.832
Social Media Addiction questionnaire	0.941
Obsession with social media	0.876
Lack of control of social media use	0.806
Excessive social media usage	0.878

2.2. Descriptive Analyses

Table 2 shows that university students are exposed to a moderate risk of consumption of alcoholic beverages, as well as tobacco and cannabis derivatives, compared to other substances, such as opioids and inhalants, with lower risk levels.

Table 2.

Risk level for substance use.

	LOW	MODERATE	HIGH
Tobacco derivatives	70.8 %	28.3 %	1 %
Alcoholic beverages	68.9 %	28.4 %	2.7 %
Cannabis	78.1 %	20.9 %	1 %
Cocaine	95.1 %	4.8 %	0.1 %
Amphetamine-type stimulants	94 %	6 %	0 %
Inhalants	96.2 %	3.8 %	0 %
Sedatives	91.7 %	7.7 %	0.5 %
Hallucinogens	94.2 %	5.8 %	0 %
Opioids	97.6 %	2.4 %	0 %
Other substances	98 %	2 %	0 %

Table 3 presents descriptive statistical data for CERV and the Social Media Addiction questionnaire, showing positive asymmetry in all instrument scales and positive kurtosis in CERV and the Obsession with social media scales.

Conversely, negative kurtosis is observed Lack of personal control of social media use, Excessive social media usage, and Overall addiction to social networks. At the same time, this table also presents the reliability values for each scale.

Table 3.

Descriptive statistical data for CERV and the Social Media Addiction questionnaire.

	N	MEAN	ST	MIN.	MAX.	ASSYMETRY	KURTOSIS	A
CERV Dependency and avoidance	736	11.28	4.671	8	30	1.640	2.159	0.879
Negative Consequences	736	10.90	3.608	9	36	2.707	8.076	0.832
Total	736	22.18	8.030	17	62	1.984	3.960	0.924
Social Media Addiction questionnaire Social Media Addiction questionnaire	736	8.93	6.643	0	38	0.943	0.8543	0.876
Lack of control of personal social media use	736	7.53	4.912	0	22	0.480	-0.311	0.806
Excessive social media usage	736	13.10	6.745	0	31	0.103	-0.505	0.878
Overall addiction to social networks	736	29.57	16.936	0	89	0.460	-0.155	0.941

Table 4 shows the presence of potential and severe problems associated with videogames and social media, divided into three groups, *unproblematic* (first group), *potential problems* (second group), and *severe problems* (third group). The presence of severe problems in the use of video games and the harmful use of social networks was noted in 37% and 35.3% of the participants, respectively, thus affecting a large section of the population.

Table 4.

Level of problematic videogame and social media use.

	UNPROBLEMATIC	POTENTIAL PROBLEMS	SEVERE PROBLEMS
CERV Dependency and avoidance	0 %	63%	37 %
Negative consequences	0 %	60.3%	39.7 %
Total	0 %	63 %	37 %
Social Media Addiction questionnaire	29.8 %	34 %	36.3 %
Lack of control of social media use	29.9 %	30.6 %	39.5 %
Excessive social media use	31.3 %	33.3 %	35.5 %
Overall addiction to social networks	32.3 %	32.3 %	35.3 %

2.3. Comparative Analyses

Table 5 shows statistically significant differences based on gender for the risk of tobacco and alcoholic substance use, and intersex individuals are at a higher risk (average range = 443 for tobacco; average range = 612 for alcohol) than men (average range = 386.34 for tobacco; average range = 379.14 for alcohol) and women (average range = 353.26 for tobacco; average range = 359 for alcohol). As for videogame-related experiences, greater use is observed in men (average range = 479.91 for dependency and avoidance; average range = 469.74 for negative consequences; average range = 479.69 for total CERV) than in women (average range = 282.44 for dependency and avoidance; average range = 290.08 for negative consequences; average range= 282.63 for total CERV) and intersex individuals (average range = 159.50 for dependency and avoidance; average range = 222.50 for negative consequences; average range = 155.50 for total CERV). Finally, significant differences are evident in obsession with social media, excessive social media usage, and overall addiction to social networks, greater among women (average range = 388.70 for obsession with social media; average range = 393.69 for excessive social media usage; average range = 389.96 for overall addiction to social networks) than in men (average range = 342.57 for obsession with social media; average range = 335.76 for excessive social media usage; average range = 340.69 for overall addiction to social networks).

Table 5.

Comparative analysis of addiction to social media and videogame experience by gender.

		H	GL	SIG. ASYMPTOTIC
Risk Level	Tobacco	7.455	2	0.024*
	Alcohol	6.541	2	0.038*
	Cannabis	3.340	2	0.188
	Cocaine	2.227	2	0.328
	Stimulants	0.167	2	0.920
	Inhalants	1.193	2	0.551
	Sedatives	1.278	2	0.528
	Hallucinogens	1.843	2	0.398
	Opioids	0.332	2	0.847
	Other	0.090	2	0.956
CERV	Dependency and avoidance	172.279	2	0.000*
	Negative consequences	166.890	2	0.000*
	Total	170.401	2	0.000*
Social Media	Obsession with social media	8.539	2	0.014*
	Lack of control	3.132	2	0.209
	Excessive use	13.748	2	0.001*
	Overall addiction	9.849	2	0.007*

H = Kruskal–Wallis H Statistic; gl = degrees of freedom; * significance level

Table 6 shows statistically significant differences by sexual orientation in the risk level of inhalant use, according to which asexual people are at higher risk (average range = 538.50), followed by heterosexual (average range = 369.35) individuals. On the other hand, asexual (average range = 531.00) and pansexual (average range = 439.00) people presented a higher risk of hallucinogen consumption than gay, bisexual, and transgender individuals.

Table 6.
Comparative analysis for addiction to social media and videogame experience by sexual orientation.

		H	GL	ASYMPTOTIC SIG.
Risk Level	Tobacco	10.755	5	0.056
	Alcohol	5.649	5	0.342
	Cannabis	6.744	5	0.240
	Cocaine	2.105	5	0.834
	Stimulants	1.614	5	0.900
	Inhalants	14.312	5	0.014*
	Sedatives	10.875	5	0.054
	Hallucinogens	12.001	5	0.035*
	Opioids	1.845	5	0.870
	Other	1.531	5	0.909
CERV	Dependency and avoidance	7.557	5	0.182
	Negative consequences	9.294	5	0.098
	Total	7.480	5	0.187
Social Media	Obsession with social media	6.527	5	0.258
	Lack of control	4.130	5	0.531
	Excessive usage	6.245	5	0.283
	Overall addiction	5.421	5	0.367

H = Kruskal–Wallis H Statistic; gl = degrees of freedom; * significance level

Table 7 lists statistically significant differences by university type in the risk level of tobacco and alcoholic substances use, with students enrolled at private universities at higher risk of consumption (average range = 374.44 for tobacco; average range = 375.38 for alcohol) than public university students (average range = 340.13 for tobacco; average range = 338.67 for alcohol). Conversely, the majority of videogame users are students enrolled in public institutions (average range = 506.28 for dependency and avoidance; average range = 498.32 for negative consequences; average range = 510.09 for total CERV) compared to private university students (average range = 336.71 for dependency and avoidance; average range = 338.54 for negative consequences; average range = 335.82 for total CERV).

Table 7.

Comparative analysis for tobacco, substances, alcoholic beverages, social media, and videogame experience by type of university.

		H	GL	ASYMPTOTIC SIG.
Risk Level	Tobacco	4.710	1	0.030*
	Alcohol	5.141	1	0.023*
	Cannabis	1.148	1	0.284
	Cocaine	0.591	1	0.442
	Stimulants	2.084	1	0.149
	Inhalants	0.015	1	0.902
	Sedatives	3.504	1	0.061
	Hallucinogens	0.689	1	0.407
	Opioids	0.052	1	0.819
	Other	1.466	1	0.226
CERV	Dependency and avoidance	77.842	1	0.000*
	Negative consequences	81.296	1	0.000*
	Total	81.619	1	0.000*
Social Media	Obsession with social media	0.003	1	0.958
	Lack of control	0.587	1	0.443
	Excessive use	0.368	1	0.544
	Overall addiction	0.010	1	0.919

H = Kruskal–Wallis H Statistic; gl = degrees of freedom; * significance level

Table 8.

Comparative analysis of addiction to social media and videogame experiences by stage of the life cycle.

		H	GL	ASYMPTOTIC SIG.
Risk Level	Tobacco	4.646	3	0.200
	Alcohol	5.714	3	0.126
	Cannabis	8.160	3	0.043*
	Cocaine	3.611	3	0.307
	Stimulants	10.744	3	0.013*
	Inhalants	0.889	3	0.828
	Sedatives	2.520	3	0.472
	Hallucinogens	2.169	3	0.538
	Opioids	0.755	3	0.860
	Other	0.277	3	0.964
CERV	Dependency and avoidance	23.931	3	0.000*
	Negative consequences	16.060	3	0.001*
	Total	23.704	3	0.000*
Social Media	Obsession with social media	7.555	3	0.056
	Lack of control	9.150	3	0.027*
	Excessive social media usage	7.819	3	0.050*
	Overall addiction	9.163	3	0.027*

H = Kruskal–Wallis H Statistic; gl = degrees of freedom; * Significance level

Table 8 presents statistically significant differences by stage of the life cycle concerning the risk level of the use of cannabis and stimulants, with youngsters at higher risk (average range = 380.39 for cannabis; average range = 328.37 for stimulants) than adolescents (average range = 337.70 for cannabis; average range = 307.32 for stimulants), adults (average range = 352.17 for cannabis; average range = 307.07 for stimulants), and elderly people (average range = 288.00 for cannabis; average range = 297.50 for stimulants).

As for videogame-related experiences and the harmful effects of social media, values are greater for the elderly population (average range = 487.00 for dependency and avoidance; average range = 482.50 for negative consequences; average range = 480.50 for total CERV; average range = 703.00 for lack of control; average range = 527.50 for excessive social media usage; average range = 631.00 for overall addiction to social networks) than for adolescents (average range = 366.39 for dependency and avoidance; average range = 353.29 for negative consequences; average range = 364.01 for total CERV; average range = 350.40 for lack of control; average range = 349.42 for excessive social media usage; average range = 343.95 for overall addiction to social networks), youngsters (average range = 394.11 for dependency and avoidance; average range = 388.78 for negative consequences; average range = 394.33 for total CERV; average range = 383.41 for lack of control; average range = 384.36 for excessive social media usage; average range = 384.77 for overall addiction to social networks) and adults (average range = 311.44 for dependency and avoidance; average range = 327.54 for negative consequences; average range = 311.74 for total CERV; Average range = 339.37 for lack of control; average range = 338.42 for excessive social media usage; average range = 338.76 for overall addiction to social networks).

2.4. Correlation Analysis

Table 9 shows the presence of highly significant correlations between the level of risk of consumption of different substances, addiction to social networks and problematic use of video games. It highlights that the risk of consuming alcoholic beverages and tobacco products has a positive and significant correlation with the level of risk in relation to other psychoactive substances. Likewise, it can be observed that the risk level for alcohol use presents a correlation level of 0.05 with harmful use of video games, particularly in the dependency and avoidance dimension and the total score of videogame-related experiences.

Table 9.
Correlation analysis (Spearman's rho) between the level of risk of consumption of different substances, addiction to social networks, and problematic use of video games.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	1. Tobacco		.376**	.465**	.279**	.175**	.217**	.185**	.206**	.128**	.096**	0.039	0.053	0.055	0.052	0.045	0.040	0.040
	2. Alcohol			.308**	.260**	.254**	.227**	.256**	.212**	.188**	.224**	0.056	0.057	0.050	0.057	.086*	0.063	.082*
	3. Cannabis				.366**	.353**	.324**	.247**	.377**	.274**	.246**	0.020	0.046	0.060	0.044	0.020	0.016	0.019
	4. Cocaine					.473**	.514**	.208**	.399**	.494**	.412**	-0.015	-0.012	0.000	-0.010	0.020	0.024	0,017
Risk Level	5. Stimulants						.429**	.319**	.499**	.480**	.450**	-0.017	-0.004	0.000	-0.006	-0.011	-0.009	-0.012
	6. Inhalants							.329**	.435**	.520**	.575**	-0.016	0.013	0.008	-0.001	0.059	0.067	0.060
	7. Sedatives								.324**	.367**	.445**	-0.053	-0.011	-0.014	-0.027	0.006	-0.028	-0.002
	8. Hallucinogens									.561**	.456**	0.021	0.002	0.030	0.022	0.019	0.022	0.018
	9. Opioids										.600**	-0.042	-0.046	-0.037	-0.045	0.038	0.024	0.034
	10. Other											-0.033	-0.012	-0.009	-0.019	0.024	-0.001	0.019
	11. Obsession with social media												.781**	.784**	.921**	0.028	0.045	0.034
Social media	12. Lack of control of social media use													.804**	.914**	0,048	0.060	0.052
	13. Excessive usage														.939**	-0.018	0.005	-0.014
	14. Overall addiction															0.014	0.032	0.019
	15. Dependency and avoidance																.853**	.990**
CERV	16. Negative consequences																	,894**
	17. Total																	

Note: * The correlation is significant at the 0.05 level. ** The correlation is significant at the 0.01 level, 1. Tobacco, 2. Alcohol, 3. Cannabis, 4. Cocaine, 5. Stimulants, 6. Inhalants, 7. Sedatives, 8. Hallucinogens, 9. Opioids, 10. Other, 11. Obsession with social media, 12. Lack of control of social media use, 13. Excessive social media usage, 14. Overall addiction, 15.   Dependency and avoidance, 16. Negative consequences, 17. Total CERV.

3.   DISCUSSION

As established by the data obtained in this research, the widespread use of social network sites has progressively increased among technical, technological, and higher education students in the Colombian context. This validates previous studies supporting the favorable attitude of university students toward social networks (Espuny et al., 2011). This is further evidenced by the fact that 97% of university students (Parra, 2010) engage in social media usage, constituting intensive social networks use that is linked both to university students' life and to the development of their daily activities in the case of 91.2% of the sample (Gómez et al., 2012). This is also confirmed by Klimenko, Cataño, Otálvaro, and Úsuga (2021), who found few but significant correlations between addiction to social media and life skills among students.

As for the sociodemographic variables, this study explores social media usage throughout different life cycle periods; however, the natural conditions of university students confirm that they use them from an early age. This is in line with the findings obtained by Parra (2010), who asserts that individuals younger than 25 years, who have been categorized as digital natives, consider social networks use a natural aspect of their lives.

When assessing this study's results and Parra's (2010) findings about elderly people being those who present a harmful use of social networks to a larger extent, it can be hypothesized that digital natives may have more control over their use, as opposed to what was proposed by Sánchez-Casado and Benítez Sánchez (2022).

Authors like Parra (2010) and Cam and Isluban (2012) state that the problematic use of both the internet and video games is not directly associated with the connection time but, to a greater extent, with the inability of people to control the time they spend online and the shift and interference in the development of personal, work, social, family, and academic responsibilities. These can lead to situations of risk, which are not always known to the users of these applications. At the same time, Sánchez-Rodríguez et al. (2015) claim that 13% of university students fail to clearly identify the threats they are exposed to, as opposed to 87% of students who are aware of the basic precautions they should consider when using social networks. These risks lead to the excessive usage of technological tools and devices, dependency and avoidance criteria for such use, obsessive traits, and lack of control in the use of social media, thus corroborating the findings by Araujo (2016), when she highlights the excessive use of social media as a prevailing factor for youngsters' obsession with them. Conversely, Cam and Isluban (2012) identify similar rates for obsession with social media and lack of control criteria dimensions, which is supported by Villavicencio-Ayub, Callejo, Largos and Calleja (2021), associating "techno-dependency" with negative health consequences.

In terms of gender, findings show that mostly men engage in the problematic use of video games, with higher scores both in dependency and avoidance and in negative consequences. This is consistent with the findings presented by Chamarro et al. (2014), who claim that more negative consequences are produced in men. In other words, they are at greater risk of suffering from negative consequences because of their use of video games.

Women and intersex individuals use social media on a greater scale, the former showing higher scores in obsession with social media and excessive usage. Intersex students obtained higher scores in dependency and avoidance, which is in line with the studies conducted by Barker (2009),

Thompson and Lougheed (2012), and Yesil (2014), who have claimed that women spend more time using social media. Conversely, Cam and Isluban (2012) have highlighted the higher use of social media by men, just like Araujo (2016), who identified that men are more obsessed with social media, spend more time using it, and lack control over it, also showing greater indicators of anxiety and concern in the obsession with the use of social media scale. This study's findings validate Pedrero-Pérez et al.'s (2018) results that women obtain higher scores on the scales of use of mobile devices, instant messaging, and social networks, in contrast to men who achieve higher scores in internet and videogames usage.

The elevated risk shown by sexually diverse individuals is noteworthy in the comparative analyses by gender and sexual orientation. Participants who defined themselves as intersex individuals obtained high scores in substance abuse, specifically in terms of the risk level of tobacco and alcohol use. Also, asexual and pansexual people are at greater risk of consuming hallucinogens. The research conducted by Machado (2015) and Corominas et al. (2007) hypothetically describes that environmental influence causes this high risk because the aggressions of the context produce hormonal responses that originate episodes of stress, anxiety, and depression. These events produce neurological signs that can depress the immunological response of individuals, making them susceptible to pathological processes such as functional alterations, infections, neoplasms, and psychological alterations related to the use of alcohol and drugs.

The Spanish Observatory of Drugs and Drug Addiction (OEDA, for its Spanish acronym) claims that alcoholic beverage abuse is widespread among users of various types of psychoactive substances, to the point of registering a prevalence of over 90% among individuals who consume cannabis, cocaine, ecstasy, amphetamines, and hallucinogens (OEDA, 2019). The Colombian context is not indifferent to this movement, as the Drug Observatory of Colombia, an entity attached to the Ministry of Justice and Law, in coordination with the Ministry of Health and Social Protection (2014) asserts that 87% of participants report having consumed alcoholic substances at some point of their lives, of which 35.8% declare having done so in the last 30 days. Men aged 18–34 years showed the highest consumption rates, which tended to increase as their socioeconomic level became higher. Regarding the use of tobacco derivatives, it is concluded that, 42.1% of the population consumed them at some point in life, with a prevalence of 12.9% in the last month and men consumed these to a larger extent. In terms of the use of illicit substances, cannabis derivatives have the highest prevalence, with an indicator of 11.5% at some point in life and 3.3% during the last month, occurring to a greater extent in men than in women and the life cycle

stages of adolescence and young adulthood (Drug Observatory of Colombia, 2022). This study's results indicate that the risk level of alcohol use is directly associated with the risk level of substance abuse. In other words, people who frequently use alcohol are more likely to suffer from the harmful use of other psychoactive substances and become addicted to them in the future. According to Restrepo (2006), there are different cognitive theories on treatments for addictions, for psychoactive substances, in particular, with different approaches that agree on the need to address sociocultural aspects for effecting grassroots change. Rodríguez de la Cruz et al. (2022), in their study on the perception of risks of alcohol and tobacco use among university students from the Health department, also found an association between the consumption of alcohol and substances such as tobacco. As for the problematic use of video games and the risk level of alcohol use, this study found that people with a greater level of risk of using alcohol are more likely to engage in the constant and problematic use of video games. This is consistent with Valido's (2019) findings that the excessive use of video games produces anxiety symptoms and a tendency to experience emotional instability. Therefore, video game addiction and alcohol use are regarded as an improper coping style for the mitigation of these effects.

3.1. Study Limitations

This study focused on video games and social media, excluding other information technologies such as the impact of mobile phones. Further, causality should have been considered, which merits further understanding and future studies to examine the problem and determine ways to deal with it.

4. CONCLUSIONS

Regarding the risk of consumption of psychoactive substances and its association with the use of video games and social media among university students, evidence of highly significant correlations was found for the consumption of addictive substances, especially alcohol and tobacco derivatives, which indicate a positive and significant correlation for risk level compared to other psychoactive substances. Furthermore, the level of risk of consuming alcoholic substances is highly correlated with the harmful use of video games.

This study highlights that addiction to social networks is not significantly associated with the presence of chemical addictions and risk levels of substance use, so people whose social media usage seems problematic may not necessarily become addicted to chemical substances. Besides, their risk of consumption does not rise in a directly proportional manner; thus, the

results do not imply that the problematic use of social networks and the harmful use of video games have gained strength in university contexts. The findings described above support that 100% of the students in the sample present potential or severe problems with videogames and almost 60% have potential and severe problems concerning social media usage.

This study focused on the analysis of the risk of consumption of tobacco derivatives, alcoholic beverages, and psychoactive substances and the problematic use of video games and social media. The results show that the ASSIST v.3.1 questionnaire, the instrument used to assess videogame-related experiences, and the Social Media Addiction were appropriate instruments for conducting research on the consumption of said substances and behavioral addictions, based on the results of the reliability analyses obtained.

The results of this study may be especially useful for research on sexually diverse individuals, considering that it revealed a high-risk level for the harmful use of psychoactive substances by individuals belonging to this population.

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