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ARTICLE

Digital technology and University leisure: Exploring learner access, use and attitudes

Tecnología digital y ocio universitario: Explorando el acceso, uso y actitud de los estudiantes

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Abstract: Digital leisure has become a useful and motivating didactic tool for student learning, which also contributes to the acquisition of digital skills. The aim of this study is to analyse the access and use of digital technology by university students at the Universidad de San Carlos de Guatemala (USAC), as well as their attitudes towards digital leisure. This study is framed within the quantitative paradigm, with a non-experimental, cross-sectional, descriptive, exploratory, and correlational design. A total of 203 university students (47.5% male; 52.5% female) from USAC between the ages of 17 and 49 (M=23.33; SD=5.55) participated in the study. The results indicate that the most accessed digital devices and services by university students are smartphones (91.8%) and laptops (80.3%). Additionally, 96% of the students have profiles on social networks. Specifically, younger students (17-20 years) are the ones who have the highest usage of digital technology for leisure purposes and show greater enjoyment of these digital activities. This data shows how university students, particularly newly admitted ones, are highly familiar with digital technology and possess a positive attitude towards digital leisure. Thus, teachers can make use of this openness towards technology and include it as a learning tool in the classroom to then promote digital competences and so create a motivating and effective learning environment.

Keywords: Digital competence, Digital technology, Access, Use, Digital leisure.

Resumen: El ocio digital se ha convertido en una herramienta didáctica útil y motivadora para el aprendizaje de los estudiantes, que además contribuye a la adquisición de competencias digitales. El objetivo de este estudio consiste en analizar el acceso y uso de la tecnología digital por parte de los universitarios de la Universidad de San Carlos de Guatemala (USAC), así como su actitud hacia el ocio digital. Este estudio se enmarca en el paradigma cuantitativo, con un diseño no experimental de carácter transversal, descriptivo, exploratorio y correlacional. En él participaron 203 universitarios (47.5% hombres; 52.5% mujeres) de la USAC entre los 17 y 49 años (M=23.33; DT=5.55). Los resultados indican que los dispositivos y servicios digitales a los que más acceden los universitarios son el smartphone (91.8%) y el ordenador portátil (80.3%). Asimismo, el 96% posee perfiles en redes sociales. Específicamente, los estudiantes más jóvenes (17-20 años) son quienes usan en mayor medida la tecnología digital para actividades de ocio digital informan de un mayor agrado por la realización de este tipo de actividades. Estos datos reflejan cómo el alumnado universitario, fundamentalmente de nuevo ingreso, está familiarizado con la tecnología digital, mostrando una actitud positiva hacia el ocio digital. Esto podría ser aprovechado por los docentes para propiciar la inclusión de esta herramienta por los docentes para promover la inclusión de esta herramienta en el aula a fin de promover las competencias digitales y crear un ambiente de aprendizaje motivador y efectivo.

Palabras clave: Competencia digital, Tecnología digital, Acceso, Uso, Ocio digital.

1. Introduction

Information and Communication Technologies (ICTs) are present in all spheres of life. Therefore, accessing and knowing how to use digital devices and services is a prerequisite to participate and develop in this network society (Ragnedda & Muschert, 2013). However, in the Guatemalan context, despite the increasing number of Internet users in recent years, they continue to register the lowest penetration rates of this service in comparison to other Central American countries. In fact, at the beginning of 2022, 35% of the Guatemalan population did not have access to this service (Hootsuite & We Are Social, 2022). This phenomenon can be attributed to factors such as the digital divide (Ragnedda, 2017; Van Dijk, 2020).

According to data from the latest report published by the International Telecommunication Union (ITU, 2022), young people between 15 and 24 years of age are those who make greater use of digital technology mainly for digital leisure activities (playing online games, interacting on social networks, listening to music on digital platforms, watching videos) due to the new features and opportunities provided by this type of activity (Bryce, 2001; Nimrod & Adoni, 2013). This has contributed to the fact that current university students, a generation known as digital natives, possess certain traits, as a consequence of their early relationship with digital technology (Prensky, 2001). In contrast, recent research, carried out by Sánchez-Caballé et al. (2020) argues that young people are not a homogeneous group, and so having been born after the year 2000 is not associated with a greater acquisition of digital skills in this age group. Considering that digital competence englobes knowledge, skills, abilities, values and attitudes for the safe and responsible use of digital devices in contexts such as education (European Commission, 2019), authors such Morduchowizc (2018) state that most students reach university with a rather unequal degree of digital literacy. This author observed that, although the students have a high level of technological skills associated with leisure activities, they present certain difficulties when it comes to handling ICTs for educational purposes.

Since digital competences are not skills that can be developed separately but encompass a set of abilities that are applied in various areas and dimensions of knowledge, it is crucial that all students acquire them for their comprehensive training in an increasingly digitalised society (European Commission, 2019). In this context, higher education institutions are acquiring a key role in digital literacy education and training (Calatayud et al., 2018).

Although it has traditionally been assumed that the use of ICTs for leisure activities decreases the time dedicated to educational activities, current studies show that this type of activity can become a resource for learning, socialization, and the creation of social capital. Specifically, it has been shown that digital leisure promotes the development of cognitive strategies and skills such as information search and organization, problem solving and decision making. It also stimulates socialization by acting as an instrument for the transmission of values and behavioural patterns. Furthermore, it contributes to fostering digital competences (Gutiérrez et al., 2013).

In accordance with the above, Correa (2016) argues that the greater the use of digital technology by students for digital leisure activities, the greater the perception of digital competences, feeling of autonomy and digital self-efficacy. For this reason,

nowadays, far from understanding digital leisure as a simple entertainment activity, a growing number of teachers are expressing interest in incorporating this type of activity as a didactic tool in their classrooms. As digital leisure not only allows for more playful and accessible learning, but also increases students' motivation (Santana & García, 2018) and their level of digital competences, this paper aims to analyse the access and use of digital technology by university students at the University of San Carlos de Guatemala (USAC), as well as their attitudes towards digital leisure. In this way, teachers, after knowing the attitudes towards digital leisure by the students, will be able to establish more effective strategies for the inclusion of these type of tools in their lessons.

2. Method

This study is conducted within the quantitative paradigm, with a non-experimental, cross-sectional, descriptive, exploratory, and correlational design.

2.1. Participants

A non-probabilistic sampling was carried out, conditioned by the number of people who responded voluntarily and anonymously to the questionnaire. A total of 203 university students (47.5% men; 52.5% women) from USAC between the ages of 17 and 49 years (M=23.33; SD=5.55) participated in the study. 53% indicated that they were only studying, while 47% were studying and working simultaneously. Finally, 90.1% said they were single, had no dependent children (89.7%) and were living with their mother, father with or without siblings (heteroparental family) (55.7%) (Table 1).

2.2. Instrument

A self-reported questionnaire (via pencil and paper) structured in three parts was developed. First, sociodemographic data was collected from the participants. Then, to study access to digital technology, a list of nine devices and four digital services was created for them to indicate whether they had access to each of them. Next, to examine what they use digital technology for, a Scale called "Uses of Digital Devices and Services" of ten items was created ad hoc, based on the list of the activities that people do most on the Internet according to the National Institute of Statistics (INE, 2022). Participants had to rate the frequency with which they perform each of the proposed activities using a Likert-type Scale from 1 (not at all) to 5 (very much). Finally, with the intention of finding out the attitudes towards digital leisure, the "Leisure Attitude Scale-Short Version (LAS-SV)" of eighteen items elaborated by Teixeira & Freire (2013) was translated and adapted to Spanish. Participants had to reflect the degree of agreement from 1 (strongly disagree) to 5 (strongly agree), in each of the items that make up the Scale, which evaluates the cognitive, affective, and behavioural components of attitudes.

Table 1. Sociodemographic characteristics of the participants.

Variables		n	%
Sex			
	Male	94	47.5
	Female	104	52.5
Age			
	17-20 years	81	39.9
	21-25 years	61	30
	>25 years	61	30
Family structure			
	Heteroparental family	112	55.2
	Homoparental family	4	2
	Single-parent family	55	27.4
	Extended family	14	7
	Emancipated	15	7.5
	Reconstituted family	1	.5
Marital status			
	Married	18	8.9
	Single	183	90.1
	Separated	2	1
Number of children			
	1	14	66.7
	2	6	28.6
	3 or more	1	4.8
Academic-employment status			
	Study only	107	52.7
	Study and work	95	46.8

2.3. Procedure

To achieve the sample, the School of History of the USAC collaborated in disseminating the objective of the study and encouraging both its own students and the rest of the student population belonging to other faculties to participate. Participants took approximately 8 minutes to complete the questionnaire.

2.4. Data analysis

First, we checked whether the data met the assumptions of normality (Kolmogorov-Smirnov), homoscedasticity (Levene's test), skewness and kurtosis indices. Since these assumptions were met, it was decided to apply parametric tests. Secondly, knowing that the Chi-Square test for the association of nominal categorical variables can be used to validate or provide additional context to the observed frequencies, this statistical procedure was performed to determine whether there are significant differences in terms of access to digital devices and services, according to gender, age and academic-employment status of university students. Third, after developing the Scale of "Use of Digital Devices and Services" and, after translating and adapting the

Scale of Teixeira & Freire (2013) into Spanish, following the guidelines of the International Test Commission (Hernández et al., 2020), we proceeded to validate both instruments by means of an exploratory and confirmatory factor analysis (Asparouhov & Muthen, 2009). Specifically, to analyse model fit and determine if the model is correct, the following indices were reported: RMSEA ≤.08; CFI ≥.90 and SRMR ≤.08 (Kline, 2015). To determine the number of factors, attention was paid to the number of these with at least three significant items (CI=95%) in the expected factor and which, in addition, were interpretable at a theoretical level. To assess the internal consistency of the Scales, McDonald's omega was used instead of the usual Cronbach's alpha, since the latter requires that the factor weight be equal for all items (Yang & Green, 2010) and that the data be continuous (Elosua & Zumbo, 2008). Descriptive statistics and the correlation between the different factors were also calculated. To test for significant differences between the factors that make up each of the Scales, a repeated measures analysis was performed, considering the effect size through the partial eta squared. Likewise, the t-test procedure for related samples was carried out to check if there are two-to-two differences between the factors that make up the Scales.

Next, mean contrasts (ANOVA) were performed to test for significant differences according to the criteria variables. Additionally, post-hoc tests were performed by Tukey's procedure when there were more than two subgroups to analyse between which groups the differences were occurring. Then, the relationship between the use of digital devices and services and the attitudes towards digital leisure was carried out by means of a correlation study using Pearson's linear correlation coefficient r. The level of significance of the correlation coefficient was calculated using the Pearson's linear correlation coefficient. The significance level with which we worked was ≤0.05. The effect size used was Cohen's d (1988). SPSS V.23, Mplus 6.11 (Muthén & Muthén, 1998-2010) and Microsoft Excel were used to perform the analyses described above.

3. Results

3.1. Access to digital technology

The most accessed digital devices and services are smartphones (91.8%) and laptops (80.3%). The majority of students have email (96.1%) and social network profiles (96%). In addition, 83.7% claimed to have Wi-Fi at home. In contrast, they have access to activity bracelets (7.4%) and smartwatch (8.9%) to a lower extent and only 8.9% mentioned having a digital certificate (Table 2).

Chi-Square tests were used to determine whether there are significant differences in terms of the digital devices and services most frequently accessed by university students (smartphone, laptop, e-mail, social network profiles and access to Wi-Fi at home), according to their sex, age, and academic-employment status. These tests revealed significant differences in terms of having or not having a profile on social networks according to age (Table 3) and having Wi-Fi at home according to this same variable (Table 4) and the academic-employment status of the university students (Table 5). In contrast, no differences were found according to sex. No differences were found in any of the criteria variables evaluated in relation to the possession of a smartphone, laptop, or e-mail.

Table 2. List of digital devices and services they have access to.

		Yes (%)
Digital devices	Smartphone	91.1
	Laptop	80.3
	Computer	80.3
	Smart TV	62.6
	Tablet	39.9
	Mp3 o mp4 player	28.7
	Electronic book	13.8
	Smartwatch	8.9
	Activity bracelet	7.4
Servicios digitales	Correo Electrónico	96.1
	Perfil en redes sociales (Facebook, twitter, Instagram, …)	96
	WiFi en casa	83.7
	Firma electrónica o certificado digital	8.9

Table 3. Distribution according to the availability of a profile in social networks with respect to age.

	Yes	No
17-20 years	41.8	0
21-25 years	30.4	12.5
>25 years	27.8	87.5
Total	100	100

Note. $\chi^{2(2,202)}$=13.227,p=.001***, with a mean effect size (d=.53)

Tabla 4. Distribution according to the possession of Wi-Fi from home with respect to age.

	Yes	No
17-20 years	40.8	33.3
21-25 years	32.5	18.2
>25 years	26.6	48.5
Total	100	100

Note. $\chi^{2(2,202)}$=6.646,p=.036*, with a small effect size (d=.37)

Table 5. Distribution according to the possession of Wi-Fi from home with respect to the academic-employment status.

	Yes	No
Study only	56	36.4
Study and work	44	63.6
Total	100	100

Note. $\chi^{2(1,201)}$=4.246,p=.039*, with a small effect size (d=.29)

3.2. Uses of digital technology

To decide the factor structure of the Scale of "Uses of Digital Devices and Services", several analyses were carried out with solutions from 1 to 10 factors. The factor structure in which adequate adjustment indexes were obtained was the factor structure made up of two factors. This Scale initially had 11 items. After the exploratory and confirmatory factor analysis, it was reduced to 10 clearly interpretable items, where the factor weights in their respective dimensions ranged between .216 and .739 (Table 6). In addition, the model is considered to have good fit indices (RMSEA=.07; CFI=.93; SRMR=.052), high overall reliability (α=.81). For each of the factors it explores instrumental use, collected in 5 items (α=.64) and leisure use, collected in 5 items (α=.70).

Table 6. Exploratory and confirmatory factor analysis of the Scale of "Uses of Digital Devices and Services".

Factors	Items	F1	F2
F1: Instrumental use	Online shopping for events, products or services	**0.427**	0.23
	Preparing a trip through the Internet (viewing destinations, hotel features, online diaries, user reviews or ratings, ...)	**0.48**	0.067
	Preparing meals or watching recipes from video tutorials or web pages	**0.623**	0.007
	Consult and discuss news, information or books (from websites, ebooks, ...)	**0.336**	0.316
	Watching and performing craft activities (videotutorials, web pages, ...)	**0.708**	-0.186
F2: Leisure use	Playing video games	0.056	**0.216**
	Surfing the Internet (searching for information in general)	0.135	**0.728**
	Listening to music (on electronic media or over the internet)	-0.005	**0.65**
	Watching video or digital TV (connected to the internet such as Youtube or Netflix)	0.062	**0.538**
	Use of social networks and communication services (whatsapp groups, facebook, ...)	-0.058	**0.739**

As shown in Table 6, it was found that university students make an eminently instrumental and leisure use of digital technology.

First, the repeated measures analysis showed that there are significant differences between the factors that make up the Scale ($F_{(1,\ 201)}$= 467.985[b]; p=.000; n^2=.700) with a high effect size. This was also evidenced by the t-tests for related samples ($t_{(201)}$= -21.633; p=.000). In addition, it is worth mentioning that there is a low positive correlation between the Scale factors (r_{xy}=.357[***]) with a high effect size (d= 1.69).

Secondly, after knowing the factorial structure of the Scale, the descriptive values (central tendency and distribution) of its component variables were calculated (Table 7).

Table 7. Average of the factors of the Scale of "Uses of Digital Devices and Services".

Factor	n	M	SD	Skewness	Kurtosis
Instrumental use	202	2.53	.85	.332	-.425
Leisure use	203	3.88	.74	-1.235	2.927

Thirdly, this study aimed to explore the extent to which there are significant differences between the factors found and the criteria variables. The results of the ANOVAs reveal that there are significant differences in all the criteria variables analysed.

Regarding the sex of the participants, women, unlike men, report making greater instrumental use of digital technology ($F_{(1,195)}$=6.858; p=.010**) with a mean effect size (.37) (Table 8).

Table 8. ANOVA of the factors of the Scale of "Uses of Digital Devices and Services" according to sex.

Factor	Female		Male		F (gl)	p-valor	d Cohen
	M (n)	DT	M (n)	DT			
Instrumental use	2.70 (103)	.82	2.39 (94)	.85	6.858 (1,195)	.010**	.37
Leisure use	3.86 (104)	.69	3.95 (94)	.76	.710 (1,196)	.40	-

Note. ***p ≤ .001; **p≤ .01; *p ≤ .05

Concerning age, the post-hoc tests show that, students older than 25 years use digital technology to a lesser extent for leisure activities, with respect to younger students ($\bar{x}_{(>25\ years)}$=3.54; $\bar{x}_{(17\text{-}20\ years)}$=4.07; p=.000***) with a high effect size (d=-.71.); ($\bar{x}_{(>25\ years)}$=3.54; $\bar{x}_{(21\text{-}25\ years)}$=3.95; p=.005**) with a medium effect size (d=-.54) (Table 9).

Table 9. ANOVA of the factors of the Scale of "Uses of Digital Devices and Services" according to age.

Factor	17-20 years		21-25 years		>25 years		F (gl)	p-valor	d Cohen
	M (n)	SD	M (n)	SD	M (n)	SD			
Instrumental use	2.52 (81)	.79	2.63 (61)	.90	2.45 (60)	.87	.686 (2,199)	.50	-
Leisure use	4.07 (81)	.62	3.95 (61)	.66	3.54 (.85)	61	10.032 (2,200)	.000***	.71

Note. ***p ≤ .001; **p≤ .01; *p ≤ .05

Finally, in relation to the academic-employment status, those who are only studying, as opposed to those who study and work simultaneously, report making more leisure use of digital technology ($F_{(1,200)}$=7.801; p=.006**) with a small effect size (.39) (Table 10).

Table 10. ANOVA of the factors of the Scale of "Uses of Digital Devices and Services" according to academic-employment status.

Factor	Study online		Study and work		F(gl)	p-valor	d Cohen
	M (n)	SD	M (n)	SD			
Instrumental use	2.52 (107)	.84	2.55 (94)	.86	.053 (1,199)	.819	-
Leisure use	4.01 (107)	.68	3.72 (95)	.77	7.801 (1,200)	.006	.39

Nota. ***p ≤ .001; **p≤ .01; *p ≤ .05

3.3. Attitudes towards digital leisure

To translate and adapt Teixeira and Freire's (2013) "Leisure Attitude Scale-Short Version (LAS-SV)" into Spanish, the back-translation strategy (Hambleton & Patsula, 1998) was used. In addition, and with the intention of adjusting it to the research objective, a team of experts decided to include the term "digital leisure" (Table 11). The resulting Scale was called "Digital Leisure Attitude" (Table 12).

Table 11.Translation and adaptation process of the "Leisure Attitude Scale-Short Version (LAS-SV)" (Teixeira & Freire, 2013)

Original items	Translation and adaptation into Spanish
1. Engaging in Leisure activities is a wise use of time	1. Participar en actividades de ocio digital es hacer un uso sabio del tiempo
2. Leisure activities are beneficial to individuals and society	2. Las actividades de ocio digital son beneficiosas para los individuos y la sociedad
3. Leisure activities contribute to one's health	3. Las actividades de ocio digital contribuyen a la salud
4. Leisure activities increase one's happiness	4. Las actividades de ocio digital aumentan la felicidad
5. Leisure activities help to renew one's energy	5. Las actividades de ocio digital ayudan a renovar la energía
6. Leisure activities help individuals to relax	6. Las actividades de ocio digital ayudan a las personas a relajarse
7. My leisure activities give me pleasure	7. Mis actividades de ocio digital me dan placer
8. I feel that leisure is good for me	8. Siento que el ocio digital es bueno para mí
9. I like to take my time while I am engaged in leisure activities	9. Me gusta tomarme mi tiempo mientras me dedico a actividades de ocio digital
10. I like to take my time while I am engaged in leisure activities	10. Mis actividades de ocio digital son originales
11. I feel that the time I spend on leisure is not wasted	11. Siento que el tiempo que dedico al ocio digital no se pierde
12. I like my leisure activities	12. Me gustan mis actividades de ocio digital
13. I spend considerable time and effort to be more competent in my leisure activities	13. Paso mucho tiempo y esfuerzo para ser más competente en mis actividades de ocio digital
14. I would attend a seminar or a class to be able to do leisure activities better	14. Asistiría a un seminario o clase para poder hacer mejor las actividades de ocio digital

Original items	Translation and adaptation into Spanish
15. I support the idea of increasing my free time to engage in leisure activities	15. Apoyo la idea de aumentar mi tiempo libre para participar en actividades de ocio digital
16. I engage in leisure activities even when I am busy	16. Participo en actividades de ocio digital incluso cuando estoy ocupado
17. I would spend time in education and preparation for leisure activities	17. Pasaría tiempo en educación y preparación para actividades de ocio digital
18. I give my leisure high priority among other activities	18. Doy prioridad al ocio digital entre otras actividades

To decide the factorial structure, several analyses were carried out with solutions from 1 to 10 factors. The factorial structure in which adequate adjustment indexes were obtained was the one formed by three factors. This Scale initially had 18 items. After the exploratory and confirmatory factor analysis, it was reduced to 16 clearly interpretable items, where the factor weights in their respective dimensions ranged between .386 and .988 (Table 12). Furthermore, the model is considered to present good fit indices (RMSEA=.08; CFI=.96; SRMR=.036), and high overall reliability (α=.95). It also indicates the same for each of the factors explored, such as cognitive component, collected in 3 items (α=.71); affective component, collected in 7 items (α=.92) and behavioural component, collected in 6 items (α=.83).

Table 12. Exploratory and confirmatory factor analysis of the "Digital Leisure Attitude Scale".

Factors	Items	F1	F2	F3
F1: Cognitive component	Engaging in digital leisure activities is a wise use of time	**0.772**	0.018	-0.009
	Digital leisure activities are beneficial to individuals and to society	**0.783**	0.118	0.018
	Digital leisure activities contribute to health	**0.485**	0.3	0.065
F2: Affective component	Digital leisure activities increase happiness	0.023	**0.808**	-0.126
	Digital leisure activities help to renew energy	0.189	**0.428**	0.081
	Digital leisure activities help people to relax	-0.045	**0.988**	-0.275
	My digital leisure activities give me pleasure.	0.023	**0.84**	-0.152
	I feel that digital leisure is good for me.	0.155	**0.732**	-0.012
	I like to take my time while I am engaged in digital leisure activities	0.027	**0.883**	-0.12
	I like my digital leisure activities	-0.323	**0.884**	0.052

Factors	Items	F1	F2	F3
F3: Behavioural component	I spend a lot of time and effort to become more proficient in my digital leisure activities.	0.007	0.329	**0.386**
	I would attend a seminar or class in order to be able to do digital leisure activities better	0.037	-0.179	**0.715**
	I support the idea of increasing my free time to participate in digital leisure activities	0.08	0.019	**0.694**
	I participate in digital leisure activities even when I am busy	-0.289	0.013	**0.82**
	I would spend time in education and preparation for digital leisure activities	-0.009	-0.204	**0.899**
	I prioritize digital leisure among other activities	-0.047	0.003	**0.56**

As shown in Table 12, the cognitive component refers to the person's general beliefs about digital leisure, including the relationship of leisure with other concepts such as health. The affective component reflects the person's feelings towards his or her own digital leisure, as well as the level of liking or disliking of leisure activities. And finally, the behavioural component includes the person's level of participation in leisure activities and the predisposition to broaden their training in this type of activity.

The repeated measures analysis showed that there are significant differences between the factors that make up the Scale ($F_{(2,195)}$= 24.316[b]; p=.000; n^2=.800) with a high effect size. However, according to the t-test procedure for related samples, there are significant differences between the affective and cognitive component ($t_{(199)}$= -4.867; p=.000) between the first and behavioural component ($t_{(196)}$= 6.494; p=.000), but not between the latter and cognitive component. In addition, it is worth mentioning that there is a highly positive correlation between the affective and cognitive component (r_{xy}=.571[***]) with a small effect size (d=.32).

After determining the factorial structure of the Scale, the descriptive values (central tendency and distribution) of its component variables were calculated (Table 13).

Table 13. Mean of the factors of the "Digital Leisure Attitude Scale".

Factor	n	M	SD	Skewness	Kurtosis
Cognitive component	200	2.87	.96	-.132	-.435
Affective component	200	3.16	.86	-.570	-.186
Behavioural component	197	2.78	.82	-.250	-.124

The results of the ANOVAs reveal that there are significant differences according to the age of the participants, but no differences were found by sex and academic-employment status. Specifically, according to the post-hoc tests, the younger the age,

the higher the attitudes towards the affective component of digital leisure ($\bar{x}_{(17\text{-}20\ years)}$=3.31; $\bar{x}_{(>25\ years)}$=2.94; p=.030*) with a mean effect size (d=.43) (Table 14).

Table 14. ANOVA of the factors of the "Digital Leisure Attitude Scale" according to age.

Factor	17-20 years		21-25 years		>25 years		F (gl)	p-valor	d Cohen
	M(n)	SD	M(n)	SD	M(n)	SD			
Cognitive component	2.92 (79)	.93	2.89 (61)	.92	2.77 (60)	1.04	.443 (2,197)	.643	-
Affective component	3.31 (79)	.72	3.18 (61)	.90	2.94 (60)	.96	3.299 (2,197)	.039*	.43
Behavioural component	2.91 (78)	.71	2.80 (60)	.78	2.61 (59)	.96	2.260 (2,194)	.107	-

Note. ***p ≤ .001; **p≤ .01; *p ≤ .05

3.4. Relationship between the uses of digital technology and attitudes towards digital leisure

Table 15 shows how the factors of the Scale of "Uses of Digital Devices and Services" correlate positively with all the dimensions of the Digital Leisure Attitude Scale. Specifically, it is evident that, making both instrumental and leisure use of digital technology, contributes, mainly, to increase the affective component of digital leisure (r_{xy}=.378***) with a high effect size (d=.90) and (r_{xy}=.302***) with a high effect size (d=.74) respectively. However, making a playful use promotes the cognitive component to a greater extent (r_{xy}=.302***) with a high effect size (d=1.41), while making an instrumental increase the behavioural component (r_{xy}=.195**) with a small effect size (d=.30).

Table 15. Correlations between the factors that make up the Scale of "Uses of Digital Devices and Services" and the "Digital Leisure Attitude Scale".

Factors	n	M	SD	1	2	3	4	5
1.Instrumental use	202	2.53	.85	-				
2. Leisure use	203	3.88	.74	.357***	-			
3. Cognitive component	200	2.87	.96	.190**	.302***	-		
4. Afective component	200	3.16	.86	.212**	.378***	.571***	-	
5. Behavioural Component	197	2.78	.82	.195**	.182**	.453***	.537***	-

Note. ***p ≤ .001; **p≤ .01; *p ≤ .05

4. Conclusion

This paper analysed the access and use of digital technology, as well as the attitudes towards digital leisure by university students at USAC.

First, according to our findings, most university students access the Internet from home, as suggested by the ITU (2022). Likewise, 96% indicated having at least one account on some social network. In this regard, it should be noted that, in Guatemala, the use of social networks has become very popular in recent years. As proof of this, in 2022, there were 9.55 million social network users, equivalent to 51.9% of the total population (Hootsuite & We Are Social, 2022).

According to Papademetriou et al. (2022), social networks have been used mainly for leisure purposes. However, since the COVID-19 pandemic, the educational use of these digital platforms increased. This may be because, during the lockdown, universities were forced to transform traditional teaching methodologies to ensure quality distance education and hence incorporating social networks as a learning tool. Cartagena (2016) and Valentín et al. (2013) state that the integration of social networks in the classroom helps the teacher to establish alternative teaching strategies, thus contributing to the creation of an effective learning environment. Moreover, it is a means to motivate students and arouse their interest. To add to this, current studies highlight the important role of social networks in promoting students' digital competences (Martínez-Sala & Alemany-Martínez, 2022; Spanhol et al., 2020).

As Tejedor et al. (2019) point out, students learn to use digital technology in informal contexts, a fact that conditions both the use of ICTs and the development of digital competences among the youth. Thus, many of them have learned how to make use of digital technology for specific activities, such as digital leisure activities, but they do not know how to make a broader use of this tool to benefit from all the advantages and opportunities it offers in all contexts of life and, especially, within the educational one. As it is documented that the digital sphere also involves some risks which learners may encounter, higher education institutions face the challenge of educating students in the critical consumption of technology (Lozano & Fernandez, 2019). Henceforth, the gradual inclusion of digital devices and services in the classroom is being augmented so learners can work on their digital competences required in today´s society. Likewise, it should be considered how these can help educational boards achieve objectives, challenges, and strengthen educational projects.

Secondly, it should be noted that, although the digital divide in terms of access seems to be decreasing, there are still differential patterns of ICTs use with respect to the sex and age of the students, as other studies have shown (Hargittai, 2002; van Dijk, 2020). On the one hand, it was observed that girls make a greater instrumental use of digital technology than boys.

According to INE (2022), boys use ICTs mainly for digital leisure activities, while girls show a greater interest in using digital tools for training and educational purposes. However, our data contradicts previous studies that showed an equal use of digital technology for educational purposes between men and women (Rubio & Escofet, 2013).

Vergés (2012) argues that the use made of digital technology has an impact on the acquisition of digital skills. Specifically, for this author, it is not only the more utilitarian motivations that develop advanced digital skills, but also the motivations for pleasure associated with digital leisure which favour digital self-inclusion. Along these lines, Gómez et al. (2012), considering the predisposition shown by students to use digital technology for digital leisure purposes, encourages teachers to incorporate the use of video games or social networks in their classrooms for the promotion of digital skills. On the other hand, it was observed that older students have the least usage of ICTs for leisure. This may be because this population profile presents a low level of digital competences, conditioning the activities they perform on the Internet (Smahel et al., 2020).

Third, as suggested by Botero-Gómez et al. (2022), people are coming to value the potential of digital leisure and becoming aware of its multiple benefits, and so it is expected that the use of digital devices and services for this purpose will increase. Therefore, parting from the basis that attitudes determine the predisposition of a person to perform a certain task or activity, it was decided to determine the attitudes of university students towards digital leisure. This will allow professionals of higher education institutions to understand the benefits these activities entail for their students, in order to propose solid strategies promoting the use of digital leisure in the teaching and learning processes. For this purpose, it was decided to translate and adapt to Spanish the short version proposed by Teixeira & Freire (2013), of the original Leisure Attitude Scale created by Ragheb & Beard (1982), due to its optimal psychometric conditions.

According to our findings, university students have a positive attitude towards digital leisure. In this regard, it is relevant to highlight that the item with the highest factor loadings corresponding to the behavioural component is "would spend time in education and preparation for digital leisure activities". Becerra & Martín (2015) have found that most students consider that the use of digital technology in the university setting is limited, especially when compared to the ways in which they can use these digital tools in their free time. Therefore, teachers are required to start questioning the merely instrumental use of ICTs to promote new forms of digital literacy by digital leisure as a didactic tool.

In conclusion, the present study has some limitations, such as the size of the sample and the fact that the study was carried out at only one university. As digital competence is fundamental in the academic development of university students, it is equally essential for university teachers to acquire digital competences and skills to incorporate ICTs in the classroom, promoting digital leisure and encouraging students to learn (Calatayud et al., 2018). Recent studies have shown that the factors that most influence a teacher's incorporation of digital leisure in their professional practice are their own technological characteristics such as, for example, their degree of digital literacy or their training in educational technology. The access or type of personal use they make of ICTs, as well as their attitudes towards digital leisure also determines how and if they include digital leisure in their lessons. (Badia et al., 2015). Therefore, we encourage future studies to investigate teachers' access, use and attitudes towards digital leisure, to compare the results with those of the university students themselves.

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