








Sharenting: Internet addiction, self-control and online photos of underage children

Sharenting: Adicción a Internet, autocontrol y fotografías online de menores

-  Dr. Francisco-Javier Hinojo-Lucena is Professor in the Faculty of Education Sciences at the University of Granada (Spain) (fhinojo@ugr.es) (<https://orcid.org/0000-0002-9507-4058>)
-  Dr. Inmaculada Aznar-Díaz is Professor in the Faculty of Education Sciences at the University of Granada (Spain) (iaznar@ugr.es) (<https://orcid.org/0000-0002-0018-1150>)
-  Dr. María-Pilar Cáceres-Reche is Professor in the Faculty of Education Sciences at the University of Granada (Spain) (caceres@ugr.es) (<https://orcid.org/0000-0002-6323-8054>)
-  Dr. Juan-Manuel Trujillo-Torres is Professor in the Faculty of Education Sciences at the University of Granada (Spain) (jtorres@ugr.es) (<https://orcid.org/0000-0002-2761-3523>)
-  José-María Romero-Rodríguez is Predoctoral Fellow in the Faculty of Education Sciences at the University of Granada (Spain) (romejo@ugr.es) (<https://orcid.org/0000-0002-9284-8919>)

ABSTRACT

Sharenting is becoming a regular practice that compromises children's safety and privacy. This phenomenon is related to the act of sharing images of underage children on the Internet by their relatives. At the same time, a concern arises about the levels of Internet addiction in the population. In turn, levels of Internet addiction are a current problem in modern societies that has been linked to low self-control. This paper aims to analyse the degree to which images are published and the reasons why the adult segment of the population practices sharenting, to determine the socio-demographic factors that have an impact on sharenting, Internet addiction and self-control, and to establish the correlations between these three variables. A total of 367 Spanish adults aged between 18 and 61 ($M=28.98$; $SD=10.47$) completed an online survey. Both the multiple regression analysis and the structural equation modelling revealed that: 1) Age emerges as a predictor of Internet addiction; 2) Age, gender and employment status are predictors of low self-control; 3) No socio-demographic factors were found to be predictors of sharenting; 4) The only significant correlation was observed between Internet addiction and self-control. Finally, practical implications of this paper on the protection of minors and adults' need for information on Internet security are discussed.

RESUMEN

El sharenting se está convirtiendo en una práctica habitual que pone en riesgo la seguridad y privacidad de los niños. Este fenómeno responde al acto de compartir imágenes de menores de edad en Internet por parte de los familiares. A su vez, los niveles de adicción a Internet son una problemática actual en las sociedades modernas que ha empezado a vincularse con tener un bajo autocontrol. El objetivo de este estudio fue analizar el grado de publicación de imágenes y los motivos para realizar sharenting por parte de la población adulta, determinar los factores sociodemográficos que influyen en el sharenting, la adicción a Internet y autocontrol y establecer las correlaciones generadas entre estas tres variables. Participaron en la encuesta en línea un total de 367 adultos españoles entre 18 y 61 años ($M=28,98$; $SD=10,47$). Los análisis de regresión múltiple y el modelado de ecuaciones estructurales revelaron que: 1) La edad se alza como un predictor de la adicción a Internet; 2) La edad, género y situación laboral son predictores de un bajo autocontrol; 3) No se hallaron factores sociodemográficos que sean predictores del sharenting; 4) La única correlación significativa se estableció entre la adicción a Internet y el autocontrol. Finalmente, se discuten las implicaciones prácticas de este trabajo sobre la protección del menor y la necesidad de formación que tienen los adultos sobre seguridad en Internet.

KEYWORDS | PALABRAS CLAVE

Sharenting, children exposure, online privacy, cybersecurity, digital competence, Internet addiction, self-control, risk behaviour.

Sharenting, exposición de los niños, privacidad en línea, ciberseguridad, competencia digital, adicción a Internet, autocontrol, conductas de riesgo.

1. Introduction

The progress of Information and Communication Technologies (ICT) has directly affected citizens by promoting and improving access to electronic devices. This has facilitated the drastic increase in the use of devices in recent years. This consumption has grown at a frenzied pace in Spain, the country with the most smartphones per inhabitant in the world in 2016 (Europa Press, 2017). The most recent studies indicate that 93% of Spaniards have an Internet connection (Hootsuite, 2019). Considering these figures, it is not surprising to know that Spain is one of the European countries whose population is most at risk of suffering from Internet addiction (Díaz-Aguado et al., 2018). Therefore, this issue has become so significant within Spanish society that the country's Government has included this addiction to technology in its Action Plan on Addictions 2018-2020 (Ministry of Health, Consumption and Social Welfare, 2018). Internet addiction has been catalogued as a behavioural addiction (Balhara, 2018), directly linked to loss of control over one's own behaviour (Mann et al., 2017). This lack of self-control has an impact on the user's daily routine, while hindering the development of a satisfactory personal and professional life (Lowe & Haws, 2019).

In contrast, Internet addiction increases the likelihood of carrying out risky online behaviours, such as sharenting (Ouvrein & Verswijvel, 2019). A segment of the population has started to share pictures of underage relatives on their social networks, an action that is generating certain privacy conflicts related to the minor's image protection. Hence, this paper intends to carry out an analysis on the sharenting phenomenon in Spanish adults. It was also of interest to determine the influence between Internet addiction, sharenting and self-control.

2. Literature review

As social networks have been consolidated, excessive use of the Internet has skyrocketed (Malo-Cerrato et al., 2018). This is caused by impulsiveness and the need to be connected at all times to know what is happening on social media. Moreover, the exchange of information through the most popular social media platforms (Facebook, YouTube, Instagram, WhatsApp...) takes place in the form of audio-visual content posts (Xu et al., 2019). Nevertheless, these social networks are being used as channels to self-express and share typical images of family life (Dhir et al., 2017). In fact, some parents share images of their children through their blogs (Blum-Ross & Livingstone, 2017), Instagram (Choi & Lewallen, 2018), Facebook (Marasli et al., 2016) and Twitter (Otero, 2017). More specifically, the term sharenting stems from the words "share" and "parenting", and it relates to sharing images of the youngsters in the family (frequently underage) by parents or relatives (Çimke et al., 2018). This practice has begun to multiply on social networks, where it is common to find images of this kind.

A study prepared by the company McAfee in 2018 showed that 30% of parents were uploading a picture of their children to the Internet every day (Davis, 2018). This fact reveals a growing current issue, and the paramount need to analyse the causes and motivations for these actions. Some authors remark that pride and family affection towards the child are some of the reasons to publish images of underage children (Kopecký et al., 2020; Lazard et al., 2019); that is, an intrinsic necessity generated by emotional variables leads the user to wish to share that moment with their contacts. Nonetheless, sharenting creates a digital fingerprint that lasts a lifetime. Furthermore, this results in privacy issues related to the interest of minors' data protection (Büscher & Eberlin, 2017). It is also noteworthy that relatives often compromise children's privacy by exposing them to the public view without their consent (Brosch, 2016).

The majority of these issues arise from the content of pictures published showing minors that are naked or semi-naked, in swimwear or in situations where sensitive information is exposed (Choi & Lewallen, 2018). This has generated feelings of frustration and/or shame in pre-adolescents due to the type of content that their relatives are posting about them (Lipu & Siitbak, 2019). This digital awkwardness may influence one's self-esteem and the development of a personal identity (Ouvrein & Verswijvel, 2019). In addition, the minor's identity is at risk of being stolen, and these images may end up being shared on sites promoting paedophilia (Otero, 2017).

Hence, sharenting is one of the causes produced by the lack of information and training on the use of networks and, in particular, on online privacy and security (Kopecký & Sztokowski, 2018). Despite the

efforts of the European Union and Spain towards digital literacy and digital competence development, the safety area is at its lowest levels (Aguaded et al., 2015; Cortina et al., 2014; Martínez & Rodríguez-García, 2018; Prendes et al., 2018). Some previous works have broadly studied the relationship between Internet addiction and self-control, which establishes a link between Internet abuse and a low level of self-control (Dumbar et al., 2017; Kim et al., 2017; Hatami et al., 2019; Oliva et al., 2019; Shirinkam et al., 2016; Song & Park, 2019; Yeun & Han, 2016). Nonetheless, no studies have been carried out linking sharenting to Internet addiction and self-control, which makes this paper a pioneering piece of research.

3. Method

A quantitative methodological approach was used to find answers to the aims of this study and the research questions raised. This allowed the numerical assessment of each variable in participants. The variables of analysis of this study are sharenting, Internet addiction and self-control.

3.1. Objectives and research questions

As a subject of study, this paper aims to: 1) Analyse the level of image publication and the reasons why the adult population in Spain engages in sharenting; 2) Determine the socio-demographic factors that have an impact on sharenting, Internet addiction and self-control; 3) Establish the correlations generated between sharenting, Internet addiction and self-control. The following research questions were addressed:

- RQ1: What type of images do Spanish adults share online?
- RQ2: What are the main reasons for sharenting?
- RQ3: Do adults consider the minor's right to privacy?
- RQ4: Do gender, age, level of studies, or employment status have an impact on sharenting, Internet addiction and self-control?
- RQ5: Is there a statistically significant correlation between sharenting, Internet addiction and self-control?

3.2. Participants and procedure

A cross-sectional study design was adopted based on the implementation of an online survey distributed through Facebook, Instagram and WhatsApp to the adult population in all regions of Spain. Research was conducted based on a convenience sampling design. Finally, the sample of this study was comprised of 367 Spanish adults.

Table 1. Socio-demographic data		
	n	%
Gender		
Male	123	33.5
Female	244	66.5
Age		
18-21	85	23.2
22-25	106	28.9
26-29	75	20.4
30 or more	101	27.5
Studies		
Secondary Education	13	3.5
A-Levels	108	29.4
High-level Vocational Training	27	7.4
University Degree	78	21.3
Master's Degree (posgraduate studies)	120	32.7
PhD	21	5.7
Employment situation		
Active	136	37.1
Inactive	231	62.9
Sharing pictures		
Yes	107	29.2
No	260	70.8

Before answering the scale, participants gave their informed consent. Information was also provided to all respondents about the purpose of the study and the anonymous processing of their data. Participants answered questions related to their socio-demographic data and three scales, one on topics connected to sharenting and two standardised instruments that measured Internet addiction and self-control. The survey offered a filter question which asked whether they published images of underage relatives online. This served to classify participants in two groups: sharenting and non-sharenting. The sharenting group consisted of 107 adults in total, and the non-sharenting group was comprised of 260 adults. Data was collected during June 2019. Table 1 shows participants' socio-demographic data. In total the sample consisted of 123 men and 244 women aged between 18 and 61 ($M=28.98$; $SD=10.47$).

3.3. Measures

3.3.1. Sharenting Scale

A scale was prepared to analyse the topics related to sharenting (Çimke et al., 2018; Lipu & Siibak, 2019; Marasli et al., 2016). The scale measured the frequency of picture publication, platforms used, motivations and privacy using eight items. Answers were grouped into multiple choice and dichotomic options (yes/no). The scores of the scale ranged from 6 to 18 points, where the highest score was related to a problematic intensive use of sharenting. This sample had good reliability (Cronbach's $\alpha=.88$).

3.3.2. Internet Addiction Test (IAT-SV)

The instrument par excellence to quantify Internet addiction is the Internet Addiction Test (IAT) (Young, 1998). The short version of this instrument assesses Internet addiction through answers to 12 items. This is a 5-point Likert scale, where 1 is never and 5 is always. Participants answered according to their frequency of use. The scores of the scale ranged from 12 to 60 points, where the highest score is related to a highest level of Internet addiction. The IAT-SV reflects adequate psychometric properties (Pawlikowski et al., 2013) and has been validated in the Spanish context (Puerta et al., 2012). This sample had good reliability (Cronbach's $\alpha=.86$).

3.3.3. Brief Self-Control Scale (BSCS-SV)

Self-control was calculated through the BSCS short version. This instrument assesses self-control from answers to 13 items. Participants indicated their level of agreement with each item using a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). The scale yields scores ranging from 13 to 65 points. The higher the score, the lower the self-control. The BSCS-SV registers good psychometric properties and internal consistency (Tangney et al., 2004). Furthermore, it has been validated in a Spanish sample (Del-Valle et al., 2019). This sample has good reliability (Cronbach's $\alpha=.89$).

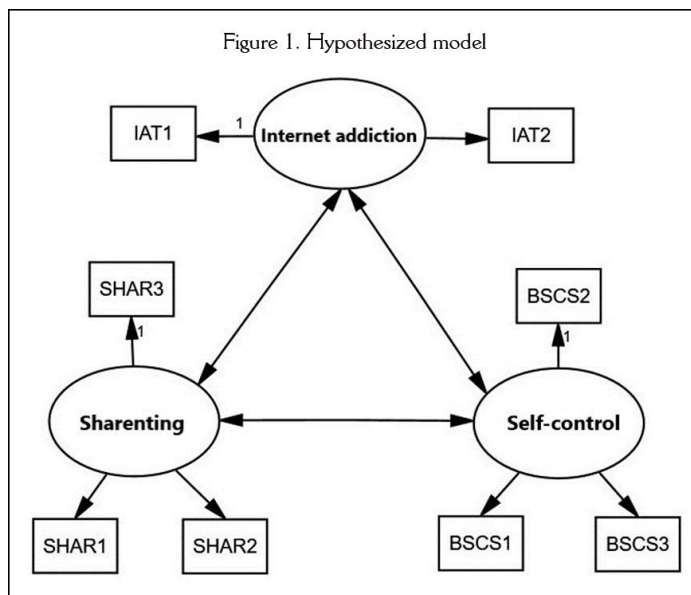
3.4. Data analysis

Data analysis was carried out using different statistical tests according to the aims and questions of the study. First, the frequencies of the sharenting scale were calculated to find out relevant matters related to minor relatives, the frequency of picture publication, the platforms used, the motivations and their perception of privacy. In addition, the statistical descriptive values (mean, standard deviation, skewness and kurtosis in the elements that compose the scales) were calculated to verify the multivariate normality of data. At the same time, the Kolmogorov-Smirnov normality test with Lilliefors significance correction was also performed to confirm the normality hypothesis (Pedrosa et al., 2015). This is an indispensable condition to establish a structural equation model (SEM) (Curran et al., 1996).

Moreover, the differences between groups were analysed through the t-test for the comparison of two populations and the Chi-square test for the comparison of more than two populations. These statistical tools were aimed at verifying whether there were significant differences between the groups based on gender, age, studies, employment status and sharenting. Then the significance of each independent variable in the three scales was verified through the multiple linear regression model. To this end, dichotomous variables were converted into dummy variables.

Correlations were calculated to test the SEM hypothetical model (Figure 1). Sharenting, Internet addiction and self-control were the latent variables. The factors of each scale were the observed variables:

two factors in internet addiction, three factors in sharenting and three factors in self-control. Data were analysed by means of the statistical programme IBM SPSS and IBM SPSS Amos, version 24.



4. Results

The study's sample reported engaging in sharenting at an annual (50.5%) and monthly (32.7%) frequency of image publication. To a lesser extent, participants reported sharing images: weekly (15%) and daily (1.9%). In terms of the number of pictures posted, fewer than 10 pictures uploaded to networks (60.7%), between 10-20 pictures (21.5%), between 21-30 pictures (9.3%), between 31-40 (.9%), between 41-50 pictures (2.8%) and more than 50 pictures (4.7%). In relation to the connection to the minor relative, it is most often a cousin (46.72%) or a younger brother / sister (30.84%). Images of nephews / nieces (25.23%) and sons / daughters (19.62%) were also mentioned. The ages ranged between 0 and 17 years ($M=9.28$; $SD=5.09$). These images are shared on different web platforms, with WhatsApp (81.5%), Instagram (57.4%) and Facebook (34.3%) prevailing. Other platforms used are Twitter (3.7%), Telegram (1.9%) and personal web sites (.9%).

Concerning privacy, the majority of adults stated that they had the minor's permission (55.1%). In spite of this, they believed that it was not appropriate to share the pictures (53.3%). Furthermore, 63.6% thought that uploading pictures of a minor to the Internet did not lead to the minor's privacy being invaded, and 53.3% stated that this practice is not risky for the underage child. Among the reasons to share pictures on social media, we have found: sharing family moments (77.8%); the picture is really funny (48.1%); intention to keep that memory online (25%); a desire to make the child known (16.7%); and showing off for contacts (13%).

Some differences were observed in the scores obtained from the independent variables on each scale (Table 2). These differences are significant for the groups of 18-21 and 26-29 year olds in IAT ($p=.009$) and BSCS ($p=.029$), 18-21 and 30 year-olds or older in IAT ($p=.000$) and BSCS ($p=.001$); 22-25 and 26-29 year-olds in BSCS ($p=.024$); 22-25 and 30 year-olds or older in IAT ($p=.002$) and BSCS ($p=.001$), and 26-29 and 30 years or older in IAT ($p=.024$). The level of studies completed of A-Levels (Spanish Baccalaureate) and High Level of Vocational Training in IAT ($p=.014$), A-Levels (Spanish Baccalaureate) and University Degree in IAT ($p=.035$), A-Levels (Spanish Baccalaureate) y Master's Degree in IAT ($p=.001$) and BSCS ($p=.011$), A-Levels (Spanish Baccalaureate) and PhD in IAT ($p=.031$). Employment status in IAT ($p=.000$) and BSCS ($p=.000$). No significant differences were found among the independent variables regarding sharenting.

	Sharenting		IAT		BSCS	
	M	SD	M	SD	M	SD
Gender						
Male	11.94	1.652	24.05	8.476	36.20	5.945
Female	11.04	1.706	24.38	7.721	35.60	5.187
Age						
18-21	10.88	1.661	27.01	7.965	36.82	4.716
22-25	10.87	1.548	24.99	8.105	36.98	5.720
26-29	11.32	1.376	23.99	6.377	35.11	5.108
30 or more	11.81	2.079	21.42	8.064	34.21	5.581
Studies						
Secondary Education	9.67	1.528	24.38	8.262	34.38	5.966
A-Levels	10.84	1.555	26.58	8.133	37.02	5.574
High-level Vocational Training	11.86	1.345	22.37	6.404	34.67	5.974
University Degree	11.52	2.233	23.94	8.766	35.90	5.263
Master's Degree	11.27	1.639	23.13	7.476	35.18	5.271
PhD	11.43	.976	22.48	6.408	35.00	4.899
Employment situation						
Active	11.56	2.015	22.27	8.360	34.37	5.772
Inactive	11.01	1.564	25.45	7.507	36.64	5.082
Sharing pictures						
Yes	--	--	24.59	8.885	36.36	5.784
No	--	--	24.14	7.579	35.57	5.304

The multiple linear regression analysis (Table 3) shows that the model of Internet addiction has good adjustment and is significant (F-statistic=5.736; $p=.000$), as well as the self-control model (F-statistic=5.274; $p=.000$). Nevertheless, the sharenting model is not significant (F-statistic=2.141; $p=.081$). In the model of Internet addiction, the significant independent variable is age ($p=.002$), unlike the model of self-control, whose significant variables are gender ($p=.050$), age ($p=.016$) and employment status ($p=.016$). Sharenting has no significant independent variable.

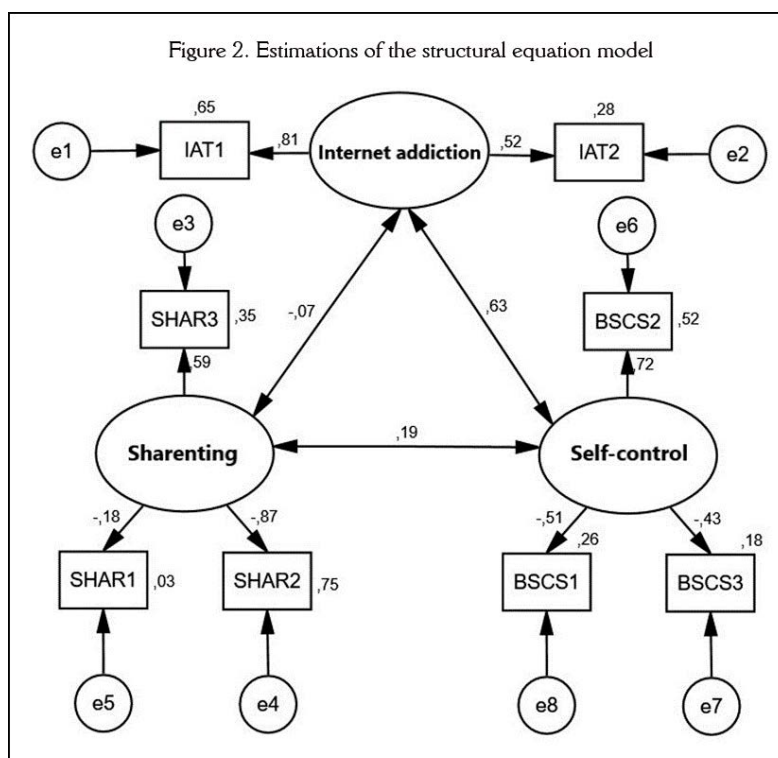
	Independent variable	B	SE	T	β	p	R ²
Sharenting	Gender	-.80	.461	-1.754	-.16	.083	.07
	Age	.24	.185	1.334	.16	.185	
	Studies	.04	.144	.282	.03	.778	
	Employment situation	-.14	.407	-.346	-.03	.730	
Internet addiction	Gender	-.33	.890	-.371	-.02	.711	.07
	Age	-1.35	.432	-3.147	-.19**	.002	
	Studies	-.27	.319	-.872	-.05	.384	
	Employment situation	1.49	.954	1.566	.09	.118	
	Sharing pictures	-.04	.920	-.045	-.00	.964	
Self-control	Gender	-1.19	.610	-1.955	-.10*	.050	.06
	Age	-.71	.296	-2.419	-.14**	.016	
	Studies	.01	.219	.050	.00	.960	
	Employment situation	1.59	.655	2.429	.14**	.016	
	Sharing pictures	-.77	.631	-1.235	-.06	.218	

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

In order to set the SEM, the hypothesis of multivariate normality was met, given that the skewness had values below two, and kurtosis below seven (Curran et al., 1996) (Table 4). Kolmogorov-Smirnov Test obtained values that confirmed this hypothesis for sharenting (K-S=.142, $df=107$; $p=.072$), Internet addiction (K-S=.089, $df=107$; $p=.067$) and self-control (K-S=.085, $df=107$; $p=.054$) (Pedrosa et al., 2015).

	M	SD	Skewness	Kurtosis
Sharenting	11.18	1.720	.207	.088
Internet addiction	24.27	7.972	.777	.592
Self-control	35.80	5.452	.197	.044

The goodness-of-fit indexes for SEM are normal and confirm the adequacy of data (Figure 2): the root mean squared error of approximation (RMSEA= .017); the goodness-of-fit index (GFI= .960); the root mean residual index (RMR= .038); the Tucker-Lewis index (TLI= .990); the parsimony goodness-of-fit index (PGFI= .697), and the comparative fit index (CFI= .994).



Note. Chi-square=17.551; df=17; p=.000.

Estimations of the structural equation model reveal the positive and significant correlation between Internet addiction and self-control ($R = .626$; $p = ***$), the positive correlation between self-control and sharenting ($R = .186$) and the negative correlation between sharenting and Internet addiction ($R = -.069$) (Table 5).

Table 5. Parameter estimates of final model

Correlation	Cov	SE	CR	p	R
Internet addiction ↔ Self-control	.488	.135	3.608	***	.626
Sharenting ↔ Internet addiction	-.020	.040	-.511	.610	-.069
Self-control ↔ Sharenting	.040	.036	1.127	.260	.186

Note. CR=critical ratio; ***p < .001.

5. Discussion and conclusions

The results obtained are similar to the McAfee study in terms of sharenting frequency, in which nearly 30% of the sample engages in this practice (Davis, 2018). Moreover, the data reveal a common use of social networks to share images of underage relatives. Internet addiction and self-control are directly related and show a certain impact on sharenting.

In particular, data on sharenting suggest that the underage children affected by their relatives publishing images are usually cousins or the younger siblings, followed by sons / daughters and nephews / nieces, though at a lower percentage. Hence, it is not only underage sons / daughters who are affected nowadays, as per traditional sharenting (Çimke et al., 2018). This enables new perspectives in the study of sharenting, where there are cases that go beyond the publication of images by parents depicting their children. This online image publication is carried out to a larger extent on a monthly or annual basis. Relatives upload

an average of fewer than 10 pictures to networks. Nonetheless, almost 5% of them published more than 50 pictures. This is related to the problematic use of social networks, which compromises the minor's privacy and security. The preferred platforms to share pictures are social media (Malo-Cerrato et al., 2018). Particularly, WhatsApp leads the ranking well above the rest. Even so, the results show other social networks linked to this kind of practice, like Instagram, Facebook, Twitter and Telegram. The differences in the use of social networks are a result of the trend in their use, where in recent years, Instagram has experienced a boom in the number of users who share images of children on the network (Choi & Lewallen, 2018). Although, according to the data obtained in the study, Facebook continues to be one of the preferred social networks for parents to share photos (Marasli et al., 2016). To a lesser extent, Twitter and Telegram are used for this purpose. In particular, Twitter is one of the least used despite the boom it had a few years ago. The influx of other social networks has conditioned the specialization of Twitter in other types of content and public. So, based on the data in this study, Twitter is not usually used to share pictures of underage relatives, which contrasts with data collected in previous studies (Otero, 2017).

Concerning privacy, more than half of adults' remark that they have the child's permission to upload pictures. The other half (nearly 50%) has not received the minor's permission (Brosch, 2016). This is linked to the main issues on sharenting: the publication of images regardless of the repercussions for the minor. To this regard, the adult respondents share these kinds of pictures even though most of them deem it inappropriate to share images of the underage online. In addition, they strongly believe that they are not invading the child's privacy, which goes against children's data protection law (Büscher & Eberlin, 2017).

This has an impact on the idea that sharenting implies no risks for minors. In this sense, adults usually ignore the other's perspective, since pictures have sensitive information that may generate feelings of shame and frustration in the affected individuals (Choi & Lewallen, 2018; Lipu & Siibak, 2019; Ouvrein & Verswijvel, 2019). Furthermore, it is necessary to consider the risk caused by the mass publication of pictures, which facilitates the theft of images or, even worse, the minor's identity being stolen by cybercriminals (Otero, 2017). This creates an added issue to the problem of sharenting, since adults are not aware of the real risks of sharing photos on the Internet. This is compounded by the fact that photos are forwarded between contacts, which increases the dissemination of images. In particular cases, these images can become viral or become memes, with the image of the child becoming an object of joke and/or mockery.

It is a linear fact that the uncontrolled publication of images of underage relatives on the Internet is linked to adults' disinformation about digital security (Kopecký & Szotkowski, 2018). Data showed that the Spanish adults surveyed are not aware of the risks implied in this kind of practice for the minor's safety. This case study is related to the data from Spanish studies indicating the low acquisition level for this digital competence (Aguaded et al., 2015; Cortina et al., 2014; Martínez & Rodríguez-García, 2018; Prendes et al., 2018). The training of adults in digital matters is fundamental to the problem of sharenting, an aspect that should be stressed in order to reduce the publication of images of minors without control or consent on the part of the child.

Among the reasons given by participants for sharing these images online, what stands out is the desire to share family moments, and the fact that the picture is funny. In spite of the need for self-expression not being new, this has increased on social media, given that it reaches a greater audience (Dhir et al., 2017). Hence, personal emotions emerge, such as pride towards the underage relative, the expression of which is materialised through sharing their image with contacts on social networks (Kopecký et al., 2020; Lazard et al., 2019). This possibility of expressing a feeling with other contacts is one of the incentives of sharenting, there are even cases where adults use the photographs of the child for their own economic benefit (child YouTuber cases) and even sentimental (if they are used to flirt with or harm a former partner).

Statistically significant differences were found in Internet addiction and self-control according to age. The range of 18-21 years of age is the one which presents a higher rate of Internet addiction (Díaz-Aguado et al., 2018). It extends to 25 years old for self-control, where the population aged 18-25 shows lower self-control. Data reflect a remarkable inversely proportional relationship between age and Internet addiction. This link between age, Internet addiction and self-control was confirmed in the multiple linear regression

model, which indicates that age is a predictor of Internet addiction and self-control. The level of studies also had an impact on Internet addiction and self-control, with significant differences between groups. The participants that completed up to A-Levels (Spanish Baccalaureate) are more likely to have higher Internet addiction and lower self-control. We found a tendency that suggests that the higher the level of studies of the population, the lower the rate of Internet addiction and the higher the self-control.

Employment status is also an indicator of Internet addiction and self-control. Significant differences were found between active and inactive participants. Inactive individuals received higher scores in terms of Internet addiction and lower self-control. Furthermore, employment status was a predictor of self-control, then significantly saturating the linear regression model together with age and gender.

Nonetheless, no significant differences were found in relation to Internet addiction and self-control within the population that does sharenting and the one that does not, even though the scores of the sharenting group are higher on both scales. Thus, there are indications that sharenting can be linked to Internet addiction and self-control. However, in this study the data have not confirmed these premises. No socio-demographic predictive factors for sharenting were established with the linear regression model. So, a priori, sharenting can be found equally in all sectors of the population without being influenced by gender, age, educational level or employment status.

Finally, the SEM calculated the correlations between the study variables. The only significant correlation was observed between Internet addiction and self-control, which is positive. In this sense, the higher the Internet addiction, the higher the scores on the BSCS scale, which indicates that self-control is lower (Dumbar et al., 2017; Kim et al., 2017; Hatami et al., 2019; Mann et al., 2017; Oliva et al., 2019; Shirinkam et al., 2016; Song & Park, 2019; Yeun & Han, 2016).

The other correlations, despite not being significant, registered the positive correlation between self-control and sharenting. Hence, a link could be established between the possibility of lower self-control being an indicator of sharing images of underage relatives online, as well as the negative correlation between sharenting and Internet addiction. A priori, Internet addiction was not linked to the uploading of these kinds of pictures online, even if the likelihood of sharenting is potentially higher in the population with Internet addiction as previous studies indicate (Ouvrein & Verswijvel, 2019).

In summary, sharing images of relatives with other individuals has been a common practice since the origins of photography. Nevertheless, the ways chosen to show those pictures to the people close to us has been evolving in recent years. We have gone from sharing that special image in person, often kept in our wallet, to sharing it digitally through social networks to a vastly larger and unknown audience.

The study answered the aims and questions herein stated. Relevant information has been gathered on the level of image publication by the surveyed Spanish adults. In addition, certain socio-demographic factors that have an effect on Internet addiction and self-control were determined, and the correlations between the three study variables were calculated.

The practical contributions of this paper include the need to generate informative literature for adults on Internet security, and the risks associated with practices like sharenting. The findings obtained may be used in education centres to teach younger students about the appropriate use of technology. Certain measures should be established in higher education levels, where the age group that is most likely to suffer from Internet addiction is concentrated, in order to help mitigate this issue. For example, the dissemination of information posters and training focused on the good use of technology.

The sample size was one of the limitations of this paper. It would be ideal for future studies to increase the sample to verify whether the data change or remain steady. The number of socio-demographic factors explored should be increased as well, considering that they are limited. It is advisable that future papers widen the number of independent variables to verify whether there are others that work as predictors of sharenting, Internet addiction or self-control. Furthermore, it would be interesting for future studies to address the forwarding of photographs of minors from contacts and also the forwarding of viral images or memes containing the image of a minor.

In conclusion, this paper is completely in line with studies on sharenting. Yet, what distinguishes it is the expansion of research. It is one of the first studies addressing sharenting from a quantitative viewpoint and relating this phenomenon to other variables in a wide sample of participants.

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References

- Aguaded, I., Tirado-Morueta, R., & Ángel Hernando-Gómez (2015). Media competence in adult citizens in Andalusia, Spain. *Information, Communication & Society, 18*, 659-679. <https://doi.org/10.1080/1369118x.2014.985244>
- Altan, P., Polat, S., & Yildirim, G.E. (2018). Strengthening the implementation of the FCTC with a special focus to youth. *Tobacco Induced Diseases, 16*, 261-267. <https://doi.org/10.18332/tid/84501>
- Balhara, Y.P.S. (2018). Behavioural addictions: Need to correct misnomers. *Asian Journal of Psychiatry, 36*, 118-118. <https://doi.org/10.1016/j.ajp.2018.07.014>
- Blum-Ross, A., & Livingstone, S. (2017). "Sharenting," parent blogging, and the boundaries of the digital self. *Popular Communication, 15*(2), 110-125. <https://doi.org/10.1080/15405702.2016.1223300>
- Brosch, A. (2016). When the child is born into the internet: Sharenting as a growing trend among parents on facebook. *The New Educational Review, 43*, 225-235. <https://doi.org/10.15804/ner.2016.43.1.19>
- Büscher, F., & Eberlin, T. (2017). Sharenting, freedom of expression and children's privacy in the digital environment: The role of application providers under the Brazilian legal framework. *Brazilian Journal of Public Policy, 7*(3), 255-273. <https://doi.org/10.5102/rbpp.v7i3.4821>
- Choi, G.Y., & Lewallen, J. (2018). "Say Instagram, Kids!": Examining sharenting and children's digital representations on Instagram. *Howard Journal of Communications, 29*(2), 144-164. <https://doi.org/10.1080/10646175.2017.1327380>
- Cortina-Pérez, B., Gallardo-Vigil, M.A., Ángeles Jiménez-Jiménez, M., & Trujillo-Torres, J.M. (2014). Digital illiteracy: A challenge for 21st century teachers. *Cultura y Educación, 26*(2), 231-264. <https://doi.org/10.1080/11356405.2014.935108>
- Curran, P.J., West, S.G., & Finch, J.F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods, 1*(1), 16-29. <https://doi.org/10.1037/1082-989x.1.1.16>
- Davis, G. (2018). *Should you post pics of your kids? Insights from our age of consent survey*. McAfee. <https://bit.ly/2U0Jemi>
- Del-Valle, M., Galli, J.I., Urquijo, S., & Canet, L. (2019). Spanish adaptation of the Self-Control Scale and the Brief Self-Control Scale and evidences of validity in university population. *Revista Argentina de Ciencias del Comportamiento, 11*(2), 52-64. <https://doi.org/10.32348/1852.4206.v11.n2.23413>
- Dhir, A., Chen, G.M., & Chen, S. (2017). Why do we tag photographs on Facebook? Proposing a new gratifications scale. *New Media & Society, 19*(4), 502-521. <https://doi.org/10.1177/1461444815611062>
- Díaz-Aguado, M.J., Martín-Babarro, J., & Falcón, L. (2018). Problematic Internet use, maladaptive future time perspective and school context. *Psicothema, 30*(2), 195-200. <https://doi.org/10.7334/psicothema2017.282>
- Dunbar, D., Proeve, M., & Roberts, R. (2017). Problematic internet usage self-regulation dilemmas: Effects of presentation format on perceived value of behavior. *Computers in Human Behavior, 70*, 453-459. <https://doi.org/10.1016/j.chb.2017.01.015>
- Europa press (Ed.) (2017). España, el país con más 'smartphones' por habitante del mundo. <https://bit.ly/2WEQnbn>
- Hatami, A., Badrani, M.R., Mohammadzadeh, H., & Kargar, M. (2019). Examining the relationship between addiction to social networks and social maturity of university students. *Journal of Research in Medical and Dental Science, 7*(1), 14-19. <https://bit.ly/2UitMZkt>
- Hootsuite (Ed.) (2019). Digital in 2019. <https://bit.ly/2MNyJyO>
- Kim, J., Hong, H., Lee, J., & Hyun, M.H. (2017). Effects of time perspective and self-control on procrastination and Internet addiction. *Journal of Behavioral Addictions, 6*(2), 229-236. <https://doi.org/10.1556/2006.6.2017.017>
- Kopecký, K., & Sztokowski, R. (2018). *Parents and fatherhood in the digital age*. Olomouc.
- Kopecký, K., Sztokowski, R., Aznar-Díaz, I., & Romero-Rodríguez, J.M. (2020). The phenomenon of sharenting and its risks in the online environment. Experiences from Czech Republic and Spain. *Children and Youth Services Review, 110*, 104812. <https://doi.org/10.1016/j.chilyouth.2020.104812>
- Lazard, L., Capdevila, R., Dann, C., Locke, A., & Roper, S. (2019). Sharenting: Pride, affect and the day-to-day politics of digital mothering. *Social and Personality Psychology Compass, 13*(4), e12443-e12443. <https://doi.org/10.1111/spc3.12443>
- Lipu, M., & Siibak, A. (2019). 'Take it down!': Estonian parents' and pre-teens' opinions and experiences with sharenting. *Media International Australia, 170*(1), 57-67. <https://doi.org/10.1177/1329878x19828366>
- Lowe, M.L., & Haws, K.L. (2019). Confession and self-control: A prelude to repentance or relapse? *Journal of Personality and Social Psychology, 116*(4), 563-581. <https://doi.org/10.1037/pspi0000152>
- Malo-Cerrato, S., de-las Mercedes Martín-Perpiñá, M., & Viñas-Poch, F. (2018). Excessive use of social networks: Psychosocial profile of Spanish adolescents. [Uso excesivo de redes sociales: Perfil psicossocial de adolescentes españoles]. *Comunicar, 56*, 101-110. <https://doi.org/10.3916/c56-2018-10>
- Mann, K., Kiefer, F., Schellekens, A., & Dom, G. (2017). Behavioural addictions: Classification and consequences. *European Psychiatry, 44*, 187-188. <https://doi.org/10.1016/j.eurpsy.2017.04.008>
- Marasli, M., Suhendan, E., Yilmazturk, N.H., & Cok, F. (2016). Parents' shares on social networking sites about their children: Sharenting. *The Anthropologist, 24*, 399-406. <https://doi.org/10.1080/09720073.2016.11892031>
- Martínez, N., & Rodríguez-García, A.M. (2018). Literacy and digital competence in elderly people: The case of the open training classroom of University of Granada. *Espacios, 39*(10). <https://bit.ly/2UuMBDD>
- Ministry of Health, Consumption and Social Welfare (Ed.) (2018). Plan de Acción sobre Adicciones 2018-2020. <https://bit.ly/2O44DWQ>

- Oliva, A., Antolín-Suárez, L., & Rodríguez-Meirinhos, A. (2019). Uncovering the link between self-control, age, and psychological maladjustment among Spanish adolescents and young adults. *Psychosocial Intervention*, 28(1), 49-55. <https://doi.org/10.5093/pi2019a1>
- Otero, P. (2017). Sharenting... should children's lives be disclosed on social media? *Arch Argent Pediatr*, 115(5), 412-414. <https://doi.org/10.5546/aap.2017.eng.412>
- Ouvrein, G., & Verswijvel, K. (2019). Sharenting: Parental adoration or public humiliation? A focus group study on adolescents' experiences with sharenting against the background of their own impression management. *Children and Youth Services Review*, 99, 319-327. <https://doi.org/10.1016/j.chidyouth.2019.02.011>
- Pawlikowski, M., Altstötter-Gleich, C., & Brand, M. (2013). Validation and psychometric properties of a short version of Young's Internet Addiction Test. *Computers in Human Behavior*, 29(3), 1212-1223. <https://doi.org/10.1016/j.chb.2012.10.014>
- Pedrosa, I., Juarros-Basterretxea, J., Robles-Fernández, A., Basteiro, J., & García-Cueto, E. (2015). Goodness of fit tests for symmetric distributions, which statistical should i use? *Universitas Psychologica*, 14(1), 245-254. <https://doi.org/10.11144/Javeriana.upsy14-1.pbad>
- Prendes, M.P., Solano, I., Serrano, J.L., González, V., & Román, M.M. (2018). Personal learning environments to understand and develop digital competence: Analysis of university students in Spain. *Educatio Siglo XXI*, 36(2), 115-134. <https://doi.org/10.6018/j/333081>
- Puerta-Cortés, D.X., Carbonell, X., & Chamorro, A. (2012). Análisis de las propiedades psicométricas de la versión en español del Internet Addiction Test. *Trastornos Adictivos*, 14, 99-104. [https://doi.org/10.1016/s1575-0973\(12\)70052-1](https://doi.org/10.1016/s1575-0973(12)70052-1)
- Shirinkam, M.S., Shahsavarani, A.M., Toroghi, L.M., Mahmoodabadi, M., Mohammadi, A., & Sattari, K. (2016). Internet addiction antecedents: Self-control as a predictor. *International Journal of Medical Research & Health Sciences*, 5(5), 143-151. <https://bit.ly/2vJ3EIB>
- Song, W.J., & Park, J.W. (2019). The influence of stress on internet addiction: Mediating effects of self-control and mindfulness. *International Journal of Mental Health and Addiction*, 17, 1063-1075. <https://doi.org/10.1007/s11469-019-0051-9>
- Tangney, J.P., Baumeister, R.F., & Boone, A.L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72(2), 271-324. <https://doi.org/10.1111/j.0022-3506.2004.00263.x>
- Xu, L., Bao, T., Zhu, L., & Zhang, Y. (2019). Trust-based privacy-preserving photo sharing in online social networks. *IEEE Transactions on Multimedia*, 21(3), 591-602. <https://doi.org/10.1109/tmm.2018.2887019>
- Yeun, Y.R., & Han, S.J. (2016). Effects of psychosocial interventions for schoolaged children's internet addiction, self-control and self-esteem: Meta-Analysis. *Healthcare Informatics Research*, 22(3), 217-217. <https://doi.org/10.4258/hir.2016.22.3.217>
- Young, K.S. (1998). *Caught in the net: How to recognize the signs of Internet addiction – And a winning strategy for recovery*. John Wiley & Sons, Inc.