Psicothema

Psicothema 2019, Vol. 31, No. 2, 204-209
doi: 10.7334/psicothema2018.301

ISSN 0214 - 9915 CODEN PSOTEG

www.psicothema.com

Spanish version of the Facebook Intrusion Questionnaire (FIQ-S)

Rebecca Bendayan[1] and Maria J Blanca[2]
[1] Institute of Psychiatry, Psychology & Neuroscience (IoPPN), King's College London and [2] University of Málaga

Abstract

Background: Although there is growing research on the excessive use of Facebook and its correlates, most studies to date are not directly comparable or generalizable to the overall population as their samples are often limited to students and they use different assessment tools. The first aim of our study was to develop a Spanish version of the Facebook Intrusion Questionnaire (FIQ-S), an instrument which emphasises the social components and consequences of excessive Facebook use. Second, we aimed to examine its psychometric properties: factor structure, reliability and external validity. **Methods:** Participants were 567 Spanish adults who completed an online battery of questionnaires, including variables related to addictive behaviours. **Results:** Exploratory and confirmatory factor analysis, using a cross-validation strategy, supported a one-factor structure. The composite reliability value was adequate. Evidence of external validity was provided via correlational analysis, showing a negative association with self-control and positive associations with time spent using social networking sites, problematic mobile phone use, internet addiction, phubbing, fear of missing out and depression. **Conclusions:** Results are consistent with the original validation study and confirm the addictive component of the construct measured and highlight the impact of Facebook abuse on mental health.

Keywords: Facebook addiction, phubbing, social networks, mobile phones, internet addiction.

Resumen

Versión española del Cuestionario de Intrusión del Facebook (FIQ-S). **Antecedentes:** a pesar de que está aumentando la investigación sobre el uso excesivo de Facebook y sus correlatos, la mayoría de los estudios no son directamente comparables o generalizables a la población general ya que sus muestras suelen ser de estudiantes y usan diferentes instrumentos de evaluación. El primer objetivo es desarrollar la versión española del Cuestionario de Intrusión del Facebook (FIQ-S). Este instrumento enfatiza los componentes y consecuencias sociales del uso excesivo del Facebook. El segundo objetivo es examinar sus propiedades psicométricas: estructura factorial, fiabilidad y validez externa. **Método:** los participantes fueron 567 adultos españoles, quienes completaron una batería de cuestionarios online. **Resultados:** los análisis factoriales exploratorios y confirmatorios, con validación cruzada, muestran una estructura unifactorial. La fiabilidad compuesta es adecuada. Los análisis de las correlaciones muestran evidencias de validez externa, encontrándose asociaciones negativas con autocontrol y positivas con tiempo de uso de las redes sociales, uso problemático del teléfono móvil, phubbing, adicción a internet, miedo a perderse algo y depresión. **Conclusiones:** los resultados son consistentes con el estudio de validación de la versión original y confirman el componente adictivo del constructo evaluado. Además, se destaca el impacto del uso excesivo de Facebook en salud mental.

Palabras clave: adicción al Facebook, phubbing, redes sociales, teléfono móvil, adicción a internet.

In recent years there has been growing research into the excessive use of and addiction to social networking sites such as Facebook (Andreassen, 2015). Facebook addiction can be conceptualized within the broader theoretical framework of internet addiction, defined in Caplan's (2010) theory (Ryan, Chester, Reece, & Xenos, 2016) as the situation in which individuals fail to regulate their own usage and experience negative outcomes as a consequence. According to Caplan, deficient self-regulation of online activities usually occurs when individuals enjoy communicating in online environments more than they do face-to-face, there being an increased risk of addiction when these individuals use online social applications as a means of escaping from negative moods, such as loneliness or anxiety.

Received: October 31, 2018 • Accepted: February 27, 2019
Corresponding author: Rebecca Bendayan
Institute of Psychiatry, Psychology & Neuroscience (IoPPN)
King's College London
London (Reino Unido)
e-mail: rebecca.bendayan@kcl.ac.uk

Given this context, it is not surprising that research on the addictive component of Facebook also uses terms such as Facebook intrusion to emphasise the social consequences of this behaviour. Facebook intrusion can be defined as an excessive involvement with Facebook which disrupts daily life activities and interpersonal relationships (Elphinston & Noller, 2011). It has consistently been found to be associated with internet addiction (Kuss & Griffiths, 2017) and time spent using social networking sites (Blachnio, Przepiorka, & Pantic, 2016; Hong, Huang, Lin, & Chiu, 2014; Koc & Gulyagci, 2013). Studies have also found that being young and male (Blachnio, Przepiorka, & Pantic, 2015) and having a higher year-level at university (Çam & Işbulan, 2012) seem to be common characteristics of individuals who score higher on Facebook intrusion. The association between Facebook intrusion and wellbeing and health-related outcomes is also a topic of growing research interest (Kuss & Griffiths, 2017; Satici, 2018; Steers, 2016). Steers (2016) summarized the ongoing debate on the impact of Facebook use on wellbeing and noted the negative associations that emerge when this use becomes addictive.

Specifically, it has been shown that Facebook intrusion is associated with depression (Blachnio, Przepiorka, & Pantic, 2016; Baker & Algorta, 2016; Koc & Gulyagci, 2013), self-control (Błachnio & Przepiorka, 2016), problematic mobile phone use and phubbing (Błachnio & Przepiorka, 2018; Chasombat, 2015; Karadağ et al., 2015; Przybylski, Murayama, DeHaan, & Gladwell, 2013) and fear of missing out, FoMO (Kuss & Griffiths, 2017; Oberst, Wegmann, Stodt, Brand, & Chamarro, 2017).

Most of the abovementioned studies are not directly comparable or generalizable to the overall population as their samples are often limited to students and they use different assessment tools (Andreassen, 2015; Kuss & Griffiths, 2017; Ryan, Chester, Reece, & Xenos, 2014; Wolniczak et al., 2013). Given the current drive to promote research replicability (Koole & Lakens, 2012; Open Science, 2015), which is essential to build scientific knowledge, there is an urgent need to develop and validate assessment tools which allow cross-cultural comparisons (Błachnio, Przepiorka, Benvenuti et al., 2016). This is especially relevant in the case of instruments for the assessment of behaviours which are of growing interest for researchers and clinicians, as is the case of Facebook intrusion (e.g., Brailovskaia, Margraf, & Köllner, 2019; Errasti, Vázquez, Villadangos, & Morís, 2018; Marino, Gini, Vieno, & Spada, 2018). Therefore, the primary aim of the present study was to develop a Spanish version of the Facebook Intrusion Questionnaire (FIQ-S; Elphinston & Noller, 2011) and to examine its psychometric properties: factor structure, reliability and external validity. The FIQ was developed based on Brown's (1997) behavioural addiction components and the mobile phone involvement questionnaire by Walsh et al. (2010). It consists of eight items (e.g., "I often think about Facebook when I am not using it") and uses a Likert-type response format ranging from 1 to 7. Factor analysis of the original version supported a one-factor structure and adequate psychometric properties (internal consistency of .85). In addition to providing evidence for the factor structure of the FIQ-S using a cross-validation strategy, we also aimed to obtain evidence of its external validity by exploring the associations between Facebook intrusion and known correlates of addictive behaviours such as self-control, time spent using social networking sites, problematic mobile phone use, internet addiction, phubbing, FoMO and depression.

Method

Participants

Participants were 567 Spanish adults aged between 18 and 67 years (M=29.09, SD=12.03). Ninety-one percent of the participants lived in the Andalusian region. The inclusion criteria were: (a) age 18 years or older, (b) Spanish nationality, (c) living in Spain, and (d) having a Facebook account and being a mobile phone user. The characteristics of the sample are shown in Table 1.

Instruments

Facebook intrusion. This was measured using the Facebook Intrusion Questionnaire (FIQ; Elphinston & Noller, 2011), which comprises eight items each rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). A higher total score on the FIQ is indicative of a higher level of Facebook intrusion. The FIQ was adapted into Spanish using a back-translation method in accordance with the recommendations of the International Test Commission (2005; Muñiz, Elosua, & Hambleton, 2013) and following standard recommendations for adapting questionnaires (Muñiz & Fonseca-Pedrero, 2019). The original instrument was first translated into Spanish by two translators, both native speakers of Spanish. Next, and in collaboration with the translators, the authors rated the equivalence of the English and Spanish versions and systematically reviewed each of the items. The Spanish version was then translated back into English by a different translator (a native English speaker), after which the research team compared the original and back-translated English versions to ensure semantic and conceptual equivalence. This questionnaire does not include any reversed items which reduces potential issues regarding measurement precision, interpretation of dimensionality or possible response bias associated with individual's characteristics (Suárez-Alvarez et al., 2018). Finally, the FIQ-S was administered to 30 students in a pilot session. The students confirmed that the items were clear and easy to understand, thus no modifications were required. Items in Spanish are showed in Table 2.

Self-control. We used the Self-Control Brief Scale (SC-BS; Tangney, Baumeister, & Boone, 2004), which consists of 13 items each rated on a scale from 1 (not at all like me) to 5 (very much like me). The SC-BS measures the ability to override one's inner responses and to interrupt undesired behavioural tendencies and refrain from acting on them. Example items are "I am good at resisting temptation" and "I wish I had more self-discipline". Higher scores indicate a higher level of self-control. The Cronbach's alpha coefficient for scores in our sample was .81.

Time spent using social networking sites. To determine the time spent using social networking sites, participants were asked: 'Approximately, how long do you spend each day on social networking sites?' The response options were: Less than 1 hour, 1-3 hours, 3-5 hours, 5-8 hours and more than 8 hours.

Table 1
Percentage of participants as a function of sociodemographic variables

Variables	Percentage
Gender	
Men	38.1
Women	61.9
Age (years)	
18-30	69.5
31-50	20.6
50+	9.9
Marital status	
Single	70.2
Married	25.9
Divorced	3.5
Widowed	0.4
Education	
Primary	0.5
Secondary	41.7
University	57.8
Social status	
Student	48.9
Employed	29.3
Student and employed	15.0
Unemployed/retired	6.8

Table 2
Factor loadings from the exploratory factor analysis of FIQ-S scores in the first sample (n = 272)

Items	Factor loading
1. I often think about Facebook when I am not using it [A menudo pienso en Facebook cuando no lo estoy usando]	.709
2. I often use Facebook for no particular reason [A menudo uso Facebook sin una razón concreta]	.539
3. Arguments have arisen with others because of my Facebook use [He tenido discusiones con otras personas por el tiempo que dedico a Facebook]	.595
4. I interrupt whatever else I am doing when I feel the need to access Facebook [Interrumpo lo que estoy haciendo cuando siento la necesidad de acceder a Facebook]	.779
5. I feel connected to others when I use Facebook [Me siento conectado/a a otras personas cuando uso Facebook]	.581
6. I lose track of how much I am using Facebook [Pierdo la noción del tiempo cuando uso Facebook]	.658
7. The thought of not being able to access Facebook makes me feel distressed [La idea de no poder acceder a Facebook me angustia]	.764
8. I have been unable to reduce my Facebook use [No he sido capaz de reducir mi uso de Facebook]	.668

Problematic mobile phone use. This was assessed with the Adapted Mobile Phone Use Habits (AMPUH; Smetaniuk, 2014), a 10-item scale with response options ranging from 1 (never) to 5 (always). Each item on the AMPUH refers to a behavioural characteristic associated with a symptom related to addictive behaviour. Example items are "Are you preoccupied with your mobile phone?" and "Do you use your mobile phone to escape problems or lift your mood?" Higher scores are indicative of a more problematic mobile phone use. Cronbach's alpha coefficient in our sample was .70.

Internet addiction. The Internet Addiction Scale (IAS; Karadağ et al., 2015) was used. The IAS consists of six items each rated on a 5-point scale from 1 (never) to 5 (always). Example items are "The people around me say that I spend too much time dealing with the internet" and "I prefer to spend time on the internet rather than go out with others". Higher scores indicate a higher level of internet addiction. Cronbach's alpha coefficient in our sample was .77.

Phubbing. This was measured with the Phubbing Scale (PS; Karadağ et al., 2015; Blanca & Bendayan, 2018). The PS comprises 10 items each rated on a 5-point scale from 1 (never) to 5 (always). The scale provides scores on two factors: communication disturbance (5 items, e.g. "I am busy with my mobile phone when I'm with my friends") and phone obsession (5 items; e.g. "My phone is always within my reach"). Higher scores on the first factor indicate how often individuals disturb their face-to-face communications by using their mobile phones, whereas higher scores on the second factor imply a greater need for their mobile phone in environments that do not involve a face-to face interaction. Cronbach's alpha coefficients in our sample were .81 and .72, respectively.

Fear of missing out. Participants completed the Fear of Missing Out Scale (FoMOs; Przybylski, Murayama, DeHaan, & Gladwell, 2013), which comprises 10 items each rated from 1 (not at all true of me) to 5 (extremely true of me). Example items are "I get anxious when I don't know what my friends are up to" and "When I miss out on a planned get-together it bothers me". Higher scores indicate a higher level of the fear of missing out. Cronbach's alpha coefficient in our sample was .84.

Depression. This was assessed with the Center for Epidemiologic Studies Depression Scale (CESD; Radloff, 1977; Andresen, Malmgren, Carter, & Patrick, 1994), which consists of 10 items each rated on a 4-point scale from 1 (rarely or none of the time) to 4 (most or all of the time). Respondents have to consider how they have felt in the past week or so. Example items are "I felt depressed" and "My sleep was restless". Higher scores indicate a higher level of depression. Cronbach's alpha coefficient in our sample was .84.

Procedure

The study procedures were carried out in accordance with the Declaration of Helsinki. The Research Ethics Committee of the University of Málaga, Spain, approved the study. All subjects were informed about the study and all provided informed consent. Participants completed an online survey which was disseminated through the website of the University of Malaga. A snowball sampling strategy was adopted to recruit participants, who were informed about the anonymity of the study. The time required to complete the survey was approximately 15 minutes. Participants were required to answer all the survey questions, and consequently there were no missing data.

Data analysis

To analyse the internal structure of the FIQ-S a cross-validation strategy was employed, splitting the sample into two random groups. With the first sample (n = 272), and in accordance with the procedure used by Elphinston and Noller (2011), we performed an exploratory factor analysis (EFA) with Oblimin rotation. To establish the number of factors we considered factors with eigenvalues above 1 (Kaiser's criterion) as well as the Scree Test. We then used confirmatory factor analysis (CFA) to test the one-factor model suggested by Elphinston and Noller (2011) in both the first and the second sample (n = 295). Finally, having verified the adequate fit of the one-factor model, we tested it in the total sample.

The CFAs were performed using structural equation modelling and the EQS 6.3 software package (Bentler, 2006). Analyses were performed on the polychoric correlation matrix of items, using the maximum likelihood and robust estimation methods. The Satorra-Bentler chi-square ($\chi^2_{S\text{-}B}$) was computed with the following goodness-of-fit indices (Bentler, 2006): the comparative fit index (CFI), the non-normed fit index (NNFI) and the root mean square error of approximation (RMSEA). Values of the CFI and NNFI close to .95 are indicative of a good fit (Hu & Bentler, 1999), although values above .90 are usually considered to indicate an acceptable fit (Bentler, 1992; Bentler & Bonett, 1980). Values of the RMSEA below .06 indicate a good fit (Hu & Bentler, 1999) and those less than .08 a reasonable fit (Browne & Cudeck, 1993).

In order to perform an item analysis of the FIQ-S we calculated the corrected item-total correlations, that is, the correlation between each item and the total questionnaire score (the sum of item scores) when removing that item. Values greater than .30 were considered satisfactory (De Vaus, 2002; Traub, 1994).

Internal consistency was assessed by calculating the composite reliability for total scores. Values greater than .70 were considered acceptable (Fornell & Larcker, 1981). The average variance extracted (AVE) was also computed with values greater than .50 considered as acceptable (Fornell & Larcker, 1981).

Finally, external validity was examined through correlational analysis, examining the relationship between FIQ-S scores and scores on the measures of self-control, time spent using social networking sites, problematic mobile phone use, internet addiction, phubbing (communication disturbance and phone obsession), FoMO and depression.

Results

Exploratory factor analysis of FIQ-S scores

Using the first sample we conducted an EFA of FIQ-S scores. The Kaiser-Meyer-Olkin (KMO) index was .83 and Bartlett's test of sphericity was statistically significant, χ^2 (28) = 609.32, p < .001. There was only one factor with eigenvalues higher than 1 and the Scree plot clearly showed a solution of one factor. The percentage of explained variance was equal to 44.42. The factor loadings are shown in Table 2.

Confirmatory factor analysis of FIQ-S scores

The fit of the one-factor structure for the FIQ-S was assessed for the two random samples and for the total sample. Results are shown in Table 3. The values of the goodness-of-fit indices for all samples indicated a good fit. The CFI and NNFI values were both .99, and RMSEA indices were below .06. Table 4 shows the corresponding factor loadings extracted with the total sample, all of which are statistically significant.

Item analysis, AVE and reliability

The corrected item-total correlations are shown in Table 4. All values were above .30. The composite reliability for total scores was equal to .90. The AVE was equal to .54, showing that the amount of variance that is captured by the construct is larger than the variance due to measurement error (Fornell & Larcker, 1981).

Evidences of external validity

The results of the correlational analysis are shown in Table 5. Overall, results showed a negative correlation between the total score on the FIQ-S and self-control, and positive correlations with time spent using social networking sites, problematic mobile phone use, internet addiction, phubbing, FoMO and depression.

Table 3
Fit indices for the one-factor model of FIQ-S scores

One-factor model	χ2	S-B χ2	df	CFI	NNFI	RMSEA
Sample 1	64.18	22.08	20	.99	.99	.020 [.001-.057]
Sample 2	74.87	32.77	20	.99	.99	.047 [.012-.074]
Total sample	116.44	42.97	20	.99	.99	.045 [.026-.064]

Note: n sample 1 = 272; n sample 2 = 295; N total sample = 567

Discussion

The aims of this study were to develop and validate a Spanish version of the FIQ and to provide empirical evidence of its internal and external validity. Exploratory and confirmatory analyses showed that the FIQ-S has a one-factor structure consistent with that of the original questionnaire (Elphinston & Noller, 2011). The FIQ-S was also found to have adequate item properties and internal consistency. These results confirm the internal validity of this questionnaire and support its adequacy for use with Spanish-speaking individuals. Importantly, this evidence is derived from a larger sample with greater age heterogeneity than has been the case in previous research (Andreassen, 2015; Kuss & Griffiths, 2017; Ryan, Chester, Reece, & Xenos, 2014; Wolniczak et al., 2013). It should be noted that although this study provides evidence of a single dimension of the construct of Facebook Intrusion, further comparative research in other countries should be performed to explore whether its dimensionality can be generalized (Barahona, García, Sánchez-García, Barba, & Galindo-Villardón, 2018).

Evidence for the external validity of the FIQ-S has also been provided. We found positive correlations with time spent using social networking sites, problematic mobile phone use, internet addiction, phubbing, FoMO and depression, and a negative correlation with self-control. These findings are consistent with previous research reporting a positive association between measures of Facebook intrusion or addiction and time spent

Table 4
Standardized factor loadings and R-squared for the one-factor model (CFA) of FIQ-S scores and corrected item-total correlations (N = 567)

Items	Factor loading	R^2	Corrected item-total correlation
Item 1	.786	.618	.555
Item 2	.486	.236	.458
Item 3	.772	.597	.415
Item 4	.822	.677	.647
Item 5	.597	.356	.493
Item 6	.639	.408	.551
Item 7	.898	.807	.626
Item 8	.793	.628	.500

Table 5
Pearson correlations between scores on the FIQ-S and other correlates, mean and standard deviation of the variables (N = 567)

	Facebook intrusion	M	SD
Self-control	-.27**	45.35	8.46
Time spent on social networking sites	.28**	3.13	1.14
Problematic mobile phone use	.51**	17.62	5.02
Internet addiction	.49**	12.38	4.37
Phone obsession (Phubbing)	.41**	13.60	3.82
Communication disturbance (Phubbing)	.28**	10.46	3.54
Fear of missing out (FoMO)	.35**	20.79	6.65
Depression	.28**	19.49	5.87
Facebook intrusion		15.80	7.08

Note: ** p < .01

using social networking sites (Blachnio et al., 2015; Hong et al., 2014; Koc & Gulyagci, 2013), and they also confirm the addictive component of the construct measured with the FIQ, in line with previous studies (Błachnio & Przepiorka, 2016; Kuss & Griffiths, 2017; Montag et al., 2013). This addictive component is also supported by the negative association with self-control. Recent studies have also associated these addictions with the fear of missing out (Kuss & Griffiths, 2017; Oberst, Wegmann, Stodt, Brand, & Chamarro, 2017), a finding that is also replicated in our study. Overall, these findings further corroborate the social component of these behaviours and the need to contextualize them within the framework of personal relationships, as Elphinston and Noller (2011) stressed by labelling them as Facebook intrusion.

Other behaviours associated with excessive Facebook use and which disrupt daily life activities and interpersonal relationships are problematic mobile phone use and phubbing. We also found positive associations between Facebook intrusion and these correlates, which is consistent with previous research on phubbing (Błachnio & Przepiorka, 2018; Chasombat, 2015; Karadağ et al., 2015; Przybylski et al., 2013). It has been suggested that phubbing, which involves using a smartphone in a social setting of two or more people and interacting with the phone — often using online social networks — rather than with the other person or people present, might be driven by the need to feel connected to others (Chotpitayasunondh & Douglas, 2016) and may be a response to being phubbed by another person (David & Roberts, 2017).

Regarding the association between Facebook intrusion and variables related to wellbeing and health, we found that higher scores on Facebook intrusion were associated with higher scores on depression. These findings are consistent with previous research (Baker & Algorta, 2016; Blachnio, Przepiorka, & Pantic, 2015, 2016; Koc & Gulyagci, 2013) and contribute to the ongoing debate about the impact of Facebook use on mental health by highlighting the negative association that emerges when this use becomes addictive (Steers, 2016). Further research in this line is needed, especially with even younger populations, who seem to be at greater risk (Fargues, Lusar, Jordania, & Sánchez, 2009; Muller et al., 2016).

This study does have certain limitations. First, a snowball sampling strategy was adopted to recruit participants and most of the participants lived in Andalusian region, limiting the generalizability of the results. Second, the cross-sectional design means that no causal relationships can be inferred from the results, since the observed associations might be bi-directional. Further longitudinal and experimental studies are therefore needed to ascertain causality. Third, although new empirical evidence has been provided regarding the association between Facebook intrusion and a number of relevant correlates, a task for future studies that seek to advance knowledge of this topic would be to include other potential key variables, since it is widely acknowledged that a combination of biological, psychological and social factors contributes to the aetiology of addictions. Further cross-cultural validations should be performed to enable cross-national comparisons and disentangle common core components of these behaviours, as well as cultural differences associated with them. In addition, there is a need for future research to determine key factors for the onset and learning dynamic process associated with this addictive behaviour and its consequences. In this line, recent studies have stressed the importance of considering loneliness and personality traits which were not into account in the present study (Biolcati, Mancini, Pupi, & Mugheddu, 2018).

To sum up, our study provides a validated assessment tool for assessing Facebook intrusion among the large worldwide population of Spanish-speaking individuals. The Spanish version of the FIQ shows adequate psychometric properties which facilitates cross-cultural research replications (Koole & Lakens, 2012; Open Science, 2015), especially given that there is a growing trend of Spanish speaking active Facebook users (2018 estimations were of 371 millions per month). The validation of this instrument also has clinical and educational implications, since the use of questionnaires such as the FIQ to identify signs of Facebook addiction is a necessary first step in the development of adequate prevention or intervention strategies.

References

Andreassen, C. S. (2015). Online social network site addiction: A comprehensive review. *Current Addiction Reports*, *2*, 175-184. https://doi.org/10.1007/s40429-015-0056-9

Andresen, E. M., Malmgren, J. A., Carter, W. B., & Patrick, D. L. (1994). Screening for depression in well older adults: Evaluation of a short form of the CES-D (Center for Epidemiologic Studies Depression Scale). *American Journal of Preventive Medicine, 10*, 77-84. https://doi.org/10.1016/S0749-3797(18)30622-6

Baker, D. A., & Algorta, G. P. (2016). The relationship between online social networking and depression: A systematic review of quantitative studies. *Cyberpsychology, Behavior, and Social Networking*, *19*, 638-648. https://doi.org/10.1089/cyber.2016.0206

Barahona, G. V., García, N. G., Sánchez-García, A. B., Barba, M. S., & Galindo-Villardón, M. P. (2018). Seven methods to determine the dimensionality of tests: Application to the General Self-Efficacy Scale in twenty-six countries. *Psicothema*, *30*(4), 442-448. https://doi.org/10.7334/psicothema2018.113

Bentler, P. M. (1992). On the fit of models to covariances and methodology to the Bulletin. *Psychological Bulletin, 112*, 400-404. https://doi.org/10.1037/0033-2909.112.3.400

Bentler, P. M. (2006). *EQS 6 Structural equations program manual*. Encino, CA: Multivariate Software, Inc.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588-606. https://doi.org/10.1037/0033-2909.88.3.588

Biolcati, R., Mancini, G., Pupi, V., & Mugheddu, V. (2018). Facebook Addiction: Onset Predictors. *Journal of Clinical Medicine*, *7*(6), 118-120. https://doi.org/10.3390/jcm7060118

Błachnio, A., & Przepiorka, A. (2016). Dysfunction of self-regulation and self-control in Facebook addiction. *Psychiatric Quarterly*, *87*, 493-500. https://doi.org/10.1007/s11126-015-9403-1

Błachnio, A., & Przepiorka, A. (2018). Be aware! If you start using Facebook problematically you will feel lonely: Phubbing, loneliness, self-esteem, and Facebook intrusion. A Cross-sectional study. *Social Science Computer Review*, 1-9. https://doi.org/10.1177/0894439318754490

Błachnio, A., Przepiorka, A., Benvenuti, M., Cannata, D., Ciobanu, A. M., Senol-Durak, E., ... & Popa, C. (2016). An international perspective on Facebook intrusion. *Psychiatry Research*, *242*, 385-387. https://doi.org/10.1016/j.psychres.2016.06.015

Błachnio, A., Przepiorka, A., & Pantic, I. (2015). Internet use, Facebook intrusion, and depression: Results of a cross-sectional study. *European Psychiatry, 6*, 681-684. https://doi.org/10.1016/j.eurpsy.2015.04.002

Błachnio, A., Przepiorka, A., & Pantic, I. (2016). Association between Facebook addiction, self-esteem and life satisfaction: A cross-sectional study. *Computers in Human Behavior*, *55*, 701-705. https://doi.org/10.1016/j.chb.2015.10.026

Blanca, M. J., & Bendayan, R. (2018). Spanish version of the Phubbing Scale: Internet addiction, Facebook intrusion, and fear of missing out as correlates. *Psicothema, 30*, 449-454. https://doi.org/10.7334/psicothema2018.153

Brailovskaia, J., Margraf, J., & Köllner, V. (2019). Addicted to Facebook? Relationship between Facebook Addiction Disorder, duration of Facebook use and narcissism in an inpatient sample. *Psychiatry Research, 273,* 52-27. https://doi.org/10.1016/j.psychres.2019.01.016

Brown, R. I. F. (1997). A theoretical model of the behavioural addictions applied to offending. In J.E. Hodge, M. McMurran & C. R. Hollin (Eds), *Addicted to crime* (pp 13-65). Chichester: Wiley.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. Bollen & J. Long (Eds.), *Testing structural equation models* (pp. 136-162). Newbury Park, CA: Sage.

Çam, E., & İşbulan, O. (2012). A new addiction for teacher candidates: Social networks. *TOJET: The Turkish Online Journal of Educational Technology, 11*(3), 14-19.

Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. *Computers in Human Behavior, 26*, 1089-1097. https://doi.org/10.1016/j.chb.2010.03.012

Chasombat, P. (2015). Facebook effects on interpersonal communication: Study on Thai young adult. *Journal of Public and Private Management, 22*, 45-49.

Chotpitayasunondh, V., & Douglas, K.M. (2016). How "phubbing" becomes the norm: The antecedents and consequences of snubbing via smartphone. *Computers in Human Behavior*, *63*, 9-18. https://doi.org/10.1016/j.chb.2016.05.018

David, M. E., & Roberts, J. A. (2017). Phubbed and alone: Phone snubbing, social exclusion, and attachment to social media. *Journal of the Association for Consumer Research*, *2*(2), 155-163. https://doi.org/10.1086/690940

De Vaus, D. (2002). *Analyzing social science data: 50 key problems in data analysis*. Thousand Oaks, CA: Sage.

Elphinston, R. A., & Noller, P. (2011). Time to face it! Facebook intrusion and the implications for romantic jealousy and relationship satisfaction. *Cyberpsychology, Behavior, and Social Networking*, *14*, 631-635. https://doi.org/10.1089/cyber.2010.0318

Errasti, J. M., Vázquez, I. A., Villadangos, M., & Morís, J. (2018). Differences between individualist and collectivist cultures in emotional Facebook usage: Relationship with empathy, self-esteem, and narcissism. *Psicothema*, *30*(4), 376-381. https://doi.org/10.7334/psicothema2018.101

Fargues, M. B., Lusar, A. C., Jordania, C. G., & Sánchez, X. C. (2009). Metodología: validación de dos escalas breves para evaluar la adicción a Internet y el abuso de móvil. *Psicothema*, *21*(3), 480-485.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*, 39-50. Retrieved from https://www.jstor.org/stable/3151312

Hong, F. Y., Huang, D. H., Lin, H. Y., & Chiu, S. L. (2014). Analysis of the psychological traits, Facebook usage, and Facebook addiction model of Taiwanese university students. *Telemat Informatics*, *31,* 597-606. https://doi.org/10.1016/j.tele.2014.01.001

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for the indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55. https://doi.org/10.1080/10705519909540118

Karadağ, E., Tosuntaş, Ş. B., Erzen, E., Duru, P., Bostan, N., Şahin, B. M., ... & Babadağ, B. (2015). Determinants of phubbing, which is the sum of many virtual addictions: A structural equation model. *Journal of Behavioral Addictions*, *4*, 60-74. https://doi.org/10.1556/2006.4.2015.005

Koc, M., & Gulyagci, S. (2013). Facebook addiction among Turkish college students: The role of psychological health, demographic, and usage characteristics. *Cyberpsychology, Behavior, and Social Networking*, *16*(4), 279-284. https://doi.org/10.1089/cyber.2012.0249

Koole, S. L., & Lakens, D. (2012). Rewarding replications: A sure and simple way to improve psychological science. *Perspective on Psychological Science, 7*, 608-614. https://doi.org/10.1177/1745691612462586

Kuss, D. J., & Griffiths, M. D. (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health*, *14*, 311. https://doi.org/10.3390/ijerph14030311

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, *226*, 274-281. https://doi.org/10.1016/j.jad.2017.10.007

Müller, K. W., Dreier, M., Beutel, M. E., Duven, E., Giralt, S., & Wölfling, K. (2016). A hidden type of internet addiction? Intense and addictive use of social networking sites in adolescents. *Computers in Human Behavior*, *55*, 172-177. https://doi.org/10.1016/j.chb.2015.09.007

Muñiz, J., Elosua, P., & Hambleton, R. K. (2013). International Test Commission Guidelines for test translation and adaptation. *Psicothema*, *25*(2), 151-157.

Muñiz, J., & Fonseca-Pedrero, E. (2019). Diez pasos para la construcción de un test. *Psicothema, 31*, 7-16. https://doi.org/10.7334/psicothema 2018.291

Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequences from heavy social networking in adolescents: The mediating role of fear of missing out. *Journal of Adolescence*, *55*, 51-60. https://doi.org/10.1016/j.adolescence.2016.12.008

Open Science Collaboration, Nosek, B. A., Aarts, A. A., Anderson, C. J., Anderson, J. E., & Kappes, H. B. (2015). Estimating the reproducibility of psychological science. *Science, 349*, aac4716. https://doi.org/10.1126/science.aac4716

Przybylski, A. K., Murayama, K., DeHaan C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior, 29*, 1841-1848. https://doi.org/10.1016/j.chb.2013.02.014

Radloff, L. S. (1977). The CES-D Scale. A Self-Report Depression Scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401. https://doi.org/10.1177/014662167700100306

Ryan, T., Chester, A., Reece, J., & Xenos, S. (2014). The uses and abuses of Facebook: A review of Facebook addiction. *Journal of Behavioral Addictions, 3*, 133-148. https://doi.org/10.1556/JBA.3.2014.016

Ryan, T., Chester, A., Reece, J., & Xenos, S. (2016). A qualitative exploration of Facebook addiction: Working toward construct validity. *Addicta: The Turkish Journal on Addictions*, *3*, 55-76. https://doi.org/10.15805/addicta.2016.3.0004

Satici, S. A. (2018). Facebook addiction and subjective well-being: A study of the mediating role of shyness and loneliness. *International Journal of Mental Health and Addiction*, 1-15. ttps://doi.org/10.1007/s11469-017-9862-8

Smetaniuk, P. (2014). A preliminary investigation into the prevalence and prediction of problematic cell phone use. *Journal of Behavioral Addictions, 3*, 41-53. https://doi.org/10.1556/JBA.3.2014.004

Steers, M. L. N. (2016). 'It's complicated': Facebook's relationship with the need to belong and depression. *Current Opinion in Psychology*, *9*, 22-26. https://doi.org/10.1016/j.copsyc.2015.10.007

Suárez-Alvarez, J., Pedrosa, I., Lozano Fernández, L. M., García-Cueto, E., Cuesta, M., & Muñiz, J. (2018). Using reversed items in Likert scales: A questionable practice. *Psicothema, 30¸* 149-158. https://doi.org/10.7334/psicothema2018.33

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*, 271-324. https://doi.org/10.1111/j.0022-3506.2004.00263.x

Traub, R. E. (1994). *Reliability for the social sciences: Theory and applications*. Thousand Oaks, CA: Sage.

Walsh, S. P., White, K. M., & Young, R. M. (2010). Needing to connect: The effect of self and others on young people's involvement with their mobile phones. *Australian Journal of Psychology, 62*, 194-203. https://doi.org/10.1080/00049530903567229

Wolniczak, I., Caceres-DelAguila, J.A., Palma-Ardiles, G., Arroyo, K. J., Solís-Visscher, R., Paredes-Yauri, S., ... & Bernabe-Ortiz, A. (2013). Association between Facebook dependence and poor sleep quality: A study in a sample of undergraduate students in Peru. *PloS one*, *8*, e59087. https://doi.org/10.1371/journal.pone.0059087