Psicothema

Validation of the Sexting Behavior and Motives Questionnaire (SBM-Q)

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Abstract

Background: Sexting has garnered interest from the public and the scientific community given its ever-increasing presence in adolescents' lives. However, analysis varies depending on the baseline study used. This calls for a standardised sexting instrument that addresses scientific evidence-based recommendations. The primary aim of this study was to develop and validate the structure of a questionnaire that includes the various sexting behaviours and motives. **Method:** The sample comprised 1,362 students (51.1% female; 12-18 years old). Participants were randomly split into two halves, controlling for the gender variable (n=681), and exploratory and confirmatory factor analyses were performed. **Results:** Validity of the Sexting Behaviours and Motives Questionnaire (SBM-Q) was confirmed, along with the suitability of the factor structure, internal consistency, and divergent validity. This was also reported by gender. Six dimensions were identified: sending, reasons for sending, receiving, forwarding, victim of forwarding, and reasons for forwarding. **Conclusions:** The SBM-Q presents good psychometric properties, providing a detailed and consolidated overview of the behaviours that adolescents might engage in when sexting as well as the context in which it occurs.

Keywords: Sexting, adolescence, assesment, sexual behavior, Online, motives.

Resumen

***Validación del Cuestionario de Comportamientos y Motivos de Sexting (SBM-Q).* Antecedentes:** el sexting ha recibido cada vez mayor atención pública y científica, dada su creciente presencia en la vida de los adolescentes. Sin embargo, su análisis varía en función del estudio de referencia. Esto requiere un instrumento de sexting estandarizado que aborde las recomendaciones de la evidencia científica. Este estudio tiene como principal objetivo desarrollar y validar la estructura de un cuestionario que incluya los diversos comportamientos y motivos de sexting. **Método:** la muestra estuvo constituida por 1.362 estudiantes (51,1% chicas; 12-18 años). Se dividió aleatoriamente en dos mitades, controlando la variable género (n=681), y se realizaron análisis factoriales exploratorio y confirmatorio. **Resultados:** se confirmó la validez del Sexting Behaviours and Motives Questionnaire (SBM-Q), la adecuación de su estructura factorial, consistencia interna y validez divergente. También según el género. Concretamente, se identificaron seis dimensiones: envío, motivos de envío, recepción, reenvío, víctima de reenvío y motivos de reenvío. **Conclusiones:** el SBM-Q presenta buenas propiedades psicométricas y permite obtener una visión detallada y consolidada de los comportamientos que los adolescentes pueden adoptar cuando realizan sexting, así como del contexto en el que sucede.

Palabras clave: sexting, adolescencia, evaluación, comportamiento sexual, online, motivos.

In the last decade, the virtual world has become another area in people's lives, especially for the younger population. Yet, despite the benefits frequently associated with modern technology, it also facilitates risky usage. In this context, sexting has become another method through which adolescents can express and explore their sexuality; however, on occasions, its improper use, non-consensual sharing, and potential co-involvement with other risky behaviours can pose a risk. Its relationship with cyberbullying stands out particularly. The results indicate that having been cyberbullied increases the probability of participating in sending (Medrano et al., 2018) and receiving sexting (Frankel et al., 2018). Sending is also related to the subsequent victimization of cyberbullying

(Van Ouytsel, Lu et al., 2019). Despite these risks, the analysis of sexting still varies considerably depending on the baseline study used, mainly because of the definition adopted and how sexting is measured (Barrense-Dias et al., 2017).

The main reported differences between sexting definitions and, consequently, instruments to measure them are due to the type of behaviour in question. Specifically, this can be broken down into active sexting (sending or forwarding) and passive sexting (directly receiving content from the creator or receiving content forwarded by other people) (Barrense-Dias et al., 2017). From this perspective, it is important to know the source of the shared content, that is, whether it is self-produced or from third parties (Lee et al., 2016). In some studies, the definition is restricted to content which originates from individuals directly involved (Ricketts et al., 2015), whereas other studies also include third-party content (Lippman & Campbell, 2014) or do not explicitly mention this criterion. This aspect is also closely linked to the need to include whether consent was given in this exchange. Furthermore, differences in content type (images, videos or text messages) and sexual characteristics

(suggestive or explicit) are observed (Barrense-Dias et al., 2017). In this context, narrower definitions which limit sexting to the sending of explicit sexual images (Choi et al., 2016) can be found, as well as broader definitions which describe sexting as the sending, receiving or forwarding of sexually explicit or suggestive images, videos or text messages via electronic means (Villacampa, 2017).

This diversity, alongside other reasons such as the measuring tool and participant age, have led to high variability in sexting prevalence among adolescents. However, a recent meta-analysis places the average prevalence of sending sexual content at 14.8%; receiving at 27.4%; non-consensual forwarding at 12%; and receiving forwarded content at 8.4%. What is more, it is found to increase with age (Madigan et al., 2018). It also varies depending on the relationship between those involved, proving more common among sexual and/or romantic desired or actual partners (Beckmeyer et al., 2019). Regarding gender, diverse results have been reported in terms of sending sexting, but it seems that boys perform more behaviours related to receiving and forwarding (Ojeda et al., 2020; Strassberg et al., 2017).

There are several ways to study adolescent sexting, yet most research employs direct questions (e.g., Casas et al., 2019; Choi et al., 2016) and, to a lesser extent, validated scales about sexting (Fajardo et al., 2013; Penado et al., 2019; Vizzuetth-Herrera et al., 2015). Specifically, the first of the scales (Fajardo et al., 2013) is based on an adaptation of the questionnaire Sex and Tech (Marrufo, 2012; The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008) and addresses adolescents' views on the use of mobile phones and the Internet for sending and receiving sexting. As limitations, this questionnaire was used with a small sample (132 adolescents) and measures opinions and concerns to a degree of agreement, so it does not facilitate frequency according to behaviours or consider the reasons for active sexting. The second one (Penado et al., 2019) measures the prevalence of sexual image/video sharing behaviours. This questionnaire was validated with a sample of 602 adolescents, but it does not consider sexual text messages (only images/videos), ex-partners in the recipients/senders or reasons for active sexting. And the third one (Vizzuetth-Herrera et al., 2015) analyses online sexual behaviours within formal relationships, including sexting and sending reasons. As limitations, this questionnaire was validated with a small sample (263 social network users, not exclusively adolescents, but from 16 to 50 years old) and does not differentiate between the type of sexual content, does not include forwarding behaviour, nor does it consider other types of relationships outside of the formal couple.

Thus, the need remains for a standardised sexting instrument that addresses scientific evidence-based recommendations (Van Ouytsel et al., 2020) and sexting motives should be included to help understand the nature of the phenomenon and the context in which it occurs, particularly if it is non-consensual (Kopecký, 2015; Symons et al., 2018). Notable reasons for sending are identified as: flirting; because most people do it; as a joke; to attract attention; because it was part of the dating relationship; owing to pressure or blackmail; and because it's sexy (Houck et al., 2014; Kopecký, 2015; Villacampa, 2017). Similarly, the main reasons for non-consensual forwarding include: an ended relationship and feeling upset; wanting to hurt the other person; out of jealousy; to impress others; as a joke; because most people do it; owing to pressure; and to attract attention (Kopecký, 2015; Villacampa, 2017).

Therefore, a validated instrument is needed to provide detailed information for baseline and impact assessment of psychoeducational programmes addressing this phenomenon (Patchin & Hinduja, 2019). To this end, the theoretical model provided by the literature indicates the need to include the different forms of sexting (sending, receiving, and forwarding), the possible victimization of forwarding without consent, and the reasons for active sexting (sending and forwarding), considering the type of sexual content and the relationship between those involved. Despite the scientific community's ongoing efforts to learn about this multi-faceted phenomenon, our literature review did not bring up a validated adolescent sexting instrument that incorporates the different recommendations for measuring the construct and for gaining a detailed understanding of it. As such, our study seeks to bridge this research gap and proposes: to develop and validate the structure of a questionnaire for adolescents that encompasses the various sexting behaviours and motives; to analyse the differences between this instrument and the *European Cyberbullying Intervention Project Questionnaire* (ECIPQ) in order to test the divergent validity and given the outstanding relationship between cyberbullying and sexting and the international validation of the ECIPQ; and to explore the gender-related differences in the instrument's structure.

Method

Participants

The sample comprised 1,362 students (51.1% female) aged between 12 and 18 years (M=14.28; SD=1.50). The participants were secondary and post-16 students from six schools located in west Andalusia (Spain). They were also active users of instant messaging apps and social networking sites such as WhatsApp 96.6%, Instagram 87.4%, TikTok 35.8%, Snapchat 38.1%, Facebook 22.2%, and Twitter 20%.

Convenience sampling was used among invited schools which agreed to participate in the study.

Instruments

The *Sexting Behaviours and Motives Questionnaire* (SBM-Q) was created ad hoc for this research and is intended for the adolescent population. It comprises 39 items measured by a category scale with five response options measuring behaviour frequency: 0 = never; 1 = less than once a month; 2 = monthly; 3 = weekly; and 4 = daily. The items refer to a time frame spanning the last twelve months (see Table 1). Following the previously reviewed literature that highlighted the differentiation of the different behaviours, the forwarding victimization, and the motives for active sexting, six factors were designed. The first factor comprises six items that address sending behaviours, differentiating between the type of sexual content and the relationship of those involved. The second factor comprises nine items about reasons for sending. The third factor includes five items about being a victim of non-consensual forwarded content, considering the type of relationship the victim and perpetrator(s) hold. The fourth factor comprises six items and covers receiving sexual content, distinguishing between the type of sexual content and the relationship of those involved. The fifth factor comprises four items that address active forwarding (when you are the one doing the action) and passive forwarding (when you receive this forwarded sexual content about someone else). The sixth and final factor covers the reasons behind active forwarding.

Table 1
Sexting Behaviours and Motives Questionnaire (SBM-Q)[1]

How often has the following happened to you on the internet and social networking sites in the last 12 months?

I'VE SENT…
1. …suggestive or sexual **text messages** about myself to **my partner/ex-partner**
2. …suggestive or sexual **videos or images** of myself **to my partner/ex-partner**
3. …suggestive or sexual **text messages** about myself **to somebody I fancied**
4. …suggestive or sexual **videos or images** of myself **to somebody I fancied**
5. …suggestive or sexual **text messages** about myself **to a friend**
6. …suggestive or sexual **videos or images** of myself **to a friend**

If I've sent something, the reason was:
7. To flirt with someone
8. Because most people do it
9. As a joke/to entertain myself
10. Because it's normal in dating relationships
11. Because I was threatened/blackmailed
12. Because I felt pressured by my partner or someone I fancied
13. Because I felt pressured by my friends
14. Because I thought it was a good idea or I looked attractive
15. Because I did it accidentally

If I've sent something, it has been forwarded or shared without my consent by:
16. My girlfriend/ex-girlfriend or a girl I fancied
17. My boyfriend/ex-boyfriend or a boy I fancied
18. A male friend
19. A female friend
20. Others

I'VE RECEIVED…
21. …suggestive or sexual **text messages** about and **from my partner/ex-partner**
22. …suggestive or sexual **videos or images** about and **from my partner/ex-partner**
23. …suggestive or sexual **text messages** about and **from somebody I fancied**
24. …suggestive or sexual **videos or images** about and **from somebody I fancied**
25. …suggestive or sexual **text messages** about and **from a friend**
26. …suggestive or sexual **videos or images** about and **from a friend**

When received, I'VE FORWARDED OR SHARED…
27. …suggestive or sexual **text messages of other people**
28. …suggestive or sexual **videos or images of other people**

If I've forwarded something, the reason was:
29. Because our relationship had ended
30. To upset the person that appeared
31. Out of jealousy
32. To impress others
33. As a joke/to entertain myself
34. Because most people do it
35. Because my friends pressured me to do it
36. Because I had the consent of the person who appeared
37. Because I did it accidentally

I'VE BEEN FORWARDED…
38. …**private** suggestive or sexual **text messages that other people had sent**
39. …**private** suggestive or sexual **videos or images that other people had sent**

[1] Spanish version: https://doi.org/10.6084/m9.figshare.13625645

In order to assess divergent validity, the Spanish version of the ECIPQ was used to measure cyberbullying (Del Rey et al., 2015). This questionnaire includes 22 Likert-type items with five response options, ranging from 0 = never to 4 = always. Its dimensions are: cybervictimization and cyberaggression, demonstrating good reliability indexes (α_{total} = .87, $\alpha_{victimization}$ = .80, $\alpha_{aggression}$ = .88). The items across both dimensions refer to actions such as using rude words, excluding or spreading rumours. They are all conducted online and within a time frame spanning the last two months.

On all factors in both questionnaires, a high score indicates a higher frequency of what it measures.

Procedure

This study was approved by the Andalusia Biomedical Research Ethics Coordinating Committee (0568-N-14). Following the methodological recommendations of AERA et al. (2014) and Muñiz & Fonseca-Pedrero (2019), a review of the scientific literature was conducted and the general framework, summarized in the introduction, was outlined. The purpose of the scale was also defined, which consists of a detailed screening of participation in sexting among adolescents and the reasons for active participation (sending and forwarding). Next, the definition

of sexting was specified, understood as the sending, receiving or forwarding of sexually explicit or suggestive messages, images or videos through a technological device, analysing each sexting behaviour individually in order to evaluate the phenomenon in a comprehensive and precise manner.

In response to the demand for the literature reviewed, the specifications of the scale, such as the time frame and format of items and responses, were also defined. About the time frame, some studies adopt broader criteria, i.e., in the last few months, whereas others are more specific, i.e., in the last six months. However, most studies agree that the time frame should be the last 12 months (e.g., Choi et al., 2016; Livingstone & Görzig, 2014). Regarding the format, it is recommended that the response options elicit feedback on how often these behaviours are exhibited (e.g., Gámez-Guadix et al., 2017; Villacampa, 2017). Thus, the time frame for the last 12 months and the format of items and responses written in first person measured by a category scale with five response options measuring behaviour frequency were established.

A first version of the questionnaire with 33 items was edited, considering the different sexting behaviours and the type of relationship those involved had. This version was given for evaluation to 6 adolescents and 10 experts in the field of education and psychology. As a consequence, a second version was made with 39 items differentiating, moreover, according to the type of sexual content (Barrense-Dias et al., 2017). The questionnaire was again given to these same people and two more versions were made, changing wording and readability, until the final version was reached. Finally, the application and evaluation of the results were carried out.

Once the terms of collaboration and participation by the schools' management teams had been agreed, the paper questionnaires were administered during school hours by staff trained for the purpose of this research. The students' instructions outlined the following: participation was voluntary; the questionnaire should be completed individually and in the allotted time period; and confidentiality and anonymity of data would be maintained throughout the study.

Data analyses

To provide cross-validity evidence, the sample was randomly split into two halves, controlling for the gender variable (n = 681 in each sample). To examine the item metrics and the scale's dimensionality, exploratory factor analysis (EFA) was performed using the Hull method and the Scree Test Value Index was used to evaluate the optimal number of dimensions (Calderón et al., 2019; Lorenzo-Seva et al., 2011). The indicators Unidimensional Congruence (Unico), Explained Common Variance (ECV) and Mean of Item Residual Absolute Loadings (MIREAL) of closeness to unidimensionality assessment were also used (Ferrando & Lorenzo-Seva, 2018). Direct oblimin rotation (satisfactory when between-factor correlation is assumed or known) was also used (Worthington & Whittaker, 2006). Suitability of the matrix for conducting the EFA was tested using the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity. Item response theory was applied to calculate item discrimination; specifically, the multidimensional discrimination index proposed by Reckase (2009) was used.

Confirmatory factor analysis (CFA) was performed on the second half of the sample to analyse cross-validation, seeking to validate the factorial structure obtained for the first half. The

models were estimated using the Robust Least Squares method, adjusted for the ordinal nature and non-normal distribution of the studied variables (Flora & Curran, 2004). The fit of the models was tested using the following indexes: the Satorra-Bentler scaled chi-square (χ^2_{S-B}) (Satorra & Bentler, 2001); the comparative fit index (CFI) and the non-normality fit index (NNFI) (≥ 0.90 is adequate, ≥ 0.95 is optimal); the root means square error of approximation (RMSEA) and the standardized root means square residual (SRMR) (≤ 0.08 is adequate, ≤ 0.05 is optimal) (Hu & Bentler, 1999).

Following the criteria proposed by Hair et al. (1998), a Spearman's correlation for the total sample and the dimensions was run to evaluate the divergent validity of the SBM-Q and the ECIPQ.

To assess potential gender-related differences, the degree of robustness of the factorial structure or invariance of the SBM-Q was tested through multi-group analysis, with gender as the analysis criterion. This analysis consists of comparing sets of increasingly restrictive models (models A and B). In Model A, configural invariance is tested by imposing the same factorial structure on both subsamples and checking whether the fit indexes of the combined model indicate good model fit. Subsequently, in Model B the factorial loads are restricted, and the fit indexes of Models A and B are compared. Changes (Δ) in NNFI, CFI, RMSEA and SRMR of > 0.01 between the models indicate that the condition of measurement invariance is not met (Dimitrov, 2010), which would signal gender differences. As a further test of invariance, the chi-square difference test ($\Delta\chi2$S–B) was used, where significant differences demonstrate variance between both the SBM-Q and the ECIPQ (Bryant & Satorra, 2012) and indicate gender differences.

The Factor program 10.10.03 edition (Lorenzo-Seva & Ferrando, 2006) and the Statistical Package for the Social Sciences (SPSS) 26 (IBM, Amrok, NY) were employed for the use and treatment of data.

Results

The SBM-Q maintained the initial 6-component factorial design, covering different sexting definition and consideration items (see Table 1). The first factor (sending) has a reliability of α = 83. The second factor (reasons for sending) has a reliability of α = .89. The third factor (victim of forwarding) has a reliability of α = .75. The fourth factor (receiving) has a reliability of α = .84. The fifth factor (forwarding) has a reliability of α = .84. The sixth factor (reasons for forwarding) has reliability of α = .83. The total instrument has a reliability of α = .82.

The EFA results revealed a Mardia's coefficient (1970) multivariate kurtosis of 5638.90. The Barlett statistic was χ^2=14592.1 (df = 741; *p*<.001) and the KMO's was .866. Suitability of the factor solution was found for six factors, which explain 62.4% of the cumulative variance (F1 = 27.7%; F2 = 18.8%; F3 = 4.7%; F4 = 4.2%; F5 = 3.5%; F6 = 3.5%). Scree Test Value showed a value of 6.02, indicating 6 dimensions as the best multidimensional solution. The UniCo = .83; ECV = .67; and MIREAL = .21 indices indicate optimal levels for not being considered unidimensional. The fit indexes resulting from the Hull method showed optimal values for CFI = .98; GFI = .98. The communality and factor loadings (see Table 2), as well as the multidimensional discrimination index (Reckase, 2009) whose values exceed .20, indicate true item discrimination. Inter-item correlation is adequate, with values ranging from .14 to .43.

The alpha reliability indices if any element is removed do not show the reliability of the scale improves if any item is removed.

Based on the results from the EFA, a CFA was then conducted on the second half of the sample. Mardia's coefficient yielded a value of 4895.10. The results also revealed an adequate polychoric correlation matrix (Elosua & Zumbo, 2008) among the latent factors with a significance level of p < .01 across all between-variable relationships that make up the SBM-Q (see Table 3).

The consulted fit indexes yielded an optimal multidimensional factor solution (CFA χ^2 S-B = 841.39; *p*<.001; RMSEA = .02; SRMR = .07; CFI = .99; NNFI = .99). The scale's standardized coefficients are shown in Figure 1, highlighting adequate coefficients across all items.

To calculate divergent validity, correlations between the SBM-Q and ECIPQ factors were compared. The results showed correlations that converge significantly with the dimensions, without any correlation being especially high (see Table 4).

Lastly, the results from the multi-group analyses revealed significant differences between genders in the configuration and measurement invariance tests. The chi-square differences ($\Delta\chi^2$S-B) were significant, and the deltas (Δ) of the CFI, NNFI, RMSEA and SRMR indexes were above the .01 cut-off score for all comparisons (see Table 5).

Table 2
Exploratory factor analysis

Item	F1	F2	F3	F4	F5	F6	Communality	MDISC	Crombach's Alpha if the element is removed
1	.62						.47	.88	.81
2	.47						.38	.71	.81
3	.64						.45	.88	.80
4	.51						.35	.69	.81
5	.59						.58	1.07	.81
6	.66						.61	1.20	.81
7		.48					.39	.68	.81
8		.51					.47	.97	.81
9		.57					.43	.83	.81
10		.50					.44	.80	.80
11		.86					.76	1.79	.81
12		.72					.58	1.19	.81
13		.71					.59	1.13	.81
14		.33					.41	.61	.81
15		.61					.55	1.03	.81
16			.45				.44	.69	.81
17			.60				.56	1.05	.81
18			.82				.78	1.81	.79
19			.83				.71	1.58	.79
20			.64				.59	1.05	.81
21				.67			.64	1.21	.81
22				.63			.67	1.25	.81
23				.65			.57	1.04	.81
24				.65			.52	.97	.81
25				.69			.62	1.16	.81
26				.68			.65	1.25	.81
27					.50		.43	.76	.81
28					45		.44	.76	.81
29						.45	.43	.72	.81
30						.36	.38	.61	.81
31						.42	.33	.61	.81
32						.52	.59	1	.81
33						.57	.55	.92	.81
34						.41	.44	.88	.81
35						.37	.34	.58	.81
36						.53	.46	.83	.81
37						.72	.60	1.21	.81
38					.62		.48	.94	.80
39					.58		.48	.92	.81

F1=Sending; F2=Reasons for sending; F3=Victim of forwarding; F4=Receiving; F5=Forwarding; F6=Reasons for forwarding
[1] Factorial weights below .30 have been eliminated

<table>
<tr><th colspan="7">*Table 3*
Polychoric correlation matrix between the SBM-Q latent variables</th></tr>
<tr><th></th><th>F1</th><th>F2</th><th>F3</th><th>F4</th><th>F5</th><th>F6</th></tr>
<tr><td>F1</td><td>–</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>F2</td><td>.83*</td><td>–</td><td></td><td></td><td></td><td></td></tr>
<tr><td>F3</td><td>.80*</td><td>.85*</td><td>–</td><td></td><td></td><td></td></tr>
<tr><td>F4</td><td>.92*</td><td>.69*</td><td>.64*</td><td>–</td><td></td><td></td></tr>
<tr><td>F5</td><td>.90*</td><td>.74*</td><td>.80*</td><td>.85*</td><td>–</td><td></td></tr>
<tr><td>F6</td><td>.77*</td><td>.81*</td><td>.90*</td><td>.64*</td><td>.86*</td><td>–</td></tr>
</table>

* $p < .01$
F1=Sending; F2=Reasons for sending; F3=Victim of forwarding; F4=Receiving; F5=Forwarding; F6=Reasons for forwarding

<table>
<tr><th colspan="3">*Table 4*
Spearman's bivariate correlations between the SBM-Q and the ECIPQ</th></tr>
<tr><th></th><th>CBaggression</th><th>CBvictimization</th></tr>
<tr><td>CBaggression</td><td>–</td><td></td></tr>
<tr><td>CBvictimization</td><td>.590**</td><td>–</td></tr>
<tr><td>F1</td><td>.326**</td><td>.339**</td></tr>
<tr><td>F2</td><td>.277**</td><td>.243**</td></tr>
<tr><td>F3</td><td>.223**</td><td>.190**</td></tr>
<tr><td>F4</td><td>.341**</td><td>.355**</td></tr>
<tr><td>F5</td><td>.304**</td><td>.316**</td></tr>
<tr><td>F6</td><td>.244**</td><td>.185**</td></tr>
</table>

** $p < .01$
F1=Sending; F2=Reasons for sending; F3=Victim of forwarding; F4=Receiving; F5=Forwarding; F6=Reasons for forwarding

Discussion

The main aim of this study was to develop and validate the structure of a questionnaire that encompasses the different sexting behaviours and motives for participating in this phenomenon. The results show validity of the *Sexting Behaviours and Motives Questionnaire* (SBM-Q), suitability of its factor structure and its internal consistency, supported by the reviewed scientific literature. Specifically, following the theoretical base model, the SBM-Q comprises six intercorrelated dimensions, confirming the hypothesized structure. The most important factor behind the sexting construct is sending, followed by reasons for sending, victim of forwarding, receiving, forwarding, and reasons for forwarding. This questionnaire represents an important contribution
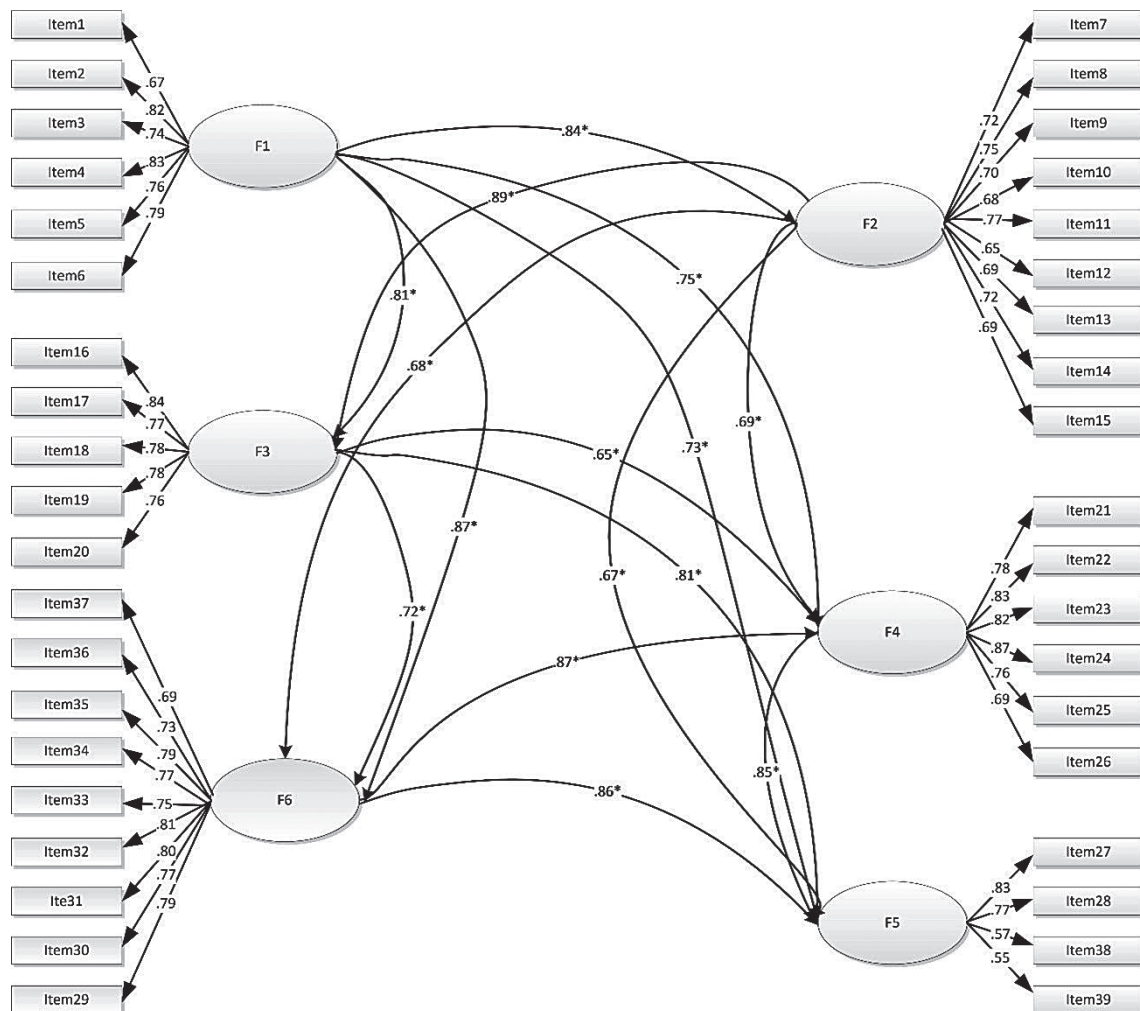

Figure 1. Confirmatory factor analysis

	$\chi^2_{S\text{-}B}$	df	p	NNFI	CFI	RMSEA	SRMR	$\Delta_{\chi 2S\text{-}B}$	Δp	Δ NNFI	Δ CFI	Δ RMSEA	Δ SRMR
Boys	1074.21	687	.00	.97	.97	.04	.06	26.95	.00	.02	.02	.02	.03
Girls	1047.26	687	.00	.99	.99	.02	.03						

Table 5
Multi-group analysis by gender

to this field of study, given that it responds to the current needs of sexting analysis. Availing of reliable and validated instruments that guarantee a standardized measure of the phenomenon and its context is essential for taking the next steps forward (Van Ouytsel et al., 2020).

When it comes to instrument validity, it is necessary to specify how, and for what purpose, can the results that the instrument provides about the construct in question be used. This instrument allows us to estimate sexting frequency among adolescents, differentiating between behaviours, the type of sexual content and the relationship between involved parties. It also provides insight into the reasons why young people send and forward sexual material, thus responding to the needs of scientific evidence (Kopecký, 2015; Symons et al., 2018).

The questionnaire's validation reinforces the line of research which argues that sexting includes behaviours associated with sending, receiving, forwarding and receiving forwarded content (Madigan et al., 2018; Villacampa, 2017). This represents progress, given that most research studies allude to sending and/or receiving in their sexting definitions (Barrense-Dias et al., 2017), and non-consensual forwarding of other people's sexual content plays a key role in understanding this phenomenon (Livingstone & Görzig, 2014; Strassberg et al., 2017).

Furthermore, the SBM-Q allows us to study the type of content (text messages, and images and videos) independently, given that the impact of a text message may differ from that of an image or video (Houck et al., 2014). Thus, it is possible to analyse whether sexting is a gradual practice, starting with text messages before moving on to images and videos, as other authors have indicated (Barrense-Dias et al., 2017).

Because sexting involvement also varies depending on the relationship between its protagonists (Beckmeyer et al., 2019), the SBM-Q also analyses sexting behaviours in light of this variable. It considers whether the protagonists are current or ex-partners, whether they fancy each other, or if they are friends. For the victim of non-consensual forwarding dimension, it is possible to determine whether the perpetrator is, in fact, male or female. In general terms, the male population seems to forward more non-consensual sexual content (Norman, 2017; Ojeda et al., 2019) and, specifically, the most frequently shared non-consensual sexual material is of women and girls (Powell & Henry, 2014).

The reasons for sending and forwarding have proven equally relevant in the study of sexting (Kopecký, 2015; Symons et al., 2018) and the SBM-Q also allows us to analyse them; the questionnaire considers the context in which this exchange of sexual content occurs. Specifically, it includes motives grounded in beliefs and conventions which support the normalization of this practice (items 7, 8, 9, 10, 14 and 36), based on the assumption that peer norms play a crucial role in why adolescents publish sexual photos of themselves online (Baumgartner et al., 2015). What is

more, explicitly non-consensual reasons for involvement (items 11, 12, 13, 15, 29, 30, 31, 32, 33, 34, 35 and 37), as well as those relating to the victim of forwarding dimension, are proving to be important variables when it comes to the study of sexting (Dekker & Thula, 2017).

The second aim of this study was to examine the differences between this instrument and the ECIPQ. The study results confirm its divergent validity. The correlations between both scales highlight the relationship between sexting and cyberbullying. In fact, there is already evidence of a link between sexting and cyberbullying aggression (Rachoene & Oyedemi, 2015) and victimization (Medrano et al., 2018). However, the results also report divergence, given that we have a partial rather than a perfect correlation. This indicates that, despite being direct and related behaviours, they clearly differ on a broad index.

Lastly, this study explored the differences in the instrument's structure by gender. The results suggest that both genders share the same factor structure, although boys and girls attach varying importance to each dimension. Specifically, and in accordance with earlier studies, except when it comes to sending and receiving (Beckmeyer et al., 2019), gender differences were found for the remaining SBM-Q dimensions; namely, for those related to non-consensual forwarding, being a victim of forwarding, reasons for sending and reasons for forwarding (Norman, 2017). From this perspective, the results coincide with studies that report gender-based differences relating to the reasons why adolescents participate in sexting. These studies also report how girls are more often caught up as victims of sexting, finding themselves subject to the most harmful consequences associated with this phenomenon (Ringrose et al., 2012; Symons et al., 2018).

Taking into account the aforementioned, the SBM-Q is an instrument that collects and incorporates the recommendations made in scientific literature for accurately measuring and understanding sexting. It provides an overview of the phenomenon as well as a detailed picture of the behaviours used, sexting motives, and the context in which active participation occurs.

This study does, however, present some limitations. These are primarily related to the use of convenience sampling and self-report measures, which always carry a risk of eliciting socially desirable and inaccurate responses. These limitations could be addressed in future research endeavours.

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