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Sex, age and cyber-victimization: A meta-analysis.

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ABSTRACT

Cyberbulling is one of the biggest challenges the school faces. However, the lack of coherence between the data of the literature review makes it necessary to consider which elements are the ones that truly lead to the appearance of cyber-victimization. Through the meta-analysis methodology, it has been tried to clarify the role of sex (k = 41 samples, n = 176,658 adolescents) and age (k = 45 samples, n = 238,977 adolescents) in cyber-victimization. The effect size for the random model is small for both sex ($r = 0.058$; $p < 0.00$, 95% CI = 0.090; 3.45) and for age ($r = 0.094$; $p = 0.004$; 95% CI = 0.015; 2.910). Indications of significant differences in sex are observed, with women being the most affected. However, the results of the meta-regression have shown how the North American culture plays a key role in age as a moderating variable in relation to the rest of continental cultures. These results support the conclusion that age and sex represent variables that influence cyber-victimization. More specifically, there is a positive relationship between age and cybervictimization, so that the older the age, the higher the cybervictimization, but this is negatively mediated by the American culture. At the same time, some socio-contextual characteristics also seem to have effects on this aspect. Considering this, some important practical implications emerge related to the need to address the study, care and prevention of cyber-victimization as well as any form of violence that occurs inside and outside the classroom.

1. Introduction

Cyberbullying is a type of violence between equals carried out using new information and communication technologies. These tools, in turn, allow aggressive behaviour to be maintained at any time (Garaigordobil, 2011). However, data on prevalence are inclusive, as it varies greatly according to the instrument used and nationality (Romera et al., 2016; Zych et al., 2016). Variability in diagnosis is primarily mediated by cultural factors related to the macro system (Bronfenbrenner, 1979), i.e. cultural norms, social responses and protective values. The macrosystem is fundamental when it comes to inhibiting or favouring cyberbullying (Baldry et al., 2015), as there are important differences in the actions carried out by different cultures (Lozano-Blasco et al., 2020).

In addition, there are a number of social factors, both external and internal, which mediate its development. In the first place, the irruption into daily life of social networks increases the probability of both suffering cyber-victimization and playing the role of cyber-stalker, mediated by the number of hours spent on the Internet (Choi et al., 2019; Marciano et al., 2020; Shapka et al., 2018; Tsitsika et al., 2015), since victims of this type of violence present very high scores CIU (Compulsive Internet Use) and TOB (Troubled Offline Behaviour) (Wachs et al., 2018). On the other hand, the family has a key role in the development of cyberbullying. Factors such as divorce, the mother's low educational level, the father's unemployment (Charalampous et al., 2018; Chen et al., 2018) or "incivility" (Bai et al., 2020) correlate with cyber-victimization. On the other hand, family control is essential, i.e. clear and precise rules on acceptable or unacceptable behaviour. However, there are also cultural differences in this area, with Polish families being the most successful in this respect (Athanasiou et al., 2018). An authoritarian and inconsistent parental style in controlling the Internet is related to being a cyber-victim, and cyber-aggressor (Katz et al., 2019). Furthermore, cyberbullying correlates with internalising problems in such a way that suffering from cyber-victimization alters psychological health and decreases self-esteem and perceived effectiveness (Alvarez-Garcia et al., 2015; Holfeld & Mishna, 2019; Lei et al., 2019; Sampasa-Kanyinga et al., 2020; Tsitsika et al., 2015; Waasdorp & Bradshaw, 2015; Wolke et al., 2017). Similarly, some studies indicate that victims of cyberbullying have difficulty expressing their emotions

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(Extremera et al., 2018) and, more specifically, with anger (Lonigro et al., 2015).

With regard to the sociodemographic variables of sex and age, there is no agreement in the scientific community about their role in cyber-victimization. Sex is an inconsistent variable since, on the one hand, numerous studies point to the non-existence of significant differences (Simckes et al., 2017; Hemphill & Heerde, 2014; Holfeld & Mishna, 2019), while others point to differences that mostly affect women (Álvarez-García et al., 2015; Bauman et al., 2013; Buelga et al., 2017; Cuadrado-Gordillo & Fernández-Antelo, 2016; DeSmet et al., 2014; Extremera et al., 2018; González-Cabrera et al., 2017, 2018; Messias et al., 2014; Moreno-Ruiz et al., 2019). In terms of age, some authors find significant differences and others do not (Athanasiou et al., 2018; Holfeld & Mishna, 2019; Katz et al., 2019; Selkie et al., 2016; Shapka et al., 2018). Among those who advocate the role of age as a mediator are three different approaches:

a) Cyberbullying decreases with increasing age (Jang et al., 2014; Lonigro et al., 2015; Waasdorp & Bradshaw, 2015),
b) Cyberbullying increases with increasing age (Bauman et al., 2013; Chen et al., 2018; Choi et al., 2019; Festl & Quandt, 2016; Messias et al., 2014; Simckes et al., 2017) and
c) Cyberbullying experiences a curvilinear development that peaks in mid-adolescence (14–16 years) (Gámez-Guadix et al., 2015; Sakellariou et al., 2012; Tokunaga, 2010; Wolke et al., 2017).

2. Methodology

2.1. Research question

The role of sex and age in cyber-victimization presents disparate data in the scientific literature. The present meta-analyses investigate the significance of sex and age differences in cyber-victimization and the possible existence of moderators.

2.2. Inclusion and exclusion criteria

Regarding the selection of studies, this meta-analysis was carried out following the manual of systematic reviews of Cochrane in Higgins and Green (2011). The inclusion criteria were:

A. a) the age of the participants in each study. Specifically, the average age range of the sample is between 11.5 and 18.9 years to cater for the diversity of academic situations by Izquierdo-Martínez (2007).
(b) the methodological approach to empirical studies, as they were to be experimental, based on a quantitative method of statistical analysis of data.
(c) the date of publication between 2013 and 2019 b y Borenstein et al. (2021), Cívico Ariza et al., (2021) and Gurevitch et al. (2018).
d) intra-observer reliability, those scientific publications with the greatest impact on the subject (Q1 Scimago Journal & Country Rank).

The exclusion criteria following the indications of Botella and Sánchez (2015) and Moreau and Gamble (2020) were:

a) the presence of Special Educational Needs (SEN) as a main feature of the sample. Even with this, it was determined that those investigations in which the group with SEN were in agreement with the normal curve would be admitted.
(b) the lack of clarity, precision and rigour in the description of the method of quantitative data analysis adopted. We follow the indications of Hunter and Schmidt (2004) and Friese and Frankenbach (2020)
(c) the absence of a comparative analysis between the two sexes with regard to cyber-victimization or the consideration of only one of them.

2.3. Search strategies

The search strategy followed the parameters of Botella and Sánchez (2015). The search was carried out in October 2019. The Boolean action was: “Cyberbullying AND cyber-victimization OR cybervictim”. It was carried out using four databases, establishing the following filters:

- Scopus: “article title, abstract, keywords” and “article".
- Psycinfo: “adolescent population”, “academic publications”, “exclude dissertations” and “keywords".
- Science Direct: “abstract o key words " y “research articles".
- Pubmed: “title/abstract".

In addition, the temporary range of 2013–2019 was specified. Each article was selected manually, according to the established inclusion and exclusion criteria, as well as reviewing the bibliography contained in them and adding seven researches for the gender variable and six for age (see Fig. 1). It should be noted that these investigations were divided into two blocks: those that dealt with differences in sex and those that dealt with the age variable, generating two meta-analyses.

2.4. Codification process

The registration protocol for this meta-analysis was carried out following the Cochrane systematic review manual in Higgins and Green (2011) and PRISMA-Statement website (). The coding of the studies was developed manually according to the inclusion and exclusion criteria explained above. In the execution of this meta-analysis, the statistical software CMA was used, which allowed the conversion of the values to Fisher Z and at the same time to carry out the publication bias tests (Egger and Begg), to calculate statistics on heterogeneity, meta-regressions and model comparisons, as well as to obtain figures such as the Forest Plot, funnel and Fisher Z meta-regression graphs.

3. Results

3.1. Description of the sample

Before going on to describe the results in terms of gender and age differences in the rate of cyber-victimization in recent years (2013–2019), it should be noted that four studies do not report data on the rate of men and women and, similarly, some do not present the average age, but a range of years. In this case, the arithmetic average was used to calculate it, resulting in 14.64 years.

In total, the meta-analysis on gender differences in the rate of cyber-victimization is made up of a total sample of 176,658 participants ($k = 41$) from 32 studies (Table 1). In terms of sex, 64,260 are men and 68,417 are women. The study with the least number of participants had 60 and the largest had 28,104. The European population (Spain, Italy, Cyprus, Germany, Belgium, Israel, Portugal and studies with samples from different European nations) represents 58.88%. The American sample (USA and Canada) covered 12.99% of the total. Asian culture (China, South Korea) accounted for 26.29%, while African culture (Tanzania and Nigeria) with 0.69% represented a small percentage. As in the previous case, 1.15% belonged to a sample made up of various transcontinental nations.

According to the age differences, a total sample of 238,977 individuals ($k = 45$) from 32 studies was obtained (Table 1). In terms of gender, 85,012 are men and 89,097 are women. The smallest sample was 175 and the largest 28,104. Within the cultural diversity of the sample, Europe (Spain, Portugal, UK, Italy, Israel, Belgium, Germany, Cyprus and others with samples from different European nations)

Fig. 1. *Flow chart of the study search and selection process.*

Table 1
Socio-demographic description of both variables.

Study	Average age	Sample	Men	Women	Nation
SEX VARIABLE					
Athanasiou et al. (2018) (a,b,c y d)	15,5	13,708	5786	6586	Europea
Baldry, Farrington, & Sorrentino, 2017	15,4	2785	1320	1465	Italy
Baldry et al. (2019)	15,5	4390	2016	2374	Italy
Bauman et al. (2013) (a y b)	16,5	1482	757	725	US
Baumgartner et al. (2014)	13,5	14,946	7428	7518	Europe
Buelga et al. (2017)	14,5	1062	546	516	Spain
Chang et al. (2013)	15	2992	1555	1437	China
Charalampous et al. (2018)	11,72	868	410	451	Cyprus
Chen et al. (2018) (b)	15,86	18,341	9776	8565	China
Choi et al. (2019)	15	7109	3349	3760	South Korea
Cuadrado and Fernández 2016	14,1	1648	843	805	Spain
DeSmet et al. (2014)	15,3	204	78	126	Belgium
DeSmet et al. (2018)	15	1307	–	–	Belgium
Erreygers et al. (2016)	12,6	2309	1161	1148	Belgium
Extremera et al. (2018)	14,1	1660	824	836	Spain
Ferrer-Cascales et al. (2019)	13,08	2057	1036	1021	Spain
Gámez-Guadix et al. (2015)	14,8	680	270	410	Spain
Giménez Gualdo et al., (2015)	14,77	4353	639	714	Spain
González-Cabrera et al. (2017) (a)	14,89	371	191	180	Spain
González-Cabrera et al. (2017) (b)	15,58	60	26	34	Spain
Holfeld and Mishna (2019) (a)	13,7	510	196	314	Canada
Holfeld and Mishna (2019) (b)	14,63	422	162	260	Canada
Holfeld and Mishna (2019) (c)	15,76	329	133	196	Canada
Jang et al. (2014)	14	16,190	–	–	South Korea
Jetelina et al. (2019)	15,5	4297	–	–	US
Katz et al. (2019)	13,25	175	86	89	Israel
Messias et al. (2014)	16	13,846	–	–	US
Moreno-Ruiz et al. (2019)	14,69	2399	1024	1375	Spain
Olumide et al. (2016)	14,2	653	318	335	Nigeria
Quintana et al. (2018)	14,1	1650	825	840	Spain
Shapka et al. (2018) (a)	14,25	426	239	187	Tanzania
Shapka et al. (2018) (b)	12,64	594	292	302	Canada
Veiga Simão et al., (2017)	13,6	3525	1683	1837	Portugal
Wachs et al. (2018)	14,2	2042	946	1096	Dutch, German, Thai, and U.S.
Wolke et al. (2017)	13,5	2745	1184	1561	UK
Wong et al. (2014)	13,36	1917	1046	871	China
AGE VARIABLE					
Álvarez-García et al., (2015) (a y b)	15	3180	1542	1632	Spain
Athanasiou et al. (2018) (a,b,c,d)	15,5	13,708	5786	6586	Europea
*Barboza (2015)	14,77	5589	2850	2739	US
Bauman et al. (2013) (a y b)	16,5	1482	757	725	US
Buelga et al. (2017)	14,5	1062	546	516	Spain
Charalampous et al. (2018)	11,72	868	410	451	Cyprus
Chen et al. (2018) (b)	15,86	18,341	9776	8565	China
Choi et al. (2019)	15	7109	3349	3760	South Korea
DeSmet et al. (2014)	15,3	204	78	126	Belgium
DeSmet et al. (2018)	15	1307	–	–	Belgium
Erreygers et al. (2016)	12,6	2309	1161	1148	Belgium
Extremera et al. (2018)	14,1	1660	824	836	Spain
Ferrer-Cascales et al. (2019)	13,08	2057	1036	1021	Spain
Festl and Quandt (2016)	15	1817	800	1017	Germany
Gámez-Guadix et al. (2015)	14,8	680	270	410	Spain
Giménez Gualdo et al., (2015)	14,77	4353	639	714	Spain
González-Cabrera et al. (2017)	14,89	371	191	180	Spain
González-Cabrera et al. (2018) (2 samples)	13,36	920	450	470	Spain
Hemphill and Heerde (2014)	16	658	299	363	Australia
Holfeld and Mishna (2019) (a)	13,7	510	196	314	Canada
Holfeld and Mishna (2019) (b)	14,63	422	162	260	Canada
Holfeld and Mishna (2019) (c)	15,76	329	133	196	Canada
Jang et al. (2014)	14	16,190	–	–	South Korea
Jetelina et al. (2019)	15,5	4297	–	–	US
Katz et al. (2019)	13,25	175	86	89	Israel
Lonigro et al., (2014)	14,91	716	324	392	Italy
Messias et al. (2014)	16	13,846	–	–	US
Olumide et al. (2016)	14,2	653	318	335	Nigeria
Quintana-Orts and Rey (2018)	14,1	1650	825	840	Spain
Shapka et al. (2018) (a)	14,25	426	239	187	Tanzania
Shapka et al. (2018) (b)	12,64	594	292	302	Canada
*Simckes et al. (2017) (a y b)	16	10,704	–	–	US
Tsitsika et al. (2015)	15,95	10,930	5211	5719	Europea
Veiga Simão et al., (2017)	13,6	3525	1683	1837	Portugal
Waasdorp and Bradshaw (2015)	15,93	28,104	13,724	13,573	US

(*continued on next page*)

Table 1 (*continued*)

Wachs et al. (2018)	14,2	2042	946	1096	Dutch, German, Thai, and U.S.
Williford et al. (2013) (a,b,c, y d)	14	9914	4868	5046	Finland
Wolke et al. (2017)	13,5	2745	1184	1561	UK

represents 48.46%. The American sample (USA and Canada) is 32.57%. The Asian sample (China, South Korea) is 17.61%, Africa (Tanzania) is 0.24%, the oceanic sample is 0.27% and the international sample (study of several nations) is 0.85%.

3.2. Size of the effect and statistical significance

The size of the effect was calculated from correlation coefficients, Odds Ratio, Xi2, t, etc. All these were transformed to Fisher's Z values, to ensure that the variance of the effect size was based on the sample size (Martín-Andrés & Luna del Castillo, 2004). Despite the methodological and statistical rigour, two studies were eliminated in the data processing phase with regard to the age variable: Barboza (2015) and Simckes et al. However, they were taken into account for the discussion. Thus, the effect size returned was small, although significant (Cohen, 2013), both for sex differences ($r = 0.058$; $p < 0.00$, 95% CI = 0.090; 3.45) and for age differences ($r = 0.094$; $p = 0.004$; 95% CI = 0.015; 2.910) (Figs. 2 and 3).

3.3. Statistical analysis

The heterogeneity of the sample was studied as indicated by Cochrane in Higgins and Green (2011). DerSimonian and Laird's (1986) Q statistic for sex ($Q = 824{,}850$, gl = 40, $p < 0.001$) and for age ($Q = 592{,}775$, gl = 44, $p < 0.001$) showed a high variability, rejecting the homogeneity hypothesis. On the other hand, the I2 statistic returned a high value of heterogeneity (Higgins et al., 2003), both for sex (95.15%) and age (92.58%). In other words, variability is caused by heterogeneity and not by chance. Due to this factor, the choice was made to follow the Random Effects model (Martín-Andrés & Luna del Castillo, 2004).

The need to ensure the existence or not of publication bias was stipulated (Botella & Sánchez, 2015; Higgins & Green, 2011;

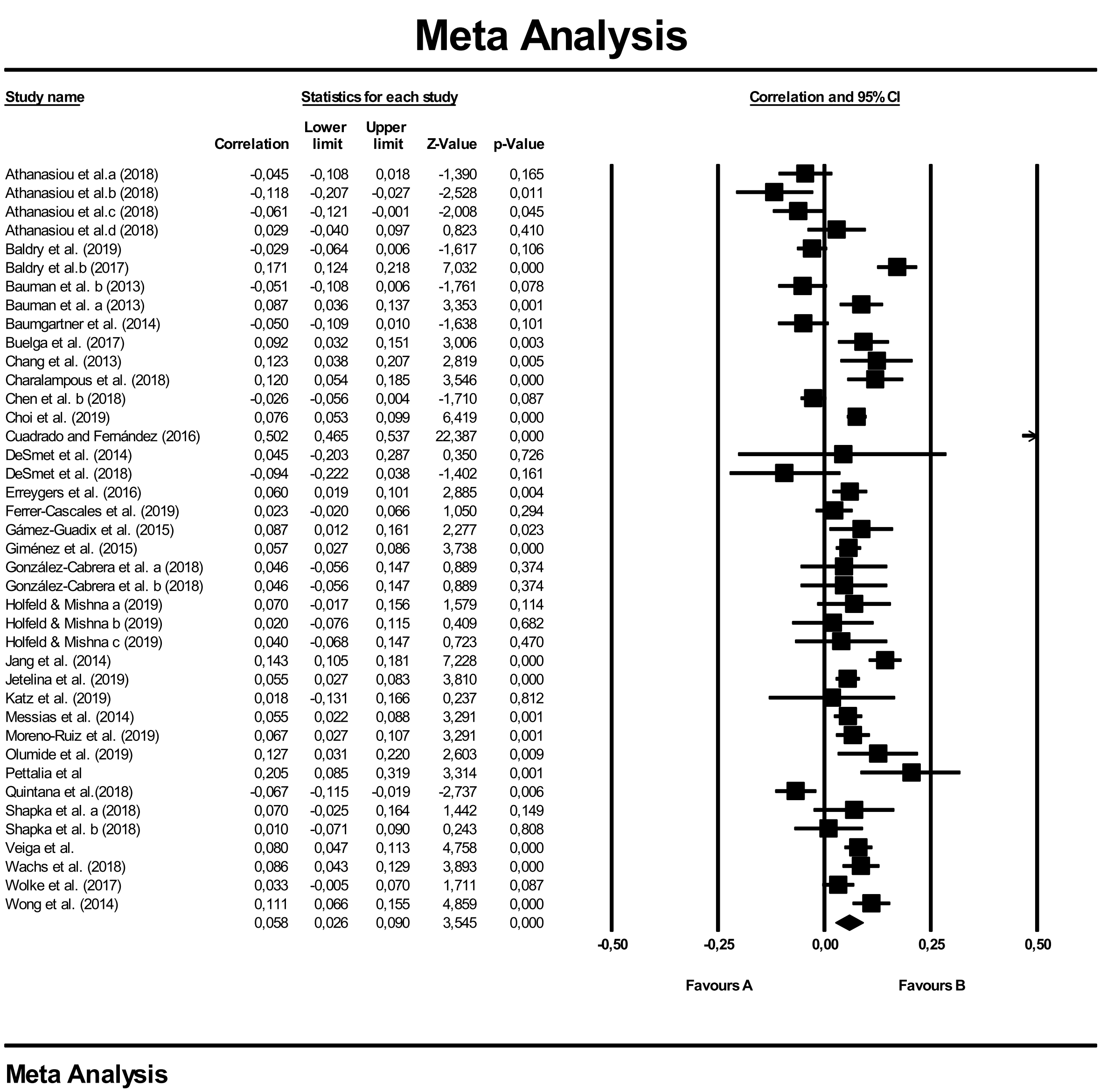

Fig. 2. *Forest plot sex.*

Meta Analysis

Study name	Correlation	Lower limit	Upper limit	Z-Value	p-Value
Alvarez et al. a (2015)	0,043	0,026	0,061	4,817	0,000
Alvarez et al. b (2015)	0,100	0,067	0,133	5,892	0,000
Athanasiou et al.a (2018)	0,024	-0,064	0,111	0,533	0,594
Athanasiou et al.b (2018)	-0,083	-0,153	-0,011	-2,269	0,023
Athanasiou et al.c (2018)	0,050	-0,026	0,126	1,296	0,195
Athanasiou et al.d (2018)	0,021	-0,041	0,083	0,669	0,503
Barboza (2015)	0,840	0,833	0,848	91,369	0,000
Bauman et al.a (2013)	0,072	0,053	0,091	7,429	0,000
Bauman et al.b (2013)	0,088	0,037	0,138	3,397	0,001
Buelga et al. (2017)	0,107	0,047	0,166	3,488	0,000
Charalampous et al. (2018)	0,054	-0,012	0,121	1,602	0,109
Chen et al. b (2018)	-0,026	-0,056	0,004	-1,710	0,087
Choi et al. (2019)	0,021	-0,002	0,044	1,770	0,077
DeSmet et al. (2014)	-0,119	-0,195	-0,041	-2,999	0,003
DeSmet et al. (2018)	-0,035	-0,071	0,001	-1,918	0,055
Erreygers et al. (2016)	0,090	0,049	0,130	4,334	0,000
Extremera et al. (2018)	0,081	0,033	0,128	3,292	0,001
Ferrer-Cascales et al. (2019)	0,065	0,022	0,108	2,959	0,003
Festl and Quandt (2016)	0,061	0,015	0,107	2,613	0,009
Gámez-Guadix et al. (2015)	0,067	-0,008	0,142	1,748	0,080
Giménez et al. (2015)	0,016	-0,014	0,045	1,029	0,303
González-Cabrera a (2018)	0,089	0,025	0,153	2,705	0,007
González-Cabrera b (2018)	0,067	0,002	0,131	2,017	0,044
González-Cabrera et al. (2017)	0,142	0,040	0,240	2,733	0,006
Hempill and Heerde (2014)	0,138	-0,078	0,343	1,253	0,210
Holfeld & Mishna a (2019)	0,070	-0,017	0,156	1,579	0,114
Holfeld & Mishna b (2019)	0,030	-0,066	0,125	0,614	0,539
Holfeld & Mishna c (2019)	0,090	-0,018	0,196	1,629	0,103
Jang et al. (2014)	0,121	0,109	0,133	20,190	0,000
Jetelina et al. (2019)	0,177	0,147	0,207	11,286	0,000
Katz et al. (2019)	0,007	-0,142	0,155	0,090	0,928
Lonigro et al. (2014)	0,061	-0,013	0,133	1,620	0,105
Messias et al. (2014)	0,038	0,021	0,054	4,418	0,000
Olumide et al. (2016)	0,128	-0,001	0,254	1,942	0,052
Quintana et al. (2018)	-0,064	-0,112	-0,016	-2,597	0,009
Shapka et al. a (2018)	0,060	-0,035	0,154	1,236	0,217
Shapka et al. b (2018)	0,120	0,040	0,199	2,931	0,003
Simckes et al. a (2017)	0,339	0,002	0,607	1,972	0,049
Simckes et al. b (2017)	0,561	0,478	0,634	10,918	0,000
Tsitsika et al. (2015)	-0,011	-0,047	0,025	-0,614	0,539
Veiga et al. (2017)	0,120	0,087	0,152	7,156	0,000
Waasdorp and Bradshaw (2015)	0,139	0,079	0,199	4,503	0,000
Wachs et al. (2018)	0,084	0,041	0,127	3,802	0,000
Williford et al. a (2013)	0,020	0,000	0,040	1,991	0,046
Williford et al. b (2013)	0,020	0,000	0,040	1,991	0,046
Williford et al. c (2013)	0,020	0,000	0,040	1,991	0,046
Williford et al. d (2013)	0,010	-0,010	0,030	0,996	0,319
Wolke et al. (2017)	0,059	0,022	0,096	3,091	0,002
	0,094	0,031	0,157	2,910	0,004

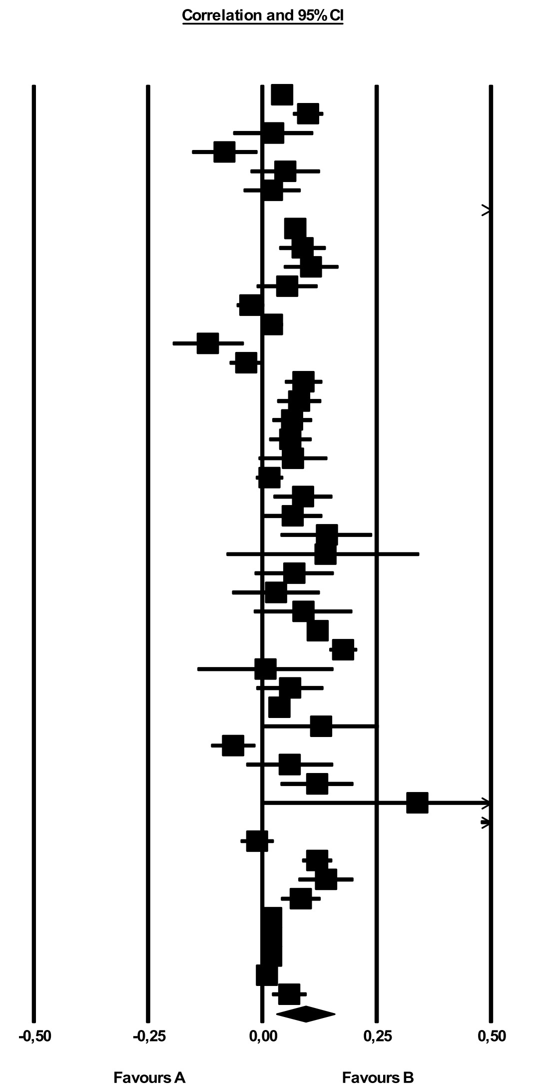

Fig. 3. *Forest plot age.*

PRISMA-Statement website,). It was decided to perform the Egger regression test. The results of the Egger regression in sex indicate the non-existence of bias: value for the intersection (B0) of 1.359993 with a 95% confidence interval (−1.98391; 4.70376), with t = 0.82262, gl = 39, the p value of 1 tail (recommended) is 0.20786 and the p value of 2 tails is 0.41573. For the age variable it obtains a value for the intersection (B0) of −1.00089, with a 95% confidence interval (−2.96586, 0.96408), with t = 1.02724, gl = 43. The p-value of 1 tail (recommended) is 0.15503 and the p-value of 2 tails is 0.31005. The non-significance of both tails exposes the non-existence of publication bias. In addition, the standard error values of sex (1.65316) and age (0.97435) are close to the regression line, which reaffirms the

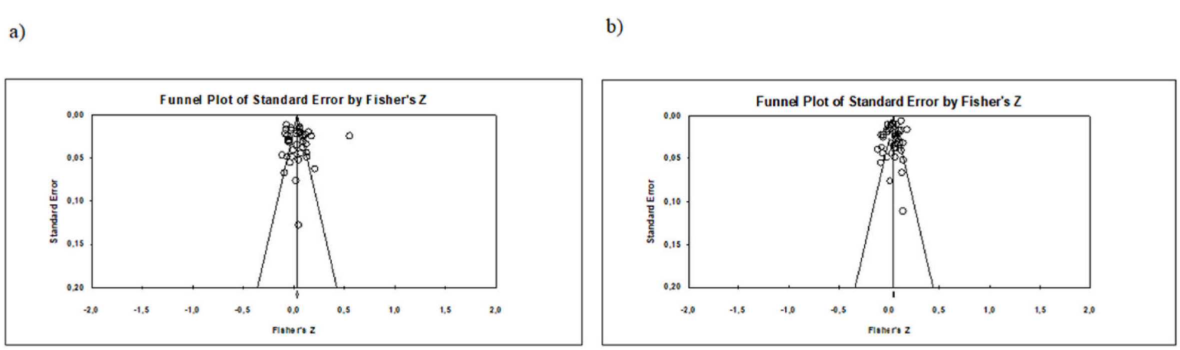

Fig. 4. *Funnel plots for sex (a) and age (b).*

non-existence of publication bias (Martin-Andrés & Luna del Castillo, 2004).

The funnel plots (Fig. 4) reaffirm the variability indicated by the Q and I statistics. However, their symmetry is consistent with the data provided by the Egger regression test. That is, regarding both the meta-analysis on sex (Fig. 4a) and age (Fig. 4b), the symmetry evidenced implies that both studies have captured all relevant studies. However, it should be noted that, in the case of sex (Fig. 4a), a study that stands out clearly on the right margin is Cuadrado-Gordillo and Fernández-Antelo (2016), which presents a moderate high correlation (0.502) between sex and rate of cyber-victimization in the Spanish sample. This aspect had already been evidenced in the graph of Forest Plot (Fig. 3).

3.4. Moderating variables

The evidence found on both variables could be modulated by other moderating factors such as culture (Botella & Sánchez, 2015), which is responsible for the high heterogeneity. In order to determine its role, a meta-regression test was carried out by applying a comparative model.

With regard to the meta-analysis on sex differences (see Table 3 and Fig. 4), the following models were generated. Model 1 (simple) and model 2 (continental culture), do not explain in percentage the variance. However, differences between cultures are observed (see Table 3) although no significant differences are established.

With regard to the meta-analysis on age differences (see Table 2 and Fig. 4), model 1 (simple) does not explain in any percentage the variability of the results. Model 2 (continental culture), explains 9%, but they are not statistically significant data ($p > 0.05$). However, in model 2 (see Table 3), as shown by the meta-regression, it is the American culture that is statistically significant compared to its counterparts (ST $= -0.2134$, z-value: -2.23 and $p = 0.0257$). In other words, American culture plays a key role in the age differences in the rate of cyber-victimization (see Fig. 4). Consequently, the variability exposed by the Q, I2 statisticians and the Funnel Plot could be understood by this cultural diversity.

4. Discussion

The present study by means of meta-analysis and review of the literature investigates the incidence of sociodemographic variables such as sex and age in the rate of cyber-victimization. Similarly, it has been interested in the moderating role of culture according to the different continents. What is new is that, unlike previous studies which have focused their research on specific population nuclei or in any case on the comparison of different countries (Athanasiou et al., 2018), this one presents a variety of cultures grouped by continent.

In general, the results are consistent with previous research concluding that sex is a mild risk factor with little significance. Therefore, both sexes can be recipients of online attacks on equal terms, although there are slight indications of greater involvement of the female sex (Moreno-Ruiz et al., 2019). In this sense, if cyberbullying is considered a relational-indirect aggression, the female sex will be more likely to suffer from it (Barlett & Coyne, 2014).

However, the higher or lower prevalence of one sex in cyber-victimization rates seems to be mediated by cultural factors. For example, in Australia the difference with women is not significant (Hemphill & Heerde, 2014). In North America, the general view, despite some exceptions (Holfeld & Mishna, 2019; Simckes, 2017), is that there are significant differences between the sexes, with women being more likely to be victims (Barboza, 2015; Bauman et al., 2013; Messias et al., 2014; Pettalia et al., 2013; Waasdorp & Bradshaw, 2015). The same is mostly true of European culture both in Nordic countries such as Finland (Williford et al., 2013) and in Mediterranean countries such as Spain and Italy (Álvarez-García et al., 2015; Baldry et al., 2017; Buelga et al., 2017; Cuadrado-Gordillo & Fernández-Antelo, 2016; Extremera et al., 2018; González-Cabrera et al., 2017, 2018; Moreno-Ruiz et al., 2019). However, there are also exceptions such as Portugal (Veiga Simão et al., 2017), Italy (Lonigro et al., 2015) or Israel (Katz et al., 2019). Eastern cultures are the only ones where homogeneity is found with a higher rate of cyber-victimization of males (Chen et al., 2018; Choi et al., 2019; Shapka et al., 2018; Wong et al., 2014) which is in line with earlier studies such as Chang et al. This peculiarity can be understood, for example, in Chinese society, where daughters are more vulnerable to family violence and this, in turn, represents one of the conditions for generating a future bully (People's Republic of China, 2005). Furthermore, concepts and meanings are applied differently in the East than in the West, as knowledge is historically elaborated and applied within very different socio-historical contexts (Kazue et al., 2006). On the other hand, it should be noted that privacy in the online environment is a determining element in cyber-victimization. In this sense, Festl and Quandt (2016) point to increased exposure to antisocial online activities and increased sexual risk in males.

On the other hand, age also has a small relationship with the rate of cyber-victimization with a declining trend that indicates that the younger the age, the greater the risk of cyberbullying (Lonigro et al., 2015; Shapka et al., 2018). Age emerges as a risk factor in cyberbullying related to early adolescence and associated with the greater impulsiveness of younger individuals, greater access to new technologies and more hours of internet use (Choi et al., 2019; Marciano et al., 2020). However, females are more likely to be cyberbullied in early adolescence, while males are more likely to be cyberbullied in late adolescence (Barlett & Coyne, 2014). Some research does not seem to find that cyber-victimization is age-mediated, as is the case with Katz et al. (2019) in Israel, or Buelga et al. (2017), Extremera et al. (2018), Ferrer-Cascales et al. (2019), Giménez Gualdo et al. (2015) in Spain. However, there are indications that age does play a determinant role in severe cases of cyber-victimization (Álvarez-García et al., 2015). The same diversity of results is presented by Asian, African (Olumide et al., 2015) or Australian cultures (Hemphill & Heerde, 2014). In the former, those who find a higher rate of cyber-victimization in early adolescence predominate (Chen et al., 2018; Jang et al., 2014) compared to those who point to an increase in the rate of cyber-bullying with age (Choi et al., 2019). In support of the results of this study, longitudinal research by Gámez-Guadix et al. (2015) agrees with authors such as Sakellariou et al. (2012) or Tokunaga (2010) on the existence of a curve whose peak is reached in middle adolescence, in the case of Spain between 15 and 16 years and in the United Kingdom between 13 and 14 years (Wolke et al., 2017).

The differences introduced by culture when assessing the results and the relevant role of the North American continental culture represented by Canada and the USA should also be highlighted. Different meta-analyses point out the significance between cyber-victimization and variables such as age or country (Barlett & Coyne, 2014; Chen et al., 2017). However, the present work, in addition to finding these direct

Table 2
Model comparison according to random effects and Z-distribution model.

	SEX					AGE				
	TauS q	R^2	*Q*	*gl*	*P-Value*	TauS q	R^2	*Q*	*gl*	*P-Value*
Model 1 SIMPLE	0,0122	0,00	0,00	0	1,0000	0,0023	0,00	0,00	0	1,00
Model CULTURA CONTINENTAL	**0,0134**	**0,00**	**1,78**	**4**	**0,7770**	**0,0021**	**0,09**	**9,34**	**5**	**0,09**

Table 3
Meta-regression of sex and age by culture.

Meta-regression SEX									
Covariance	Coefficient	Standard error	95% lower	95% higher	*Z value*	2-value *p*	*Q*	*gl*	*P*
Intersection	−0,0862	0,1178	−0,3171	0,1447	−0,73	0,4643	1,78	4	0,77
African Culture	0,2137	0,1722	−0,1239	0,5513	1,24	0,2147			
Asian Culture	0,1444	0,1295	−0,1094	0,3981	1,12	0,2648			
Culture European	0,1228	0,1202	−0,1128	0,3584	1,02	0,3068			
Culture American	0,1302	0,1255	−0,1157	0,3762	1,04	0,2994			
Meta-regression AGE									
Intersection	0,1292	0,0809	−0,0294	0,2878	1,60	0,1102	9,34	5	0,09
African Culture	−0,1114	0,0826	−0,2733	0,0505	−1,35	0,1774			
Asian Culture	−0,1256	0,0899	−0,3018	0,0506	−1,40	0,1625			
Culture European	−0,0883	0,0816	−0,2482	0,0717	−1,08	0,2794			
Culture American	**−0,2134**	**0,0957**	**−0,4009**	**−0,0259**	**−2,23**	**0,0257**			
Culture Oceanica	0,0101	0,1450	−0,2741	0,2942	0,07	0,9447			

relationships, concludes that culture acts as a moderator in the relationship between age and cyber-victimization. The theoretical review and the meta-regression show remarkable differences in the age variable attending to continental cultures in cyber-victimization. At the beginning, both point out that in the USA and Canada age plays a relevant role, highlighting that the younger the age, the higher the cyberbullying rate and the conformity of the data (Waasdorp & Bradshaw, 2015). In contrast, different studies show that the late teenage years are the ones with the highest rate of cyber-victimization, as it increases with age (Bauman et al., 2013; Messias et al., 2014; Shapka et al., 2018; Simckes et al., 2017). The European continent shows the intrinsic cultural diversity of each European country. In Belgium, similar data to the North American ones are obtained as more cases of cyber-victimization are observed in early adolescents (DeSmet et al., 2014, 2018; Erreygers et al., 2016). Therefore, and despite the small difference found on the basis of age, there is a great variety of results, being the North American culture the only one that contributes to explain the age differences in cyberbullying.

On the other hand, and despite the fact that they have not been the subject of statistical analysis, there are a series of variables that have been considered by the authors of the studies included in this meta-analysis such as family, individual differences and Internet consumption that deserve reflection and future study (Baldry et al., 2019; Baumgartner et al., 2014; Huang et al., 2020; Jetelina et al., 2019; Quintana-Orts & Rey, 2018; Turliuc et al., 2020).

5. Conclusions

The meta-analysis carried out has led to the conclusion that the effect sizes, although significant, are low for both sex and age. However, there is no unanimity in the results, as indicated by previous studies, on the role of women in cyber-victimization, although there are indications that women are more likely to suffer from cyber-bullying than younger individuals. The theoretical review and meta-regressions point to culture as a moderating element in explaining the rate of cyber-victimization, albeit in low percentages. This would indicate the need to investigate, in the future, the role of other variables such as the type of use made of the internet, parental control, personality elements, etc., which would provide more conclusive data on the subject. This would either highlight the importance of these latter variables, or it would show the need to combine all of them to explain this problem.

Declaration of competing Interest

This manuscript has not been published and is not under consideration for publication elsewhere. We have no conflicts of interest to disclose.

Data availability

No data was used for the research described in the article.

References

Álvarez-García, D., Núñez Pérez, J. C., Dobarro González, A., & Rodríguez Pérez, C. (2015). Risk factors associated with cybervictimization in adolescence. *International Journal of Clinical and Health Psychology, 15*(3), 226–235. https://bit.ly/3h1jvEz.

Athanasiou, K., Melegkovits, E., Andrie, E. K., Magoulas, C., Tzavara, C. K., Richardson, C., Greydanus, D., Tsolia, M., & Tsitsika, A. K. (2018). Cross-national aspects of cyberbullying victimization among 14-17-year-old adolescents across seven European countries. *BMC Public Health, 18*(1), 800. https://bit.ly/2DVQ4Wb.

Bai, Q., Bai, S., Huang, Y., Hsueh, F. H., & Wang, P. (2020). Family incivility and cyberbullying in adolescence: A moderated mediation model. *Computers in Human Behavior, 110*, Article 106315. https://bit.ly/2Y2JILs.

Baldry, A. C., Farrington, D. P., & Sorrentino, A. (2015). Am I at risk of cyberbullying? A narrative review and conceptual framework for research on risk of cyberbullying and cybervictimization: The risk and needs assessment approach. *Aggression and Violent Behavior, 23*, 36–51. https://bit.ly/30ZpzYY.

Baldry, A. C., Farrington, D., & Sorrentino, A. (2017). School bullying and cyberbullying among boys and girls: Roles and overlap. *Journal of Aggression, Maltreatment & Trauma, 26*(9), 937–951. https://bit.ly/3fXyQor.

Baldry, A. C., Sorrentino, A., & Farrington, D. P. (2019). Cyberbullying and cybervictimization versus parental supervision, monitoring and control of adolescents' online activities. *Children and Youth Services Review, 96*, 302–307. https://bit.ly/3411faQ.

Barboza, G. E. (2015). The association between school exclusion, delinquency and subtypes of cyber- and F2F-victimizations: Identifying and predicting risk profiles and subtypes using latent class analysis. *Child Abuse & Neglect, 39*, 109–122. https://bit.ly/3h0mPzY.

Barlett, C., & Coyne, S. M. (2014). A meta-analysis of sex differences in cyber-bullying behavior: The moderating role of age. *Aggressive Behavior, 40*(5), 474–488. https://bit.ly/3kX6oH8.

Bauman, S., Toomey, R. B., & Walker, J. L. (2013). Associations among bullying, cyberbullying, and suicide in high school students. *Journal of Adolescence, 36*(2), 341–350. https://bit.ly/2E1kgPw.

Baumgartner, S. E., Sumter, S. R., Peter, J., Valkenburg, P. M., & Livingstone, S. (2014). Does country context matter? Investigating the predictors of teen sexting across Europe. *Computers in Human Behavior, 34*, 157–164. https://bit.ly/31TmgSb.

Borenstein, M., Hedges, L. V., Higgins, J. P. T., & Rothstein, H. R. (2021). *Introduction to meta-analysis* (2nd ed.). USA: Wiley.

Botella, J., & Sánchez, J. (2015). *Meta-analysis in social and health sciences*. Madrid: Síntesis.

Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34*(10), 844. https://bit.ly/3apMC1U.

Buelga, S., Martínez-Ferrer, B., & Cava, M. (2017). Differences in family climate and family communication among cyberbullies, cybervictims, and cyber bully-victims in adolescents. *Computers in Human Behavior, 76*, 164–173. https://bit.ly/3hcMAxf.

Chang, F. C., Lee, C. M., Chiu, C. H., Hsi, W. Y., Huang, T. F., & Pan, Y. C. (2013). Relationships among cyberbullying, school bullying, and mental health in Taiwanese adolescents. *Journal of School Health, 83*(6), 454–462. https://bit.ly/2Fmf0GJ.

Charalampous, K., Demetriou, C., Tricha, L., Ioannou, M., Georgiou, S., Nikiforou, M., & Stavrinides, P. (2018). The effect of parental style on bullying and cyber bullying behaviors and the mediating role of peer attachment relationships: A longitudinal study. *Journal of Adolescence, 64*, 109–123. https://bit.ly/3iFjNl9.

Chen, L., Ho, S. S., & Lwin, M. O. (2017). A meta-analysis of factors predicting cyberbullying perpetration and victimization: From the social cognitive and media effects approach. *New Media & Society, 19*(8), 1194–1213. https://bit.ly/2PVhKwR.

Chen, Q. Q., Lo, C. K. M., Zhu, Y., Cheung, A., Chan, K. L., & Ip, P. (2018). Family poly-victimization and cyberbullying among adolescents in a Chinese school sample. *Child Abuse & Neglect, 77*, 180–187. https://bit.ly/3fUPOUl.

Choi, K. S., Cho, S., & Lee, J. R. (2019). Impacts of online risky behaviors and cybersecurity management on cyberbullying and traditional bullying victimization among Korean youth: Application of cyber-routine activities theory with latent class analysis. *Computers in Human Behavior, 100*, 1–10. https://bit.ly/3465txV.
Cívico Ariza, A., Cuevas Monzonís, N., Colomo Magaña, E., & Gabarda Méndez, V. (2021). Jóvenes y uso problemático de las tecnologías durante la pandemia: Una preocupación familiar. *Hachetetepé. Revista científica de Educación y Comunicación, 22*, 1204. https://doi.org/10.25267/Hachetetepe.2021.i22.1204
Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum.
Cuadrado-Gordillo, I., & Fernández-Antelo, I. (2016). Vulnerability and mimicry as predictive axes in cyberbullying. *Journal of Interpersonal Violence, 31*(1), 81–99. https://bit.ly/3kPLQQu.
DerSimonian, R., & Laird, N. (1986). Meta-analysis in clinical trials. *Controlled Clinical Trials, 7*(3), 177–188. https://bit.ly/2DUycet.
DeSmet, A., Deforche, B., Hublet, A., Tanghe, A., Stremersch, E., & De Bourdeaudhuij, I. (2014). Traditional and cyberbullying victimization as correlates of psychosocial distress and barriers to a healthy lifestyle among severely obese adolescents - a matched case-control study on prevalence and results from a cross-sectional study. *BMC Public Health, 14*(1), 1–12. https://bit.ly/3451ZM6.
DeSmet, A., Rodelli, M., Walrave, M., Soenens, B., Cardon, G., & De Bourdeaudhuij, I. (2018). Cyberbullying and traditional bullying involvement among heterosexual and non-heterosexual adolescents, and their associations with age and gender. *Computers in Human Behavior, 83*, 254–261. https://bit.ly/3gY4IuA.
Erreygers, S., Pabian, S., Vandebosch, H., & Baillien, E. (2016). Helping behavior among adolescent bystanders of cyberbullying: The role of impulsivity. *Learning and Individual Differences, 48*, 61–67. https://bit.ly/2PX4qbg.
Extremera, N., Quintana-Orts, C., Mérida-López, S., & Rey, L. (2018). Cyberbullying victimization, self-esteem and suicidal ideation in adolescence: Does emotional intelligence play a buffering role? *Frontiers in Psychology, 9*, 1–9. https://bit.ly/3h1nhhd.
Ferrer-Cascales, R., Albaladejo-Blázquez, N., Sánchez-SanSegundo, M., Portilla-Tamarit, I., Lordan, O., & Ruiz-Robledillo, N. (2019). Effectiveness of the TEI program for bullying and cyberbullying reduction and school climate improvement. *International Journal of Environmental Research and Public Health, 16*(4), 1–13. https://bit.ly/3h4jFv2.
Festl, R., & Quandt, T. (2016). The role of online communication in long-term cyberbullying involvement among girls and boys. *Journal of Youth and Adolescence, 45*(9), 1931–1945. https://bit.ly/3h0Ykm6.
Gámez-Guadix, M., Gini, G., & Calvete, E. (2015). Stability of cyberbullying victimization among adolescents: Prevalence and association with bully-victim status and psychosocial adjustment. *Computers in Human Behavior, 53*, 140–148. https://bit.ly/3ass3lJ.
Garaigordobil, M. (2011). Prevalence and consequences of cyberbullying: A review. International. *Journal of Psychology and Psychological Therapy, 11*(2), 233–254. Recuperado el 25 de junio de 2020 de https://bit.ly/3hcNkm1.
Giménez Gualdo, A. M., Hunter, S. C., Durkin, K., Arnaiz, P., & Maquilón, J. J. (2015). The emotional impact of cyberbullying: Differences in perceptions and experiences as a function of role. *Computers & Education, 82*, 228–235. https://bit.ly/3gZsiXN.
González-Cabrera, J., Calvete, E., León-Mejía, A., Pérez-Sancho, C., & Peinado, J. M. (2017). Relationship between cyberbullying roles, cortisol secretion and psychological stress. *Computers in Human Behavior, 70*, 153–160. https://bit.ly/2FrWehn.
González-Cabrera, J., León-Mejía, A., Beranuy, M., Gutiérrez-Ortega, M., Alvarez-Bardón, A., & Machimbarrena, J. M. (2018). Relationship between cyberbullying and health-related quality of life in a sample of children and adolescents. *Quality of Life Research, 27*(10), 2609–2618. https://bit.ly/2CuNJ3T.
Gurevitch, J., Koricheva, J., Nakagawa, S., & Stewart, G. (2018). Meta-analysis and the science of research synthesis. *Nature, 555*(7695), 175–182.
Hemphill, S. A., & Heerde, J. A. (2014). Adolescent predictors of young adult cyberbullying perpetration and victimization among australian youth. *Journal of Adolescent Health, 55*(4), 580–587. https://bit.ly/30Yth4Z.
Higgins, J. P., & Green, S. (2011). *Cochrane Handbook for systematic reviews of interventions* [updated March 2011]. The Cochrane Collaboration, 2011. Recuperado el 20 de junio de 2020 de Version 5.1. 0. https://bit.ly/2CzrGt2.
Higgins, J. P., Thompson, S. G., Deeks, J. J., & Altman, D. G. (2003). Measuring inconsistency in meta-analyses. *BJM, 327*, 557–560. https://bit.ly/3astnEY.
Holfeld, B., & Mishna, F. (2019). Internalizing symptoms and externalizing problems: Risk factors for or consequences of cyber victimization? *Journal of Youth and Adolescence, 48*(3), 567–580. https://bit.ly/3kMiv9E.
Huang, C. L., Zhang, S., & Yang, S. C. (2020). How students react to different cyberbullying events: Past experience, judgment, perceived seriousness, helping behavior and the effect of online disinhibition. *Computers in Human Behavior, 110*, Article 106338. https://bit.ly/3gZiqx3.
Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings*. Thousand Oaks, CA: Sage. https://doi.org/10.4135/9781483398105
Jang, H., Song, J., & Kim, R. (2014). Does the offline bully-victimization influence cyberbullying behavior among youths? Application of general strain theory. *Computers in Human Behavior, 31*(1), 85–93. https://bit.ly/3h2L7sY.
Jetelina, K. K., Reingle Gonzalez, J. M., Cuccaro, P. M., Peskin, M. F., Pompeii, L., Atem, F., Elliott, M. N., Earnshaw, V. A., Davies, S. L., & Schuster, M. A. (2019). Mechanisms and frequency of violent injuries among victims and perpetrators of bullying. *Journal of Adolescent Health, 64*(5), 664–670. https://bit.ly/343OSem.
Katz, I., Lemish, D., Cohen, R., & Arden, A. (2019). When parents are inconsistent: Parenting style and adolescents' involvement in cyberbullying. *Journal of Adolescence, 74*, 1–12. https://bit.ly/3h2L2FG.
Kazue, M., Moon, S., Xiaojiang, L., & Sáiz, A. (2006). Asian women: Social change and modernity. *CIDOB Documents. Asia, 12*, 1–112. Retrieved 25 June 2020 from https://bit.ly/3gZIDLT.
Lei, H., Mao, W., Cheong, C. M., Wen, Y., Cui, Y., & Cai, Z. (2019). The relationship between self-esteem and cyberbullying: A meta-analysis of children and youth students. *Current Psychology, 39*, 830–842. https://bit.ly/3g2W9x4.
Lonigro, A., Schneider, B. H., Laghi, F., Baiocco, R., Pallini, S., & Brunner, T. (2015). Is cyberbullying related to trait or state anger? *Child Psychiatry and Human Development, 46*(3), 445–454. https://bit.ly/31WkLma.
Lozano-Blasco, R., Cortés-Pascual, A., & Latorre-Martínez, M. P. (2020). Being a cybervictim and a cyberbully - the duality of cyberbullying: A meta-analysis. *Computers in Human Behavior, 111*, Article 106444. https://bit.ly/2CuOdqJ.
Marciano, L., Schlz, P. J., & Camerini, A. L. (2020). Cyberbullying perpetration and victimization in youth: A meta-analysis of longitudinal studies. *Journal of Computer-Mediated Communication, 25*(2), 163–181. https://bit.ly/3iK8b0g.
Martin-Andrés, A., & Luna del Castillo, J. (2004). *Biostatistics for health sciences (+)*. Las Rozas: Ediciones Norma Capitel.
Messias, E., Kindrick, K., & Castro, J. (2014). School bullying, cyberbullying, or both: Correlates of teen suicidality in the 2011 CDC youth risk behavior survey. *Comprehensive Psychiatry, 55*(5), 1063–1068. https://bit.ly/348U3cC.
Moreno-Ruiz, D., Martínez-Ferrer, B., & García-Bacete, F. (2019). Parenting styles, cyberaggression, and cybervictimization among adolescents. *Computers in Human Behavior, 93*, 252–259. https://bit.ly/2E7vOAE.
Olumide, A., Adams, P., & Amodu, O. K. (2016). Prevalence and correlates of the perpetration of cyberbullying among in-school adolescents in Oyo State, Nigeria. *International Journal Adolescent Medicime Health, 28*(2), 183–191. https://bit.ly/2FkTimw.
People's Republic of China. (2005). *Gender equality and development of Chinese women*. Beijing: State Information Bureau.
PRISMA-Statement website. *PRISMA translations policy* [accessed 13 Sep 2019]. Retrieved 21 April 2020 from https://bit.ly/3kPAIDe.
Quintana-Orts, C., & Rey, L. (2018). Forgiveness and cyberbullying in adolescence: Does willingness to forgive help minimize the risk of becoming a cyberbully? *Computers in Human Behavior, 81*, 209–214. https://bit.ly/2PTAE7x.
Romera, E., Cano, J. J., García-Fernández, C., & Ortega-Ruiz, R. (2016). Cyberbullying: Social competence, motivation and peer relationships. *Comunicar, 48*, 71–79. https://bit.ly/30WbDPk.
Sakellariou, T., Carroll, A., & Houghton, S. (2012). Rates of cyber victimization and bullying among male Australian primary and high school students. *School Psychology International, 33*(5), 533–549. https://bit.ly/2CvhKAB.
Sampasa-Kanyinga, H., Lalande, K., & Colman, I. (2020). Cyberbullying victimisation and internalising and externalising problems among adolescents: The moderating role of parent-child relationship and child's sex. *Epidemiology and Psychiatric Sciences, 29*(8), 1–10. https://bit.ly/2E5zKlw.
Selkie, E. M., Fales, J. L., & Moreno, M. A. (2016). Cyberbullying prevalence among us middle and high school-aged adolescents: A systematic review and quality assessment. *Journal of Adolescent Health, 58*(2), 125–133. https://bit.ly/30ZgW0r.
Shapka, J. D., Onditi, H. Z., Collie, R. J., & Lapidot-Lefler, N. (2018). Cyberbullying and cybervictimization within a cross-cultural context: A study of Canadian and Tanzanian adolescents. *Child Development, 89*(1), 89–99. https://bit.ly/2DYCpO6.
Simckes, M. S., Simonetti, J. A., Moreno, M. A., Rivara, F. P., Oudekerk, B. A., & Rowhani-Rahbar, A. (2017). Access to a loaded gun without adult permission and school-based bullying. *Journal of Adolescent Health, 61*(3), 329–334. https://bit.ly/3azdj4n.
Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior, 26*(3), 277–287. https://bit.ly/320YS5s.
Tsitsika, A., Janikian, M., Wójcik, S., Makaruk, K., Tzavela, E., Tzavara, C., Greydanus, D., Merrick, J., & Richardson, C. (2015). Cyberbullying victimization prevalence and associations with internalizing and externalizing problems among adolescents in six European countries. *Computers in Human Behavior, 51*, 1–7. https://bit.ly/3fZhMyt.
Turliuc, M. N., Mairean, C., & Boca-Zamfir, M. (2020). The relation between cyberbulying and depressive symptoms in adolescence. The moderating role of emotion regulatoin strategies. *Computers in Human Behavior, 109*, Article 106341. https://bit.ly/2DVgjfx.
Veiga Simão, A. M., Ferreira, P. C., Freire, I., Caetano, A. P., Martins, M. J., & Vieira, C. (2017). Adolescent cybervictimization - who they turn to and their perceived school climate. *Journal of Adolescence, 58*, 12–23. https://bit.ly/2Cvi3eJ.
Waasdorp, T. E., & Bradshaw, C. P. (2015). The overlap between cyberbullying and traditional bullying. *Journal of Adolescent Health, 56*(5), 483–488. https://bit.ly/3fZ6OsE.
Wachs, S., Whittle, H. C., Hamilton-Giachritsis, C., Wolf, K. D., Vazsonyi, A. T., & Junger, M. (2018). Correlates of mono-and dual-victims of cybergrooming and cyberbullying: Evidence from four countries. *Cyberpsychology, Behavior, and Social Networking, 21*(2), 91–98. https://bit.ly/3awcedM.
Williford, A., Elledge, L. C., Boulton, A. J., DePaolis, K. J., Litle, T. D., & Salmivali, C. (2013). Effects of the KiVa antibullying program on cyberbullying and cybervictimization frequency among Finnish youth. *Journal of Clinical Child and Adolescent Psychology, 42*(6), 820–833. https://bit.ly/3fXsa9J.

Wolke, D., Lee, K., & Guy, A. (2017). Cyberbullying: A storm in a teacup? *European Child & Adolescent Psychiatry, 26*(8), 899–908. https://bit.ly/30ZEMsJ.

Wong, D. S. W., Chan, H. C., & Cheng, C. H. K. (2014). Cyberbullying perpetration and victimization among adolescents in Hong Kong. *Children and Youth Services Review, 36*, 133–140. https://bit.ly/3h6nwrG.

Zych, I., Ortega-Ruiz, R., & Marín-López, I. (2016). Cyberbullying: A systematic review of research, its prevalence and assessment issues in Spanish studies. *Psicologia Educativa, 22*(1), 5–18. https://bit.ly/3iHWfff.