

Relationship between cyber and in-person dating abuse: A systematic review

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ABSTRACT

Dating abuse is widely recognized as a public health issue. A relationship between cyber and in-person dating abuse (CDA and IDA) has been established. A systematic review was carried out with the aim of identifying the studies that analyzed the relationship between CDA and IDA. Filtering by keywords that referred to the sentimental relationship, the context (in-person, online), the aggressive behavior and the participants (adolescents and young adults under 30 years of age) in four databases: PubMed, Scopus, Web of Science, and Science Direct. Studies in English, Portuguese and Spanish were included, and were selecting according to the defined inclusion criteria. A total of 35 studies in English, Portuguese or Spanish met the criteria. A great variability in terms of the methodology adopted by the studies to analyze the relationship between the CDA and the IDA was found, as well as a great diversity in terms of the type of analyses and instruments. Studies showed an overlapping between CDA and IDA as well as strong correlates. However, more longitudinal studies are necessary to concluded about temporal relationships. As implications for preventive policies, it is suggested that interventions in dating abuse should consider both online and offline context.

1. Introduction

Dating abuse is a form of intimate partner violence (IPV) that has been classified as an epidemic (Carter-Snell, 2015) and a complex public health problem (World Health Organization, 2021) which can seriously affect the physical, mental and social health of the victims (e.g., depression, anxiety, post-traumatic stress disorder, poor school performance, eating problems, increased risk of being victimized and even death by injury or suicide) (e.g., Exner-Cortens et al., 2013; Jouriles et al., 2017; MacGregor et al., 2019; Taquette & Monteiro, 2019). This abuse is defined as the aggressive behavior perpetrated against the current or past partner (Hamby & Turner, 2013), involving the use or threat of different types of violence, whether physical, emotional, psychological, sexual (Caridade, 2016), or stalking (Centers for Disease Control and Prevention, 2021), concerning to both heterosexual and homosexual partners (Dank et al., 2014).

In recent years, the increase and dissemination of digital practices and networking using a wide variety of communication tools (e.g., text

messages, emails, video calls) has introduced important changes in the social interactions of young people, including those involving the development and maintenance of intimate relationships, creating new opportunities for IPV to occur online (Burke et al., 2011), particularly among younger couples (e.g., Temple et al., 2016; Van Ouytsel et al., 2016, 2017). Cyberdating abuse (CDA), which has assumed different terminologies (Caridade et al., 2019), encompasses all those aggressive and coercive behaviors that occur between both partners through Information and Communication Technologies (ICT's) (Rodríguez-deArriba et al., 2021; Zweig et al., 2013).

Described as a multidimensional construct, it may involve the practice of multiple cyber sexual and non-sexual abusive behaviors, both in public and in private (cf. Bennett et al., 2011; Burke et al., 2011; Hinduja & Patchin, 2011; Lucero et al., 2014; Rodríguez-deArriba et al., 2021; Zweig et al., 2013). Thus, there are forms similar to those perpetrated face-to-face, such as verbal and emotional. Some examples of these cyber aggressions would be sending emails or messages containing different threats; posting photos or even sending videos through

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social networks to humiliate the partner and/or harming him/her; and resourcing/posting comments that are offensive or demeaning to the partner. Other cyber aggressions are aimed at controlling and spying through daily surveillance of the partner or ex-partner's social media (Facebook, Twitter, WhatsApp, Instagram, for example) or using the partner's passwords without authorization. Although less numerous, some authors have also explored cyber aggressions of a sexual nature (Reed et al., 2020; Thulin et al., 2021). Due to the absence of physical contact, young people sexually assault verbally (by forcing their partner to talk about sex online) or via multimedia content (such as sending/receiving/posting unwanted multimedia content).

The existing literature on CDA revealed inconsistent prevalence indicators in terms of victimization and perpetration. A research synthesis of 21 studies about CDA in adolescents found that victimization ranged from 12 to 56 % and perpetration ranged from 12 to 54 % (Stonard et al., 2014). A systematic review developed by Caridade et al. (2019) concluded that the reported rate of cyber dating victimization through cyber control ranged between 65 % and 81 % in the 44 studies reviewed. More specifically, perpetration of some type of CDA rates ranged from 8.1 % to 93.7 %, and victimization rates from 5.8 % to 92 %. Also, Fernet et al. (2019) concluded that victimization among adolescents and women ranged between 1 % and 78 %.

1.1. Relationship between in-person and cyber dating abuse

In addition to the characterization of CDA, research has sought to analyze and understand the nature of the relationship between traditional dating abuse and CDA (e.g., Caridade et al., 2020; Cava, Buelga, et al., 2020; Gámez-Guadix et al., 2018).

Several studies have pointed in different directions. Thus, some studies (e.g., Borrajo, Gámez-Guadix, & Calvete, 2015) suggested that CDA constitutes indirect aggression, without any connection to the acts of physical aggression of the in-person dating abuse (IDA), and therefore not directly linked to face-to-face dating abuse victimization.

Otherwise, other studies have shown that CDA could be an extension of face-to-face dating violence translated into the online context or even a new form of dating abuse that, although it shares similar characteristics with traditional forms, its differential characteristics would make it a qualitatively different experience. Studies that have adopted this perspective (e.g., Marganski & Melander, 2015; Rodríguez-Domínguez et al., 2018; Stonard et al., 2014; Zapor et al., 2017; Zweig et al., 2013) have shown that both CDA and IDA co-occur and are related, arguing that CDA may constitute a form of psychological violence in dating. For example, Zweig et al. (2013) concluded that IDA often co-occurs with other forms of CDA. Thereby, victims of sexual and non-sexual CDA were also victims of physical, psychological, and sexual in-person abuse. Other studies hypothesize the possible temporal relationship between both phenomena. Cava, Buelga, et al. (2020), involving a sample of 492 adolescents, corroborated the association between IDA and CDA victimization. Specifically, IDA victimization would be postulated as a significant risk factor for direct and indirect forms of cyber victimization for both boys and girls. However, these results should be taken with caution as it is a cross-sectional study. Finally, other studies have highlighted the link between CDA and IDA since both phenomena share certain risk factors (Muñoz-Fernández & Sánchez-Jiménez, 2020). Thus, previous involvement in other peer aggressive phenomena, such as bullying or cyberbullying (Espelage et al., 2022; Gámez-Guadix et al., 2018; Van Ouytsel et al., 2017) would increase the risk of engaging in dating abuse, regardless of the context (in-person or cyber). Also, the quality of the romantic relationship seems to be a common predictor of CDA and IDA.

1.2. The present study

Although the evidence indicates that CDA and IDA are closely related, not all studies would point in the same direction (e.g., Taylor &

Xia, 2022). The relationship between CDA and IDA is a subject of complex study because not only are both phenomena multidimensional, but the forms of CDA are a current topic of study with no clear consensus by the scientific community (Rodríguez-deArriba et al., 2021). For this reason, studies differ from each other in the instruments and forms included in them, which may be influencing the results found on the relationship between CDA and IDA. Efforts to identify and unify the available studies on their relationship are necessary. In this way, progress could be made in creating effective programs that simultaneously prevent both phenomena (Galende et al., 2020), as well as delimiting the steps to follow for future studies.

The present study aimed to address the lack of systematic analysis in the information available on the relationship between CDA and IDA. Specifically, this article was developed as a systematic review that analyzed and synthesized the relationships between CDA and IDA across selected studies, thereby qualitatively presenting the available evidence. The aims of the systematic review were as follows: i) to describe the characteristics of the studies based on their population, instruments, and methodological quality; ii) to know the co-occurrence between cyber and in-person dating abuse; iii) to analyze the temporal relationship between IDA and CDA.

2. Material and methods

The present systematic review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021).

2.1. Eligibility criteria

The following criteria were used to determine whether studies were eligible for inclusion: i) examined any type of CDA and IDA; ii) restricted to the context of dating in adolescents OR young adults; iii) were peer reviewed studies; iv) were available in English, Spanish or Portuguese; v) published between 2010 and 2022.

Studies were excluded when: i) not examined both CDA and IDA; ii) adult participants over 30 years old; iii) systematic reviews, meta-analyses, qualitative or non-peer-reviewed studies; iv) were available in other languages; v) full text not available.

2.2. Search strategies

Initially, we defined different keywords and their combination, creating the following search equation: (dating OR "intimate relationship*" OR partner* OR "romantic relationship*") AND (cyber OR online OR digital OR virtual OR internet OR electronic* OR technolog*) AND ("in person" OR "in-person" OR offline OR "face-to-face" OR traditional) AND (abuse* OR violence OR aggression* OR victimization OR perpetration) AND (young OR adolescent* OR teen* OR student* OR "emerging adult*"). This combination of keywords was used to run the search in several electronic databases: Pubmed, Scopus, Web of Science, and EBSCO. We limited our search to titles and abstracts, and manuscripts written in English, Portuguese, and Spanish. The search was carried out between August 2022 and October 2022. Although systematic reviews and meta-analyses were excluded from the study, recent ones were reviewed (e.g., Kim & Ferrareso, 2022; Martínez-Soto & Ibabe, 2022; Rocha-Silva et al., 2021; Rodríguez-deArriba et al., 2021) to verify the existence of additional references not identified through our database search.

2.3. Data extraction

Reference data were retrieved, and duplicates were subsequently eliminated. Titles and abstracts were then read to determine if the articles met the inclusion criteria. Articles that met the inclusion criteria through screening the title and abstract were retrieved and fully read to

reach a final decision (Fig. 1).

2.4. Coding procedures

A codebook was developed to extract data from all the included manuscripts, including the following key characteristics: reference information (e.g., authors, year); studies' characteristics (e.g., location, aims); samples' characteristics (e.g., size, age, gender, ethnicity/race; sexual orientation); instruments characteristics (e.g., to measure IDA and CDA), outcomes/results (e.g., the prevalence of CDA and IDA victimization and perpetration), the relationship between CDA and IN person DA and data analysis.

All articles were independently coded by the first and the last authors. A third reviewer verified all data and disagreements were resolved through discussion.

2.5. Methodological quality analysis

The Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018) was used to assess the methodological quality of all studies included. This tool proved essential to limit the bias in synthesizing evidence. The MMAT starts with two screening questions (e.g., "Are there clear research questions?"; "Do the collected data allow to address the research questions?"). Five items are considered to assess the

methodological quality of studies, depending on their quantitative design (e.g., randomized controlled trials, non-randomized trials). Each of the criteria is classified as "yes", "no" or "not specified". A more detailed analysis of the classifications of each criterion to obtain more information about the weaknesses of the study was carried out and later used in the discussion of the agreement between coders. Two authors independently assessed the studies' methodological quality. Disagreements were resolved through discussion with another author.

3. Results

3.1. Included studies

Fig. 1 shows the flow chart that represents the selection process. Through the research on databases, 506 articles were identified, with four articles found through other sources. Then, after removing the duplicates, there was a total of 296 articles revised by the title, excluding 96 articles for not being related to the topic. Then, 200 articles were analyzed by the abstract. In this step, the studies were mainly excluded because they did not assess CDA or IDA (n = 72) and were qualitative studies (n = 24). In the final, this systematic review included 35 articles. See Fig. 1 for detailed information.

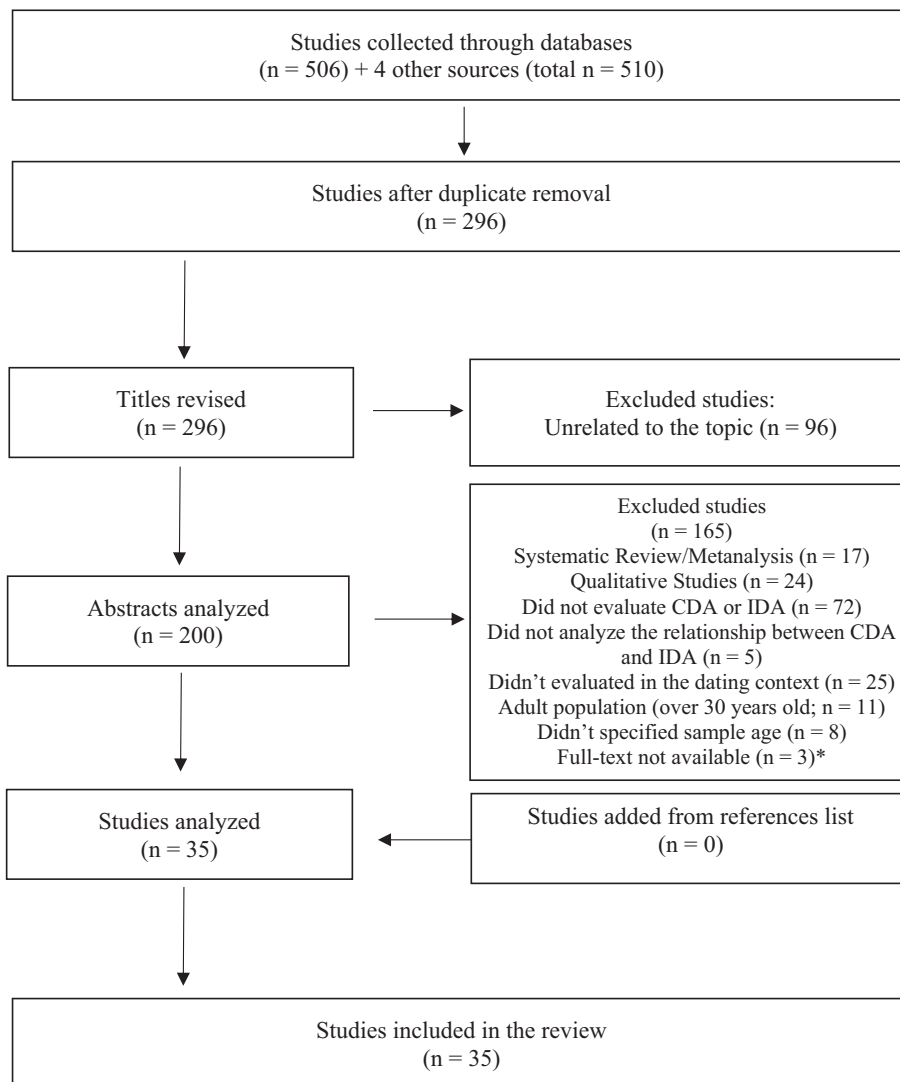


Fig. 1. Flowchart of selection of studies.

3.2. Reference information and study's characteristics

The year of publication of the studies ranged between 2013 (Zweig et al., 2013) and 2022 (Cantu & Charak, 2022; Díaz-Aguado & Martínez-Arias, 2022; Taylor & Xia, 2022). From a total of 35 studies included in this systematic review, 17 studies were conducted in the USA (e.g., Cantu & Charak, 2022; Dick et al., 2014; Zweig et al., 2013), ten in Spain (e.g., Borrajo, Gámez-Guadix, & Calvete, 2015; Muñoz-Rivas et al., 2019; Muñoz-Fernández & Sánchez-Jiménez, 2020), two in Canada (Duerksen & Woodin, 2019; Duerksen & Woodin, 2021), one in Chile (Lara, 2020), one in England (Stonard, 2021), one in Italy (Morelli et al., 2018), one in Mexico (Javier-Juárez et al., 2021), one in Nicaragua (Lu et al., 2020), and one study included multiples countries (Bulgaria, Cyprus, England, Italy, and Norway; Barter et al., 2016).

Regarding the methodological design, most studies used a cross-sectional design (32 studies), and four studies reported being longitudinal (Muñoz-Fernández & Sánchez-Jiménez, 2020; Thulin et al., 2021), but only two of them show a longitudinal relationship between the study variables, that is, between IDA and CDA (Lu et al., 2021; Temple et al., 2016). The main statistical method used was correlations ($n = 25$). Besides, studies also included chi-square tests ($n = 4$), logistic regression models ($n = 3$), linear regression models ($n = 3$), hierarchical regression analyses/models ($n = 1$), latent class analyses ($n = 2$), path models ($n = 1$), adjusted risk ratios ($n = 1$), cross-tabulation ($n = 1$), cross-lagged panel analyses ($n = 1$), negative binomial regression ($n = 1$), threshold analyses ($n = 1$) and Fisher's exact test ($n = 1$). See Table 1 for more information.

3.3. Sample characteristics

Regarding the sample characteristics, the sample sizes varied between 70 (Reed et al., 2020) and 5647 (Semenza, 2021a; Semenza, 2021b). Most of the studies, specifically 32, included both females and males in the sample (e.g., Barter et al., 2016; Borrajo, Gámez-Guadix, Pereda, & Calvete, 2015; Calvete et al., 2021; Trujillo et al., 2020), two studies included exclusively females' samples (Doucette et al., 2021; Morelli et al., 2018), and the sample of one study was composed exclusively of males (Díaz-Aguado & Martínez-Arias, 2022).

Regarding the age of the samples, there is some considerable variance, with ages ranging between 11 years old (Calvete et al., 2021; Semenza, 2021a) or 6th grade students (Kernsmith et al., 2018) to 30 years old (Borrajo, Gámez-Guadix, & Calvete, 2015). Many studies ($n = 18$) reported the participant's ethnicity showing some variability (e.g., Cantu & Charak, 2022; Dick et al., 2014; Temple et al., 2016). Most of the studies also reported some characteristics of participants' sexual orientation, with the majority of them represented by young heterosexuals (e.g., Cava & Buelga, 2018; Reed et al., 2020; Temple et al., 2016; Zweig et al., 2013) and only two studies focusing on LGB population (Ronzón-Tirado et al., 2021; Trujillo et al., 2020). One study encompasses boys that were dating girls (Díaz-Aguado & Martínez-Arias, 2022) without specifying sexual orientation (heterosexual or bisexual). See Table 1 and extended Table 1 as a supplemental material for more information.

3.4. CDA and IDA measurement characteristics

Regarding the evaluation of CDA (Table 2), the studies included in the systematic review used a variety of measures. Twelve studies used measures adapted from others existing measures (e.g., Dick et al., 2014; Kernsmith et al., 2018; Lu et al., 2020; Lu et al., 2021; Melander & Marganski, 2020; Morelli et al., 2018; Semenza, 2021b; Taylor & Xia, 2022; Temple et al., 2016; See Table 2 for a full description), nine studies used original measures (e.g., Barter et al., 2016; Calvete et al., 2021; Díaz-Aguado & Martínez-Arias, 2022; Doucette et al., 2021), five studies used the Cyber Aggression in Relationships Scale from Watkins et al. (2018) (CARS; Cantu & Charak, 2022; Duerksen & Woodin, 2019;

Duerksen & Woodin, 2021; Ronzón-Tirado et al., 2021; Trujillo et al., 2020), five studies used the Cyber Dating Abuse Questionnaire (CDAQ; Borrajo, Gámez-Guadix, & Calvete, 2015; Borrajo, Gámez-Guadix, Pereda, & Calvete, 2015; Gracia-Leiva et al., 2020; Javier-Juárez et al., 2021; Lara, 2020), three studies used the *Escala de Ciber-violencia en Parejas Adolescentes* (Cib-VPA, Cava & Buelga, 2018; Cava, Buelga, et al., 2020; Cava, Martínez-Ferrer, et al., 2020) and one study used Couple's Violence in Social Networks Scale in Adolescents (e-VPA; Muñoz-Rivas et al., 2019). All studies evaluated CDA in the last year, except four studies that evaluated in the last three months (Dick et al., 2014; Doucette et al., 2021; Duerksen & Woodin, 2019; Duerksen & Woodin, 2021), three studies that evaluated in the last six months (Borrajo, Gámez-Guadix, & Calvete, 2015; Borrajo, Gámez-Guadix, Pereda, & Calvete, 2015; Lara, 2020) and one study that referred past year or prior (Cantu & Charak, 2022). The instruments showed good reliability, with some exceptions (Reed et al., 2020).

Regarding the evaluation of IDA (Table 2), the studies included also used a variety of measures. Twelve studies used measures adapted from others existing measures (e.g., Borrajo, Gámez-Guadix, Pereda, & Calvete, 2015; Dick et al., 2014; Zweig et al., 2013), 10 studies used the Conflict in Adolescent Dating Relationships Inventory (CADRI; Cava & Buelga, 2018; Cava, Buelga, et al., 2020; Cava, Martínez-Ferrer, et al., 2020; Doucette et al., 2021; Lu et al., 2021; Morelli et al., 2018; Wolfe et al., 2001), six studies used original measures (e.g., Barter et al., 2016; Thulin et al., 2021), two studies used Conflict Tactics Scale from Straus et al. (1996) (CTS; Marganski & Melander, 2015; Melander & Marganski, 2020), two studies used the Conflict Tactics Scale 2 Short Form from Straus and Douglas (2004) (CTS2-SF; Cantu & Charak, 2022; Ronzón-Tirado et al., 2021), one study used the original measure from Foshee et al. (1998) (Reed et al., 2020), one study used the Cuvinova from Pérez-Sánchez and Díaz (2017) (Gracia-Leiva et al., 2020), one study used the Dating Violence Questionnaire from Lara and López-Cepero (2018) (DVQ; Lara, 2020), and one study used the Violence in Adolescents' Dating Relationships Inventory for Mexican Youth, (VADRI-MX; Aizpitarte & Rojas-Solís, 2019; Javier-Juárez et al., 2021). Some studies did not report the time that the behavior was evaluated, but the majority evaluated IDA in the last year, except four studies that evaluated it in the last three months (Dick et al., 2014; Doucette et al., 2021; Duerksen & Woodin, 2019; Duerksen & Woodin, 2021), one study that evaluated in the last six months (Borrajo, Gámez-Guadix, & Calvete, 2015), one study in the current or recent dating relationship (Morelli et al., 2018) and one study in the past year or prior (Cantu & Charak, 2022). The instruments showed good reliability, with some exceptions (Cantu & Charak, 2022; Dick et al., 2014; Marganski & Melander, 2015), especially concerning the instruments focusing on sexual IDA (Doucette et al., 2021; Duerksen & Woodin, 2021) (See extended Table 2 in supplemental material).

3.5. CDA and IDA association

Of all the studies reviewed, 24 found significant results on the relationship between CDA and IDA (68.6 %) while 11 found mixed results (31.4 %), i.e. some significant and some non-significant depending on the analysis or variables. No study reported only non-significant results (see Table 2).

Studies focused on analyzing the overlap between CDA and IDA have found that both phenomena are strongly related (Barter et al., 2016; Dick et al., 2014; Stonard, 2021; Zweig et al., 2013). Thus, adolescents and young adults who suffered or perpetrated sexual and non-sexual forms of CDA were also involved in IDA. Gracia-Leiva et al. (2020) reported that 56.8 % of participants experienced CDA and IDA. Another example of this could be seen in the study of Hinduja and Patchin (2021) when 81 % of the victims of CDA were also the target of IDA. Similarly, most of the young victims of IDA reported being also victims of CDA, though the percentage was lower (63 %). Only Dick et al. (2014) found a non-significant result where participants involved in sexual cyber dating abuse did not report more physical victimization. The study of Stonard

Table 1
Descriptive characteristics of the included studies.

Source Country	Scale of violence	Sample characteristics		Methodological design	Statistics	Methodological quality
		Sex, age range, M, SD	Ethnicity, sexual orientation			
Barter et al. (2016)	Victimization	N = 4564 (3299 reported)	96 % heterosexual 4 % homosexual	Cross-sectional	χ^2 test	3 points
Bulgaria, Cyprus, England, Italy, and Norway		53–82 % females; 58–89 % males				
Borrajó, Gámez-Guadix, and Calvete (2015)	Victimization	14–17 years N = 529 (433 dating experience) 37 % male; 60 % female 3 % not indicated	96.8 % heterosexual 3.2 % were homosexual	Cross-sectional	Bivariate correlations Multiple linear regression model	2 points
Spain		18–30 (M = 20.4; SD = 2.1)				
Borrajó, Gámez-Guadix, Pereda, and Calvete (2015)	Aggression	N = 834 total (788 with sentimental experience)	92.6 % heterosexual 3.7 % homosexual 3.8 % bisexual	Cross-sectional	Correlations	3 points
Spain	Victimization	22.2 % men; 77.3 % women; 0.5 % not indicated				
Calvete et al. (2021)	Aggression and victimization	18–30 (M = 22.72; SD = 4.9) N = 2746; 53 % females 11–21 (M = 14.19; SD = 1.59)		Cross-sectional	Correlations	4 points
Spain		N = 886; 51.7 % females 11–18 (M = 14.49, SD = 1.45)				
Cantu and Charak (2022)	Victimization	N = 903 with sentimental experience	100 % Hispanic ethnicity; 98 % White	Cross-sectional	Correlations	2 points
USA		74.1 % females; 25.9 % males				
Cava and Buelga (2018)	Aggression	18–29 (M = 20.68; SD = 2.42) N = 762 50.7 % girls; 49.3 % boys	96.4 % heterosexual 3.6 % homosexual	Cross-sectional	Bivariate correlations	2 points
Spain	Victimization	12–18 (M = 14.06; SD = 1.81) N = 363 (last year sentimental experience): 56.6 % girls; 43.3 % boys				
Cava, Buelga, et al. (2020)	Victimization	12–18 (M = 14.34; SD = 1.73) N = 919 48.1 % boys; 51.9 % girls (M = 14.90; SD = 1.60)		Cross-sectional	Correlations and linear regression analyses	4 points
Spain		N = 492 with sentimental experience last year 46.5 % boys; 53.5 % girls				
Cava, Martínez-Ferrer, et al. (2020)	Aggression	12–18 years N = 919 48.1 % boys, 51.9 % girls M = 14.90; SD = 1.60	94.5 % heterosexual 5.5 % homosexual	Cross-sectional	Kruskall-Wallis tests and regressions	4 points
Spain		N = 492 with				

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Table 1 (continued)

Source Country	Scale of violence	Sample characteristics		Methodological design	Statistics	Methodological quality
		Sex, age range, M, SD	Ethnicity, sexual orientation			
		sentimental experience last year				
		46.5 % boys; 53.5 % girls				
Díaz-Aguado and Martínez-Arias (2022)	Aggression	12–18 years N = 5150 N = 3132 with sentimental experience; 100 % male		Cross-sectional	Correlations	4 points
Spain						
Dick et al. (2014)	Victimization	14–18 (M = 16.03; SD = 1.22) N = 1008 23.7 % male; 76.3 % female	15.5 % Asian; 27.1 % African American 36.5 % Hispanic; 5.1 % Native American/Pacific Islander	Cross-sectional	χ ² test Logistic regression models	2 points
USA						
		14–19 years	5.2 % White; 10.7 % Multiracial/ other			
			83.8 % heterosexual; 11.6 % bisexual 1.4 % homosexual/gay/lesbian; 3.2 % not sure			
Doucette et al. (2021)	Aggression	N = 109 with prior history of physical dating violence	Ethnic: 53.8 % Hispanic or Latina Racial: 32.1 % Black; 23.1 % White 10.3 % American Indian; 1.3 % Asian 52.6 % other	Cross-sectional	Correlations and hierarchical regression models	2 points
USA						
		N = 78 with actual relationship 100 % females	80.8 % heterosexual; 9.0 % bisexual 7.7 % undecided; 2.6 % homosexual			
		14–17 (M = 15.78; SD = 0.96) N = 278 73.4 % females; 26.6 % males		Cross-sectional	Correlations Regression	1 point
Duerksen and Woodin (2019)	Aggression					
Canada						
		17–25 (M = 20.5; SD = 1.9) N = 278 with sentimental experience last 3 months 73 % Females; 26.6 % Males	82.4 % White; 1.7 % African; 3.4 % Latino/Hispanic; 0.4 % Indigenous 2.9 % Middle Eastern; 11.5 % East Asian 4 % South Asian; 0.4 % Caribbean 1.7 % Other	Cross-sectional	Correlations	2 points
Duerksen and Woodin (2021)	Victimization					
Canada						
		17–25 (M = 20.5, SD = 1.9) N = 1227 100 % females	87.4 % heterosexual; 10.4 % bisexual 0.4 % other; 1.4 % homosexual	Cross-sectional	Correlations	3 points
Gracia-Leiva et al. (2020)	Victimization					
Spain			91.5 % Spanish; 5.5 % Latin-America 1.7 % Europe; 0.7 % others			
		13–28 (M = 18.76, SD = 2.82) N = 5539 N = 2218 with sentimental experience last year	100 % male partner (heterosexual/ bisexual not specified) 69 % White; 11.3 % African American 10.6 % Hispanic; 9.1 % Other	Cross-sectional	Cross-tabulation table and logistic regression models	3 points
Hinduja and Patchin (2021)	Victimization					
USA			89.5 % heterosexual; 10.5 % no heterosexual			
		51.9 % females; 48.1 % men				
		12–17 (M = 14.9) N = 394 with sentimental experience last year		Cross-sectional	Correlations	2 points
Javier-Juárez et al. (2021)	Victimization					
Mexico						
		62.4 % female; 37.6 % men				
		15–18 (M = 16.05; SD = 1)				

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Table 1 (continued)

Source Country	Scale of violence	Sample characteristics		Methodological design	Statistics	Methodological quality
		Sex, age range, M, SD	Ethnicity, sexual orientation			
Kernsmith et al. (2018)	Aggression	N = 1236 (883 with sentimental experience)	41 % students of color	Cross-sectional	Adjusted risk ratios (correlates)	4 points
USA	Victimization	52 % girls; 48 % boys	59 % White students			
Lara (2020)	Aggression	N = 1538	95.6 % Heterosexual	Cross-sectional	Correlations	4 points
Chile	Victimization	59.8 % females				
Lu et al. (2020)	Aggression	14–24 (M = 18.27; SD = 2.96)	52.7 % heterosexual	Cross-sectional	Correlations	3 points
Nicaragua	Victimization	N = 1799	7.2 % homosexual			
Lu et al. (2021)	Aggression	(M = 13.04; SD = 1.10)	32 % Hispanic; 28 % Black; 29 % White	Longitudinal (3 waves, 1 years apart each)	Correlations Cross-lagged panel analysis	4 points
USA	Victimization	N = 1042	11 % Other;			
Marganski & Melander (2018)	Victimization	N = 879 with dating abuse experiences	77 % heterosexual; 22 % bisexual/homosexual	Cross-sectional	Correlations Logistic regressions	3 points
USA	Victimization	59 % females; 41 % men	1 % not reported			
Marganski & Melander (2018)	Victimization	W4 16–20 (M = 18.1; SD = 0.78)	90.0 % White	Cross-sectional	Correlations Logistic regressions	3 points
USA	Victimization	N = 540	10 % Non-White			
Melander and Marganski (2020)	Victimization	18–25 (M = 19.5; SD = 1.6)	90 % White	Cross-sectional	Correlations	3 points
USA	Victimization	N = 844 (540 with sentimental experience past year)	10 % Non-White			
Morelli et al. (2018)	Aggression	73.10 % female; 26.9 % male	14.71 % not exclusively heterosexuals	Cross-sectional	Correlations	3 points
Italy	Victimization	18–25 years				
Muñiz-Rivas et al. (2019)	Aggression	N = 1405		Cross-sectional	Correlations	5 points
Spain	Victimization	65.1 % females				
Muñoz-Fernández and Sánchez-Jiménez (2020)	Aggression	13–22 (M = 18.17; SD = 2.39)		Longitudinal (2 waves, 6 months apart)	Correlations	5 points
Spain	Aggression	N = 1132	95.7 % Spanish; 2.5 % Latin America			
Reed et al. (2020)	Aggression	14–18 (M = 15.6; SD = 1.3)	95.7 % heterosexual; 1.1 % gay or lesbian	Cross-sectional	Correlations	2 points
USA	Victimization	N = 70 Latinx students with dating experience;	1.1 % bisexual; 0.3 % pansexual			
Ronzón-Tirado et al. (2021)	Aggression	12–18 (M = 15.03; SD = 1.38)	0.2 % demisexual; 1.6 % still didn't know	Cross-sectional	Latent class	3 points
USA	Victimization	N = 288	78.6 % heterosexual			
Ronzón-Tirado et al. (2021)	Aggression	14–18 years (M = 15.65)	56 % Non-Hispanic White; 26 % White Hispanic; 6.6 % Black/African American	Cross-sectional	Latent class	3 points
USA	Victimization	N = 288	5.2 % Asian; 4.2 % bi- or multi-racial			
		18–29 (M = 25.35; SD = 2.76)	1.4 % American Indian/Alaska			
			58.3 % bisexual; 25 % gay; 16.7 % lesbian			

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Table 1 (continued)

Source Country	Scale of violence	Sample characteristics		Methodological design	Statistics	Methodological quality
		Sex, age range, M, SD	Ethnicity, sexual orientation			
Semenza et al. (2021a) USA	Victimization	N = 5647 52 % females 11–19 (M = 15)	78 % White	Cross-sectional	Negative binomial regression Threshold analysis	4 points
Semenza et al. (2021b) USA	Aggression Victimization	N = 5647; 52 % females 11–19 (M = 15.4; SD = 1.57)	78 % White	Cross-sectional	Correlations	4 points
Stonard (2021) England	Aggression Victimization	N = 469 52 % females 12–18 (M = 13.9; SD = 1.27)	88 % White British	Cross-sectional	χ^2 and Fisher's Exact tests	2 points
Taylor and Xia (2022) USA	Aggression Victimization	N = 131 with sentimental experience 58 % female; 41.4 % male 13–19 (M = 17.91; SD = 1.42)	92.4 % white; 4.7 % Black/African American 1.2 % American Indian/Alaska Native 1.7 % Asian or Pacific Islander; 3.9 % Hispanic/Latino; 96.1 % Non-Hispanic/Non-Latino 95.3 % Heterosexual; 0.8 % Gay or lesbian 2.3 % Bisexual; 1.6 % Unsure	Cross-sectional	Correlations	0 points
Temple et al. (2016) USA	Aggression victimization	N = 1042 Wave 4: 58 % females (M = 18.09; SD = 0.79)	25.5 % African American; 29.7 % White 31.9 % Hispanic; 12.8 % Others 90.5 % heterosexual; 9.5 % bisexual/homosexual	Longitudinal 2 waves 1 year interval	Correlations Path model	4 points
Thulin et al. (2021) USA	Aggression Victimization	N = 1237 (W1): 60.5 % females; 11–13 (M = 12) N = 887 (W4): 63.9 % female; 14–16 (M = 14.9)	W1: 58.4 % white; 15.8 % African American 5.3 % Hispanic; 4.2 % Native American less than 1 % Asian; 10 % multiple categories W4: 65.0 % white; 14.3 % African American 5 % Hispanic; less than 1 % Asian, Native American or Arab American; 12.5 % multiple categories	Longitudinal (4 waves, 1 year apart each, 4 years in total)	Latent class	4 points
Trujillo et al. (2020) USA	Victimization	N = 277 with sentimental experience 61.7 % females; 37.9 % males 18–29 (M = 25.39; SD = 2.77)	100 % LGB 44 % people of color and white Hispanic individuals	Cross-sectional	Correlations	2 points
Zweig et al. (2013) USA	Aggression Victimization	N = 5647, 3745 with sentimental experience 47 % male; 52 % female	73.7 % Caucasian/White; 5 % African American/Black; 8.2 % Hispanic; 2.2 % Asian; 0.7 % Native American; 10.2 % Mixed race 93.8 % heterosexual/straight; 6.2 % LGBTQ+	Cross-sectional	χ^2 test	4 points

(2021) analyzed the effect of gender, reporting that there was not a significant relationship between physical IDA and CDA experiences for males. Nevertheless, 86 % of physical IDA instigator-victims were also CDA instigator-victims. Finally, Ronzón-Tirado et al. (2021) sought to identify latent classes based on involvement in IDA and CDA in the LGB population. They found four different groups with no overlap between the two phenomena: face-to-face IPV, cyber IPV, psychological and stalking cyber IPV, and low IPV.

Regarding correlation studies, most studies found a positive and significant relationship between CDA forms (sexual, psychological, stalking, direct aggressions, and control) and IDA (physical, psychological, verbal, control, sexual, and stalking) for both victimization and perpetration (e.g., Calvete et al., 2021; Cantu & Charak, 2022; Duerksen

& Woodin, 2021; Trujillo et al., 2020). Specifically, of the 25 studies that performed correlation analyses, 22 studies (88 %) found that all the relationships considered in the analyzes were significant (see Table 2 and extended Table 2 in supplemental material). However, the range of the correlations was very wide, between 0.20 (e.g., Borrajo, Gámez-Guadix, & Calvete, 2015) and 0.84 (Cava & Buelga, 2018), and not all studies showed significant correlations: three studies found mixed results (12 %) (e.g., Cava et al., 2020, b; Dick et al., 2014; Temple et al., 2016), one of which follows a longitudinal design (Lu et al., 2021). Reed et al. (2020) and Taylor and Xia (2022) found no correlation between some CDA and IDA forms (see Table 2). Correlations between IDA victimization (relational, verbal-emotional, and physical) and CDA victimization (control and aggression) were also studied separately for

Table 2
Data extraction about measures and relationship.

Source	Measures		Relationship between IDA and CDA		
	IDA	CDA	No	Yes	Mixed
Barter et al. (2016)	6 questions: <i>emotional and physical</i>	6 questions: <i>emotional abuse, controlling behavior, surveillance, and isolation</i>		X	
Borrajó, Gámez-Guadix, and Calvete (2015)	Last 6 months	Last 6 months			X
Borrajó, Gámez-Guadix, Pereda, and Calvete (2015)	Two individual questions measuring <i>psychological and physical aggression</i>	<i>Cyber Dating Abuse</i>		X	
Calvete et al. (2021)	<i>Modified Conflicts Tactics Scale</i> (Neidig, 1986; adapted to Spanish by Muñoz-Rivas et al., 2019)	<i>CDAQ</i> (Borrajó et al., 2015, b)		X	
Cantu and Charak (2022)	Questionario para evaluar el abuso en relaciones de pareja en adolescentes CARPA Past year, or prior to the past year	Past year, or prior to the past year		X	
Cava and Buelga (2018)	CTS-2 Short Form (Straus & Douglas, 2004) CADRI (Wolfe et al., 2001; Spanish adaptation: Fernández-Fuertes et al., 2006)	CARS (Watkins et al., 2018) The Gib- VPA: 5 double items <i>cybercontrol</i> 5 double items <i>cyberaggression</i>		X	
Cava, Buelga, et al. (2020)	Last year	Last year			X
Cava, Martínez-Ferrer, et al. (2020)	CADRI	Cyber-Violence in Adolescent Couples Scale: <i>Cyber-control and Cyber-aggression</i>			X
Díaz-Aguado and Martínez-Arias (2022)	Last year	Last year			X
Dick et al. (2014)	CADRI	Cyber-Violence in Adolescent Couples Scale: <i>Cyber-control and Cyber-aggression</i>		X	
Doucette et al. (2021)	11 indicators that referred to different forms of aggression toward women: <i>physical, relational and emotional</i> Past 3 months	6 indicators Past 3 months			X
Duerksen and Woodin (2019)	<i>ARA Victimization</i> Past 3 months	<i>Cyber Dating Abuse</i> Past 3 months		X	
Duerksen and Woodin (2021)	CADRI	Three items to assess monitoring a partner's (a) social networking sites, (b) cell phone call list, and (c) text messages Past 3 months			X
Gracia-Leiva et al. (2020)	Past 3 months	Past 3 months			X
Hinduja and Patchin (2021)	In-person IPV. <i>Psychological and physical IPV</i> in person was measured using the CTS-2 (Straus et al., 1996). <i>Sexual coercion and assault.</i> <i>Stalking.</i> A modified version of the SVQ from the National Intimate Partner and Sexual Violence Surveillance Program was used (Fox et al., 2011). Past 3 months	CARS (Watkins et al., 2018)			
Javier-Juárez et al. (2021)	Past 3 months	Past 3 months		X	
Kernsmith et al. (2018)	<i>Physical IPV</i> <i>Psychological IPV</i> <i>In-person sexual IPV</i> <i>Stalking</i> SVQ (Fox et al., 2011) Cuvinova (Pérez-Sánchez & Dfáz, 2017)	CARS (Watkins et al., 2018) Full scale after CFA failed			
Lara (2020)	Last year	Last year		X	
	Traditional dating abuse	DDA		X	
	Violence in Adolescents' Dating Relationships Inventory for Mexican Youth, VADRI-MX, validated in Mexican population by Aizpitarte and Rojas-Solís (2019)	CDAQ (Borrajó et al., 2015, b), adapted to Mexican population by Hidalgo-Rasmussen et al. (2020)			
	12-month incidence	12-month incidence		X	
	<i>Sexual coercion.</i> 4 items modified from the Sexual Coercion subscale of the Revised CTS (Straus et al., 1996)	<i>Coercive sexting</i>			
	Dating Violence Questionnaire (DVQ). The Chilean version of the DVQ (Lara & López-Cepero, 2018)	Last 6 months		X	
		CDAQ (Borrajó et al., 2015, b)			

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Table 2 (continued)

Source	Measures		Relationship between IDA and CDA		
	IDA	CDA	No	Yes	Mixed
Lu et al. (2020)	Past year	Past year		X	
Lu et al. (2021)	A 36-item (18 A, 18 V) adaptation of the 50-item CADRI (Wolfe et al., 2001) Past year	8 perpetration and 8 victimization items (Picard, 2007; Temple et al., 2016; Zweig et al., 2013) Past year			X
Marganski and Melander (2015)	In-person Dating Abuse 28 items from the CADRI (Wolfe et al., 2001) Last year	Cyber Dating Abuse (Picard, 2007; Zweig et al., 2013) Last year		X	
Melander and Marganski (2020)	IP-IPV: CTS (Straus et al., 1996) Past year	C-IPV Past year		X	
Morelli et al. (2018)	IP-IPV CTS (Straus et al., 1996) Current or recent dating relationships	C-IPV (Hinduja & Patchin, 2007; Melander, 2010; Spitzberg & Hoobler, 2002; Ybarra, 2004) Last year		X	
Muñiz-Rivas et al. (2019)	The CADRI (Wolfe et al., 2001): <i>physical, sexual, verbal-emotional, relational violence and threats</i> CADRI validated in Spanish by Fernández-Fuertes et al. (2006)	Cyber dating violence: CADRI (Wolfe et al., 2001)		X	
Muñoz-Fernández and Sánchez-Jiménez (2020)	<i>Psychological aggression</i> : Psychological Dating Abuse Scale (Foshee, 1996)	E-dating violence was measured by the Couple's Violence in Social Networks Scale in Adolescents (e-VPA; Muñiz, 2017) <i>Cyber-aggression</i> : adapted from Cyber Dating Abuse survey (Zweig et al., 2013)		X	
Reed et al. (2020)	Foshee et al. (1998): experience with <i>physical, sexual, and psychological</i> TDA Last year	DDA (Reed et al., 2017, 2018)			X
Ronzón-Tirado et al. (2021)	CTS 2 Short Form (Straus & Douglas, 2004) Last year	Last year		X	
Semenza (2021a)	CTSA 2 Short Form (Straus & Douglas, 2004) Last year	Cyber IPV. CARS (Watkins et al., 2018) Last year		X	
Semenza (2021b)	Fernet et al. (2019) <i>physical violence</i> Foshee (1996) <i>psychological violence</i> Last year 4-point Likert scale and yes/no USA	Adopted by Urban Institute in the original survey from Griesel et al. (2008) and Picard (2007) Last year 4-point Likert scale and yes/no			X
Stonard (2021)	Foshee (1996) <i>physical violence</i> Last year	Adopted by Urban Institute in the original survey from Griesel et al. (2008) and Picard (2007) Last year			X
Taylor and Xia (2022)	<i>Control</i> : The Controlling Behaviors Scale (Graham-Kevan & Archer, 2003) <i>Physical violence</i> : Safe Dates scales (Foshee et al., 1996) Last year	The TAADV Last year			X
Temple et al. (2016)	CADRI (Fernández-González et al., 2012) Last year	3 items (Reed et al., 2015) Last year			X
Thulin et al. (2021)	<i>Traditional Dating Abuse</i> (Time 4) CADRI (Wolfe et al., 2001) Past year	<i>Cyber Abuse</i> (Time 4 and 5) Past year		X	
Trujillo et al. (2020)	<i>Physical Dating Violence</i> Last year	Electronic Dating Aggression. <i>Electronic monitoring, electronic harassment, and electronic sexual coercion</i> Last year		X	
Zweig et al. (2013)	Face-to-face intimate partner victimization the short form of the Revised CTS 1 year period	CARS 1 year period		X	
	<i>Physical Dating Violence</i> (Foshee et al., 1996) <i>Psychological Dating Abuse</i> (multiple sources) <i>Sexual Coercion</i> (Foshee, 1996; Zweig et al., 2002)	<i>Cyber Dating Abuse</i>			
Total			0 (0 %)	24 (68.57 %)	11 (31.43 %)

Note. interval. aOR = adjusted odds ratio; ARR = Adjusted Risk Ratio; CI = confidence interval; IRR = incidence rate ratios; ^a In the text refers $p < .001$, but in the table says $p < .01$; ^b In the note seems to be wrong writing; ^c In the paper, specifically in the table that reports this value, doesn't have a legend, but according to other tables, seems to be $p < .001$; ^d In the article has $p .001$, but does not refer “=” or “<”. Given the pattern probability is “<”; ^e Internal consistency reliability coefficient is inappropriate because each subscale is composed of solely two items. However, the instrument has adequate construct and concurrent validity (Straus & Douglas, 2004).

Abbreviations. ARA = Adolescent Relationship Abuse; ADV = Adolescent Dating Violence; CADRI = Conflict in Adolescent Dating Relationships Inventory; CARS = Cyber Aggression in Relationships Scale; CDA = Cyber Dating Abuse; CDAQ = Cyber Dating Abuse Questionnaire; Cib-VPA = Ciber-violencia en parejas adolescentes/ Cyber-Violence Scale in Adolescent Couples; CTS = Conflict Tactics Scales; C-IPV = Cyber Intimate Partner Violence; DDA = Digital Dating Abuse; DV = Dating Violence; IPV = Interpersonal Violence; IPVA = Interpersonal Violence and Abuse; IP-IPV = In-Person Intimate Partner Violence; LGB = Lesbian, Gay and Bisexual; SES = Sexual Experiences Survey; SVQ = Stalking Victimization Questionnaire; TAADV = Technology- Assisted Adolescent Dating Violence; TDA – Teenage Dating Abuse; tIPV – Technological Intimate Partner Violence.

boys and girls, showing positive and significant correlations for both. Specifically, for boys, relational and verbal–emotional IDA victimization was associated with a greater control CDA victimization. For girls, verbal–emotional and physical IDA victimization showed a greater relationship with control CDA victimization. For boys and girls, relational and physical IDA victimization were related to a greater CDA (Cava, Buelga, et al., 2020).

Studies that include regression analysis allow the above results to be qualified. Thus, these studies confirmed the correlation between CDA and IDA but not all the predictive effects were significant. Of seven articles that analyzed the data through regression, four found significant results (logistic and hierarchical regressions) and three found mixed results (linear regressions).

Regarding aggression, Duerksen and Woodin (2019) found that psychological, sexual, and stalking perpetration predicted CDA aggression. The predictive effect of physical IDA aggression was not significant. Focusing only on girls, Doucette et al. (2021) reported that CDA was predicted by physical, threatening behaviors, sexual abuse and emotional and verbal abuse. However, Cava, Martínez-Ferrer, et al.'s (2020) study differentiated by types of CDA (control and aggression) and gender. These authors concluded that there were some differences between boys and girls, as well as some differences with studies focusing on general CDA values. For boys, relational IDA predicted being more involved in control CDA, while relational and physical IDA predicted aggression CDA. For girls, relational and verbal-emotional IDA predicted greater involvement in control CDA, while verbal-emotional IDA was associated with greater involvement in aggression CDA. Thus, the scarce evidence of the predictive power of physical aggression in explaining aggressive cyber dating behavior is confirmed. On the other hand, for girls, involvement in psychological IDA aggression is more relevant than for boys.

Regarding victimization, studies show a close relationship between both IDA and CDA victimization. Thus, Hinduja and Patchin (2021) showed that young victimized in-person were approximately 18 times more likely to have also experienced cyber abuse compared to those who were not victimized in-person. Borrajo, Gámez-Guadix, and Calvete (2015) and Cava, Buelga, et al. (2020) showed significant correlations between CDA and IDA but not all predictive effects were significant. Thus, Borrajo, Gámez-Guadix, and Calvete (2015) found that CDA was predicted by psychological but not physical victimization. Again, Cava, Buelga, et al. (2020) differentiated between control and aggression CDA and by gender. For boys, relational and verbal-emotional IDA predicted greater control CDA, while relational and physical IDA predicted greater aggression CDA. For girls, verbal-emotional and physical IDA predicted greater control CDA while relational, physical, and verbal-emotional IDA predicted cyber-aggression CDA. In this study, boys' physical violence was less relevant in explaining CDA.

Finally, longitudinal studies, although limited, allow us to observe some temporal and interesting relationships that contrast with the information from previous analyzes. Both available studies reported information about aggression and victimization (Lu et al., 2021; Temple et al., 2016). Both studies showed how CDA and psychological and physical IDA predicted each other over two years through a cross-lagged panel analysis (Lu et al., 2021) and one year through path analysis

(Temple et al., 2016). As Table 2 shows, Lu et al. (2021) study reported that the effects were significant, with some exceptions. CDA aggression predicted future physical IDA aggression and victimization as well as psychological IDA victimization, but not vice versa. No significant direct effect between CDA aggression and psychological IDA aggression was found, at least directly. Temple et al. (2016) concluded that previous CDA aggression was not associated with any form of IDA aggression and victimization. Regarding CDA victimization, only physical IDA victimization was positively related.

An extended version of Tables 1 and 2 is available for consultation as supplementary material.

4. Discussion

The present systematic review was intended to clarify the relationship between CDA and IDA through the identification and analysis of previously available studies. As shown by the date of the studies found in this work, the scientific community's interest in understanding online forms of IPV is very recent, with most of the studies published in the last few years (50 % in the last 3 years). Thus, it is not difficult to find very varied studies in terms of the population studied, the methodology adopted to analyze the relationship between the CDA and the IDA, as well as great diversity in terms of the type of statistical analyzes carried out and the forms of intimate abuse considered.

Despite these differences, CDA and IDA appear to be strongly linked, finding an important overlapping between the two phenomena, at least in the heterosexual population (Roncón-Tirado et al., 2021). This result would indicate that boys and girls are at risk of being involved in more than one violent phenomenon simultaneously in their romantic relationships. This finding is in line with others in the literature, where adolescents reported co-engage in various forms of interpersonal violence (Espino et al., 2022). An example of this can be seen in the relationship between bullying and cyberbullying, where most of those involved in bullying are also involved in its online counterpart, cyberbullying (Del Rey et al., 2012; Waasdorp & Bradshaw, 2015).

Regarding the directional relationship, most studies analyze the relationship between IDA and CDA as a previous step, not as an aim of the study, which constitutes an important constraint to better understanding the association of the phenomena. Regarding this statement, most studies have investigated the relationship between CDA and IDA in a correlational manner. These studies have established that aggression and victimization in both IDA and CDA are correlated, although the effect sizes of these correlations vary significantly across studies, ranging from small to large. Less commonly reported are more elucidative types of statistical analyses, such as regression analysis, which have not consistently yielded significant results.

When combined with findings from longitudinal studies, these results suggest that the relationship between CDA and IDA exhibits certain specificities depending on the type of abuse analyzed. Firstly, they have focused on finding out the predictive role of in-person forms in aggressive cyber behavior. This perspective of offline violence as a precursor to future involvement in online violence comes from studies focused on peer violence (Del Rey et al., 2012), where bullying predicts cyberbullying. However, when it comes to IPV, this relationship is not so evident.

According to this study, the evidence seems to indicate that the clearest relationship is found between non-sexual forms of IDA (such as psychological and relational) on non-sexual forms of CDA (Borrajó, Gámez-Guadix, & Calvete, 2015; Cava, Martínez-Ferrer, et al., 2020). And, to a lesser extent, between sexual or physical IDA on CDA (Duerksen & Woodin, 2019). However, the limited number of studies and the disparity of results make it difficult to conclude on this point. As postulated theoretically by certain authors (Calvete et al., 2021), the synthesis would indicate that CDA would indeed be another form of IPV similar to psychological forms (Stephenson et al., 2018). However, the online context would endow it with particular characteristics, such as the absence of physical contact, that could explain why physical IDA would not have such a strong predictive value on CDA (Temple et al., 2016).

Secondly, the predictive role of CDA on IDA has hardly been explored. Correlational studies allow us to conclude on the association between phenomena, and only one longitudinal study analyzes in this direction with some interesting results. Thus, Lu et al. (2021) showed that CDA involvement predicted future involvement in physical forms of IDA. For these authors, CDA could act as a catalyst for certain forms of in-person abuse (Hellevik, 2019), such that controlling and monitoring the partner could lead to an increase in in-person conflict and fights (Lu et al., 2021). Taken together, this reflection and the results discussed above could indicate that individuals involved in psychological forms of CDA would be at risk for involvement in those more severe forms of IDA. Therefore, the relationship between IDA and CDA would not be so unidirectional as circular, where less mild in-person and cyber forms of dating violence would lead to involvement in severe forms, regardless of the context. However, the assumptions made about this result should be taken with caution due to the limited information available. Future studies would need to go deeper in this regard and longitudinally analyze whether CDA or IDA precedes or causes the other, or if cyber technology may simply provide additional means to engage in abusive behavior without no causal relationship between both phenomena.

Finally, the relationship between CDA and IDA has been analyzed mainly regarding non-sexual forms of CDA. This result should be considered as it implies an important bias when delimiting CDA. If sexual forms are not considered, CDA would be made up of psychological aggressions and control, as shown by some of the instruments developed (e.g., Morelli et al., 2018). However, although there is no contact between the aggressor and victim, sexual aggressions have crossed physical barriers and occur in the online environment (Zweig et al., 2013), so the definition of CDA would have different nuances than traditional psychological forms. However, as presented in this systematic review, the relationship between sexual CDA and IDA is almost unknown.

This systematic review has shown numerous potentialities, identifying and organizing the information available in the scientific literature on the relationship between CDA and IDA, the characteristics of the studies, and advances in future lines of research, such as the need for more robust statistical analyses and longitudinal studies. However, this work also presents some limitations. In the first place, CDA does not even show a globally accepted term when dealing with a topic of such recent interest. Although this limitation has been considered when delimiting the search keywords and searching for other sources, it is possible that certain relevant studies have been excluded. Similarly, it is also possible to not identify relevant studies written in languages other than English, Spanish, or Portuguese, although it is true that we cover some of the most widely spoken languages in global terms, tracing a large number of documents. Third, the synthesis of the available results has been a complex process. The lack of consistency between some studies and others has not allowed for clear conclusions about the relationship between IDA and CDA. Accepting this limitation, efforts have been made to systematize the diverse information found in the studies and to conclude on the progress made and gaps to be filled. Future research could extend this line of inquiry by employing meta-

analyses to quantify the strength of the relationship between in-person CDA and IDA in the youth population. Additionally, such studies could assess the predictive power of both common and distinct risk factors associated with these forms of dating abuse (Caridade & Braga, 2020; Gilbar et al., 2023).

4.1. Conclusions and implications

This systematic review enabled us to establish a significant cross-sectional association between involvement in CDA and IDA. Furthermore, it has been noted that in certain cases, engaging in one form of abuse increases the risk of engaging in the other. This bidirectional risk underscores the interconnected nature of online and offline dating abuse.

Recognizing the heterogeneity in the results of the studies, we also conclude that there is a divergence in results among the studies. This variability prompts the identification of new research questions aimed at understanding the factors that may mediate the relationship between CDA and IDA.

Additionally, this systematic review highlighted the importance of confirming the results through longitudinal studies. By emphasizing the temporal dimension, researchers can gain insights into the evolving nature of the relationship between online and offline dating abuse. This approach increases the robustness of the conclusions drawn from the cross-sectional analysis.

It was also concluded that adolescents and young people engaged in IDA are increasingly participating in cyber environments. This dual involvement amplifies their vulnerability, drawing attention to the evolving landscape of dating abuse and the need to address both its online and offline dimensions.

The systematic review also highlighted that although IDA and CDA are correlated, they are distinct phenomena. This statement is supported by studies and the use of independent measuring instruments. The recommendation to test the relationship beyond a preliminary step emphasizes the need for in-depth examination and validation.

Future studies are encouraged to incorporate an inclusive approach, examining possible differences in gender and sexual orientations in their objectives. Recognizing diversity within the population ensures that research findings are applicable and relevant across multiple demographic groups.

Simultaneously, the importance of including sexual forms of CDA in investigations is highlighted. This expanded focus will allow us to recognize the multifaceted nature of online dating abuse and emphasize the importance of considering different forms of harm.

The systematic review concludes by emphasizing the immediate implications for preventive efforts. It suggests that the findings lay the groundwork for progress in creating effective programs that simultaneously target CDA and IDA. Recognizing these distinct forms of abuse requires personalized interventions, going beyond generic programs. This is in line with previous analyses, such as those by Galende et al. (2020), which highlighted the inadequacy of generic programs to address the complexities of dating abuse.

In summary, this systematic review not only allowed us to describe the observed associations but also encourages further exploration, inclusion in research, and the development of targeted preventive programs that consider both the online and offline dimensions of dating abuse.

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CRedit authorship contribution statement

María-Luisa Rodríguez-deArriba: Writing – review & editing, Writing – original draft, Methodology, Investigation, Funding acquisition, Conceptualization. **Cristiana Santos:** Methodology, Conceptualization. **Olga Cunha:** Methodology, Investigation. **Virginia Sánchez-Jiménez:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization. **Sónia Caridade:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization.

Declaration of competing interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.avb.2024.101943>.

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