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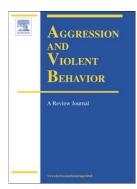
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Cyberbullying assessment instruments: A systematic review

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Running Head: CYBERBULLYING ASSESSMENT INSTRUMENTS: A SYSTEMATIC REVIEW

Abstract

Although several instruments to assess cyberbullying have been developed, there is nevertheless a lack of knowledge about their psychometric properties. The aim of the present systematic review is to provide a representative overview of the current instruments designed to assess cyberbullying. Further, emphasis will be placed on the structural and psychometric properties of cyberbullying instruments, such as validity and reliability, as well as their conceptual and definitional basis. It will also provide criteria for readers to evaluate and choose instruments according to their own aims. A systematic literature review, limited to publications published prior to October 2010, generated 636 citations. A total of 61 publications fulfilled the delineated selection criteria and were included in the review, resulting in 44 instruments. Following a rater training, relevant information was coded using a structured coding manual. The raters were the nine authors of this review. Almost half of the instruments included in this review do not use the concept cyberbullying. The constructs measured by the instruments range from internet harassment behavior to electronic bullying behavior to cyberbullying. Even though many of the authors use other concepts than cyberbullying they claim that their instruments do measure it. For the purpose of this systematic review, we have chosen to categorize them as two different groups, cyberbullying instruments and related instruments. Additionally, most of the included instruments had limited reports of reliability and validity testing. The systematic review reveals a need for investigating the validity and reliability of most of the existing instruments, and resolving the conceptual and definitional fluctuations related to cyberbullying.

Keywords: Cyberbullying; Research instrument; Instrument review

Cyberbullying assessment instruments: A systematic review

1. Introduction

During recent years, a considerable amount of research has been done on the relatively new phenomenon of cyberbullying (Katzer, 2009; Smith, 2009). In a critical review of research on cyberbullying, Tokunaga (2010) portrayed it as an umbrella term encompassing several adjacent concepts such as internet harassment and electronic bullying. He also stressed the fact that while several instruments to assess cyberbullying have been developed since 2004, there is nevertheless a lack of knowledge about their psychometric properties. Our aim is, therefore, to provide a representative overview of the current instruments designed to assess cyberbullying. This systematic review will put emphasis on the structural and psychometric properties of cyberbullying instruments, such as validity and reliability, as well as the conceptual and definitional basis. It will provide criteria for readers to evaluate and choose instruments according to their own aims.

2. Purpose

The overall purpose of this study is to present an overview of information on instruments measuring cyberbullying. The specific aims of this study are: (1) to present an overview of the existing cyberbullying instruments, (2) to provide information on their specific characteristics, (3) to collect existing data on their psychometric properties and thus (4) to help readers to decide which instrument is adequate for the design and intentions of their work.

3. Design and methods

A systematic literature review, focusing on instruments developed for cyberbullying assessment, was conducted in six steps (see Table 1).

Insert Table 1 about here

3.1. Literature search / Development of the coding scheme and manual

We searched the literature using the electronic databases *EbscoHost*, *ScienceDirect*, *OVID*, and *InformaWorld*. Another search strategy used was to contact different members of the European network COST Action IS0801 "Cyberbullying: Coping with negative and enhancing positive uses of new technologies, in relationships in educational settings". The network consists of leading cyberbullying researchers in Europe and Australia, who were asked by e-mail to send us their forthcoming publications and instruments.

The search terms covered were: *chat bullying, chat victimization, cyber mobbing, cyber bullying, cyberbullying, cyber victimization, cyber aggression, cyber aggression, cyber harassment, digital bullying, e-bullying, electronic bullying, electronic harassment, electronic victimization, internet bullying, online harassment, online bullying, phone bullying, sms bullying, text bullying, virtual aggression, virtual mobbing.*

The search of the databases was limited to publications that were advanced published online or published in journal prior to October, 2010 and generated 636 citations.

Simultaneously with the literature search, we developed a coding scheme to assess and value the information deemed relevant concerning the quality of the instruments. It included the subsections: general information (e.g., authors, type of publication, country), details of the study (e.g., timeframe of data, method of data collection), details of the cyberbullying instrument (e.g., name, language, information source, design of items), and psychometric properties (e.g., subscales, reliability, validity, and statistical information). An accompanying coding manual was developed with definitions, descriptions and guidance for the decisions of the raters¹. The raters were the nine authors of this review.

3.2. Selecting relevant publications and instruments

¹ The coding scheme and manual are available by contacting the first author

We examined the abstracts of all of the 636 publications and, when necessary/uncertain, gathered further information from the full publications and by contacting the authors. The criteria of inclusion were that: 1) the publication was in English, and that the instruments received from the authors were translated into English for purpose of analysis, 2) the instrument incorporated at least one of the following topics; cyberbullying, cybervictimization, cyber harassment, or cyberaggression, 3) the study used questionnaires, surveys, vignettes, or qualitative measures with a standardized coding scheme, 4) information on psychometric properties was provided, and 5) the items of the instruments were available. If either the instrument or the psychometric information was missing from the publication, the authors were contacted and asked if they could provide the missing information. Nonempirical studies, those not using specified measures, and studies only reporting a global question about cyberbullying or cybervictimization, single-item instruments respectively, were excluded. There are several reasons for not using single-item instruments when measuring continuous bullying constructs. One reason is that single items are often less reliable than multiple-item instruments. Another is that single items can only distinguish moderate to large differences and cannot discern fine degrees of an attribute (Griezel, Craven, Yeung, & Finger, 2008). Individual items also lack scope and the ability to uncover detail (Farrington, 1993; Smith, Schneider, Smith, & Ananiadou, 2004). We also did not include research exclusively dedicated to sexual harassment online. Furthermore, we excluded publications or instruments from the present review when contacted authors did not provide us with the necessary information.

A total of 61 studies fulfilled the delineated selection criteria and were included in the following review.

3.3. First rater training and revision of the coding scheme and manual

For the first rater training, five of 61 studies were randomly selected and rated by the nine authors. This step revealed some weaknesses and misunderstandings of the coding scheme and manual, resulting in a first revision.

3.4. Second rater training and revision of the coding scheme and manual

In the second step, nine further studies of the 61 included were randomly selected, and rated by all the authors to test the quality of the revised coding scheme and manual. Inter-rater reliability was assessed by computing the agreement rates (Orwin & Vevea, 2009) for all of the variables, which were between 60% and 100%. The items of a value of 60% - 80% were considered a problem. These problems all concerned how to rate subscales and validity. This was addressed by investigating the reasons and coordinating the rating procedures by further training. Additional revisions were made both for the coding scheme and the manual.

3. 5. Coding of publications and instruments

To conclude, the remaining 52 publications were equally distributed among the nine authors to be rated individually.

3. 6. Analyses

Multiple publications by the same authors using the same instrument (including revised versions) were combined for the analyses, leaving 44 of 61 instruments to be analyzed.

4. Theory

4. 1. Conceptual and definitional issues

Cyberbullying is sometimes perceived as traditional bullying taking place in a new context; bullying acts occurring on the internet through a variety of modern electronic devices/media (Li, 2007b). Much of the work on traditional bullying has adopted the definition of Olweus (1999) who categorizes bullying as a subset of aggressive behavior defined by the following three criteria: (1) The deliberate intent to harm, (2) carried out

repeatedly over time, (3) in an interpersonal relationship characterized by an imbalance of power. Various definitions of cyberbullying have been presented in publications and instruments, several of them using some or all of the criteria from Olweus` definition of traditional bullying (Tokunaga, 2010). Additionally, different concepts have been proposed for bullying incidents taking place on the internet. Researchers have furthermore debated whether there are any additional characteristics of cyberbullying in comparison to Olweus` three criteria of traditional bullying (Smith, 2012). The debate has led to the suggestion of the following three characteristics specific to cyberbullying: the 24/7 nature of it, the different aspects of anonymity and the potentially broader audience (Nocentini et al., 2010; Slonje & Smith, 2008; Spears, Slee, Owens, & Johnson, 2009). In a critical review of research on cyberbullying, with the aim of uniting some of the criteria of traditional bullying with the characteristics specific to cyberbullying, Tokunaga (2010) suggested the following definition: "Cyberbullying is any behavior performed through electronic or digital media by individuals or groups that repeatedly communicates hostile or aggressive messages intended to inflict harm or discomfort on others. In cyberbullying experiences, the identity of the bully may or may not be known. Cyberbullying can occur through electronically mediated communication at school; however, cyberbullying behaviors commonly occur outside of school as well" (p. 278). Tokunaga (2010) included two of Olweus` three criteria in his definition; i.e., intentionality and repetition, and two of the characteristics specific to cyberbullying; anonymity and the 24/7 nature of it. To conclude, there are both similarities and differences between bullying incidents taking place on the internet and traditional bullying, which leads to the conclusion that the issue of cyberbullying presents specific conceptual and definitional challenges.

4.2. Psychometric properties issues

When selecting how to investigate cyberbullying, it is essential to start with a review of the current literature to obtain the available instruments and consider their strengths and limitations (Streiner & Norman, 2008). Such an evaluation process can be based on a comparison and a contrasting of the instruments' psychometric properties (see Table 2). Information about psychometric properties of the instruments is intended to help readers to evaluate and choose instruments according to their own aims. A common error made by researchers is to neglect to evaluate the psychometric properties and therefore to underestimate the quality of the existing instruments (Streiner & Norman, 2008). Thus, available instruments are often to easily dismissed and new ones are developed, although the process is time-consuming and requires considerable resources.

Insert Table 2 about here

5. Findings and discussion

5.1. Overview of included instruments

Almost half of the instruments included in this review do not use the concept cyberbullying. The concepts measured by the instruments range from internet harassment behavior to electronic bullying behavior to cyberbullying. Even though many of the authors use other concepts than cyberbullying they claim that their instruments do measure it. As previously stated, this could be considered representative of the field of cyberbullying; therefore, we have chosen to include those instruments in our review. For the purpose of this systematic review we have chosen to categorize all included instruments into two different groups, cyberbullying instrument and related instruments, when reporting the details of the studies in tabular formats. Additionally, we will describe our major findings for both groups (cyberbullying instruments and related instruments) jointly in the text. To begin with we will account for and discuss the instruments' conceptual and definitional basis. Thereafter, we will

focus on the psychometric properties of the instruments to explain our main findings and to discuss them.

To follow is a description and discussion of the contents of the four tables. Table 3 (cyberbullying instruments) and Table 4 (related instruments) provide an overview of the elements derived from the definitions (as specified by the developers/authors) of the instruments, as well as concepts and number of the items for each instrument, and information about the different types of electronic media/devices. Table 5 (cyberbullying instruments) and Table 6 (related instruments) outline the psychometric properties of each group of instruments. Furthermore, both Table 5 and Table 6 outline the titles of the selected instruments as well as sample characteristics, description of subscales and, if a factor analysis was conducted, the reliability and types of validity. The purpose of both the tables and the written information is to help researchers select the instrument best corresponding to their needs.

Insert Tables 3, 4, 5 & 6 about here

5.2. Conceptual and definitional issues

Several instruments have a few items only and, as mentioned above, the items' underlying concepts vary. The concept of cyberbullying is only included in 21 of the 44 instruments, and 24 of the 44 instruments include the concept cybervictimization, which illustrates that there is a variation of the concepts used in the instruments. Therefore, when deciding which instrument is adequate for the intentions of one's own study design, it is important to consider how the underlying concept is defined by the developers of an instrument. The majority of the definitions stress the fact that cyberbullying behavior occurs through electronic devices/media (42 of the 44). Furthermore, 40 of the 44 definitions comprised the criterion that the perpetrator must have the intention to harm. The repeated nature of the behavior was substantially less prevalent in definitions (25 of the 44).

Surprisingly, only 13 of the 44 definitions contained the criterion imbalance of power, which can be summarized as when someone in some way more powerful targets a person with less power. In summary, the present systematic review shows that the developers of the included instrument operationalize the concept and definition for cyberbullying in different ways. For example, Ybarra and Mitchell (2004) use the concept online harassment, referring to online behavior that has the deliberate intent to harm another person, while only including one of Olweus` (1999) three criteria in their definition (i.e., intentionality). Another example is the concept of electronic bullying as used by Raskauskas and Stoltz (2007), including two of Olweus` (1999) three criteria in their definition (i.e., intentionality and repetition). By way of contrast, Smith et al. (2008) presented the concept of cyberbullying with a definition consisting of all three of Olweus' criteria, intentionality, repetition, and imbalance of power. Finally, none of the suggested three characteristics specific to cyberbullying (the 24/7 nature of it, the aspects of anonymity, and the broader audience) were included in any of the 44 instruments' definitions of cyberbullying.

As illustrated above, the development of cyberbullying instruments is hampered by the apparent lack of consensus regarding which of the criteria to use in the definition of cyberbullying. There is similar uncertainty regarding the most useful concept for cyberbullying incidents. This may reflect that researchers in the field of cyberbullying are in a process of clarification; and an essential part of this process is characterized by contrasting and comparing different key characteristics used to represent the concept cyberbullying. However, for several reasons, this process ultimately needs to result in concept definition and clarification. One is that we need a consistent operationalization of the concept "cyberbullying", a necessary prerequisite for researchers to be able to measure the same phenomenon both nationally and cross-culturally (Palfrey, 2008). Another reason is that in order to establish good reliability and validity, for the instruments the previously stated

problems have to be taken into account (Tokunaga, 2010). Additionally, researchers are developing, implementing, and evaluating cyberbullying intervention methods aimed at reducing cyberbullying, victimization, and perpetration, as well as at increasing prosocial bystander involvement. To be able to evaluate the success of these activities, it is necessary to measure cyberbullying experiences with psychometrically sound instruments.

5.3.1 Types of devices/ media

The types of devices/media assessed in the included instruments vary considerably, a total of 34 devices/media are assessed by/included in the instruments. The two most included devices/media are mobile phones (24 of the 44 instruments), and e-mail (21 of the 44). One reason for the diversity of devices/media assessed may be that technology is constantly evolving; making it difficult to decide what types of electronic devices/media to investigate. By extension, it becomes important to stay updated about new types of devices/media when measuring cyberbullying experiences.

5.4. Sample characteristics

Almost all of the participants in the studies included in this review are either in middle school or adolescence. Adult participants were only investigated in a single study by Coney et al. (2009), which confirms that there is a lack of knowledge about the occurrence of cyberbullying among adults.

5.5. Subscales

Out of the 44 instruments, 25 instruments have subscales. What is described as subscales in the instruments varies considerably. A confirmatory or exploratory factor analysis has been conducted for as few as 12 of the 44 instruments. In the remaining 13 publications subscales are different areas of interest and different topics that are not identified empirically through factor analysis but theoretically based. Thus, in many instruments items which make up a certain category are grouped together into a subscale (without the use of

statistical analyses). The present systematic review shows that the lack of subscales derived by factor analysis is of great concern. Researchers should avoid selecting and using arbitrary items that are only theoretically based into subscales in the future. Instead, the focus for researchers should be to confirm or dismiss theoretically based items through statistical analysis such as factor analysis.

5.6. Information source

The most common information source, targeted by 41 of the 44 instruments, was the self-report of respondents. Methodologically, self-report instruments with close-ended questions used in the research of traditional bullying have influenced the design of instruments measuring cyberbullying (Tokunaga, 2010). Self-report questionnaires have advantages such as that researchers can collect large amounts of data in a relatively short period of time, obtaining the respondents' views directly, it is a good way to measure the respondents' perception of the construct measured, and they are quick and simple to administer (Streiner & Norman, 2008). However, accurate self-report data are difficult to obtain, as there is often a tendency for young people to under-report deviant behavior or to respond in socially desirable manners. Additionally, two out of the 44 studies contained data from both focus groups (one with semi-structured interviews and the other with structured interviews) and self-report questionnaires (Smith et al., 2008; Wright et al., 2009). In three out of the 44 studies, the data were collected from structured interviews on the telephone (Dinkes et al., 2009; Ybarra & Mitchell, 2004a; Ybarra et al., 2007).

5.7. Reliability

Internal reliability (internal consistency) was tested; we found reports of internal reliability (internal consistency) for 18 out of the 44 instruments; no other forms of reliability have been reported. There are several approaches to estimating reliability, each generating a different coefficient (such as test-retest or parallel forms). Problematically, for more than half

of the instruments we did not find any reported reliability statistics. Therefore, priority should be given to further tests of reliability. Another problem is the lack of longitudinal data, which among other things involves the consequence that no test-retest reliability is reported for any of the instruments. Only one study included in this systematic review contains longitudinal data; however, it did not report information concerning reliability of used instruments (Rivers & Noret, 2009).

5.8. Validity

Reporting of validity testing appears to be limited, convergent validity being the only type tested in the included publications. Convergent validity shows if the instrument is related with other constructs which were assessed at the same measurement point (as subscales/different areas of interest/different topics of the instrument or by totally different instruments) and are theorized to be related to cyberbullying based on theoretical assumptions (e.g., as bullying is an aggressive behavior so it should show high correlations with aggression in general). We found that information concerning convergent validity data was reported in only 24 out of the 44 instruments. As can be seen in Table 5 and 6, the way convergent validity was calculated for the instruments varies between chi-square, ANOVA, Pearson correlation coefficient, and regression analysis. There is, furthermore, divergence as to which constructs the instruments have been related with; ranging from affective empathy to psychiatric symptoms to traditional bullying. Future research on cyberbullying should put emphasis on the development of valid assessment of cyberbullying instruments. Valid instruments improve the general quality of research by enabling researchers to measure the same phenomenon.

6. Conclusion

We conducted a systematic review of instruments measuring different forms of cyberbullying behavior. The review was limited to publications published prior to October

2010, generated 636 citations. A total of 61 studies fulfilled the delineated selection criteria and were included in the review, resulting in 44 instruments. All of them were published between 2004 and 2010. Our observation is that there has been a remarkably high degree of development and distribution of cyberbullying instruments. The fact that there are several ways of measuring and thereby of getting varied information about the phenomenon may be useful in clarifying the contribution of each element to the underlying construct. However, the focus and variety of the current instruments measuring cyberbullying should not be interpreted only as contributing to this. Instead, the conclusion must be that the diversity is also a consequence of a lack of consensus regarding the concept and its definition. Due to inability to standardize the conceptual basis of cyberbullying, there is a considerable variation with regard to how cyberbullying is defined in studies, which makes it unclear what is assessed: electronic bullying, internet harassment, or cyberbullying? This fluctuation of concepts and definitions could also be explained by the fact that the research field of cyberbullying is young; as pointed out earlier, the oldest included instrument is only from 2004. However, in the future, the focus must be on reaching agreement about which concept and definition to use, and on investigating the validity and reliability of the already existing instruments. The choice to develop new instruments must be based on careful consideration of the advantages and disadvantages of the existing instruments. This can hopefully be done with the help of this systematic review which provides the reader with a representative overview of the current instruments designed to assess cyberbullying. The reader can find information about which different cyberbullying roles the included instruments consist of, and their conceptual and definitional basis. Additionally, there is information about psychometric properties of the instruments, such as validity and reliability.

7. Limitations of the systematic review

There are some limitations of this systematic review: It is limited due to the fact that the overall search explored publications prior to October, 2010. Additionally, the measures of the instruments range from internet harassment behavior to electronic bullying behavior to cyberbullying. As previously stated, this could be considered representative of the field of cyberbullying; therefore, we have chosen to include those instruments. Nevertheless, the inability to standardize the conceptual basis of the subject makes it unclear what is assessed: electronic bullying, internet harassment, or cyberbullying.

8. Acknowledgement

The authors acknowledge the contribution of Working Group 1 members and other members of the COST Action IS0801 "Cyberbullying: Coping with negative and enhancing positive uses of new technologies, in relationships in educational settings"

(http://sites.google.com/site/costis0801/).



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Table 1

Steps of the systematic literature

- 3.1. Literature search / Development of the coding scheme and manual
- 3.2. Selecting relevant publications and instruments
- 3.3. First rater training and revision of the coding scheme and manual
- 3.4. Second rater training and revision of the coding scheme and manual
- 3.5. Coding of relevant publications and instruments
- 3.6. Analysis

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Table 2

Criteria intended to help readers to evaluate the psychometric properties of included

instruments

Reliability refers to how reproducible the results of the measures are under different settings or by different raters. Sound instruments primarily need to be reliable. Instruments have different degrees of reliability in different settings and populations.

External

• Interrater reliability: The degree of agreement between different observers.

Internal

• Internal consistency: Variance-covariance matrices of all items on a scale are computed and expressed in reliability coefficients such as Cronbach's alpha or ordinal alpha (for categorical data).

The validity of an instrument is determined by the degree to which the instrument assesses what it is intended to assess.

• Convergent validity examines to which degree the instrument is correlated with or differentiated from other constructs that were assessed at the same measurement point and which are, based on theoretical assumptions, assumed to be related to the construct.

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Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
Cyberbullying and Cybervictimization Questionnaire	CB (9 items) CV (9 items)	E, I, R	None reported	Ang and Goh (2010)
Questionnaire of Cyberbullying (QoCB)	CB (5 items) CV (7 items) Coping strategies (3 items)	E, I, R	Mobile phone, E-mail, Picture/Video clip, Internet, Sms	Aricak, Siyahhan, Uzunhasanoglu, Saribeyoglu, Ciplak, Yilmaz, and Memmedov (2008)
Cyberbullying questionnaire	CB (4 items) CV (1 item) Future CB (2 items)	E, I, R	None reported	Aricak (2009)
_	CV (4 items)	E, I	Mobile phone, E-mail, Chat, Internet	Brandtzaeg, Staksrud, Hagen, and Wold (2009)
The Cyberbullying Questionnaire (CBQ)	CB (16 items)	E, I, R, IP	Mobile phone, E-mail, Picture/Video clip, Internet, Hacking, Online group	Calvete, Orue, Estévez, Villardón, and Padilla (2010)

Note. A dash (–) is used in the table to indicate when no data were reported in the publications.

All publications that are referred to as published 2011 were included because they were also advanced published online before October 2010.

^a Following letters represent concepts for cyberbullying instrument: CB = perpetrator of Cyberbullying; CV = Cybervictimization.

^bThese elements have been generated from the cyberbullying literature (Tokunaga, 2010). Following letters represent elements in the definitions of cyberbullying (as specified by the developers): Electronic device/media = E; Intentionality = I; Repetition = R; Imbalance of Power = IP; Anonymity = A; Public/Private = P.

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Table 3

Instrument concepts (number of	titems), elements in the	e definition of	cyberbullying in cyberbullying instruments and ty	pes of device/media assessed
Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
Cyber Bullying and Victimization Questionnaire	CB (14 items) CV (14 items)	E, I, R, IP	Mobile phone, E-mail, Website, Picture/Video clip, Internet, MySpace, Text message, Online games	Campfield (2006)
The victimization of self (VS) scale with cyber-aggression questions	CV (4 items)	E, I	E-mail, Instant Messenger, Picture/Video clip, Web page, Text message, Web space wall	Dempsey, Sulkowski, Nicols, and Storch (2009)
School Crime Supplement	CV (4 items)	-	Mobile phone, Instant Messenger, Internet, Sms	Dinkes, Kemp, and Baum (2009)
Revised Cyber Bullying Inventory (RCBI)	CB (14 items) CV (14 items)	E, I, R	E-mail, Picture/Video clip, Online forums, Chat, Facebook, Twitter, Files	Erdur-Baker (2010) Topcu and Erdur-Baker (2010) Topcu, Erdur-Baker, and Capa- Aydin (2008)
Mental health and Violence dimensions survey	CV (5 items)	E, I	Mobile phone, E-mail, Website	Goebert, Else, Matsu, Chung-Do, and Chang (2011)
Cyberbullying Survey	CB (3 items) CV (6 items) Teacher knowing about cyberbullying (3 items)	E, I, R	Mobile phone, E-mail, Instant Messenger, Chat, Blog	Harcey (2007)
Cyber Bullying Victimization Scale	CV (3 items)	E, I	Mobile phone, E-mail, Picture/Video clip, Internet	Hay and Meldrum (2010)

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Table 3

Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
Cyberbullying and Online Aggression Survey Instrument 2009 version	CB (9 items) CV (23 items)	E, I, R	Mobile phone, E-mail, Website, Instant Messenger, Chat, Picture/Video clip, Virtual words, Online games, Multiplayer online games, MySpace, Facebook, Twitter, YouTube	Hinduja and Patchin (2007; 2008; 2010); Patchin and Hinduja (2006)
_	CB (12 items) CV (12 items) Knowing/being aware of cyber- bullying exper- iences (12 items)	E, I, R	Mobile phone, E-mail, Website, Instant Messenger, Chat, Internet, Other tools online	Huang and Chou (2010)
SURVEY	CB, CV, Cyber witness, and Coping strategies (13 items in total)	E, I, R, IP	Mobile phone, E-mail, Chat	Li (2005, 2006, 2007a, 2007b, 2008)
Cyberbullying student survey	CB, CV, Cyber witness, and Coping strategies (15 items in total)	E, I	_	Li (2010)
Cyberbullying Scale (CS)	CB (9 items) CV (9 items)	E, I, R, IP	Mobile phone, E-mail, Website, Instant Messenger, Picture/Video clip, Chat, Text Message	Menesini, Nocentini, and Calussi (2011)

Table 3	
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Instrument concepts (number of items), elements in the definition of cyberbullying in cyberbullying instruments and types of device/media assessed							
Cyberbullying Instrument Instrument concepts Definition Device/Media-specific items Reference							
	(number of items)		Q				

	(number of items)			
Checking In On-Line: What's Happening in Cyberspace?	CB (22 items) CV (40 items) Cyberwitness (2 items)	E, I	Mobile phone, E-mail, Website, Instant Messenger, Picture/Video clip, Webcam, Social networking sites like MySpace, Nexopia, Piczo, Internet game	Mishna, Cook, Gadalla, Daciuk, and Solomon (2010)
European Cyberbullying Research Project (ECRP)	CB (12 items) CV (12 items)	E, I, R, IP	Mobile phone, E-mail, Website, Instant Messenger, Chat, Picture/Video clip, Internet, Blog, Text-message	Ortega, Elipe, Mora-Merchán, Calmaestra, and Vega (2009)
Peer aggression / Victimization Questionnaire	Cyber-aggression (3 items) CB (3 items)	-	Mobile phone, E-mail, Chat, Internet, Text- message, Forums	Pornari and Wood (2010)
Text and email bullying	CV (2 items)	Е	E-mail, Text-message	Rivers and Noret (2009)
Cyberbullying Survey	CB (4 items) CV (5 items) Witness of cyberbullying (3 items)	E, I	Mobile phone, Website, Instant Messenger, Picture/Video clip, Pc	Salvatore (2006)
The Berlin Cyberbullying - Cybervictimisation Questionnaire (BCyQ)	CB (21 items) CV (28 items)	E, I, R, IP	Mobile phone, E-mail, Website, Instant Messenger, Picture/Video clip, Internet, Text message, Forums, Social networking sites, Online games	Schultze-Krumbholz and Scheithauer (2009a; 2009b)

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Table 3

Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
Cyberbullying Questionnaire	CB (8 items) CV (23 items) others (9 items)	E, I, R, IP	E-mail, Mobile phone, Picture/Video clip, Text message	Slonje and Smith (2008)
Cyberbullying Questionnaire	Instrument 2005: CB (14 items) CV (64 items) Others (23 items)	2005: E, I, R, IP	Mobile phone, E-mail, Website, Instant Messenger, Chat, Picture/Photos or Video clip, Text Message	Smith, Mahdavi, Carvalho, Fisher, Russell, and Tippett (2008)
	Instrument 2006: CB (3 items) CV (6 items) Others (13 items)	2006: E, I, R, IP	Mobile phone, E-mail, Website, Instant Messenger, Chat, Picture/Photos or Video clip, Text Message	
The Student Survey of Bullying Behavior -Revised 2 (SSBB-R2)	CB (4 items) CV (4 items)	E, I, R	E-mail, Instant Messenger, Chat, Short text message	Varjas, Heinrich, and Meyers (2009)
Cyberbully poll	CB (26 items)	E, I, R, IP	Mobile phone, Website, Instant Messenger, Chat, Picture/Video clip, Message board, Text message	Walker (2009)
Cyberbullying Survey for Middle School Students	CB (3 items) CV (7 items)	E	Mobile phone, E-mail, Chat, Picture/Video clip, Virtual games, MySpace, Facebook	Wright, Burnham, Inman, and Ogorchock (2009)

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Table 4

Instrument concepts ^c (number of items), elements in the definition of cyberbullying in related instruments ^d and types of device/media assessed					
Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference	
Cyber-Harassment Student Survey	Cyber-harassment perpetrator (1 item) Cyber-harassment victimization (3 items) Emotional/behavioral impact of being cyber-harassed (10 items)	E, I, R, IP	Mobile phone, Internet, Computers, Answering-machines, Video camera	Beran and Li (2005)	
Online (survey) Questionnaire	Questions to victims of griefing (14 items)	E, I, R, IP	First life, second life	Coyne, Chesney, Logan, and Madden (2009)	
_	Online harassment (10 items)	E, I, R	E-mail, Instant Messenger	Finn (2004)	

Note. A dash (-) is used in the table to indicate when no data were reported in the publications.

All publications that are referred to as published 2011 were included because they were also advanced published online before October 2010. ^cFollowing letters represent concepts for cyberbullying instrument: CB = perpetrator of Cyberbullying; CV = Cybervictimization.

^dThese elements have been generated from the cyberbullying literature (Tokunaga, 2010). Following letters represent elements in the definitions of cyberbullying (as specified by the developers): Electronic device/media = E; Intentionality = I; Repetition = R; Imbalance of Power = IP; Anonymity = A; Public/Private = P.

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Table 4

Instrument concepts (number of items), elements in the definition of cyberbullying in related instruments and types of device/media assessed

Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
Victimization in chat room and bullying in chat room	Minor chat victimization (5 items) Major chat victimization (4 items)	E, I, R, IP	Chat	Katzer, Fetchenhauer, and Belschak (2009)
The survey of Internet Risk and Behavior	Internet bullying behavior (6 items) Cybervictimization (4 items)	E, I, R	Instant Messenger, Social networking sites, MySpace, Facebook	Kite, Gable, and Filippelli (2010)
Survey of Internet Mental Health Issues (SIMHI)	Internet harassment (5 items) Internet victim (5 items)	E, I	Internet	Mitchell, Becker-Blease, and Finkelhor (2005) Mitchell, Finkelhor, and Becker- Blease (2007)
Internet harassment/ Youth Internet Safety Survey YISS 1	Harasser (2 items) Target (2 items)	E, I	Internet	Mitchell, Ybarra and Finkelhor (2007) Ybarra (2004) Ybarra and Mitchell (2004a) Ybarra and Mitchell (2004b)

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Table	4
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Instrument concepts (number of items), elements in the definition of cyberbullying in related instruments and types of device/media assessed

Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
_	Mobile phone aggression (13 items) Mobile phone victimization (5 items) Retaliatory normative beliefs (6 items) General normative beliefs (7 items) Mobile phone hostile response selection scale (4 items)	E,I	Mobile phone	Nicol and Fleming (2010)
Cyber stalking Survey	Cyberstalking/ harassment (11 items) Complaints of cyberstalking (4 items)	E, I	Mobile phone, E-mail, Instant Messenger, Chat, Internet, Bulletin board, Social networking sites, News groups, Dating site, eBay	Paullet (2010)

(14 items)

Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
Lodz Electronic Aggression Prevalence Questionnaire (LEAPQ)	Perpetrator of electronic aggression (20 items) Victim of electronic aggression (20 items) Cyberbullying (1 item) Cybervictimization (1 item)	E, I, R, IP	Mobile phone, E-mail, Website, Instant Messenger, Chat, Picture/Video clip, Internet, Online Games, Computer Virus, Social networking sites	Pyżalski (2009)
Measure of text message victimization	Text message victimization (16 items)	E, I	Mobile phone	Raskauskas (2010) Raskauskas and Prochnow (2007
The Internet Experiences Questionnaire	Electronic bullying (2 items) Electronic victimization	E, I, R	Mobile phone, Website, Chat, Picture/Video clip, Internet, Forums, Text messages	Raskauskas and Stoltz (2007)

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Table	4
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Instrument concepts (number of items), elements in the definition of cyberbullying in related instruments and types of device/media assessed
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Cyberbullying Instrument	Instrument concepts (number of items)	Definition	Device/Media-specific items	Reference
American Life Survey´s Online Teen Survey	Victims to online harassment (2 items) Victims of cyberbullying (4 items)	E, I	E-mail, Internet, Picture/Video clip, Instant Messenger, Text Message	Sengupta and Chaudhuri (2011)
The Online Victimization Scale-21 items	General online victimization (8items)	E, I, R	Internet	Tynes, Rose, and Williams (2010)
Internet harassment/ Youth Internet Safety Survey YISS 2	Harasser (2 items) Victim (2 items)	E, I	Internet	Ybarra and Mitchell (2007) Ybarra, Mitchell, Finkelhor, and Wolak (2007) Ybarra, Mitchell, Wolak, and Finkelhor (2006)
Growing up with Media (GuwM): Youth-reported Internet harassment	Harasser (3 items) Victim (3 items)	E, I	E-mail, Chat, IM, Social Networking sites, Online games	Ybarra, Diener-West, and Leaf (2007) Ybarra, Espelage, and Mitchell (2007) Ybarra and Mitchell (2008)

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Table :	5
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Cyberbullying ins	struments:	character	ristics and quality	criteria		
Cyberbullying Instrument	Ν	Age/ Grade	Subscales ^e and how they are derived	Reliability	Convergent Validity ^r	Reference/Country
Cyberbullying and Cyber- victimization Questionnaire	Survey: 396	12-18	CB, CV EFA and CFA	CB α =.83	Correlation coefficient between cyberbullying questionnaire and affective empathy was10, and cognitive empathy10.	Ang and Goh (2011)/Singapore
Questionnaire of Cyber-bullying (QoCB)	Survey: 269	12-19	Exposure to cyberbullying Engagement in cyber- bullying coping strategies TD		_	Aricak et al. (2008)/Turkey

Note. A dash (-) is used in the table to indicate when no data were reported in the publications.

All publications that are referred to as published 2011 were included because they were also advanced published online before October 2010. ^eFollowing letters represent names of subscales of cyberbullying instrument: CB = perpetrator of Cyberbullying; CV = Cybervictimization, and the type of factor analysis used to construct them: EFA = Exploratory factor analysis; CFA = Confirmatory factor analysis, or if the subscales are theoretically derived = TD.

^fThere is a divergence as to which constructs the instruments have been validated against, in this systematic review constructs that are commonly used for validity testing in research of bullying are reported.

 $p^* < .05. p^* < .01. p^* < .001.$

Table 5	
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Cyberbullying in					Conversant Walidity	Defense og/Constant
Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Cyberbullying questionnaire	Survey: 695	18-22	-	_	There are differences between non-cyberbully-victims, pure cybervictims, pure cyberbullies, and cyberbully- victims in term of their self-reported psychiatric symptoms ^{***} [somatization, obsessive-compulsive, depressive, anxiety, phobic anxiety, paranoid ideation, psychotic and hostility symptoms].	Aricak (2009) /Turkey
_	Survey: 947	9-18	-	- ,0	_	Brandtzaeg et al. (2009)/Norway
The Cyberbullying Questionnaire (CBQ)	Survey: 1431	12-17	CB CFA	Total items $\alpha = .96$	13% of cyberbullying behavior was explained by following variables; proactive aggressive behavior, reactive aggressive behavior, direct aggressive behavior, indirect/relational aggressive behavior, and justification of violence ^{***} .	Calvete et al. (2010)/Spain
Cyber Bullying and Victimization Questionnaire	Survey: 219	11-14	CB, CV TD	Total items $\alpha = .90$	Face to face bullies would also be cyberbullies compared to noninvolved ^{***} . Additionally, Cyberbullying groups and cybervictimization groups had more internalizing symptoms $\eta^2 = .05^{***}$; externalizing symptoms $\eta^2 = .18^{***}$; and total problems $\eta^2 = .06^{**}$ than non-involved groups.	Campfield (2006) /USA

Table 5)
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Cyberbullying in	struments:	characte	ristics and quality	criteria		
Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
The Cyber- victimization Scale of RPEQ	Survey: 1165	11-16	CV CFA	CV α =.74	Correlation coefficient between the cybervictimization scale of RPEQ and overt victimization was .27 ^{**} ; relational victimization .31 ^{**} ; social anxiety .20 ^{**} ; depression .26 ^{**} .	Dempsey et al. (2009)/USA
School Crime Supplement	Tele- phone inter- view: 5618	12-18	_	- 2		Dinkes et al. (2009)/USA
Revised Cyber Bullying Inventory (RCBI)	Survey: 276	14-18	CB, CV EFA	CB α =.86 CV α =.82	Correlation coefficient) between cyberbullying (male) and traditional bullying (male) .40 ^{**} ; between cybervictimization (male) and traditional victimization (male) .17 ^{**} ; between cyberbullying (female) and traditional bullying (female) .45 ^{**} ; between cybervictimization (female) and traditional victimization (female) .18 [*] .	Erdur-Baker, 2010 Topcu and Erdur- Baker, 2010 Topcu et al. (2008) /Turkey
Mental health and Violence dimensions survey	Survey: 677	9 th - 12 th	_	_	Cyberbullying victimization increased the likehood of substance use, with binge drinking and marijuana use approximately 2, 5 times, and increased the likehood of depression by almost 2 times, and suicide attempts by 3, 2 times.	Goebert et al. (2011)/USA

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Cyberbullying Instrument	N	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Cyberbullying Survey	Survey: 394	11-14	-	-	- ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Harcey (2007) /USA
Cyber Bullying Victimization Scale	Survey: 426	10-21	CB, CV CFA	Total items $\alpha = .80$	Correlation coefficient between cybervictimization and following scales: traditional victimization .63 ^{***} ; negative emotions ^{***} ; self-harm .41 ^{***} ; and suicidal thoughts .41 ^{***} .	Hay and Meldrum (2010) /USA
Cyberbullying and Online Aggression Survey Instrument 2009 version	Online Survey: 384	9-18	Cyberbullying victimization scale Cyberbullying offending scale EFA	Cyberbullying victimization scale $\alpha = .9394$ Cyberbullying offending scale $\alpha = .9697$	_	Hinduja and Patchin (2007; 2008; 2010) Patchin and Hinduja, (2006) /USA

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Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
_	Survey: 545	7 th -9 th	CB experiences CV experiences Knowing/ being aware of cyberbullying experiences TD	CB experiences $\alpha = .96$ CV experiences $\alpha = .90$ Knowing/being aware of cyberbullying experiences $\alpha = .91$		Huang and Chou (2010)/Taiwan
SURVEY	Survey: Canada :197 China: 202	_	CB, CV TD		Traditional bullying positively predicted cybervictimization [*] ; and traditional bullying positively predicted cyberbullying ^{***} for both Canadian and Chinese participants.	Li (2005, 2006, 2007a, 2007b, 2008)/Canada
Cyberbullying Student Survey	Survey: 269	7 th	Students` behaviors and beliefs related to CB as participants or bystanders.	_	_	Li (2010) Canada
			TD			

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Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Cyberbullying Scale (CS)	Survey: 1092	11-18	CB, CV CFA and IRT	CB Males $\alpha = .86$ CB Females $\alpha = .67$ CV Males $\alpha = .87$ CV Females $\alpha = .72$	Correlation coefficient between cyberbullying and traditional bullying was .71 ^{***} . Additionally, correlation coefficient between cybervictimization and traditional victimization was .57. *** Aggressive and delinquent behaviors were associated with cyberbullying ***. Additionally, anxious and	Menesini, et al. (2011)/Italy
Checking In On-Line: What´s happening in Cyberspace?	Survey: 2186	6 th -7 th 10 th - 11 th	_		depressive behaviors, and somatic symptoms were associated with cybervictimization ^{***} .	Mishna et al. (2010)/Canada
European Cyberbullying Research Project (ECRP)	Survey: 1671	12-17	Victims of mobile phone cyberbullying Victims of internet cyberbullying		Severe victims via mobile phones feel more alone and stressed than occasional victims ^{**} .	Ortega et al. (2009)/Spain
			TD			

Cyberbullying in	Cyberbullying instruments: characteristics and quality criteria								
Cyberbullying	N	Age/	Subscales and	Reliability	Convergent Validity	Reference/Country			
Instrument		Grade	how they are		Q				
			derived						
Peer aggression	Survey:	12-14	Cyber-	Cyber-aggression	Moral disengagement positively predicted c-	Pornari and Wood			
/Victimization	339		aggression	$\alpha = .82$	aggression ^{***} . High levels of moral justification	(2010)/UK			
Questionnaire			CV	$CV \alpha = .76$	increased the odds of engaging in c-aggression***.				
					Additionally, high levels of t-aggression increased the				
			TD		chance of being a c-aggressor***. High levels of t-				
					victimization increased the chance of being a c-victim				
				2	but decreased the chance of being a c-aggressor ^{***} .				
Text and email bullying	Survey: 5717	11-13	_	- 2	Being a girl and unpopular increased the likehood of receiving nasty or threatening text messages or email more than once approximately 1.26 times [*] ; being a	Rivers and Noret (2010)/UK			
				L'	boy and physical bullied increased the likehood of receiving nasty or threatening text messages or email more than once approximately 3.69 times ^{***} .				
Cyberbullying Survey	Inter- vention	_	_	- <u>~</u> ~	_	Salvatore (2006)/USA			
	study: 276								

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Cyberbullying in	struments:	characte	ristics and quality	v criteria	A	
Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
The Berlin Cyberbullying Cyber- victimisation Questionnaire (BCyQ)	Survey: 194	Adole scents	Traditional bullying in a new context Relational cyberbullying Technically sophisticated ways of cyberbullying CFA	Traditional bullying in a new context (victim) $\alpha = .87$ Relational cyberbullying (bully) $\alpha = .81$ Relational cyberbullying (victim) $\alpha = .83$ Technically sophisticated ways of cyberbullying (bully) $\alpha = .93$ Technically sophisticated ways of cyberbullying (victim) $\alpha = .86$ Traditional bullying in a new context (perpetrator) $\alpha = .94$	Correlation coefficient between cyberbullying scale and chat bully scale from Katzer et al. (2009) was .16 [*] . Additionally, correlation coefficient between cybervictimisation scale and chat victim scale from Katzer et al. (2009) was .48 ^{***} .	Schultze Krumbholz and Scheithauer (2009a, 2009b) /Germany
Cyberbullying Questionnaire	360	12-20	-	_	_	Slonje and Smith (2008)/Sweden

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Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Cyberbullying Questionnaire	Survey: 2005; 92 Survey: 2006;	11-16	– CB, CV	_	2005 – 2006: Many cybervictims were traditional victims ^{***} ; and many cyberbullies were traditional bullies ^{***} .	Smith et al. (2008)/UK
	533 ²⁰⁰⁰ ,		TD			
The Student Survey of Bullying Behavior - Revised 2 (SSBB-R2)	Survey: 437	_	CB, CV CFA		Correlations coefficient between cybervictimization scale and following scales: cyberbullying was .88 ^{***} ; physical bullying was .31 ^{***} ; verbal bullying was .32 ^{***} ; relational bullying was .36 ^{***} ; physical victimization was .31 ^{***} ; verbal victimization was .38 ^{***} ; and relational victimization was .35 ^{***} . Additionally, correlations coefficient between cyberbullying scale and following scales; cybervictimization was .88 ^{***} ; physical bullying was .41 ^{***} ; verbal bullying was .40 ^{***} ; relational bullying was .48 ^{***} ; physical victimization was .28 ^{**} ; verbal victimization was .39 ^{***} ; and relational victimization	Varjas et al. (2009)/USA

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Table 5

Cyberbullying instruments: characteristics and quality criteria

Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Cyberbully poll	Survey: 229	12-14	_	_	-5	Walker (2009) /USA
Cyberbullying Survey for Middle School	Survey: 114	12-14	CV, CB	-	A A A A A A A A A A A A A A A A A A A	Wright et al. (2009)/USA
Students	Focus- Group: 13		CV, Coping, Bystander TD		R	
				A Colored and a		

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Table 6

Related instruments: characteristics and quality criteria

Cyberbullying Instrument	N	Age/ Grade	Subscales ^g and how they are derived	Reliability	Convergent Validity ^h	Reference/Country
Cyber- Harassment Student Survey	Survey: 432	7 th -9 th	_	Emotional/ behavioral impact of being cyber harassed $\alpha = .88$		Beran and Li (2005)/Canada
Online (survey) Questionnaire	Online Survey: 86	_	_	-		Coyne et al. (2009)/UK
-	Survey: 339	_	-	- 2	_	Finn (2004)/USA

Note. A dash (-) is used in the table to indicate when no data were reported in the publications.

All publications that are referred to as published 2011 were included because they were also advanced published online before October 2010. g Following letters represent names of subscales of cyberbullying instrument: CB = perpetrator of Cyberbullying; CV = Cybervictimization, and the type of factor analysis used to construct them: EFA = Exploratory factor analysis; CFA = Confirmatory factor analysis, or if the subscales are theoretically derived = TD.

^hThere is a divergence as to which constructs the instruments have been validated against, in this systematic review constructs that are commonly used for validity testing in research of bullying are reported.

p < .05. p < .01. p < .001.

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Cyberbullying Instrument	N	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Victimization in chat room and bullying in chat room	Survey: 1700	5 th & 11 th	Minor chat victimization Major chat victimization CFA	Cyberbullying victim-scale $\alpha = .86$ Cyberbullying bully-scale $\alpha = .92$	Correlation coefficient between major victimization in chat room and following scales; minor victimization chat .63 ^{**} ; major school victimization .26 ^{**} ; minor school victimization .32 ^{**} ; self-concept15 ^{**} ; school truancy .12 ^{**} ; visit to extreme chatrooms .24 ^{**} ; socially manipulative chat behavior .28 ^{**} ; lies in chatrooms .30 ^{**} ; school bully .23 ^{**} ; and chat bully .29, ^{**} . Additionally, correlation coefficient between chat bully and following scales: major victimization chat .29 ^{**} ; minor victimization chat .47 ^{**} ; major school victimization .22, ^{**} ; minor school victimization .29 ^{**} ; self-concept04; school truancy .28 ^{**} ; visit to extreme chatrooms .33 ^{**} ; socially manipulative chatrooms behavior .29 ^{**} ; lies in chatrooms 19 ^{**} ; school bully .55 ^{**} .	Katzer et al. (2009)/Germany
The survey of Internet Risk and Behavior	Survey: 588	7 th -8 th	_	Bullying behavior $\alpha = .72$	_	Kite et al. (2010)/USA
Survey of Internet Mental Health Issues (SIMHI)	Survey: 512	10-17		_	_	Mitchell et al. (2005) Mitchell et al. (2007)/USA

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Table 6

Cyberbullying Instrument	N	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Internet harassment/ Youth Internet Safety Survey YISS 1	Tele- phone Survey: 1501	10-17	Engaging in online aggression Targets of online aggression TD		 Online harassment is related to depressive symptomatology^{**}; delinquency[*]; and substance use^{**} (Mitchell et al., 2007). Youths who reported symptoms of major depression were more than three times as likely to also report an internet harassment experience compared to youths who reported mild/absent depressive symptoms (Ybarra, 2004). Aggressor/targets of online harassment were almost six times as likely to report emotional distress compared to victim-only youth (Ybarra and Mitchell, 2004a). Online harassment behavior is related to delinquency frequent substance use and target of traditional bullying^{***} (Ybarra and Mitchell, 2004b). 	Mitchell et al. (2007) Ybarra (2004) Ybarra and Mitchell (2004a) Ybarra and Mitchell (2004b) /USA

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Table 6

Cyberbullying Instrument	N	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
_	Survey: 322	13-17	Mobile phone aggression Mobile phone victimization Principal components analysis Normative beliefs about aggression Mobile phone hostile response selection TD	Mobile phone aggression $\alpha = .93$ Mobile phone victimization $\alpha = .84$ Retaliatory normative beliefs $\alpha = .91$ General normative beliefs $\alpha = .84$	Correlation coefficient between mobile phone aggression and following scales: traditional bullying .59 ^{**} ; traditional victimization .18 ^{**} ; and prosocial behavior30 ^{**} . Additionally correlation coefficient between mobile phone victimization and traditional bullying .20 ^{**} ; and traditional victimization .40 ^{**} .	Nicol and Fleming (2010)/Australia
Cyber stalking Survey	Survey: 302	18-65	_	-	_	Paullet (2010) /USA

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Table 6

Cyberbullying Instrument	N	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Lodz Electronic Aggression Prevalence Questionnaire	Survey: 719	12-14	Perpetrator of electronic aggression Victim of electronic aggression TD	Perpetrator of electronic aggression $\alpha = .8489$ Victim of electronic aggression $\alpha = .7991$		Pyżalski (2009) /Poland
Measure of text message victimization	Survey: 1530	11-18	_	- 14	More text-bullying victims were traditional victims ^{***} . Additionally, text-bullying victims reported more depressive symptoms than those not involved ^{***} .	Raskauskas (2010) Raskauskas and Prochnow (2007) / New Zealand
The Internet Experiences Questionnaire	Survey: 84	13-18	Electronic victim Electronic bullies	- 0°	Traditional bullies and victims would also be electronic bullies and electronic victims ^{***} .	Raskauskas and Stoltz (2007)/USA
			TD			
American Life Survey´s Online Teen Survey	Survey: 935	12-17	_	_	_	Sengupta and Chaudhuri.(2011) /USA

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Table 6

Cyberbullying Instrument	Ν	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
The Online Victimization Scale-21 items	Survey: 2007; 222 Survey: 2009; 254	14-19	General online victimization CFA	General online victimization $\alpha = .84$ (2007). General online victimization $\alpha = .88$ (2009).	Correlation coefficient between the online victimization scale-21 items and following scales: children's depression inventory .29 [*] ; profile of mood states-adolescents/anxiety .41 [*] ; the Rosenberg self-esteem scale29 [*] ; and the perceived stress scale .30 [*] .	Tynes et al. (2010)/USA
Internet Tele- harassment/ phone Youth Internet Survey Safety Survey 1500 YISS 2	phone Survey:	10-17	Engaging in online aggression Targets of online aggression TD		Aggressive behaviors ^{***} ; rule breaking behavior ^{***} ; and target of Internet harassment ^{***} are more likely to occur among individuals who reported engaging in harassment behavior 6 or more times compared to those reported never engaging in the behavior) (Ybarra and Mitchell, 2007). Physical or sexual abuse ^{***} ; and high parental conflict ^{**}	Ybarra and Mitchell (2007) Ybarra et al.(2007) Ybarra et al.(2006) /USA
				X	were each associated with elevated odds of reporting online interpersonal victimization) (Ybarra et al., 2007). Following characteristics were each associated with elevated odds of being the target of Internet harassment among otherwise similar youth: Harassing others online ***; interpersonal victimization *; and borderline/clinically significant social problems ** (Ybarra et al., 2006).	

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Table 6

N	Age/ Grade	Subscales and how they are derived	Reliability	Convergent Validity	Reference/Country
Survey: 1588	10-15	Internet harassment perpetration Internet harassment victimization	Internet harassment perpetration $\alpha = .82$ Internet harassment victimization $\alpha = 79$	Youth who are harassed online are more likely to being the target of relational bullying ^{***} . Additionally, externalizing behaviors such as alcohol use ^{***} ; substance use ^{***} ; and carrying a weapon to school in the last 30 days compared to all other youth ^{***} are related to internet harassment.	Ybarra et al. (2007) Ybarra et al. (2007) Ybarra and Mitchell (2008) /USA
			<u>u =.19</u>		
	Survey:	Grade Survey: 10-15	Grade how they are derived Survey: 10-15 Internet 1588 harassment perpetration Internet harassment	Gradehow they are derivedSurvey:10-15Internet1588Internetharassment perpetration Internet $\alpha = .82$ harassmentInternet harassment victimization	Grade derivedhow they are derivedYouth who are harassed online are more likely to being the target of relational bullying***. Additionally, externalizing behaviors such as alcohol use **; substance use***; and carrying a weapon to school in the last 30 days compared to all other youth *** are related to internet harassment.

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Highlights

- Lack of consensus regarding the concept and its definition for cyberbullying.
- Lack of subscales derived by factor analysis for cyberbullying instruments.
- Limited reports of reliability and validity testing for cyberbullying instruments.
- A representative overview of current cyberbullying instruments.

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