Cyberbullying: Unmasking The Right Assesment

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Abstract. The development of the digital era has had a negative impact on human behavior. one of which is the increase in the number of cyberbullying cases in society. There is a shift from traditional bullying towards bullying behavior carried out through digital media. This study aims to examine the literature related to the development of cyberbullying scales in the world today. The research method used is a literature review using the PRISMA technique from 15 related articles. The research results show that the cyberbullying measurement scales that have been developed are the CBQ and CYB-AGS, where both scales have good psychometric results. The difference between the CBQ scale and the CYB-AGS scale is related to the basic concepts used in compiling measurement indicators in the scale and the age of the user. The impact of this research can be used as a reference for selecting cyberbullying measurement instruments.

Keywords: Cyberbullying; CBQ; CYB-AGS

1 Introduction

In the digital era, bullying behavior has shifted in which bullying behavior is now not only carried out through real world activities but also digital media or social media activities, this behavior is often called cyberbullying. Cyberbullying is a form of violent behavior that is carried out intentionally and repeatedly through digital media in order to hurt someone [1–6]. In Indonesia, there were 1,895 students who were the victims of cyberbullying, in which the victims were classified as teenagers [7]. The problem of cyberbullying among Indonesian teenagers has become a serious issue considering the negative impacts that can be experienced by the victims of cyberbullying. Research shows that it can cause distress, depression, anxiety, insomnia, decreased self-esteem, withdrawal from social environments, anger, sensitivity, substance abuse, decreased performance at school, and even suicidal thoughts [8–11].

Looking at the negative impacts of cyberbullying and how it can arise the number of victims, it is necessary to find out the right instrument to measure the experiences of teenagers who are exposed to cyberbullying behavior. In the last fifteen years, several cyberbullying instruments have been developed and are widely used to measure cyberbullying in several countries. The cyberbullying instruments developed include the cyberbullying questionnaire (CBQ), cyber-aggression (CYB-AGS), and the online victimization scale. The first instrument is the cyberbullying questionnaire (CBQ) which

is a cyberbullying measurement scale that can be given to individuals from adolescent to adult categories [12,13]. The second instrument is the CYB-AGS (cyber-aggressor) scale, which is a cyberbullying measurement scale consisting of 18 items intended for children aged 12 to 16 years [2,14,15]. These instruments have been developed in several countries in America, Europe and Asia. However, there has been no analysis regarding the use of this instrument in Indonesia.

This research conducts a literature review by identifying and reviewing articles related to cyberbullying measurement instruments. The results of this study will be the basis for developing cyberbullying instruments that will be well-suited to the needs of Indonesian so that they become the right instruments to measure cyberbullying victims and later can be developed appropriate interventions.

2 Methods

The method used in this research was the preferred reporting items for systematic reviews and meta-analysis (PRISMA) technique. Articles were collected through three academic databases such as science direct, Google Scholar and SAGE journal. The keywords used to search the articles were in the form of CYB-AGS (cyber-aggressor) scale, the online victimization scale and CBQ (Cyberbullying questionnaire). The article criteria used are research articles published from 2008 to 2023.
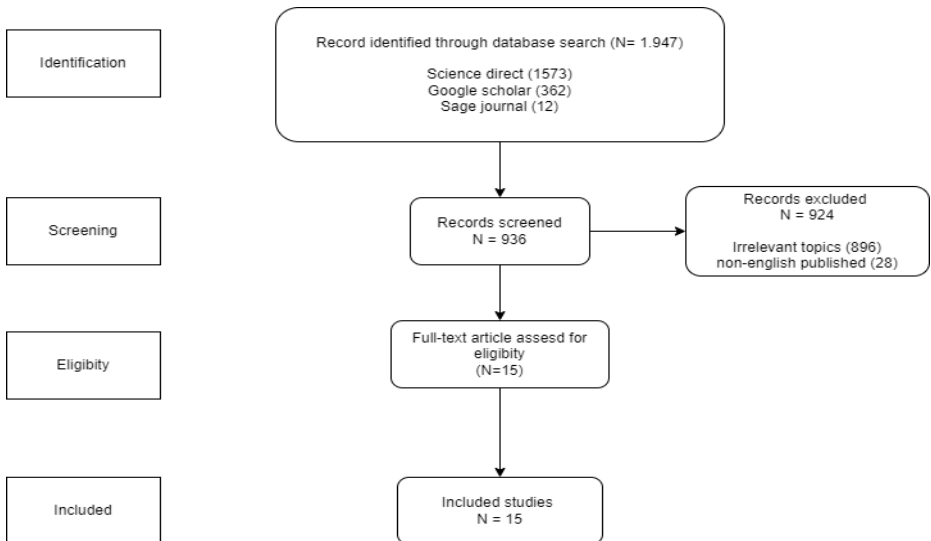

Identification	Record identified through database search (N= 1.947)
	Science direct (1573)
	Google scholar (362)
	Sage journal (12)

| Screening | Records screened N = 936 | Records excluded N = 924 |
| | | Irrelevant topics (896) non-english published (28) |

| Eligibity | Full-text article assesd for eligibility (N=15) |

| Included | Included studies N = 15 |

Fig. 1. PRISMA diagram of retrieved article

3   Results and Discussion

Table 1. The results of the analysis of related articles

No.	Title	Author(s)	Year	Result
1	Cyberbullying in adolescent: modalities and ageressor profile [12]	Esther calvete, Izaskun Orue, Ana Estevez, Lourdes Villardon, Patricia Padilla	2010	CBQ was used to measure 1431 teenagers aged 12 to 17 years old. CBQ was used to measure the reaction and pro-action to aggression behavior, exposure to violence, assessment of the use of violence, and perceptions of the surrounding environment regarding the violence they received.
2	Psychometric properties of the cyberbullying questionnaire (CBQ) among mexican adolescenst [13]	Manuel gamez-guadix, Fabiola Villa-George, Esther Calvete	2014	CBQ was used with 1008 teenagers in Mexico. This instrument was proven to be a valid measurement and had a correlation with the assessment of cyberbullying, impulsivity, and depression. The prevalence of cyberbullying behavior was higher in men than in women.
3	Assessing exposure to bullying through digital devices in working life : two versions of a cyberbullying questionnaire (CBQ) [16]	Sandra Jonsson, Tuija Muhonen, Rebecka Cowen Forssell, Martin Backstrom	2017	CBQ was used to measure 3371 adolescents in Swedish. CBQ was proven to be a valid and reliable instrument to measure cyberbullying behavior in work life.
4	Gender and organizational position : predicting victimization of cyberbullying behaviour in working life [17]	Rebecka Cowen Forssell	2020	CBQ was used to measure the prevalence of cyberbullying in the work life. The results showed that men and women had different experiences where women were more likely to experience cyberbullying than men.

No.	Title	Author(s)	Year	Result
5	Cyberbullying and its relationship with perceived stress in high school students – a case of study in the province in the province of Tungurahua [18]	Aitor Larzabal Fernandez, Maria Isabel ramos-Noboa, Adan Eduardo Hong	2019	CBQ was given to 102 high schoolers. Results showed that 45% was proven to be the cyberbullying victims and 69% exhibited cyberbullying behavior.
6	Cyberbullying in adolescents: resilience as a protective factor of mental health outcomes [19]	David Santos, Estibaliz Mateos-Perez, Maria Cantero, Manuel Gamez-Guandix	2021	This research involved 2,108 teenagers aged 12 to 17 years who received measurements using the cyberbullying victimization instrument. The results showed that victims of cyberbullying were more susceptible to showing symptoms of depression and decreased life satisfaction.
7	Effect of ethical leadership on workplace cyberbullying exposure and organizational commitment [20]	Worakamol Tiamboon-prasert, Peerayuth Charoensukmongkol	2020	This research was conducted on 2,439 academics on one campus, including students, education staff, staff or lecturers. The instrument used in this research is CBQ. The results show that cyberbullying does not only occur among teenagers but also in educational environments.
8	Cyberbullying : Education research [21]	Diana Marin Suelves, Ana Rodriguea Guimerans, M Marcedes Romero Rodrigo, Silvia Lopez Gomez	2023	CBQ was one of the instruments that had a good psychometric and had been tested in big groups.

No.	Title	Author(s)	Year	Result
9	Internet risks : a overview of victimization in cyberbullying, cyber dating abuse, sexting, online grooming and problematic internet use [22]	Juan M Machimbarrena, Esther Calvete, Liria Fernandez-Gonzalez, Aitor Alvarez Bardon, Lourdes Alvarez-Fernandez, Joaquin Gonzalez-Cabrera	2018	The research involved a sample of 3212 in which 30.27% indicated that they were victims, 12.61% experienced cyberbullying sexting grooming, and 5.79% experienced cyberbullying sexting.
10	Status and risk factors of Chinese teenagers' exposure to cyberbullying [23]	Shuhuan Zhou	2021	The instrument was used to measure a research sample of 1583 and the results showed that 54.6% had been victims of cyberbullying.
11	Cyberbullying among adolescents: psychometric properties of the CYB-AGS cyber-aggressor scale [2]	Sofia Buelga, Javier Postigo, Belen Martinez-Ferrer, Maria-Jesus Cava, Jessica Ortega-Baron	2020	The instrument used in this research was the CYB-AGS (cyber-aggressor scale). This research involved 1318 Spanish teenagers aged 12 to 16 years. The research results showed that this instrument was proven to be valid and reliable.
12	Parental psychological control and cyberbullying tendency in adolescents from the perpetrator side [24]	Alifia Yuniar Rahmaputri, Setiasih Setiasih, Ni Putu Adelia Kesumaningsari	2022	This research aimed to analyze the contribution of parental behavior to cyberbullying behavior in adolescents. The instrument used to measure cyberbullying was the CYB-AGS. The total sample for this study was 383 aged 13 to 17 years. The research results showed that parents had an important role in observing cyberbullying behavior of their teenagers.

No.	Title	Author(s)	Year	Result
13	Effect of educational program on social media cyberbullying among nursing college students at benha university [25]	Naglaa Fathi Elattar, Soha Kamel Mosbah Mahmoud, Asmaa Mohamed Ali Hassaan AlAbd	2020	This study aimed to evaluate the effects of educational programs related to social media especially the cyberbullying, on nursing students at Benha University. The research method used was quasi-experimental involving 1029 students. The instrument used was CYB-AGS. The results of this research indicated that educational programs had proven effective in increasing the capacity to understand and behave related to cyberbullying.
14	Exploring the importance of gender, family affluence, parenting style, and loneliness in cyberbullying victimization and aggression among Romanian adolescents [26]	Magdalena Iorga, Lavinia Maria Pop, Irina Croitoru, Elena Hangani, Dana-Teodora Anton-Paduraru	2022	This study aimed to identify the prevalence of cyberbullying in Romanian adolescents and gender roles, family relationship factors, self-esteem, and parenting styles in victims and perpetrators of cyberbullying. This research was conducted on 835 teenagers aged 10 to 19 years. The research instruments used were scales of self-esteem, loneliness, cyber-aggression and parenting style. The research results showed that the presence of cyber-aggression was positively related to aggressive parenting style and negatively related to compliance and avoidance parenting style.
15	Cybersecurity awareness, cyber human values, and cyberbullying among university students in Selangor, Malaysia [27]	Cheong Shun Xiang, Muslihah Hasbullah	2023	This research aimed to identify the correlation between cybersecurity awareness and cyber human values on cyberbullying behavior among 162 Malaysian students. Here the CYB-AGS scale was used.

The results of the analysis of 15 articles show that the CBQ scale and CYB-AGS scale have good validity and reliability. CBQ and CYB-AGS have been proven to be able to measure cyberbullying behavior well in several countries in Europe, America and Asia.

The difference between CYB-AGS and CBQ are the indicators used as a basis for making statement items. The CYB-AGS scale uses statements derived from direct cyber-aggression and indirect cyber-aggression, while on the CBQ scale the statements in the scale are derived based on the emergence of cyberbullying behavior without a trigger and the emergence of cyberbullying behavior because of a trigger. Another difference between CBQ and CYB-AGS is in terms of user age, where the CYB-AGS scale is often intended for individuals aged 12 to 16 years, while the CBQ scale is given to individuals aged 12 to 22 years.

Research results in several countries showed that CYB-AGS had good validity and reliability [2,24–27]. CYB-AGS consists of 20 items, of which 10 items measure cyber-aggression directly and 8 items measure cyber-aggression indirectly [24]. CYB-AGS is structured based on two factors, namely direct cyber-aggression and indirect cyber-aggression. A direct form of cyber-aggression is aggression that appears in the form of verbal attacks such as mocking other people through social networks and social attacks and removing someone from a group for example by isolating one person. Meanwhile, indirect forms of cyberaggression appeared in the form of creating fake profiles of victims, impersonating victims or hacking victims' personal accounts [2]. Research using the CYB-AGS scale can show the results of the level of cyberbullying in adolescents, both those who have been exposed and unexposed to bullying behavior [25,26].

Similarly, the results were also found in research using the CBQ scale. Research results showed that the CBQ also had good validity and reliability [12,17–23]. The CBQ scale contains 16 statement items [18]. However, there was a revision of the CBQ scale where there was a change from 16 items to 14 items, this reduction was due to merging items and adjusting the content according to the current situation [13]. These changes include merging two items from the old version (sending threatening or insulting messages via email and sending threatening or insulting messages via cell phone) into one more common item in the new version which is now the statement is: sending threatening or insulting messages. It is because threatening or insulting messages can be sent from various media such as social media, email, text messages or online text messages such as WhatsApp and from any electronic devices such as telephone, tablet and computer [13]. These two scales are cyberbullying measurement scales that are often used and have different basis for developing indicators. Apart from that, another differentiator is related to the age of the user that has to be considered by the users.

4   Conclusion

The cyberbullying measurement scales discussed in this study are the CBQ and CYB-AGS, both of which have good psychometric results. The difference between the CBQ scale and the CYB-AGS scale is related to the basic concepts used in compiling measurement indicators in the scale. Another difference is related to the age range of users who can fill out the scale, where the CYB-AGS scale is only intended for children aged 12 to 16 years while the CBQ scale is for individuals aged 12 to 22 years. It is hoped that this research can become a basis for future researchers to analyze the cyberbullying measurement scale that will be used. The limitation of this research is that the sources

for literature studies are still limited so that the articles studied are still quite limited. Suggestions for future researchers are to increase data sources and continue with quantitative research to see the extent of the reliability and validity of the instrument.

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