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Bibliometrics Analysis in Articles of Verbal Bullying in Schools

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Abstract

Verbal bullying in schools has become the concern of the researcher. By using the "verbal bullying" AND "school" keywords, on the Scopus Database on March 12th, 2020, 115 documents were found. These documents were produced starting from 1999. The results of the bibliometrics analysis using Biblioshiny show that the most relevant source which has the highest H-Index for this theme is the Journal of School Violence. However, after observing each document, the article written by Wang J. in 2009 in the Journal of Adolescent Health is the one that receives the most citations. Meanwhile, Chen LM is the most productive writer in this field by producing 4 documents. Furthermore, the words that are most frequently mentioned in documents regarding verbal bullying in schools are related to gender, namely male and female, as well as the age of students in schools consisting of children and adolescents. The results of the analysis of the words that are most frequently expressed also indicate that verbal bullying in schools has received certain attention and studied from various disciplines. The results of this bibliometrics analysis are expected to be able to contribute to schools and other relevant parties in dealing with verbal bullying issues and create programs to minimize verbal bullying in schools.

Keywords: verbal bullying, bullying in schools, bibliometric analysis, biblioshiny analysis

1. Introduction

Bullying can occur anywhere, including at school. Bullying in schools can be mainly happened among students or between students and teachers (Smith, 2016). According to Smith (2012), the publication about bullying has been started since the 1970s. Moreover, Olweus explained the definition of physical and verbal forms of bullying behavior carried out by individuals in 1973. Then, in 1983, a school-based anti-bullying campaign program was begun (Smith, Salmivalli, & Cowie, 2012).

In general, there are several types of bullying, including cyberbullying, social bullying, physical bullying, sexual bullying, racial bullying, and verbal bullying (HazelDen Foundation, 2007; National Centre Against Bullying, 2020; Quiroz, Arnette, & Stephens, 2006; United Nation, 2016; Wang, Iannotti, & Luk, 2012). However, verbal bullying is an issue that is mostly found in schools among others. Tapper & Boulton (2005) note that students experience verbal bullying twice as much as physical bullying. In this case, verbal bullying uses words or comments that demean or insult someone resulting in the disruption of social relations between the bully and the bullied (Berger, 2007; Isernhagen & Harris, 2018). Although the problem of bullying has received certain attention from various parties, unfortunately, they do not know what they should do when dealing with this problem (Hazler, 1996; Hosch & Bothwell, 1990; Safran & Safran, 1987).

The objective of this study is to analyze the sources of publications and the impact factors of journals, citations of documents, as well as the words that frequently mentioned in documents regarding verbal bullying in schools through Bibliometrics analysis. Then, the results of this Bibliometrics analysis are expected to provide more comprehensive information towards problems in verbal bullying, so that all elements of society can be more concerned about protecting the environment, especially in the school environment to be free from bullying actions.

2. Literature Review

2.1. Bibliometrics Analysis

The term Bibliometrics was first introduced by Pritchard in 1969. This term refers to bibliographics analysis using statistics and mathematics (Pritchard, 1969). Bibliometrics analysis is carried out to evaluate scientific publications and look at the impact factors and citations, the patterns of collaboration, the disseminate strategies for scientific publications, and the report on the productivity of scientific works (Padrós-Cuxart, Riera-Quintero, & March-Mir, 2016; Reuters, 2008). With the development of data and technology, many applications or software have been developed that can be used for bibliometrics analysis. One of them is *Bibliometrix* using R Package. Likewise, this *Bibliometrix* involves *Biblioshiny* which is an open-source application for bibliometrics analysis for non-coder (Aria & Cuccurullo, 2017; Dervis, 2018).

The bibliometrics analysis can be easily done by using the software. However, the basic concepts in the bibliometric analysis such as Lotka's Law, Bradford's Law and Zipt's law, need to be comprehended. Moreover, in this case, Lotka's Law shows the distribution of authors on a subject at a certain period (Qiu, Zhao, Yang, & Dong, 2017), Bradford's Law shows the distribution of journals into three zones to see the core journals in a field (Singh & Bebi, 2014), and Zipt's Law shows the relationship between frequency and rank of words (Piantadosi, 2015).

2.2. Verbal Bullying

Verbal bullying is a kind of intimidation through words such as threatening, taunting, calling names with inappropriate calls, which are intended to humiliate or destroy the victims (Berger, 2007; Isernhagen & Harris, 2018; Wang et al., 2012). Various studies have shown that the victims of bullying especially in schools have decreased achievement, and experienced psychological and psychosocial disorders (Kibriya, Xu, & Zhang, 2015; Oliveira, de Menezes, Irffi, & Oliveira, 2018; Ponzo, 2013). Therefore, preventive programs are needed to prevent various kinds of bullying in schools (Ribakova, Valeeva, & Merker, 2016). Besides, the recommendations that can be provided to reduce bullying in schools include preparing the policies and the codes of contact, training to prevent bullying, observing, evaluating, and educating students not to carry out bullying, creating a social environment that supports a free of bullying, and monitoring and receiving feedback from all related components (University of Delaware, 2013).

3. Research Methods

This study uses bibliometrics analysis. The bibliometric analysis is a quantitative method in analyzing bibliographics data (<u>Cooper, 2015</u>; <u>Padrós-Cuxart et al., 2016</u>; <u>Reuters, 2008</u>). This analysis can include performance analysis or science mapping (<u>Moral-Muñoz, Herrera-Viedma, Santisteban-Espejo, & Cobo, 2020</u>). Furthermore, the bibliometrics analysis is carried out using the assistance of a software (<u>Bankar & Lihitkar, 2019</u>; <u>Dervis, 2018</u>).

The publication sources, the impact factors from both journals and documents, and the words that are most frequently mentioned in documents about verbal bullying in schools are analyzed in

this study. Meanwhile, the data sources were obtained through a search on the Scopus Database on March 12th, 2020. By using "verbal bullying" AND "school" keywords, 115 documents were obtained. The datasheet is downloaded from Scopus Database and imported into a format that is compatible with R Data Format. Then, *Biblioshiny* is used to analyze the data. *Biblioshiny* is a *Bibliometrix* tool from the R package (Moral-Muñoz et al., 2020). Finally, the results of software processing are analyzed and concluded.

4. Result and Discussion

4.1. Sources of Publication "Verbal Bullying in Schools"

This bibliometrics analysis uses the data sources from the Scopus Database accessed on March 12th, 2020. By using "verbal bullying" and "school" keywords, 115 documents were obtained. Then, the datasheet of the search results is processed using *Biblioshiny*. Table 1 shows the number of per year publications on "verbal bullying in schools".

Table 1. The number of publications on "Verbal bullying in Schools" in the Scopus database per year.

Year	Articles	Year	Articles
1999	1	2011	4
2002	3	2012	10
2003	3	2013	6
2004	1	2014	6
2005	2	2015	9
2006	3	2016	11
2007	4	2017	6
2008	4	2018	14
2009	7	2019	16
2010	4	2020	1

<u>Table 1</u> shows that the publication of verbal bullying in schools has been begun in 1999 with 1 document and the height number of publications was in 2019 with 16 documents.

The publications about verbal bullying at the school were spread in various sources. <u>Figure</u> 1 shows the most twenty relevant sources.

Most Relevant Sources

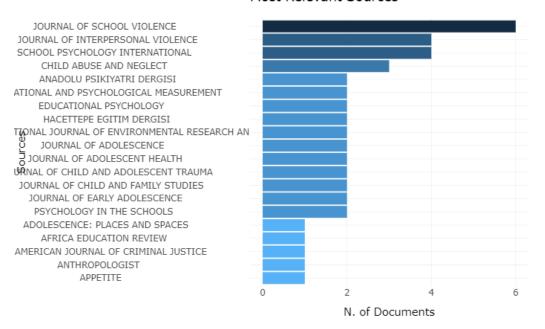


Figure 1. Distribution of documents about verbal bullying in schools in various sources

From <u>Figure 1</u>, it can be seen that the most widely published journal article about verbal bullying in schools is the Journal of School Violence, which is a total of 6 documents. By using Bradford's Law in Biblioshiny, a per-zone publication distribution is obtained as shown in <u>Figure 2</u>.

Bradford's Law

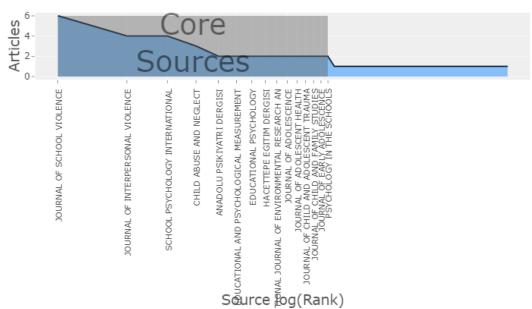


Figure 2. Clustering based on Bradford's Law

In detail, the results of clustering based on Bradford can be seen in Table 2.

Table 2. Details of clustering results based on Bradford's Law

so	Rank	Freq	cumFreq Zone	so		Rank	Freq	cumFreq	Zone
IOURNAL OF SCHOOL VIOLENCE	1	6	6 Zone	1 INTERNATIONAL	GAMBLING STUDIES	47		1 71	Zone 2
IOURNAL OF INTERPERSONAL VIOLENCE	2	4	10 Zone	1 INTERNATIONAL	JOURNAL OF CLINICAL A	48		1 72	Zone 2
SCHOOL PSYCHOLOGY INTERNATIONAL	3	4	14 Zone	1 INTERNATIONAL	JOURNAL OF FORENSIC I	49		1 73	Zone 2
CHILD ABUSE AND NEGLECT	4	3	17 Zone	1 INTERNATIONAL	JOURNAL OF INNOVATIO	50		1 74	Zone 2
ANADOLU PSIKIYATRI DERGISI	5	2	19 Zone	1 INTERNATIONAL	JOURNAL OF INNOVATIV	51		1 75	Zone 2
EDUCATIONAL AND PSYCHOLOGICAL MEASURE			21 Zone		JOURNAL OF LEARNER D				Zone 2
EDUCATIONAL PSYCHOLOGY	7		23 Zone		JOURNAL OF PAEDIATRI				Zone 2
HACETTEPE EGITIM DERGISI	8	2	25 Zone	1 INTERNATIONAL	JOURNAL OF PSYCHOLO	54		1 78	Zone 2
NTERNATIONAL JOURNAL OF ENVIRONMENTAL			27 Zone		OPHTHALMOLOGY AND V				Zone 3
IOURNAL OF ADOLESCENCE	10		29 Zone		AL OF PEDIATRICS	56		1 80	Zone 3
IOURNAL OF ADOLESCENT HEALTH	11	2	31 Zone		NAL OF EDUCATIONAL PS	57		1 81	Zone 3
IOURNAL OF CHILD AND ADOLESCENT TRAUMA			33 Zone		GRESSION, MALTREATME				Zone 3
IOURNAL OF CHILD AND FAMILY STUDIES	13		35 Zone		PLIED SCHOOL PSYCHOLO				Zone 3
IOURNAL OF EARLY ADOLESCENCE	14		37 Zone		TISM AND DEVELOPMEN				Zone 3
PSYCHOLOGY IN THE SCHOOLS	15		39 Zone		UCATIONAL PSYCHOLOGY				Zone 3
ADOLESCENCE: PLACES AND SPACES	16		40 Zone		IOTIONAL ABUSE	62			Zone 3
AFRICA EDUCATION REVIEW	17		41 Zone		JENCY DISORDERS	63			Zone 3
AMERICAN JOURNAL OF CRIMINAL JUSTICE	18		42 Zone		DIATRIC NURSING	64			Zone 3
ANTHROPOLOGIST	19		43 Zone		DIATRIC PSYCHOLOGY	65			Zone 3
APPETITE	20		44 Zone			66			Zone 3
ASIA-PACIFIC EDUCATION RESEARCHER	21		45 Zone		CIAL AND ETHNIC HEALTH				Zone 3
ASSAULTS: INTERVENTIONS, PREVENTIVE STRAT			46 Zone		SEARCH IN CHILDHOOD E				Zone 3
AUSTRALASIAN JOURNAL OF SPECIAL EDUCATION			47 Zone		SEARCH IN HEALTH SCIEN				Zone 3
AUTISM RESEARCH	24		48 Zone		HOOL PSYCHOLOGY	70			Zone 3
BMC PEDIATRICS	25		49 Zone		E AMERICAN PSYCHIATRI				Zone 3
BRITISH EDUCATIONAL RESEARCH JOURNAL	26		50 Zone		OF THE INSTITUTE FOR C				Zone 3
BRITISH JOURNAL OF EDUCATIONAL PSYCHOLO			51 Zone		N JOURNAL OF SOCIAL SO				Zone 3
BRITISH JOURNAL OF SOCIOLOGY OF EDUCATIO		_	52 Zone		KU ROZWOJOWEGO	74			Zone 3
CADERNOS DE SAUDE PUBLICA	29		53 Zone		NO NOZWOJOWEGO	75			Zone 3
CANADIAN JOURNAL OF SCHOOL PSYCHOLOGY	30		54 Zone		ΙΔΤΡΙCΔ	76			Zone 3
CARIES RESEARCH	31		55 Zone		L EDUCATION REVIEW	77			Zone 3
CENTER FOR EDUCATIONAL POLICY STUDIES JO	32		56 Zone			78			Zone 3
CHILD AND ADOLESCENT MENTAL HEALTH	33		57 Zone			79			Zone 3
CHILD DEVELOPMENT	34		58 Zone		COLAR E EDUCACIONAL	80			Zone 3
CHILDREN AND YOUTH SERVICES REVIEW	35		59 Zone			81			Zone 3
CHINESE JOURNAL OF ENDEMIOLOGY	36		60 Zone			82			Zone 3
COMPUTERS AND EDUCATION	37		61 Zone			83			Zone 3
DISABILITY AND REHABILITATION	38		62 Zone		IBIANA DE OBSTETRICIA \				Zone 3
EGITIM ARASTIRMALARI - EURASIAN JOURNAL (39		63 Zone		JOURNAL OF PSYCHOLOG				Zone 3
EGITIM VE BILIM	40		64 Zone		JOURNAL OF PUBLIC HEA				Zone 3
EUROPEAN JOURNAL OF PSYCHOLOGY OF EDUC			65 Zone		DLOGY QUARTERLY	87			Zone 3
EUROPEAN JOURNAL OF PSYCHOLOGY OF EDUC EUROPEAN JOURNAL OF SOCIAL SCIENCES	41		66 Zone		JLOGY QUARTERLY I JOURNAL OF EDUCATIOI				Zone 3
EXCEPTIONALITY EDUCATION INTERNATIONAL	43		67 Zone		JOURNAL OF PSYCHOLO				Zone 3
HEALTH EDUCATION	43		68 Zone		F SCHOOL HEALTH	90			Zone 3
	44								
NJURY	45		69 Zone 70 Zone	Z WESTERN JOUR	NAL OF COMMUNICATIO	91		115	Zone 3

<u>Table 2</u> shows that there were 15 sources included in Zone 1, 39 sources in Zone 2 and 37 sources in Zone 3. The distribution of resources into 3 zones shows the clustering of sources, where the sources in Zone 1 are the core sources in themes related to verbal bullying in schools.

4.2. Source Impact

The impact factor on the journal can be quantitatively seen from the number of citations and H-Index of the journal. Figure 3 shows the average citations per year obtained from documents on verbal bullying at school.

Average Article Citations per Year

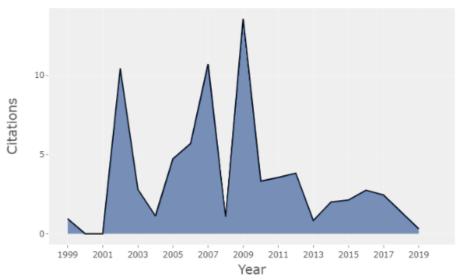


Figure 3. Average citations in articles per year.

Meanwhile, the impact factors of each source can be seen in <u>Figure 4.</u>
Source Impact

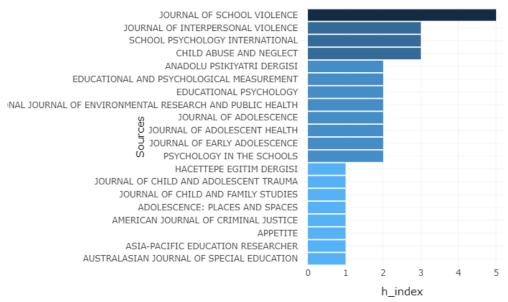


Figure 4. Source impact on 20 sources

<u>Figure 4</u> shows the impact on 20 journals, where the Journal of School Violence has the highest impact, namely the H-Index 5. However, if it is viewed from the number of citations in each document, the article written by Wang J. in 2009 in the Journal of Adolescent Health receives the most citations, with 897 citations. <u>Figure 5</u> shows the number of citations obtained per document.

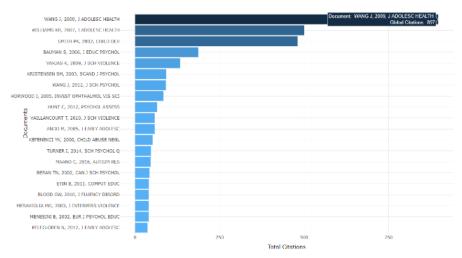


Figure 5. Top citations for Documents of Verbal Bullying at School

In terms of writer productivity, Chen LM is the most productive writer in this field by producing 4 documents. The author's productivity per document can be seen in <u>Figure 6</u>.

Top-Authors' Production over the T

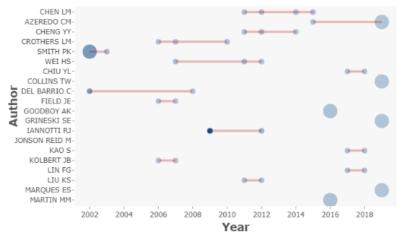


Figure 6. The most productive writer for Verbal Bullying at School

4.3. Words Most Frequently Mentioned

<u>Table 3</u> shows the most 50 common words mentioned in documents about verbal bullying at school.

Table 3. Frequency of the Most Frequently Mentioned Words

Terms	Frequency	Terms	Frequency
bullying		questionnaires	11
male		risk factor	11
female	78	self report	11
adolescent		united states	11
human	50	violence	10
child	44	cross sectional study	9
article	36	human relation	9
humans	36	internet	9
questionnaire	24	mental health	9
peer group	21	priority journal	9
school	21	psychological aspect	9
prevalence	20	sex factors	9
student	20	social support	9
aggression	18	statistics and numerical data	9
schools	18	cross sectional studies	8
crime victims	17	prevention and control	8
adolescent behavior	16	psychological	8
psychology	16	risk factors	8
sex difference	16	human experiment	7
students	16	age	6
victim	15	child behavior	6
major clinical study	14	health status	6
controlled study	13	social behavior	6
adult	12	social environment	6
crime victim	12		
interpersonal relations	12		

Table 3 shows that the most common words mentioned in documents about verbal bullying in school are related to gender, namely male and female, as well as the school-age consisting of children and adolescents. Table 3 also shows that verbal bullying is related to children's behavior, social status, social behavior, and social environment. Besides, verbal bullying is also seen to have been analyzed in various disciplines such as social, mental health, psychology, statistics and multidisciplinary studies (cross-sectional studies). Moreover, words that are often mentioned in a document can indicate the trending topics in this field.

5. Conclusion

The results of the bibliometric analysis of 115 documents obtained through a search with "verbal bullying" and "school" keywords in the Scopus Database show that verbal bullying in schools has become the concern of the researcher. Documents on verbal bullying are widely published in psychology, education, pediatric and other multidisciplinary journals. This is reinforced by the results of the analysis of the words that are often mentioned in the document, one of them is cross-sectional studies.

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