

RESEARCH TREND ON PARENTING STYLES FROM 1977 TO 2020: A BIBLIOMETRIC ANALYSIS

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Abstract

Parenting styles have an important and central role in the family and are one of the factors for developing children's personality and behavior. The purpose of this study was to determine the research trends of parenting styles from the Scopus database during the 1977-2020 period using bibliometric analysis. Based on the keywords used related to parenting styles in the article title, which were taken from the Scopus bibliographic database, on Tuesday, November 10 2020, 10.52 pm, 1323 documents were taken and further analyzed using various tools. Microsoft excel is used to perform frequency analysis, VOSviewer for data visualization and Harzing's Publish or Perish is used for citation and analysis metrics. The results showed that there was an increase in literature on parenting styles from 1977 to 2020, and a significant increase since 2006. There have been various studies that have been conducted on parenting styles involving multi-author collaboration published in various languages, with a total of 159 authors from 79 different countries and 160 institutions. The United States is the largest contributor to research on parenting styles, followed by Spain and Iran. The Journal of Child and Family Studies publishes the most publication on parenting styles. This study only uses the keyword parenting styles in the article title and is limited to the Scopus database.

Keyword: Bibliometric analysis, parenting styles, trend

Family is the first and most important environment for a child. The family is a place where children are raised and is one of the most important social environments in their education (Al-Elaimat et al., 2018). The family environment will teach a child many lessons about values, behaviors, skills and trends that help them adapt to life and develop their abilities and talents. A family environment full of trust and loyalty and a spirit of dialogue will foster a healthy personality, in contrast to a family which is always filled with quarrels and tense relationships that will result in abnormal personality and behavior problems.

One of the factors for developing children's personality and behavior is the parenting style in the family (Aunola et al., 1999). There are two main dimensions that parents take in raising their children, namely, demand and responsiveness (Baumrind, 1989). These two main dimensions produce three parenting styles, namely: authoritative, authoritarian, and permissive. First, authoritative parenting styles have characteristics that are demanding and controlling, but also warm and interacting with children (Baumrind, 1989; Pulkkinen, 1982). Parents with authoritative parenting styles tend to direct their children's activities in a rational and problem-oriented way. According to previous studies, authoritative parenting styles have positive results in child development, such as high self-esteem (Litovsky & Dusek, 1985;

Maccoby & Martin, 1983), and school achievement (Grolnick & Ryan, 1989; Steinberg et al., 1989).

Second, authoritarian parenting styles show a lack of affiliation with the child and parents tend to be authoritative. Moreover, parents exercise tighter control rather than mingling and interacting with children (Maccoby & Martin, 1983; Pulkkinen, 1982). Authoritarianism is a characteristic of low-income families both economically and in terms of education (Bezrukova & Samoylova, 2015). Therefore, parents who educate their children with authoritarian care tend to be more assertive and sensitive when communicating. Statement reinforced by Vasilova (2016); argues that authoritarianism is characterized by a rigid system of attitudes as a result of a strict parenting style. The impression of the child's personality must be submissive and obedient without compromise. Authoritarian parenting style causes children to have high dependency and external locus of control (Grolnick & Ryan, 1989).

Third, permissive parenting is characterized by a non-controlling, non-demanding, and warm attitude towards children. This style causes immaturity in children (Maccoby & Martin, 1983). Igbo and Ihejiene (2014) state that permissive parents encourage autonomy, are involved in decision-making for their children, rarely discipline children because they have relatively low self-esteem and self-control. Responsive to their requests, permissive parents tend not to apply rules and restrictions at home because of the parenting style of permissive parents who have many internal problems at home, school or community academic performance (Baumrind, 1991a).

An increasing interest in studying parenting styles has emerged in recent years. Several studies have focused on investigating parenting style, which is defined by Darling and Steinberg (1993) as a constellation of attitudes toward children that are communicated to children and creates an emotional climate in which parental behavior is expressed. Various studies link parenting style, for example with creative development of children (Setiyowati et al., 2019), bullying behavior (Krisnana et al., 2019), temporary characteristics of children (Laukkanen et al., 2014), aggressive adolescent behavior (Setiawati et al., 2020), the ability to spell in children (Kiuru et al., 2012) and many other studies.

Thus, this article analyzes the development of research in parenting styles. This study performs a bibliometric analysis of all journal articles in the leading Scopus database. The advantages of the bibliometric method are in terms of quantification and objectivity. Bibliometric analysis can avoid some of the potential for subjective bias and may serve to provide validation of what experts in the field might intuitively conclude. Since parenting styles is a multidisciplinary field that freely borrows and assimilates work from multiple disciplines, bibliometric analysis covering long periods of time can help to pinpoint the most influential works and the linkages between them. This study can show research trends, language used, affiliations and author countries, search for citations contained in articles, identify how those citations relate to various research topics in parenting styles and how shared citation patterns develop.

The purpose of this study is to determine trends and research developments in the field of parenting styles. Bibliometric analysis of the literature relating to this term was used to answer the following questions.

1. How are parenting styles articles classified?
2. What are the trends in parenting styles research?

This paper consists of four main sections. An overview of the parenting styles literature based on previous research and research objectives is presented in section 1. The methodology used to perform bibliometric analysis, including the method steps associated with retrieving documents from the Scopus database, the use of VOSviewer software and

Harzing's Publish or Perish, is presented in section 2. Section 3 presents the results using VOSviewer and Harzing's Publish or Perish. Discussion, conclusions, research limitations and recommendations appear in section 4.

Methods

This paper aims to examine the trends and productivity of research on parenting styles using bibliometric analysis.

Bibliometric analysis

Bibliometrics are defined as “the application of mathematics and statistical methods to books and other communication media” (Pritchard, 1969). When according to Potter (1981) bibliometric is the study and measurement of publication patterns and all forms of written communication and their authors. Bibliometrics are also the use of quantitative and statistical analysis to describe the pattern of publication in certain scientific literature (Bellis, 2009; Ma, 2005), measure text and information, and make it possible to analyze published documents (Daim et al., 2006; Hall, 2011). Bibliometric analysis is also a popular method for uncovering trends in the study of the articles under study (Ahmi & Mohamad, 2019). In addition, bibliometric analysis can be used in evaluating the quantity and quality of published material to monitor trends or patterns in certain research areas (Sweileh et al., 2017). Bibliometric analysis can also provide descriptive patterns of publications based on domain, field, country, period (Ho, 2007). At times, a methodical approach using bibliometric analysis can provide more detailed information regarding publication, including author, keyword frequency, and citations (Rusly et al., 2019).

Thus the bibliometric method can reveal and is very useful for analyzing the impact of literature on each scientific discipline, and is useful for deciding policies for various studies, publisher ratings, literature development, collection development, and other related policies.

Source and Data Collection

The unit of analysis adopted is granular in nature, which includes all scientific works contained in the Scopus database with the topic of parenting styles, published in the period 1977 to 2020. This approach is carried out consistently to map the intellectual structure of research regarding parenting styles, including quantitative, qualitative, non -empirical, case studies, and other published Scopus databases on the topic of parenting styles. In order to achieve the objectives of this paper, data was obtained from the Scopus database. TITLE (parenting styles)) is a search query that is applied to article titles in the Scopus database on Tuesday, November 10, 2020, at 10:52 pm. This query returned a total of 1323 documents for further analysis. The data set is exported in CSV and RIS formats. Microsoft Excel, VOSviewer, and Harzing's Publish or Perish have been used to analyze submitted documents.

Findings and Discussion

To get an overview of the research related to parenting styles, some general statistics from the data set are presented. All articles that met the search query were evaluated from the following aspects: document type and source, research productivity, publication language, subject area, most active source titles, distribution of publications by country, most active institutions, authorship, keywords, title and abstract analysis and citation analysis.

Most of the findings are presented in terms of frequency and percentage. Meanwhile, we present annual growth data as number of documents retrieved per year including

frequency and percentage, through November 2020. We report citation analysis as a citation metric and reveal the 20 most cited articles in parenting styles.

Document and Source Types

Types of documents are documents based on the authenticity of documents from articles, conference papers, book chapters, etc., while source documents are documents in the form of journals, conference proceedings, books, book series or trade publications. According to (Sweileh et al., 2017), conference papers appearing under document types can be different from those appearing under document sources. For example, a paper presented at a conference would be classified as a conference paper under document type. However, the same paper may be classified as a complete journal article, conference proceedings or book chapter under documentary sources, depending on the status of publication.

As summarized in Table 1, the documents published in parenting styles are spread over eleven types of documents. More than half of the total publications were articles, namely 1175 documents (88.81%), followed by reviews of 64 documents (4.84%), and conference papers of 31 documents (2.34%).

Table 1: Document Type

Document Type	Total Publication	% (N=1323)
Article	1175	88.81
Review	64	4.84
Conference Paper	31	2.34
Book Chapter	26	1.97
Erratum	9	.68
Note	4	.30
Book	3	.23
Editorial	2	.15
Letter	2	.15
Data Paper	1	.08
Undefined	6	.45
Total	1323	100.00

Meanwhile, as presented in Table 2, documents are classified into four types of sources, namely: journals, books, conference proceedings, and book series. Based on Table 2, journals are the highest source documents with 1265 documents representing 95.62% of the total publications, followed by books with 28 documents (2.12%).

Table 2: Source Type

Source Type	Total Publication	% (N=1323)
Journal	1265	95.62
Book	28	2.12
Conference Proceeding	26	1.97
Book Series	4	.30
Total	1323	100.00

Year of Publications - Evolution of Published Studies

This analysis will examine research productivity based on the number of documents published per year. Examination of documents based on the year of publication helps

researchers to observe patterns and popularity of research subjects over time (Ahmi & Mohamad, 2019). Chamberlin (1977), affiliated with the Geisel School of Medicine at Dartmouth, United States, is the first author to publish an article on parenting styles entitled "Parenting styles, child behavior, and the pediatrician", published in *Pediatric Annals*, Vol. 6, Issue. 9, p 50-63. Since then, publication growth has continued to increase until 2020. The increase in the number of publications in parenting styles has continued to fluctuate until now (see Figure 1). Table 3 summarizes the details of the number of publications of parenting styles since 1977. Based on the pattern of the number of publications, parenting styles still seem to be a favorite topic among academics.

The highest number of citation per year occurred in 2008, namely 2292 citation per year with a number of publications of 49 documents. While the second place the number of citation per year 2236 occurred in 1993, although only 2 documents, namely from the authors Darling and Steinberg (1993) with the title "Parenting style as context: An integrative model", and Manne et al., (1993) with the title "Treatment adherence difficulties among children with cancer: The role of parenting style". As for 2006 and 2009, the number of citation per year is 2067. Table 3 presents data on total publications and citation per year.

Table 3. Year of Publication

Year	TP	NCP	TC	C/P	C/CP	<i>h</i>	<i>g</i>
1977	1	1	4	4	4	1	1
1978	1	1	9	9	9	1	1
1980	2	1	7	3.50	7	1	2
1984	1	1	19	19	19	1	1
1986	1	1	18	18	18	1	1
1987	2	2	1040	520	520	2	2
1989	1	1	40	40	40	1	1
1990	2	2	61	30.50	30.5	2	2
1991	6	5	1727	287.83	345.4	4	6
1992	7	7	380	54.29	54.29	7	7
1993	2	2	2236	1118	1118	2	2
1994	8	8	1693	211.63	211.63	7	8
1995	7	7	512	73.14	73.14	7	7
1996	4	4	239	59.75	59.75	4	4
1997	10	9	528	52.80	58.67	9	10
1998	16	16	1080	67.50	67.5	14	16
1999	17	16	873	51.35	54.56	10	17
2000	18	17	1196	66.44	70.35	12	18
2001	19	18	1394	73.37	77.44	15	19
2002	22	21	1075	48.86	51.19	14	22
2003	14	14	1157	82.64	82.64	10	14
2004	16	15	744	46.5	49.6	11	16
2005	21	21	2002	95.33	95.33	15	21
2006	31	30	2067	66.68	68.9	24	31
2007	40	38	1944	48.60	51.16	24	40
2008	49	49	2292	46.78	46.78	26	47
2009	48	46	2067	43.06	44.93	28	45
2010	37	35	1613	43.59	46.09	19	37

2011	64	59	1735	27.11	29.41	23	40
2012	80	74	1523	19.04	20.58	21	35
2013	62	54	1022	16.48	18.93	17	30
2014	82	71	1272	15.51	17.92	21	32
2015	87	78	1410	16.21	18.08	21	33
2016	93	80	899	9.67	11.24	16	24
2017	87	72	938	10.78	13.03	14	27
2018	106	81	560	5.28	6.91	11	18
2019	132	79	398	3.02	5.04	9	16
2020	127	35	101	.80	2.89	5	8

Total 1323

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.

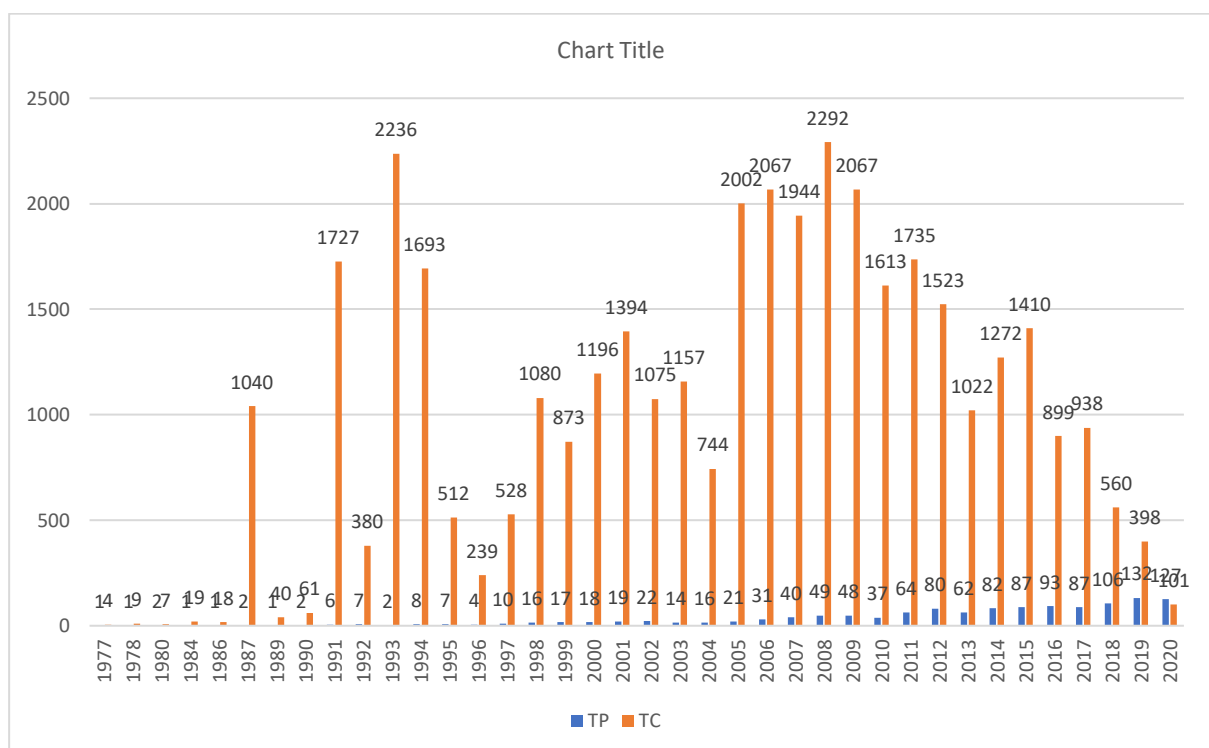


Figure 1. Total Publications and Citations by Year

Languages of Documents

As presented in Table 4, English is the commonly used language of the publications collected representing 92.26% of the total documents. Several publications are also published in Spanish, Portuguese and German, and other languages. There are 21 documents known to be published in two languages.

Table 4: Languages Used for Publications

Language	Total Publication	% (N=1344)
English	1240	92.26
Spanish	48	3.57
Portuguese	22	1.64
German	8	.60
Chinese	5	.37
Turkish	5	.37
Italian	4	.30
Czech	3	.22
Hungarian	2	.15
Korean	2	.15
Persian	2	.15
French	1	.07
Japanese	1	.07
Russian	1	.07
Total	1344	100.00

*21 documents have been prepared in dual languages

Subject Area

This paper further categorizes publications by subject area as summarized in Table 5. As parenting styles focus more on studies related to psychology, social science, and medicine, it can be found that these three study areas represent 34.35%, 25.72% and 18.96% of the total of each publication. Other areas that have made significant contributions include Nursing, Art and Humanities, Neuroscience and Business, Management and Accounting.

Table 5: Subject Area

Subject Area	Total Publication	% (N=2236)
Psychology	768	34.35
Social Sciences	575	25.72
Medicine	424	18.96
Nursing	100	4.47
Arts and Humanities	70	3.13
Neuroscience	41	1.83
Business, Management and Accounting	35	1.57
Agricultural and Biological Sciences	28	1.25
Environmental Science	25	1.12
Economics, Econometrics and Finance	24	1.07
Computer Science	23	1.03
Health Professions	23	1.03
Pharmacology, Toxicology and Pharmaceuticals	22	.98
Biochemistry, Genetics and Molecular Biology	19	.85
Dentistry	16	.72
Engineering	13	.58
Multidisciplinary	13	.58
Mathematics	5	.22
Decision Sciences	3	.13

Energy	2	.09
Immunology and Microbiology	2	.09
Veterinary	2	.09
Chemistry	1	.04
Earth and Planetary Sciences	1	.04
Physics and Astronomy	1	.04
Total	2236	100.00

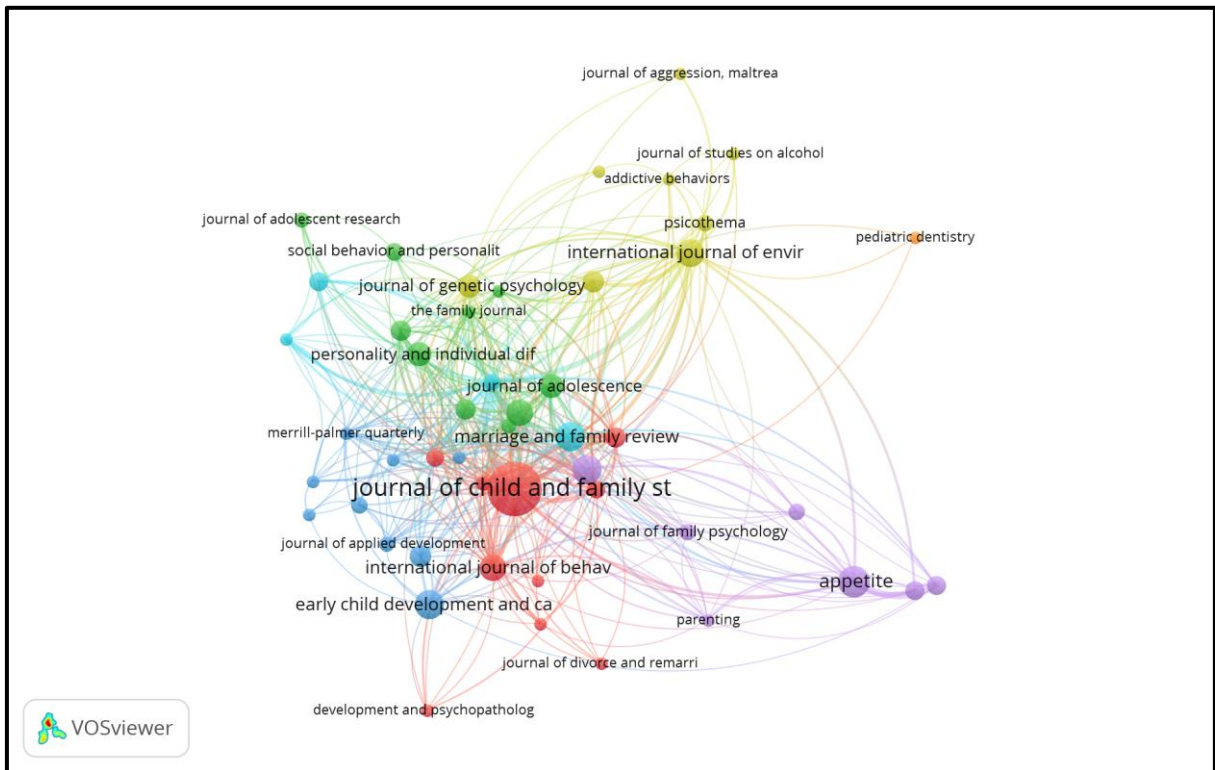
Most Active Source Titles

This paper also presents the titles of the most active sources that have 9 or more publications on parenting styles (see Table 6). Table 6 provides information on publishers, and the Journal of Child and Family Studies is one of the top publishers contributing to publication in parenting styles with 50 documents (6.46%).

Table 6: Most Active Source Title

Source Title	Total Publication	% (N=774)
Journal Of Child And Family Studies	50	6.46
Appetite	21	2.71
Early Child Development And Care	18	2.33
Frontiers In Psychology	18	2.33
Marriage And Family Review	18	2.33
International Journal Of Environmental Research And Public Health	17	2.20
Procedia Social And Behavioral Sciences	16	2.07
International Journal Of Behavioral Development	15	1.94
Journal Of Adolescence	13	1.68
Personality And Individual Differences	13	1.68
Journal Of Genetic Psychology	12	1.55
Children And Youth Services Review	11	1.42
Journal Of Cross Cultural Psychology	11	1.42
Current Psychology	10	1.29
European Child And Adolescent Psychiatry	10	1.29
Journal Of Family Issues	10	1.29
Journal Of Pediatric Psychology	9	1.16
Psychological Reports	9	1.16
Public Health Nutrition	9	1.16

Figure 2 shows the visualization of co-occurrences by document source with 5 minimum document counts. Figure 2 reveals that the Journal of Child and Family Studies is the source of the document that most publishes studies on parenting styles. The size of the nodes shows the number of documents, while the thickness of the connecting lines shows the strength of the relationship between document sources. Relevant source documents, such as those shown in the same color, often appear together. For example, the diagram shows that the Journal of Child and Family Studies, Marriage and Family Review, International Journal of Behavior, Journal of Divorce and Remarri, Development of Psychopathology and all other source documents colored in red are closely related and usually appear together. Specifically, VOSviewer has generated seven different colors representing 7 clusters with 49 source documents, 385 links, and a total link strength of 983.



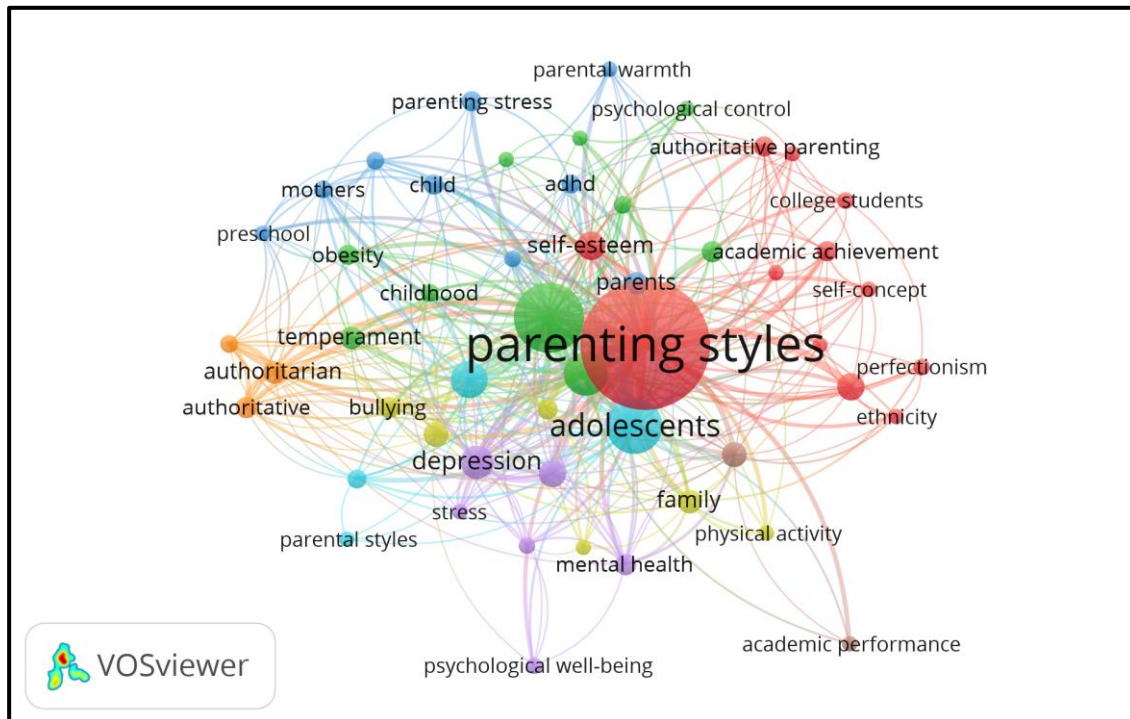
Source: VOSviewer

Figure 2: Network visualization map of the citation by source

Keywords Analysis

For the purpose of keyword analysis, the authors map the keywords provided to each document using VOSviewer. VOSviewer is a powerful network analysis software that helps to visualize the dynamics and structure of science, as well as to perform couplings and events together on keyword analysis to deeply explore and examine the intellectual structure of the intended research area (Valenzuela et al., 2017; van Eck & Waltman, 2010). Keywords have been mapped using VOSviewer. Figure 3 presents a network visualization of the keywords that have been created by the author, namely parenting styles. In Figure 3, it can be seen that the color, circle size, font size, and thickness of the connecting lines show the strength of the relationship between keywords (Sweileh et al., 2017).

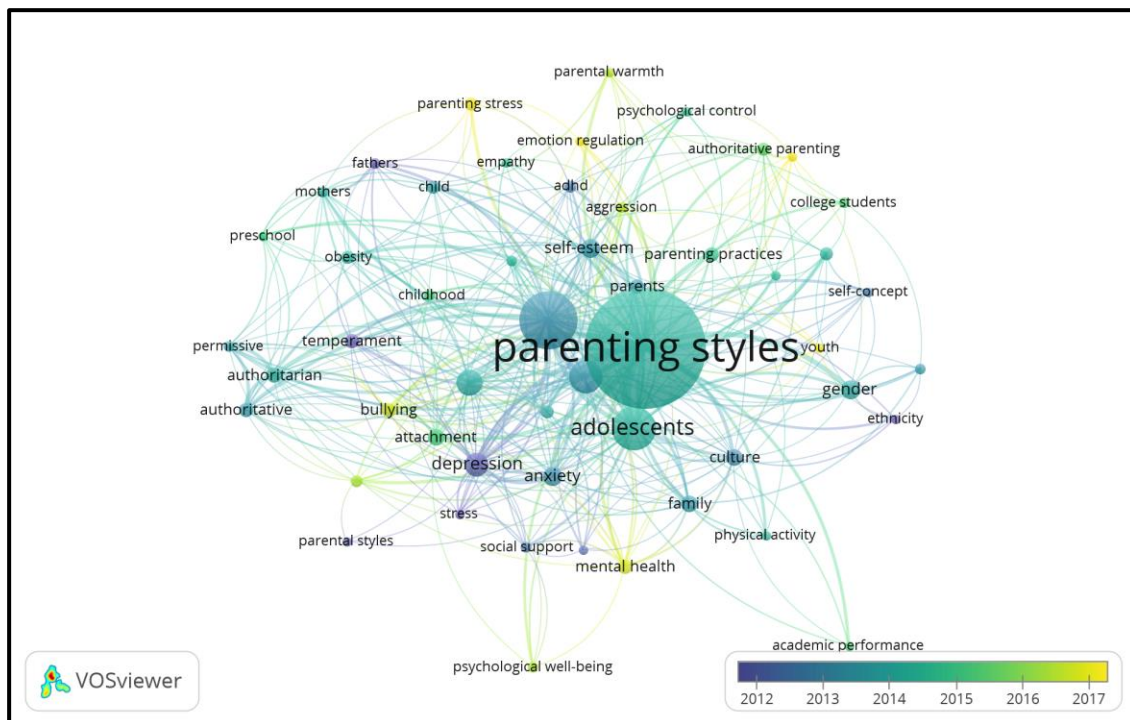
To minimize the existence of keywords that have the same meaning, through the thesaurus on the VOSviewer application, elimination of keywords that have the same meaning is carried out. There are several words that must be combined through a thesaurus, namely: parenting style - parenting styles, adolescent - adolescents. Based on the results of the analysis, there are 8 clusters in the parenting styles research which have been developed based on keywords. The first cluster colored red is related to parenting styles, namely: self-esteem, authoritative parenting, authoritarian parenting, college student, academic achievement, self-concept, perfectionism, ethnicity, and youth. Likewise, the other clusters are colored green, light green, purple, orange, blue, and yellow.



Source: VOSviewer

Figure 3: Network visualization map of the author keywords

Meanwhile, the latest research can be seen in Figure 4. The yellow color shows the latest studies on parenting styles. This means that recent studies are related to parenting styles with parenting stress, parental warmth, bullying, mental health, psychological health, emotion regulation, aggression, authoritarian parenting and youth.



Source: VOSviewer

Figure 4: Overlay visualization map of the author keywords

We also analyze keywords in the spreadsheet document to calculate the total number of occurrences. Table 7 shows the total keyword frequency used from the retrieved documents. There are 156 keywords used in parenting styles research. Parenting styles became the keyword with the highest appearance (5.71%), followed by human (5.08%), child parent relations (4.86%), female (4.54%), and parenting (4.40%).

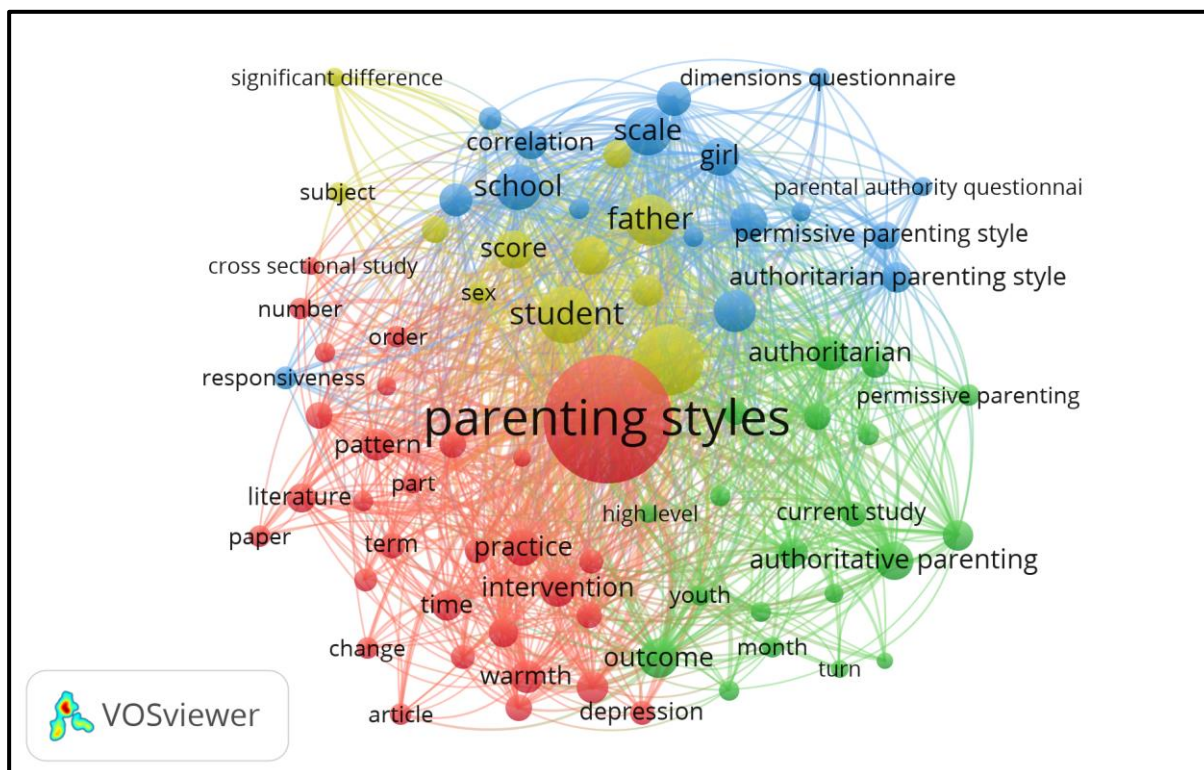
Table 7: Top Keywords

Keyword	Total Word	% (N=11039)
Parenting Styles	630	5.71
Humans	561	5.08
Child Parent Relation	537	4.86
Female	501	4.54
Parenting	486	4.40
Male	470	4.26
Article	419	3.80
Child	354	3.21
Adolescents	292	2.65
Adult	274	2.48
Questionnaire	192	1.74
Major Clinical Study	191	1.73
Parent-Child Relations	173	1.57
Parents	166	1.50
Controlled Study	160	1.45
Psychology	155	1.40
Authority	124	1.12
Child Behavior	111	1.01
Mother	107	.97

Title and abstract analysis

This study examines the titles and abstracts of documents collected based on the number of occurrences and co-occurrences using VOSviewer. In particular, this analysis uses the binary count method in the construction of a co-event network. According to the creators of VOSviewer, the use of a binary counting methodology means that the number of times a noun phrase appears in a publication's title and abstract has no role. Noun phrases that appear only once in the title and abstract of a publication are treated the same way as a noun phrase that occurs, for example ten times (van Eck & Waltman, 2010).

Figure 5 shows a visualization of the terms co-occurring network by title and abstract field with the minimum number of occurrences of the term. Figure 5 shows parenting styles as the main term which acts as the central node of the entire network in parenting styles research. The size of the nodes shows the weight of the occurrence of the terms while the thickness of the connecting lines shows the strength of the relationship between terms. Related words, such as those shown in the same color, often appear together. For example, the diagram shows that parenting styles, practice, intervention, depression, warmth, change, time and all the other terms colored in red are closely related and usually appear together. Specifically, VOSviewer has generated four different colors representing 4 clusters with 78 terms of the issue title, 2900 links, and total link strength 29975.



Source: VOSviewer

Figure 5: VOSviewer visualisation of a term co-occurrence network based on title and abstract fields.

Geographical Distribution of Publications

The paper also evaluates the number of publications by country, a total of 79 countries were identified as being involved in the publication of parenting styles. Table 8 shows the top 20 active countries that contributed at least seventeen publications in parenting styles. The United States contributed the highest number of publications (443) representing 28.73% of the total publications in parenting styles followed by Spain (6.03%), Iran (4.28%), Australia (4.22%), and United Kingdom (4.09%). These results indicate that developed countries occupy a leading position in research on parenting styles.

Table 8: Top 20 Countries contributed to the publications

Country	Total Publication	% (N=1542)
United States	443	28.73
Spain	93	6.03
Iran	66	4.28
Australia	65	4.22
United Kingdom	63	4.09
China	61	3.96
Canada	45	2.92
Netherlands	45	2.92
Israel	41	2.66
Hong Kong	38	2.46
Malaysia	38	2.46
Turkey	36	2.33
Germany	34	2.20

Italy	31	2.01
Portugal	28	1.82
Brazil	27	1.75
Belgium	24	1.56
South Korea	18	1.17
India	17	1.10
Japan	17	1.10

Authors Analysis

For author analysis purposes, Harzing's Publish or Perish application is used to help map the number of authors, most productive authors, affiliations, and citation analysis provided for each document.

Based on Harzing's Publish or Perish analysis, there were a total of 159 unique authors who contributed to a total of 1323 publications in parenting styles. Table 9 presents the number of publications based on the number of authors for each publication. Based on the table, 141 documents (10.66%) of the publications were single written while the rest were multi-authors. Most of the articles in parenting styles were co-authored by two authors, there were 347 documents (26.23%) and three authors there were 311 documents (23.51%). The highest number of authors writing publications in parenting styles is thirteen.

Table 9: Number of Author(s) per Document

Author Count	Total Publication	% (N=1323)
1	141	10.66
2	347	26.23
3	311	23.51
4	221	16.70
5	160	12.09
6	72	5.44
7	33	2.49
8	17	1.28
9	10	0.76
10	3	0.23
11	3	0.23
13	1	0.08
0	4	0.30
Total	1323	100.00

Source: Harzing's Publish or Perish

*Conference review document. No author is listed.

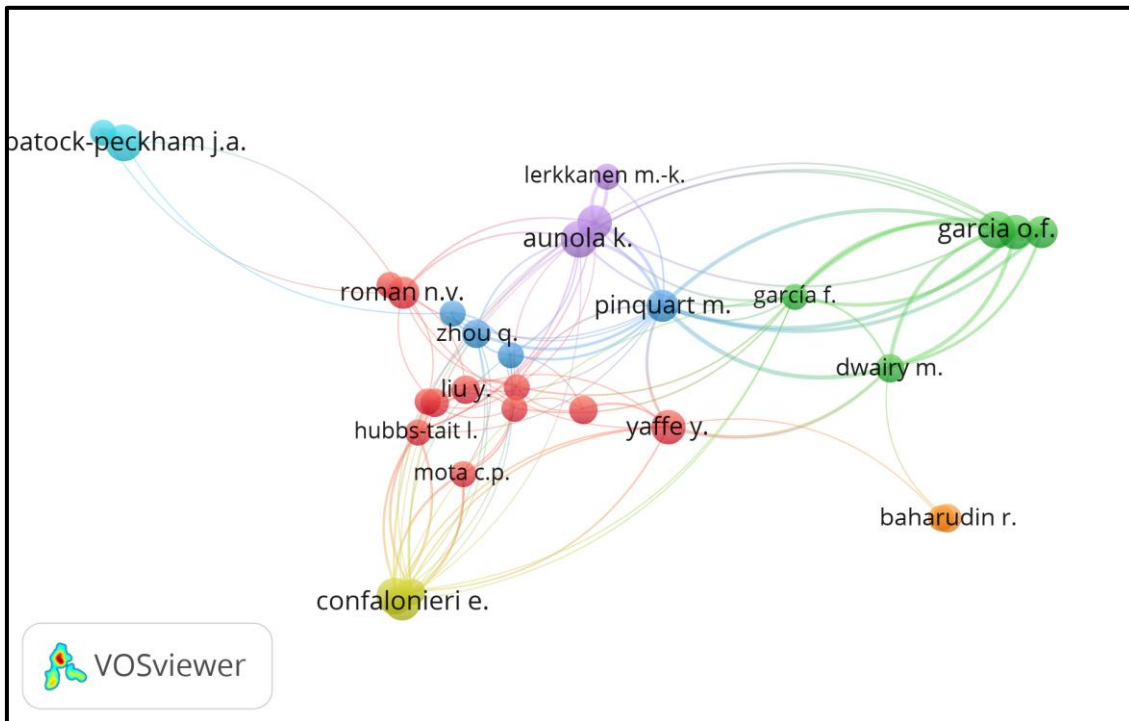
This study also presents the most active authors who publish documents in parenting styles. Table 10 lists the most active authors with at least 6 publications. Based on the table, Kaisa Aunola, affiliated with the University of Jyväskylä, Finland, is the most active author in this research field, publishing 9 publications on parenting styles. He also has a total citation of 625, h-index 7 and g-index 9 which is the largest number of citation among the other authors.

Table 10: Most Productive Authors

No.	Author's Name	Affiliation	Country	TP	NCP	TC	C/P	C/CP	h	g
1	Aunola, Kaisa	University of Jyvaskyla	Finland	9	8	625	69.44	78.13	7	9
2	Confalonieri, Emanuela	Universita Cattolica del Sacro Cuore	Italy	9	8	124	13.78	15.5	5	9
3	Garcia, Oscar F.	University of Valencia	Spain	9	9	193	21.44	21.44	7	9
4	Olivari, Maria Giulia	Universita Cattolica del Sacro Cuore	Italy	9	8	124	13.78	15.5	5	9
5	Patock-Peckham, Julie A.	Arizona State University	United States	9	9	441	49	49	8	9
6	Nurmi, Jari-Erik	University of Jyvaskyla	Finland	8	7	589	73.63	84.14	6	8
7	Serra, Emilia	University of Valencia	Spain	8	8	171	21.38	21.38	7	8
8	Yaffe, Yosi	Ohalo Academic College	Israel	8	6	21	2.63	3.5	2	4
9	Garcia, Fernando	University of Valencia	Spain	7	7	188	26.86	26.86	6	7
10	Pinquart, Martin	Philipps-Universitat Marburg	Germany	7	6	423	60.43	70.5	5	7
11	Roman, Nicolette Vanessa	University of the Western Cape	South Africa	7	5	53	7.57	10.6	4	7
12	Baharudin, Rozumah	Universiti Putera Malaysia	Malaysia	6	5	70	11.67	14	3	6
13	Dwairy, Marwan Adeeb	Oranim Academic College	Israel	6	6	416	69.33	69.33	6	6
14	Gau, Susan Sur Fen	National Taiwan University College of Medicine	Taiwan	6	6	271	45.17	45.17	6	6
15	Shek, Daniel T.L.	Hongkong Polytechnic University	Hongkong	6	6	136	22.67	22.67	5	6

Notes: TP=total number of publications; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; and g=g-index.

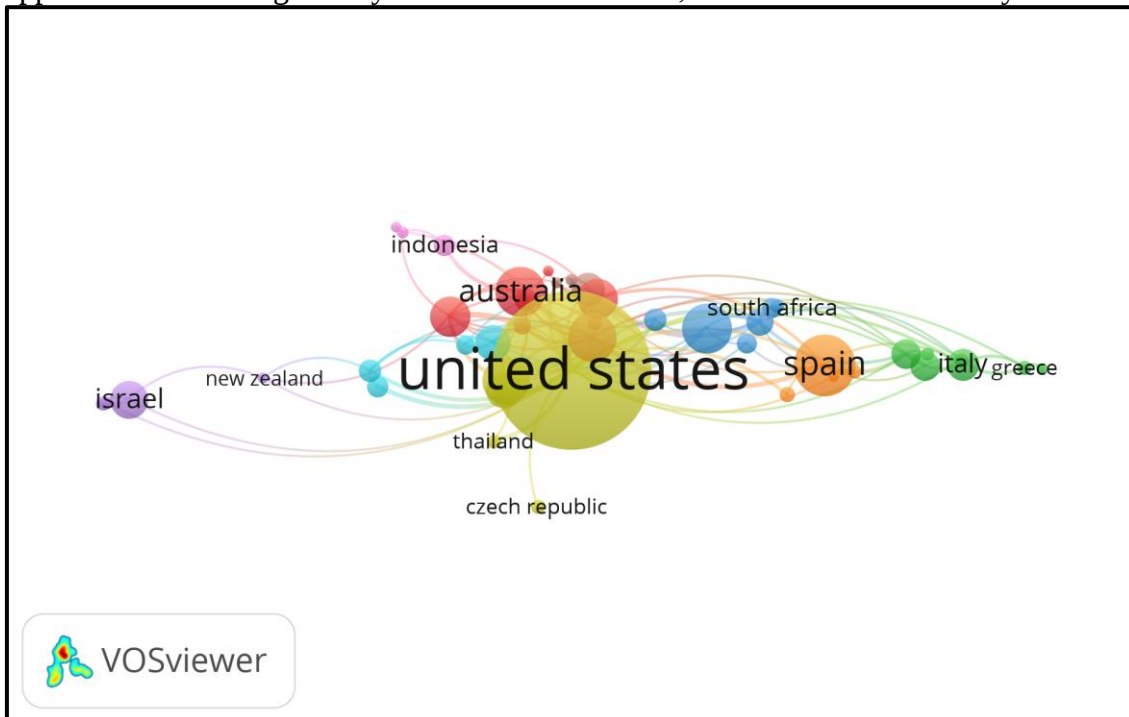
This study further analyzes the author's collaboration by conducting a co-author analysis using VOSviewer. This analysis is based on influential authors who have more than five citations and are counted using the full counting method. The color, the size of the circle, the size of the font and the thickness of the connecting lines show the strength of the relationship between the authors. Connected authors, as shown in the same color, are usually grouped together. Based on the visualization produced by VOSviewer, it can be seen that all the authors collaborated and researched together, for example Aunola, K and Lerkkanen, MK (colored purple), Roman, RV, Liu, Y., Yaffe, Y (colored red), Garcia, OF, Garcia, F., and Dwairy, M (colored green) who worked with him, and the other authors who appear in the diagram doing the collaboration (see Figure 6). In Figure 6, there are 30 items with 7 clusters, there are 112 links with a total link strength of 582.



Source: VOSviewer

Figure 6: VOSviewer visualisation of a term co-occurrence network based on author

Figure 7 further shows the visualization map of the author's network by the countries they are affiliated with. Only countries with more than five articles and more than one citation were considered in this analysis. Based on the full count method, the findings show that the United States plays a very prominent role in cooperating with other countries. The United States has worked closely with Australia, Indonesia, Israel, Spain, Italy, while Spain appears to be working closely with the United States, the Netherlands and Italy.



Source: VOSviewer

Figure 7: Network visualization map of the co-authorship

Unit of analysis = Countries

Counting method: Full counting

Minimum number of documents of a country = 5

Minimum number of citations of a country = 1

Most Influential Institutions

The participation of research institutions related to parenting styles has also been taken into account in this paper, which is based on a minimum of 10 publications. There are 160 institutions that have contributed to research on parenting styles. Table 11 shows the top 15 institutions with a minimum of 10 publications. Meanwhile, University of Valencia has the highest number of parenting styles publications with 30 publications (2.95), followed by Arizona State University being the second highest with 17 publications (1.67%) and Chinese University of Hong Kong in the third position with 16 publications (1.57%).

Table 11: Most influential institutions with minimum of ten publications

Affiliation	Total Publication	% (N=1017)
University of Valencia	30	2.95
Arizona State University	17	1.67
Chinese University of Hong Kong	16	1.57
Universiti Putra Malaysia	15	1.47
University of Melbourne	15	1.47
Radboud University Nijmegen	13	1.28
University of California, Berkeley	13	1.28
KU Leuven	12	1.18
The University of Queensland	12	1.18
Deakin University	11	1.08
Indiana University Bloomington	11	1.08
University of Jyväskylä	11	1.08
Brigham Young University	10	0.98
Maastricht University	10	0.98
Tel Hai Academic College	10	0.98

Citation Analysis

Table 12 summarizes the citation metrics for documents retrieved on Tuesday, November 10, 2020, 10.52 pm. As shown, there were 37875 citations reported in 43 years (1977 - 2020) of publication of parenting styles. These citation metrics are generated by Harzing's Publish or Perish software by importing an RIS formatted file from the Scopus database into the software to present the raw citation metrics.

Table 12: Citations Metrics

Metrics	Data
Publication years	1977-2020
Citation years	43 (1977-2020)
Papers	1323
Citations	37875
Citations/year	880.81
Citations/paper	28.63
Citations/author	239
Papers/author	9

Authors/paper	3.34
h-index	90
g-index	158

Source: Harzing's Publish or Perish

Meanwhile, Table 13 below shows the top 20 most cited articles (based on the number of documents cited) according to the Scopus database. The document entitled "Parenting styles as a context: An integrative model" by Darling and Steinberg (1993) affiliated with Temple University, United States has received the highest number of citations (2194 citations or an average of 81.26 citations per year).

Table 13: Highly cited articles

No	Authors	Title	Year	Cites	Cites Per Year	Cites Per Author
1	(Darling & Steinberg, 1993)	Parenting Style as Context: An Integrative Model	1993	2194	81.26	1097
2	(Baumrind, 1991b)	The Influence of Parenting Style on Adolescent Competence and Substance Use	1991	1675	57.76	1675
3	(Chao, 1994)	Beyond Parental Control and Authoritarian Parenting Style: Understanding Chinese Parenting through the Cultural Notion of Training	1994	1247	47.96	1247
4	(Dornbusch et al., 1987)	The relation of parenting style to adolescent school performance.	1987	1027	31.12	205
5	(Chao, 2001)	Extending research on the consequences of parenting style for Chinese Americans and European Americans	2001	451	23.74	451
6	(Hughes et al., 2005)	Revisiting a neglected construct: Parenting styles in a child-feeding context	2005	433	28.87	87
7	(Spera, 2005)	A review of the relationship among parenting practices, parenting styles, and adolescent school achievement	2005	374	24.93	374
8	(K. E. Rhee et al., 2006)	Parenting styles and overweight status in first grade	2006	343	24.50	69
9	(Dabrowska & Pisula, 2010)	Parenting stress and coping styles in mothers and fathers of pre-school children with autism and Down syndrome	2010	315	31.50	158
10	(Smetana, 1995)	Parenting Styles and Conceptions of Parental Authority during Adolescence	1995	315	12.60	315
11	(Lieb et al., 2000)	Parental psychopathology, parenting styles, and the risk of social phobia in offspring: A prospective-longitudinal community study	2000	301	15.05	50
12	(Kremers et al., 2003)	Parenting style and adolescent fruit consumption	2003	289	17.00	72
13	(K. Rhee, 2008)	Childhood overweight and the relationship between parent	2008	270	22.50	270

		behaviors, parenting style, and family functioning				
14	(Aunola & Nurmi, 2005)	The role of parenting styles in children's problem behavior	2005	267	17.80	134
15	(Hart et al., 1998)	Overt and relational aggression in Russian nursery-school-age children: parenting style and marital linkages.	1998	255	11.59	51
16	(Arredondo et al., 2006)	Is parenting style related to children's healthy eating and physical activity in Latino families?	2006	246	17.57	41
17	(Monastra et al., 2002)	The effects of stimulant therapy, EEG biofeedback, and parenting style on the primary symptoms of attention-deficit/hyperactivity disorder	2002	240	13.33	80
18	(Huebner & Howell, 2003)	Examining the relationship between adolescent sexual risk-taking and perceptions of monitoring, communication, and parenting styles.	2003	222	13.06	111
19	(Leung et al., 1998)	Parenting styles and academic achievement: A cross-cultural study	1998	220	10.00	73
20	(Milevsky et al., 2007)	Maternal and paternal parenting styles in adolescents: Associations with self-esteem, depression and life-satisfaction	2007	216	16.62	54

Conclusions and Suggestions

This study aims to determine the research trends of parenting styles using bibliometric analysis. By adopting bibliometric analysis, it can evaluate the productivity of research and publication in certain domains (Moed et al., 2001). The results of bibliographic analysis can provide information used to evaluate the performance of certain research domains and agencies can use it to regulate several policies related to funding allocations and compare scientific inputs and outputs (Gu, 2004). Furthermore, the results of bibliometric analysis can explain the factors that support the contribution of the study in a research area and guide scholars in producing impactful studies (Akhavan et al., 2016).

Therefore, this study focuses on the publication of parenting styles collected from the Scopus database on Tuesday, 10 November 2020, 10.52 pm. The study found 1323 documents from a database that were declared using a predefined search query. Based on documents compiled from the Scopus database, a study of parenting styles was initiated by Chamberlin (1977) affiliated with the Geisel School of Medicine at Dartmouth, United States, entitled "Parenting styles, child behavior, and the pediatrician", published in the *Pediatric Annals.*, Vol. 6, Issue. 9, p 50-63. Since then, the number of parenting styles publications has increased from year to year to date. The development of this topic is fast and it is believed that several research opportunities related to parenting styles are still attractive to researchers and will continue to increase in the future.

Almost all publications are written in English (92.26%) by 159 authors from 79 countries and 160 institutions. United States, Spain, and Iran are the top three countries contributing to the publication of parenting styles. Research on parenting styles is generally published in group publications in the field of psychology. Apart from focusing on the

research fields of psychology, social sciences, medicine and nursing, research on parenting styles is also carried out in the fields of art and humanities, neuroscience, and others. The focus of this area can be seen from the results of the analysis processed with VOSviewer in keyword analysis and title and abstract analysis.

The impact of publication on the topic of parenting styles can be seen from the citation metrics disclosed in this paper. Based on 43 years of publication (1977-2020), there are 1323 documents that have been published with a total of 37875 citations. In total there are 880.81 citations per year, 28.63 citations per paper and 3,34 authors per paper for documents compiled from the Scopus database on parenting styles.

Although bibliometric analysis has a specific nature, this study also has limitations that must be overcome in order to provide a clear understanding to the readers of the paper and to improve future research. First, the keywords used are specific only to parenting styles based on the document title. Thus, query search results in other fields such as abstract and keywords, author, affiliate, source title have not been included in this analysis. The main reason is that most research that focuses on a specific area will be included in the document title. Some people may put terms related to the search query in abstracts or keywords. However, their research focus may not be specifically related to what researchers are looking for. Therefore, screening and cleaning needs to be carried out before the analysis can be carried out. Future research might be expanded with other search queries.

Second, because no search query is 100% perfect, errors both positive and negative must be anticipated (Sweileh et al., 2017). Third, this study only focused on the Scopus database as the main source of document searches. Although Scopus is one of the most extensive databases indexing all scientific works (Ahmi & Mohamad, 2019; Sweileh et al., 2017), Scopus does not easily cover all available sources. Other available databases may be included in future research such as Web of Science, Google Scholar, Dimension, and PubMed. Combining all of these databases may also contribute to more interesting and valuable results. Despite these limitations, this study has contributed to knowledge by presenting current research trends in parenting styles. This study also extends and complements previous findings on literature parenting styles using a bibliometric approach and provides meaningful insights into previous literature trends.

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