

Bibliometric Analysis of Publication Trends of Bullying Interventions in Preschool Age Children

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ABSTRACT

Research on bullying in preschool children is a topic that is often carried out by researchers which is presented in bibliometric results using the Publish or Perish and VOS viewer applications. This study aims to find research on bullying interventions for preschool children. The method in this research uses a bibliometric application using data from Google Scholar and Crossref to produce articles about bullying against young children from 2019-2023. The results of this research show that from 994 papers published from 2019 to 2023, 5 clusters were found with 35 items that appeared almost the same terms related to bullying interventions in preschool children. Further recommendations from the results of this research analyze the development of bullying interventions in preventive programs for preschool-aged children that can work together with schools, families and interactions between children, especially in Indonesia.

Keywords: *Bibliometric Analysis, Intervention, Bullying, Preschool Children*

1. INTRODUCTION

The rise of bullying among children is now starting to occur. Bullying does not only happen to teenagers. Currently, preschool age children in kindergarten are starting to learn about bullying. Without realizing it, they carry out bullying actions against their peers. The actions they usually take are, mocking friends, distancing themselves from friends, threatening, and even carrying out physical actions such as hitting them with their hands [1]. Bullying occurs because there is no sense of solidarity, affection and togetherness between friends. Bullying cases from 2011-2014 were around 25% or 1,480 cases of total complaints in the education sector [2].

Children's growth and development are intricately linked to how the environment shapes and accommodates social and academic shifts within the child's surroundings [3]. As time progresses, there has been a noticeable global focus on various aspects of preschool education, evidenced by innovative efforts such as advancements in educational methods, healthcare services, and the creation of visual aids and materials tailored to diverse children's special needs, which are currently burgeoning and evolving [4]. The objective of all these

innovative initiatives for children is to fulfill their needs and promote their growth and development during crucial preschool years, ultimately facilitating their future success and achievements [5].

Preschool-aged children, while undergoing self-maturation, are constantly influenced by social interactions and the necessity to adapt to life beyond their home environment [6]. Children's ability to adjust to their surroundings often encounters situations that contradict the teachings they receive at home. They may experience social discomfort due to differing attitudes and treatment, making them vulnerable to either being bullied or becoming bullies themselves in their social interactions [7]. As a result, children may become entrenched in negative behaviors in their daily lives, often mimicking or rationalizing the negative behaviors they encounter. However, upon returning to their family environment, such behaviors are typically met with reproach and immediate correction, sometimes without providing the child with an explanation they can comprehend or accept [8].

Studies from various countries indicate that young children tend to choose silence over confrontation when they experience physical or verbal harm [9]. Preschool-aged children are frequently subjected to adult anger without understanding its cause. As keen observers, they often mimic the bullying behavior they experience or witness [10]. Consequently, deviant social behaviors such as bullying lead many children to suffer from severe stress and depression. Even worse, some young victims of school bullying become disheartened and refuse to attend school due to fear and trauma resulting from their experiences. Relational, verbal, and physical bullying instills fear and diminishes enthusiasm for school among preschool-age children [11]. Easing, being told they cannot complete tasks, or being excluded during play can severely disrupt emotional regulation for preschoolers, proving painful and hard to handle. Social discrimination within playgroups, including the use of derogatory language or negative labels, inflicts its own form of trauma on preschool-aged children [12].

The ongoing bullying phenomenon, particularly affecting preschool-aged children, continues to evolve with increasingly complex behaviors. This neglects children's rights to grow and develop, necessitating global attention for prompt and appropriate responses to nurture children's personalities [13]. It's a significant responsibility for all stakeholders involved in observing children's educational growth and development to address bullying, whether they're perpetrators, victims, or bystanders. The escalating nature of bullying behavior necessitates educators' focus on preventive measures. Policy makers, educators, and parents must share a unified vision and goals in fostering positive and resilient personalities in children's lives [14].

Bullying constitutes a type of violent behavior, typically targeting vulnerable children. It manifests as psychological and physical coercion inflicted upon those weaker than a group of aggressors [15]. Bullying is a harmful behavior characterized by aggression and manipulation, perpetrated by one or more individuals over a period of time. It can involve direct physical, verbal, or non-verbal actions, as well as indirect forms such as sexual harassment, targeting children, particularly those perceived as weaker [16].

This research analysis is prompted by Indonesia's cultural diversity and social tensions, which often lead to bullying behaviors among children from an early age. Data from the Indonesian National Commission for Child Protection indicates a yearly increase in bullying cases among children. To address this issue, it's crucial to gather data on early childhood education, various forms of bullying in preschool-aged children, responses and countermeasures to bullying, as well as efforts made by schools and families worldwide. Identifying these gaps will guide Indonesia in preventing bullying in preschoolers. The research aims to serve as a reference for intervention strategies, emphasizing the importance of addressing bullying in preschool children to prevent its negative impacts.

2. METHOD

2.1. Study Overview

In our bibliometric analysis of bladder cancer diagnosis, we conducted statistical analysis on document types and identified journals publishing the highest number of manuscripts or the most highly cited ones. Additionally, we explored collaborative partnerships among authors and teams through co-authorship networks. Similarly, in our study on bullying prevention in preschool-age children, we utilized a term cloud featuring the 71 most common terms to identify hot topics in the field. Moreover, we examined other significant bibliometric parameters such as institutions, journals, and publication years.

The aim of this bibliometric analysis is to offer a valuable resource for researchers focusing on bullying prevention in preschool-aged children. It seeks to highlight highly cited articles in this field, identify prominent research themes and hot topics, and recognize influential articles contributing to our understanding of bullying prevention in this demographic. Additionally, the analysis examines the impact dynamics of relevant journals by statistically evaluating the evolution of key journal impact indices, such as Impact Factor, EigenFactor Score, and CiteScore, over a 10-year period for 10 selected journals.

2.2. Literature Search and Data Analysis

This research utilized the Scopus database from Elsevier as its primary source of literature information. With over 19,000 source journals from 4,000 publishers worldwide, Scopus stands as the largest abstract and citation database globally. It offers researchers a comprehensive platform for accessing scientific and technological literature. Scopus provides diverse retrieval methods and convenient download options, facilitating efficient access to research materials [17]. All publications up to December 31, 2022, were included in the search. To gather literature related to intervention and bullying among preschool children, the search strategy focused on the "title" field, with keywords limited to the combination of "intervention," "bullying," and "preschool." The search formula used was: (TITLE(intervention) AND TITLE(bullying) AND TITLE(preschool)). The search results were exported in CSV and RIS file formats, containing author information, publication year, title, and source journal, totaling 25 items.

2.3. Statistical Analysis and Visualization

In this study, bibliometrics serves as the primary approach to analyze literature on bullying interventions for preschool children, providing an overview and summary of relevant research. The distribution map illustrates the timeline of literature published over the past decade and examines the distribution across countries, institutions, and journals. Statistical analysis is conducted on the top ten journals and institutions based on the number of publications, along with citation analysis to identify impactful subdocuments. A table displaying the top ten cited publications is created. A co-authorship network is visually represented, including authors with at least three articles, to demonstrate collaborative relationships. Text mining of article titles is performed to identify hotspots in preschool bullying intervention research, and a term cloud is generated using the 196 most frequently occurring keywords to visualize these hotspots, aiding in identifying the forefront of research in the field.

In addition to the bibliometric analysis described above, we also conducted an analysis of Impact Factor, CiteScore, and EigenFactor Score. These statistical indicators serve as reliable measures of a journal's impact, with the Impact Factor being particularly prominent and widely used for assessing research significance. However, there's a growing sentiment against over-reliance on Impact Factor alone, prompting the exploration of alternative methods for evaluating research outcomes. CiteScore, a newer metric, offers a more comprehensive and transparent assessment of journal impact, reflecting a broader range of citation data.

2.4. Software and Versions

The research utilized R 3.6.3 software for text mining, clustering title words, and generating word clouds. Specifically, the "tm" package was employed for text mining from the titles, while the "ggplot2" package facilitated the visualization of clustering results and word clouds. Additionally, VOSviewer 1.6.16 software was utilized to visualize collaboration among authors in the form of a co-authorship network [18]. Furthermore, certain tables in the document were created using the Microsoft Excel program.

3. RESULTS

A metadata search on the Publish or Perish app using the keyword "bullying in preschool children" yielded 994 articles sourced from Google Scholar published within the last five years.

Table 1. Citation Metrics Bullying Early Childhood

Aspects	Information
Publication years	2019-2023
Citation years	4 (2019-2023)
Papers	994
Citations	20140
Cites/year	5035.00

Aspects	Information
Citess/paper	20.26
Authors/paper	3.26
h-index	62
g-index	101
hl, norm	34
hl, annual	8.50
ha-index	32
Paper with ACC>=	1,2,5,10,20:900,760,442,19
	2.75

A keyword search for "bullying in children" using the Publish or Perish app yielded 994 articles from Google Scholar. Harzing's Publish or Perish citation metrics analysis indicates an average of 201.40 citations per year for these publications, with each author averaging 3.16 citations and a total of 5035.00 citations between 2029-2023. Papers on bullying interventions in children had an h-index of 62 and a g-index of 101. All articles were published with ACC>=1, 2, 5, 10, 20, with counts of 900, 760, 442, and 192.75 respectively. For detailed results, please refer to Table 1.

Table 2. Results of analysis of occurrence of 35 items (5 Clusters) based on VOSviewer Bibliometric

No	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
1	Articles	Action	Behavior	Bullying intervention	Childhood
2	Boy	Adolescence	Bullying behavior	Bullying involvement	Childhood bullying
3	Bully victim problem	Empathy	Early childhood education	Bullying victimization	Preschooler
4	Bullying incident	Preschool	Early intervention	Elementary school	Risk
5	Bullying prevention program	Relations	Ned	Practice	Young children
6	Bullying situations	Relational bullying victims	Preschool child	Risk factors	
7	Efficacy				
8	Girls				
9	Reduction				
10	Theory				

In total, there were 33 items analyzed, with Cluster 1 containing the highest frequency of items at 25, including boys, bullying victims' issues, bullying incidents, prevention programs, bullying scenarios, success, girls, reduction, theories, and articles. Table 2 provides a detailed breakdown of the appearance of 35 items across 5 clusters using OCviewer. The bibliometric table presents the VOSviewer analysis results for the appearance of these 35 items, categorized into 5 clusters.

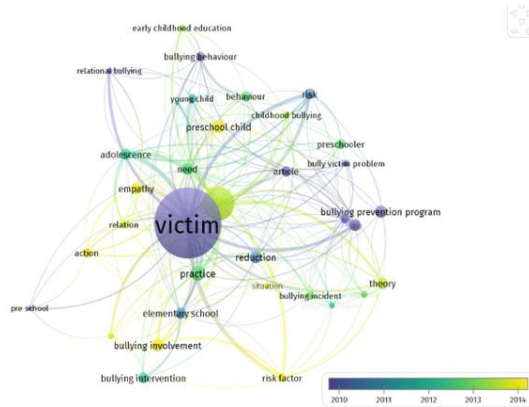


Figure 1. Analysis of research results on bullying interventions for preschool children based on VOSviewer Network Visualization

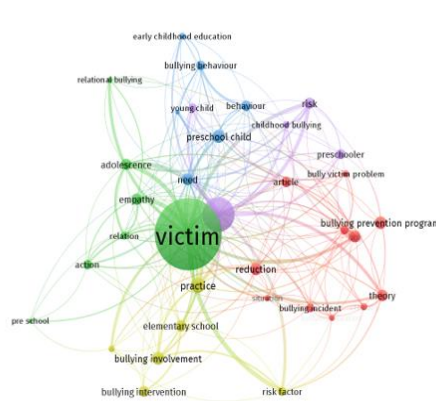


Figure 2. Analysis of research results on bullying interventions for preschool children based on VOSviewer Overlay Visualization

4. DISCUSSION

The visualization generated by VOSviewer in Figure 1 provides an analysis of bullying in preschool-aged children. The network data highlights research areas such as interventions for bullying in preschoolers, education methods in schools, conflicts between teachers and parents regarding bullying, various types of bullying in kindergarten, global preventive measures against bullying, and the influence of gender on bullying behavior development. Presently, there's increased global attention on early childhood education settings as susceptible environments for bullying development post-home life. The gender categorization of children as bullies or victims is pivotal for managing bullying in kindergarten settings.

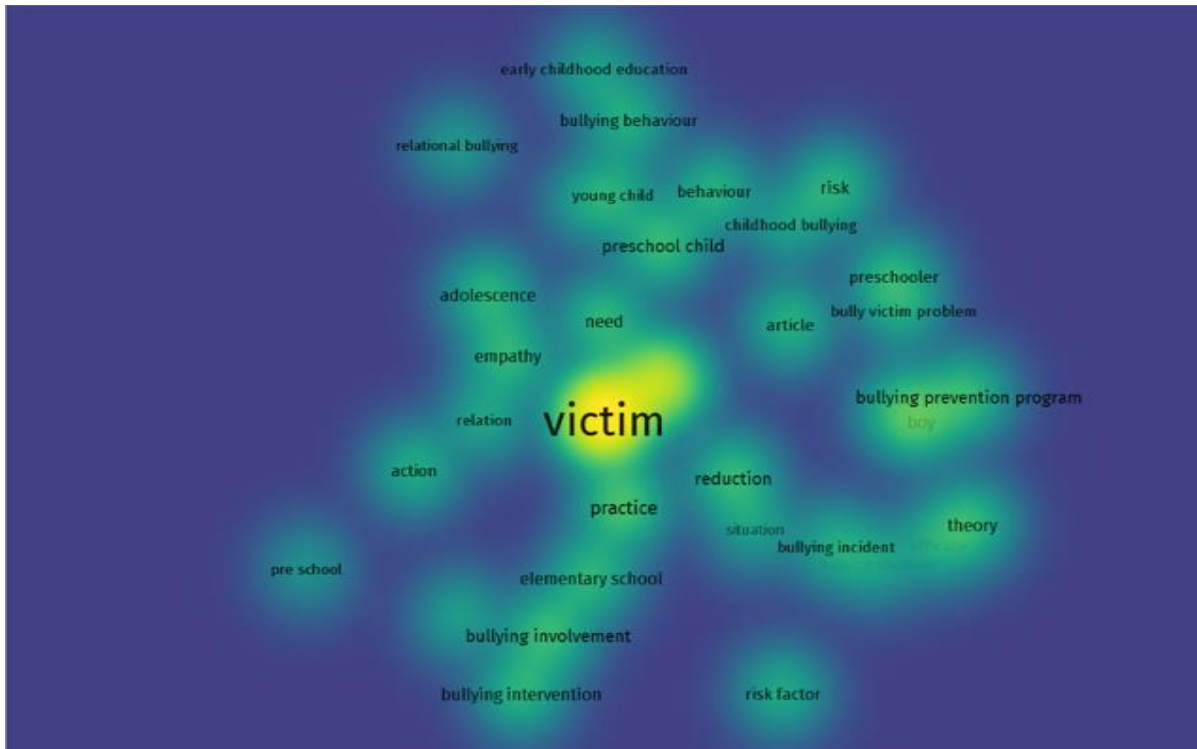


Figure 3. Analysis of research results on bullying interventions for preschool children based on VOSviewer Density Visualization

In the analysis results depicted by the VOSviewer Visualization Overlay in Figure 2, it's observed that from 2010 to 2011, there's a growing emphasis on preschool-aged children and their parents within the home environment as pivotal in preventing and mitigating bullying behavior and its repercussions on preschoolers. Bullying's impact on children, manifesting as stress and depression among victims, is notable. From late 2012 to 2014, research attention increasingly zeroes in on targeted interventions to address bullying development in preschoolers across verbal, social, physical, and cyber realms.

While widespread dissemination of anti-bullying programs targeting the impact on preschoolers remains limited, there's a pressing demand for specific strategies to address bullying within kindergarten settings. This issue continues to be extensively discussed and researched, with diverse solutions tailored to the requirements and environment of preschool-age settings. The necessity for appropriate strategies to address bullying behavior and its consequences on preschoolers is further underscored by the analysis results presented in the green VOSviewer Visualization analysis depicted in Figure 3. This offers an overview of the research developments over the last five years concerning interventions against bullying in preschool-aged children, as visualized through VOSviewer density analysis.

The visual analysis by VOSviewer reveals a notable scarcity in research outcomes concerning interventions for preventing bullying in preschool children. Current research primarily comprises case studies elucidating learning methodologies, program formulation, identification of bullying types, behavioral contexts, and groundwork for implementing anti-

bullying policies in kindergarten settings. Notably, there's a lack of published research on the implementation of intervention strategies within the learning environments surrounding preschoolers, encompassing schools, homes, and communities.

Bullying, recognized as a deviant behavior within human development, is an unavoidable aspect as human interactions inherently involve various social dynamics encompassing acceptance, rejection, and moral considerations. Effective interventions necessitate education and awareness initiatives targeting preschoolers, parents, and educators. Such programs foster empathy, promote respect for diversity, and enhance communication skills among children, contributing to a positive social environment.

In Indonesia, several unimplemented strategies for preventing bullying in preschool children include: 1) Supervision and Guidance: Ensuring careful supervision by parents and teaching staff to oversee positive interactions among children and address any bullying incidents promptly. 2) Social and Emotional Learning: Implementing programs to develop social and emotional skills in preschoolers, such as emotional management, problem-solving, and cooperation, to enable them to handle conflicts constructively. 3) Safe and Supportive Environment: Creating a safe and supportive preschool environment through interventions aimed at enhancing physical and emotional safety, including establishing clear rules and promptly addressing bullying incidents. 4) Role Models and Values Formation: Utilizing role models and promoting positive values like justice, diversity, and courage, with teachers and parents serving as examples of desired behavior, to instill values conducive to preventing bullying.

This study highlights a gap in research concerning nursing models for intervening in bullying among preschool children. Despite the absence of a systematic database, particularly in Indonesia, this research aims to organize, characterize, and analyze existing literature systematically using a bibliometric approach. Through this method, the study aims to ascertain the novelty of further research endeavors by identifying significant themes within each study, as well as the domains of knowledge and research conducted thus far.

5. CONCLUSION

Preventing bullying in preschool children demands a comprehensive approach encompassing education, awareness, supervision, coaching, social and emotional skill development, establishment of safe environments, role modeling, and fostering positive values. With appropriate interventions, there is optimism for reducing bullying among preschoolers, thereby nurturing a safe and supportive environment conducive to their development.

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7. AUTHORS' CONTRIBUTIONS

First and second authors contributed to design, concept, literature search. The second author contributed to literature search, data analysis, the third author contributed to manuscript preparation and the fourth author's contribution was literature search, data analysis and manuscript editing.

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