

Global Trends in Research on School Bullying and Its Correlation with COVID-19 Pandemic

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Abstract

The extensive research conducted has demonstrated that school bullying is a global phenomenon with significant short-term and long-term implications. These concerns about the negative effects of school bullying lead to an increase in the number of publications in the literature, and it becomes inevitable that the number of future studies will gradually increase. Therefore, a better understanding of the trends and patterns in school bullying research is crucial to providing new avenues for future studies and furthering knowledge in this field. This study analyzed 1,388 publications on school bullying retrieved from the Web of Science database. The data were collected, coded, and subjected to bibliometric analysis using computer software. The results were evaluated in light of existing trends and disparities in research on school bullying, and some recommendations for future research were provided.

Keywords: School Bullying, Bullying, Global Trends, Bibliometric Analysis

Introduction

Bullying is defined as repeated and intentional harmful behaviors characterized by a power imbalance (Olweus, 1993). As the definition suggests, bullying behavior involves a “systematic abuse of power.” The individual who is the target of bullying may be unable to defend themselves and may experience bullying multiple times, leading to physical, psychological, or social harm (CDC, 2020; Farrington, 1993). This understanding of bullying behavior is widely accepted, and many negative behaviors such as the use of force, coercion, teasing, and threats can be categorized as bullying. However, it should be noted that there are different types of bullying based on the specific actions and consequences involved. Bullying can take many forms, including direct, indirect, physical (such as hitting, pushing, damaging property, or stealing), verbal (such as teasing, threatening, mocking), and relational (such as social exclusion, spreading rumors) (Monks & Smith, 2006). Additionally, with advancements in technology, bullying can also take the form of cyberbullying, which involves aggressive behaviors through electronic or digital media (Kowalski et al., 2014).

Bullying behavior can occur in all areas of society, but educational environments are particularly important in terms of risk (Smith, 2016). Bullying behaviors observed in schools can have significant consequences for students, teachers, and society in both the short and long term (Bradshaw, 2015; Gladden et al., 2014; Olweus, 2010; Salmon et al., 2018; Smith, 2014). In schools, bullying behaviors can obstruct the provision of inclusive and quality education (Wang & Florian, 2019) and may serve as a precursor to many unwanted behaviors in the future (Arsenault et al., 2010). The findings of studies on school bullying support the existing risks. Cross-sectional studies have shown an increase in school dropout rates (Fry et al., 2018), social anxiety levels (Hawker & Boulton, 2000), depression (Moore et al., 2018), suicidal thought

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(Holt et al., 2015), substance abuse (Ttofi et al., 2016), and stress (Storch & Esposito, 2003), as well as a decrease in academic performance (Espelage & Colbert, 2016; Juvonen et al., 2011) in students exposed to bullying behaviors. Similarly, longitudinal studies also paint a similar picture. Studies examining the long-term negative effects of peer bullying have indicated that individuals who bullied their peers during childhood are more likely to display anti-social behaviors, aggression, abuse of spouse or children, and tendencies towards substance abuse in adulthood (Hurley, 2019; Zych et al., 2015).

With all these negative effects, large-scale studies have shown that the prevalence of school bullying has reached serious levels. This is supported by a recent report that showed approximately one in five students (20.2%) were bullied in school (NCES, 2019), approximately 23% of students in OECD countries are bullied at least once a month (OECD, 2019). Moreover, bullying behavior has increased, even during the COVID-19 pandemic, due to limited conditions (social distancing rules), as it has shifted to the digital realm (Barlett et al., 2021). This has attracted global attention in terms of interventions to prevent bullying.

A recent report published by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2019) has emphasized that creating violence-free educational spaces and safe learning environments for all children is a global priority. One of the important conditions for maintaining a safe, caring, and supportive education in schools is to prevent bullying. An important way to reduce bullying cases in schools is through preventive interventions (Olweus, 2010). As a matter of fact, there are large-scale studies in the literature showing that interventions aimed at preventing school bullying are effective. Merrell et al. (2008) conducted a meta-analysis of 16 intervention studies with a total of 15,386 students between 1980 and 2004 and found that interventions were effective in preventing school bullying. Lee et al. (2015) found that school-based anti-bullying programs had a small to moderate effect on bullying victimization in a meta-analysis of 13 studies. Jimenez-Barbeo et al. (2016) evaluated the effectiveness of 14 anti-bullying school programs involving a total of 30,934 students and found that the intervention programs had a moderate effect size in reducing the frequency of bullying and victimization. Gaffney et al. (2019) examined the effectiveness of school bullying prevention programs implemented in 12 countries and found that the programs were effective in reducing school bullying and victimization.

When planning and implementing preventive interventions, the nature, development, and trends of school bullying need to be well known. An increasing number of educators need research-based knowledge to deal with bullying in schools (Hakvoort et al., 2019). Bibliometric analyses provide useful information for structuring the research literature and gaining a deeper understanding of a research area (Fellnhofer, 2019). An important contribution of this study is to try to fill the gap in the literature by helping to provide this information.

In a nutshell, school bullying is an important topic that is still a topical issue for educators and researchers. The increasing concerns about the negative effects of bullying that arises among children and adolescents has led to an increase in the publication of research related to bullying in various fields. Nevertheless, considering the increase in bullying behavior displayed in schools, it is inevitable that the number of future studies will continue to increase. In this regard, it is important to determine the trends in studies on school bullying, to gain a deeper understanding of the research field related to bullying, and to provide new guidelines or ideas for future research and interventions. In line with this aim, the following research questions are sought answers in this study:

RQ1 - What is the timeline distribution (growth rate) of publications in the field of school bullying?

RQ2 - What are the research areas with the most publications in school bullying?

RQ3 - What are the annual changes and strongest citation bursts in school bullying research by country?

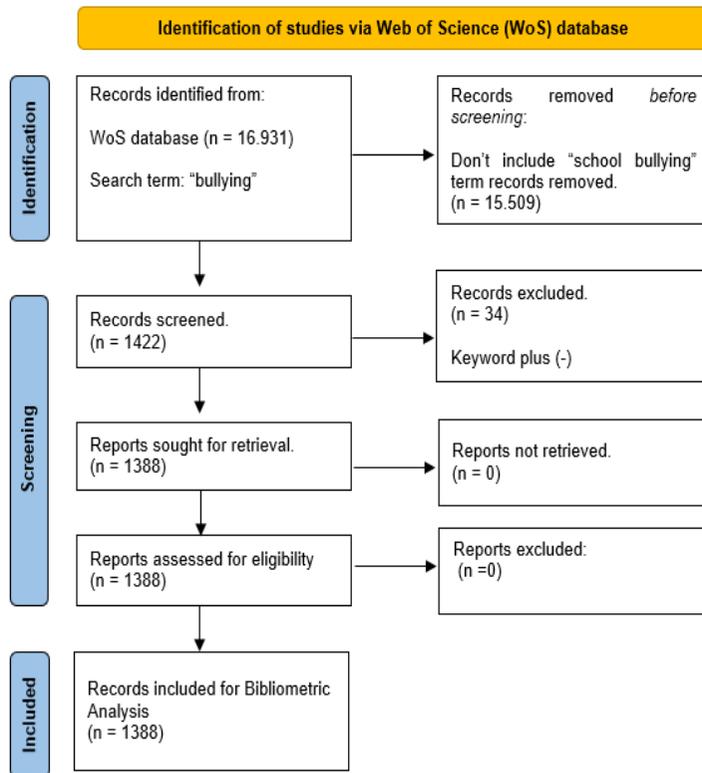
RQ4 - What are the annual changes and strongest citation bursts of research topics most frequently mentioned by authors in school bullying research?

Method

This study was conducted and reported in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Page et al., 2021). Bibliometric analysis was employed in the examination of the data garnered within the purview of the research. Bibliometric analysis, as described by De Bellis (2009), is a quantitative evaluation methodology that involves the analysis of publications produced by individuals or organizations within a particular discipline and the interconnections between these publications. The use of bibliometric analysis in this context allows for the quantification of scientific output within a specific field and an evaluation of the progress made in that field. This method also facilitates the identification of conceptual relationships and the creation of network maps, as well as the interpretation of prevailing trends (Zupic & Cater, 2015).

Figure 1

PRISMA 2020 flow diagram



Data Analysis

The data set used in the research was obtained from the Web of Science (WoS) database on December 30, 2022. WoS database is accepted as the most suitable database for bibliometric analysis (Chen et al., 2014). First, two advanced searches were performed using Topic (TS), which allows to search for topic terms in the following fields within a record in the WoS database: title, abstract, author keywords, and keyword plus. The first search used the term “bullying” and a total of 16931 publications were reached. The second search, aimed at finding research on school bullying, used the terms “school bullying” OR “bullying in the school” and a total of 1422 publications were reached. Then, 34 publications accessed with the keyword plus option were removed, and 1388 publications were reached by removing documents that may be unrelated to the research topic (Fu & Ho, 2015) (Figure 1). The search included all types of publications, all languages as the document type, and all years as the date range. The studies obtained from the database search were coded and transferred to a computer environment. SPSS 22.0, Microsoft Excell, VOSviewer (Version 1.6.19), and CiteSpace (Version 6.1.R6) package programs were used in the analysis of the transferred studies. VOSviewer (van Eck & Waltman, 2017) and CiteSpace (Chen, 2014) are computer programs used to create and view bibliometric network maps.

Findings

RQ1 - What is the timeline distribution (growth rate) of publications in the field of school bullying?

Table 1

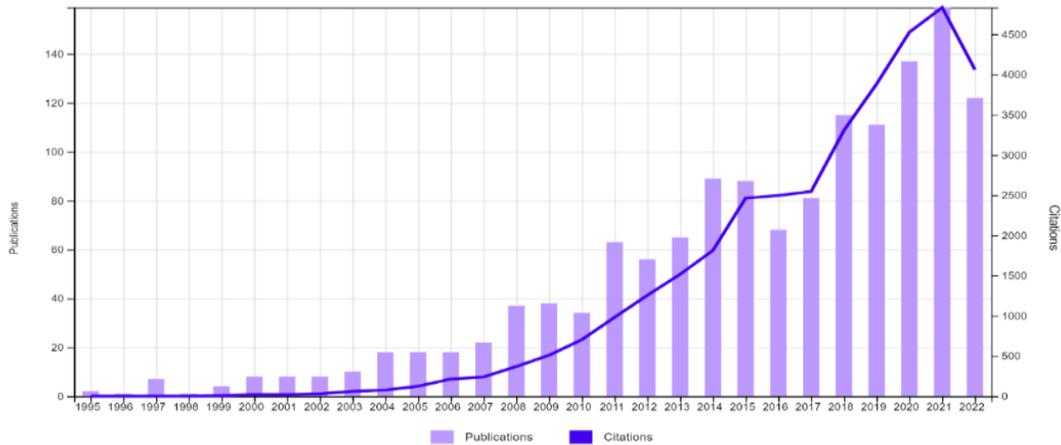
The Distribution by Years of School Bullying Research

Years	n	%	Graphs
1995-1998	11	0,8	
1999-2002	28	2,0	
2003-2006	64	4,6	
2007-2010	131	9,4	
2011-2014	273	19,7	
2015-2018	352	25,4	
2019-2022	529	38,1	
Total	1388	100	

According to the search criteria, it can be concluded that the first publication on school bullying in the WoS database was published in 1995, and 1388 studies were conducted between 1995 and 2022 (Table 1). These studies have demonstrated a marked increase in recent times ($R^2: 0,8$), with the peak of research activity occurring between the years 2019 and 2022 ($N=529$). Furthermore, an analysis of the citation graph of relevant publications reveals a corresponding increase in citations, in tandem with the rise in the number of publications (Figure 2). As such, it can be posited that this table constitutes a crucial indicator of the growing scholarly attention directed towards the issue of school bullying in the academic literature.

Figure 2

Citation report of school bullying research



RQ2 - What are the research areas with the most publications in school bullying?

Table 2

Top 5 Research Areas with the Most Publications

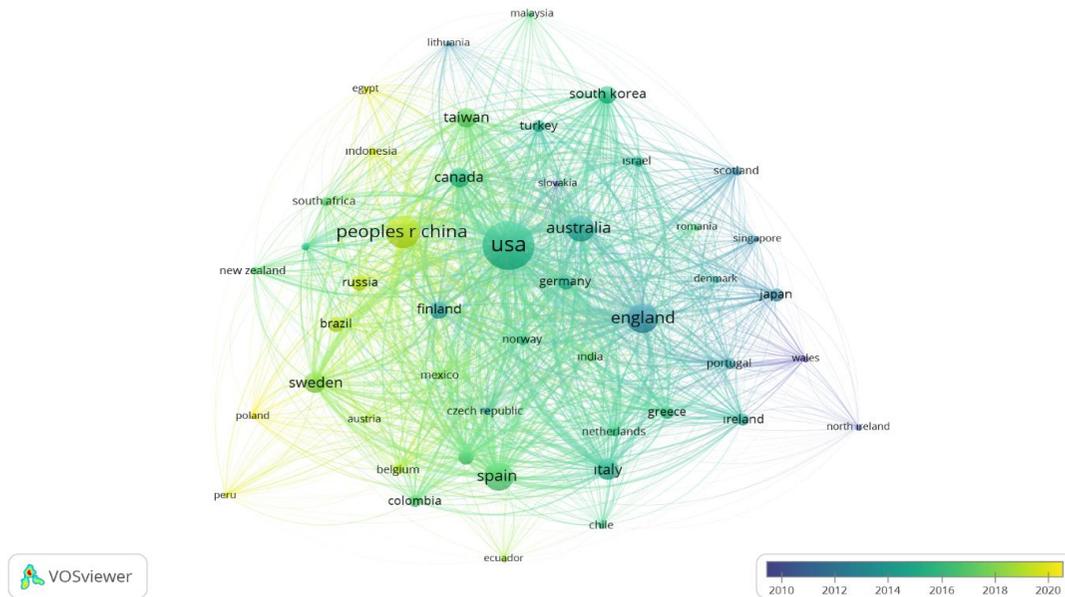
Research Areas	n	%	Graphs
Psychology	614	44,2	
Educational Research	292	21,1	
Criminology Penology	143	10,3	
Public Envir. Occup. H.	130	9,4	
Psychiatry	127	9,2	

Upon examination of the distribution of publications related to school bullying based on research fields, the top 5 research fields were Psychology (n=614), Educational Research (n=292), Criminology and Penology (n=143), Public Environmental and Occupational Health (n=130), and Psychiatry (n=127) respectively (Table 2). The data indicated that the majority of school bullying-related publications are in the field of Psychology and followed by Educational Research.

RQ3 - What are the annual changes and strongest citation bursts in school bullying research by country?

Figure 3

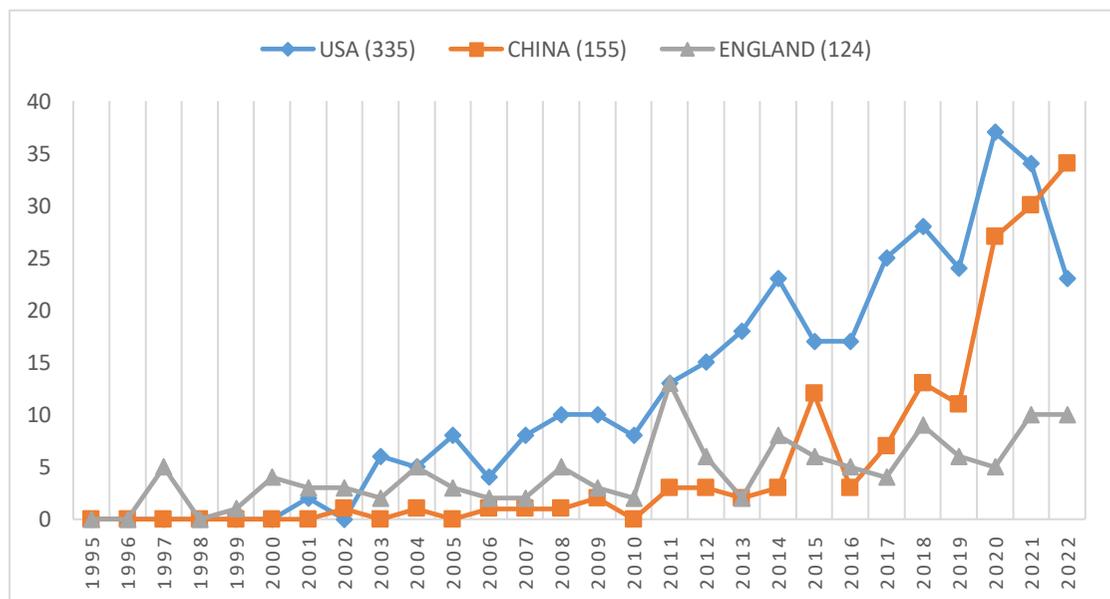
Timeline visualization map of countries



Examining Figure 3, school bullying-related publications were mostly made in England up until the 2010s, in the USA up until 2020, and in the People's Republic of China after 2020. Additionally, Figure 4 presented the changes in school bullying-related publications in the respective countries over time.

Figure 4

Top 3 Countries with the most publications in school bullying

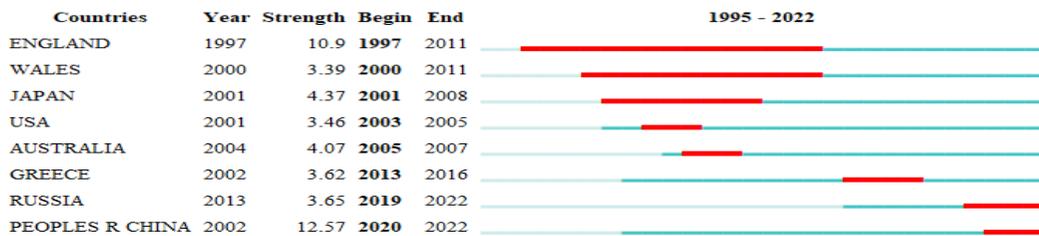


According to the data presented in Figure 4, the annual change in the number of publications related to school bullying in the top three countries was displayed. The number of publications was particularly

prominent in the USA (n=335), followed by the People's Republic of China (n=155), and England (n=124). England had the most publications until 2003, the USA had the most between 2003-2021, and Peoples R China had the most after 2021. Additionally, there was a significant increase in the number of publications in Peoples R China especially after 2019. The same situation was also present in citation bursts (Figure 5).

Figure 5

Top 8 countries with the strongest citation bursts

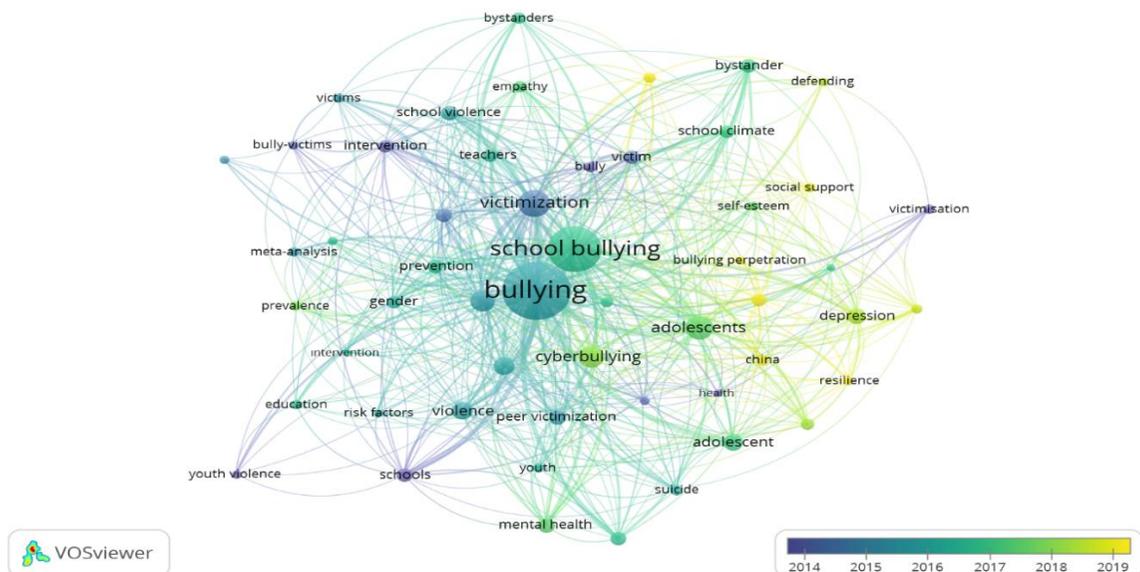


According to the information presented in Figure 5, England experienced a citation burst in publications related to school bullying between 1997 and 2011, Wales between 2000 and 2011, Japan between 2001 and 2008, the USA between 2003 and 2005, Australia between 2005 and 2007, Greece between 2013 and 2016, Russia between 2019 and 2022, and Peoples R China between 2020 and 2022.

RQ4 - What are the annual changes and strongest citation bursts of research topics most frequently mentioned by authors in school bullying research?

Figure 6

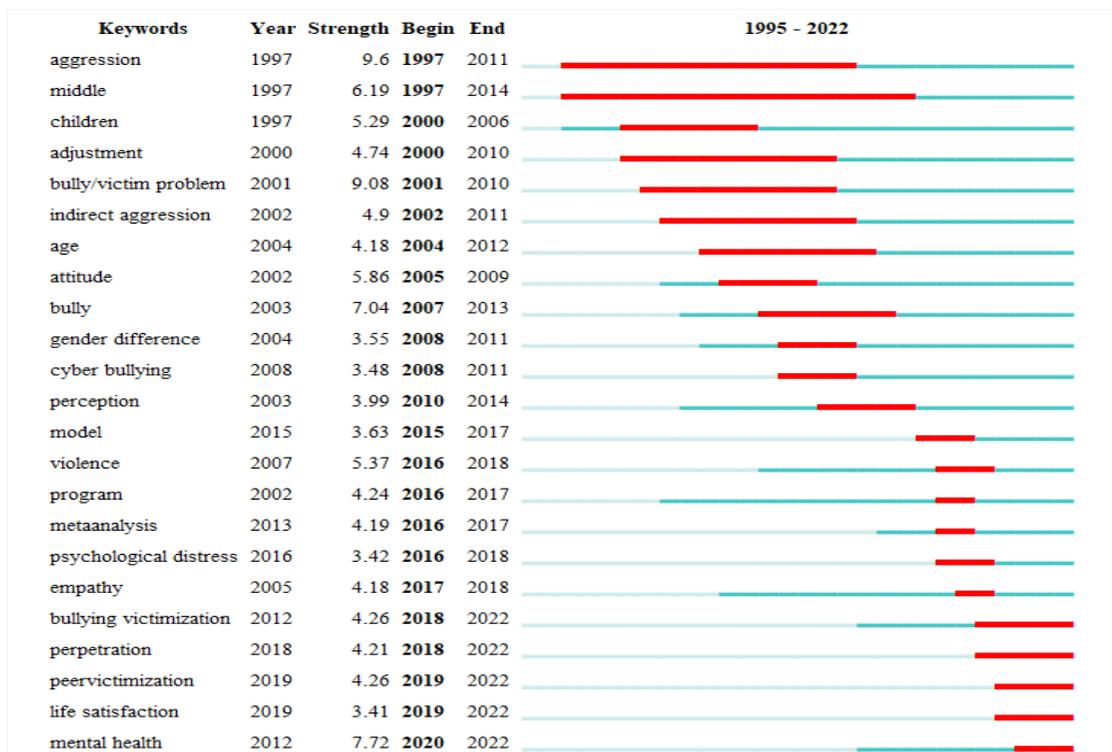
Timeline visualization map of research topics in school bullying



In order to create a map based on text data for the most-used keywords, co-occurrence analysis and author keywords were selected. Minimum number of occurrences of a keyword was determined as 5 and the number of keywords to be selected was automatically stated as 130. According to the distribution of key word groups in Figure 6, the key concepts that were frequently discussed in publications about school bullying until 2016 were “bully”, “victim”, “victimization”, “schools”, “youth violence”, and “intervention”; while during the period of 2016-2018, “adolescents”, “cyber-bullying”, “prevalence”, “school climate”, “suicide”, “empathy”, “bystanders” were mostly discussed. From 2020 onwards, “resilience”, “social support”, “bullying perpetration”, and “defending” became the key concepts in the field of school bullying.

Figure 7

Top 24 keywords with the strongest citation bursts



According to the information presented in Figure 7, the key words “bully”, “aggression”, “middle”, “children”, “adjustment”, “age”, “gender difference”, “cyber bullying”, and “perception” showed citation bursts in research related to school bullying up until 2016; the key words “violence”, “program”, “meta-analysis”, “psychological distress”, and “empathy” showed citation bursts between 2016 and 2018; and from 2018 onwards, the key words “bullying victimization”, “perpetration”, “peer victimization”, “life satisfaction”, and “mental health” showed citation bursts in research related to school bullying..

Discussion

RQ1 - What is the timeline distribution (growth rate) of publications in the field of school bullying? A total of 1388 publications on school bullying were identified as a result of the search in the WoS database. When analyzed by year, it was seen that the number of publications related to school bullying showed a linear increase over time (Table 1), and a similar trend was observed in the number of citations (Figure 2). The majority of the studies in the database took place between 2019 and 2022 (N= 529), with more than a third (38.1%) of the publications in the database being carried out in this time frame.

The increase in the volume of scholarly literature addressing the issue of bullying can be attributed to its persistent nature as a crucial problem in educational institutions. Evidence from both international and large-scale studies substantiate this observation. The United Nations Children's Fund (UNICEF, 2019) published a report indicating that one-third of young people across 30 countries have fallen victim to bullying. An examination of data conducted by the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2019) between 2002 and 2017, revealed a decline in bullying rates in 35 of the 71 studied countries, no noticeable change in 23, and an increase in 13. Furthermore, a meta-analysis of 46 studies in Australia (Jadamambaa et al., 2019) reported that close to one in seven adolescents had experienced bullying for a minimum of one year, while nearly 25% of students had been subjected to bullying at some point in their lifetime.

Along with this trend, an interesting detail was the COVID-19 pandemic in the years covered by this study. The pandemic compelled many educational institutions globally to adopt online education, thus it was anticipated that the rate of bullying among students would significantly decline. This was supported by a survey conducted among German parents of children between grades 4-12, where approximately half of the participants reported a reduction in the likelihood of their children being bullied after the closure of schools (Werner & Woessmann, 2021). As a result, it was expected that the number of publications relating to school bullying would decrease during the pandemic. However, an examination of the number of publications during this period revealed an increase instead of a decrease (Table 1). On the other hand, it is claimed that the number of submissions to journals increased during the pandemic (Shan et al., 2020). Therefore, one reason for the increased interest in school bullying during the pandemic may be the increase in submissions to academic journals. Addition, during this period, researchers' interest in cyberbullying research may have increased.

In addition, the increase in the number of publications during the pandemic period suggests that bullying may have shifted away from the physical environment to a different environment. Analysis of the publications produced during this time frame showed that they primarily focused on the issue of cyberbullying. The data obtained from other studies in the literature support this trend, indicating that cyberbullying increased during the COVID-19 pandemic (Alsawalqa, 2021; Barlett et al., 2021; Das et al. 2020; Jain et al., 2020; Utemissova et al., 2021). On the other hand, during this period, it should not be ignored that the increase in the use of smartphones, social media, instant messaging programs, etc. among students may have an impact on the increase in cyberbullying. In a study conducted in 2021, almost all children aged 5–15 have access to the internet; three quarters use a mobile phone; 56% have their own mobile phone; and 77% have a desktop computer or notebook (Ofcom, 2021). A large-scale systematic review of a hundred empirical studies found that the more time children and adolescents spend online, the greater their risk of being cyberbullied (Farrington et al., 2022). Therefore, these effects may have led

to an increase in research on cyberbullying. Based on these findings, it can be concluded that bullying in schools remains a crucial topic in research and is likely to continue to be a significant area of focus in future publications.

RQ₂ - What are the research areas with the most publications in school bullying? An analysis of the distribution of publications related to school bullying according to research fields revealed that approximately half of them were in the field of Psychology (n=614, 44.2%) (Table 2). This result was similar to other studies examining publications related to bullying. In these studies, as well, it was found that the majority of publications related to bullying were produced in the field of psychology (González-Moreno et al., 2020; Lopez-Meneses et al., 2020).

The results of this analysis could be a consequence of the impacts of school bullying. A report from UNESCO indicated that children and adolescents who experience bullying are more likely to encounter interpersonal difficulties, depression, loneliness, anxiety, low self-esteem, and suicidal thoughts or attempts compared to those who are not bullied (UNESCO, 2017). Similarly, most studies in this field highlight that school bullying is linked with negative effects such as depression, victimization, stress, anxiety, suicide, and so on (Chu et al., 2018; Gunther et al., 2016; Handono et al., 2019; Hinduja & Patchin, 2019; Kowalski et al., 2014). These effects, particularly those related to mental health, may have driven researchers to focus on producing more publications in the field of Psychology, leading to an increase in the number of publications in this field.

RQ₃ - What are the annual changes and strongest citation bursts in school bullying research by country? The publications on school bullying were mostly carried out in England until the 2010s, in the USA until the 2020s, and in the People's Republic of China after the 2020s (Figures 3 and 4). When the annual change in the number of publications was looked at, it was striking that there was a significant increase in publication numbers in the People's Republic of China, particularly after 2019. Additionally, the number of publications was particularly prominent in the USA (N= 335), followed by the People's Republic of China (N = 155) and England (N = 124) (Figure 4).

The large number of publications from the USA may be due to the abundance of research funding and the support from universities and non-profit organizations. Another reason may be that school bullying continues to be an important topic in the USA. The study of bullying trends in the USA from 1998 to 2017 revealed a significant increase in cyberbullying victimization but no significant change in face-to-face bullying (Kennedy, 2021). The increasing trend in China, which ranks second in terms of the number of publications, may be linked to the pandemic. The significant increase in publications in China, especially after 2019, supports this idea (Figure 4). One of the countries most affected by the conditions created by the pandemic is China, where the COVID-19 virus first emerged (Wu et al., 2020). In a large-scale study, 0.9% of Chinese students experienced severe anxiety, 2.7% demonstrated moderate anxiety, and 21.3% had mild anxiety due to the COVID-19 pandemic (Cao et al., 2020). Studies conducted in China showed that the prevalence of school bullying victimization and bullying acts was higher during the pandemic than before the pandemic (Da et al., 2023; Xie et al., 2023). Therefore, this increase in behavior problems during COVID might have stimulated school bullying in China.

Another reason for the increase in the number of publications in China may be the increase in cyberbullying rates. Studies conducted in China during this period showed that one of the important effects of the pandemic was the increase in cyberbullying rates (Han et al., 2021; Zhu et al., 2021). This

supports the idea that school bullying shifted towards cyberbullying with the disruption of formal education and that pandemic conditions played an important role in this transition. On the other hand, the upward trend in this period was similar to that of citation bursts. According to the information in Figure 5, People's Republic of China's publications on school bullying experienced citation bursts between 2020 and 2022. This result shows that with the increase in the number of publications, recent publications in the People's Republic of China have become an important source of citations.

RQ4 - What are the annual changes and strongest citation bursts of research topics most frequently mentioned by authors in school bullying research? The distribution of publications in the various date ranges can be interpreted as reflecting the evolution of research on school bullying. In the earliest period, publications focused on establishing the basic concepts related to the phenomenon. In subsequent periods, the focus shifted to evaluating the efficacy of interventions aimed at combating bullying and conducting meta-analytical studies to determine the general effectiveness of these interventions. More recently, positive psychology concepts such as “resilience”, “social support”, “life satisfaction”, and “mental health” have become increasingly prominent in the literature (Figure 6 and 7).

This finding is in line with the developmental stages of scientific knowledge, which range from description to prediction to causes and explanations to control (Brown et al., 1998). As a matter of fact, there is a similar situation in the research on school bullying. Early research on school bullying initially focused on providing a description of the phenomenon, including the types of behaviors reported, prevalence, and incidence rates. This information is important to gain insight into what is happening within specific social contexts and relationships and to provide insight into the bullying behaviors of individuals. Subsequent research turned to examining risk factors for involvement in bullying. Preferably, longitudinal studies were then conducted to better understand the antecedents and consequences of bullying. These studies contributed to the development of models and theories of bullying. The development of models and theories of bullying is important not only to better understand the phenomenon but also to inform the design of prevention and intervention programs. In subsequent studies, controlled evaluations of prevention and intervention programs were conducted (Monks & Coyne, 2011). On the other hand, positive psychology-based interventions, have recently been implemented to raise awareness about bullying behaviors and generate new solutions. Positive psychology offers another approach that has not been fully researched to date, such as improving pro-social behavior, psychological resilience, and life satisfaction to prevent bullying in schools (Burke, 2022). Accordingly, in the future, interest in positive psychology-based interventions that aim to develop strengths instead of symptom-oriented interventions may increase.

Limitations and Future Directions

The present study employed a bibliometric approach to analyze data on publications related to school bullying, using the WoS database as the source of information. The data were analyzed objectively and comprehensively, providing a comprehensive overview of the trends and patterns in the field. Given that synthesizing existing research can facilitate the advancement of a research area (Zupic & Cater, 2015), the findings of this study are expected to stimulate further research in the area of school bullying. It is worth noting that no bibliometric study can offer a complete picture of the state of a research field. The WoS database only indexes a fraction of the numerous research articles that are published every day, and thus,

it is possible that some relevant publications may have been omitted or not considered in the analysis. This constitutes a limitation of the study that must be taken into account.

The bibliometric approach used in this study provided a broad perspective on the topic of school bullying by systematically analyzing a large dataset. The analysis of publications, countries, and citation patterns offered a comprehensive overview of the research field and the specific topic of school bullying. The bibliometric indicators and network analyses generated in this study yielded valuable insights into the field of school bullying research. However, it is important to acknowledge that, while the vast data obtained from the WoS database produced meaningful results after bibliometric analysis, in-depth qualitative evaluations of the publications on school bullying are necessary to fully understand and interpret the findings. This highlights the importance of complementing bibliometric analyses with qualitative evaluations to gain a comprehensive understanding of a research field.

Considering the thirty-year history of studies on school bullying, it is inevitable that developments in the historical process will affect the content of the research. The most concrete example of this is the COVID-19 pandemic that occurred in the recent past. Changes in the educational environment, such as the interruption of face-to-face education during the COVID-19 process, have also caused changes in publications on school bullying. Especially in this period, contrary to expectations, the increase in the number of publications on school bullying was one of the striking results. In particular, educators and researchers may contribute to the literature by conducting in-depth research on the cause of this finding.

Another remarkable situation is the possibility that traditional bullying may have shifted to cyberbullying during the pandemic period. The increase in cyberbullying rates reported in the research related to this period (Alsawalqa, 2021; Barlett et al., 2021; Das et al., 2020; Han et al., 2021; Jain et al., 2020; Utemissova et al., 2021; Zhu et al., 2021) suggests that school bullying has significantly shifted from the physical environment to the virtual environment. Another reason for the increased interest in cyberbullying during the pandemic may be that the researchers' interest in cyberbullying research has increased. These assumptions are also an issue that should be considered by researchers and educators. It can be said that both rapid developments in technology and digitalization in educational environments will be effective in making school bullying an important topic in the near future. Considering that online education may become more widespread in the future and the use of technological tools may increase, it may become a priority for educators and researchers to take more measures against cyberbullying as well as traditional bullying.

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