



Discovering the Impact of Bullying on Adolescents Through Bibliometric Analysis

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Abstract

In recent years, the number of bullying cases, especially among teenagers, has been increasing, with many mass media reports on bullying cases that have resulted in the death of the victim. The aim of the study was to explore the impact of bullying on adolescents by analysing of network visualisation, overlay visualisation and density visualisation on the topic through bibliometric analysis. Records were identified through a database search at <https://app.dimensions.ai/>. The data obtained was then selected further by the preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram. Papers were limited to publication years 2019-2023 and focussed on the fields of psychology, human society, health science, clinical biomedicine, clinical education and health psychology. Data were analysed using *VOSviewer*, then reviewed by co-occurrence and co-author. After identifying the clusters, the impacts of bullying on adolescents were suicidal behaviour, mental disorders, non-suicidal self-injury (NSSI), loneliness, psychological distress and adolescent childhood experiences (ACEs). From the overlay visualisation, it was indicated that the newest topics that were being widely researched related to the impact of bullying on adolescents were social anxiety, suicidal ideation, depressive symptoms, suicidal thought, integrated behaviour change (IBC) and peer victimisation. From density visualisation, it was indicated that topics that were rarely researched related to the topic of the impact of bullying on adolescent were suicide attempts, early victimisation, post-traumatic stress disorder (PTSD) and suicidality. The theme regarding the impact of bullying needs and developed to be researched more deeply, especially on themes with low visualisation found in density visualisation, in order to enrich the variety of research.

Key words: Impact; Bullying; Adolescent; *VOSviewer*; Bibliometric analysis.

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Introduction

Adolescence is a time full of dynamics, since at this time teenagers begin to experience various new things starting from romance, solidarity in friendship, trying something new and challenging, a period of searching for identity, exploring new and different worlds to find out who they are.¹ The character of adolescent who tend to be unstable and sensitive encourages teenag-

ers to behave according to their wishes without thinking about the risks that might occur in the future. Adolescents also often follow trends and follow what their friends are doing. This is the part where teenagers try to assert themselves as individuals or as members of a particular social group.²

The formation of youth groups in a larger community will lead to the existence of superior individuals or groups and *vice versa*.³ Sometimes superior groups show their identity as a group or individually in bad ways, for example violence, both physical and verbal. Violence that is more often shown by teenagers, for example is acts of bullying. Bullying itself is a hostile act carried out by one person or a group of people with the aim of frightening or hurting other people and occurs repeatedly and there is an imbalance of power between the victim and the perpetrator. However, bullying itself is a cycle, in the sense that the current perpetrator is most likely the victim of a previous perpetrator of bullying.⁴

Generally, adolescents who have economic and physical disadvantages (disabilities) easily become victims of bullying by their friends.⁵ There are various forms of bullying, it can take the form of teasing, insults or beatings. The latest is bullying *via* social media which is conveyed through the comments column or statuses posted by the perpetrators which contain harsh words and curses at someone.⁶ Not infrequently there are comment wars containing negative comments. In the school environment, bullying is usually carried out by strong students and of course the victims are weak students, or students who consider themselves superior carry out bullying actions against students they consider inferior.⁷

Bullying behaviour can have a bad impact on victims, especially adolescents, for example reducing their enthusiasm for studying at school, school strikes, stress, low self-esteem, trauma, fear at school, suicide and can even make children imitate bullying behaviour.⁸ The purpose of study was to explore the impact of bullying on adolescent by analysed of network visualisation, overlay visualisation and density visualisation on the topic through bibliometric analysis.

Methods

In this research, bibliometric analysis was used. Records were identified through database searches <https://app.dimensions.ai/>. *Dimensions* is a database of abstracts and citations and of research grants, which links grants to resulting publications, clinical trials and patents. *Dimensions* is part of *Digital Science & Research Solutions Ltd*, a technology company headquartered

London, United Kingdom.⁹ The data obtained was then selected further by the preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram.¹⁰ Papers were limited to publication year 2019-2023, focussed on the fields of psychology, human society, health science, clinical biomedical, clinical education and health psychology. Article was the type of publication that was analysed. Data were analysed using *VOSviewer* then reviewed by co-occurrence and co-author. Data was collected on 3 November 2023.

Selecting data

Data selection was carried out using the stages in PRISMA including identification, filtering and inclusion as shown in Figure 1. Stage 1 (identification) detected 161,344 records from <https://app.dimensions.ai/>, taking into account, each of the main search terms (impact AND bullying AND adolescent), "article document type" and "all published data range from 2019 to 2023". In stage 2 (screening), the option "title, article, abstract" was selected in the field of each search term, resulting in 45,813 articles. In stage 3 (included), the final sample yielded 34,364 articles.

Data analysis

Data were analysed using *VOSviewer*. *VOSviewer* is a software tool for building and visualising bibliometric networks. These networks can include individual journals, researchers, or publications and all of these can be obtained by citation, bibli-

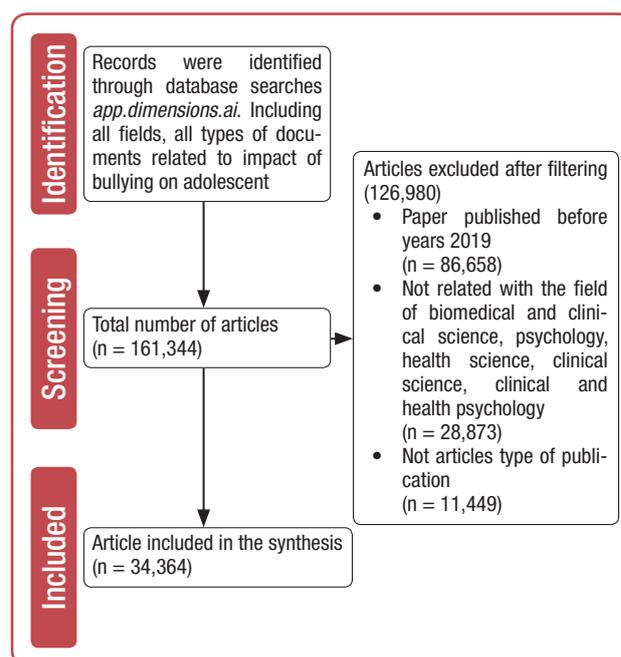


Figure 1: The preferred reporting items for systematic reviews and meta-analyses (PRISMA) flowchart

Density visualisation of the anxiety among adolescents concept in publications

In Figure 4, from density visualisation it can be seen that topics with visualisation in the low category are suicide attempt, early victimisation, PTSD and suicidality.

Discussion

From the network visualisation, it was identified that there were 198 items divided into 9 clusters with a number of links 6,205 with a total link strength of 35,460. After identifying the clusters, the impact of bullying on adolescent were suicidal behaviour,¹² mental disorder,¹³ NSSI,¹⁴ loneliness,¹⁵ psychological distress¹⁶ and ACEs.¹⁷

From overlay visualisation, it was indicated that the newest topics that were widely researched related to the impact of bullying on adolescents were social anxiety,¹⁸ suicidal ideation,¹⁹ depressive symptoms,²⁰ suicidal thoughts,²¹ integrated behaviour change (IBC)²² and peer victimisation.²³ From density visualisation, it was indicated that topics that were rarely researched related to the topic of the impact of bullying on adolescents were suicide attempts,²⁴ early victimisation,²⁵ post-traumatic stress disorder (PTSD)²⁶ and suicidality.²⁷

Suicidal behaviour, suicidal ideation and suicide attempt

The impact that occurs on victims of bullying can carry over into adulthood and is a serious problem that needs to be treated quickly. The emergence of depression in victims of bullying can lead to thoughts of suicide or self-harm because bullying that occurs to someone can make that person feel depressed.²⁸ Bullying has the impact of causing someone to experience depression if they do not receive immediate treatment and can give rise to other serious problems such as suicidal ideation or self-harm.²⁹

Suicidal ideation is thoughts that lead to death, the individual plans to die by specifically eliminating life.²¹ This statement illustrates that suicide leads to planned thoughts about taking one's life by committing suicide. There is a series of occurrences of suicidal behaviour, namely suicidal ideation, suicidal movements, suicidal

attempts and suicide.³⁰ A person's idea of suicide will lead to thinking about what actions they can take to commit suicide before entering the stage of suicide. Suicide is the main cause of death in the world with the age range of suicide perpetrators being 15 to 29 years old.²⁸

Mental disorder

According to the Centers for Disease Control and Prevention (CDC), bullying can have an impact on a person's physical and emotional health, both short and long term. Apart from that, victims of bullying can also experience physical injuries, social problems, emotional problems and even increase the risk of suicide and death. This is because victims of bullying become less self-confident and experience an increased risk of mental disorders.³¹

Apart from that, based on a study conducted by the Eunice Kennedy Shriver National Institute of Child Health and Human Development in the United States, anyone involved in bullying, whether victim or perpetrator, is at high risk of experiencing depression.³² The risk of depression can even be higher in victims of electronic bullying, for example *via* social media, text messages or emails, compared to direct bullying. The Mayo Clinic in the United States also states the same, that victims of bullying can be at high risk of experiencing mental and other health disorders.³³

Non-suicidal self-injury (NSSI)

Bullying is a real situation experienced by teenagers every day. Bullying can be done by classmates, even those closest to person. Bullying that occurs continuously without being handled properly can cause feelings of depression, lack of self-confidence and even traumatic feelings.¹⁴ These feelings of pressure and lack of self-confidence can encourage victims of bullying to commit acts of NSSI as a form of desire to punish themselves and hate themselves.³⁴

The results of research by Wilson et al³⁵ also found self-injury behaviour and suicidal thoughts in teenage victims of bullying. The tendency to carry out self-injury behaviour and suicidal intentions is based on the development of a sensitive brain during adolescence so that it has a higher vulnerability to trigger stress.³⁶

Loneliness

Loneliness causes someone who experiences it

to feel empty, alone and unwanted even though the person is actually not alone and is in a busy environment.¹⁵ This feeling of loneliness can occur in teenagers who experience bullying or are victims of bullying and teenagers who carry out bullying or are perpetrators of bullying. Teenagers who are victims of bullying usually feel isolated and ostracised by their group, friends and their social relationships are poor. As Sullivan said, people who have been intimidated often have difficulty forming good relationships, and tend to find it difficult to live a normal life.³⁰ Victims of bullying, according to a Royal College of Psychiatrists report, have low self-confidence, have few friends, spend time alone and often suffer from anxiety, difficulty sleeping, depression and suicide.³⁷

Meanwhile, teenagers who become perpetrators of bullying usually do so because their behaviour is considered a threat, so their peers are shunned, avoided or even rejected in a group, causing them to feel lonely. Children who are bullies show negative characteristics such as being angry, depressed and are at risk of being involved in criminal behaviour as adults.³⁰ Bullies have low empathy for other people. Meanwhile, children who are victims of bullying based on research by Phan et al³⁸ are depressive, passive and shy.

Psychological distress

Adolescence is a time of searching for identity, they are faced with many new roles and status as adult humans. A positive self-identity will be formed if teenagers are able to explore new roles in a healthy way and find a positive path.³⁹ On the other hand, identity confusion arises because teenagers do not explore different roles and do not find positive paths, which can lead to delinquency such as bullying. Bullying is a secret action, while the victims (even eyewitnesses) do not dare to report it.³²

Being a victim is a painful experience, holding onto events over and over again is difficult. The condition of the victims where every day they are harassed, hurt, humiliated repeatedly, leads to the feelings of insecurity, psychological shock, trauma and even mental disorders.⁴⁰

Adolescent childhood experiences (ACEs)

Bullying behaviour generally does not just appear, but is influenced by several factors. Factors that influence bullying behaviour according

to Soares et al¹⁷ are: (a) personality factors, (b) family factors, (c) adverse childhood experience (ACE) factors, (d) school environmental factors. Children who live in unfavourable and dysfunctional family environments, the inability to resolve conflicts or in short, children who experience ACE are more at risk of becoming perpetrators of bullying because they reflect the naturalisation of violent behavioural practices or even interpreting aggressive behaviour towards peers as a joke.⁴¹

One of the factors that influences the emergence of bullying behaviour is ACE which is a term that refers to exposure to potentially traumatic events experienced by individuals during childhood aged 0-18 years.⁴² Five characteristics of ACE: 1. Harmful (harmful) ACE – experiences that are harmful to children, 2. Chronic/recurring (chronic/appearing repeatedly times) ACE that are often repeated are a manifestation of chronic problems, 3. Distressing (causing suffering) ACE make children suffer or be depressed, 4. Cumulative (cumulative) ACE - children who experiencing more than one event or experiencing multiple traumatic events in a chronic and prolonged manner, and 5. Varying in severity (having varying degrees of severity) ACE characterised by varying degrees of severity from less to more severe.⁴³

Social anxiety

A child who experiences bullying carried out by his friends at school or outside school will create feelings of self-doubt, insecurity and anxiety. This is supported by research that has been carried out. The results of these studies mostly explain that children who are victims of bullying will experience high levels of anxiety and this can have an impact on the child's self-esteem.¹⁸ World Health Organization³⁰ states that mental health nurses are the largest health workforce in the entire world, namely 40 %, therefore it is hoped that nurses will be able to intervene to reduce anxiety in victims of bullying.

Anxiety is a very normal and frequently occurring human emotional response that involves aspects such as affective and cognitive behaviour to danger. This is seen as normal as part of childhood. Feelings of excessive and uncontrolled worry also include anxiety which is a response to internal and external stimuli which can cause emotional, cognitive, physical and behavioural symptoms.⁴⁴ The impact of anxiety

depends on the child's developmental level and the development of coping skills at that age. In school children, the effects that often occur are changes in sleep patterns, changes in eating patterns, anxiety, feelings of worthlessness, poor self-efficacy, difficulty concentrating, feelings of irritability, withdrawal, poor school performance, nightmares, aggressive behaviour, excessive worry and so on.⁴⁵

Apart from that, the level of self-esteem can influence and cause social anxiety in children. Adolescence requires high self-esteem so that the child develops a sense of self-confidence, self-respect and looks strong.⁴⁶ If the need for self-esteem is not met, a feeling of inferiority, worthlessness and a feeling of helplessness and mental weakness will arise. Conditions that are usually experienced by children who are victims of bullying are that they appear withdrawn, quiet, restless and anxious.⁴⁷

Depressive symptoms

Depression is defined as a mental disorder with signs and symptoms including feelings of depression, loss of interest and pleasure, decreased energy, feelings of guilt, anxiety and poor concentration.⁴⁸ Depression is a trigger for illness and disability in adolescents. One of the factors that makes teenagers vulnerable to depression is bullying. Identification of symptoms of depression in adolescents is important to study, especially as a result of bullying.⁴⁹

In previous research in Indonesia, it was found that there was a positive relationship between experiencing bullying and depression in adolescents and bullying had an influence on the emergence of depression. These results were supported by other research which showed that the intensity of bullying behaviour experienced was directly proportional to the prevalence of depression. Adolescents who experience bullying behaviour with moderate intensity have a tendency to experience moderate depression of 66 %, while those who experience bullying behaviour with mild intensity have a tendency to experience mild depression of 33.3 %.⁵⁰

Integrated behaviour change (IBC)

In this day and age where technology is so sophisticated that it is very easy for bullying to occur, simply usage of social media to bring down the victim by distributing negative photos

or videos about the victim, causing the victim to experience mental health problems such as depression, anxiety, lack of self-confidence, difficulties to sleep, desire to hurt themselves and even want to commit suicide.⁵¹

Some children who are often bullied at school usually have certain physical conditions, smart children, students who don't have friends and children who are economically disadvantaged. Bullying has long-term effects for both the victim and the perpetrator of the bullying themselves. The effect felt by victims is that they feel that their self-confidence has been taken away.⁵²

Meanwhile, for the perpetrators of bullying, the effect will become a habit and enjoyment to increase their ego. The fear or trauma experienced by victims of bullying at school will trigger them to drop out of school, children who are victims of bullying at school will usually show changes in habits such as children often feeling afraid to go back to school, often experiencing nightmares, decreased appetite and changes in behaviour such as prefer to be alone, daydream, don't talk much and don't have self-confidence.⁵³ To overcome this bullying case, it is necessary to apply counselling theory, namely by using behavioural counselling theory.⁵⁴

Peer and early victimisation

Bullying victimisation is a condition resulting from negative actions repeatedly and over time against negative actions by one or more other teenagers where in the bullying there is an imbalance of power or strength. The impacts that occur on victims of bullying include poor physical health,² disrupting mental health, such as depression and internalisation problems (anxiety, fear and withdrawal from the social environment)⁵⁵ as well as influencing individual psychosocial problems.⁵⁶ It is important to know the factors that can contribute to reducing bullying that occurs, especially from the victim's side. One potential protective factor is through quality friendships. The quality of friendship itself according to Yang et al⁴⁸ is a quality friendship relationship between a person and someone who is considered a good friend.

Gottman and Parker explained that support obtained from friendship can provide encouragement and feedback that can help teenagers to develop an impression of themselves as

competent, attractive and valuable figures. Then, with the support received, teenagers can get the physical help they need if they experience interference from other friends. Therefore, if teenagers have positive feelings towards themselves, such as feeling like they have high self-esteem are competent and attractive and get the necessary physical support, teenagers can avoid bullying victimisation that can occur.⁵⁷

Friendship quality is an effective factor in preventing peer victimisation, such as high quality friendships.⁵⁸ Adolescents who have high levels of support from their friends have lower levels of bullying and victimisation.¹⁵ Xiong et al⁵⁹ explained that individuals who have protective and reciprocal friendships can reduce children's involvement in bullying. Quality friendships can reduce individual involvement in bullying victimisation, because through best friends aggressive attacks from bullies can be avoided.⁶⁰ Zhang et al explains that the quality of friendship has five aspects, play/companionship (togetherness), conflict, help, security and closeness.⁶¹

Post-traumatic stress disorder (PTSD)

PTSD is a condition that some people experience after experiencing or witnessing a traumatic event. The hallmark of a traumatic event is its ability to induce feelings of fear, helplessness or horror in response to the threat of injury or death, so it can affect anyone, including victims of bullying.⁴⁸

Research has shown that experiencing bullying is the strongest predictor of developing PTSD symptoms.²⁶ This number goes beyond physical abuse, neglect and exposure to community violence. Another literature review examining 29 relevant studies on bullying and harassment found that 57 % of victims scored above the threshold for meeting PTSD criteria.⁶²

As teens approach adulthood, some PTSD symptoms in teens begin to look like those of adults. For example, they may have upsetting thoughts or memories, recurring nightmares, flashbacks and strong feelings of distress when reminded of the event. The difference is that teenagers are more likely to exhibit impulsive and aggressive behaviour than young children or adults. Moreover, although children may be haunted by thoughts of painful experiences, this does not mean they can be easily observed. In fact, children often suffer in silence.⁶³

Implication and limitation

This bibliometric analysis literature review has several limitations. First, there is limited literature available regarding IBC, which is almost the same as discussing the psychological impact on adolescent victims of bullying. The literature on suicidal behaviour, suicidal ideation and suicide attempt is used as one discussion because the same literature discusses this and in most of the other literature there is a mismatch between the criteria, samples and problems with the theme in question.

Conclusion

Bullying is a problem that is currently trending, especially among adolescent, the impact of bullying both physically and psychologically can traumatise the victim and affect their mental health, the theme regarding the impact of bullying needs to be developed to be researched more deeply, especially on themes with low visualisation found in density visualisation in order to enrich the variety of research.

Ethics

This study was a secondary analysis based on the currently existing dataset from the *Dimensions* and did not directly involve with human participants or experimental animals. Therefore, the ethics approval was not required in this paper.

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Conflicts of interest

The authors declare that there is no conflict of interest.

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Data access

The data that support the findings of this study are available from the corresponding author upon reasonable individual request.

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