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Effects of Bullying on Adolescent Mental Health: A Global Cross-Sectional Report

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ABSTRACT

Adolescent bullying is a public health issue of great global concern. Given the serious negative effect of bullying on adolescent mental health, it is critical to seek protective factors to protect adolescent mental health. From a global cross-regional perspective, the study aims to explore the relationship between forms of bullying and adolescent mental health and the role of parental support as a protective factor. Data were drawn from adolescents aged 12–17 years via Global School-based Student Health Survey. After controlling the state-fixed effects, individual adolescent behavior, and family factors, the ordinary least squares model was used to analyze the influence of bullying frequency and forms of bullying on adolescent mental health. The results found that the prevalence of bullying in the sample of 167,286 adolescents was 32.03%, Verbal bullying had the highest prevalence and the most significant negative effect on adolescent mental health. The study also discussed the differences in bullying among adolescents by gender, age, and region. "Parental supervision", "parental connectedness" and "parental bonding" played a positive and protective role in the mental health of adolescents who experienced bullying.

INTRODUCTION

Bullying is intentional and repeated aggressive behavior toward another person in which there is a real or perceived power imbalance, and the victim of bullying feels vulnerable and powerless to protect themselves. Bullying includes physical assault, verbal abuse, and neglect. Globally, bullying is widespread among adolescents. In a 2018 report by UNICEF, more than one-third of students aged 13–15 worldwide said they had experienced different forms of bullying data published by the World Health Organization in 2020 showed that more than 100 million children worldwide died each year from violence, including severe domestic violence as well as bullying. Evidence from several longitudinal studies on the effects of bullying suggests that experiencing bullying, especially in adolescence, can severely impair a person's physical, psychological, and social functioning, leading to risky behaviors, anxiety, depression, lower levels of academic achievement, suicidal ideation, suicidal behavior, or self-harm. In recent years, some studies have also begun to further explore the effects of different forms of bullying on adolescent mental health, and found that the form of bullying is also an essential factor affecting adolescent mental health. The first was to explore what forms of bullying had a profounder effect on adolescent mental health, but most of the current studies by researchers on this issue have been conducted in individual countries or regions and have not reached uniform conclusions, e.g., Maunder et al. (2010) conducted a survey of students, teachers, and staff in four secondary schools in England, and a total of 1302 people participated in this survey, and the results found that physical bullying was the most harmful to students. The second was to focus on the effect of different forms of bullying on adolescent mental health under the gender group. For example, Turner et al. (2013) selected 1874 students from middle and high schools in North Carolina to explain the results of the effects of different forms of bullying (physical, verbal and cyber) on mental health (including depression and suicidal intention) and found that females had higher levels of depression after cyberbullying compared with males, and there was no significant difference in suicidal intent after either form of bullying for either males or females. In addition to exploring the negative effects of bullying on adolescents, there were very few studies that analyze the role and effect of protective factors in preventing the occurrence of multiple forms of violence as positive actions to build resilience in children, in terms of protective factors although some studies have been conducted on the effect of bullying on adolescent mental health, there are still the following. Adolescents are at a critical stage of development and the influence of age on their behaviors is crucial, but there is a lack of research discussing the effect of

different forms of bullying on mental health according to age groups. In addition, the study focused on parental support as a protective factor to examine the relationship between parental support and the mental health of adolescents who experienced bullying, and the mental health of adolescents who experienced different forms of bullying.

The potential mental health effects on everyone involved, it's important to heed the warning signs of bullying. Children who are bullied may come home with unexplained injuries, "lost" books or damaged possessions. They may have trouble sleeping and lose interest in favorite activities. If they're afraid to enter the cafeteria at lunchtime, they may come home hungry. They might pretend illness to avoid school, affecting their academic performance. Some may avoid social interactions, while some may begin to bully others. Victims may try to cope by harming themselves or running away. Bullies, on the other hand, may become more aggressive; their friends may include other bullies. Bullying behavior may be a mechanism to cope with stress or abuse in their lives. They may play the "blame game," resisting responsibility for their actions. Unexplained extra money or possessions are also warning signs. Because bullying is traumatic for everyone concerned, it's important to address it as early as possible. Parents and teachers can work to ensure safety and prevent future bullying. Stress management and relaxation techniques can also help. Best Day's counselors are ready to help you and your child cope with any traumatic event. The first step is reaching out to our professionals so we can offer appropriate solutions and treatment.

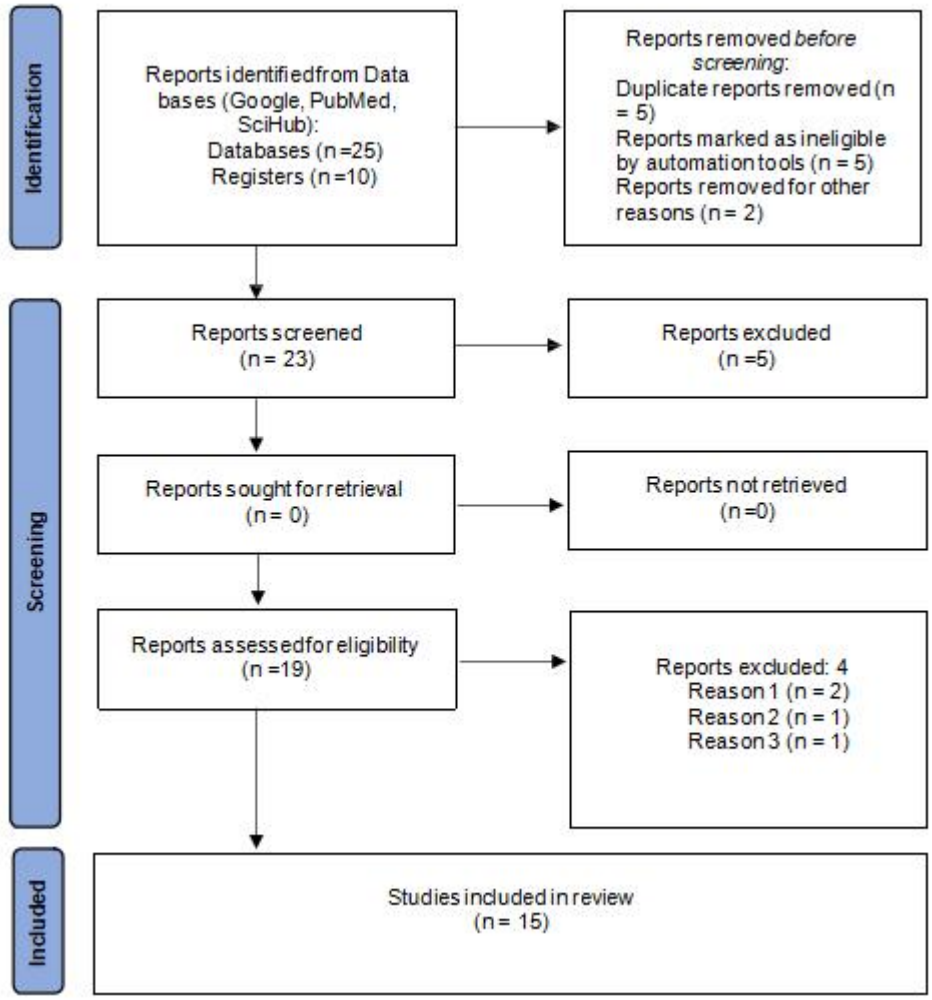

FIGURE: 1

A variety of data bases in researching and developing my report. These include searching from google scholar, pub med and sci hub search engines. The key words searched were searched like bullying, harassment, adolescent ages and effects of these on teen age children. I identified three themes in conducting these searches and reviewing the literature: the status of this search as a relatively new field, lack of structured training and accreditation, and lack of a clearly defined scope of the effects being impacted on the children.

FIGURE: 2

S. No.	Author Title	Publication year	Purpose	Setting	Sample Size	Sample Technique	Data collection	Participants	Tool/ instruments	Type of design	Type of paper /article	Limiation	Recommendations	Results
												We had a smaller sample size due to limited resources. There is a		The mean age of the sample was 9.49 ±1.26 years. There were 41 (20.5

Relationship between mindfulness and bullying behavior among school children: An explo	Momina Abid1, Muhammad Irfan 2, Farooq Naeem3	August 2015.	To find out the relationship between mindfulness and bullying behaviour among school children in Pakistan.	three	Data was collected through survey questionnaires by the researchers. Permission from the respective	100 boys and 100 girls) from three private schools	Two Instruments were used in the research 1 Likert scale 2 Bullying Behaviour Scale	cross section al	Journal of Postgraduate Medical Institute	need to improve methodology and to expand variables of interest, to have a better understanding of	%) single children, 53 (26.5) first, 76 (38%) middle and 30 (15%) last children. Results showed that mindfulness and bullying behavior negatively correlated

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MATERIALS AND METHODS: Global School-based Student Health Survey (GSHS) is a World Health Organization international survey of adolescents that uses primarily standardized, self-administered questionnaires to make results comparable between countries. The core questionnaire looks at 10 domains of key factors affecting adolescent health, including tobacco use, alcohol abuse, drug use, diet, hygiene, physical activity, sexual behavior, violent behavior, and unintentional injuries, protective factors, and mental health. Questionnaires were translated into the national language for student comprehension. After excluding the samples with missing data, countries covering the key variables of this study were selected, using the most recent data available for each country, and the final sample was drawn from survey data from 2003 to 2015, for a total of 167,286 samples from 65 countries, 5 regions (21,501 samples from Africa, 59,326 samples from Americas, 23,222 samples from Eastern Mediterranean, 13,301 samples from South East Asia, 49,936 samples from Western Pacific).

ETHICS STATEMENT: GSHS received ethics approval from each area. Written informed consent was obtained from participants or guardians prior to the survey, and privacy protections were obtained. The current study used publicly available data.

DEPENDENT VARIABLE: "Mental health": Mental health was measured based on the two indicators of loneliness and anxiety with the questions "During the past 12 months, how often have you felt lonely / been so worried about something that you could not sleep at night?". In order to visually explain the effect of bullying on adolescent mental health, this paper recoded the responses to the above measurement questions as "1 = always, 2 = most of the time, 3 = sometimes, 4 = rarely, 5 = never".

INDEPENDENT VARIABLES: FREQUENCY AND FORMS OF BEING BULLIED: "Frequency of being bullied": "Frequency of being bullied" was measured by the question "During the past 30 days, on how many days were you bullied?" and recoded (1 = 1 to 5 days, 2 = 6 to 19 days, 3 = more than 20 days). The larger value represented the higher frequency of being bullied.

"Forms of being bullied": "Forms of being bullied" was measured by the question "During the past 30 days, how were you bullied most often?" and recoded (1 = physical bullying, 2 = verbal bullying, 3 = neglect). Previous studies have reported that individual factors contributing to adolescent mental health, such as age, gender, substance use, weight status, and family socioeconomic status. Therefore, the study used the following variables related to mental health of adolescents in GSHS

as control variables, including age, gender, physical well-being, cigarette smoking, alcohol use, and proxy of family socioeconomic status, number of close friends and frequency of missing school.

"Weight status" was measured by the value of body mass index (BMI), calculated with two adolescents' indicators of height and weight, and recoded (1 = underweight, 2 = normal weight, 3 = overweight) "Cigarette smoking" and "alcohol use" were measured by the questions "During the past 30 days, on how many days did you smoke cigarettes / have at least drink containing alcohol?" and recoded (1 = less than 5 days, 2 = 6–19 days, 3= more than 20 days). Protective factors were assessed by parental supports. As critical factors of resiliency, parental supports included parental supervision, parental connectedness and parental bonding, based on the questions "how often did your parents or guardians check to see if your homework was done?", "how often did your parents or guardians understand your problems and worries?", and "how often did your parents or guardians really know what you were doing with your free time?", and assessed by frequency in the past 30 days (1 represents "never", 5 represents "always").

STATISTICAL ANALYSIS: Firstly, the study conducted descriptive statistics on the overall prevalence of maltreatment and the prevalence of different forms of maltreatment among adolescents aged 12–17 years and to visualize the differences in the distribution of bullying across regions, a global distribution of bullying rates among adolescents in the sample countries was drawn. Secondly, an ordinary least squares model was used to analyze the effects of bullying frequency and different forms of bullying on adolescent mental health. In the model estimation, state-fixed effects were controlled for in addition to the effects of the above-mentioned control variables on adolescent mental health. The study further regressed subgroups by gender and age to estimate differences in the effects of bullying exposure, bullying frequency, and forms of bullying on adolescent mental health by gender and by age (under 15, over 15) across continents, respectively. The reason for choosing 15 years as the age group cut-off was that in most countries, adolescents under 15 years are at the middle school level and those over 15 years are at the high school level, where they show more significant differences in psychological and behavioral aspects. The study used Stata 15.0 to analyze the data and ArcGIS software for mapping.

RESULTS: The descriptive statistics of the sample are shown in. The mean age of the sample adolescents was 14.14 years (SD = 1.20), of which 46.74% were male (78,187) and 53.26% were female (89,099). In terms of bullying prevalence, 32.03% of the 167,286 overall samples of

adolescents aged 12–17 years had experienced bullying in the past 30 days of the survey. Regarding the frequency of bullying, 24.68% of adolescents were bullied for less than five days, less than 10% of adolescents were bullied for more than five days. Descriptive statistics of the sample (N = 167,286). In terms of mental health, the mean of mental health of adolescents in the sample countries was 5.79 (SD = 1.82), which was in the middle to upper level. Among different regions, the mental health level of adolescents in South East Asia was the highest (M = 5.97, SD = 1.78), and African adolescents' mental health level was the lowest (M = 5.47, SD = 1.92). In terms of parental support, the mean values of "parental supervision", "parental connectedness", and "parental bonding" for the overall sample of adolescents were 2.94 (SD = 1.49), 3.00 (SD = 1.46), and 3.19 (SD = 1.44), respectively. The mean values of "parental supervision" ranged from "rarely" to "sometimes", and the mean values of "parental connectedness" and "parental bonding" ranged from "sometimes" to "most of the time".

DISCUSSION: The study examined the overall prevalence of bullying among adolescents and the prevalence of different forms of bullying in a total of 167,286 sample in five regions, and further analyzed the effect of different forms of bullying on adolescent mental health, the protective role of parental support, and the main findings were as follows: Firstly, adolescent bullying cannot be ignored, with the highest prevalence of verbal bullying. Our study showed that the overall prevalence of bullying among adolescents in the 167,286 sample countries was 32.03%, a result that was consistent with the previous UNICEF report published in 2018 that more than one-third of students aged 13–15 worldwide experienced bullying. The results of Biswas et al. (2020) and Elgar et al. (2015) cross-regional comparative studies on bullying and violence among adolescents were generally consistent with the results of the two studies on the prevalence of bullying among adolescents, which were 31% and 30%, respectively. From the results of the cross- regional comparison, the highest prevalence of bullying among adolescents (47.36%) was found in the sample countries in the African region, which may be related to the low-income level, poorer schools, and social environment, war, and riots in the African region. In terms of the prevalence of different forms of bullying, verbal bullying had the highest prevalence (66.36%), followed by physical bullying (24.02%), and neglect had the lowest prevalence (9.62%). The results of a survey conducted by Scheithauer et al. (2006) in Germany with students in grades 5–10, and the results of the prevalence of six forms of bullying among 2667 Italian secondary school students, obtained by

Vieno et al. in 2011 using the results of the Health Behavior in School-aged Children Survey database, also both showed the highest prevalence of verbal bullying, consistent with the findings of this paper. This suggested that verbal bullying, which takes the form of making fun of a peer's race, nationality, color, creed, body, and appearance, was the most prevalent and most likely to occur among adolescents because it was the most recognizable and less costly to occur. However, it was worth pointing out that the findings for the prevalence of physical bullying and neglect in this study differ slightly from those of the two studies mentioned above, due to the different criteria used to measure them.

Secondly, compared with physical bullying and neglect, verbal bullying had the most serious negative effect on adolescent mental health. Not only did verbal bullying had the highest prevalence of the three forms of bullying, but it also had the most serious negative effect on adolescent mental health for two main reasons: firstly, verbal bullying occurred most frequently, and according to the study, the frequency of bullying significantly and negatively affects adolescent mental health, so the lower the level of mental health when adolescents suffered frequent ridicule or name-calling from peers; secondly, from the perspective of social identity theory, this highly discriminatory ridicule led to negative mental health outcomes, especially for adolescents with extremely strong identity, and this discrimination increased their psychological distress. Finally, in terms of protective factors, "parental supervision", "parental connectedness" and "parental bonding" played positive roles in the relationship between bullying and adolescent mental health. Positive relationships, especially positive family relationships that provided intimacy, support, trust, emotional comfort, and a sense of belonging, are one of the key elements of resiliency "Parental connectedness" and "parental bonding" were important indicators of parent–child intimacy and emotional comfort, and played a positive role in adolescents' resilience. However, there were no consistent conclusions to the role of "parental supervision". Some studies have not found a significant link between parental supervision and mental health after bullying which is consistent with the current study. Future research would explore how the degree or the forms of parental supervision influence mental health when adolescents experience bullying.

LIMITATIONS: By the consistency of the GSHS database, this study suffered from the following shortcomings: Firstly, the countries or regions selected represent only some of the five regions. We did not contain the European continent because only one country provided useful data.

FUTURE IMPLICATIONS: Would include more specific countries to explore the global adolescent bullying situation. Secondly, the GSHS used a self-administered questionnaire, and although self-administration was an acceptable way to collect data on adolescent bullying victimization, there was a limitation of possible shared method variance.

CONCLUSIONS: Despite these limitations, our study contributed to the exploration of adolescent bullying in the following ways: firstly, unlike previous studies limited to individual countries or regions, our analysis covered sample countries across five continents, providing more evidence for cross-regional comparative studies of adolescent bullying; secondly, in addition to focusing on bullying among adolescents as a whole and its effect on mental health, we focused on intergroup differences in adolescent subgroups (gender groups and age groups) to provide a basis for targeted development of specific intervention policies for different groups of adolescents. Finally, we focused on the potential protective factors of adolescent bullying and found that "parental supervision", "parental connectedness" and "parental bonding" played a positive role in protecting the psychological health of adolescents who were bullied. The above findings suggested that, as a global public health problem, adolescent bullying should attract sufficient policy concern and practical intervention, and further establish a comprehensive adolescent social protection mechanism and protection system including family, school, and community.

INFORMED CONSENT STATEMENT: Not applicable.

DATA AVAILABILITY STATEMENT

The data are available online at https://www.cdc.gov/gshs/ (accessed on 10 December 2021).

CONFLICTS OF INTEREST: The authors declare no conflict of interest.

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