



## Unveiling Aggression: Student Violence Towards Teachers and Peers in Public Schools in Pakistan

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School violence has emerged as a pressing issue in Pakistan, transcending educational boundaries to permeate communities, streets, and homes. This study employs a dual approach, incorporating leadership and eco-systemic theory, to unravel the complexities associated with learner-on-teacher violence. Leadership, viewed as an intentional influence on organizational objectives, is explored as a crucial factor in addressing incidents of student-teacher violence. Bronfenbrenner's eco-systemic theory, focusing on the microsystem and mesosystem levels, is incorporated to understand the immediate environment and interactions influencing violent behaviors. The research investigates the impact of the learning environment on primary-level students' violence, utilizing a causal-comparative design. The population comprises fifth to tenth-grade students in public schools within Tehsil Ferozwal, with a total sample size of 450 students. Questionnaires, including the Students' Violence Questionnaire and interviews with teachers and student teachers, were employed. Descriptive and inferential statistics, including Pearson correlation coefficients, were used for data analysis. The findings reveal a spectrum of violence, from physical assaults to threats, affecting both teachers and students. Instances of stabbing and assaults underscore the severity of the issue. Respondents reported varying frequencies of violence, with divergent opinions on the prevalence of student-initiated violence against teachers. The study also sheds light on school responses to violence, including counseling sessions and swift expulsion. The impact of incidents and threats on teachers is profound, causing fear, anger, and powerlessness, leading to abandonment of lessons and departure from schools. The study concludes by emphasizing the need for comprehensive strategies to address and prevent school violence, fostering a socially just educational environment in Pakistan. Cultural awareness and humor emerge as potential preventative measures against violence in schools, underscoring the importance of a holistic approach in mitigating the complex issue of school violence.

**Keywords:** Educational Boundaries, Learning Environment, Counselling Sessions, Anger.

### Introduction:

Violence, particularly in schools, is an escalating concern in Pakistan, despite the efforts of the Department of Basic Education to promote peace through various initiatives and interventions. The international body UNESCO, collaborating with countries like South Africa, is also alarmed by the rising violence, which extends beyond schools to communities, streets, homes, and various human-inhabited spaces [1]. This study primarily aims to investigate school violence and, secondarily, its implications on socially just education. Manifesting in forms such as bullying, teen suicides, sex scandals, and various types of discrimination, including race, sexuality, religion, and ethnicity, school violence poses severe challenges. Extreme incidents

encompass weapon carrying, murder, homicide, and other dehumanizing behaviors. Media reports consistently highlight the alarming proportions of violence, surpassing even statistics in the United States, making it a global concern. Despite estimates indicating that millions of children suffer from school violence annually, the actual extent is likely underestimated due to underreporting and concealment [2].

These violent acts not only endanger learners but also pose risks for teachers, with incidents ranging from bullying and drug abuse to stabbings and gang-related activities. The Minister of Basic Education, Angie Motshekga, has expressed significant concern over the recent surge in attacks at learning institutions across South Africa [3]. The study employs a qualitative approach with in-depth literature analysis, utilizing the lens of social justice theory to frame the investigation. The National School Safety Framework defines school-based violence as acts occurring on school premises, during travel to and from school, or at school-related events, involving aggression and victimization inside and outside the classroom, online, and perpetrated against various stakeholders. This study aims to explore the extent of violence in schools and its implications on socially just education, contending that these acts undermine principles of justice and fairness [4]. The focus is on promoting relationships built on social justice principles and eradicating the possibilities of violence in schools to foster a conducive environment for learning and teaching. The subsequent sections of this article will conceptualize school violence, delve into the socially just environment, explore the school as a social system, and discuss school violence as a condition for social injustice, research methodology, and results and discussions [5].

School violence has become a global concern, with studies in developed countries shedding light on the distressing impact of student-initiated violence on teachers. An Australian study by West emphasized the substantial influence of school violence on educators, leading to sentiments such as a desire to cease teaching, decreased self-confidence, and feelings of anger, fear, and anxiety, often stemming from a lack of support from colleagues [6].

South Africa consistently ranks among the most violent countries globally, and incidents of violence in schools are both widespread and frequent. Consequently, students may exhibit hostility towards educators, manifesting in various ways such as arrogant disobedience, intimidation based on sexual orientation, use of insulting language, hurling personal insults, racial remarks, and offensive gestures. Research indicates that teachers' racial and gender identities can influence the level of violence they experience [7].

It is essential to note that instructors are not always passive victims of pupil aggression. The way educators and management address disciplinary issues may contribute to internal conflict and foster school violence. Despite being banned over two decades ago, some teachers in South Africa still resort to corporal punishment as a means of disciplining students [8]. However, research has unequivocally shown that physical punishment constitutes a form of violence, conveying the message to pupils that violence is an acceptable means to resolve conflicts, making learners susceptible to exhibiting violent behavior.

In accordance with common law, South African educators act as *loco parentis* towards their students, with the responsibility to protect pupils from harm, including school violence. This role implies a pastoral obligation to provide discipline for pupils. However, on rare occasions, students may initiate acts of violence against their professors. The South African Department of Education mandates all teachers to demonstrate leadership and management abilities, emphasizing the role of educators as substitute parents for students. Teachers, in both official and informal capacities, significantly influence a school's success or failure. An effective school is defined as one with minimal levels of violence [9].

While research has predominantly focused on student aggression, there is limited knowledge about learner-on-teacher violence and its preventive measures. Despite substantial resources allocated by the South African Department of Education to address school violence

at a macro level, numerous schools still face challenges in operating effectively. This essay sheds light on the intricacies of violence perpetrated by learners against teachers, aiming to enhance understanding in this overlooked domain [10][11]. The focus is on two forms of violence: physical violence and threats of violence. With increased media attention and ongoing national and international discussions on school violence, comprehensive comprehension by policymakers and practitioners could lead to effective proactive and reactive strategies for mitigating instances of school violence. Two crucial inquiries guide this paper:

- What are the sentiments of instructors regarding violence against their students?
- How does teachers' viewpoint on violence from learners against instructors connect with leadership?

### **Theoretical and Conceptual Framework:**

Applying the tenets of leadership and eco-systemic theory, this study employed a dual approach to comprehend and expound upon the complexities associated with learner-on-teacher violence. The latter perspective furnished a fitting framework for dissecting the intricacies of school violence, while the former viewpoint was instrumental in investigating the second research question, which delves into the repercussions of school leadership [12]. Leadership can be delineated through various paradigms—it is an intentional practice of exerting influence to achieve organizational objectives. Moreover, proponents posit that this influence-penetration strategy is deployable by anyone within the institution, irrespective of their standing. Consequently, the actions of diverse school administrators might impact the way incidents of student-teacher violence are addressed [13]. Despite the escalating complexity of schools in the twenty-first century, the principal continues to play a pivotal role in their leadership and management. Nevertheless, it is acknowledged that schools now necessitate multiple leaders to effectively guide and govern. As the paramount authority and leader of the school, the principal is tasked with charting a clear and unambiguous course for subordinates to follow as they endeavor to attain organizational goals [14]. Within the purview of this article, the leadership of principals is paramount, offering valuable insight into how to adeptly handle instances of school violence. Leadership and management strategies exhibit similarities and commonalities. Competent management and guidance are indispensable for the effective functioning of a school. Therefore, in this study, the terms are used interchangeably [15][16].

The incorporation of Bronfenbrenner's eco-systemic theory [17] into the framework of this article is deemed fitting due to the specific school environment or context in which pupils engage in acts of violence against teachers. The researchers maintained the belief that classroom violence is a direct consequence of the environment, as individuals acquire behaviors in response to specific environmental stimuli. However, none of the five systems or phases were pertinent to the task at hand. Consequently, this study predominantly employed the initial two systems.

The microsystem is the primary system. This approach accentuates the learners' immediate environment, where a spectrum of roles, activities, and interpersonal interactions transpire. Social settings such as peer groups, families, and schools play pivotal roles, with the potential to influence student aggressiveness toward teachers. The influence of peers can incite students to engage in violent behavior, while families, as influential social institutions, provide pupils with opportunities to acquire knowledge about acceptable and undesirable behaviors in society, including violent conduct. Schools, in fostering positive environments, incentivize and exemplify established social norms [18][19]. Nevertheless, some instructors resort to physical punishment as a stark illustration of aggressive conduct within the classroom. Consequently, pupils who witness such violent incidents may be predisposed to resolving conflicts in a similar vein. The mesosystem is the secondary system, primarily emphasizing the interconnection between smaller systems, such as schools and families. Through enrollment, a student forms a relationship between two systems—home and school—thus creating a mesosystem through the interactions between these two environments. This system may also influence pupils'

propensities for violence or aggressiveness towards their professors.

**Research Methodology:**

**Study Design:**

The research aimed to investigate the impact of school climate on students' violence at the primary level. Given that both variables, school climate, and students' violence, exist in natural settings and couldn't be manipulated, the study adopted a causal-comparative design.

**Population and Sampling:**

The population of the study comprised all fifth-tenth-grade students enrolled in public schools within Tehsil Ferozwala. Out of 12 public schools in Tehsil Ferozwala, two mosque schools were excluded as they did not have primary-level students. The final population included all fifth graders in 12 Government schools [20]. A two-stage simple random sampling technique was employed, randomly selecting 10% of schools in the first stage (08 schools) and then 42% of ninth graders from each selected school in the second stage. The total sample size was 450 students from the 5<sup>th</sup> to 10<sup>th</sup> grade.

**Data Collection:**

The research utilized questionnaires, namely the 'Students' Violence Questionnaire' (SVQ) and Interviews with teachers and student teachers as well. Questionnaires were developed in English, the international language, to facilitate understanding and effective responses from fifth-grade students. The questionnaires underwent validation through expert opinion, with the Content Validity Index of SCQ being 0.84 and SVQ being 0.79. Pilot testing was conducted to determine the reliability of the questionnaires.

**Data Analysis:**

Descriptive and inferential statistics were employed to address the research questions. Mean and standard deviation were used to measure the levels of school climate and violence among students. The relationship between school climate and student violence was assessed using the Pearson correlation coefficient. The strengths of the correlation were interpreted according to Cohen's criteria, with a weak relationship between 0.10 and 0.29, moderate between 0.30 and 0.49, and strong between 0.50 and 1.0 [21].

**Questionnaire Details:**

**Table 1: Impact of School Environment on Violence**

Impact of School Environment on Violence	Items	Mean	SD	Cronbach's Alpha
<b>Discipline in School</b>	5	24.42	2.31	0.561
<b>Bullying</b>	5	26.79	2.13	0.59
<b>Teacher-Student Relationship</b>	5	24.89	2.02	0.61
<b>Peer Relationship</b>	5	30.41	4.19	0.71
<b>Fairness</b>	5	20.39	3.27	0.61
<b>Physical Abuse</b>	10	12.15	3.95	0.71

**Physical Abuse:**

Based on the insights obtained from participant interviews, teachers identified purposeful acts like assault, tugging, and shoving as defining characteristics of physical violence. A notable incident at school involved a student lethally assaulting a classmate by stabbing during a Grade 8 class, leading to the incarceration of the perpetrator. This tragic event deeply affected observers, causing significant psychological distress among teachers and students. Counseling sessions were organized to address the aftermath, with one student being severely injured in another violent incident where she confronted a student engaged in academic dishonesty [22][23].

Continuing, another school shared an instance of physical aggression, describing a student striking a teacher. Solidarity among instructors was highlighted, recounting another incident where a 9th-grade student physically assaulted a recently hired male teacher by slapping

him. The swift expulsion of the student was crucial in preventing the targeted teacher from leaving the school. Another case involved a student physically pushing a teacher within the classroom during an instructional session at the same institution [24].

**Table 2:** Descriptive Statistics for Physical Violence Incidents

Incident	Mean	S.D.
Assault	4.256	0.61
Stabbing	3.812	0.74
Slapping	4.571	0.50
Pushing	4.012	0.89

Participants held varying opinions on the frequency of physical violence initiated by students against teachers. While the school administrator denied such violence in their institution, other teachers reported differently. The principal maintained that no instances of physical violence had occurred involving a student assaulting a teacher. In contrast, four Student teachers shared experiences of students resorting to physical aggression, including hurling a brick at other students and physically attacking a gardener in school during break time [25].

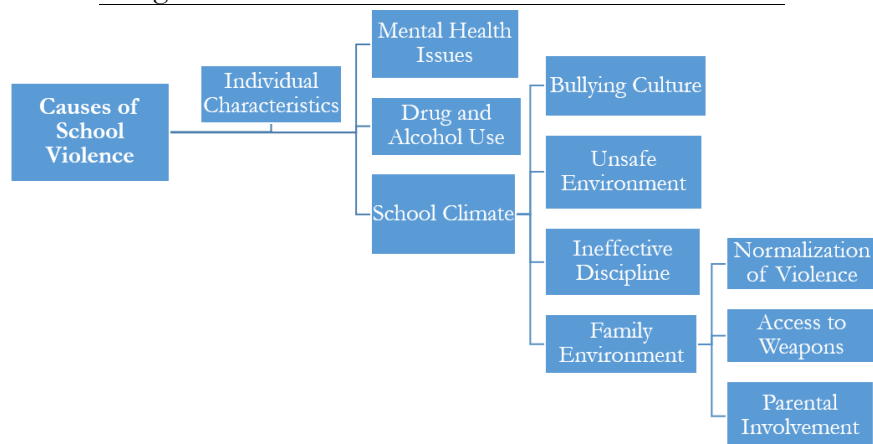
**Table 3:** Descriptive Statistics for School Responses to Violence

Response to Violence	Mean	S.D.
Counseling Sessions	4.13	0.59
Swift Expulsion	4.37	0.64
Supportive Measures	4.03	0.71
School Departures	3.71	0.62

Reports from both schools detailed threats against teachers and students, with some students indicating the possibility of recruiting external individuals to cause harm. Instances were noted where teachers and students, feeling threatened, had to leave the school. One teacher at a government school departed after offensive remarks were written on a Head of Department's door, causing intimidation [26]. Student-teacher participants also disclosed instances of students issuing threats against teachers, potentially incited by disciplinary actions.

**Table 4:** Impact of Incidents and Threats on Teachers

Impact	Mean	S.D.
Fear, Anger, and Powerlessness	4.46	0.52
Abandonment of Lessons	3.82	0.66
Departure from School	4.21	0.71
Negative Effects on Education	4.09	0.83



**Figure 1:** Possible causes of Students being Violent towards Teachers and Other Students.

The impact of these incidents and threats on teachers was profound, causing fear, anger, and a sense of powerlessness. The negative effects extended to teaching and learning, with some teachers abandoning lessons. In some instances, teachers faced threats without apparent

motives, and the severity of the threats necessitated the victims' departure from the school. Both schools subjected instructors to severe and aggressive threats, impacting the overall educational environment [27].

### **Discussions:**

This essay sought to comprehend the intricacies of student-teacher violence and its implications for school leadership. The study revealed that the teachers in both schools experienced physical violence and threats of violence, which were intensified by multifaceted issues that manifested at the microsystem and mesosystem levels, two interconnected systems. The instructors' narratives of the aggression perpetrated by students against them depicted an intricate portrayal of a school as a fragmented system in which the interactions between subsystems, namely teachers and students, were sporadically marked by violence. According to an individual's immediate environment, encompassing their responsibilities, activities, and interpersonal exchanges, is referred to as their microsystem. The conflicts between specific students and instructors in the two involved institutions resulted in violence, exposing obscure communication patterns between them.

The subsystems within a single system can have an impact on each other. For example, students from two schools reported instances where some students threatened or physically attacked teachers. These actions undermined the authority of the teachers and their ability to fulfill their role in caring for students by disciplining them, when necessary, findings, it can be inferred that problems within specific subsystems have a significant impact on the entire system. The violence experienced by teachers in certain schools had a harmful effect on those schools. This violation was felt by students, other teachers, and the targeted teachers themselves. For example, the death of a teacher at BHS had negative consequences for both educators and students. Additionally, the teacher who had received threats at BHS also left the school.

The study delves into the various causes and manifestations of school violence based on the perspectives of educators. The educator in question identifies academic tension, a lack of consequences for undesirable behavior, and societal violence models as major contributors to violent incidents. This observation aligns with the traditional belief that violence may stem from institutional origins. Retaliation against provocation and bullying at school are identified as additional factors fueling violence, consistent with existing literature. The educator also points to elements like gangsterism, alcohol use, gambling, and prejudiced behavior contributing to school violence. While acknowledging difficulties in conclusively identifying gangs in the school setting, she notes an undesirable connectivity between certain learners. The study explores gender-related violence, highlighting how societal norms contribute to a culture where aggressive behavior by boys is often normalized. It also touches on xenophobia as a potential factor and notes that media coverage both inhibits teachers from addressing violence and contributes to an increased awareness of such incidents.

The nature of violence at school, according to the educator, is perceived as a struggle for power manifested through physical force, intimidation, threats, and rule violations. Despite personal experiences of violence directed at her, the focus of the inquiry was on her general perception of school violence. The findings indicate a rising trend of violence directed at educators, and the educator cites reasons such as retaliation, attempts to gain favor with peers, and the need to exert control over authorities. The emotional experience of violence is characterized by overwhelming negativity towards learners, particularly those perceived as instigators. Symptoms of trauma, including feelings of fear, low self-worth, and immense guilt, are evident. The educator's resilience is highlighted, emphasizing teaching as a calling and a life mission, attributing personal purpose to a deeper, spiritual meaning.

Factors contributing to violence are attributed to poor support from both school and community systems, coupled with inconsistent disciplinary styles among teachers. The media's impact is twofold, making teachers reluctant to address violence due to fear of negative publicity

and increasing awareness of violent incidents. The study emphasizes the inadequacy of educational support systems in managing discipline effectively. Despite these challenges, the educator expresses a strong sense of purpose in the teaching profession. The study concludes by highlighting cultural awareness and humor as potential preventative strategies against violence in schools.

### References:

- [1] T. R. N. Murphy and M. Masterson, "Teacher Learning Communities and Leadership: Insights from A DEIS Urban Second-Level School," *Soc.* 2022, Vol. 12, Page 114, vol. 12, no. 4, p. 114, Aug. 2022, doi: 10.3390/SOC12040114.
- [2] T. R. N. Murphy, M. Masterson, P. Mannix-McNamara, P. Tally, and E. McLaughlin, "The being of a teacher: teacher pedagogical well-being and teacher self-care," *Teach. Theory Pract.*, vol. 26, no. 7–8, pp. 588–601, 2020, doi: 10.1080/13540602.2021.1913403.
- [3] "Learner Dropouts in the System (Statistics, Trends, Tracking and Tracing); BELA Bill: proposal for improved public hearings; DBE Budget: Committee Report; with Minister | PMG." [Online]. Available: <https://pmg.org.za/committee-meeting/36688/>
- [4] T. Soini, K. Pyhältö, and J. Pietarinen, "Pedagogical well-being: Reflecting learning and well-being in teachers' work," *Teach. Theory Pract.*, vol. 16, no. 6, pp. 735–751, Dec. 2010, doi: 10.1080/13540602.2010.517690.
- [5] S. Owen, "Professional learning communities: building skills, reinvigorating the passion, and nurturing teacher wellbeing and 'flourishing' within significantly innovative schooling contexts," *Educ. Rev.*, vol. 68, no. 4, pp. 403–419, Oct. 2016, doi: 10.1080/00131911.2015.1119101.
- [6] H. Borko, "Professional Development and Teacher Learning: Mapping the Terrain," *Educ. Res.*, vol. 33, no. 8, pp. 3–15, 2004, doi: 10.3102/0013189X033008003.
- [7] I. Hardy and K. Rönnerman, "The value and valuing of continuing professional development: Current dilemmas, future directions and the case for action research," *Cambridge J. Educ.*, vol. 41, no. 4, pp. 461–472, Dec. 2011, doi: 10.1080/0305764X.2011.625004.
- [8] T. Soini, J. Pietarinen, and K. Pyhältö, "What if teachers learn in the classroom?," *Teach. Dev.*, vol. 20, no. 3, pp. 380–397, May 2016, doi: 10.1080/13664530.2016.1149511.
- [9] V. Drew, M. Priestley, and M. K. Michael, "Curriculum development through critical collaborative professional enquiry," *J. Prof. Cap. Community*, vol. 1, no. 1, pp. 92–106, Jan. 2016, doi: 10.1108/JPCC-09-2015-0006.
- [10] N. Xhomara, "Influence of school leadership style on effective teaching and teacher-student interaction," *Pedagogika*, vol. 132, no. 4, pp. 42–62, 2018, doi: 10.15823/P.2018.132.3.
- [11] J. Sebastian, E. Allensworth, and D. Stevens, "The influence of school leadership on classroom participation: Examining configurations of organizational supports," *Teach. Coll. Rec.*, vol. 116, no. 8, 2014, doi: 10.1177/016146811411600806.
- [12] M. Ronfeldt, S. O. Farmer, K. McQueen, and J. A. Grissom, "Teacher Collaboration in Instructional Teams and Student Achievement," *Am. Educ. Res. J.*, vol. 52, no. 3, pp. 475–514, Jun. 2015, doi: 10.3102/0002831215585562.
- [13] N. Ruggiano and T. E. Perry, "Conducting secondary analysis of qualitative data: Should we, can we, and how?," *Qual. Soc. Work*, vol. 18, no. 1, pp. 81–97, Jan. 2019, doi: 10.1177/1473325017700701.
- [14] A. F. Akinyemi, S. Rembe, and V. Nkonki, "Trust and positive working relationships among teachers in communities of practice as an avenue for professional development," *Educ. Sci.*, vol. 10, no. 5, May 2020, doi: 10.3390/EDUCSCI10050136.
- [15] N. Kolleck, J. Schuster, U. Hartmann, and C. Gräsel, "Teachers' professional

- collaboration and trust relationships: An inferential social network analysis of teacher teams,” *Res. Educ.*, vol. 111, no. 1, pp. 89–107, Nov. 2021, doi: 10.1177/00345237211031585.
- [16] N. Hickey, A. Flaherty, and P. M. McNamara, “Distributed Leadership: A Scoping Review Mapping Current Empirical Research,” *Societies*, vol. 12, no. 1, Feb. 2022, doi: 10.3390/SOC12010015.
- [17] “Bronfenbrenner’s Ecological Model.” [Online]. Available: <https://www.structural-learning.com/post/bronfenbrenners-ecological-model>
- [18] P. M. Jenlink and K. E. Jenlink, “Creating democratic learning communities: Transformative work as spatial practice,” *Theory Pract.*, vol. 47, no. 4, pp. 311–317, Oct. 2008, doi: 10.1080/00405840802329300.
- [19] Javed. Z, “Analysis of Impact Social Behaviors on Development of Personalities of Adolescents,” *Magna Cart.*, vol. 1, no. 1, pp. 30–39, 2022.
- [20] N. A. Prestine, “Extending the Essential Schools Metaphor: Principal as Enabler,” *J. Sch. Leadersh.*, vol. 3, no. 4, pp. 356–379, Jul. 1993, doi: 10.1177/105268469300300402.
- [21] Y. Yang, L. Qin, and L. Ning, “School Violence and Teacher Professional Engagement: A Cross-National Study,” *Front. Psychol.*, vol. 12, Apr. 2021, doi: 10.3389/FPSYG.2021.628809.
- [22] A. Javed, “Breaking Barriers: Teachers’ Perspectives on Access to School Education for Children with Disabilities in Punjab,” *Magna Cart. Contemp. Soc. Sci.*, vol. 1, no. 1, pp. 10–18, Mar. 2022, [Online]. Available: <https://journal.50sea.com/index.php/MC/article/view/607>
- [23] S. K. Tuna and H. Aslan, “The relationship between perceived social support and organizational commitment levels of primary and secondary school teachers,” *Univ. J. Educ. Res.*, vol. 6, no. 5, pp. 983–993, May 2018, doi: 10.13189/UJER.2018.060519.
- [24] R. D. Suryaningrat, F. M. Mangunsong, and C. D. Riantoputra, “Teachers’ aggressive behaviors: what is considered acceptable and why?,” *Heliyon*, vol. 6, no. 10, Oct. 2020, doi: 10.1016/J.HELIYON.2020.E05082.
- [25] T. Fatima and H. Khan, “Exploring Familial Factors: Influence on Tenth-Grade Students’ Academic Achievement at High School,” *Magna Cart. Contemp. Soc. Sci.*, vol. 2, no. 3, pp. 123–132, Aug. 2023, [Online]. Available: <https://journal.50sea.com/index.php/MC/article/view/665>
- [26] F. Scharpf et al., “Reducing physical and emotional violence by teachers using the intervention Interaction Competencies with Children – for Teachers (ICC-T): study protocol of a multi-country cluster randomized controlled trial in Ghana, Tanzania, and Uganda,” *BMC Public Health*, vol. 21, no. 1, Dec. 2021, doi: 10.1186/S12889-021-11950-Y.
- [27] C. Rerkswattavorn and W. Chanprasertpinyo, “Prevention of child physical and verbal abuse from traditional child discipline methods in rural Thailand,” *Heliyon*, vol. 5, no. 12, Dec. 2019, doi: 10.1016/J.HELIYON.2019.E02920.



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