

Trauma from cyberbullying: How it affects learning impairments

Agathi Stathopoulou *

Department of Public and Community Health School of Public Health University of West Attica, Greece.

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Abstract

Investigating the effects of the traumatic experiences that adolescents with learning problems go through is the goal of our study. 160 high school students who were referred via a web-based evaluation form because of poor academic performance made up the sample for our study. In particular, the subscales for anxiety-depression and depression-withdrawal were employed in the ACHENBACH self-report questionnaire for children and teenagers. Calculations have been made for frequencies, response percentages, and means. Additionally, a one-way anova was used to conduct an analysis of variance to compare the average student responses to the variable "experiencing a traumatic event" between groups of students. The findings demonstrated that there are substantial variations in the means of students who claim having experienced a traumatic event and those who report not having, with a statistical significance threshold of $p < 0,01$ between the two groups. Students' exposure to violence in schools and the loss of a loved one appear to be particularly significant traumatic experiences for their psyche. Additionally, a quick presentation of the application's cyberbullying-related capabilities is made.

Keywords: Cyber bullying; New technology; Psychological problems; Trauma

1. Introduction

Along with familial connections, it has become clear that maintaining connections to school during adolescence is essential for creating protective factors that lead to successful academic outcomes and lower rates of health-risk behavior. Teenagers who are disengaged from their education or who lack positive interactions with their teachers and peers are more likely to take drugs, engage in antisocial conduct, experience anxiety and depression symptoms, have less positive adult relationships, and drop out of secondary school. Therefore, dropping out of school can have a wide range of negative effects on young people [1].

Young people getting disengaged or alienated from school are largely the result of negative school experiences [2]. The quality of relationships (between peers and teachers) has been shown to have a positive impact on learning engagement as well as health and wellbeing, according to related study on school connectedness. Such events bring to light a variety of social situations, such as being bullied, not getting along with teachers, feeling like you don't belong, performing poorly in school, and experiencing stress. In a time of many transitions, when identity and relationships with family, peers, and school change, schools are accessible and generally stable settings in which to locate interventions to foster adolescent connectivity [3]. This might result in better health and educational performance. There is an obvious need to better understand what influences connectivity to school, how we can successfully assess this, and how and when we may best help, despite the fact that extensive research has been undertaken from both the health and educational perspectives [4].

Additionally, contemporary technology is always developing, and in recent years, this has resulted in a very serious societal issue called cyberbullying. Unfortunately, academic institutions, educators, parents, and those who offer

* Corresponding author: Agathi Stathopoulou

emergency services pay little attention to this global issue. Because bullying in schools and universities is producing enormous issues for students, parents, and educational institutions, it stops students from achieving in their academics [5]. Therefore, not much has been done to assist individuals who are perpetually trapped as a result of modernisation and digitization. Researchers do, however, concur that bullying's stressful effects are escalating with the rapid expansion of technology because many students who are victims of cyberbullies suffer in silence and are hesitant to report their abuse to the authorities or their parents due to the social stigma associated with bully victims. As a result, it is important for parents, educators, and institutional authorities to remain alert for such events [6].

Overall, many researchers concur that young people's early secondary school experiences and their connections at school continue to influence their moods, their substance use in later years, and their propensity to finish secondary school. Students who do well in school and have strong social ties are less likely to go on to develop mental health problems or engage in risky behaviors for their health and are more likely to achieve academic success. However, school connectedness also refers to interactions with teachers, peers, and the learning process. Therefore, the issue is not whether or not school or social connectedness is more crucial, but rather how to foster both in ways that support learning and wellbeing without traumatic events and academic challenges [7].

As a result of the aforementioned statements, we will briefly review a few representative studies in this essay that examine the impact of new technology on a particularly serious traumatic event, such as cyberbullying, while also attempting to determine how a particularly traumatic event may have an impact on a student's mental health and academic performance. Therefore, the findings of our study, which examined the connection between traumatic experience and learning difficulties in secondary school students, will be described in detail.

1.1. Puberty and trauma

In 1926, Freud became the first to refer to mental trauma as "a righteous in the defense mechanisms of the individual" and said that the person at the time of the traumatic event is distinguished by a sensation of utter inability [8]. The emotional and cognitive development of a person can be shaped by traumatic events. Up until the age of 16, 25% of youngsters are thought to have gone through a traumatic event [9]. Many studies indicate that between the ages of 14 and 43% of boys and between the ages of 15 and 43% of girls had experienced a traumatic event. Three to fifteen percent of the girls and one to six percent of the boys may exhibit severe psychological issues. Intensity of psychological issues is high and reaches severe levels of dysfunction in 100% of children and adolescents who witnessed domestic violence, 90% of children and adolescents who have experienced sexual assault, 77% of kids who have experienced violence in a school setting, and 35% of kids who have experienced violence in their daily lives [10],[11], [12],[13],[14]. Many of these kids were successful in healing from their wounds, integrating their experience, and growing up naturally. However, in some people, the severity of their psychological issues reaches clinical levels, leading to substantial dysfunctions in their day-to-day functioning and grave cognitive deficiencies [15], [16]. Some of the most typical signs include those that impact: cognitive perception (they can not stop thinking about the traumatic experience or feel that everything around them is precarious), the child's emotional makeup, including feelings of loneliness, nightmares, worry, and horror Cognitive behavioral disorders (attention disruption and poor academic performance), physical symptoms (headaches, stomach anxiety, and hypochondriasis), and socio-behavioral disorders (aggressive and abusive behavior, rejection of parental and teacher authority, denial of all types of activity) are the other three categories. [17],[18],[19]. Children typically steer clear of certain attitudes, postures, activities, games, and behaviors that trigger memories of the traumatic event. To prevent feelings of worry and anxiety, they can interrupt enjoyable activities or avoid putting themselves in uncertain situations. This kind of painful avoidance might hinder a child's cognitive growth and positive social experiences, which can have an impact on daily activities or generalize into more phobic behavior [20].

1.2. Application features and online harassment in schools

The way people engage with one another has changed as a result of technological advancements like cellphones, social media, and mobile apps. Bechtoldt, et al. [21] claim that youth today use tools for hyper-local communication (e.g., Yik Yak, Whisper), sending limited-time messages (e.g., Snapchat), sharing photographs and videos, and more than they did ten years ago. As a result, cyberbullying now manifests in ways that were previously impractical or uncommon. The phrase "when the Internet, cellphones, or other devices are used to send or post text or images intended to hurt or embarrass another person" is used to describe cyberbullying. More than 40% of US students report experiencing cyberbullying, according to a National Crime Prevention Council research. This is particularly concerning because numerous studies have discovered that victims of cyberbullying frequently experience psychiatric and psychosomatic issues, and a British research discovered that bullying was a factor in nearly half of all teen suicides. These elements highlight the essential need to recognize all forms of cyberbullying, identify them, and eventually lessen their prevalence [22].

Numerous adverse effects, including poor mental and physical health and a decreased sense of wellbeing, can be brought on by exposure to bullying, physical aggression, and sexual assault [23]. As was already indicated, the primary focus of this study is on the potential detrimental effects of bullying, violence, and the loss of a loved one on academic attainment. As it is well known, adolescents' academic achievements are of great importance for prospective school choices and consequently a long-term career [23]. Previous researchers have found that bullied and abused children or adolescents perform worse in school compared with their non-abused peers [24]. Few studies on bullying have investigated the influence of school-level factors on individual academic performance and thus research has indicated that school-level factors may explain 10% of the variance in individual grades [25]. Konishi et al. [26] conducted one of the few multilevel studies in this area and found that school-level bullying was associated with lower grades. This emphasizes the importance of looking into both individual and contextual factors that affect students' academic progress. The social environment becomes particularly crucial for abuse victims because it may function as a shield against some of the harmful effects of the abuse and may positively influence the adolescent's development [27]. On the other side, a poor school climate could have a negative impact on personal growth [27]. Additionally, a growing body of research indicates that both cyberbullying perpetrators and victims are more likely to experience a wide range of mental health issues, such as depressed symptoms, suicidal thinking, and suicide attempts. Few research have used a theoretical framework to examine the perpetration of cyberbullying despite awareness of the harms to mental health [28].

The Theory of Reasoned Action was created as a tool to help with prevention and intervention of cyberbullying as a result of the aforementioned claims. Cyberbullying is "intentionally hurting or harming someone you personally know online or offline through the use of digital media such as the Internet or mobile phone," according to Heirman and Walrave [29] (p. 616). The models also accounted for victims of cyberbullying in terms of empathy. The Cyberbullying Experiences Survey [30] had participants fill out a cyberbullying perpetration scale that measures four different types of cyberbullying: deceit, malice, public humiliation, and unwelcome contact. Results across all four models revealed that lower empathy for cyberbullying victims predicted more favorable attitudes toward cyberbullying perpetration, higher intentions to cyberbully predicted more frequent cyberbullying behaviors, and more favorable attitudes toward cyberbullying perpetration predicted higher intentions to cyberbully. Cyberbullying injunctive norms, such as the belief that peers approve of the activity, might predict the likelihood of malicious intentions and unwelcome contact actions. The findings show that the TRA is a suitable framework for comprehending the act of perpetrating cyberbullying [30].

Furthermore, according to another research team, social networking sites serve as a fertile ground for bullies, making teenagers and young adults who use them vulnerable to assault. The company claims that it is simpler to identify language patterns used by bullies and their victims through machine learning and to create criteria for automatically identifying cyberbullying content. The information used for this project was gathered from the question-and-answer website Formspring.me, which has a high concentration of bullying-related content. Using a web service called Amazon Mechanical Turk, the data was tagged. Additionally, a computer was programmed to recognize bullying content using the labeled data and machine learning methods made available by the Weka toolkit. A C4.5 decision tree learner and an instance-based learner both had 78.5% accuracy in recognizing the genuine positives. In a small sample of Form spring data, we were able to correctly identify 78.5% of the posts that contain cyberbullying by keeping track of the proportion of swear and insult terms within a post. The end findings show that these attributes reasonably identify cyberbullying in Form spring posts, but there is still potential for improvement on this timely and significant use of machine learning to web data [31].

Additionally, a small portion of young people's interpersonal encounters take place online due to the growing popularity of communications conducted through social networks. As a result, new dangers and threats, like online grooming, stalking, and bullying, surface. Children between the ages of 12 and 17 are the largest demographic affected in this situation [32] (eMarketer, 2013). In an effort to better the situation, a team has created a research agenda for a Facebook Watchdog program. This application's goal is to find the risks described above. The evidence is consistent with the notion that threat indicators are identified through picture analysis, social media analytics, and text mining methods in order to inform the public about active attacks and support subsequent actions [33]. More specifically, the developers highlighted open research areas, which are required to develop a Facebook Watchdog app aiming at protecting adolescents against bullying and grooming attacks. They recommended a modular implementation that would make it simple to add additional modules to the Watchdog and promote communication between related research groups. The creation of an evaluation matrix based on the weighted Facebook Watchdog modules is of particular significance. Additionally, it is considered vital for social professionals and young people themselves to participate in the growth process in order to create assertions about human behavior that are more trustworthy. Last but not least, the project team thinks that the weighted assessment matrix provides a solid foundation for integrating various image processing, text mining, and social analytics modules to identify online grooming and cyberbullying activity [33].

Another study examined the impact of more recent mobile app features, such as frequent image and video sharing, short-term communications, and hyper local communication, on online bullying in high school settings. Data study indicates that new app features are important in how cyberbullying occurs in educational settings. In particular, the researchers discovered that variations in users' perceptions of ephemerality might result in situations where one side in a conversation may handle significantly more power than the other and can take advantage of this. Additionally, since visual content may be used as proof or to bolster arguments, students are more directly impacted by it. As a result, students are sophisticated enough to hold app makers accountable for the consequences of use of their apps. These findings, according to the researchers, have broadened our understanding surrounding the complex interplay between novel app-features and cyber bullying in school settings and paved the way for future app design refinements, as well as intervention studies [34].

Finalizing and despite of the usage of digital technologies for cyberbullying, we emphasize the significance of all digital technologies in the field of education and in students training for anti-bullying behaviors, which is highly effective and productive, facilitates and improves assessment, intervention, and educational procedures via mobile devices that bring educational activities everywhere [46-48], various ICTs applications that are the main supporters of education [49-60], and AI, STEM, Games and ROBOTICS that raise educational procedures to new performance levels [61-66]. Additionally, the development and integration of ICTs with theories and models of metacognition, mindfulness, meditation, and the cultivation of emotional intelligence [67-78], accelerates and improves more the educational practices and results, especially in the anti-bullying training and consciousness.

2. Methodology

2.1. Aim of our research

The purpose of our study was to look at the connection between secondary school students' traumatic experiences and learning impairments.

The second research question is

The key research topic we were interested in was whether there was a connection between secondary school students' appearance of learning problems and their exposure to traumatic events.

2.2. Collection of data

Questionnaire The data were gathered using the Youth Self Report [35] tool. Specifically, the subscales "anxiety/depression" and "withdrawal/depression" inquiries. The pupils also had access to an online form that was set up in their school and used to log demographic information and potentially upsetting events.

2.3. The sample

160 students with learning difficulties who attended secondary general and vocational secondary education schools in Athens and were 12 to 17 years old participated in the survey. We obtained some data for the same pupils from an online form that was set up in their school. There were 59 girls and 101 boys among the students. Three (3) students were in the 12th grade, followed by 30 in the 13th, 28 in the 14th, 34 in the 15th, 46 in the 16th, and 19 in the 17th. Regarding the class they were in, 24 students were in first grade, 27 students were in second grade, 23 students were in third grade, and 39 students were in the 1st Lyceum, 30 pupils were studying in the 2nd Lyceum and 17 pupils were studying in the 3rd Lyceum.

2.4. Procedure

Our data was gathered between October 2016 and May 2017. Each participant filled out a form that was installed in his school's website. Due to their difficulties with learning, the participants' students had come to the Center for Assessment and Support. After being requested by them and their parents, the students in a special session filled out the Youth Self Report form on a tablet that was made accessible to them.

2.5. Statistical analysis

The SPSS 23 statistical program was used to analyze the data statistically. We examined the frequency and percentage of responses to the child and teen self-report questionnaires by Achenbach [35] as well as the student's statements on the traumatic experience. Tables and graphs are used to present our findings.

3. Results

The frequencies of student responses to the self-report questionnaires for kids and teens are displayed in the graph below.

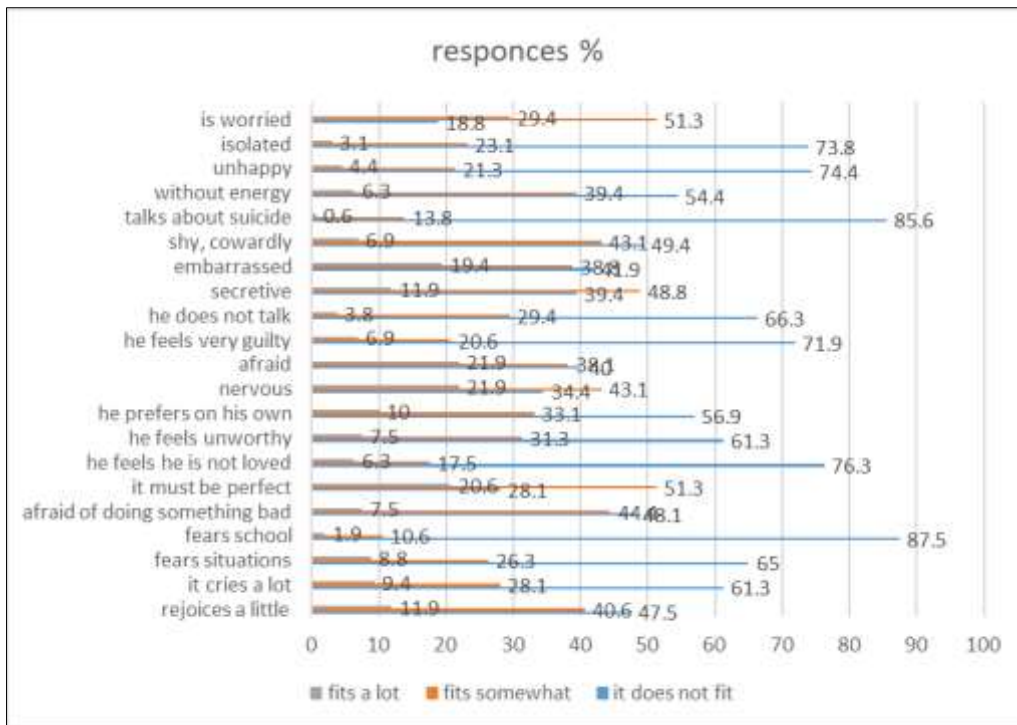


Figure 1 Response rates in the self-report questionnaire for children and adolescents

Threatening illness (6,9%), family deaths (5,6%), intense family strife resulting in an ugly divorce (4,4%), parental neglect and lack of contact (8,8%), and cyberbullying (2,5%) were the students' painful experiences. A traumatic incident was not reported by 71,9% of people.

3.1. Combinations of the youth self-report questionnaire questions with the variable traumatic event experience

The relationships between the self-report questionnaires and the experience of different traumatic events are shown in Table 1 (** P 0.01 - * P 0.05). (Only outcomes that met statistical thresholds)

Table 1 correlation with different traumatic event experiences.

Variables		Traumatic event experience
Rejoices a little	Pearson Correlation	0.202*
Afraid of doing something bad	Pearson Correlation	0.236**
He feels he is not loved	Pearson Correlation	0.173*
He feels unworthy	Pearson Correlation	0.224**
He prefers on his own	Pearson Correlation	0.220**
He thinks of suicide	Pearson Correlation	0.209**
Without energy	Pearson Correlation	0.167*
Unhappy	Pearson Correlation	0.311**
Isolated	Pearson Correlation	0.216**

3.2. Analysis of variance in the self-report questionnaire for children and adolescents relating to the occurrence of a traumatic event

The one-way anova analysis of variance for the self-report questions on the occurrence of traumatic events for children and adolescents is shown in Table 2. Only outcomes that met statistical criteria.

Table 2 Analysis of variance of a self-report questionnaire for kids and teens on the likelihood of experiencing a traumatic experience.

		Sum of Squares	df	Mean Square	F	Sig.
embarrassed	Between Groups	7,877	5	1.575	2.958	0.014
	Within Groups	82,023	154	0.533		
he thinks of suicide without energy	Between Groups	2,401	5	0.480	3.698	0.003
	Within Groups	19,999	154	0.130		
Unhappy	Between Groups	7,108	5	1.422	4.144	0.001
	Within Groups	52,836	154	0.343		
he thinks of suicide without energy	Between Groups	13,671	5	2.734	12.410	0.000
	Within Groups	33,929	154	0.220		
Unhappy	Between Groups	9,407	5	1.881	8.575	0.000
	Within Groups	33,787	154	0.219		

3.3. Different comparability's of averages

In the self-report questionnaire, students who have experienced cyberbullying have a higher average for the statement "I'm afraid to go to school" than students who have not reported traumatic experiences, students who have gone through an ugly divorce within their family, and students who have experienced neglect and lack of communication with a father. Students who experience cyberbullying have a higher average for the statement "I'm afraid to think or do something bad" than students who do not report traumatic experiences, students who have experienced a threatening illness, inter-family conflicts-ugly divorce, and students who have experienced neglect and lack of communication with a father. For the statement: "I feel inferior", students who have experienced neglect and non-communication with a father have a higher average than students without reporting traumatic experience. Students who have experienced the loss of a family member get higher average scores for the statement "I prefer to be myself" than students who haven't encountered anything terrible. Students who have experienced paternal neglect and lack of contact had a higher average for the statement "I'm easily embarrassed" than students who have encountered family fights or an ugly divorce. Students who have experienced the death of a family member have higher averages for the phrases "I think about suicide" and "I have no energy" than students who have not encountered trauma. For the statement: "I feel unhappy" students who have experienced family member death show a higher average than the students without reporting traumatic experience and students who have experienced a threatening illness, inter-family conflicts-ugly divorce, and cyber-bullying students. Additionally, pupils who have experienced parental neglect and lack of communication have higher averages than those who have not. Students who have experienced a family member dying show a higher average for the statement "I prefer to be myself rather than others" than students who did not report a traumatic experience, students who have experienced a life-threatening illness, domestic conflicts-ugly divorce, and neglect and non-communication with a father. Additionally, pupils who have experienced parental neglect and lack of communication have higher averages than those who have not.

4. Discussion

Our study's findings indicate that groups of teenagers who have experienced cyberbullying, family member neglect, and non-communication with the father had the highest response averages. According to one definition of cyberbullying, it is "an aggressive act or behavior that is carried out by a group or an individual repeatedly and over time against a victim who cannot easily defend himself using electronic means" [36]. Because of this, cyberbullying is a deliberate abuse of power that takes place through the use of ICTs. Recent research has looked into cyberbullying using a variety of more targeted media. They present seven main media ways described by secondary school pupils: mobile phone calls, text messages, picture/video clip bullying, e-mails, chat room, instant messaging, and websites [37]. When victims are

successful in defending themselves, the detrimental psychological repercussions are lessened. But when a victim receives no support or assistance, the phenomena can turn exceptionally harmful, with extremely corrosive effects on the victim's mental health [38]. Studies have shown that while a furious and reactive dread may fuel a stress reaction, internalized fear may accompany the sensation of defenselessness. Stress, which is linked to reactive emotions like rage, may support a confrontational or avoidant attitude. Victims of cyberbullying frequently struggle with uncontrollable unpleasant emotions that have an impact on their well-being and social influence in school and in general [39]. Furthermore researches demonstrated a link between suicidal ideation and experience with bullying and cyber bullying victimization [40]. Youth suicide is a significant public health concern. It is the third leading cause of death among young people. Review of many studies found a consistent association between being bullied and suicidal thoughts among youth. In addition, teenagers who engage in bullying are more likely than adolescents who do not to experience depression, suicidal thoughts, and suicide attempts [41]. Additionally, victims of cyberbullying frequently report having academic difficulties as a result of their obsession with the incident. Students showed a sharp decline in their grades, a rise in absenteeism, anxiety over social isolation, and the emergence of the notion that school is no longer a secure place. There are also reports of other major academic issues including skipping class, accruing detentions and suspensions, and acting delinquently. Academic performance declines can be attributed to victims' lower levels of concentration and increased degrees of annoyance with the bully and scenario [42].

Responses that specifically allude to feelings of loneliness and sadness had high averages in sample groups that have experienced family member death, neglect, and lack of communication with the father. The study's findings support the arguments made in the international literature that adolescents who are lamenting feel isolated and withdrew from their regular activities. The results are in line with the international literature, which maintains that the teenager mourns infrequently because he lacks the stamina to endure intense feelings of grief and loss [43]. Lack of attention and communication with the father can also lead to emotions of worthlessness, loneliness, and suffering. When a teen is going through a wave of biological and social changes that prepare them for adulthood, the absence of a parental pattern can cause a variety of negative emotions [44], [45].

5. Conclusion

The results of our study show that the greatest response averages were found among groups of teenagers who had been the victims of cyberbullying, neglect by family members, and lack of communication with the father. The term "an aggressive act or behavior that is carried out by a group or an individual repeatedly and over time against a victim who cannot easily defend himself using electronic means" is one description of cyberbullying. For this reason, cyberbullying is a purposeful misuse of power that occurs via ICTs. Recent studies have examined cyberbullying through a range of more focused media. Secondary school students cite seven primary media channels: text messages, mobile phone calls, websites, chat rooms, instant messaging, e-mails, picture/video clip bullying, and picture/video clip bullying. When victims are able to protect themselves, the negative psychological effects are reduced. However, in the absence of support or aid, the phenomenon can become exceedingly detrimental, with corrosive repercussions on the victim's mental health. A stress reaction may be fueled by an angry and reactive dread, but the feeling of helplessness may be accompanied by internalized fear, according to studies. An aggressive or avoidant attitude may be reinforced by stress, which is associated with reactive emotions like anger. Cyberbullying victims often experience unmanageable negative feelings that affect their social influence and general well-being at school. According to international literature, the teen rarely grieves because he is not strong enough to withstand strong emotions of loss and grief. The results support this theory. Emotions of valuelessness, loneliness, and pain can also result from neglecting the father and not communicating with him. When a teen is undergoing a series of biological and social transitions that prepare them for adulthood, the lack of a parental pattern might result in a range of negative feelings.

Compliance with ethical standards

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Disclosure of conflict of interest

The Authors proclaim no conflict of interest.

Statement of ethical approval

The Author had taken the approval of the appropriate committee of ethical and deontology on research

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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