Technium
Education and Humanities

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

Psychotraumatic Childhood Experiences and Anxiety in Educational Setting

Gerasimos Kalogeratos*
Department of Management Science and Technology, University of Patras, Patras, Greece
gkalogeratos@upatras.gr

Eleni Anastasopoulou
Elementary school of Agios Vasileios, Patras, Greece
elenianastasopoulou_@hotmail.com

Angeliki Tsagri
Elementary School of Vlachopoulo, Messinia, Greece
tsagriangeliki@gmail.com

Chrysostomos Tseremegklis
40th Elementary School of Patras, Patras, Greece
chrisostomos@sch.gr

Antigoni Kriparopoulou
Experimental Elementary School of University of Patras, Patras, Greece
antikrip@gmail.com

*Corresponding Author: E-mail: gkalogeratos@upatras.gr

Abstract

This study examines the intricate relationship between childhood experiences that induce psychological trauma and the manifestation of anxiety in educational settings. An in-depth analysis is conducted on the enduring psychological consequences of childhood psychotrauma, encompassing various forms of abuse, neglect, and exposure to domestic or community violence, with a particular focus on how these factors affect the learning environments of children. The study highlights the connection between these initial negative experiences and the emergence of different anxiety disorders, which can significantly impede a student's academic performance, social interactions, and overall well-being in educational settings. The key findings suggest a strong correlation between childhood psycho-trauma and heightened levels of anxiety in educational settings. The study emphasizes the need for educators to possess heightened awareness and specialized training to detect and effectively address anxiety resulting from trauma accurately.
Keywords: *Trauma, Anxiety, Childhood Experiences, Educational Context, Trauma-informed practices*

1. Introduction

Childhood experiences characterized by psychological trauma, which include various harmful incidents like abuse, neglect, or exposure to violence, can significantly and enduringly affect an individual's mental and emotional state. Within the realm of education, these encounters frequently materialize as anxiety, which can significantly impede a student's scholastic and interpersonal growth. Students who have experienced trauma may exhibit symptoms of anxiety, such as trouble focusing, excessive

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

concerns about their academic performance, social isolation, or heightened reactions to perceived threats or sources of stress (Gkintoni et al., 2022a). Educators and school counselors should acknowledge these indicators and create a nurturing and empathetic atmosphere. Having this awareness is crucial in assisting students who are affected to manage their emotions and is necessary for implementing strategies to encourage their ability to bounce back and facilitate their recovery (Giannoulis et al., 2022a; Giannoulis et al., 2022b). Educational institutions can impact the recovery and academic achievement of students who have experienced psychotraumatic events by explicitly addressing their needs (Antonopoulou et al., 2022a).

In addition, it is worth noting that experiences during childhood that involve psychological trauma can significantly impact levels of anxiety within an educational environment. Research has shown that the regulation of pain modulation by neurohormonal mechanisms can be influenced by psychosocial or emotional stress, including childhood psychotraumatic experiences (Boccalon et al., 2006; Halkiopoulos et al., 2023). Furthermore, empirical investigations have demonstrated a robust correlation between anxieties encountered during early childhood and the subsequent concerns and themes that individuals confront in adulthood. This underscores the lasting impact that early life experiences have on an individual's mental health (Schreuder, 1996). Physical manifestations of anxiety, cognitive impairments, and below-average academic performance have been identified as adverse outcomes for students who experience social anxiety in an educational environment (Antonopoulou et al., 2021; Antonopoulou et al., 2022b; Archbell & Coplan, 2021; Tzachrista et al., 2023). Furthermore, it has been established through research that anxiety does indeed exist in digital learning environments, although there are variations in this regard across genders and cultural contexts (Antonopoulou et al., 2019; Antonopoulou et al., 2020; Cooper & Ṛahin, 2022).

Furthermore, empirical studies have demonstrated that speaking anxiety among students is substantially subdivided by gender and educational institution. In particular, speaking anxiety is more prevalent among female students enrolled in coeducational educational institutions (Zulkiflee & Nimehchisalem, 2022). The results of this study underscore the importance of recognizing and addressing the impact of psychological trauma experienced during childhood on anxiety levels in academic environments (Gkintoni & Dimakos, 2022). Educators and mental health professionals can utilize strategies to aid students in managing anxiety and cultivating an ideal learning environment by recognizing the lasting influence of childhood experiences on academic performance and mental health (Antonopoulou et al., 2023c; Gkintoni et al., 2023; Gkintoni et al., 2021).

2. Anxiety and Adolescence

Anxiety is characterized as a widespread, unpleasant, and frequently unspecified sensation in response to an impending threat perceived by the individual undergoing it. It is a common psychological phenomenon that is influenced by specific stages of development, which determine an individual's preparedness and capacity to adjust to difficult circumstances. Anxiety is a multifaceted emotion that has both physiological and functional aspects. It protects individuals from anticipated danger and facilitates their transition from dependence to autonomy (Gkintoni et al., 2021c). As per Spielberger (1982), anxiety is defined as a disagreeable sensation that induces intense nervousness in addition to fear, terror, and excitement. Barlow (2000) asserts that stress is a commonplace and essential component of an individual's personality that safeguards, fortifies, and improves their physical and mental capabilities. In a broader sense, whether it is normal or pathological, stress affects individuals at various stages of their development, including conception, pregnancy, birth, infancy, childhood, adolescence, and adulthood (Barlow, 2000). Anxiety is triggered by various factors associated with the psychological experiences of individuals, occurring either at a conscious or unconscious level. The primary determinants include:

1. the individual's self and interpersonal dynamics,

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

2. the individual's cognitive processing of experiences,
3. the societal and cultural pressures and the individual's adaptability to them,
4. the individual's personal beliefs and principles, and
5. the individual's biological heritage.

Normal levels of anxiety indicate the individual's psychological preparedness to be vigilant. Considering their psychological and physical well-being equips the individual to respond defensively when confronted with a potentially harmful situation. However, when an individual experiences stress characterized by intense negative emotions and dysfunctional behavior within their family and broader social environment, it is considered a psychopathological manifestation. This indicates a disruption in the individual's ability to adapt to the situation (Barlow, 2000; Gkintoni et al., 2023c).

The symptoms of stress can be categorized into two main groups: physical and psychological (Thompson et al., 2013). Psychological symptoms encompass indeterminate apprehension and unease, agitation, irritability, edginess, impaired focus and memory, inattentiveness, and perceptions of reduced cognitive capacity. Physical manifestations encompass, but are not restricted to, dyspnea, asphyxiation sensation, Globus sensation, thoracic discomfort, emesis, dizziness, tremors, diaphoresis, tachycardia, syncope inclination, motor agitation, tension headache, dysphagia, abdominal pain.

Individuals with anxiety may exhibit a range of symptoms at different levels, which can cause them to avoid situations that they perceive as stressful actively. This avoidance behavior can intensify their anxiety and eventually lead to a generalized anxiety response, even in the absence of specific triggering stimuli. Stress, in particular, can elevate the likelihood of individuals developing psychopathology, such as anxiety disorders and/or physical illness (Bower et al., 2013). Anxiety Disorders are clinical conditions characterized by the presence of abnormal anxiety that hinders a child's developmentally appropriate behavior and disrupts their functioning in all areas of their daily life. Anxiety Disorders are commonly diagnosed during childhood and adolescence, with Separation Anxiety Disorder being the most prevalent diagnosis. Simultaneously, Generalized Anxiety Disorder and Social Anxiety Disorder have a similar prevalence (Gkintoni & Ortiz, 2023). Anxiety Disorders can develop in children and adolescents with a timid and phobic temperament.

3. Prevalence, Risk Factors, and Predictors of Anxiety Disorders in Adolescence

Adolescence is a stage of development marked by significant fluctuations in both psychological and physical aspects, as well as social interactions. Along with the hormonal changes of puberty, adolescents are expected to adapt effectively to their surroundings' educational, socioeconomic, and cultural demands. They also need to satisfy their psychological desires for independence and the development of a strong sense of self and gender identity. The various developmental demands and changes experienced during adolescence elicit feelings of anxiety and concern, which have an impact on their daily functioning and can potentially contribute to the emergence of psychopathological conditions, such as anxiety disorders. Anxiety in adolescents can lead to overall impairment, hinder family functioning and relationships with parents and peers, and hurt their quality of life, resulting in low self-esteem and subpar academic performance (Antonopoulou et al., 2021a; Antonopoulou et al., 2021b; Cabral & Patel, 2020; Gkintoni, 2023).
Anxiety is a frequently diagnosed mental disorder in children and adolescents, and it often continues into adulthood in many cases (Cabral & Patel, 2020). The National Survey of Children's Health (NSCH, 2016) found that 7.1% of children and adolescents aged 3-17 years exhibited symptoms of anxiety (Ghandour et al., 2018). The National Comorbidity Study – Adolescent Supplement (NCS-A, 2011) conducted in the United States revealed that 31.9% of adolescents aged 13-18 years had experienced anxiety disorders at some point in their lives (Merikangas et al., 2011). The NCS-A study revealed that

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

the rates of specific subtypes of Anxiety Disorders were as follows: 2.2% for Generalized Anxiety Disorder, 2.3% for Panic Disorder, 2.4% for Agoraphobia, 5% for PTSD, 7.6% for Separation Anxiety Disorder, 9.1% for Social Anxiety Disorder, and 19.3% for Specific Phobias (Merikangas et al., 2011). The prevalence of Posttraumatic Stress Disorder, Panic Disorder, Social Phobia, and Generalized Anxiety Disorder tends to rise as individuals age. In general population samples, girls tend to report a higher number of phobias compared to boys.

Costello and colleagues' (2011) study found that 10.7% of adolescents met the criteria for an anxiety disorder, with a range of 5.5% to 14.9%. Specifically, the research found that the occurrence of Panic Disorder, with or without Agoraphobia, among adolescents varied from 0.3% to 1.2%. In addition, the researchers postulated that this rate was tripled, taking into account the number of adolescents who reported panic attacks but had not been given a distinct diagnosis (Costello et al., 2011).

Risk factors

Ghandour and colleagues (2018) found that the risk factors for the development of Anxiety Disorders during adolescence apply to all subtypes of Anxiety Disorders. Risk factors encompass an introverted temperament, a familial background of anxiety or other psychopathological conditions, such as depressive disorders, and the occurrence of adverse, potentially traumatic life experiences (Ghandour et al., 2018; Oikonomou et al., 2023). Additional risk factors are delineated by Blanco and colleagues (2014), including a disrupted family environment, childhood sexual abuse, diminished self-esteem, and poor academic achievement.

Predictive Factors

The recent systematic review conducted by Hovenkamp-Hermelink and colleagues (2021) provides information on the factors that predict the long-term presence of Anxiety Disorders throughout an individual's lifetime. By the end of adolescence, the estimated prevalence of diagnosed Anxiety Disorders is already 20%. Notable factors that strongly indicate adolescence are childhood abuse, parental neglect, financial hardship, later onset of an anxiety disorder, being female, having a first-degree relative with Specific Phobia, and having a parent with Anxiety Disorder.

Furthermore, it is worth noting that family dysfunction and parental psychopathology, particularly Social Anxiety Disorder, are significant indicators of how Anxiety Disorders develop during adolescence (Beesdo-Baum et al., 2012; Knappe et al., 2009). The socio-cultural background and income disparities between countries are potential predictive factors for the occurrence and persistence of Anxiety Disorders in adolescents. However, sufficient research is lacking to establish definitive conclusions on this matter (Hovenkamp-Hermelink et al., 2021).

Trait Anxiety and State Anxiety

Predisposition Anxiety, as defined by Spielberger (1966), is the inherent inclination of an individual to perceive a broad range of situations as perilous and menacing, leading to profound and enduring Anxiety. Situational Anxiety refers to the immediate and intense emotional response that a person experiences when they perceive a situation as threatening. Nevertheless, Situational Anxiety diminishes once the perceived menacing circumstance no longer exists (Spielberger, 1966).

Predisposition Anxiety is an enduring characteristic of a person's personality that causes them to consistently view the world as threatening, regardless of the actual level of danger present. This trait sets them apart from most individuals in their environment. Individuals with a high predisposition to Anxiety tend to consistently experience higher levels of Anxiety in response to a threat, even if the threat is not significant. This state of Anxiety is short-lived and is associated with the activation of the autonomic nervous system. The individual's past experiences influence Situational Anxiety, the circumstances of their current environment, and the intensity of their accompanying emotions, such as

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

nervousness. Simultaneously, it can undergo modifications as time progresses (Spielberger & Reheiser, 2009).

4. Definition and Characteristics of Adolescent Experiences

Adolescence refers to the transitional phase in an individual's life from childhood to adulthood, as Feldman (2011) described. *Adolescence* is a period characterized by various physical, psychological, cognitive, and social transformations. These changes involve intense emotional ups and downs, significant physical alterations, the exploration of one's identity, the desire for independence, the importance of friendships, and the beginning of romantic relationships (Feldman, 2011). During adolescence, individuals experience cognitive and intellectual growth, leading to more robust reasoning, logical, and moral thinking abilities. They also become more proficient in abstract thinking, empathy, and rational judgments (WHO, 2014). Adolescents generally gain fresh knowledge and abilities, acquire the ability to regulate their emotional responses, and cultivate skills that contribute to their enjoyment of their teenage years and facilitate a seamless transition into adulthood (UNICEF, 2011).

The precise determination of the age at which puberty occurs is controversial. As Burns and colleagues (2000) stated, adolescence is the transitional phase between childhood and adulthood, specifically from 10 to 21 years of age. The developmental stage of adolescence can be divided into three distinct periods: early adolescence (10-13 years), middle adolescence (14-17 years), and late adolescence (18-21 years). The reference is from Burns et al. (2000). The World Health Organization (WHO, 2014) defines *adolescence* as the period between 10 and 19 years of age, further divided into three distinct phases. 1) Early adolescence is between 10 and 13 years of age. 2) Middle adolescence encompasses the ages of 14 to 16. 3) Late adolescence occurs between the ages of 17 and 19. Puberty is now recognized to start at the age of ten and conclude at the age of 24. This can be divided into three distinct phases: early adolescence (10 - 14 years), late adolescence (15 - 19 years), and young adulthood (20 - 24 years) (Sawyer et al., 2012).

Sawyer and colleagues (2012) argue that although the biological changes of puberty remain relatively constant, the prolonged duration of puberty until the age of 24 is primarily influenced by economic and sociocultural factors. These factors influence the timing of adolescence, the social role of adolescents, and society's expectations towards adolescents on a global scale (Sawyer et al., 2012). Specifically, both in developed and developing nations, crucial societal shifts into adulthood are significantly postponed beyond the point of biological maturation (WHO, 2014). The duration of education and training for young individuals has increased, leading to a shift in their expectations (Gkinton et al., 2023). Additionally, there has been a rise in the accessibility of contraception methods to prevent pregnancy. Consequently, young individuals are delaying the assumption of adult duties and obligations, such as starting a family and returning to work, until later stages of life (WHO, 2014).

Puberty is a significant stage of adolescence, marking the onset of sexual maturation when the reproductive organs of both males and females become capable of reproduction. Boys produce high levels of androgens, while girls produce high levels of estrogens. Nevertheless, variations in the commencement of puberty are probable, both in males and females, contingent upon the growth rate of everyone. Puberty typically manifests in girls through the onset of menstruation around the ages of 11-12, while in boys, it commences at 13-14 years with the initiation of sperm production in the testicles (Feldman, 2011).

Adolescence is a period characterized by notable neurodevelopmental transformations. These transformations are closely linked to hormonal changes, although they do not always rely on them. The limbic system, which is involved in seeking pleasure, processing rewards, regulating emotions, and controlling sleep, is one of the brain regions that undergo neurodevelopment during adolescence (Spear, 2013). Simultaneously, alterations also occur in the prefrontal cortex, which regulates executive functions such as decision-making, organization, impulse control, and future planning (Blakemore & Robbins, 2012; Gkintoni et al., 2022b; Halkiopoulos et al., 2021c; Halkiopoulos et al., 2022). It is

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

essential to mention that the prefrontal cortex's development happens later in adolescence compared to the limbic system (Blakemore & Robbins, 2012; Spear, 2013).

5. Adverse Childhood Experiences and Anxiety Symptoms in Adolescence

Based on the literature review, ample research connects Adverse Childhood Experiences with detrimental effects on the mental well-being of adults. However, a severe scarcity of corresponding research focuses on the adolescent population (Struck et al., 2021). The correlation between exposure to adverse childhood experiences and the development of severe mental health issues in adulthood, including substance abuse, depression, Anxiety, and suicide attempts, has been consistently established (Felitti et al., 2019). Furthermore, the decline in mental well-being during adulthood due to repeated exposure to Adverse Childhood Experiences (ACEs) is linked to enduring alterations in the physical composition of the brain caused by prolonged activation of the Stress System (Shonkoff et al., 2012).

Ghafari and colleagues (2022) conducted a systematic review and meta-analysis, which revealed that 58.1% of adolescents globally receive a diagnosis of a Mental Disorder. Children and adolescents who experience high levels of trauma, maltreatment, or adversity are frequently diagnosed with Internalizing and Externalizing Disorders (DSMV, APA, 2013; Lew & Xian, 2019). Internalizing disorders pertain to abnormalities in mood and emotions, whereas externalizing disorders manifest as abnormalities in the behavior of the child or adolescent. The Internalizing Mental Disorders category encompasses Anxiety and Depression, whereas the Externalizing Mental Disorders category comprises Attention Deficit Disorder with or without Hyperactivity (ADHD) and Oppositional Defiant Disorder (Arbeau et al., 2017; Lew & Xian, 2019).

Within the international literature, there are only a few studies that thoroughly investigate the connection between adverse childhood experiences (ACEs) and the symptoms of Internalizing Disorders during adolescence. These studies consider the type and total number of negative experiences encountered during childhood. Furthermore, many of these studies commonly include participants from both childhood and adolescence. However, because Anxiety and Depression often occur together during adolescence, there is a lack of research specifically examining the connection between Adverse Childhood Experiences (ACEs) and Anxiety in adolescents. (Elmore & Crouch, 2020; Lew & Xian, 2019). It is observed that the Greek bibliographic review does not contain any studies that correspond to this.

Studies on the juvenile population typically focus on nine Adverse Childhood Experiences (ACEs): parental divorce/separation, parental loss, parental cancer diagnosis, a family member with a mental disorder, substance use within the family, witnessing domestic violence, exposure to community violence, racist abuse, and economic hardship. The ACEs can be categorized into four groups: divorce or parental separation, family dysfunction, exposure to violence, and financial hardship (Crouch et al., 2019; Elmore & Crouch, 2020; Lew & Xian, 2019).

According to the research conducted by Lew and Xian (2019), a total of 35,718 children and adolescents between the ages of 6 and 17 who had encountered four or more adverse experiences exhibited symptoms of Anxiety or Depression in comparison to their peers who had experienced fewer than four ACEs. The research findings relied on reports provided by parents or guardians, which also examined whether the child or adolescent had been officially diagnosed with an anxiety or depressive disorder. ACEs were classified into four distinct categories: The factors considered are limited to 1) Experiencing financial hardship exclusively, 2) Being affected by parental divorce exclusively, 3) Being exposed to mental disorder or substance abuse, and 4) Having a high number of adverse childhood experiences overall. Children and adolescents belonging to the groups labeled as "Parental Divorce Only," "Mental Disorder or Exposure to Substance Abuse," and "High Number of ACEs Overall" were found to have

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

a higher likelihood of experiencing Anxiety or Depression compared to their peers who did not have any ACEs. Simultaneously, children and adolescents in the "High Number of ACEs Overall" group exhibited a greater prevalence of internalizing disorders compared to their peers in the other three ACEs groups. Additionally, the percentage of internalizing disorders increased further when pre-existing comorbidity of Anxiety and depression was present (Lew & Xian, 2019).

The study conducted by Elmore and Crouch (2020) involved a large-scale cross-sectional analysis. The study examined the association between Adverse Childhood Experiences (ACEs) and the presence of Anxiety or Depression in a sample of children and adolescents aged 8 to 17 years. The data, obtained through interviews with parents or guardians, included 39,929 participants. In this study, 9% of adolescents were diagnosed with current Anxiety. These adolescents had experienced four or more Adverse Childhood Experiences (ACEs), with parental divorce/separation being the most common ACE. This finding is consistent with previous studies conducted by Bethell et al. (2016), Crouch et al. (2019), and Lew & Xian (2019).

The cross-sectional study conducted by Kim et al. (2021) found similar results when investigating the relationship between adverse childhood experiences (ACEs) and Anxiety, depression, or morbidity in a sample of 21,496 adolescents aged 12 to 17 years. Anxiety was reported by 13.5% of adolescent participants, while depression was reported by 7.8%, and comorbidity was reported by 6.3%. Adolescent girls aged 15 to 17 years exhibited higher susceptibility to the onset of Anxiety and Depression compared to adolescent boys in the same age group. In this specific study, the most robust associations were observed between the group of adolescents experiencing "Economic Difficulty" and the group of adolescents whose parents suffered from "Mental Disorders" in relation to the development of Anxiety and Depression (Kim et al., 2021).

A comprehensive cross-sectional study involving a large sample size of 11,437 adolescents aged 10 to 17 examined the diverse impact of various Adverse Childhood Experiences (ACEs) on pre-existing and current Anxiety and Depression issues. The data was collected from reports provided by the parents or guardians of the adolescents (Lee et al., 2020). In order to identify adolescents who had not experienced any or at least one Adverse Childhood Experience (ACE), the ACEs were categorized into four groups: 1) Several high-risk factors, 2) Disrupted family structure, 3) Financial hardships, and 4) Multiple low-risk factors. The study's notable discovery was that being exposed to multiple low-risk ACEs, rather than high-risk ACEs, was linked to mental health and substance use issues among adolescents in this sample. In contrast, adolescents who experienced multiple high-risk ACEs were found to be more susceptible to Anxiety or depression compared to adolescents in the low-risk group. The presence of financial difficulties or a broken family, as categorized by the ACE (Adverse Childhood Experiences) framework, did not demonstrate a significant association with Anxiety or depression among the adolescent population under study (Lee et al., 2020).

The cross-sectional study by Kovács-Tóth and colleagues (2021) examined a sample of 516 Hungarian adolescents aged 12 to 17. The study revealed that adolescent girls, in comparison to adolescent boys, exhibited a higher prevalence (18%) of clinically significant emotional problems such as Anxiety and/or depression, which were associated with their adverse childhood experiences (ACEs). The ACEs most frequently reported were emotional neglect (15.5%), emotional abuse (14.5%), and parental divorce/separation (23.8%), categorized as instances of family dysfunction. The research findings indicate that adolescents who had experienced two, three, four, or more adverse childhood experiences (ACEs) exhibited more significant challenges in their mental health and subjective perception of their physical well-being compared to adolescents who had not experienced any ACEs (Kovács-Tóthetal., 2021).

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

The noteworthy study conducted in China, known as a large-scale cross-sectional study, examined the correlation between ACEs (Adverse Childhood Experiences) and symptoms of Anxiety in adolescents (Chi et al., 2022). The sample (N=1764) was drawn from the community and comprised an adolescent population, including boys and girls aged 12 to 17. According to the survey, 45.6% of adolescents reported experiencing at least one Adverse Childhood Experience (ACE). The most common ACEs reported were peer rejection (23.41%), emotional abuse by a parent (20.92%), and emotional neglect by family (17.23%). Furthermore, a direct association between adverse childhood experiences (ACEs) and the emergence of anxiety symptoms was observed in these adolescents. This finding corroborated the findings of previous research studies that also examined Anxiety and depressive symptoms simultaneously (Elmore & Crouch, 2020; Lee et al., 2020).

6. Psychotraumatic Childhood Experiences and Anxiety in the Educational Context

The presence of childhood experiences that cause psychological trauma and the resulting anxiety in the educational setting highlight various significant patterns and discoveries. This review consolidates insights from diverse studies, articles, and research papers to comprehend the subject matter comprehensively. The prevalence and impact of childhood trauma are well-documented in research, which consistently indicates that a substantial portion of children endure various forms of trauma, such as physical, emotional, and sexual abuse, as well as exposure to domestic violence or community violence (Gkintoni et al., 2021b). The study conducted by Anda et al. (2010) in the American Journal of Preventive Medicine focuses on the frequency and lasting impact of these negative childhood experiences, known as adverse childhood experiences (ACEs). These experiences have been associated with a range of mental health conditions, such as anxiety, depression, and post-traumatic stress disorder (PTSD).

Anxiety's Expression in Educational Environments: The occurrence of anxiety in students with traumatic backgrounds is extensively documented. In the Journal of School Health, Dube et al. (2001) examine the correlation between trauma and brain development. They highlight how trauma can have an impact on attention, memory, and stress response, ultimately influencing learning and behavior in a school setting. The manifestation of anxiety in these children frequently includes issues with focus, intensified stress reactions, isolation from social interactions, and difficulties in academic performance.

Trauma-Informed Approaches in Education: There is an increasing focus on implementing trauma-informed strategies in educational settings. A significant study conducted by Walkley and Cox (2013) that introduces models for establishing educational environments that are sensitive to trauma. These encompass staff training, comprehension of the effects of trauma on learning, and the formulation of supportive policies.

Responsibilities of Educators and School Mental Health Professionals: Teachers have a vital responsibility in recognizing and providing assistance to students who experience anxiety as a result of trauma. The significance of teacher training in identifying indications of anxiety and trauma is underscored in the research conducted by Pang & Thomas et al. (2019). Incorporating school mental health professionals, as examined by Kataoka (2018) is crucial for delivering suitable interventions and support.

Strategies and Results of Intervention: Diverse intervention strategies have been examined in the literature. Cohen et al. (2018) discuss how cognitive-behavioral therapy (CBT) and mindfulness-based practices are effective in reducing anxiety symptoms in traumatized children. The efficacy of school-based interventions, such as counseling and peer support programs, is also emphasized.

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

Implications for policy and directions for future research: The literature advocates for policy reforms to bolster trauma-informed education. The National Child Traumatic Stress Network (NCTSN) report recommends implementing policies that allocate funds for educator training, incorporate mental health services within schools, and foster collaborative initiatives between schools and child welfare systems.

Research Limitations and Obstacles: Despite thorough investigation, unidentified gaps still need to be found. The existing research on the long-term effects of interventions is limited, and there is a noticeable absence of culturally sensitive approaches. Furthermore, studies have examined the difficulties encountered in implementing trauma-informed practices because of limited resources.

Ultimately, this review highlights the substantial influence of traumatic childhood experiences on anxiety within educational environments. This emphasizes the significance of trauma-informed practices, the crucial involvement of educators and mental health professionals, and the efficacy of different intervention strategies.

7. Trauma-informed Practices in Educational Settings

The imperative for implementing trauma-informed practices in educational environments stems from the increasing awareness of the profound impact that adverse childhood experiences (ACEs), such as abuse, neglect, and exposure to violence, can have on a student's learning, behavior, and overall welfare. Trauma-informed practices in education encompass a recognition and comprehension of the extensive influence of trauma, as well as a dedication to establishing school settings that facilitate the recovery and academic achievement of students who have undergone traumatic experiences (Antonopoulou, 2023a; Antonopoulou et al., 2021d). Key factors that make trauma-informed practices essential in educational environments encompass:

1. The incidence of trauma among students: Research has demonstrated that a substantial proportion of children undergo some traumatic experience. These findings indicate that in every classroom, it is probable that there are students who are coping with the consequences of traumatic experiences.

2. The effect on learning and behavior: Trauma can greatly disturb a student's cognitive abilities, emotional control, and social engagements. This disruption can present itself as impairments in concentration, memory, and organization, resulting in difficulties in academic achievement. Moreover, trauma can give rise to behavioral problems in the classroom, as students may respond in manners that manifest their attempts to deal with their experiences.

3. Trauma-informed schools prioritize the establishment of safe and supportive learning environments. This strategy guarantees that students experience a sense of physical and emotional security, which is fundamental for achieving adequate learning outcomes and fostering positive social interactions.

4. Professional Development for Educators: Educators frequently lack the necessary training to identify and address trauma-related behaviors and needs. Trauma-informed practices encompass professional development programs that provide teachers and school staff with the necessary knowledge and skills to recognize signs of trauma and respond suitably.

5. Trauma-informed education adopts a comprehensive perspective on student well-being, acknowledging that emotional and mental health hold equal significance to academic achievement. This strategy entails incorporating social and emotional learning (SEL) into the curriculum and ensuring students have access to mental health services offered at school.

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

6. The promotion of resilience and recovery is a crucial aspect of trauma-informed practices, which involve acknowledging and accommodating trauma. Schools have the potential to play a vital role in facilitating the development of coping mechanisms, a feeling of security, and constructive connections, all of which are fundamental for the process of recovering from traumatic experiences.

7. Trauma-informed practices foster inclusivity and equity by promoting more fair and equal educational environments. Comprehending the varied backgrounds and experiences of students, including those who have encountered trauma, is crucial in tackling inequalities in education and guaranteeing equal chances for all students to thrive.

Essentially, the demand for trauma-informed practices in educational settings arises from the necessity to tackle the extensive influence of trauma on students' learning and behavior. This involves establishing secure and supportive learning environments, equipping educators with essential training and resources, and advocating for an inclusive, fair, and comprehensive approach to education (Antonopoulou, 2023b). These practices are crucial in ensuring that all students, especially those impacted by trauma, can flourish in their educational endeavors (Sortwell et al., 2023).

8. Conclusion

An analysis of childhood experiences that cause psychological trauma and how they result in anxiety in educational settings uncovers significant insights and implications. To begin with, there is a disturbingly high occurrence of childhood trauma, where numerous children encounter negative experiences that have a significant effect on their mental well-being, specifically in the form of anxiety disorders. This anxiety can present itself in diverse manners, frequently impeding a child's capacity to participate in academic and social activities within school settings effectively. An important finding from the literature is the significant influence that trauma can exert on a child's learning and behavior. Experiencing trauma can modify the development of the brain and impact cognitive abilities, such as attention and memory, resulting in difficulties in academic settings. The anxiety resulting from these experiences frequently presents as reduced ability to focus, heightened stress reactions, and difficulties in social engagements, all of which can hinder academic achievement and overall welfare. The literature emphasizes the crucial requirement for trauma-informed practices in educational settings. Educators and school mental health professionals have a crucial responsibility in identifying and dealing with the distinct requirements of students who have undergone trauma. There is a distinct demand for training and resources to adequately equip school personnel with the knowledge and skills to support these students effectively. Adopting trauma-informed strategies can establish a secure and nurturing educational setting, which is crucial for the recovery and scholastic achievement of students who have experienced trauma. Intervention strategies, such as cognitive-behavioral therapy and mindfulness-based practices, have demonstrated the potential to address anxiety symptoms in these children effectively. Implementing school-based interventions, such as counseling and peer support programs, is essential for delivering support and aid. This review also emphasizes the significance of policy formulation in this domain. There is a requirement for policies that facilitate incorporating mental health services in schools, allocate resources for training educators in trauma-informed practices, and encourage cooperative initiatives between educational institutions and child welfare systems. To effectively deal with psychotraumatic childhood experiences and the resulting anxiety in educational settings, a comprehensive and multifaceted approach is necessary. It entails comprehending the repercussions of trauma, implementing educational practices that take trauma into account, offering suitable interventions, and advocating for policy changes. These endeavors are crucial for the physical and mental health of these students and their academic achievements and for cultivating robust, inclusive, and nurturing educational settings.

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

References

[1] Anda, R. F., Butchart, A., Felitti, V. J., & Brown, D. W. (2010). Building a Framework for Global Surveillance of the Public Health Implications of Adverse Childhood Experiences. American Journal of Preventive Medicine, 39(1), 93–98. https://doi.org/10.1016/j.amepre.2010.03.015

[2] Antonopoulou, H. (2023a). Building up Leadership Skills in Vulnerable Social Groups. Case Study in Bipolar Disorder and Psychoeducation Contribution. Technium Business and Management, 6, 70–79. https://doi.org/10.47577/business.v6i.9718

[3] Antonopoulou, H. (2023b). Evolutionary Features of Personality Research and Leadership Traits. A Comprehensive Analysis. Technium Business and Management, 6, 58–69. https://doi.org/10.47577/business.v6i.9717

[4] Antonopoulou, H., Giannoulis, A., Theodorakopoulos, L., & Halkiopoulos, C. (2022a). Socio-Cognitive Awareness of Inmates through an Encrypted Innovative Educational Platform. International Journal of Learning, Teaching and Educational Research, 21(9), 52–75. https://doi.org/10.26803/ijlter.21.9.4

[5] Antonopoulou, H., Halkiopoulos, C, Gkintoni, E. (2023c). Educational Neuroscience and its Contribution to Math Learning. Technium Education and Humanities Journal https://doi.org/10.47577/teh.v4i.8237

[6] Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021a). Transformational Leadership and Digital Skills in Higher Education Institutes: During the COVID-19 Pandemic. Emerging Science Journal, 5(1), pp.1–15. DOI:10.28991/esj-2021-01252.

[7] Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021b). Associations between Traditional and Digital Leadership in Academic Environment: During the COVID-19 Pandemic. Emerging Science Journal, 5(4), pp.405–428. DOI:10.28991/esj-2021-01286

[8] Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. (2021d). DIGITAL LEADER AND TRANSFORMATIONAL LEADERSHIP IN HIGHER EDUCATION. INTED Proceedings. https://doi.org/10.21125/inted.2021.2005

[9] Antonopoulou, H., Halkiopoulos, C., Barlou, O., Beligiannis, G. (2020). Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece. International Journal of Learning, Teaching and Educational Research, 19 (4), pp.110-129. DOI:10.26803/ijlter.19.4.8

[10] Antonopoulou, H., Halkiopoulos, C., Barlou, O., Beligiannis, G. (2019). Transition from Educational Leadership to e-Leadership: A Data Analysis Report from TEI of Western Greece. International Journal of Learning, Teaching and Educational Research, 18 (9), pp.238-255. DOI:10.26803/ijlter.18.9.13

[11] Antonopoulou, H., Halkiopoulos, C., Gkintoni, E., Katsibelis, A. (2022b). Application of Gamification Tools for Identification of Neurocognitive and Social Function in Distance Learning Education. International Journal of Learning, Teaching and Educational Research, 21(5), 367–400. doi:10.26803/ijlter.21.5.19

[12] Antonopoulou, H., Katsibelis, A., Halkiopoulos, C. (2021c). Cognitive Parameters Detection via Gamification in Online Primary Education During Covid-19. 15th Annual International Technology, Education and Development Conference (INTED2021), 8-10 March, Valencia, Spain. INTED2021 Proceedings, pp. 9625-9632. DOI:10.21125/inted.2021.2007

[13] Archbell, K. A. and Coplan, R. J. (2021). Too anxious to talk: social anxiety, academic communication, and students' experiences in higher education. Journal of Emotional and Behavioral Disorders, 30(4), 273-286. https://doi.org/10.1177/10634266211060079

[14] Boccalon, S., Scaggiante, B., & Perissin, L. (2006). Anxiety stress and nociceptive responses in mice. Life Sciences, 78(11), 1225-1230. https://doi.org/10.1016/j.lfs.2005.06.027

[15] Cohen, J. R., So, F. K., Hankin, B. L., & Young, J. F. (2018). Translating Cognitive Vulnerability Theory Into Improved Adolescent Depression Screening: A Receiver Operating Characteristic Approach. Journal of Clinical Child & Adolescent Psychology, 48(4), 582–595. https://doi.org/10.1080/15374416.2017.1416617

[16] Cooper, M. and Şahin, M. (2022). Social anxiety in digital learning environments: empirical evidence and call to action. ASCILITE Publications, e22037. https://doi.org/10.14742/apubs.2022.37

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

[17] Giannoulis, A., Theodorakopoulos, L., & Antonopoulou, H. (2022a). Learning in second-chance schools during covid-19 case study: legal framework and distance learning platforms in greek prison. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.4132811

[18] Giannoulis, H. Antonopoulou, C. Halkiopoulos (2022b) EDUCATIONAL LEARNING METHODS WITH GAMIFICATION ASPECTS FOR INMATES DURING PANDEMIC, EDULEARN22 Proceedings, pp. 5746-5751

[19] Gkinton, E., Telonis, G., Halkiopoulos, C., & Boutsinas, B. (2023). Quality of Life and Health Tourism: A Conceptual Roadmap of Enhancing Cognition and Well-Being. Springer Proceedings in Business and Economics, 651–666. https://doi.org/10.1007/978-3-031-26829-8_41

[20] Gkintoni, E. (2023). Clinical neuropsychological characteristics of bipolar disorder, with a focus on cognitive and linguistic pattern: a conceptual analysis. F1000Research, 12, 1235. https://doi.org/10.12688/f1000research.141599.1

[21] Gkintoni, E., & Ortiz, P. S. (2023). Neuropsychology of Generalized Anxiety Disorder in Clinical Setting: A Systematic Evaluation. Healthcare, 11(17), 2446. https://doi.org/10.3390/healthcare11172446

[22] Gkintoni, E., Antonopoulou, H., & Halkiopoulos, C. (2023). Emotional Neuroscience and Learning. An Overview. Technium Social Sciences Journal, 39, 421–429. https://doi.org/10.47577/tssj.v39i1.8076

[23] Gkintoni, E., Boutsinas, B., Kourkoutas, E. (2022a). Developmental Trauma and Neurocognition in Young Adults. 14th Annual International Conference on Education and New Learning Technologies, 4th – 6th July, Mallorca, Spain. DOI:10.21125/edulearn.2022.1332

[24] Gkintoni, E., Dimakos, I. (2022). An Overview of Cognitive Neuroscience in Education. 14th Annual International Conference on Education and New Learning Technologies, 4th – 6th July, Mallorca, Spain. DOI:10.21125/edulearn.2022.1343

[25] Gkintoni, E., Dimakos, I., Halkiopoulos, C., Antonopoulou, H. (2023c). Contribution of Neuroscience to Educational Praxis: A Systematic Review. Emerging Science Journal. Emerging Science Journal. Special Issue ""Current Issues, Trends, and New Ideas in Education" DOI: 10.28991/ESJ-2023-SIED2-012

[26] Gkintoni, E., Halkiopoulos, C., Antonopoulou, H. (2022b). Neuroleadership an Asset in Educational Settings: An Overview. Emerging Science Journal. Emerging Science Journal, 6(4), 893–904. DOI:10.28991/esj-2022-06-04-016

[27] Gkintoni, E., Halkiopoulos, C., Antonopoulou, H., & Koutsopoulou, I. (2021d). Neurocognitive Behavior Analysis of Sexting Phenomenon in Young Adults. Technium Social Sciences Journal, 24, 400–410. https://doi.org/10.47577/tssj.v24i1.4732

[28] Gkintoni, E., Halkiopoulos, C., Antonopoulou, H., & Petropoulos, N. (2021a). Gamification of Neuropsychological Tools as a Multi-Sensory Approach to Education. Stroop's Paradigm. Technium Romanian Journal of Applied Sciences and Technology, 3(8), 92–102. https://doi.org/10.47577/technium.v3i8.4798

[29] Gkintoni, E., Halkiopoulos, C., Dimakos, I., & Nikolaou, G. (2023). Emotional Intelligence as Indicator for Effective Academic Achievement within the School Setting: A Comprehensive Conceptual Analysis. https://doi.org/10.20944/preprints202310.2029.v2

[30] Gkintoni, E., Koutsopoulou, I., Antonopoulou, H., Christopoulos, P. (2021b). Consequences of the COVID-19 Pandemic on Greek Students' Mental Health: Quality of Life and Trauma Stressful Events Correlation. 14th Annual International Conference of Education, Research and Innovation, 8th-10th November, Seville Spain. DOI:10.21125/iceri.2021.0663

[31] Gkintoni, E., Meintani, P.M., Dimakos, I. (2021c). Neurocognitive and Emotional Parameters in Learning and Education Process. 14th Annual International Conference of Education, Research and Innovation, 8th- 10th November, Seville, Spain. DOI:10.21125/iceri.2021.0659

[32] Halkiopoulos C., Antonopoulou, H., Gkintoni E., Giannoukou I. (2021b). An Expert System for Recommendation Tourist Destinations: An Innovative Approach of Digital Marketing and Decision-Making Process. International Journal of Innovative Science and Research Technology, 6(4), pp.398-404. ISSN: 2456-2165

[33] Halkiopoulos, C., Antonopoulou, H., Gkintoni, E., & Aroutzidis, A. S. (2022). Neuromarketing as an indicator of cognitive consumer behavior in decision-making process of tourism destination—an

Technium Education and Humanities
Vol. 7, pp.29-41 (2024)
ISSN: 2821-5079
www.techniumscience.com

overview. Transcending Borders in Tourism Through Innovation and Cultural Heritage, 679-697. https://doi.org/10.1007/978-3-030-92491-1_41

[34] Halkiopoulos, C., Gkintoni, E., & Antonopoulou, H. (2023). Neuroeducation and Artistic Expression. An Overview from the Biopsychology Viewpoint. Technium Education and Humanities, 3(1), 38–49. https://doi.org/10.47577/teh.v3i1.8235

[35] Kataoka (2018). Supplemental Material for The Association Between Adverse Childhood Experience (ACE) and School Success in Elementary School Children. School Psychology Quarterly. https://doi.org/10.1037/spq0000256.supp

[36] Oikonomou, V., Gkintoni, E., Halkiopoulos, C., & Karademas, E. (2023). Quality of Life and Incidence of Clinical Signs and Symptoms among Caregivers of Person with Mental Disorder. https://doi.org/10.20944/preprints202312.1109.v2

[37] Pang, L. H. G., & Thomas, S. J. (2019). Exposure to Domestic Violence during Adolescence: Coping Strategies and Attachment Styles as Early Moderators and their Relationship to Functioning during Adulthood. Journal of Child & Adolescent Trauma, 13(2), 185–198. https://doi.org/10.1007/s40653-019-00279-9

[38] Schreuder, J. N. (1996). Posttraumatic re-experiencing in older people: working through or covering up?. American Journal of Psychotherapy, 50(2), 231-242. https://doi.org/10.1176/appi.psychotherapy.1996.50.2.231

[39] Sortwell, A., Evgenia , G., Zagarella, S., Granacher , U., Forte, P., Ferraz , R., Ramirez-Campillo, R., Carter-Thuillier, B., Konukman, F., Nouri , A., Bentley, B., Marandi, P. and Jemni , M. (2023) “Making neuroscience a priority in Initial Teacher Education curricula: a call for bridging the gap between research and future practices in the classroom”, Neuroscience Research Notes, 6(4), pp. 266.1–266.7. doi: 10.31117/neuroscirn.v6i4.266.

[40] Tzachrista, M., Gkintoni, E., & Halkiopoulos, C. (2023). Neurocognitive Profile of Creativity in Improving Academic Performance—A Scoping Review. Education Sciences, 13(11), 1127. https://doi.org/10.3390/educsci13111127

[41] Walkley, M., & Cox, T. L. (2013). Building Trauma-Informed Schools and Communities. Children & Schools, 35(2), 123–126. https://doi.org/10.1093/cs/cdt007

[42] Zulkiflee, M. F. A. and Nimehchisalem, V. (2022). Speaking anxiety among single-gender and co-educational schools students in an online learning context. Open Journal of Modern Linguistics, 12(04), 438-459. https://doi.org/10.4236/ojml.2022.124032