

PSYCHOPHYSIOLOGICAL CONSEQUENCES OF CHILDHOOD INJURIES
IN THE CONTEXT OF ADULT LIFEПСИХОФІЗІОЛОГІЧНІ НАСЛІДКИ ДИТЯЧИХ ТРАВМ
У КОНТЕКСТІ ДОРОСЛОГО ЖИТТЯ

У статті здійснено комплексний аналіз впливу дитячих психотравм на психоемоційне, фізіологічне та соціальне функціонування особистості в дорослому віці. Дитинство – період інтенсивного формування базових психічних структур, емоційної регуляції, поведінкових моделей і системи світоглядних координат. У цей час психіка є особливо вразливою до негативних впливів, зокрема до фізичного або емоційного насильства, хронічної емоційної занедбаності, втрати близьких або постійного стресу. Авторка розглядає механізм впливу ранніх травматичних подій на подальше життя особистості: від первинної шоккової або тривалої події до формування стійких когнітивно-поведінкових і психофізіологічних наслідків. Особливу увагу приділено моделі ACE (Adverse Childhood Experiences), яка підтверджує прямий зв'язок між кількістю пережитих у дитинстві травматичних подій і ризиком розвитку психічних розладів, зниженням емоційної стабільності, аутоагресивною поведінкою, а також хронічними соматичними захворюваннями у дорослому віці. Підкреслюється вплив дитячих травм на функціонування нейроендокринної системи, імунітету, а також структурну зміну окремих ділянок мозку, відповідальних за емоції та пам'ять. У статті проаналізовано сучасні терапевтичні підходи до подолання наслідків дитячих травм: когнітивно-поведінкову терапію, EMDR, соматичну терапію, роботу з образом внутрішньої дитини. Висвітлюються фактори, що сприяють відновленню: соціальна підтримка, безпечне середовище, психотерапевтична робота та усвідомлений саморозвиток. Авторка наголошує, що дитяча травма – це не вирок, а потенційна точка трансформації, якщо людині надані ресурси для відновлення. У результаті, навіть найбільш болісний досвід дитинства може стати поштовхом до особистісного зростання, усвідомлення й формування цілісного Я в дорослому віці.

Ключові слова: дитяча травма, ACE, психічне здоров'я, посттравматичний розвиток, емоційна регуляція, терапія, соматичні наслідки.

The article provides a comprehensive analysis of the impact of childhood trauma on emotional, psychological, physiological, and social functioning in adulthood. Childhood is a formative period when the foundations of personality, emotional regulation, and behavioral models are actively being developed. During this phase, the human psyche is particularly vulnerable to adverse experiences, including physical or emotional abuse, chronic neglect, loss of caregivers, or prolonged exposure to stress. The author examines how early traumatic events affect individuals long after the event itself has passed, outlining the trajectory from the initial trauma through various psychological and somatic consequences, and finally to potential recovery. The study places particular emphasis on the ACE (Adverse Childhood Experiences) framework, which empirically demonstrates a direct link between the number of traumatic childhood experiences and an increased risk of mental health disorders, reduced emotional resilience, behavioral dysregulation, and chronic physical illnesses later in life. The author discusses how trauma may alter brain structures responsible for memory and emotional responses, such as the amygdala and hippocampus, as well as disrupt the hormonal and immune systems. These biological consequences often manifest in adulthood as somatic symptoms, anxiety disorders, and difficulties in maintaining healthy relationships. Contemporary therapeutic approaches for processing childhood trauma are reviewed, including cognitive-behavioral therapy (CBT), Eye Movement Desensitization and Reprocessing (EMDR), somatic therapy, and inner child work. The article highlights the importance of supportive environments, consistent psychotherapeutic care, and self-directed personal development in the recovery process. While childhood trauma can leave profound imprints, the author argues that it is not a life sentence. With adequate support, individuals can transform their traumatic experiences into a resource for resilience, self-awareness, and psychological maturity.

Key words: childhood trauma, ACE, emotional regulation, mental health, trauma recovery, somatic effects, psychotherapy.

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Introduction

Childhood is a key stage in the development of personality, when the basic structures of the psyche, emotional regulation and social behavior are formed. Traumatic events at this stage (emotional/physical abuse, neglect, loss of loved ones) can significantly disrupt development, leaving a deep mark on the psyche and somatics of a person [6; 13; 14]. One of the largest studies – Adverse Childhood Experiences (ACE) – demonstrated a direct relationship between the number of childhood traumas and the risk of developing mental, behavioural and physical disorders in adulthood [6]. Neuropsychological studies have shown that prolonged exposure to stress

in childhood causes changes in brain structure (hippocampus, amygdala), disrupts the functions of the HPA axis and the immune system [4; 14]. However, due to the neuroplasticity of the brain, these effects can be corrected: modern approaches (CBT, EMDR, somatic therapy) effectively reduce symptoms and promote recovery [12; 16]. Thus, although childhood trauma has a strong impact, its consequences are not fatal.

Literature review

The results of ACE studies indicate that people who have experienced ≥ 4 negative childhood events have a significantly higher risk of developing alcoholism, depression, PTSD, somatic diseases and even

premature death [6; 5]. This has also been confirmed in European populations [2]. The consequences of childhood trauma are manifested at several levels: psychological (PTSD, anxiety, depression), physiological (high cortisol levels, sleep disturbances, weakened immunity) and behavioral (aggression, avoidance, addictions) [4; 14; 17]. Neuroimaging studies have revealed structural changes in the brain of children with experiences of violence [14]. In the therapeutic aspect, cognitive behavioral therapy (CBT) has shown effectiveness in reducing PTSD symptoms in children and adolescents [13]. EMDR (eye movement desensitization and processing of traumatic experiences) is another method with high results in working with the consequences of childhood trauma [12]. It is based on repeated access to traumatic memories with simultaneous stimulation, which promotes their integration into a safe environment. In addition to therapeutic work, the social component is of critical importance: the presence of at least one safe adult or a stable environment mitigates the effects of childhood trauma [3; 13]. The use of psychotherapeutic techniques in combination with family or group support has shown the highest effectiveness [15]. Therefore, the **aim of the study** is to analyze the psychophysiological consequences of childhood trauma in the context of adult life.

Presentation of the main material

Childhood is a specific period of time in which a person is formed. Childhood does not always develop painlessly, in safety or love, especially when it comes to parental influence on upbringing. Every adult has certainly received some "traumas" in childhood, which, in their totality, shape their way of thinking, behavior model and, therefore, their personal worldview in general. Very often, parental influence can be not only support, but also a source of psychological pressure, emotional neglect or even violence [6; 8; 15]. Every adult, consciously or not, carries a certain "baggage" of childhood traumas that shape their way of thinking, decision-making mechanisms, behavior models in interaction with other people and even their physical condition [6; 14].

However, it is precisely childhood traumas that are deeply rooted in the consciousness of a child (later an adult), motivating and emotional resilience, forming models of making life choices (communication, learning, education, relationships, etc.) and affecting physical health, among other things. Childhood traumas have a consistent link starting from the initial traumatic event to its consequences (emotional, mental and physical) to the recovery process: traumatic event, consequences of trauma (emotional, psychological, physical, behavioral and long-term), support and rehabilitation, preventing repeated traumas, etc.

Thus, the initial link in this chain is the traumatic event itself, which is perceived by a person as a real threat to physical or mental health. Such an event can be sudden and shocking (for example, an accident, an attack, a natural disaster) or be a long-term stressful impact (chronic violence, war, prolonged psycho-

logical pressure) [4; 8]. Regardless of the duration, a traumatic event triggers a cascade of psychophysiological reactions that form the next stage - the consequences of the trauma.

These consequences manifest themselves at different levels: emotional, psychological, physical and behavioral. Emotional reactions often include intense experiences of fear, horror, helplessness or, conversely, emotional numbness [8; 12]. Psychological consequences can lead to the development of post-traumatic stress disorder (PTSD), anxiety, depression, intrusive memories (flashbacks) or a feeling of alienation from reality [3; 13; 14]. Physical symptoms often include sleep disturbances, chronic pain, nervous system dysregulation (hyperactivity or inhibition), and decreased immune function [11; 16]. Behavioral changes may include avoidance of trauma-related situations, social isolation, aggression, or self-destructive actions [7; 17]. In the long term, trauma can change a person's worldview, causing persistent negative beliefs (e.g., "the world is dangerous," "I have no control"), which can make it difficult to socialize and trust others [8; 13].

However, the traumatic process does not end at the stage of consequences – the key stage is recovery and rehabilitation. Effective support can include psychotherapy (e.g. cognitive-behavioral therapy, EMDR therapy), medical treatment of physical symptoms, and social reintegration through support groups or assistance programs. Another important aspect is the prevention of re-traumatization, which involves creating a safe environment, teaching stress-resilience strategies, and social measures aimed at reducing risks (e.g. combating violence, increasing psychological literacy).

Ultimately, trauma is not an isolated episode, but a dynamic process with a clear structure, where each stage affects the next. Understanding this sequence allows not only to better help victims, but also to develop more effective prevention and rehabilitation strategies aimed at fully restoring mental, emotional, and physical health.

In this context, traumatic experiences in childhood, unlike adult traumas, have a special ability to influence the entire subsequent life of a person, since they are formed during the period of active personality formation, when the basic psychological mechanisms, nervous system and worldview are only being built. When a child is faced with physical or emotional violence, neglect, loss of loved ones or a prolonged stressful state, his psyche, which does not yet have sufficient resources for resistance, is forced to adapt to pain through mechanisms that later often turn into dysfunctional behavioral strategies. As we have already noted above, these early traumas not only leave a deep mark at the moment of their experience, but also form certain patterns of thinking, emotional reactions and ways of interacting with the world, which significantly affect adult life. After all, unlike adult traumas, the psyche is formed in childhood, and even short-term traumatic influences leave "scars" in

relationships with oneself and others. When a child faces prolonged conflict, violence, loss, or neglect, they are forced to modify their internal reflection system in order to survive, often leading to dysfunctional strategies: emotional detachment, submission, aggression, or self-isolation [6; 15].

Studies, such as the well-known ACE (Adverse Childhood Experiences), clearly demonstrate a direct link between childhood trauma and an increased risk of developing mental disorders in adulthood. People who experienced violence or neglect in childhood often face chronic feelings of inferiority, difficulties in regulating emotions, and a tendency to retraumatize due to unconscious repetition of toxic scenarios in adulthood. They may experience constant anxiety, suffer from outbursts of anger or, conversely, emotional numbness, and have difficulty building healthy relationships due to a deep sense of distrust or fear of intimacy. Thus, the ACE model confirms the correlation between the number of childhood traumas and the risk of adult problems: each additional negative factor in childhood multiplies the risks of mental disorders, somatic diseases, addictions, and even early death [6; 9; 14]. That is, for a child with ≥ 4 ACEs, the likelihood of problems with communication, health, and social role increases significantly.

The physiological consequences of childhood trauma are also significant – they can lead to hormonal dysregulation, including chronically elevated cortisol levels, immune system dysfunction, and changes in brain structure, especially in areas responsible for emotions and memory, such as the hippocampus and amygdala. These changes often manifest in adulthood through various somatic symptoms – unexplained pain, chronic fatigue, or even autoimmune diseases, which are the result of “frozen” stress. In general, childhood trauma disrupts hormonal regulation (overactivation of the HPA axis), reduces the volume, and impairs the function of the hippocampus and amygdala, which are responsible for memory and emotions [4; 14; 16]. It also delays the development of the prefrontal cortex, which is responsible for impulse control, planning, and emotional regulation. As a result, there is increased anxiety, problems falling asleep, exacerbation of pain, and impaired immune reactivity [11; 16].

In the social sphere, the consequences of childhood trauma are often expressed in difficulties in building relationships, where a person can fluctuate between excessive dependence and complete avoidance of intimacy. Many of these people are prone to risky behavior, including substance abuse or self-harm, and also have difficulties with self-realization due to a feeling of “inner brokenness” or fear of failure. Therefore, the main prevention of repeated trauma is: a safe emotional environment for the child; the presence of at least one supportive adult [3; 13]; the development of psychological literacy among parents, teachers, specialists [2; 9; 15]; schools of empathy, emotion management, and relationship building. Moreover, it is important to understand that healing is not about filling

gaps in the psyche, but about transforming traumatic experiences into a resource. This allows you to gain: empathy - the ability to understand others; resilience - the ability to adapt to new challenges; mindfulness – a life with meaning and intense self-reflection; resourcefulness – an internally whole person, able to move forward without looking back at the past [11; 16].

Ultimately, the experience of childhood trauma cannot be viewed solely as a destructive factor. Although the consequences can be severe and long-lasting, awareness of these consequences and their sources opens the way to profound transformation. A person who has recognized their own traumatic patterns and is working to overcome them has a unique opportunity to form new, healthier ways of interacting with themselves and the world. This requires inner determination, patience and long-term support, but the results can be life-affirming and inspiring. Returning to one's own history, accepting painful childhood experiences as part of, rather than defining oneself, is an extremely important step in the healing process. Personal growth does not mean forgetting the trauma, but learning to live in spite of it. Awareness of one's past gives one the strength to build a future – not driven by pain, but filled with choice, clarity and new values. Thus, childhood psychological trauma is not a sentence, but a challenge that can become an impetus for deep personal development. Modern psychotherapy, community support, internal reflection and self-knowledge create conditions for even the most difficult experience to be integrated, meaningful and transformed into a resource. Each person has the potential to become the author of their own story – not denying the past, but creating a new scenario in which healing is possible.

Conclusions and discussion

Childhood trauma is not an isolated event, but a complex process that includes trauma, consequences, support, and recovery [1; 6; 7]. In the long term, it can change the basic worldview of the individual: “the world is dangerous,” “I have no control” [8; 13]. Physiological changes – changes in the brain, disruption of autonomic regulation, sleep disorders – are well documented in research [4; 14]. That is why treatment should be multidisciplinary: psychotherapy, support, and sometimes medication. CBT and EMDR have shown stable results in reducing symptoms, but it is also important to take into account cultural characteristics – in particular for the post-Soviet space, where the experience of war and instability enhances the effect of childhood trauma [9; 15]. At the same time, traumatic experiences are not a sentence. Thanks to neuroplasticity and the influence of therapy, even deep traumas can become a source of strength, especially if there is stable support and a safe environment [10; 13; 16]. It is necessary to implement systemic preventive programs: increasing psychological literacy, supporting families from risk groups, early intervention and accessibility of psychotherapeutic help for children.

Finally, I want to state that childhood traumas can leave a deep mark on a lifetime, but this is not a sen-

tence at all. They do not determine how everything will be in the future. Awareness of their impact is an important first step towards change. The future result depends on how fruitfully we work on ourselves and what goals we strive for. Daily self-development, spiritual and emotional healing and support can help overcome negative experiences and create the life we always dreamed of in childhood.

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