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Analysis of the Phenomenon of Post-Traumatic Growth in Places of Detention: Theoretical Foundations and Practical Implications

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Abstract

Introduction: the article is devoted to the study of a paradoxical phenomenon of posttraumatic growth (PTG) in convicts manifested in positive psychological transformations despite chronic stress, traumatization and deprivation typical of penitentiary institutions. The relevance of the work is due to high prevalence of mental disorders among prisoners, proven correlation between PTG and reduced recidivism risks and the need to move from an exclusively pathocentric model to rehabilitation focused on growth potential. *Methods:* the study is based on critical analysis and synthesis of modern scientific data from clinical psychology, neuroscience, criminology and philosophy. An interdisciplinary approach is used to study PTG mechanisms (constructive rumination, existential search for meaning, neuroplasticity), key conditions for its occurrence (the quality of “employee-convict” relations) and practical implementation aspects. Specific methodological and ethical challenges of research in places of deprivation of liberty (PLD) are also considered, including risks of adaptive conformism in the responses of prisoners, influence of neurocognitive deficits and risks of instrumentalization of the concept of PTG. *Results:* crucial main results include identification of the following PTG mechanisms: adaptive neurobiological changes and cognitive-existential processes (the will to meaning according to V. Frankl, reflection in “borderline situations” according to K. Jaspers). They retain potential even under conditions of penitentiary stress. Key conditions contributing to PTG are the quality of relationships with staff based on empathy and support and the access to psychotherapy, education and prosocial modeling. The practical effect of PTG-based programs (narrative therapy, logotherapy, restorative justice, trauma-informed approach) is manifested in decreased recidivism rates, improved psychological well-being of prisoners and their successful reintegration after release. *Discussion:* the paper confirms the dialectical nature of PTG in PLD, where suffering and growth can coexist. It is emphasized that PTG is not a direct consequence of imprisonment, but the result of a meaningful response of the individual to extreme circumstances

through the implementation of internal freedom of choice. At the same time, the authors warn of serious risks: romanticization of suffering, instrumentalization of PTG by the administration as a means of disciplinary control (“disciplinary power” according to M. Foucault) and blurring the line between genuine transformation and adaptive conformism. For the effective implementation of PTG-based rehabilitation, it is necessary to systemically restructure penitentiary institutions (create a safe, supportive environment), ensure continuous post-penitentiary support, culturally adapt programs and develop strict ethical protocols to prevent abuse. The integration of the PTG concept is considered an important step towards humanization of penitentiary systems.

Keywords: post-traumatic growth; convicts; penitentiary system; adaptation; rehabilitation; resocialization.

5.3.9. Legal psychology and accident psychology.

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Introduction

The prison environment demonstrates a unique paradox: being a source of chronic stress, deprivation, and systemic violence, it can simultaneously catalyze deep positive personal transformations in some convicts – a phenomenon known as post-traumatic growth (PTG). Conceptualized in the mid-1990s by Richard Tedeschi and Lawrence Calhoun, this phenomenon is defined as positive psychological changes that occur in the process of dealing with extreme life circumstances that go beyond the previous level of adaptation [1; 2]. The relevance of studying PTG in the context of incarceration is determined by three interrelated aspects. First, the high prevalence of mental disorders among convicts (up to 60% have traumatic experiences) requires alternatives to an exclusively pathocentric approach [3–5]. Second, empirical evidence proves correlation between PTG and the formation of a prosocial identity, change in life goals, and reduced risks of recidivism [6; 7]. Third, the study of PTG is inherently an interdisciplinary task that integrates clinical psychology, neuroscience, philosophy, and penitentiary criminology [8]. This review aims to critically analyze modern ideas about mechanisms, conditions, and practical implications of mental health in prisoners, paying special attention to the dialectic between traumatic capacities of the prison system and person’s abilities to existentially transform in conditions of incarceration.

Theoretical foundations of PTG: cognitive-existential integration. The theoretical basis for understanding PTG is a cognitive-existential Tedeschi-Calhoun model, according to which growth occurs as a result of intensive cognitive processing of experience that destroys person’s basic schemas about him/herself, the world and the future [1; 9]. The central mechanism is rumination, i.e. obsessive scrolling of traumatic memories. However, its role is ambivalent: intrusive rumination exacerbates distress and correlates with PTSD, while purposeful, constructive rumination, focused on the search for meaning, becomes the basis for positive transformations [10; 11]. The key difference between PTD and resistance or coping lies in its transformative nature – a qualitative leap to new forms of psychological maturity [12]. This transformation manifests itself in improving interpersonal relationships, opening up new opportunities, strengthening personal strength, spiritual changes and deepening the philosophy of life. It is important to emphasize that PTD does not deny suffering; personal transformation and psychopathology often co-exist, reflecting the dialectical nature of the reaction to trauma [13; 14].

The existential perspective developed by Viktor Frankl enriches the understanding of PTG in the penitentiary context [15]. His concept of the “the will to meaning” emphasizes that in conditions of extreme limitation of external freedom, the inner freedom to choose

an attitude to circumstances and to find meaning in suffering becomes the basis of human dignity. For many convicts, imprisonment is transformed into a space of existential crisis (a borderline situation according to K. Jaspers), where rethinking guilt and responsibility opens up the possibility for moral revival [16; 17]. Modern neurobiological studies reveal the material substrate of PTG in the form of structural and functional changes in the brain (adaptive neuroplasticity), including modulation of the activity of the prefrontal cortex (PFC), amygdala, hippocampus, as well as neurochemical systems (BDNF, HPA axis) [18–20]. Thus, PTG appears as an integrative process combining cognitive processing, existential choice, and neurobiological adaptation.

Neurobiological correlates of post-traumatic growth in conditions of penitentiary stress. Neurobiological research reveals complex mechanisms that allow convicts to demonstrate PTG despite chronic stress of places of detention. Adaptive changes in the prefrontal cortex (PFC), an area of the brain responsible for emotion regulation, cognitive control, and reassessment of traumatic experience, are of key importance [12]. In individuals with severe PTSD, there is an increase in functional connections between the PFC and limbic structures (amygdala, hippocampus), which helps to reduce impulsivity and form meaningful life strategies [19].

Neurochemical systems play a critical role. The brain-derived neurotrophic factor (BDNF), which supports neuroplasticity and learning, increases, when a person participates in psychotherapeutic and educational programs [20]. Disregulation of the hypothalamic-pituitary-adrenal (HPA) axis, characteristic of chronic prison stress, can be compensated through environmental stabilization, i.e. empathic relationships with staff. Reduced retraumatization contributes to normalization of cortisol levels [2; 21].

The dialectic of PTSD and psychopathology is confirmed neurobiologically: mild symptoms of PTSD (intrusive memories, hyperexcitation) can initiate constructive rumination, activating PFC [13]. However, with cumulative traumatization, this balance is disrupted – hyperactivation of the amygdala suppresses cognitive control [22]. This explains why a trauma-informed ap-

proach by staff is a prerequisite for neuroplastic changes [23].

A practically significant aspect is the potential of neuro-oriented interventions. Neurofeedback trainings aimed at strengthening control over PFC activity demonstrate effectiveness in regulating emotions [24]. Educational programs and cognitive stimulation increase the BDNF level, creating a neurobiological basis for resocialization [18]. The experience of Scandinavian penitentiary systems (for example, Norway's Halden Prison) confirms that humanization of the environment activates these mechanisms reducing recidivism through the support of adaptive neuroplasticity [25].

Thus, the neurobiological data emphasize that PTSD in MLS is not an abstract phenomenon, but a process with a material substrate in the brain. Its implementation depends on creating conditions that minimize the destructive effect of prison stress on neural networks and support the existential search for meaning [15].

Philosophical and existential aspects of PTG in convicts: the dialectic of freedom in conditions of incarceration. The study of PTR in the penitentiary context is rooted in fundamental philosophical and existential questions about human dignity, freedom, responsibility and meaning [7; 17]. Imprisonment, being an act of external coercion, paradoxically becomes a space for exploring the limits of inner freedom, which, according to V. Frankl, “cannot be taken away from a person” [15; 26]. Philosophical understanding of PTR is based on the concept of borderline situations of K. Jaspers. When a person faces suffering, guilt, or death, his/her familiar structures are destroyed, and values are reassessed [16].

Deprivation of liberty becomes such a situation for convicts. They have to choose between existential surrender and moral rebirth through acceptance of responsibility [27; 28]. Isolation can be transformed into a space of forced introspection [17]. The central vector of growth is the will to make sense, which manifests itself in several key areas. To begin with, it is redemptive transformation of guilt through acceptance of responsibility and the desire to compensate for the harm caused. What is more, it is transcendence of egocentrism through the development of empathy and altruism. Besides, it is reassessment of life values with a focus on

family, education or spirituality [15; 29]. Spirituality is widely understood here as a search for support in transcendent values, not necessarily religious, and can contribute to mental illness by helping to find meaning in suffering [30]. It is important to distinguish between genuine spiritual transformation and the use of religiosity as a coping strategy. A key element of genuine growth is the ability to generate redemptive narratives – coherent stories about one's life that integrate traumatic experiences and set a vector for positive change [6].

However, the PTG philosophy in prison is confronted with the paradox of authenticity: in the system where obedience and demonstration of "correction" are rewarded, the line between genuine transformation and adaptive conformity is blurred [31]. Research shows that a significant part of convicts can construct the image of a "corrected person" for pragmatic purposes, such as parole [32]. Philosophical criticism, in particular the work of Michel Foucault, warns of the danger of instrumentalization of mental illness as a tool of disciplinary power, forming "comfortable" rather than truly corrected personalities [33]. The antidote, according to the researchers, is an ethically sensitive diagnosis of PTSD, complementing self-reports with behavior analysis and longitudinal tracking, as well as separating the functions of therapists and caregivers. True growth is possible when a convict finds inner freedom in spite of circumstances, and not because of them [34]. The existential essence of PTSD among convicts lies in the dialectic between the doom to unfreedom and the desire for a meaningful existence, where suffering finds meaning in a responsible dialogue with conscience [15].

Features of convicts as an object of research of post-traumatic growth. The study of PTG in convicts requires taking into account a unique combination of factors that form their psychological profile and create research barriers caused by cumulative traumatization, mental comorbidity, neurocognitive deficits and a rigid institutional context [35; 36].

The clinical profile of convicts is often characterized by multiple traumatic stress. Pre-prison traumatization, including childhood violence and exposure to the criminal environment, affects a significant part of convicts, leading to a cumulative depletion of psychological resour-

es [3]. According to various studies, from 50% to 90% of women and from 20% to 60% of men in prison have a similar medical history [37]. The crime itself and the arrest can be traumatic events. The prison environment is a powerful stressor that can lead to the development or exacerbation of penitentiary stress syndrome or complex PTSD (CPTD) with impaired self-organization [2; 38]. Avoidance symptoms characteristic of PTSD can block the reflection necessary for PTSD, creating a paradox when an environment potentially conducive to reflection simultaneously suppresses the resources necessary for it [39].

Methodological challenges include difficulties in forming representative samples due to access restrictions and refusals to participate, which can distort data on PTSD [36]. The phenomenon of adaptive conformity and social desirability in prison settings, where demonstrating "correction" may be beneficial, creates risks of distorting responses [32]. To overcome this, mixed research methods are needed, combining quantitative questionnaires with qualitative interviews and behavior analysis. Most developed tools for measuring PTG require adaptation to prison subculture, and low verbal competence and distrust can make data collection difficult [40]. The development or adaptation of techniques, taking into account the specifics of the context, is promising [41]. It is also important to distinguish methodologically clearly between PTG and other constructs such as resistance or coping [12].

Neurocognitive barriers are often ignored, although their impact can be critical. A significant proportion of prisoners have traumatic brain injuries (TBI) related to violence or substance abuse [42]. The effects of TBI, substance abuse, or chronic stress can lead to cognitive impairments such as executive function deficits, affecting the ability to think and reflect – key PTG mechanisms [43]. This requires modification of standard psychotherapeutic interventions and questions the universality of existing models of TRP for this contingent [44].

Ethical dilemmas include ensuring genuinely voluntary informed consent in the dependent position of convicts, protecting data confidentiality, risks of re-traumatization when discussing traumatic experiences. The administration of a

correctional facility can use PTG as an instrument of “disciplinary authority” rather than for genuine assistance [33]. It is promising to conduct longitudinal mixed studies, for example, combining an adapted questionnaire for post-traumatic growth with high-quality interviews, analysis of official data, and possible use of stress and neuroplasticity biomarkers. Technological innovations such as the use of mobile apps to collect real-time data after release or AI analysis of narratives are also important, but require careful ethical expertise. The implementation of such research requires interdisciplinary synthesis and guarantees of compliance with ethical standards, since the vulnerability of this group is an imperative for the humanization of methodology and practice [34].

Practical application of the PTG concept in the rehabilitation of convicts: from theory to systemic transformation. The implementation of the PTG concept in penitentiary practice requires systemic restructuring of the rehabilitation paradigm, recognizing the paradox that prison, being a source of stress, can become a space for positive changes when conditions are created. Successful integration of the PTG-oriented approach is based on a multi-level model that includes individual work, institutional reform, and post-retirement support.

At the individual level, the primary task is to stabilize the condition of convicts with PTSD or CPTD and reduce trauma symptoms with the help of trauma-informed approaches. Dialectical behavioral therapy contributes to the development of emotional regulation and stress tolerance skills. Acceptance and responsibility therapy focuses on accepting painful experiences and taking meaningful actions in accordance with values. Long-term exposure therapy and cognitive processing therapy help to process traumatic memories. These methods should be adapted for prisons, since access to reflection is difficult without reducing hyperactivation of the limbic system [3; 45].

After stabilization, interventions are used to stimulate PTG. Narrative therapy promotes construction of “redemptive” narratives using techniques of redramatization of guilt. Existential and logotherapies help in the search for meaning and setting life goals. Support groups, such as the structured Changing Lives program, create a space for sharing experiences

and developing empathy. Cognitive behavioral therapy focused on growth and mindfulness development programs promote positive cognitive change and emotional regulation [6; 15].

Programs integrating these approaches have shown a link with a reduction in recidivism [46]. Evaluation of the effectiveness of these programs should include not only the recidivism rate, but also the dynamics of indicators on valid PTG scales, changes in psychological well-being, the development of prosocial attitudes and skills, as well as indicators of successful reintegration, such as employment and restoration of family ties.

At the group and institutional level, a traumatically informed restructuring of the entire system of work of the institution is necessary. This includes training employees to understand the effects of trauma, creating a safe environment, and minimizing retraumatic practices [23]. The quality of the employee-convict relationship, characterized by empathy and support, is a key predictor of PTG [47]. It is important to create opportunities for development through access to education, vocational training and meaningful activities. Prosocial modeling and peer-to-peer communities (“therapeutic communities”) contribute to the formation of a new identity [48; 49]. The experience of countries with humanistic approaches, such as Norway with its Halden prison model, focused on normalizing life and creating opportunities for growth, demonstrates the practical feasibility and effectiveness of such an approach [25].

At the systemic level, the PTG achieved in a correctional facility requires support after release. This includes planning for release and continuity of support for housing, employment, and psychological support, as well as reducing stigma and creating a host community. Restorative justice programs can promote atonement and healing through consensual dialogue between victim and perpetrator [50]. Technological innovations such as social skills training using virtual reality and digital platforms for psychological support and employment can be useful, but require careful ethical assessment [51]. Ethical risks, especially the instrumentalization of PTG, require verification of the authenticity of the growth and independent monitoring of programs. Cultural adaptation, for example, integration with Orthodox values

in Russia, is also important for the successful implementation of programs [52].

Limitations of the PTR-based model. Practical barriers to implementation include chronic underfunding of penitentiary systems, staff resistance to change, bureaucratic obstacles, overcrowding in penitentiary institutions, making it difficult to work individually, and a lack of qualified personnel [53]. Overcoming these barriers requires a strategic approach. Launching pilot projects with a thorough assessment of effectiveness, including cost-effectiveness analysis, makes it possible to demonstrate the economic feasibility of humanistic approaches. Active involvement and training of correctional facility management creates internal motivation for change. Lobbying for changes at the legislative level contributes to the creation of a regulatory framework for reforms. The involvement of volunteers and public organizations expands the resource base. Widespread promotion of proven economic and social effectiveness of humanistic approaches through the media and scientific publications generates public support [54].

Discussion: the dialectic of growth in the context of unfreedom. The study of PTG in convicts reveals deep contradictions regarding the possibility of authentic positive transformations in conditions of systemic coercion and deprivation of penitentiary systems [2]. The central paradox is whether genuine growth can arise from the compulsion and suffering generated by imprisonment [33].

Proponents of the rehabilitation potential of PTG point to empirical data on the experience of positive changes in a significant part of convicts, which is facilitated by empathic relationships with staff, access to programs, social support and spirituality [12]. Opponents argue that in the environment where demonstrating "correction" is an adaptive strategy, the line between authentic growth and conformity is blurred. Critics emphasize that the dehumanizing effect of prison rather hinders growth [31].

Cultural relativism complicates the discussion: The PTG manifestations may differ in individualistic and collectivistic cultures, thus questioning the universality of standardized measurement tools [40]. The relationship between PTG and recidivism is ambiguous; although some studies show a decrease in repeat

offenses, the effect depends on many factors, especially post-penitentiary support [6]. The PTG achieved in prison requires post-release support for a sustained effect, including affordable housing, employment programs, reducing stigma, and restoring social ties [55].

The philosophical dimension raises the question of risks of turning the PTG concept into an instrument of "disciplinary power", where growth becomes a performance of loyalty. The separation of functions of therapists and caregivers is a counterbalance. The resolution of contradictions lies in the acceptance of the dialectical nature of PTG. Qualitative research shows that genuine growth is often described as an act of inner resistance and gaining meaning despite dehumanizing conditions [17]. It is proposed to consider PTG not as a consequence of imprisonment, but as a meaningful personal response to challenges [15].

Conclusion: PTG as a space of existential choice in conditions of unfreedom. The study of PTG in convicts reveals a deep dialectical paradox: places of deprivation of liberty, being inherently an institution of coercion and punishment, can, despite the tendency towards dehumanization, become for some individuals a space for positive personal transformations and the acquisition of a new meaning in life. This phenomenon does not fit into simplified schemes and requires a multidimensional understanding. Thus, PTG is neither an automatic consequence of suffering nor a direct product of the prison system. It arises at the intersection of neurobiological plasticity of the brain, existential courage of the individual, cognitive processing of experience, and presence of a supportive, ethically organized environment.

A key discovery of modern science is that neurobiological foundations of PTG, including adaptive changes in the prefrontal cortex, hippocampus, and amygdala, as well as modulations of neurochemical systems (for example, BDNF, HPA axis), retain their potential even under conditions of chronic penitentiary stress. However, these mechanisms can be either activated or suppressed depending on a variety of factors, including the intensity and cumulative-ness of the injury, the availability of cognitive resources, and the quality of the environment. That is why the quality of the employee-convict relationship and general psychological climate

in the institution remain critical conditions: empathic, respectful interaction and the creation of a safe, predictable environment can reduce the activity of the amygdala, help stabilize the HGH axis and open access to reflection – the basis of meaning formation and growth [47].

The philosophical dimension of PTG reveals it as a form of existential resistance and the search for authenticity in conditions of unfreedom. V. Frankl's concept of "freedom to choose one's attitude to circumstances" finds its ultimate embodiment here: when external freedom is maximally limited, the last bastion of human dignity becomes an internal position in relation to one's own guilt, suffering and the future. But this freedom is not a given; according to K. Jaspers, it requires "existential effort", i.e. the willingness to rethink the past through acceptance of responsibility and redemption, rather than through denial or self-justification [16].

As the convicts who have experienced genuine PTG note, "Prison has ruined my life, but it has not broken my decision to become different" [17]. At the same time, it is important to avoid romanticizing suffering: growth does not justify the circumstances that give rise to this suffering, but rather testifies to the incredible ability of the human spirit to transcend even in the most unfavorable conditions.

Practical significance of the PTG concept is confirmed by data on the effectiveness of rehabilitation programs based on its principles (for example, narrative therapy, restorative justice, educational and spiritual projects). Such programs, provided they are implemented with high quality and integrated with post-penitentiary support, can help reduce recidivism, improve psychological well-being of convicts and their more successful reintegration into society. The experience of countries implementing

humanistic approaches in penitentiary practice (for example, Norway, Finland) shows that the combination of therapy, environmental reform and social inclusion is not only more humane, but also economically feasible.

However, ethical risks and methodological challenges remain a serious obstacle to the study and practical application of PTG in prisons. Instrumentalization of the concept to create "comfortable prisoners", pressure on therapists to obtain parole, ignoring systemic violence under the guise of "positive changes", as well as difficulties in ensuring voluntary informed consent and data reliability – all this requires development of strict ethical protocols, independent monitoring of programs, and cultural adaptation of techniques [34].

Promising areas of research include longitudinal mixed studies of PTG trajectories in various categories of prisoners; study of neurobiological growth markers and their dynamics under the influence of interventions; development and validation of culturally adapted diagnostic tools and PTG facilitation programs; comparative analysis of the effectiveness of various rehabilitation models; and deeper study of the role of prison subculture, gender aspects and the influence of post-penitentiary factors on the sustainability of the achieved growth.

Thus, it can be said that PTG in the penitentiary context is not a linear and not guaranteed path from trauma to healing, but a complex, dialectical and deeply individual struggle for meaning, dignity and positive changes in conditions that are often not conducive to this. Its study and application require researchers, practitioners, and society as a whole to abandon simplistic narratives in favor of a holistic, interdisciplinary, and ethically sound approach [56–58].

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