



BRAIN. Broad Research in Artificial Intelligence and Neuroscience

e-ISSN: 2067-3957 | p-ISSN: 2068-0473

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2026, Volume 17, Special Issue 1, pages: 177-183

Submitted: March 24th, 2026 | Accepted for publication: June 23rd, 2026

Neuro-Pedagogical Aspects of Psychologists' Supervision: The Impact of Stress and Emotional Burnout on the Effectiveness of Supervision Methods

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Abstract: This article explores the neuro-pedagogical aspects of psychologists' supervision, particularly the impact of stress and emotional burnout on the effectiveness of supervision methods. The importance of supervision as a tool for professional development and the prevention of emotional burnout in psychologists working under stressful conditions is highlighted. The authors examine the neurophysiological processes underlying supervision and analyse how stress affects brain neuroplasticity and adaptation to stressful situations. Special attention is given to various supervision methods - individual, group, and online supervision - that can be adapted to the psychologist's stress and burnout levels to optimise their effectiveness. The article also discusses strategies that support professional growth and emotional well-being in the supervision process, including mindfulness practices and physical activity. The article presents a theoretical analysis of neuro-pedagogical aspects of psychologists' supervision in the context of professional stress and emotional burnout. The methodological framework of the study is based on a review of contemporary interdisciplinary scientific sources in psychology, neuroscience, and adult education, which makes it possible to comprehensively examine the impact of stress factors on psychologists' professional functioning. The practical value of the study lies in substantiating supervision as a tool for enhancing professional resilience, preventing emotional burnout, and preserving the neuropsychological resources of specialists in helping professions.

Keywords: neuroplasticity; cognitive processes; emotional regulation; supervision; social support.

How to cite: Kompanovych, M., Zoshii, I., Petrynych, O., Khanyak, K., Trefiak, K., & Vachkov, O. (2026). Neuro-pedagogical aspects of psychologists' supervision: The impact of stress and emotional burnout on the effectiveness of supervision methods. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 17(S11), 177-183. <https://doi.org/10.70594/brain/17.S1/15>

1. Introduction

A neuro-pedagogical approach to supervision opens new possibilities for a deeper understanding of how stress and emotional burnout affect the choice and effectiveness of supervision methods. Modern psychological practice is constantly evolving, and the importance of supervision as an integral part of professional development and psychologists' support is growing each year. Supervision not only helps enhance professional skills but also serves as a crucial tool for preventing stress and emotional burnout in psychologists, which can arise due to the intensive emotional work with clients.

The relevance of this study is driven by the increasing role of supervision in psychological practice, where it serves as a vital tool for skill development and professional support. Since psychologists frequently encounter emotional stress, it is important to consider the neurophysiological processes underlying the phenomenon of supervision, as these processes can significantly impact its effectiveness.

The purpose of this article is to:

- Examine the theoretical foundations of psychologists' supervision and the impact of stress on brain neuroplasticity.
- Analyse supervision methods and their neuro-pedagogical principles.
- Investigate the influence of stress and emotional burnout on the effectiveness of supervision.
- Identify strategies to enhance supervision effectiveness under stress and emotional burnout.
- Characterise brain neuroplasticity and its role in overcoming stress.

Supervision should not only contribute to professional development but also provide support in managing stress and emotional burnout, which are inherent to this profession. Understanding the neuro-educational mechanisms that define the relationship between stress, emotional burnout, and supervision methods underscores the significance of this research. The goal of this study is to determine how stress and emotional burnout influence the effectiveness of various supervision methods and what neuro-pedagogical mechanisms underlie these processes to optimise supervision practices in psychological work.

2. Theoretical Foundations of Psychologists' Supervision and the Impact of Stress on Brain Neuroplasticity

Supervision is a process of professional support and development in which an experienced specialist (supervisor) provides feedback to another psychologist or psychotherapist, consults them, and helps them navigate complex situations arising in practice. The primary goal of supervision is to ensure professional growth, enhance work efficiency, and prevent stress and emotional burnout in psychologists.

Emotional burnout typically arises due to prolonged emotional stress, which impairs the ability to function effectively. This condition significantly deteriorates cognitive functions such as memory, attention, and decision-making, as well as behaviour, leading to reduced productivity and emotional detachment. As a result, stress and burnout disrupt the body's ability to adapt, diminish mental performance, and hinder interaction with the surrounding environment.

Understanding neuroplasticity is the key to optimising learning and therapeutic methods to create conditions for effective adaptation and development at different life stages.

Stress has a complex and multifaceted effect on neuroplasticity, depending on its intensity, duration, and type. Short-term stress can enhance alertness and focus, activating brain regions responsible for rapid responses to external threats.

However, McEwen (2007) argues that chronic or prolonged stress negatively affects neuroplasticity and impairs the brain's ability to adapt to new conditions and learn effectively. Stress triggers the release of hormones, particularly cortisol, which, in excess, can be toxic to brain structures associated with memory and learning, such as the hippocampus.

In chronic stress conditions, hippocampal neurons may be damaged or even destroyed by cortisol. Reid and Westergaard (2013) state that this can also lead to cognitive decline, including

memory and learning impairments. Moreover, stress decreases the brain's ability for plastic changes, making adaptation to new circumstances more difficult.

However, studies also show that under certain conditions, stress can activate neuroplasticity mechanisms, promoting the formation of new neural connections in response to challenges such as stressful learning tasks or overcoming difficult obstacles. The key factor is the balance between stress levels and the brain's adaptability. Moderate stress can enhance neuroplasticity, while excessive stress can impair adaptation and learning.

Research also indicates the existence of individual psychological typologies that are more prone to burnout, particularly individuals with a high level of responsibility, perfectionism, and heightened empathy. In this context, supervision serves not only as a form of professional training but also as an important preventive mechanism for psycho-emotional self-regulation. Taken together, the reviewed evidence suggests a conceptual pathway linking stress, neuroplasticity, and supervision effectiveness. Chronic stress may impair neuroplasticity by disrupting cognitive flexibility, emotional regulation, and learning processes, thereby reducing psychologists' capacity for reflection and professional adaptation. Since supervision relies on these cognitive and emotional functions, stress-related neuroplastic changes may indirectly diminish the effectiveness of supervisory interventions. Conversely, supportive supervision may facilitate adaptive coping, emotional regulation, and reflective practice, potentially creating conditions that favour functional neuroplastic adaptation. Although this conceptual relationship is supported by evidence from neuroscience and psychology, direct empirical studies specifically examining these mechanisms within supervision remain limited, highlighting an important direction for future research.

Thus, the ability of the body to adapt to stressful situations is vital, as it ensures learning capacity and structural changes in the brain.

3. Supervision Methods and Their Neuro-Pedagogical Foundations

Analysing the effectiveness of various supervision methods in the context of stress and emotional burnout is a crucial component of understanding how each approach can help psychologists in such challenging situations. Since stress and burnout limit the ability for self-reflection, learning, and adaptation, it is important to explore which supervision methods can most effectively support psychologists in these circumstances.

Individual supervision is an essential process of professional development in which cognitive processes, such as case analysis and reflection, play a significant role. Case analysis involves a thorough examination of specific situations from practice, assessing problems, and finding effective solutions.

From a neuro-pedagogical perspective, professional stress can affect the functional organisation of the brain, particularly the dynamics of activation of focal areas responsible for emotional regulation, reflection, and learning. Conditions of chronic tension may limit neuroplasticity, which negatively affects psychologists' capacity for professional development and adaptation.

Group supervision is characterised by a unique dynamic of interaction, allowing participants to share experiences and receive mutual feedback.

Social learning in a group is a powerful development tool since each participant can become familiar with different approaches to problem-solving and learn new strategies for overcoming difficult situations. Coping strategies used in group supervision enable members to exchange ways of dealing with stressful situations, significantly enhancing professional effectiveness.

Feedback in group supervision plays a key role. It not only broadens perspectives but also helps participants better understand their own actions and reactions when interacting with clients. Thanks to mutual support and constructive feedback, group supervision becomes an important tool for improving professional skills, reducing stress, and increasing emotional resilience.

Technologies used in online supervision include videoconferencing (such as Zoom, Skype, or Microsoft Teams), document sharing, real-time collaboration tools, and online platforms ensuring

confidentiality and data security, which are critically important in the context of psychological practice.

All these methods can be effective when used comprehensively, providing psychologists with the support and relief they need in conditions of stress and burnout.

4. The Effect of Emotional Burnout on Supervision

Emotional burnout has serious consequences for the effectiveness of supervision, as it can significantly affect a psychologist's ability to develop, interact with colleagues, and effectively apply new knowledge and skills. Below is an explanation of how emotional burnout impacts various aspects of supervision.

In a state of stress, the human brain activates mechanisms that prepare it to respond to a perceived threat, which can lead to a decreased ability to concentrate on specific tasks. Under stress, attention becomes scattered, making it difficult for an individual to focus on analysing situations or receiving feedback, which in turn complicates the learning process and the assimilation of new information during supervision.

Stress activates brain regions involved in emotional responses while reducing the efficiency of cognitive control processes, which may result in impaired decision-making. Under such conditions, individuals are more likely to respond impulsively or rely on emotionally driven rather than analytically reasoned decisions. In the context of supervision, this may be reflected in the selection of less effective intervention strategies or clinical approaches when working with clients. Lai et al. (2023) emphasise that stress can increase emotional reactivity, making it harder to objectively analyse situations and receive feedback.

Emotional burnout can lead to reduced emotional openness and detachment, making it difficult to build such relationships. According to Clevinger et al. (2019), this can have a negative impact on the supervision process, as effective interaction requires a certain level of emotional sensitivity and readiness for reflection, which are lacking in burnout.

In a state of emotional burnout, individuals often feel exhausted and lose the ability to effectively apply new knowledge and methods learned during supervision.

5. Strategies for Improving the Effectiveness of Supervision in the Context of Stress and Emotional Burnout

Neuroplasticity plays an important role in overcoming the effects of stress, as it allows the brain to adapt to changes, restore functions, and create new neural connections in stressful conditions. Specifically, neuroplasticity helps improve adaptability, reduce the effects of stress, and restore mental balance. Below is an explanation of how various techniques can support this process:

Kompanovych (2023) believes that these techniques allow individuals to focus on the present moment, which helps reduce anxiety and stress. Mindfulness stimulates neuroplasticity because regular meditation practices promote changes in the brain's structure, particularly in areas responsible for emotional control and self-regulation. This enables the brain to build new neural connections, which helps better cope with emotional and stressful situations in the future.

Regular physical activity, such as sports, yoga, or outdoor walks, positively affects neuroplasticity. It also reduces stress hormone levels and improves mood. This allows the brain to remain more flexible, maintain high cognitive function, and reduce the effects of chronic stress.

According to Ostrovska (2023), optimising supervision methods is an important step toward improving the effectiveness of training and preparing psychologists. Implementing new approaches to supervision allows for better meeting psychologists' needs, promoting their professional development, and reducing the risk of burnout.

Therefore, it is important to apply strategies that help psychologists restore emotional stability, reduce stress levels, and enhance professional effectiveness. One of the most important components of these strategies is organisational culture, which has a significant impact on the psychological climate in the team and the success of the supervision process.

According to Sazonova (2020), organisational culture should promote the creation of an atmosphere where psychologists feel safe, especially when they are suffering from stress or emotional burnout. One of the key aspects of reducing stress and combating emotional burnout is continuous professional development, which allows psychologists to improve their skills, maintain interest in their work, and feel supported by the organisation.

This may include organising special courses, seminars, and training sessions on various aspects of psychology, which allow specialists to acquire new knowledge and practical skills; creating pathways for professional growth that allow psychologists to take on new roles and responsibilities while maintaining interest in their work; and supporting participation in professional events that help psychologists advance their careers, gain new knowledge, and share experiences with other specialists.

6. Supervision Opportunities for Preventing Emotional Burnout in Psychologists

Considering this aspect of supervision, namely the prevention of emotional burnout, we would like to discuss regular group supervision with psychologists. The particularity of their work lies in the fact that they often deal with so-called involuntary clients, “at-risk families.”

These are individuals who are either in a difficult life situation or facing a crisis (for example, adolescent crises) and have come under the supervision of child welfare and social protection services. The complex life circumstances in clients' stories provoke emotional reactions and feelings in specialists, which can sometimes be very intense. Psychologists are generally especially sensitive due to professional suitability criteria, such as empathy, altruism, and humanism.

This sensitivity is particularly noticeable in group work: when a psychologist presents a case, it usually creates a certain mood within the group. Either a particular emotion dominates (anger, helplessness, pity, sadness, etc.), or a kind of “split” occurs in the group (some criticise and judge the client, while others empathise with them). Thus, the very conflict that clients experience in their lives emerges. This is an isomorphic phenomenon occurring in the “therapist-client” and “therapist-supervisor” systems—a tendency of the supervisor, therapist, and client to mirror each other.

In other words, patterns of experience from consultations are transferred to supervision and vice versa. Clients' mental processes - often considered “contagious” - are “picked up” by the psychologist and can be reproduced in supervision; this process usually goes almost unnoticed. Many cases involve severe psychosocial adversity, including parental neglect, bereavement, severe physical or mental illness, substance misuse, and children who have left home. Repeated exposure to such circumstances may foster emotional distress and challenge psychologists' ability to maintain an optimistic therapeutic perspective. The specialist finds it difficult to maintain hope and belief in the clients' ability to change; confusion and fatigue subtly infiltrate the work, leading to pessimistic and often cynical thinking.

Moreover, psychologists, especially in complex cases, often feel lonely, long for urgent support from colleagues, cannot rely on clear, “effective” protocols when efficiency is required, and sometimes even feel insecure. Under such circumstances, specialists suffer from emotional exhaustion. We observe a loss of interest in work, detachment and formalism, or conversely, overinvolvement (“rescue drive”), fatigue—experiences typically referred to as the psychologist's “emotional burnout.”

Group supervision can and should serve as an element of necessary support and reinforcement for the psychologist, allowing them to strengthen professionally and emotionally. The narrative approach and solution-focused approach provide the necessary methods and techniques and help maintain optimism.

In the prevailing problem story, we search for exceptions and unique episodes, focus on small successes, and, above all, learn to treat clients with greater respect, ceasing to belittle their efforts and our own. Psychologists work with different approaches and terminology, so they “throw out”

various ideas, while the supervisor moderates and supports the process. Group supervision/intervision allows participants to exchange “images” and enables the specialist presenting the case to “try on” what they like and feel supported.

The cases we encounter most often can be divided into two major groups:

- A lot of collected information that is unstructured, unclear work goals, high anxiety of the psychologist (usually a beginner at a normal stage of professional development). In this case, the supervisor helps structure the information, formulate a working hypothesis, and outline tasks for the upcoming sessions.
- Insufficient information, difficulty formulating a working hypothesis, and consequently, difficulty defining goals/tasks and developing a work strategy. The supervisor identifies the “white spots” and suggests methods for collecting missing information (for example, using specific techniques).

No psychologist, even an experienced one, is immune to encountering unforeseen difficulties, let alone beginners. Therefore, supervision is an essential component of a psychologist’s work regardless of their professional experience. The primary target of supervision is the professional stance; a necessary condition is the feeling of safety and non-judgement during supervision (facilitated by the supervisor’s “egalitarian” position, respect, interest, reflection of successes, and support -essentially, the basic principles of postmodernist approaches).

7. Conclusions

The article emphasises the importance of supervision for psychologists and its role not only in developing professional skills but also in preventing stress and emotional burnout. Taking into account neuro-pedagogical aspects, the authors stress that stress and burnout can significantly affect the effectiveness of supervision, so it is important to choose supervision methods that consider these factors. Individual, group, and online supervision can be adapted to the emotional state of the psychologist, which allows for optimising professional development and support in stressful conditions.

The main conclusions of the article are as follows:

- Stress and burnout negatively affect brain neuroplasticity, complicating the learning process and adaptation to new conditions.
- Individual differences in stress responses require a personalised approach to supervision.
- Combining different methods of supervision (individual, group, and online supervision) enhances the effectiveness of the process.
- The use of interactive methods and technologies promotes the engagement of supervisees and improves learning outcomes.
- Creating a supportive psychological climate within the organisation is an important factor in preventing burnout and enhancing the effectiveness of supervision.

The results of our research highlight the importance of a neuro-pedagogical approach to the supervision of psychologists. Investing in high-quality supervision is an investment in the health of psychologists and the quality of psychological assistance provided to clients.

Thus, the article substantiates the relevance of examining psychologists’ supervision through the lens of a neuro-pedagogical approach. Supervision is presented as a multidimensional process that integrates professional learning, emotional support, and burnout prevention. The analysis expands the understanding of the role of neuropsychological mechanisms in shaping psychologists’ professional resilience and outlines prospects for further research in this field.

Considering the impact of stress and emotional burnout, it is essential to continuously improve supervision practices by incorporating neuro-educational aspects and adapting them to the individual needs of professionals to maximise professional growth and emotional well-being.

The present review is conceptual in nature and does not include original empirical data. Future research should empirically evaluate the proposed neuro-pedagogical perspectives across different supervision contexts and professional populations.

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