Theories of a Stress-Coping Behavior: Searching for Neurocognitive Mechanisms

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Abstract: *The article proves that the main form of overcoming stress is coping behavior, which is understood as a purposeful social and neurophysiologically determined behavior that allows a person to cope with stress in ways that meet the characteristics of the individual and the situation. Coping behavior is considered a synonym for stress-coping behavior, which is expressed in the use of coping strategies by the individual. Personal characteristics and situational factors determine the choice of coping behavior strategies. The article aims to resolve the contradictions of multimodal approaches to the problem in question in the post-Soviet countries and group theories that include not only external social but also neurophysiological factors. The article shows that the choice of coping strategies mostly depends on personal and neurophysiological factors. These include neurophysiological reflexive or instinctive and higher ones: adequate self-concept, positive self-esteem, personality anxiety, cognitive style, and energy resources, which include endurance and temperament characteristics, intelligence, creativity, and locus of personality control. Overcoming a stressful situation is impossible without cognitive "processing," which becomes available through reflection. The influence of reflection on the choice of coping strategy of the individual is that reflective individuals choose more adaptive and effective strategies. The international relevance of the article lies in discovering neuroscientific aspects of the problem in question in the post-Soviet countries, which will allow these countries to contribute to the global scientific interdisciplinary discourse.*

Keywords: *subjectivity, avoidance, positive self-esteem, personality anxiety level, cognitive style, energy resource, character traits, intelligence, creativity and personality locus control.*

Introduction

In everyday life, people are constantly faced with various difficulties which they have to overcome. Quite frequently, such difficulties can exceed one's resources and lead to stress, followed by negative changes in psychological and physical well-being, as well as in professional activity. According to recent sociological studies, despite significant improvements in living standards and life expectancy, stress is becoming a more and more acute problem today. The globalized and informatized neoliberal society prioritizes physical security of people, respects their rights and recognizes life as the greatest value. Still, humanity is powerless in the face of vast arrays of destructive information, rapidly changing events, situations of uncertainty and information entropy, the need for instant decisions. Consequently, all these factors provoke stressful situations almost daily.

One of the essential topics in the psychological space is the issue of stress-coping behavior. Constant stay in the atmosphere of stress in which the person lives requires an effective psychological response. A characteristic feature of modern psychological research is studying the field and possibilities of positive human existence. Researchers have developed many classifications of stress responses and described types of behavior in a stressful situation. Analysis of the scientific literature on the problem of personal resources to overcome stress shows that today the most studied are two types of personal processing of negative experiences. These are psychological protection (Freud, 1999; Zhurbin, 1990) and psychological overcoming – a phenomenon that has been studied in the literature recently and is still not fully disclosed (Antsiferova, 1994; Nerubasska et al., 2020; Palamarchuk et al., 2020; Vasilyuk, 1984).

The term "coping" first appeared in the psychological literature to explain how children overcome developmental crises. The founders of the concept are Folkman et al. (1986), who called coping strategies "strategies for mastering and settling relationships with the environment." They turned to coping to describe conscious strategies to overcome stress and other events that cause anxiety (Folkman et al., 1986).

Since the early '90s of the twentieth century, the study of coping behavior has become a field of scientific research of post-Soviet researchers. They are exploring ways to overcome stressful situations by healthy people - representatives of various professions, including doctors, psychologists, psychotherapists, students, teachers, managers, law enforcement officers, and people suffering from alcoholism, drug addiction, neurosis, and more.

In the works of domestic psychologists (Rasskazova & Gordeyeva, 2011), we find the interpretation of the concept of "coping" as overcoming (stress-overcoming) or psychological overcoming of stress.

Titarenko (2010) emphasizes the internal factors of human resilience to stress, using the concept of "viability," which was introduced into scientific circulation by Maddi & Khoshaba (1994) in the late '70s of the twentieth century. Vitality characterizes the degree of ability of an individual to withstand a stressful situation, maintaining internal balance and not reducing the success of activities. Titarenko & Larina (2009) believe that the components of Vitality are trusted in life and the world, loyalty to yourself, developed internal control, the ability to overcome obstacles, the desire to test their strength. Sustainability affects not only the assessment of the situation but also the choice of coping strategy. Therefore, it should be noted that the concept of "viability" is not identical to the concept of "coping strategy."

Nikonenko (2015) considers overcoming behavior as one that reflects the readiness of the individual to solve problem situations. The author believes that the concept of coping behavior is broader than the concept of coping strategy, and the latter – for coping. Coping strategy is an internal regulatory mechanism of human behavior, and the behavior itself is not actually a psychological phenomenon, because it contains social and biological components. According to the author, overcoming behavior is realized through successful coping strategies (Nikonenko, 2015).

Nikolskaya & Granovskaya (2006) note that the concept of coping behavior in its content is close to the concept of psychological protection. The main difference is that coping behavior strategies are used by the individual consciously, and can change depending on the circumstances, and the mechanisms of psychological protection are not realized, and in the case of their consolidation become maladaptive.

Kryukova (2010) points out that a person who resists stress uses several basic strategies that can be both optimal and suboptimal, both adequate and inadequate situations. According to the author, the "overcoming person" is considered in the paradigm of "stress coping" as having a unique personal disposition, high reserves of resistance to stress or resilience (Kryukova, 2010).

Antsiferova (1994) notes that individuals in problematic and stressful situations resort to psychological protection mechanisms, perceive the world as a source of danger, have low self-esteem, and have a pessimistic outlook. Individuals who prefer constructive coping behavior strategies have an

optimistic outlook, stable positive self-esteem, a realistic approach to life, and a solid motivation to achieve.

Effective coping strategies are a crucial element of a person's psychological health. It is also possible to include the concepts of vitality ("hardiness") and psychological well-being. Psychological well-being, vitality, and coping are a system of stable positive traits of the individual, interpreted as personal resources that contribute to the successful adaptation of man to the world and practical mastery of it, and perform a vital buffer function, i.e., prevent the development of mental pathology, deviant behavior, personal violations (Olefir, 2011).

The above-mentioned approaches show that one can define the essence of the phenomenon of psychological overcoming in several ways. In particular, specific strategies of reaction and behavior in stressful situations aimed at overcoming negative experiences are considered; certain personal qualities that contribute to the implementation of constructive psychological overcoming are clarified.

However, the relevance of the problem in question can be determined by several contradictions. A detailed propaedeutic analysis of available scientific works shows that: a) the problem of coping strategies and coping behavior is indeed acute; b) the specified topic is widespread among bloggers, journalists, teachers who somewhat exaggerate it in scientific, pseudo-scientific and journalistic discourse; c) recently, the body of research on coping behavior has expanded significantly. Such multimodality of approaches and heterogeneity of participants in coping discourse make it difficult to elaborate practical recommendations and strategies. Thus, it is crucial to reduce the entropy of the terminology and scientific content on the problem in question. This will contribute to its epistemological certainty and coherence and allow one to outline the most effective and appropriate theories and practices of coping behavior and its strategies.

With regard to the post-Soviet countries, another problem lies in the absence or fragmentary nature of studies on neurophysiological mechanisms of coping behavior. Besides, the data obtained by different researchers do not always correlate with each other and sometimes even contradict each other: the statistical procedures used by scientists do not give a sufficiently reliable prediction of the influence of cognitive factors on the choice of coping strategy up to 40%. Thus, the role of cognitive styles in overcoming life's difficulties needs further analysis and clarification.

Therefore, the article aims to analyze both foreign and post-Soviet studies on coping behaviour, single out theories with a neuroscientific

component and present a general classification of such theories and approaches.

Research methods include systemic, comparative, comparative-typological and extrapolative analysis in order to reveal neurophysiological aspects in heterogeneous theories of coping behaviour, as well as generalization and classification of conclusions.

The necessary data were mostly collected from the corpus of the post-Soviet literature (Ukrainian and Russian) through thematic selection and search for relevant materials by keywords.

The Problem of Coping Behaviour in West European Research Today

A detailed study of recent scientific publications on coping behavior and strategies has shown that both terminology and methodical-psychological understanding of this topic is indeed well established. At the same time, the diversity of discourse is determined by new current challenges (the COVID-19 pandemic, anthropogenic influences, information overflow, burnout syndrome). Therefore, this article considers the most typical thematically different publications.

Currently, the problem of coping behaviour is extremely acute in the context of the COVID-19 pandemic. Researchers point out several objective and subjective dangers: fear of infection, lack of personal protective equipment, challenges to distance education and work. In 2020, Savitsky et al. (2020) assessed anxiety levels among nursing students with the help of factor analysis to identify coping components. Their findings are the following: "the prevalence of moderate and severe anxiety was 42.8% and 13.1% respectively; stronger resilience and usage of humor were associated with significantly lower anxiety levels, while mental disengagement with higher anxiety levels" (Savitsky et al., 2020).

In a globalized society, there is a problem of personality. Despite well-developed online communication, the level of repression and alienation in society is ever growing. This is especially true for mature and middle-aged people, who lack flexibility and mobility to fully integrate into a rapidly changing society. Heffer & Willoughby (2017) assume that one's ability to modify and change coping strategies depends on the current context and a flexible attitude towards it. In turn, this is the key to universal adaptability (Heffer & Willoughby, 2017). The researchers also conclude that the main problem is not the absence/presence of coping strategies but one's awareness and willingness to use them. Quite often, young people use only one strategy that suits their attitudes, character and temperament. At the same time, the flexible use of multimodal strategies based on optimism,

positive attitudes and ability to adjust attitudes, behaviors and activities can significantly reduce negative impacts on an individual.

Nowadays, burnout syndrome is the common target of research on coping behaviour and strategies. Vast arrays of information, as well as the high pace of occupational and mental activity, are not consistent with one's limited mental resources. Consequently, it leads to emotional exhaustion and increases anxiety and stress. Martínez et al. (2020) described and experimentally confirmed the presence of different "burnout profiles", including depersonalization, emotional exhaustion and personal accomplishment. The researchers present a detailed analysis of sociological and psychological studies on these phenomena. However, this article aims to indicate only the main ways of solving these problems among teachers: "the need for prevention and intervention programs that enhance teachers' emotional skills, especially their ability to cope with exhaustion" (Martínez et al., 2020).

It is also essential to focus on those studies which are related to human-made and technologically caused destruction. Tarafdar et al. (2020) prove that the greatest danger lies in "addiction to the use of the same social networking systems". Excessive use or curt refusal from these technologies can lead to stress and even depression. Since one cannot completely avoid the virtual world, the best coping strategy is the psychological concept of distraction. It means that one can rhythmically balance between the virtual and real world, realizing their advantages and disadvantages.

Another relevant aspect is an abuse of psychoactive substances, caused by the need for compensation, relaxation, switching from real stressful environments to temporary comfortable states. In particular, Cruden & Karmali (2021) have recently published an article on opioid misuse as a coping behavior. They "used 2015-2018 data on U.S. adults from the National Survey of Drug Use and Health" and proved the following: "self-medication theory posits that experiencing mental health distress can lead to opioid misuse; having unmet mental health treatment needs was associated with likelihood of opioid misuse; individuals potentially experiencing social isolation were at particularly high risk" (Cruden & Karmali, 2021). Thus, drug abuse is mostly a countermeasure to one's inability to accept and internalize intense social, informational and personal problems. The authors of this article believe that such knowledge can change the paradigm of addiction treatment in the early stages.

Today, many researchers claim that all kinds of external resources can be used to overcome stress or avoid objective danger. In everyday life, however, the best invariant coping strategy is self-efficacy skills. On the

example of coping strategies and self-efficacy in university students, Freire et al. (2020) prove that young people can "combine different coping strategies and the adaptive consequences this flexibility entails". A detailed study of coping profiles shows the following: the synergy of an individual self-efficacy trajectory and the understanding of at least three proven coping strategies allow young people to comfortably and effectively adapt, learn and self-determine in an entropy-filled environment.

Thus, current research on coping behavior and strategies is rather segmented and aimed at personal solutions to problems of the globalized and informatized society, which is full of personally significant events and influences. However, in young democracies (in this case – the post-Soviet countries), one can observe a "conglomerate" of traditional psycho-pedagogical and advanced interdisciplinary synergistic use of terms and theories of personal counteraction to external threats. Therefore, the following sections of this article will attempt to minimize the theoretical and conceptual entropy of theories and practices of coping behavior and strategies by generalization.

The Classification of Coping Behavior in Scientific Discourse

The concepts of "coping with stress" and "coping behavior" are understood as various forms of human activity, covering all types of interaction of the subject with the tasks and problems of the external or internal plan. Overcoming begins to work not only in cases where the complexity of the task exceeds the usual reactions, makes an insufficient regulatory adjustment, requires new resources, but also if necessary to change behavior in difficult life situations, with chronic stressors and in case of everyday adverse events.

Overcoming, as a rule, is aimed at finding ways to change the relationship between the subject and environmental conditions or to reduce his emotional experiences and distress; it is manifested on the cognitive, emotional, and behavioral levels in the form of various strategies to counteract stressors or stress reactions. Relying on this assumption as a basic one, the authors of the article will attempt to generalize the types of coping behavior based on research by leading foreign and post-Soviet scholars. Besides, they will strive to achieve an additional goal, that is to integrate traditionally different Eastern and Western European approaches.

Folkman & Lazarus (1988) consider coping as a dynamic process determined by the subjectivity of the experience of the situation, the stage of development of the conflict, the collision of the subject with the outside world. They defined psychological coping as the cognitive and behavioral

efforts of an individual aimed at reducing the effects of stress. The individual assesses the amount of potential stressor and compares the environment's requirements with his assessment of the resources he has to cope with these requirements with optimal efficiency. Coping mechanisms determine the degree of adaptation of the individual to the situation. The authors note that the form of behavior in a given situation depends on the individual's characteristics and the crucial situation. An active form of coping behavior, active overcoming, is a purposeful elimination or reduction of the impact of a stressful situation. Passive coping behavior, or passive coping, involves using a different arsenal of psychological defense mechanisms to reduce emotional stress rather than changing the stressful situation.

Over time, the scientific paradigm of applying the concept of "coping" began to include reactions to "extraordinary, exceeding human resources requirements" and everyday stressful situations. Reactions to stress began to be divided into voluntary and involuntary (Compas, 1998).

According to Folkman et al. (1986), the main task of stress-coping (coping behavior) is to ensure and maintain human well-being, physical and mental health, and satisfaction with social relations. More precisely, coping behavior is defined as "continuously changing cognitive and behavioral attempts to cope with specific external and/or internal requirements that are assessed as excessive or over human resources." The authors emphasize that coping can change because the individual and the environment form an inseparable, dynamic relationship and interact with each other (Folkman et al., 1986).

In the studies by Aleksandrovsky (1996), Bezliudnyi et al. (2019), Chekhlaty (1994), Kitaev-Smyk (1983), Nerubasska & Maksymchuk (2020), Sheremet et al. (2019), the emphasis is placed on the fact that insufficient development of constructive forms of overcoming behavior increases the pathogenicity of life events, and these events can contribute to the emergence and development of psychosomatic and other diseases.

In general, there are three approaches to considering stress-coping behavior. The first of them – the dispositional approach (Folkman & Lazarus, 1988) – focuses on whether there are particular personal qualities that determine the effective coping with stress. The second – situational or dynamic approach – is based on the fact that there are situationally changing factors that determine the choice of coping strategy. The third approach is integrative (Moos & Schaefer, 1986), according to which both personal and changing situational factors influence the choice of coping.

The fourth neurophysiological approach is reflexive or instinctive avoidance. Therefore, it is worth noting that among the unconstructive

coping strategies, which still alleviate the inner state of man, contribute to his adaptation to challenging conditions, we can name the escape strategy. A person refuses seemingly tempting offers, promotions, feeling that he will pay too much for all this. In health, some strategies focus on emotions. It is a psychological struggle with negative emotional states and painful feelings when a person does not want to notice the symptoms of the disease, tries to assess his condition with humor, hopes for the help of supernatural forces.

Scientific research by Khazova & Kryukova (2006) on the influence of cognitive-stylistic characteristics of the cognitive sphere on coping strategies' choice of coping strategies indicates that cognitive styles (poly-dependent/poly-independent and reflexive/impulsive) have such a direct influence, while poly-dependent and impulsive more often choose strategies. Reduction of emotional stress due to distraction, hope for a miracle, and direct disregard for the problem. Poly-independent and reflective people are more independent and effective in overcoming life's difficulties.

As noted by Ukrainian scholars Titarenko & Larina (2009), the least effective coping strategies are avoidance and self-blame in any case. A person shuts himself off from what is happening and begins to punish himself, thereby reducing his self-esteem.

In general, the study of mostly post-Soviet studies proves that coping strategies can be grouped into four meta-concepts: evaluative, problem-based, emotional and avoidance strategies.

The strategy of coping with stress focused on evaluation includes human efforts to establish the significance of the situation, understand the negative processes that occur, and assess their possible consequences. Within the framework of the specified strategy, the logical analysis of circumstances and cognitive preparation is carried out; that is, the person accepts a situation and divides it to allocate any good moments. This strategy can also use non-constructive skills produced by defense mechanisms, such as denial or threat reduction.

The strategy of overcoming life's difficulties focused on the problem is to resolve stressors and their consequences. This response to a crisis begins with obtaining as reliable information as possible about the person's circumstances. The strategy includes the individual's skills in seeking support and reassurance from people close to him or valuable to him. The central point of this strategy of overcoming stressful situations is decision-making and implementing concrete actions, the desire to deal directly with critical issues.

The third strategy for overcoming life's difficulties is focused on emotions. It aims to manage the feelings caused by crisis events and to

maintain emotional balance. Adaptive skills that help maintain emotional balance, above all, give hope for a change in the situation. Hope, reflection on a positive perspective, allows a person to suppress negative feelings and impulsive acts and directs him to adhere to moral norms because it is hoped that supports the will to live. It is the source of aspirations. In addition to regulating emotions through hope, there is also a way to manage emotions through learning tolerance.

Methods of avoidance include immersion in the disease, increased use of alcohol, drugs, an option for an active method of avoidance - suicide. Avoidance strategy is one of the leading behavioral strategies that contribute to the formation of maladaptive, pseudo-overcoming behavior. This strategy is due to the lack of personal coping resources and skills to solve life's problems actively. The avoidance strategy can be adequate or inadequate, depending on the specific stressful situation, age, and condition of the resource system of the individual.

The most effective is the situational use of all four behavioral strategies. At the same time, the avoidance strategy is currently seen as the least productive and even undesirable. In some cases, a person can overcome the difficulties that have arisen. In other cases, he needs the support of the environment; in others - he can avoid a collision with a problematic situation, assessing in advance the negative consequences of such a collision.

Psychological and Neurophysiological Factors in Avoiding Destructive Influences and Choosing Coping Strategies

The experience of stress is individual for each person, although it has standard features. The main form of effort to overcome a difficult situation is coping behavior. The term "experience" is close in meaning to the concept of "coping." According to the definition of Vasilyuk (1984), the term "experience" is used not in the usual sense for scientific psychology, as a direct, often emotional form of giving the subject the content of his consciousness. The term "experience" is used to denote a particular internal activity, internal work, through which a person manages to withstand certain life events and phenomena, restore lost mental balance, and cope with a critical situation.

We consider overcoming a dynamic phenomenon that is influenced by the cognitive, emotional, and behavioral spheres of personality. Coping behavior is the main form of overcoming efforts. We understand coping

behavior as a purposeful, conscious reaction to stress, which manifests itself in strategies that meet the specifics of the individual and the situation.

It is also essential to consider coping strategies of mainly Ukrainian and Russian origin and, yet, only those rooted in psychoneurological or physiological mechanisms.

Among the individual characteristics of the individual, which well characterize human behavior, its activities, and communication, a special place belongs to temperament. It is believed that temperament is most pronounced in those situations where there is a high level of neuropsychological stress, i.e., stress. However, it is not so much the type of temperament itself as its components – extraversion-introversion and neuroticism (emotional stability-lability) – that determine a person's behavior in difficult life situations. The influence of neuroticism is quite significant, which allows us to attribute this property to the predictors of coping behavior in early adolescence.

Various studies have shown a few links between psychometric intelligence and coping strategy choices. Aleksapolsky's research (2008) analysis shows that the overcoming behavior of intellectually productive people is more flexible and variable. They do not try to avoid problems or use social distractions. They are not afraid to take responsibility. Intellectually productive individuals, and individuals at a higher level of intellectual development use a broader range of strategies for overcoming behavior and rarely do not cope with difficulties (Rasskazova & Gordeyeva, 2011).

Some scientists believe that such essential personality characteristics as emotionality, energy, sociability, which are inherent in a person at an early age, can reduce stress on the individual. The authors argue that temperament influences a stressful situation's coping strategy (Khazova, 2008).

Also, a factor in stressful behavior is considered personality anxiety. A certain level of anxiety is a natural and obligatory feature of a dynamic personality. Everyone has their own optimal or desired level of anxiety. This is the so-called beneficial anxiety. A person's assessment of his condition in this sense is an essential component of self-control and self-education. However, an increased level of anxiety is a subjective manifestation of a person's unhappiness. Manifestations of anxiety in different situations are different. In some cases, people tend to behave anxiously always and everywhere. In others – they show their anxiety only from time to time, depending on the circumstances.

As a result of a study conducted by Borisova et al. (2011) on the study of coping behavior of individuals with different levels of anxiety, the influence of anxiety on the choice of coping strategy was revealed. Highly

anxious individuals are more likely to use ignoring and running away from solving problems as coping strategies. The authors conclude that the higher the level of anxiety, the more the individual uses unproductive coping. The use of emotionally-oriented coping also characterizes such individuals.

No less influential factor in coping behavior is the locus of personality control, which is defined as a personal characteristic that reflects the individual's tendency to take responsibility for life events and the results of their activities to external forces (external locus control) or their abilities and effort (internal locus control).

Mainly in the psychological literature, locus control of personality is seen as a predictor of effective forms of personality behavior, namely coping behavior. It is believed that locus control affects the formation of individual styles of coping behavior. Confident of the ability to control adverse circumstances, interns perceive stressful situations as an opportunity to test their strength. Externals do not consider themselves responsible for their actions and prefer to endure difficulties without trying to change them humbly.

Yakovleva (2012) found that external locus control orients the individual to choose unproductive coping strategies. The internal locus promotes the choice of coping style with the predominance of productive strategies to overcome stress, which contributes to the successful socialization and adaptation of the individual. The author concludes that locus of control can act as a factor in determining coping behavior.

Based on these and several other theories, figure. 1.3 shows the variety of psychological and neurocognitive factors of stress-coping behavior that influence the effectiveness of coping strategies and are well-studied today.
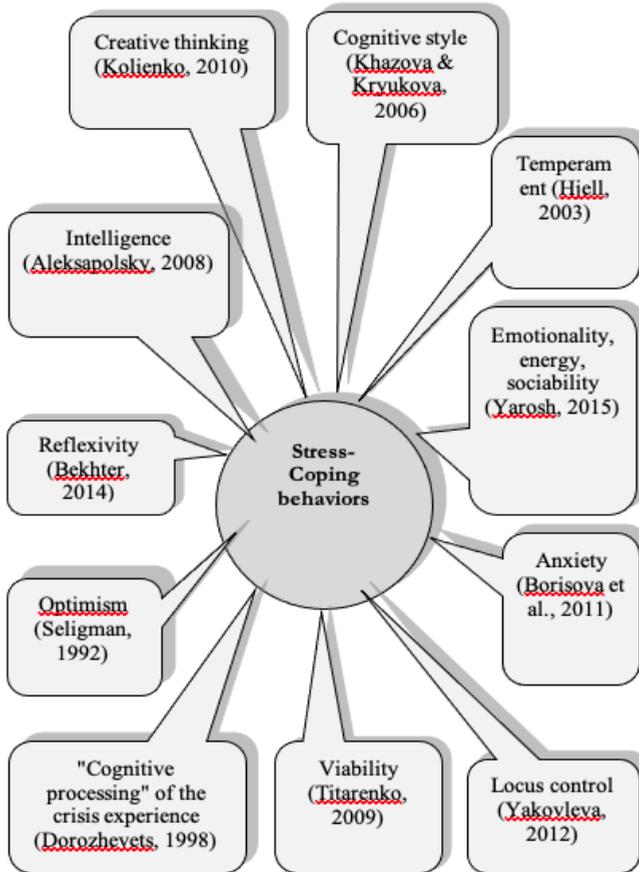
Fig. 1.3 Personal factors of stress-coping behavior

Also, it is important to consider the areas of a neuroscientific approach to coping strategies in the post-Soviet discourse. Since the implementation of coping strategies can take place in three areas (behavioral, cognitive, and emotional), Muzdybayev (1998) identifies specific strategies for overcoming adverse life events, in particular, a strategy focused on evaluation; problem-focused strategy; and a strategy focused on emotions that can be assessed depending on the extent to which they respond to these general adaptive tasks.

A slightly different but reasonably similar classification of crisis management strategies was proposed by Pearlin & Schooler (1978). In their view, the protective functions of such strategies should be exercised in three ways: by eliminating or changing the conditions that created the problem (strategy to change the problem); by perceptual management of the content

of experiences in such a way as to neutralize their problematic nature (strategy to change the way of seeing problems); by keeping the emotional consequences of the problem within reasonable limits (emotional distress management strategy).

The authors also believe that problem-solving coping (i.e., active coping) can reduce the negative impact of acute life events and long-term stressors. Menaghan (1982), Mitchell et al. (1983) also emphasize that the use of problem-focused coping is also associated with a reduction in depression and current distress. In contrast, coping, focused on emotions and avoidance, is characterized by a greater severity of depression and the risk of possible problematic consequences.

Subjective and creative theories of coping strategies can be considered neurophysiological, given that "self-concept", "self", "creative search" and "personal values" belong to neuroscientific and interdisciplinary discourse (Demchenko et al., 2021; Kosholap et al., 2021; Prots et al., 2021).

In Kolienko's (2010) research, it is considered and experimentally proved that creative thinking is a factor influencing the variability of choice and productivity of coping strategies. The author considers creative thinking as an individual-psychological coping resource of the individual.

Khazova & Kryukova (2006) emphasize that the more reflexive a person is, the less likely he is to choose unconstructive coping strategies in stressful situations. This is since impulsive individuals make decisions on an insufficient information basis, while reflexive individuals tend to make decisions based on the complete information about what happened.

No less vital is such an intellectual resource as the cognitive style of personality, which is an individual way of perception, evaluation and interpretations of the surrounding reality.

Titarenko (2010) emphasizes the importance of a productive attitude to stress, which involves mastering a range of strategies for self-control. Depending on the specific situation, the use of these strategies can be pretty flexible, versatile. The researcher highlights the need to change a person's attitude to the situation, which is a positive interpretation of unpleasant, morally tricky experiences. A person can find a non-trivial meaning in a situation, see the event from an unexpected perspective. Thus, Titarenko (2010), who studied a study of prisoners in 225 Nazi concentration camps, found that those who saw the point in determining the possibility of survival in inhumane conditions more easily endured suffering. Zimbardo & Boyd (2010) are the authors of the method of accepting a role when a person learns to perform not his role temporarily, but the role of "lucky" – a person strong, confident, successful. It should be noted, that long-term

performance of a role that is not characteristic of a person makes dangerous changes in personal values and attitudes.

One of the approaches to the study of stress, which emphasizes subjective factors in overcoming stress by the individual, is the resource approach. The resource approach emphasizes a process of "commerce of resources," which is explained by the fact that some people can maintain health and adapt to different life circumstances (Hobfoll, 1996).

Hobfoll (1996) believes that there is a "key resource," which is the primary tool that controls and organizes the distribution of other resources. Other researchers envisage not one but a whole set of critical resources. The proposed Conservation of Resources (COR) theory considers two classes of resources: material and social, or values. The significance of this theory is that depending on the availability and influence of a particular set of critical resources. It is possible to predict the formation of specific coping behavior under certain conditions and trace the relationship of those resources with personality and formed coping formations.

Seligman (1992) considers optimism as the leading resource of stress management. Other researchers consider the construct "viability" as one of the resources influencing the nature of the coping strategy used by the individual.

Frydenberg (2002) reveals the meaning of the process of overcoming behavior using the formula: Stress-overcoming = Personality (individual characteristics) + Situation + Perception and cognitive assessment (situation, own capabilities, and effectiveness of action). Therefore, the most productive approach should include levels of integration of mental processes, psychological and socio-psychological qualities and personality traits, ie, the necessary holistic understanding and analysis of factors that determine productive stress-coping behavior.

It is worth noting that coping behavior always includes cognitive assessment, which involves specific intellectual actions, namely, reflection on the problem, analysis, and reflection on ways to solve it, the search for new information. All this allows an individual to anticipate possible difficulties and increase their resources and chances of success. Cognitive assessment concerns the situation and "oneself," i.e., it includes the process of reflection, which allows you to critically comprehend your behavior in certain situations, make changes according to changing conditions, and predict the possible outcome of the event (Shkuratova & Annenkova, 2007).

As a neurophysiologically subject-oriented factor in stressful behavior, researchers have also considered the self-concept of personality, which is defined as a system of ideas of the individual about himself. These

ideas about oneself are most often realized, and they are characterized by relative stability. This concept is the result of knowing and evaluating oneself through the prism of individual images of oneself in various real and fantastic situations, as well as through the thoughts of other people and one's relationship with others. Self-concept is characterized by adequacy or inadequacy (Burns, 1989).

Traditionally, there are cognitive, evaluative, and behavioral components of self-concept. The cognitive component is an individual's idea of himself, a set of characteristics that he seems to possess. Evaluation is how an individual evaluates these characteristics, how they are treated. Behavioral - this is how a person acts (Burns, 1989).

The critical factors of a strategy to overcome stress are cognitive assessment results, namely self-concepts, self-categorization, and subjective assessment of the severity of the situation. The content of these assessments is following the chosen coping strategy. The role of the self-concept as a factor in selecting a plan to overcome stress consists of selecting a course of action in a difficult situation that is adequate to their characteristics and capabilities of the individual. Specific components of the self-concept, namely I - Ideal and I - in a difficult situation, do not determine the desired strategy but allow a complete analysis of the chosen type of coping strategy through the relationship with situational factors.

The neurophysiological factors of stress-relieving personality behavior include adequate self-concept, positive self-esteem, low neuroticism, internal locus of control, optimistic worldview, empathy, affiliative tendency, and temperament characteristics, intelligence, creativity, and others.

Conclusions

Thus, there is a particular shortage of research focused on studying the internal personal factors of coping behavior. In essence, such research is somewhat sparse or analyzed in the context of social or psychological theories.

One must admit that most post-Soviet and some foreign studies prioritize social or socio-psychological theories of coping behavior and strategies. The main form of overcoming efforts is coping behavior, which is understood as a purposeful social behavior that allows a person to cope with stress in ways that meet the characteristics of the individual and the situation. Coping behavior is considered a synonym for stress-coping behavior, which is expressed in the use of coping strategies by the individual.

Personal characteristics and situational factors determine the choice of coping behavior strategies.

Despite the heterogeneity of the studied factors affecting the character of personality coping, it can conclude that an important place in the process of overcoming stress by a person is given to cognitive assessment, information processing, and emotional state, which are the direct sources of stress (Yarosh, 2015).

Thus, coping behavior (stress-coping behavior) will be understood as the means of conscious and purposeful management of stressors that an individual uses to respond to a perceived threat. The concept combines the emotional, cognitive, and behavioral strategies that an individual uses to overcome today's stressors. It can also be assumed that there is a relationship between neurophysiological constructs through which a person forms his attitude to life's difficulties and what strategy of behavior under stress he chooses.

The general neurophysiological mechanism can be presented as follows: each stressful situation causes a set of evaluation processes, coordination, adjustment during the interaction of the individual with stressors, which continue until the control of stress through relief or until the stress stops spontaneously. The principles of feedback establish the relationship between the stopping interaction and the person who receives information about the effect of these influences and the significance of the event itself. As long as the feedback is on, the person constantly overestimates the situation, adjusting the coping strategies and the event's significance whenever possible.

The assessment of the event as stressful is influenced by several factors (including assessment that anticipates emotional reactions to personality stress), which are closely related to the development of the level of reflection and the dominant type of human thinking, and therefore may be factors influencing the nature of stress-coping behavior.

The main form of overcoming efforts is coping behavior, which we understand as purposeful social behavior that allows a person to cope with stress in ways that meet the characteristics of the individual and the situation. Coping behavior is considered a synonym for stress-coping behavior, which is expressed in the use of coping strategies by the individual. Personal characteristics and situational factors determine the choice of coping behavior strategies.

Factors influencing the choice of productive strategies, according to researchers, include adequate self-concept, positive self-esteem, personality anxiety, cognitive style, and energy resources, which include endurance and

temperament characteristics, intelligence, creativity, and locus of personality control.

Overcoming a stressful situation is impossible without cognitive "processing," which becomes available through reflection. The influence of reflection on the choice of coping strategy of the individual is that reflective individuals choose more adaptive and effective strategies.

References

Aleksandrovsky, Y. A. (1996). Sotsialnostressovye rasstroystva [Social and stressful disorders]. *Obozrenie psikhiatrii i meditsinkoy psikhologii im. V. M. Bekhtereva* [V. M. Bekhterev Review of Psychiatry and Medical Psychology], *11*, 5-10. https://www.rmj.ru/articles/obshchie-stati/SOCIALYNO-STRESSOVYE_RASSTROYSTVA/

Aleksapolsky, A. A. (2008). *Stilevyye i urovnevyye svoystva intellekta kak faktory sovladayushchego povedeniya* [Style and level properties of intelligence as factors of coping behavior] [Unpublished doctoral dissertation]. The Institute of Psychology of the Russian Academy of Sciences. http://irbis.gnpbu.ru/Aref_2008/Aleksapol'skij_A_A_2008.pdf

Antsiferova, L. I. (1994). Lichnost v trudnykh zhiznennykh usloviyakh: pereosmyslivaniye. preobrazovaniye situatsiy i psikhologicheskaya zashchita [Personality in difficult living conditions: rethinking, transformation of situations and psychological protection]. *Psikhologicheskiy zhurnal*, *15*(1), 3-18. https://elibrary.ru/item.asp?id=21395491

Bezliudnyi, O., Kravchenko, O., Maksymchuk, B., Mishchenko, M., & Maksymchuk, I. (2019). Psycho-correction of burnout syndrome in sports educators. *Journal of Physical Education and Sport, 19*(3), 1585-1590. http://efsupit.ro/images/stories/septembrie2019/Art%20230.pdf

Borisova, I. V., Zyuzya, A. A., Mezentseva, I. A., & Petukhova, L. P. (2011). Osobennosti sovladayushchego povedeniya studentov fakulteta fizicheskoy kultury s razlichnymi urovnyami trevozhnosti [Features of coping behavior of students of the Faculty of Physical Education with different levels of anxiety]. *Uchenye zapiski universiteta imeni P. F. Lesgafta*, *10*, 42-45. https://cyberleninka.ru/article/n/osobennosti-sovladayuschego-povedeniya-studentov-fakulteta-fizicheskoy-kultury-s-razlichnymi-urovnyami-trevozhnosti/viewer

Burns, R. (1989). *Ya-kontseptsiya i vospitanie* [self-concept and education]. Progress.

Chekhlaty, E. I. (1994). *Lichnostnaya i mezhlichnostnaya konfliktnost i koping-povedeniye u bolnykh nevrozami i ikh dinamika pod vliyaniyem gruppovoy psikhoterapii* [Personal and interpersonal conflict and coping behavior in patients with neuroses and their dynamics under the influence of group psychotherapy] [Unpublished doctoral dissertation, The St. Petersburg Bekhterev

Psychoneurological Research Institute].
https://search.rsl.ru/ru/record/01000044236

Cruden, G., & Karmali, R. (2021). Opioid misuse as a coping behavior for unmet mental health needs among US adults. *Drug and Alcohol Dependence*, *225*(1), 108805. https://doi.org/10.1016/j.drugalcdep.2021.108805

Compas, B. E. (1998). An agenda for coping research and theory: Basic and applied developmental issues. *International Journal of Behavioral Development*, *22*(2), 231-237. https://doi.org/10.1080/016502598384351

Demchenko, I., Maksymchuk, B., Bilan, V., Maksymchuk, I., & Kalynovska, I. (2021). Training future physical education teachers for professional activities under the conditions of inclusive education. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, *12*(3), 191-213. https://doi.org/10.18662/brain/12.3/227

Folkman, S., & Lazarus, R. S. (1988). *Ways of coping questionnaire: Sampler set: Manual, test booklet, scoring key*. Consulting Psychologists Press.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, *50*(5), 992-1003. https://doi.org/10.1037/0022-3514.50.5.992

Freire, C., Ferradás, M. D. M., Regueiro, B., Rodríguez, S., Valle, A., & Núñez, J. C. (2020). Coping strategies and self-efficacy in University students: A person-centered approach. *Frontiers in Psychology*, *11*, 841. https://doi.org/10.3389/fpsyg.2020.00841

Freud, S. (1999). *Lektsii po vvedeniyu v psikhoanaliz* [Lectures on introduction to psychoanalysis]. Aleteya. http://www.lib.ru/PSIHO/FREUD/lekcii.txt

Frydenberg, E. E. (2002). *Beyond coping: Meeting goals, visions, and challenges*. Oxford University Press.

Heffer, T., & Willoughby, T. (2017). A count of coping strategies: A longitudinal study investigating an alternative method to understanding coping and adjustment. *PloS ONE*, *12*(10), e0186057. https://doi.org/10.1371/journal.pone.0186057

Hobfoll, S. E. (1996). Social support: Will you be there when I need you? In N. Vanzetti & S. Duck (Eds.), *A lifetime of relationships* (pp. 46–74). Cole Publishing Co.

Khazova, S. A. (2008). Rol kognitivnykh faktorov v sovladanii s zhiznennymi trudnostyami [The role of cognitive factors in coping with life's difficulties]. In A. L. Zhuravleva, T. L. Kryukova & E. A. Sergienko (Eds.), *Sovladayushcheye povedeniye. Sovremennoye sostoyaniye i perspektivy* [Coping Behavior: Current State and Prospects] (pp. 274-288). Institut psikhologii RAN. https://lib.ipran.ru/upload/papers/paper_18806170.pdf

Khazova, S. A., & Kryukova, T. L. (2006). Temperament v trudnykh zhiznennykh situatsiyakh [Temperament in difficult life situations]. In T. L. Kryukova, & S. A. Khazova (Eds.), *Psikhologiya i praktika* [Psychology and Practice] (pp. 32-43). Kostroma State University named after N. A. Nekrasov.

Kitaev-Smyk, L. A. (1983). *Psikholohia stressa* [Psychology of stress]. Nauka.

Kolienko, N. S. (2010). *Vliyaniye tvorcheskogo myshleniya i mezhlichnostnogo doveriya na vybor koping-strategiy v yunosheskom vozraste* [Influence of creative thinking and interpersonal trust on the choice of coping strategies in youthful rewards] [Unpublished doctoral dissertation]. P. G. Demidov Yaroslavl State University. http://www.rd.uniyar.ac.ru/upload/iblock/21c/02100080.pdf

Kosholap, A., Maksymchuk, B., Branitska, T., Martynets, L., Boichenko, A., Stoliarenko, O., Matsuk, L., Surovov, O., Stoliarenko, O., & Maksymchuk, I. (2021). Neuropsychological bases of self-improvement of own physical health of future teachers in the course of university education. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 12*(3), 171-190. https://doi.org/10.18662/brain/12.3/226

Kryukova, T. L. (2010). *Psikhologiya sovladayushchego povedeniya v raznyye periody zhizni* [The psychology of coping behavior at different stages of life]. Kostroma State University named after N. A. Nekrasov.

Maddi, S. R., & Khoshaba, D. M. (1994). Hardiness and mental health. *Journal of Personality Assessment*, *63*(2), 265-274. https://doi.org/10.1207/s15327752jpa6302_6

Martínez, J. P., Méndez, I., Ruiz-Esteban, C., Fernández-Sogorb, A., & García-Fernández, J. M. (2020). Profiles of burnout, coping strategies and depressive symptomatology. *Frontiers in Psychology*, *11*, 591. https://doi.org/10.3389/fpsyg.2020.00591

Menaghan, E. G. (1982). Measuring coping effectiveness: A panel analysis of marital problems and coping efforts. *Journal of Health and Social Behavior*, *23*, 220-234. https://www.jstor.org/stable/2136631

Mitchell, R. E., Cronkite, R. C., & Moos, R. H. (1983). Stress, coping, and depression among married couples. *Journal of Abnormal Psychology*, *92*(4), 433-448. https://doi.org/10.1037/0021-843X.92.4.433

Moos, R. H., & Schaefer, J. A. (1986). Life transitions and crises. In R. H. Moos (Ed.), *Coping with Life Crises* (pp. 3-28). Springer.

Muzdybayev, K. (1998). Strategiya sovladaniya s zhiznennymi trudnostyami. Teoreticheskiy analiz [Coping strategy with life's difficulties. Theoretical analysis]. *Zhurnal sotsiologii i sotsialnoy antropologi, 1*(2), 100-111. http://ecsocman.hse.ru/data/647/774/1231/007_Muzdabaev.pdf

Nerubasska, A., & Maksymchuk, B. (2020). The demarcation of creativity, talent and genius in humans: A systemic aspect. *Postmodern Openings, 11*(2), 240-255. https://doi.org/10.18662/po/11.2/172

Nerubasska, A., Palshkov, K., & Maksymchuk, B. (2020). A systemic philosophical analysis of the contemporary society and the human: New potential. *Postmodern Openings*, *11*(4), 275-292. https://doi.org/10.18662/po/11.4/235

Nikolskaya, I. M., & Granovskaya, R. M. (2006). *Psikhologicheskaya zashchita u detey* [Psychological protection in children]. Rech.

Nikonenko, I. O. (2015). Mekhanizmy psykholohichnoho zakhystu yak chynnyky formuvannia kopinh-stratehii osobystosti [Mechanisms of psychological protection as factors in the formation of coping strategies of personality]. *Naukoviy visnik Khersonskogo derzhavnogo universitetu. Seriya: Psikhologichni nauki*, *2*(1), 57-60. http://nbuv.gov.ua/j-pdf/nvkhp_2015_2(1)__13.pdf

Olefir, V. O. (2011). Vzaiemozviazok zhyttiestiikosti, kopinh-stratehii ta psykholohichnoho blahopoluchchia [Interconnection of life, copying strategies and psychological well-being]. *Visnyk Kharkivskoho natsionalnoho universytetu imeni V. N. Karazina. Seriia: Psykholohiia*, *981*(47), 168-172. http://www.irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?I21DBN=LINK&P21DBN=UJRN&Z21ID=&S21REF=10&S21CNR=20&S21STN=1&S21FMT=ASP_meta&C21COM=S&2_S21P03=FILA=&2_S21STR=VKhIPC_2011_981_47_38

Palamarchuk, O., Gurevych, R., Maksymchuk, B., Gerasymova, I., Fushtey, O., Logutina, N., Kalashnik, N., Kylivnyk, A., Haba, I., Matviichuk, T., Solovyov, V., & Maksymchuk, I. (2020). Studying innovation as the factor in professional self-development of specialists in physical education and sport. *Revista Romaneasca Pentru Educatie Multidimensionala*, *12*(4), 118-136. https://doi.org/10.18662/rrem/12.4/337

Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior*, *19*, 2-21. https://www.jstor.org/stable/2136319?origin=crossref&seq=1

Prots, R., Yakovliv, V., Medynskyi, S., Kharchenko, R., Hryb, T., Klymenchenko, T., Ihnatenko, S., Buzhyna, I., & Maksymchuk, B. (2021). Psychophysical training of young people for homeland defence using means of physical culture and sports. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience, 12*(3), 149-171. https://doi.org/10.18662/brain/12.3/225

Rasskazova, E. I., & Gordeyeva, T. O. (2011). Koping-strategii v psikhologii stressa: podkhody, metody i perspektivy issledovaniy [Coping strategies in stress psychology: approaches, methods and perspectives]. *Psikhologicheskiye issledovaniya*, *3*(17). http://www.psystudy.ru/index.php/num/2011n3-17/493-rasskazova-gordeeva17.html

Savitsky, B., Findling, Y., Ereli, A., & Hendel, T. (2020). Anxiety and coping strategies among nursing students during the covid-19 pandemic. *Nurse Education in Practice*, *46*, 102809. https://doi.org/10.1016/j.nepr.2020.102809

Seligman, M. E. (1992). *Learned optimism*. Random House Australia.

Sheremet, M., Leniv, Z., Loboda, V., & Maksymchuk, B. (2019). Stan sformovanosti smart-informatsiynoho kryteriyu hotovnosti fakhivtsiv do realizatsiyi inklyuziyi v osviti [The development level of smart information criterion for specialists' readiness for inclusion implementation in education]. *Informatsiyni tekhnolohiyi i zasoby navchannya*, *72*, 273-285. https://journal.iitta.gov.ua/index.php/itlt/article/view/2561

Shkuratova, I. P., & Annenkova, E. A. (2007). Lichnostnyye resursy kak faktor sovladaniya s krizisnymi situatsiyami [Personal resources as a factor in coping with crisis situations]. *Psikhologiya krizisa i krizisnykh sostoyaniy*, *4*, 17-23. https://irshkuratova.ru/lichnostnye_resursy_kak_faktor_sovladanija.html

Tarafdar, M., Maier, C., Laumer, S., & Weitzel, T. (2020). Explaining the link between technostress and technology addiction for social networking sites: A study of distraction as a coping behavior. *Information Systems Journal*, *30*(1), 96-124. https://doi.org/10.1111/isj.12253

Titarenko, T. M. (2010). *Ispytaniye krizisom. Odisseya preodoleniya* [Test crisis Odyssey overcome]. Ludoprintm. https://core.ac.uk/download/pdf/32309152.pdf

Titarenko, T. M., & Larina, T. O. (2009). *Zhyttiestiikist osobystosti: sotsialna neobkhidnist ta bezpeka* [Hardiness of the person: social necessity and safety].Marych. https://lib.iitta.gov.ua/9065/1/Zhiznestoykost_lichnosti.pdf

Vasilyuk, F. E. (1984). *Psikhologiya perezhivaniya (analiz preodoleniya kriticheskikh situatsiy)* [Psychology experience (analysis of overcoming crisis situations)]. MGU.

Yakovleva, S. A. (2012). Osobennosti sovladayushchego povedeniya starsheklassnikov s uchetom lokusa kontrolya [Features of coping behavior of high school students, taking into account the locus of control]. *Uchenyye zapiski Zabaykalskogo gosudarstvennogo universiteta. Seriya: Pedagogicheskiye nauki*, *5*, 46-53. http://cyberleninka.ru/article/n/osobennosti-sovladayuschego-povedeniya-starsheklassnikov-s-uchyotom-lokusa-kontrolya

Yarosh, N. S. (2015). Analiz doslidzhen vnutrishnikh predyktoriv stres-dolaiuchoi povedinky [Analysis of internal investigations predictors of stress overcoming behavior]. *Visnyk Kharkivskoho natsionalnoho universytetu imeni V. N. Karazina. Seriia Psykholohiia*, *58*, 60-64. http://nbuv.gov.ua/UJRN/VKhIPC_2015_58_13

Zhurbin, V. I. (1990). Ponyatiye psikhologicheskoy zashchity v kontseptsiyakh Z. Freyda i K. Rodzhersa [The concept of psychological defense in the concepts of Z. Freud and K. Rogers]. *Voprosy psikhologii*, *4*, 14-23. http://www.voppsy.ru/issues/1990/904/904014.htm

Zimbardo, F., & Boyd, G. (2010). *Paradoks vremeni. Novaya psikhologiya vremeni, kotoraya uluchshit vashu zhizn* [The paradox of time. A new time psychology that will improve your life]. Rech.