

## Special article Ειδικό άρθρο

### Stress and personality

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**S**tress is an adaptation reaction of living organisms in response to internal or external threats to homeostasis. It is considered as a complex defence mechanism representing the final end point of numerous dynamic and interconnected factors of biological, psychological and social nature. Stress is not a simple, stimulus-response reaction, but the interaction between an individual and the environment, involving subjective perception and assessment of stressors, thus constituting a highly personalized process. Specific inherited characteristics, early experience in life, and particular, learned cognitive predispositions make individuals more or less susceptible to the effects of stressors. Resilience and vulnerability to stressors as well as intensity of stress response are greatly dependable on age, gender, intelligence, and numerous characteristics of personality, such as hardiness, locus of control, self-efficacy, self-esteem, optimism, hostility (component of type A personality) and type D traits (negative affectivity and social inhibition). To understand the relation between personality and stress, it is essential to recognize the impact of individual differences in the following four aspects: (1) choice or avoidance of environments that are associated with specific stressors, challenges or benefits, (2) way of interpreting a stressful situation and evaluating one's own abilities and capacities for proactive behaviour so as to confront or avoid it, (3) intensity of response to a stressor, and (4) coping strategies employed by the individual facing a stressful situation. Studies have recorded considerable consistency in coping strategies employed to confront stressful situations, independently of situational factors and in connection with permanent personality and temperamental traits, such as neuroticism, extraversion, sense of humour, persistence, fatalism, conscientiousness, and openness to experience. Positive affect has been associated with positive reappraisal (reframing) of stressful situations, goal-directed problem-focused coping, using spiritual or religious beliefs to seek comfort, and infusion of meaning into the ordinary events of daily life in order to gain a psychological time-out from distress. Characteristics of a resilient personality are: ability to cope in stressful situations, continuing engagement in activities, flexibility to unexpected changes in life, ability to seek social support, perceiving stress as a challenge – a chance for growth and development rather than a threat to life, taking care of one's body, living in harmony with nature, optimism and sense of humour, work and love, developing spiritualism and seeking true sense. The tolerance threshold is individual. However, even persons with mature and integrated personalities exposed to prolonged stress may experience failure of their adaptive capacities and psychological or somatic decompensation. During the last years, Life Skills Education has become the focus of particular attention. Educational programs aim at developing the capacities for critical thinking, analyzing and problem-solving, building of self-confidence, confronting various negative pressures imposed by the environment, improving self-assessment, developing communication and social adjustment skills, and gaining control over stressors and one's own affective and behavioral response. Finally, special programs for individual vulnerable population groups (teenagers, elderly persons, patients with AIDS, addictions, etc.) have been introduced so as to strengthen their ability to handle specific stressful situations.

**Key words:** Stress, personality, coping styles, resilience, vulnerability

## Introduction

Living organisms survive by maintaining the complex, dynamic and harmonious balance or homeostasis that has continually been challenged, i.e. threatened by internal or external deterioration factors. Adapting to changes has been enabled by numerous and various defence mechanisms, confronting and recreating the disturbed balance.<sup>1</sup> Accordingly, stress is defined as the state of disharmony or a threat to homeostasis. The adaptation response may be either specific or general and non-specific in terms of a stress reaction. From today's perspective, the comprehension of stress exclusively as the reaction of organism to certain external stress stimuli may be characterized as reductionistic.<sup>2</sup> Lazarus and Folkman expanded the stress theory, pointing out that an individual and environment are not independent entities, but instead, interconnected components.<sup>3</sup> One of the major characteristics of such relationship is that an individual appraises (either reasonably or not) that new circumstances, provoked by psychosocial stressors, may exceed his/her abilities and capacities to successfully confront them. Hence, it is not only the matter of simple reaction to stressor impact. The transactional model singles out the importance of cognitive processes and individual differences, out of other stress components, when it comes to the appraisal of events in external environment.<sup>3</sup> Significant individual differences in reactions have been identified, even to the same stressors of the same intensity. Lazarus rightfully pointed out that the reaction to stress is a highly personalized process, i.e. the process that vastly depends on characteristics of a person.<sup>4,5</sup>

Personality is a system defined by features and dynamic processes that jointly affect the psychological functioning and behaviour of an individual.<sup>6</sup> It is a unique, integrated motivation and cognitive "universe", dynamic centre of consciousness, emotions, reasoning and actions, organized as wholes that significantly differ from other wholes, depending on social and natural environment.<sup>7</sup>

Personality represents one of the significant links for understanding stress, while the attempts to connect the types of personalities and illnesses originate back from Hippocrates who said that it's far more important to know what person has a

disease than what disease the person has. Since the time of Hippocrates, the psychological types of personalities or "temperaments" attracted attention of scientists in the effort to explain differences between individual responses and diseases. The fact that the link between emotions, personality and diseases was written about as early as two thousand years ago, indicates that to a certain point, they are true, but certainly, the theoretical framework is quite flexible and adaptable to different observations and ways of thinking. During further development of medicine, such approach has been neglected, until nineties of the former century, though it has been continuously appreciated in some traditional medical systems (such as the Ayurvedic medicine).<sup>4,8</sup>

## Resilient vs vulnerable personality

Stressful reaction is rather complex and represents the termination of dynamic activities and interactions of numerous factors of biological, psychological and social nature. The stress is not a simple stimulus-response reaction, but rather an interaction between an individual and environment, involving subjective perception and appraisal of stressors, hence representing a highly personalized process.<sup>4</sup>

Capacities enabling a person to overcome difficulties and productively contributing to one's development deserve special attention of personality psychology. It is quite certain that specific inherited characteristics, early experience in life and particular, learned cognitive predispositions make individuals more or less susceptible to effects of stressors. However, as Bandura<sup>9</sup> and Kagan<sup>10</sup> pointed out, individual ways of coping with stressful situations are equally important. The resilience model involves successful adjustment or homeostasis, and this has been demonstrated by the Scale of Defensive Functions, according to DSM-IV,<sup>11</sup> classifying the mechanisms of coping according to their adaptability values.

Resiliency as well as vulnerability to stressors and intensity of response to stress is greatly dependable on numerous characteristics of personality and age. Children and young persons are more susceptible to the impact of almost any stressor. Where a traumatic stress is experienced during a formative period, it

may have adverse effect on the future personality development. Some researchers have discovered that as many as 60% of persons diagnosed with borderline personality disorders<sup>12</sup> had been exposed to abuse during their childhood. In contrast to that, many persons have productive, well adjusted lives in spite of difficult experiences at the beginning of their development. Relatively positive outcomes in lives of the Second World War orphans that had later been adopted by middle class families, support the trends of self-expression in the psychological development.<sup>13,14</sup> Similarly, the research made in the field of developmental psychopathology points to the resiliency displayed by individuals.<sup>15,16</sup>

Elderly persons are more resilient to psychosocial stressors. Nevertheless, the reduction of physical abilities as well as emotional adaptability to changes makes the elderly persons feel that they are becoming less able to control their destiny. When it comes to biological stressors, elderly persons often display increased vulnerability, which may be explained by a more frequent presence of disorders and illnesses among this population.<sup>4</sup>

Gender differences in response to stress are predisposed by biological factors, status differences, roles and expectations from genders in certain environments.<sup>17</sup> The intelligence also affects resilience to stress. More intelligent persons are more successful and objective with assessing a stressful situation and their own ability to confront it. However, there are many exceptions to this rule. Affective response and capacity of controlling own affective behaviour in many situations are essential.<sup>4</sup> Therefore, resiliency i.e. vulnerability to stress, as well as ability to confront and cope with stress, depend on cognitive and affective characteristics of a person, including the person's psychological organization and dominant defence mechanisms exercised by persons in stressful situations.<sup>17,18</sup>

Most of the studies that dealt with relation between personality and stress have not focused on wider categories of the personality dimensions, but rather on lower-order traits, such as hardiness, optimism, locus of control, assessment of own efficiency etc.<sup>19</sup> A hypothesis has been made, based on the clinical experience and research, that some types of personalities are generally displaying more hardiness in stressful situations, meaning that they are more resilient, and/or susceptible to diseases.

Suzanne Kobasa<sup>20,21</sup> defined a hardy personality having three crucial characteristics: (a) ability to control oneself and stressful events occurring in course of one's life; (b) continuing involvement in activities, consistently following specific life path and (c) flexibility to adjust to unexpected changes in life, accepted as challenges or continuity interruptions and a chance for personal growth and development, rather than a threat to life.<sup>4</sup>

One of the components of personality hardiness, locus of control, plays a significant role as a mediator between stress, health and well-being. The research has shown that a high level of self-efficacy and self-esteem act protectively. Self-efficacy and self-esteem are particularly significant in overcoming distress caused by negative response of environment and/or one's failure. Moreover, it has been shown that another significant factor besides the level of self-esteem is the level of stability. High, but instable self-esteem is being connected with a higher level of hostility and rage.<sup>22</sup> Kernis believed that a high but unstable self-esteem represented one of the forms of a "fragile self-esteem".<sup>22</sup> Optimism is different from former control-based concepts, since it does not necessarily imply that the flow of events is influenced by the action of an individual. Such characteristic of personality may rather be said to involve one's belief that events would in any case take a favourable course, which is basically connected with the attitude that the world is benevolent. It has been shown that optimism contributes to the stress appraisal, coping strategy and general well-being and health.<sup>23</sup>

Hostility represents a "toxic" component of Type A behaviour that has been confirmed to be connected to neurendocrine, cardiovascular and emotional response to interpersonal stress. The hostility concept comprises three components: (a) cognitive (hostile beliefs and attitude towards others – cynicism, mistrust etc.), (b) emotional (rage) and (c) behavioural (physical and verbal attacks and threats). Expression of rage and hostility attracts special attention of researchers, taking into account that it clearly proved its connection with coronary diseases.<sup>23</sup> However, the results of research about the connection between Type A personality and coronary diseases are rather inconsistent. Quite recently, Johan Denollet and associates<sup>24</sup> from Tilburg University, Netherlands, noticed

the connection between the specific type of personality and coronary diseases. The new concept of distress-prone personality, or the so called Type D, was thus introduced.<sup>25</sup> These persons are inclined to experiencing intensive negative emotions, without displaying them, for the fear of the reaction of the environment. The proposed taxonomy relies on two general and stable dimensions, marked as Negative Affectivity (NA) and Social Inhibition (SI).<sup>24</sup> We have also shown a decreased cardio-vascular reactivity of persons belonging to Type D personality, during the mental stress test (anger recall task), that at least partly may be explained by exhausting adaptive capacities due to higher exposure to chronic distress.<sup>26</sup>

### **Potential mechanisms of personality influence on stress**

People are not inert beings predisposed to have the same reactions to specific stressful stimuli. Key factors for understanding the relationship between personality and stress are individually specific potentials reflected in difference in choice, way of interpreting, reacting and influencing the situations they come across.<sup>27</sup> Potentials are present not only in persons, but the environment as well. The environment is not imposed to a person; a person is the one who chooses it. People choose environments that confirm their personal and professional lives. Even when a person chooses the environment, a number of his/her potentials and abilities will only remain latent, if there are no proactive choices made. One of the stable manifestations of individual differences is actually reflected in situations that a person chooses or avoids. Certain persons protect themselves from stress by avoiding such challenges, but by doing so they also forsake their opportunity to experience success, personal growth and development. Competitive persons seek jobs with equally competitive, and thereby highly stressful environment (displaying poor cohesion, low level of co-operation, mistrust), but the success in work brings along a variety of benefits.<sup>23</sup>

The way in which a person evaluates own abilities and capacities for proactive behaviour and prospective to succeed when confronted with a stressful situation, is equally essential. This is another mechanism describing the relationship between

personality and stress. The evaluation may turn out to be realistic or non-realistic, in terms of overestimating or underestimating one's own abilities and capacities to confront stressors or to avoid them. The first are more prone to paying attention to current and potentially positive aspects of a stressful situation, by redefining and interpreting it, such as by conceiving it as part of an everyday life, rather than a tragedy. Others, however, are prone to perceive only negative aspects of stressful situations and even exaggerate them. Thus, for example, hostile persons are more prone to focus on "signals" of hostility in others and seek for their confirmation in unclear situations, while persons who score high on neuroticism experience most of events as problematic, and thereby stressful as well. High neuroticism also comes along with extreme reactivity to negative events.<sup>28</sup> Different intensity of response to stressful situations being the third mechanism of relation between personality and stress has also been displayed by other dimensions. Hence, extraverts experience stronger reaction to positive events, while hostile persons display the highest reactivity to social stressors. The fourth mechanism is the way in which personality confronts stress.

### **Personality and ways to cope with stress reactions**

Personality characteristics and coping strategies are related to differences in stress situation appraisal.<sup>29</sup> In their comprehensive, seven-year Baltimore Longitudinal Study, McCrea and associates<sup>30</sup> examined the determinants of stress coping and importance of personality, relying on the Five-Factor Model. It has been discovered that aside from situational factors, formerly believed to constitute almost exclusive factors for choosing the way to cope with stress, there is consistency in coping with stress that is connected with permanent personality traits. Thus, faith and fatalism used to be linked with loss, and persistence and sense of humour with challenges.<sup>30</sup>

Coping consistency and connection with some personality traits have also been identified by the study conducted on adolescent population, concluding that the choice of strategy of confronting stress is largely consistent, regardless of the nature of problems<sup>31</sup> and that it depends on temperament.<sup>32</sup> Smith

and associates<sup>33</sup> pointed to the fact that *neuroticism* was less frequently connected with focused coping and seeking social support, and more frequently with attempts to use imagination and avoidance. Endler and Parker<sup>34</sup> reported high correlation between neuroticism and emotion-oriented coping. These results are not surprising, considering that negative emotions are the part of stress, while neuroticism is sometimes defined as inclination towards negative emotions.<sup>35</sup> Any attempt to comprehend the situational determinants of stress and coping has to take into account the neuroticism as well.

The role of extraversion is less clear. The unity of extraversion and coping strategy such as humour, a need to discuss feelings and seeking social support, has been confirmed.<sup>36</sup> Gallagher<sup>37</sup> stated that persons scoring high on extraversion scale perceived academic stressors as challenges, rather than threats. Generally, extraversion is connected with proactive, social and optimistic ways of coping with stress.

*Co-operativeness* is connected with stoic and submissive attitude when encountering stressors. Considering that the dimension *conscientiousness* involves traits such as persistency, self-discipline and planning, it may be expected that it is associated with efficient coping. One of the several studies tackling this issue, has shown strong correlation ( $r=0.44$ ) between the *conscientiousness* and problem solving, as one way to cope with stress.<sup>38</sup> In their new study, Spirrisson and associates<sup>39</sup> came up with the new correlation of 0.62 both between the dimension of conscientiousness and NEO-PI-R inventory and the behavioural coping scale from the Constructive Thinking Inventory by Epstein and Meier.<sup>40</sup>

The dimension *openness to experience* is the predictor of positive coping, involving connecting, coping with problems – the transcendence, etc.<sup>41</sup> Trusting others, as one of the components of agreeableness dimension, is positively correlated with seeking social support.<sup>42</sup>

Folkman<sup>43</sup> found that the coping affected health through its mediating variables (such as mood). She raised the question whether coping affected mood or mood affected coping, and named studies which suggested that this was a two-direction possibility. However, the majority of studies on coping dealt with coping→mood, rather than mood→

coping relationship. The field that had often been neglected in studying the relation between coping and health, refers to the ability of proper functioning when facing extreme difficulties, in relation to which Folkman<sup>43</sup> referred to the role of positive affect. After having analyzed the results of several studies examining the connection between positive and negative affects and health, Folkman asserted that positive situations, whether being the outcome of positive events or positive affects, had three important functions when coping with chronic and severe stress. Positive emotions help motivate people to initiate coping, to proceed with their lives when things become tough and ameliorate distress.

The research of Folkman and associates has identified four mechanisms of coping, relying on significance/meaning that help explain the role of positive affect: (a) positive reappraisal, refers to cognitive reframing of what has happened or what could have happened; (b) goal-directed problem-focused coping, which includes knowing when to abandon goals that are no longer tenable and replace them with new goals that are both tenable and meaningful; (c) using spiritual or religious beliefs to seek comfort; and (d) infusion of meaning into the ordinary events of daily life in order to gain a psychological time-out from distress.<sup>43</sup>

In contrast to that, Type A personality (coronary-prone personality) epitomises the style of coping focused on negative emotions.<sup>44</sup> Concurrently, Type A personality is characterized with avoidant coping style.<sup>45,46</sup> Also, Scheier and Carver<sup>47</sup> have shown that optimists use problem-focused strategies more often than pessimists.

## Conclusion

Lecic-Tosevski and associates<sup>17</sup> named some of the factors describing a resilient personality. The list represents the synthesis of standpoints presented in the literature, including thoughts of the authors: ability to cope in stressful situations, continuing engagement in activities, flexibility to unexpected changes in life, ability to seek social support, perceiving stress as a challenge – a chance for growth and development rather than a threat to life, taking care of one's body, living in harmony with nature, optimism and sense of humour, work and love, developing spiritualism and seeking true sense.<sup>17,48–50</sup>

It is easy to conclude that this in fact is the description of an integrated, mature personality. However, it should be pointed out that the level of tolerance differs from person to person, and that even the most mature personalities exposed to prolonged stress may experience breakdown of their adaptive capacities and decompensation, either psychological or somatic one.<sup>50</sup>

During the last years, Life Skills Education has become the focus of attention. These skills may prevent or ameliorate effects of psychosocial consequences of stress. Educational programs are particularly being devoted to developing the capacities for critical thinking, analyzing and problem-solving including decision making and their implementing. Further crucial elements of such education are building of self-confidence and confronting various negative pressures imposed by the environment,

improving self-assessment, developing communication skills and skills of social adjustment. When it comes to the stressful situation, the focus is on having the education that would enable an individual to be as efficient as possible in gaining control over stressors (whenever possible) and own affective response and behaviour. Special programs for individual groups of population (teenagers, elderly persons, the wounded, persons living in collective dwellings etc.) have been introduced, in addition to general education programs developing life skills. Such programs have been developed to handle specific stressful situations they have been exposed to. Furthermore, there are special programs developed for persons under high risk from sexually transmitted diseases (such as AIDS and other), addiction disorders, and various other categories of vulnerable population.<sup>4</sup>

## Stress και προσωπικότητα

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Το στρες είναι αντίδραση προσαρμογής των ζώντων οργανισμών ως απάντηση σε εσωτερικές ή εξωτερικές απειλές της ομοιόστασης. Θεωρείται σύνθετος αμυντικός μηχανισμός όπου συντείνουν πολυάριθμοι δυναμικοί και αλληλοδιαπλεκόμενοι βιοψυχοκοινωνικοί παράγοντες. Το στρες δεν είναι απλώς αντίδραση ερεθίσματος-απάντησης αλλά αλληλεπίδραση του ατόμου με το περιβάλλον που ενέχει υποκειμενική αντίληψη-εκτίμηση των ψυχοπαιστικών παραγόντων, αποτελώντας, έτσι, μια ιδιαίτερα εξατομικευμένη διεργασία. Κληρονομούμενα χαρακτηριστικά, πρώιμες εμπειρίες ζωής και μαθημένες νοητικές διεργασίες καθιστούν τα άτομα περισσότερο ή λιγότερο ευάλωτα στην επίδραση των ψυχοπαιστικών γεγονότων. Η ανθεκτικότητα και η ευαλωτότητα στους ψυχοπαιστικούς παράγοντες καθώς και η ένταση της αντίδρασης στρες εξαρτώνται σε μεγάλο βαθμό από την ηλικία, το φύλο, τη νοημοσύνη και πολυάριθμα χαρακτηριστικά προσωπικότητας, όπως η ανοχή, η έδρα του ελέγχου, η αυτοεπάρκεια, η αυτοεκτίμηση, η αισιοδοξία, η εχθρικότητα (συστατικό της προσωπικότητας τύπου A) και στοιχεία προσωπικότητας τύπου D (αρνητικό συναίσθημα και κοινωνική αναστολή). Για την κατανόηση της σχέσης μεταξύ προσωπικότητας και στρες, είναι ουσιώδες να αναγνωρισθεί η σημασία ατομικών διαφορών στα ακόλουθα 4 πεδία: (1) επιλογή ή αποφυγή περιβαλλόντων που σχετίζονται με ιδιαίτερους ψυχοπαιστικούς παράγοντες, προκλήσεις ή οφέλη, (2) τρόπος ερμηνείας μιας ψυχοπαιστικής συνθήκης και εκτίμηση των ικανοτήτων του ατόμου για ενεργό δράση ώστε να την αντιμετωπίσει ή να την αποφύγει, (3) ένταση της απάντησης σε έναν ψυχοπαιστικό παράγοντα, και (4) στρατηγικές που χρησιμοποιεί το άτομο για την αντιμετώπιση μιας ψυχοπαιστικής συνθήκης. Μελέτες έχουν καταγράψει σημαντική συνέπεια στις στρατηγικές που χρησιμοποιούνται για την αντιμετώπιση ψυχοπαιστικών συνθηκών, ανεξάρτητα από περιστασιακούς παράγοντες και

σε σχέση με μόνιμα χαρακτηριστικά της προσωπικότητας ή της ιδιοσυγκρασίας, όπως ο νευρωτισμός, η εξωστρέφεια, η αίσθηση του χιούμορ, η επιμονή, η μοιρολατρία, η ευσυνειδησία και η αναζήτηση εμπειριών. Το θετικό συναίσθημα έχει σχετισθεί με θετική επανεκτίμηση (αναπλαισίωση) των ψυχοπαιστικών συνθηκών, στοχο-κατευθυνόμενη εστιασμένη στο πρόβλημα αντιμετώπιση, χρήση πνευματικών ή θρησκευτικών πεποιθήσεων σε αναζήτηση ανακούφισης, και νοσηματοδότηση απλών γεγονότων της καθημερινής ζωής με στόχο τη μείωση του άγχους. Χαρακτηριστικά μιας ανθεκτικής προσωπικότητας είναι: η ικανότητα αντιμετώπισης ψυχοπαιστικών συνθηκών, η συνέχιση της εμπλοκής σε δραστηριότητες, η ευελιξία σε απρόσμενες μεταβολές στη ζωή, η ικανότητα αναζήτησης κοινωνικής στήριξης, η θεώρηση του στρες ως πρόκλησης- ευκαιρίας για ανάπτυξη παρά ως απειλής στη ζωή, η αυτοφροντίδα, η εναρμόνιση με τη φύση, η αισιοδοξία και η αίσθηση του χιούμορ, η εργασία και η αγάπη, η ανάπτυξη πνευματικότητας και η αναζήτηση αληθινού νοήματος. Ο ουδός ανοχής εξατομικεύεται. Ωστόσο, ακόμη και άτομα με ώριμες και ολοκληρωμένες προσωπικότητες μπορεί να εμφανίσουν κατάρρευση των προσαρμοστικών τους ικανοτήτων και ψυχολογική ή σωματική απορρύθμιση μετά από έκθεση σε παρατεταμένο στρες. Τα τελευταία χρόνια, η Εκπαίδευση στις Δεξιότητες Ζωής αποτελεί αντικείμενο ιδιαίτερης προσοχής. Τα εκπαιδευτικά προγράμματα στοχεύουν στην ανάπτυξη των ικανοτήτων κριτικής σκέψης, ανάλυσης και επίλυσης προβλημάτων, στην οικοδόμηση της εμπιστοσύνης στον εαυτό, στην αντιμετώπιση των ποικίλων αρνητικών πιέσεων από το περιβάλλον, στη βελτίωση της αυτοαξιολόγησης, στην ανάπτυξη δεξιοτήτων επικοινωνίας και κοινωνικής προσαρμογής, και στην απόκτηση ελέγχου επί των ψυχοπαιστικών παραγόντων και επί της συναισθηματικής και συμπεριφορικής ανταπόκρισης του ατόμου. Τέλος, έχουν αναπτυχθεί ειδικά προγράμματα για ευάλωτες πληθυσμιακές ομάδες (εφήβους, ηλικιωμένους, ασθενείς με AIDS, εξαρτήσεις, κ.λπ.) με στόχο την ενίσχυση της ικανότητας διαχείρισης ειδικών ψυχοπαιστικών συνθηκών.

**Λέξεις ευρητήριο:** Στρες, προσωπικότητα, στρατηγικές αντιμετώπισης, ανθεκτικότητα, ευαλωτότητα

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