

## CLINICAL AND PSYCHOLOGICAL FEATURES OF THE INFLUENCE OF STRESSOGENIC FACTORS ON EATING DISORDERS IN WOMEN

**Varina Hanna Borysivna,**

Master of Psychology,  
Senior Lecturer at the Department of Psychology  
Bogdan Khmelnytsky Melitopol State Pedagogical University  
ORCID ID: 0000-0002-0087-4264

**Shevchenko Svitlana Vitaliivna,**

PhD in Psychology, Associate Professor,  
Associate Professor at the Department of Psychology Bogdan Khmelnytsky  
Melitopol State Pedagogical University  
ORCID ID: 0000-0001-8281-243X

*Eating disorders are an important object of study by both psychologists and medical specialists. Eating disorders are characterized by severe psychological and secondary somatic disorders, as well as high mortality. The study of the possible causes of eating disorders is a relevant direction in modern research. Data from these studies can be used to clarify pathogenetic mechanisms, in psychotherapy and psychological counseling. In our opinion, the most relevant is the division of eating behavior into adaptive and maladaptive, i.e., that promotes or hinders the adaptation processes of the body and personality. The existing problems of classifying the types of eating behavior in normal and pathological conditions are largely explained by the dominance of the practice of dividing "healthy" eating behavior into three types – emociogenic, external and restrictive, and clinical – mainly into anorexia and bulimia. The analysis of research results allows to confirm the thesis that eating disorders are associated with various mental and somatic disorders. The nutritional behavior of women arises in ontogenesis as a complex interfunctional psychological system and is regulated by the contradictory unity of natural needs and cultural forms of their satisfaction. In our study, we studied the eating behavior of the respondents, subjective assessment of stress, analyzed the relationship between eating behavior, subjective assessment of stress and coping strategies. The study found that women who perceive a stressful situation negatively tend to blame themselves, were dissatisfied with themselves and their behavior in a stressful situation, attribute negative qualities to themselves, and at the same time have a higher tendency to eating disorders. Likewise, the stronger a woman's emotogenic type of eating behavior is expressed, the more often she uses the escape-avoidance strategy, overeats more often and feels the desire to eat sweets more than usual.*

**Key words:** eating behavior, personality, food choice, eating disorders, changes in eating behavior, coping strategy, stress.

### **Варіна Ганна, Шевченко Світлана. Клініко-психологічні особливості впливу стресогенних чинників на розлад харчової поведінки жінок**

*Розлади харчової поведінки є важливим об'єктом вивчення як психологів, так і фахівців з галузі медицини. Розлади харчової поведінки характеризуються важкими психологічними й вторинними соматичними порушеннями, а також високою смертністю. Вивчення можливих причин виникнення розладів харчової поведінки є актуальним напрямом у сучасних дослідженнях. Дані цих досліджень можуть бути використані для уточнення патогенетичних механізмів у психотерапії й психологічному консультуванні. На наш погляд, найбільш релевантним є поділ харчової поведінки на адаптивну й дезадаптивну, тобто таку, що сприяє або перешкоджає адаптаційним процесам організму й особистості. Наявні проблеми класифікації типів харчової поведінки в нормі й при патології багато в чому пояснюються домінуванням практики поділу «здорової» харчової поведінки на три типи: емоціогенний, екстернальний і обмежувальний, а клінічних – переважно на анорексію й булімію. Аналіз результатів досліджень дає змогу підтвердити тезис про те, що порушення харчової поведінки пов'язані з різними психічними й соматичними розладами. Харчова поведінка жінок виникає в онтогенезі як складна міжфункціональна психологічна система й регулюється суперечливою єдністю природних потреб та культурних форм їх задоволення. У дослідженні ми вивчили харчову поведінку респондентів, суб'єктивну оцінку стресу, проаналізували взаємозв'язок харчової поведінки, суб'єктивної оцінки стресу й копінг-стратегіями. У дослідженні виявлено, що жінки, які сприймають стресову ситуацію негативно, схильні звинувачувати себе, були незадоволеними собою і власною поведінкою в стресовій ситуації, приписували собі негативні якості і водночас мають більш високу схильність до порушень харчової поведінки. Так само чим більше в жінки виражений емоціогенний тип харчової поведінки, тим частіше вона користується стратегією «втеча-уникнення», частіше переїдає й відчуває бажання їсти солодке більше, ніж зазвичай.*

**Ключові слова:** харчова поведінка, особистість, харчовий вибір, розлади харчової поведінки, зміни харчової поведінки, копінг-стратегії поведінки, стрес.

**Introduction.** Eating disorders are an important object of study by both psychologists and medical specialists. Eating disorders are characterized by severe psychological and secondary somatic disorders, as well as high mortality.

The study of the possible causes of eating disorders is a relevant direction in modern research. Data from these studies can be used to clarify pathogenetic mechanisms, in psychotherapy and psychological counseling. The terminological

field characterizing healthy and unhealthy eating behavior is quite broad. The lack of a criterion for the norm of eating behavior is a basic problem that exists in many areas of psychiatry and clinical psychology. In addition to forming a certain thesaurus, different terms of eating behavior still carry different shades of meaning, but in the scientific literature they are most often used as synonyms, which often does not allow to differentiate the clinical form of disorders from the symptomatic and relative to the normative, as well as to establish the essence of the identified differences [2]. In our opinion, the most relevant is the division of eating behavior into adaptive and maladaptive, that promotes or hinders the adaptive processes of the body and personality. The existing problems of classifying the types of eating behavior in normal and pathological conditions are largely explained by the dominance of the practice of dividing "healthy" eating behavior into three types – emociogenic, external and restrictive, and clinical – mainly into anorexia and bulimia. Due to this, they are the most empirically studied. A more detailed and differentiated consideration of the problem of eating behavior by expanding the existing classification, taking into account the fact that the factor of individual differences is an important aspect of eating behavior, seems promising. The analysis of the results of published studies allows us to confirm the thesis that eating disorders are associated with various mental and somatic disorders. Maladaptive types of eating behavior are a factor in the development of various pathologies, the main (and most studied) of which is a group of metabolic disorders, and, first of all, obesity. The most important link in the connection of neuro- and psychophysiological processes is the stress response system, which mediates the formation of the pathology of eating behavior and related somatic, psychosomatic, mental and behavioral disorders [4]. The described physiological and psychological features that affect human eating behavior: the role of craving for food, features of the cognitive sphere, psychological boundaries of the personality, character traits, provide grounds for using these parameters for practical purposes when building programs for psychological support of patients with eating disorders [6]. It is shown, in particular, that eating disorders are not an isolated group of disorders with separate psychological characteristics; they can affect the somatic features of the functioning of the cardiovascular, digestive, nervous and other systems of the body (V. Bekhterev, L. Levchenko, I. Pavlov, D. Perlmutter, I. Sechenov, O. Ukhtomsky and others) [1]. Studying the relationship between the peculiarities of women's eating behavior and their other psychological characteristics will allow us to reveal the essential psychological patterns and mechanisms of this aspect of human life. In turn, this will make it possible to reveal a scientifically based way of psychological assistance to persons with eating disorders, which will contribute to the recovery of the Ukrainian population both somatically and psychologically [5]. Eating behavior can be harmonious or deviant, which depends on many parameters, in particular, on what place the eating process occupies in the hierarchy of an individual's values (T. Alekseeva, O. Batarshuk, N. Elias, etc.) [1]. On the one

hand, an increasing number of people suffer from excess body weight and overeating, on the other hand – Impaired perception of one's own body, in particular dysmorphophobia, often lead to numerous violations of the psychological health of the individual. Therefore, special attention should be paid to the analysis of the psychological features of adequate balanced eating behavior of women in order to determine the means of prevention of complications and problems that can occur not only in youth, but also at all stages of ontogenesis [5].

So, we can state that the problem of nutrition and food behavior in the modern world is very relevant, especially for women. At the same time, the high pace of life makes it difficult to eat properly, and this leads to numerous psychosomatic abnormalities, such as obesity, bulimia and anorexia, which, in turn, cause psychological and social maladjustment of many women. In psychology, a number of facts and regularities have been established that determine a person's perception of his own body and the choice of food behavior patterns. At the same time, questions such as the peculiarities of the self-body image and the specificity of self-regulation in eating disorders (anorexia nervosa and bulimia nervosa) remain open. A real understanding of the nature of eating behavior, its genesis and system-forming components remains problematic.

**Materials and methods.** Women aged 20 to 50 were included in the empirical ascertainment study. The sample is randomized. The selection criterion for the study group is the absence of chronic diseases and previously diagnosed eating disorders. The diagnostic unit of the search research was implemented on the basis of the Laboratory of Psychophysiological Research of the Bogdan Khmelnytsky Melitopol State Pedagogical University. The purpose of the empirical study: to study the impact of subjective assessment of stress on the eating behavior of women, as well as the relationship between coping strategies and eating behavior. Psychodiagnostic methods were used in our study: the "Dutch Eating Behavior Questionnaire" (DEBQ) method for assessing eating disorders, a test of attitudes towards eating, the Lazarus "Ways of Mastery Behavior" questionnaire, and the author's attitude to stress questionnaire [3]. Author's questions related to the subjective assessment of women's stress were used for the goals and objectives of our research. The questionnaire includes 4 multiple-choice questions and 3 open questions. The first three questions are aimed at the general attitude of women to stress. They related to emotional and behavioral spheres, physiological manifestations, general understanding of stress and its consequences. The fourth question is aimed at identifying the relationship between eating behavior and stress, namely how the eating behavior of women changes during a stressful situation. Three open-ended questions were also proposed, where respondents describe their feelings, actions, thoughts and consequences on a specific example of their stressful situation. Descriptive statistics (means and standard deviations), construction of conjugation tables and comparison of percentage distributions by chi-square Pearson, comparison of mean values by Student's t-test Correlation analysis according to Spearman's test.

**The results.** The average values and standard deviations of indicators of eating disorders according to the DEBQ (Dutch Eating Behavior Questionnaire) method are shown in Fig. 1. The norms according to these scales are the following values: restrictive eating behavior – 2.4; emotional eating behavior – 1.8; external eating behavior – 2.7.

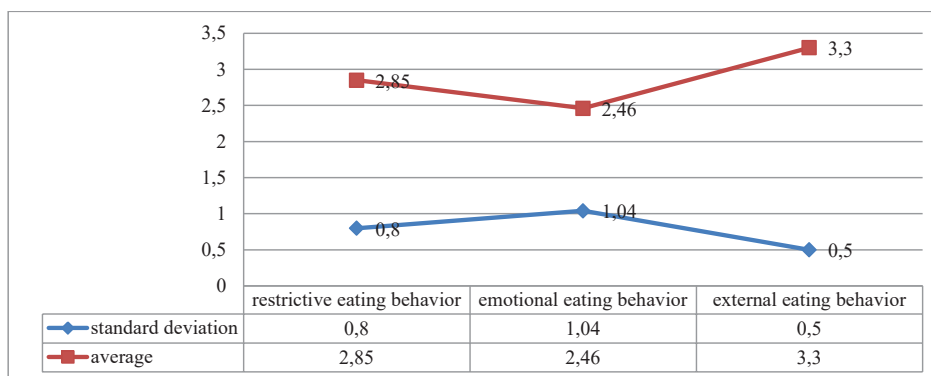
Analyzing the results, we can say that all values on the scales are above the norm. The highest values in the group on the scale “emotionogenic eating behavior” (2.46 against the norm of 1.8). That is, in the women who took part in the study, under emotional stress, appetite increases, and the stimulus for eating is not hunger, but emotional discomfort (anxiety, irritation, resentment, etc.). Food brings not only satiety to such people, but also comfort. Also, in this sample, according to the conducted research, eating behavior disorders of the “restrictive” type are also observed (2.85 against the norm of 2.4). That is, women suffer from excessive food self-restrictions and adhere to strict diets. The “external eating behavior” scale also has higher values compared to the norm (3.3 to 2.7). This suggests that women are more inclined to eat not only without internal stimuli, but also with external stimuli, such as the smell of food, advertising of food products, a set table where a person is eating, etc. In order to study the attitude of women to stressful situations and analyze the impact of stress on behavior, a survey was conducted. The questionnaire includes 4 multiple-choice questions and 2 open-ended questions, where respondents describe their feelings, actions, thoughts, and consequences of the influence of stressful factors on a specific example of their stressful situation. The first part of the survey was aimed at the general understanding of stress. The first question made it possible to analyze the features of the emotional and behavioral sphere, as well as the physiological manifestations of stress. According to these results, we see that anxiety and fear are the most common manifestation of emotions in a stressful situation.

Analyzing the physiological manifestations of the influence of stressogenic factors, the respondents most often noted an increase in heart rate, and in the behavioral sphere, the following options took an approximately equal percentage: “I fall into a stupor”, “I lose the desire to work”, “I feel inattentive”, “I make decisions faster”. Analyzing the obtained result, we can say that women at this

stage of the study showed that they perceive stress in a more negative way. For example, such scales as “interest and curiosity” (26.9%) and “insight” (11.5%), “I feel a surge of strength” (21%), “I feel more motivated” (13.5%), “I feel more attentive and concentrated” (19.2%) was noted by women significantly less.

The results of the second question. In this case, the answers were divided into 2 categories: positive attitude and negative attitude towards stress. The following results were obtained: the scale “stress interferes with my usual life” has the highest value (42.3%), this scale relates to negative perception. The rest of the scale has approximately the same results: “stress negatively affects my health” (36.5%), “stress distracts me from solving the problem” (38.5%), “stress is an opportunity for learning and development” (30.8%), “stress helps to look at a problem from different angles” (38.5%), “a stressful situation develops resilience and tenacity in me” (40.4%). The third question of the questionnaire reflects the analysis of the consequences of the influence of stressogenic factors. Consequences are also divided into two categories: positive and negative. In this case, you can see that women try to see the positive side of stress and in most cases choose positive changes. The largest number of women evaluate the consequences of stress for themselves in a positive way and choose the following answer options: “I gained a new useful experience” (65.4%), “I feel proud that I was able to overcome a stressful situation” (50%), “I am better began to understand myself” (40.4%). Other options received the following percentage ratio: “I see how stress has negatively affected my health” (23.1%), “I feel empty and exhausted” (30.8%), “I realized the value of life” (36.5%).

Analysis of the results of open questions. The first open question “Remember the most vivid stressful situation that happened to you in the last year. What feelings did you feel at the same time?”. It concerned the issue of emotions and feelings experienced by respondents under stressful conditions. The answers were subjected to a qualitative analysis (Fig. 7), and on its basis, the most frequently encountered categories were identified, namely: “anxiety, excitement” (42.3%), “fear” (36.5%), “devastation, decline of strength” (17.3%), “stupor” (15.4%), “anger, hatred” (21.2%), “insult” (13.5%), “helplessness, despair, uncertainty” (23.1%), “hope” (9.6%), “surge of strength,



**Fig. 1. Average values of indicators of eating disorders according to the DEBQ method**

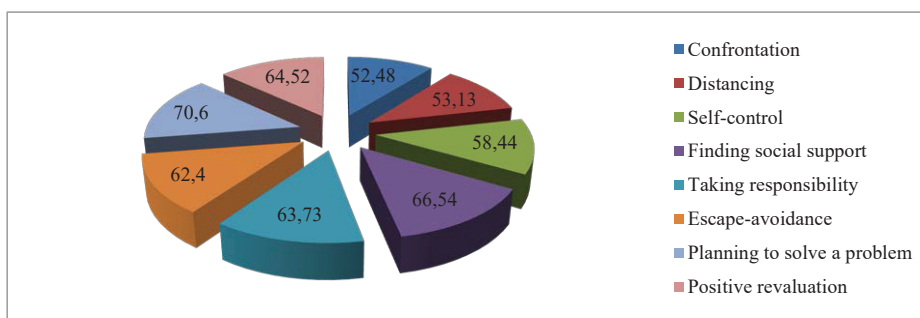
activity” (17.3%). Based on the obtained data, it can be concluded that in a stressful situation, women from this sample to a greater extent feel anxiety, excitement and fear. It is suggested that stress on an emotional level is perceived as negative, frightening, and causes anxiety. Some women emphasized feelings like hope, a surge of strength, and activity, which suggests that a stressful situation can be seen from a more positive perspective.

In the process of diagnosis, respondents were asked two other open questions, namely “What did you think about yourself in connection with this situation?” and “How did this stressful situation ultimately affect you?”. The answers were subjected to a qualitative analysis, on the basis of which a gradation was compiled, according to which it is possible to conclude a positive, negative or neutral assessment. In the process of analysis, it was found that half of the women evaluated themselves negatively, the following answers to this question are the most revealing: “I am the one responsible for the situation that has arisen”, “I am hopeless, stupid”, “I am an empty place”, “I am weak, sorry himself”. However, only 26% rated the situation as having a negative impact on them. The majority of respondents (57.6%) said that the stressful situation brought more positive things into their lives, for example: “I gained new experience, became more confident”, “I began to appreciate life, my family more”, “this situation hardened me”, “I began to devote more time to myself, to my self-development”. The neutral rating was nearly identical. According to these results, it can be concluded that women from this sample are more

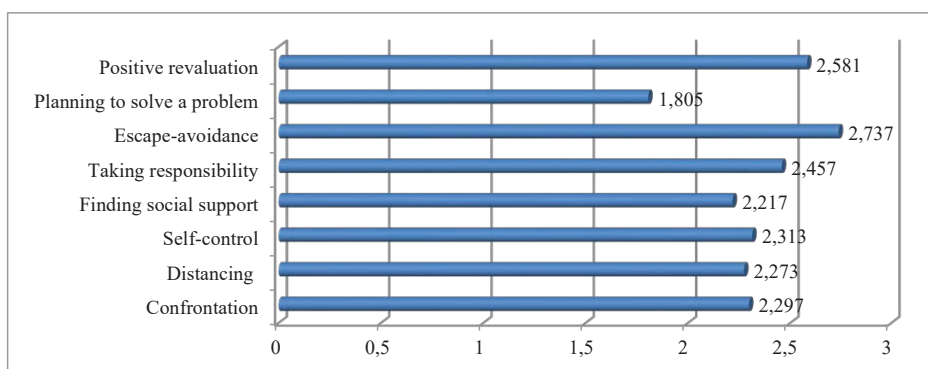
inclined to blame themselves, to be dissatisfied with themselves and their behavior in a stressful situation, to attribute negative qualities to themselves. At the same time, many acknowledge the positive effects and consequences of stress that have had an impact on their lives. An open-ended questionnaire was presented to the respondents: “Can you detect any changes in eating behavior during a stressful situation? If so, select the appropriate approvals”. The survey found that all women in this sample experienced changes in their eating behavior when faced with a stressful situation. According to the obtained data, it was found that the largest number of women – 48.1%, participating in the study, observe a desire to eat sweets more often than usual during periods of stress. Likewise, 46.2% noted a decrease in appetite, while only 26.9% of respondents noticed an increase in appetite. 28.8% of women report nausea or vomiting. The same number of respondents (21.2%) feel the need to constantly eat something during stress, eat indiscriminately and overeat, and completely refuse food. Only 7.7% notice a desire to eat unusual foods.

To determine coping mechanisms, ways to overcome difficulties in various areas of mental activity, respondents were offered the Lazarus “Ways of Mastery Behavior” questionnaire. Average values and standard deviations of indicators are shown in Fig. 9 (a, b).

The highest levels of tension were observed in coping and planning to solve the problem (70,60) according to these results. By analyzing the situation purposefully and planning actions with objective conditions, past experience,



**Fig. 9 a) The average value of the indicators according to the scales of the Lazarus “Modes of possessive behavior” questionnaire**



**Fig. 9 b) Standard deviation of indicators according to the scales of the Lazarus “Positive Behavior” questionnaire [composed by the author]**



and available resources, this strategy aims to overcome the problem. The constructive solution of difficulties can be achieved through the adaptive approach to problem-solving. The following in terms of values are the scales seeking social support (66.54) and positive reappraisal (64.52). The first example exhibits a characteristic orientation towards interaction with other people, with the expectation of attention, advice, and sympathy. The second approach involves trying to overcome negative experiences in a stressful situation by reinterpreting them in a positive light and viewing them as a catalyst for personal growth. The scales are designed to help with constructive coping strategies. Non-constructive coping strategies: confrontation, distancing have not very pronounced levels, namely 52.48 and 53.13, respectively. It is worth noting that the escape-avoidance strategy has a value of 62.40, which indicates that women from this sample tend to resort to denying the problem, fantasizing, ignoring the problem, avoiding responsibility, etc. As part of the correlation analysis, it was found that the indicator with the maximum manifestation is the scale of the emotional type of eating behavior (three positive and two negative correlations with a high degree of reliability of 0.01). That is, the stronger the emotional type of eating behavior is expressed in a woman, the more often she uses the escape-avoidance strategy, more often overeats and feels the desire to eat sweets more than usual. The emotogenic scale and escape-avoidance strategy have a negative correlation with reduced appetite during stress. The reappraisal strategy and the emotogenic scale have a negative correlation. The evidence indicates that women who tend to overeat when experiencing emotional stress use less positive reconceptualization of a problematic situation, and instead attempt to overcome difficulties through avoidance responses. As a result of the conducted correlation analysis, significant positive correlations of the following indicators were found: the positive reappraisal strategy is negatively correlated with the escape-avoidance strategy and negative subjective self-evaluation, but at the same time, a positive correlation with the self-control strategy was revealed. Women who use positive reinterpretation of the situation have a more rational approach to problematic and stressful situations, as suggested by this. At the same time, they are not inclined to take responsibility for this problem. Correlation analysis showed the relationship of the restrictive type of eating behavior with the results of the survey, regarding the relationship to food and with the feeling of emptiness and decline of strength as a consequence of stress. Women with excessive food self-restraints are more likely to develop eating disorders and feel depleted after stressful situations, as suggested by this. Additionally, there was a positive correlational relationship between stress and negative subjective opinions about oneself and high values of one's attitude towards food tests. That is, women who said that the stressful situation ultimately had a negative impact on their lives tend to blame themselves, be dissatisfied with themselves and their behavior in a stressful situation, attribute negative qualities to themselves, and at the same time have a higher tendency to eating disorders. It is also worth noting that they had an attitude that stress would negatively

affect their health, and they were sure that stress would in any case interfere with their usual life. Chronic diseases or previously diagnosed eating disorders are not present in all respondents who took part in the study. Restrictive, emotional and/or external types of eating behavior prevail in all of them, and there is no possibility of a serious disorder (anorexia, bulimia). In a stressful situation, women from this sample to a greater extent feel anxiety, excitement and fear, they are prone to a negative perception of stress, most often they emphasized that a stressful situation interferes with their usual life. Stress on an emotional level is perceived as negative, frightening, and causes anxiety, as suggested by this.

This sample shows that women are more inclined to blame themselves, be unsatisfied with their behavior in a stressful situation, and assign negative qualities to themselves. Despite this, most acknowledge the positive changes and consequences that stress has had on their lives. During a stressful situation, all women in this sample noted any changes in their eating behavior. The majority of people observe a desire to indulge in sweets more often than usual and a decrease in appetite during times of stress. The stronger a woman's emotogenic type of eating behavior is expressed, the more often she uses the escape-avoidance strategy, more often she overeats and feels the desire to eat sweets more than usual. A rational approach to problematic situations is achieved by women who use positive reinterpretation of the situation. At the same time, they are not inclined to take responsibility for this problem. Women who have too much self-control over their eating habits are more susceptible to eating disorders and are more likely to feel devastated after a stressful situation. Women who perceive a stressful situation negatively tend to blame themselves, be dissatisfied with themselves and their behavior in a stressful situation, attribute negative qualities to themselves, and at the same time have a higher tendency to eating disorders. Harmonic eating behavior is a complex process that involves developing appropriate attitudes, forms of behavior, habits, and emotions related to food individually for each person. Due to the fact that personality traits play an important role in the development of eating disorders: high susceptibility to stress, susceptibility to anxiety reactions, self-doubt and a number of others, prevention should mainly be carried out in accordance with the following goals and objectives:

- correction of the system of values, needs, their hierarchy, bringing harassment into line with psychophysical capabilities;
- the development of reflection aimed at differentiating physiological sensations from emotional experiences, for example, distinguishing hunger and anxiety;
- correction of inadequate lifestyle; expansion of ideas about other opportunities for pleasure besides eating (spiritual, intellectual, aesthetic) and their full development;
- correction of self-image, achievement of objective self-esteem and self-confidence;
- work on awareness and verbalization of emotions, development of symbolic thinking through the use of emotional words and fantasies, analysis

of various emotional situations, translation of conclusions into the language of emotions;

– teaching effective behavior in times of stress, awareness and getting rid of the stereotype “when I feel bad, I have to eat”;

– the development of communication skills, the ability to establish harmonious relationships with others, which allow satisfying social needs for care, love, attention and, in this connection, reduce the symbolic significance of food as a compensating factor.

The use of psychotherapy practice is necessary for deeper individual correctional work. Deep psychological methods and methods focused on symptoms and behavior modification are two types of psychotherapy used to correct eating disorders.

**Conclusions.** Our study examined the eating habits of the respondents, their subjective stress assessment, and the relationship between eating habits, subjective stress assessment, and coping strategies. All hypotheses were confirmed based on the research. Women who perceive a stressful situation negatively tend to blame them-

selves, be dissatisfied with themselves and their behavior in a stressful situation, attribute negative qualities to themselves, and at the same time have a higher tendency to eating disorders. Likewise, the stronger the emotional type of eating behavior is expressed in a woman, the more often she uses the escape-avoidance strategy, more often she overeats and feels the desire to eat sweets more than usual. Women who use a positive interpretation of the situation have a rational approach to problematic situations and are not inclined to blame themselves for the problem. Nowadays, these questions are of great importance. The number of people suffering from eating disorders is on the rise, as is the level of stress in today's world. The evidence for stress's impact on nutrition is insufficient and limited to animal studies. The impact of subjective stress assessment on its consequences has yet to be fully explored. Stress can have different effects on eating behavior in different groups, and it can be argued that this is true. Additional research can be focused on the mechanisms of stress, how stress factors impact nutrition, and which groups are susceptible to stress.

#### Bibliography:

1. Абсалимова Л. М. Харчова поведінка жінок: розлади та психокорекція : монографія. Харків : Вид-во «Стильна типографія», 2019. 393 с.
2. Grunberg N.E., Straub R.O. The role of gender and taste class in the effects of stress on eating. *Health Psychology*, 1992. 11, P. 97–100.
3. Lazarus R.S., Folkman S. Stress, Appraisal and Coping. New York : Springer, 1984.
4. Lutter M, Nestler E.J. Homeostatic and Hedonic Signals Interact in the Regulation of Food Intake. *The Journal of Nutrition*, 2009. 139(3), P. 629–632.
5. Шебанова В. І. Діагностичні критерії та систематика основних форм порушень харчової поведінки. *Вісник Чернігівського національного педагогічного університету*. Чернігів : ЧДПУ, 2011. Т.2. Вип. 94. С. 251–255.
6. Wardle J., Chida Y., Gibson E.L., Whitaker K.L., Steptoe A. Stress and adiposity: A meta-analysis of longitudinal studies. *Obesity*, 2011. 19. P. 771–778.

#### References:

1. Absaliyomova, L. M. (2019) Kharchova povedinka zhinok: rozlady ta psykhokorektsiia. Monohrafiia [Eating behavior of women: disorders and psychocorrection Monograph.]. Kharkiv, 393 p. [in Ukrainian].
2. Grunberg, N.E. and Straub, R.O. (1992) The role of gender and taste class in the effects of stress on eating. *Health Psychology*, 11: 97–100. [in English].
3. Lazarus, R.S. and Folkman, S. (1984) Stress, Appraisal and Coping. New York: Springer. [in English].
4. Lutter, M, Nestler, E.J. (2009) Homeostatic and Hedonic Signals Interact in the Regulation of Food Intake. *The Journal of Nutrition*. 139(3) : 629–632. URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2714382/> [in English].
5. Shebanova, V. I. (2011) Diahnostychni kryterii ta systematyka osnovnykh form porushen kharchovoi povedinky [Diagnostic criteria and systematics of the main forms of eating disorders]. *Bulletin of the Chernihiv National Pedagogical University* T.2. Vol. 94. Chernihiv: ChDPU, P. 251–255. [in Ukrainian].
6. Wardle, J., Chida, Y., Gibson, E.L., Whitaker, K.L., Steptoe, A. (2011) Stress and adiposity: A meta-analysis of longitudinal studies. *Obesity*. 19: 771–778. [in English].