

Neuroticism and compulsive overeating (A comparative analysis of the level of neuroticism and anxiety in a group of females suffering from psychogenic binge eating, and in individuals exhibiting no mental or eating disorders)

Bernadetta Izydorczyk

Summary

Aim. The purpose of the current study was to: 1. conduct a comparative analysis of the level of neuroticism and anxiety in a group of selected females suffering from psychogenic binge eating, and in individuals exhibiting no mental or eating disorders; 2. assess the level of neuroticism as well as measure state and trait anxiety in females suffering from psychogenic binge eating disorder (BED); 3. emphasize the significance of a high level of neuroticism and anxiety in a population of females suffering from compulsive overeating, and to stress the need to apply group insight therapy in the process of treatment of patients diagnosed with BED.

Method. A psychometric method was applied to measure the level of psychological traits. The level of neuroticism was examined using the *Eysenck Personality Questionnaire*. Two states of anxiety: state anxiety and trait anxiety, were measured by means of the State-Trait Anxiety Inventory (STAI), devised by C.D. Spielberger, R.L. Gorsuch, and R.E. Lushene, and adapted into Polish by J. Strelau, T. Tysarczyk, and K. Wrześniowski.

Results. Statistical analysis of the data gathered as a result of this research revealed an increased (i.e. inappropriate and thus unhealthy) degree of neuroticism and trait anxiety in the examined females. In contrast, it was discovered that state anxiety level did not increase. Furthermore, a significant difference was traced between the females diagnosed with BED and the individuals comprising a general population, regarding the level of neuroticism. The former were observed to demonstrate an increased (inappropriate) degree of neuroticism as compared to the latter group of research subjects. This seems to explain the predisposition of the BED sufferers towards psychosomatic responses, which often take the form of a subconscious habit of emotional eating as an answer to emotional stimuli and stress.

Conclusions. Analysis of the data obtained as a result of this research indicated that the examined overweight females suffering from psychogenic binge eating disorder demonstrated a high degree of emotional instability. The study results seem to point to the fact that evaluation of the level of personality dysfunction, which includes assessing the degree of neuroticism and trait anxiety, constitutes a crucial element of a reliable psychological diagnostic evaluation and effective therapeutic interactions in a group of patients suffering from psychogenic binge eating disorder. It is important to include insight psychotherapy in the treatment of patients diagnosed with BED. Insight psychotherapy is a therapeutic method which allows to facilitate positive changes in the emotional structure of the patient's personality, and proves to be an effective technique of reducing the symptoms of emotional eating. While undergoing therapy, the patient is encouraged to develop an insight into his or her inner conflicts, and to undertake corrective interactions in emotional relationships with the social environment, which helps the individual create a new pattern of emotional responses. Group insight therapy, based on establishing an emotional bond with the other person, is of considerable significance and seems to be an effective treatment method.

anxiety / neuroticism / psychogenic binge eating

Bernadetta Izydorczyk: Department of Clinical and Forensic Psychology, University of Silesia in Katowice, Poland. Correspondence address: Bernadetta Izydorczyk, Department of Clinical and Forensic Psychology, University of Silesia in Katowice, Poland. E-mail: b.izydorczyk@interia.pl

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INTRODUCTION

Psychological factors, alongside biological and environmental ones (e.g. inappropriate eating habits in a family, engaging in rigorous dieting and slimming behaviour) have

been implicated as significant contributors to the development of an eating disorder labelled as "compulsive overeating", and also referred to as a mechanism of "using food not only to satisfy hunger and to reach the state of physiological satiety". Psychological factors are believed to account for the phenomenon of "eating up" emotional tension and stress that is frequently accompanied by a variety of emotions, including anxiety and fear, which the individual tries to suppress by adapting the strategy of "emotional eating", and thus to regain a sense of pleasure and to reduce the level of frustration.

According to the International Classification of Diseases (ICD 10), the aforementioned eating disorder is categorized as "overeating associated with other psychological disturbances", also "psychogenic overeating". In DSM-IV the disorder is defined as uncontrolled binge eating disorder (BED), or compulsive overeating. In the subject literature the phenomenon is referred to as "eating behaviours which cause weight gain that exceeds the norms concerning the average weight gain for the population, and are followed by recurrent episodes of discomfort and low mood" [1]. Individuals with psychogenic binge eating disorder do not engage in compensatory behaviours, as opposed to bulimia sufferers who are often caught in self-defeating cycles of gluttonous binge eating. A compulsive eater feels a sense of loss of control over eating and the amount of consumed food [2].

In today's world, psychogenic binge eating has become a common way of coping with emotions. "Emotional eating" seems to help satisfy psychological needs such as the need for safety, love, or approval. It also turns out to be an important coping strategy to deal with stress and relieve emotions such as sadness, anxiety, or aggression. The results of the research conducted by Heatherton and Baumeister, described in the subject literature, prove that emotional eating is primarily triggered by frustration and negative emotions [3]. However, the issue has not been thoroughly discussed in Polish references [1, 2]. Another interesting finding to emerge from scientific research is that overweight and obesity occurring as a consequence of psychogenic binge eating prove to be the factors which are likely to induce secondary emotional disturbances, manifested by an increased degree of anxiety and fear

exhibited by the BED sufferers. This in turn often leads to social alienation and interpersonal conflicts.

According to early psychoanalytic conceptions described in scientific references, eating is a form of subconscious self-defence against anxiety. Taking this perspective into consideration, the process of reaching for food and undertaking compulsive eating might be regarded as a consequence of oral-stage fixation, or regression to the oral (symbiotic) stage [4, 5].

Major object relations theorists (e.g. Klein, Fairbairn, Guntrip, Winnicott, Mahler, Kernberg, or Kohut) put forward unanimous views on the issue of etiology of eating disorders. They maintain that the origins of eating disorder psychopathologies lay in a person's traumatic life experiences, emotional deficits and the matrix of internalized, emotionally destructive interactions of an individual with significant objects, especially the relationships established during childhood, which are "replicated" in all social interactions in the later stages of the person's life. The early internalized destructive relationships contribute to developmental pathologies and determine the individual's personality characteristics. Object relations theories are based on an assumption that the early internalized social interactions affect the individual's attitudes and behaviour in the further stages of his or her life [6, 7]. The patterns of relationships with significant others (objects) formed during early childhood (i.e. the early interactions between a child and the most important objects such as the mother, father, or a caretaker) seem to be of considerable importance since they significantly affect the individual's adult relationships and the person's social and emotional functioning. Internalization of object relations refers to the concept that in all interactions of the infant with the significant parental figures, what the individual internalizes is not an image or representation of the other (the object), but the relationship between the self and the other, in the form of a self image or self representation interacting with an object image or object representation. A significant role in the development of an individual is attributed to transitional objects, the examples of which include food and eating. As the mother-infant feeding

relationship is established, food can be associated with a positive or negative transitional object. Thus it can be assumed that eating allows to relieve emotional tension, and to satisfy emotional needs. It is believed to compensate for mental trauma, and to reduce frustration. Moreover, the process of eating is a form of substitute gratification of needs which an individual is not able to satisfy in any other way [6].

Patterns of mental associations, as well as subjective (emotional) experiences regarding food and the process of eating, originate in childhood [8]. The infant associates his or her mother's breast or a hot bottle (filled with milk) with both hunger satisfaction, and the feeling of safety since the experience allows to reduce the level of anxiety, apprehension, or loneliness. Should the infant be deprived of this experience (e.g. as a consequence of emotional abandonment or inadequate maternal affection), he or she is likely to develop an eating disorder (e.g. compulsive overeating) in the further stages of life.

Apart from psychoanalytic approach to the etiology of compulsive overeating, which emphasizes a contributory role of inner conflicts and emotions experienced by a child in the early relationships with the first caretakers (parents), there are also other theories reported in the professional literature. One of them is a hypothesis which suggests that the aforementioned eating disorder develops as a consequence of acquisition of inadequate eating behaviour patterns. According to behaviour and cognitive conceptions, the cognitive schemas which involve low self-evaluation and poor body perception tend to predict the onset of binge eating disorder. A cognitive model of eating disorders, developed by Fairburn, Cooper and Safran, points to a variety of interlinked factors determining development of bulimia nervosa which is related to compulsive overeating. The theory demonstrates that body image is considered to perform a significant regulatory role. A bulimic individual conducts subjective evaluation of his or her body attributes, which affects the person's cognitive functioning. Low self-evaluation is proved to trigger the individual's anxiety and negative emotions, as well as leads to excessive preoccupation with body image, which subsequently stimulates the episodes of binge eating [9].

The concept of emotional eating implies the tendency to eat in response to positive as well as negative emotions. An individual regards eating as a means of comfort. The person resorts to it in order to regain emotional balance and improve his or her mood. Eating becomes a coping response to boredom or emotional numbness since it allows the person to sustain his or her activity at the level which is essential for normal functioning [10].

Compulsive binge eating might be regarded as an unconscious defence reaction, the so called escape into illness (especially in the situation when it allows the patient to regain a good frame of mind and a sense of security).

According to the views summarized by Kaplan & Kaplan [5], the correlation between anxiety and the tendency to undertake emotional eating stems from psychological associations of distress with food intake. The person's negative emotional states coincide with the feeling of hunger [5]. An individual inappropriately identifies discomfort as hunger, and hence is able to "learn" to use food in order to reduce a degree of anxiety and fear. Such a habitual pattern of eating in order to cope with negative arousal state might mean that an individual's response to any state of anxiety is likely to include food intake.

As Herman et al. demonstrated, as a result of experiencing emotional distress an individual's self-regulation capacity is undermined. The person's self-control of food intake is highly susceptible to disruption, which subsequently disturbs the process of monitoring the eating behaviours [5].

Negative emotional experiences are proved to have a significantly adverse impact on the evolving ego in overweight individuals or in those who have engage in slimming behaviours [1]. In an attempt to protect his or her ego, an individual resorts to compulsive overeating, whereby escaping from negative (frustrating) emotions such as anxiety, apprehension, sadness, or anger. The "escape" into compulsive overeating is frequently accompanied by a decreased level of self-awareness, and a reduced capacity for self-reflection.

As viewed in psychological literature, there is a correlation between mood and appetite. Serotonin and endorphins are considered to play a significant role in mood regulation. They are

proved to lower the level of anxiety. Consumption of sweet foods enhances production of endorphins and thus facilitates the process of releasing it in the body, which consequently helps an individual calm down [11].

Overall, research findings support the conclusion that overweight should be regarded as a consequence of overeating which occurs in response to emotional stimuli. Overweight individuals tend to create a negative self-image, which is frequently followed by an attempt to adopt a wide variety of restrictive attitudes towards the body such as compensatory behaviours, rigorous diets and excessive exercise. Such individuals frequently do not accept their body image. Additionally, they exhibit low self-esteem as well as the fear of further weight gain, and simultaneously such persons demonstrate the inability to resist overeating, which subsequently increases the level of their anxiety. The overweight individuals are thus caught in the vicious circle of compulsive binge eating, which might be broken in the process of treatment that should include the elements of cognitive-behavioural therapy aimed at investigating the aforementioned mechanism.

A psychological profile of a binge eater, comprising such components as emotional states and personality traits, received little research attention. Polivy et al. reported that low self-esteem should be recognized as a distinctive risk factor for eating disorder symptoms [12]. Hence it is worth, while undertaking research on emotional stimuli which determine development of various types of eating disorders, including binge eating. The question arises as to the effect of neuroticism on the development of a binge eating disorder. Is it possible to predict that a BED sufferer undertakes emotional eating in response to the current state of anxiety that he or she experiences, or should neuroticism be recognized as the individual's enduring personality trait?

Neuroticism is frequently referred to as oversensitivity, emotional instability, or emotional reactivity. It is the personality dimension that seems to be related to anxiety which, according to Hull and Spence's hypothesis, is regarded as "general emotional arousal". Neurotic individuals tend to demonstrate low resilience to stress. This, in turn, is due to increased sensitivity of the autonomous nervous system,

which results in producing more intense and long-lasting emotional responses. People with neurotic personality tend to experience anxiety, emotional breakdowns and mood swings. They often exhibit irritability [13]. Anxiety is defined as a vague, unpleasant emotional state with the qualities of apprehension, dread, distress, and uneasiness. As opposed to fear, anxiety is an emotional state which does not arise in response to any distinct object [14].

Despite an increasing incidence rate of binge eating disorder, and the fact that it affects a large percentage of the population, not exclusively females (which has been supported by earlier research findings), the disorder has attracted little scientific interest. There is still little empirical knowledge about the phenomenon, and far less professional literature is devoted to the subject. Hence the importance of a psychological diagnosis of the level of neuroticism and anxiety in individuals who suffer from recurrent episodes of emotional eating, and display the symptoms of medically diagnosed psychogenic binge eating disorder. The sample examined in this study consisted solely of females mainly due to the fact that the highest prevalence rate of BED has been observed among women. Another reason is that it is predominantly female patients that the author of this paper deals with in her therapeutic work. However, it would be interesting and particularly desirable to compare the finding of this research with the ones obtained as a result of a similar study conducted in a group of male subjects.

RESEARCH QUESTIONS AND OBJECTIVES

The main aim of this research was to diagnose the level of major personality dimensions, such as neuroticism and anxiety (state-trait anxiety) in a population of selected young Polish females suffering from psychogenic binge eating.

The following research questions were asked:

- do the examined females diagnosed with psychogenic binge eating exhibit an inappropriate (unhealthy) level of neuroticism; and if so, what is the level of this personality dimension in the study participants?
- is it possible to trace any significant difference between the BED sufferers and the indi-

viduals comprising a control population (i.e. the females displaying no symptoms of disordered eating, overweight or obesity), regarding the level of neuroticism which they exhibit; and if so, what is this difference?

A psychogenic binge eating disorder, which served as an independent variable in this research, was defined, according to the International Classification of Diseases (ICD 10), as “overeating associated with other psychological disturbances”. It was also referred to as uncontrolled binge eating disorder (BED), based on the DSM-IV classification criteria.

The main dependent variable in the study was complex and it comprised the following components:

1. Neuroticism – recognized by Eysenck as a personality dimension ranging from emotional stability to instability (neuroticism). According to his theory, neuroticism includes such traits as anxiety, depressive moods, the feeling of guilt, low self-esteem and tension [15].
2. Trait anxiety – described in the subject literature, according to Spielberg’s theory, as a motive or acquired behavioural disposition that predisposes an individual to perceive a wide range of objectively non-dangerous circumstances as threatening and to respond to these with state anxiety reactions disproportionate in intensity to the magnitude of the objective danger [16, 17].
3. State anxiety – defined by Spielberg as subjective, consciously perceived feelings of apprehension and tension, accompanied by or associated with activation or arousal of the autonomic nervous system; and its level is likely to be influenced by a variety of risk factors [16, 17].

An additional controlled variable examined in the present study was body mass index BMI. Its value is calculated as the individual’s body weight, measured in kilograms, divided by the square of his or her height, measured in metres [18]. It has been announced that individuals who fall into the BMI range of 19.5 to 24.5 have a healthy weight. A BMI of under 19.5 is usually referred to as underweight or emaciation. A body Mass Index reading over 24.5 is considered overweight.

RESEARCH METHODS AND MATERIALS

60 Polish females participated in the research. A clinical population comprised 30 women. The subjects were selected intentionally. The selection criteria included symptoms of medically diagnosed psychogenic binge eating (according to the ICD 10 F.50.4 criteria of psychiatric classification), age between 21-26 and the subjects’ willingness to give informed consent to participate in the research. The criteria which excluded participation in the study included: productive psychotic symptoms, organic changes in the CNS, improper intellectual development, and chronic somatic conditions, eating disorders (e.g. bulimia or anorexia nervosa, psychogenic binge eating), or other mental disturbances such as neurotic disorders, personality disorders or depressive episodes. All the subjects comprising a clinical population remained under treatment. The mean duration of treatment in this group did not exceed 6 months. The data mentioned above were gathered by means of clinical interviews conducted among the examined, and were also drawn from the subjects’ medical records.

A control population consisted of 30 females. The selection criteria for this group of research participants included: the age between 21 and 26, the subjects’ willingness to give informed consent to participate in the study, age-appropriate body mass index (i.e. ranging from 19.5 to 24.5), lack of chronic somatic conditions, eating disorders (e.g. bulimia nervosa, anorexia nervosa, psychogenic binge eating), or other mental disturbances such as neurotic disorders, personality disorders or depressive episodes, as well as no medical history of past treatment. The individuals who exhibited symptoms of the aforementioned dysfunctions, received recommendations concerning possible treatment, or made attempts to undertake therapy were excluded from the control group of research subjects (this applied predominantly to the females who underwent hospitalization, received consultations and treatment for eating disorders in various mental healthcare centres, were treated for neurotic disorders, or those who reported the feelings of anxiety, depression, or emotional over-arousal during clinical interviews). Additional exclusion criteria for control participants included: using reg-

ular pharmacotherapy, foreign nationality, and adolescence (not yet fully developed personality structure). The data were collected using a questionnaire which consisted of the questions regarding the aforementioned issues.

The research was conducted in the years 2006-2009, in treatment centres for eating disorders and in outpatient mental health clinics (in case of the clinical population). The control group of females consisted of both full and part time students in their first or further years of study. The sample group comprised arts, biology, medicine and science students. The study was approved by the Ethics Committee of Silesian University.

A psychometric questionnaire was used to make a psychological diagnosis of the investigated variables. The Eysenck Personality Questionnaire was applied to measure the level of neuroticism. A Polish version of the State-Trait Anxiety Inventory (STAI) devised by C.D Spielberg, R.L. Gorsuch and R.E. Lushene, adapted by J. Strelau, T. Tysarczyk and K. Wrześniewski, was used to assess the level of state-trait anxiety. The methods applied in the research procedures are fully described in the subject literature, and are regarded as common psychological assessment instruments aimed at diagnosing the level of neuroticism, anxiety and a sense of self-worthlessness [16, 17].

The STAI questionnaire is a self-report method of measuring anxiety. It consists of two 20-item scales: the X-1 scale, used to calculate intensification of anxiety as a state, and the X-2 scale, applied to measure trait anxiety. Respondents are to choose one out of 20 short statements best reflecting their feelings. The score ranges from 20 to 80 points, with higher scores correlating with greater anxiety. Raw scores are converted to stens, based on a "Standard-Ten" point scale. Low sten scores (1-4) indicate a low level of state-trait anxiety. Medium sten scores of 5 and 6 denote a moderate anxiety. Whereas sten scores ranging from 7 to 10 point to a high level of anxiety. The STAI questionnaire proves to be a highly reliable measuring method. The reliability indicators for the X-1 scale and for the X-2 scale of the inventory, measured by means of L. Cronbach's ratio, reached the values of 0.90 and 0.88, respectively [16, 17]. A Polish version of the Eysenck Personality Questionnaire-Revised (EPQ-R), adapted by Piotr Brzozowski and Radosław

Ł.Drwal, served as an instrument for measuring the level of neuroticism. The questionnaire consists of four scales: Extraversion vs. Introversion, Neuroticism („Emotionality”), Psychoticism (“Tough Mindedness”), and Lie. However, due to the research topic only one scale was applied in this study – the examined subjects were rated on a 24-item neuroticism scale. The questionnaire in its full version consists of 100 items. A sum of the raw scores received by the study participant in all four scales of the questionnaire is converted to a sten score. Individuals who obtain sten scores ranging from 1 to 4 are considered to be emotionally stable. The sten scores between 7 and 10 denote neuroticism, and the subjects whose sten scores reach the values of 5 and 6 constitute a group of participants who exhibit a moderate level of emotional stability.

The values of reliability indicators for the particular scales of the EPQ-R, measured by means of L. Cronbach's ratio, point to high reliability of the measuring instrument. The reliability indicator for the neuroticism scale reached the value of 0.84 [13].

RESEARCH RESULTS

Analysis of the research data revealed that mean age in the clinical population of females suffering from psychogenic binge eating disorder was 24.7. Their average body weight reached 74 kg, at which the level of the subjects' BMI was 27.15, which proves that the examined individuals were overweight.

It was discovered that mean age in the control group of females with no history of eating disorders or obesity, and exhibiting no symptoms of overweight, was 21.9. The mean BMI in the population reached the value of 21.45, which proved to be within the normal range.

Tab. 1 displays the research data concerning a diagnosis of the levels of such personality variables as neuroticism, anxiety and depression among 30 females suffering from psychogenic binge eating disorder.

The research data displayed in Table 2 demonstrate the levels of the same personality variables obtained in the control population of 30 females exhibiting no symptoms of BED, obesity or other eating disorders.

Analysis of the data presented in Tab. 1, obtained in a group of females diagnosed with compulsive overeating, reveals a high level of neuroticism and trait anxiety among the study participants. The mean sten value of 7 received

response might be a manifestation of a high level of neuroticism and trait anxiety. Hence, compulsive overeating can be regarded as a subconscious response to emotional stimuli.

Table 1. The main characteristics of the research data gathered as a result of the EPQ-R questionnaire, aimed at examining the level of neuroticism, and as a result of the STAI questionnaire, assessing the levels of state and trait anxiety, conducted in a population of females suffering from psychogenic binge eating disorder (N=30)

Personality variable	N	Mean sten score	Median	Minimum	Maximum	Variance	Standard deviation
State Anxiety STAI(x-1)	30	5.98	6.00	2.00	9.00	3.23	1.77
Trait Anxiety STAI(x-2)	30	7.00	7.00	4.00	10.00	3.04	1.70
Personality dimension of neuroticism EPQ-R	30	7.20	6.00	3.00	10.00	3.08	1.80

Table 2. The main characteristics of the research data gathered as a result of the EPQ-R questionnaire, aimed at measuring the level of neuroticism, and as a result of the STAI questionnaire, assessing the level of state and trait anxiety, conducted in a control population of females exhibiting no symptoms of mental disorders, disordered eating, overweight or obesity (N=30)

Personality variable	N	Mean sten score	Median	Minimum	Maximum	Variance	Standard deviation
State Anxiety STAI(x-1)	0	4.92	5.00	3.00	9.00	1.98	1.40
Trait Anxiety STAI(x-2)	0	5.10	5.00	2.00	7.00	2.28	1.50
Personality dimension of neuroticism EPQ-R	30	3.29	3.50	1.00	6.00	2.12	1.45

by the subjects in the "Trait Anxiety" scale (the STAI questionnaire) as well as in the scale of "Neuroticism" (the EPQ-R questionnaire) indicates a high (inappropriate and thus unhealthy) level of neuroticism and a tendency towards anxiety. However, the mean sten value for state anxiety among the examined individuals reached 5, which proved to be normal. This might suggest that the females do not report any direct, psychological experience of current state anxiety. It can be presumed that they are not aware of it, and they undertake emotional eating in response to the anxiety state. A psychosomatic re-

Analysis of the research data presented in Tab. 2 indicates that the healthy control participants (displaying no symptoms of BED) exhibit a normal (healthy) level of neuroticism and trait anxiety. Furthermore, the subjects did not report any state anxiety while being examined. All the mean values received in the control population were found to be norm-consistent.

Examination of the research data obtained as a result of the Mann-Whitney U test revealed certain significant differences between control participants (N=30) and the females suffering from compulsive overeating (N=30) in terms of the

Table 3. The main characteristics of the research data gathered as a result of the Mann-Whitney U test, aimed at making comparisons between two sets of sample data, and diagnosing the differences concerning the level of neuroticism and anxiety in the control group and in the clinical population of females suffering from BED (N=60)

Personality variable	Rank sum Control group	Rank sum Clinical population	U value	Z value	p value
Personality dimension of neuroticism EPQ-R	415.00	963.00	64.0000	-5.015	0.001*
State Anxiety STAI(the x-1 scale)	563.50	814.50	212.5000	-2.297	0.022*
Trait Anxiety STAI(the x-2 scale)	466.50	911.50	115.5000	-4.072	0.001*

three variables diagnosed in this research, i.e. neuroticism, state anxiety and trait anxiety.

The individuals displaying the symptoms of BED were discovered to exhibit an inappropriate level of neuroticism, which might predispose the females to anxiety and psychosomatic responses, as well as push them towards subconscious emotional eating that is aimed at coping with emotional stimuli and stress.

DISCUSSION

Analysis of the research data obtained in the group of overweight females diagnosed with psychogenic binge eating disorder revealed a high level of emotional instability in the examined individuals, which seems to be rooted in the subjects' personality structure. Examining the females' medical record documentation as well as the data provided during clinical interviews conducted with the subjects, it was discovered that the examined individuals had always regarded their overweight and "plump" figure as a major contributor to their low socio-metric status.

An increased level of social anxiety, which results from the feelings of ineffectiveness and self-worthlessness, was demonstrated to constitute a major contributing factor to the development of eating disorders. The hypothesis was supported by the research conducted by Hilde Bruch [19]. Negative effects of emotional stimuli and their decisive role in generating eating disorders were also reported by such researchers as Herman and Polivy [1], Baumeister et al. Antony et al. [20], Masheb and Grilo [21]. The impact of anxiety on the phenomenon of compulsive overeating was also addressed in Polish studies conducted by Michałek [22].

Neuroticism, according to Eysenck's theory, includes such traits as anxiety, depressive moods, the feeling of guilt, low self-esteem and tension. Intensification of these traits generates an unpleasant emotional state, and consequently drives an individual to seek and adopt a method expected to alleviate distress and escape from the intense and unpleasant emotional state. The act of binge eating seems to serve as a means of achieving this aim. Affect regulation theories posit that consumption of excessive amounts of food, accompa-

nied by a feeling of lack of control over eating, may provide an escape from aversive emotions and subsequent self-awareness, and consequently lead to mood improvement. Eysenck maintains that neuroticism is closely related to anxiety, which plays a significant role in the intensification of the neurotic processes. The researcher defines anxiety as vulnerability to threatening stimuli [23]. This definition proves to correspond with Spielberg's approach to trait anxiety that is referred to as an enduring predisposition to respond anxiously in a variety of situations perceived as threatening [16, 17].

To sum up, an enduring neurotic predisposition seems to act as a major contributor to emotional eating which is undertaken by an individual in response to excessive tension and stress. As an enduring personality trait, neuroticism seems to correlate with the phenomenon of a vicious circle of binge eating. Coupled with a predisposition to respond with anxiety (accompanied by no symptoms of state anxiety), neuroticism is predicted to generate emotional eating that is aimed at coping with anxiety tension, which in turn triggers growing frustration with body image, and intensifies the fear of further weight gain. In an attempt to cope with the latter, an individual engages in subconscious, uncontrollable emotional eating.

CONCLUSIONS

Analysis of the data gathered in this study points to the fact that evaluation of the level of emotional personality disturbance, which includes assessing the level of neuroticism and trait anxiety, should constitute a crucial element of a reliable psychological diagnostic evaluation and effective therapeutic interactions in a group of patients suffering from psychogenic binge eating disorder. Taken together, the research findings suggest that the therapeutic methods which are believed to intensify and accelerate the process of recovery from eating disorders include: a psycho-educational training aimed at improving the patient's knowledge about a vicious circle of binge eating; cognitive-behavioural therapy designed to stimulate the patient to develop and adopt constructive strategies to cope with stress

and emotional tension (the patient thus finds an alternative to his or her disease symptoms); as well as insight therapy which facilitates cognitive and emotional insight into the mechanisms underlying the phenomenon of compulsive overeating (i.e. the technique helps the patient gain insight into the inner conflicts which the individual tries to resolve by undertaking emotional eating). Insight psychotherapy proves to be a highly effective therapeutic method since it allows facilitating positive changes that are comprehended as eliminating the symptoms (psychogenic emotional eating) and assessing the level of the person's neuroticism, the personality dimension which is believed to underlie the patient's condition.

The research findings cannot be generalized or applied to other groups or populations since the study was conducted in a small sample consisted solely of female subjects. The researcher's choice of the study population was determined by the fact that the only group of adequate size which the author gained access to was that comprising females. However, it is important that further research in this field should include male participants.

Moreover, it would be interesting to conduct longitudinal studies in order to assess the effects of psychological factors on the process of emotional eating. However, such research is difficult to conduct due to limited access to a clinical population, hence the significance of horizontal studies in developing appropriate therapeutic procedures.

REFERENCES

- Ogińska-Bulik N. Psychologia nadmiernego jedzenia. Łódź: Wydawnictwo Uniwersytetu Łódzkiego; 2004.
- Niewiadomska I, Kulik A, Hajduk A. Jedzenie. Lublin: Wydawnictwo KUL; 2005. p. 45–155.
- Paxton SJ, Diggins J. Avoidance coping, binge eating, and depression: An examination of the escape theory of binge eating. *Int J Eat Disord.* 1997; 22: 83–87.
- Marcus MD, Smith D, Santelli R, Kaye W. Characterization of eating disordered behaviour among obese binge eaters. *Int J Eat Disord.* 1992; 12: 249–255.
- Baumeister RF, Heatherton TF, Tice DM. Utrata kontroli. Jak i dlaczego tracimy zdolność samoregulacji. Warszawa: Państwowa Agencja Rozwiązywania Problemów Alkoholowych; 2000. p. 212–241.
- Glickauf-Hughes Ch, Wells M. Object Relations Psychotherapy. An Individual and Integrative Approach to Diagnosis and Treatment. Jason Aronson, Inc. 1997.
- Grzebiuk L, editor. Psychoterapia. Teoria. Warszawa: Eneteia; 2005.
- Wegscheider-Cruse S. Jak pokochać siebie: podróż ku poczuciu własnej wartości. Gdańsk: Atext; 1996. p. 61–64.
- Thompson K. Handbook of eating disorders and obesity. New Jersey. John Wiley & Sons Inc. 2004.
- Michałek DZ. Nałogowe zachowanie jedzeniowe. Kraków: Wydawnictwo ARC-EN-CIEL; 2001. p. 67–69.
- Somer E. Wpływ jedzenia na nastrój. Warszawa: Amber; 1998. p. 67–98.
- Polivy et al. Matching effects on eating: Do individual differences make a difference? *Appetite.* 2005; 45: 108–109.
- Brzozowski P, Drwal RŁ. Kwestionariusz Osobowości Eysencka. Polska adaptacja EPQ-R. Warszawa: Pracownia Testów Psychologicznych PTP; 1995. p. 5–23.
- Reber A. Słownik Psychologii. Warszawa: Wydawnictwo Naukowe Scholar; 2000.
- Strelau J. Osobowość, jako zespół cech. In: Strelau J, editor. Psychologia: podręcznik akademicki. Psychologia ogólna Tom 2; Gdańsk: GWP; 2003. p. 525–560.
- Sosnowski T. Lęk, jako stan i cecha w ujęciu Charlesa D. Spielbergera. *Przegląd Psychologiczny.* 1997; 20(2): 349–359.
- Sosnowski T. Polska adaptacja inwentarza STAI do badania stanu i cechy lęku. *Przegląd Psychologiczny.* 1983; 26(2): 393–411.
- Szczekliak A. Choroby wewnętrzne. Kraków: Medycyna Praktyczna; 2005. p. 100–102.
- Bruch H. Eating disorders: Obesity, anorexia and the person within, New York: Basic Books; 1973.
- Johnson WG, Torgrud LJ. Assessment and treatment of binge eating disorder. In: Thompson JK, editor. Body image, eating disorders, and obesity: An integrative guide for assessment and treatment. Washington: American Psychological Association; 1996. p. 321–343.
- Masheb RM, Grilo CM. Emotional overeating and its associations with eating disorder psychopathology among overweight patients with binge eating disorder. *Int J Eat Disord.* 2006; 39: 141–146.
- Michałek DZ. Syndrom uzależnienia od jedzenia. Kraków: Wydawnictwo ARC-EN-CIEL; 2001. p. 14–15.
- Korliński S. Neurotyzm wśród studentów. Warszawa: Instytut Polityki Naukowej, Postępu Technicznego i Szkolnictwa Wyższego; 1984. p. 14–37.