Sofia university "St. Kliment Ohridski"

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Summary

of dissertation

with topic:

Personal and professional determinants of alexithymia

Submitted for the award of an educational and scientific degree of 'Doctor'

in the scientific specialty

3.2. 'Psychology.'

"Supervisor:

Prof. Dr. Irina Zinovieva

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The dissertation work on the topic 'Personality and Professional Determinants of Alexithymia' is structured into an introductory part, six chapters, and a conclusion. It consists of 213 pages, of

which 183 pages contain the main text, tables, and graphs, while the remaining pages are used for referencing the literature sources. The conducted research is presented in 1 figure and 69 tables. The reference list includes 8 Bulgarian sources and 208 foreign authors. Regarding the dissertation topic, 4 publications in scientific journals and 3 conference presentations have been made.

Scientific Committee:

Prof. Dr. Sonia Karabelova - Chairperson (reviewer)

Prof. Dr. Krasimira Petrova Koleva-Mineva (reviewer)

Assoc. Prof. Dr. Daniel Ludmilov Petrov

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The defense of the dissertation work will take place on September 8, 2023, at 15:00 in Hall 21 of Sofia University 'St. Kliment Ohridski' during an open session of the selected scientific committee. The defense materials are available at the office of the Psychology Department, Faculty of Philosophy, Room 60, 3rd floor, South Wing, Rectorate - Sofia University 'St. Kliment Ohridski,' as well as on the university's website - www.uni-sofia.bg.

CONTENT

The study of emotions can be followed from ancient times to the present days. The very first philosophers in ancient Greece were concerned with the study of emotions and the difficulties in their regulation. Ancient philosophers viewed emotions as changes in mental state or disturbances in the soul. Since the dawn of civilization, the ancients have been interested in the study of human

nature and emotional experiences. They viewed emotions as changes in mental state that were sometimes the cause of disturbances in the soul. People who had these changes act differently than others because they were obviously guided by something other than rationality. Later, researchers such as Darwin viewed emotion as a mental state that had a somatic effect. Connections have been found between human and animal responses. Emotional experiences in this period were differentiated as basic (joy, anger, fear) and social (love and hate). The great interest in the soul-body connection and the study of emotions began in the second half of the 19th century and developed intensively in the 20th century.

Today, in the context of advances in cognitive and emotional neuroscience, the dichotomy between emotion and rationality is becoming increasingly unstable. The abilities to perceive, modulate and express emotions are integrated as basic cognitive functions in the theory of emotional intelligence. According to her, knowing one's own emotions is a fundamental ability that promotes adaptive decision-making and goal-oriented behavior (cited in Messina et al., 2014).

When a person has deficits in understanding and describing their own emotional experiences, it is expected that they will also have difficulty understanding the emotional experiences of others. Without this, the individual can hardly enter into quality communication, respectively, and relationship with others. These deficits are relevant to all spheres of functioning and have a complex impact on the quality of life. When to this is added the strong connection between the lack of words for feelings (alexithymia) and psychosomatics, the need for a thorough study of the risk factors and reasons for the development of alexithymia becomes obvious.

General characteristics of the dissertation

The present dissertation examines the personal and occupational determinants of alexithymia. The main goal of the present study is to investigate the relationship between alexithymia and personality traits according to the Big Five model, the Dark Triad and the attachment style in adults, on the one hand, and the relationship and interaction of alexithymia with professional characteristics - perceived stress, occupational Burnout and professional well-being on the other. It was also an aim of the current dissertation to investigate the relationships between alexithymia and life satisfaction. Many studies have shown that alexithymia is related to higher rates of psychosomatic illness,

poorer social functioning, difficulties in close relationships. Correlations are found with Big Five and Dark Triad personality traits, and also with the attachment style. The attachment style is also relevant to the conceptualization of the construct as the main predictor of primary alexithymia. On the other hand, research shows that higher levels of alexithymia are associated with occupational burnout, higher levels of perceived stress, and poorer experiences of occupational well-being.

In connection with the relevance and increasingly common difficulties in emotional regulation, a question arises regarding the practical application of various therapeutic strategies for correction. Research shows that people with high alexithymia have a much harder time responding, or not responding at all, to traditional therapeutic approaches, whether medication or psychotherapy. That is why this dissertation sets the above-mentioned goals.

Structure and content of the dissertation

The dissertation consists of an introduction, six chapters, a conclusion, references and appendices. The first two chapters are a literature review that includes the conceptualization of the alexithymia construct, the main tools for its research, and reviews the main research on alexithymia and its relationship with various personal and professional characteristics. This is how the basic information needed to build the theoretical model of the present study was collected. The remaining four chapters cover the design of the empirical study, a description of the sample and the psychometric characteristics of the instrument, the results of the study, and a discussion of the results.

Conceptualization of the alexithymia construct

Alexithymia, its effects and consequences are clearly significant to the functioning not only of the individual but of the general population as a whole. Deficits in affective processing of experiences lead to consequences for both mental and physical health.

The main point in the research and study of this psychological phenomenon is to gain a deeper understanding of the causes, predictors, action and their influence on the individual's personality and behavior in order to develop strategies for more effective coping and support. People who can be classified as alexithymic, more often suffer from psychosomatic suffering, are more difficult to

be influenced by traditional methods of treatment, including psychodynamically oriented psychotherapy approaches.

Examining the types of alexithymia found that it can be a persistent personality construct acquired/developed in the early years of an individual's life as a reaction to a hostile, cold or ambivalent environment. In this case, the consequences are comprehensive and affect the general functioning of the person, i.e. difficulties in identifying and describing feelings persist in all areas of life and topics. Such a person is practically incapable of creating a deep affective connection with others. Secondary alexithymia, on the other hand, can result from a severe psycho-traumatic experience. It can be also a defense mechanism of post-traumatic stress disorder or other life situations that are too emotionally charged. If primary alexithymia leads to mental suffering, then secondary alexithymia is more of a defense mechanism or a consequence of it. Organic alexithymia results from brain trauma to the centers responsible for emotional regulation. There are real physiological reasons for the development of alexithymia here, and unfortunately, they are practically unchangeable.

Cognitive functioning in people with alexithymia is impaired. These people have difficulty in perceiving and understanding the symbolic information that comes from non-verbal interaction with others. Individuals with high levels of alexithymia have difficulty recognizing and interpreting facial expression or nonverbal body cues. They have poor imagination and relatively rigid thinking strategies.

In-depth research makes sense from the point of view of more precisely defining the construct, the study of risk factors for its development in the individual, the development of therapeutic strategies for change and, last but not least, the acquisition of greater public popularity, respectively awareness of the severity of consequences for deficits in emotionality and emotional regulation.

Studies on the relationship of alexithymia with personal and professional determinants

From the analyzed literature, it is clear that the influence of alexithymia on the quality of life of the individual is diverse, but significant. Various theoretical connections were presented, various dependencies between alexithymia and basic personality traits on the one hand, and professional

experiences on the other, were described. Generally speaking, people who have to deal with difficult life situations are prone to develop alexithymia, which leads to a decrease in the quality of life. As earlier in life a person is faced with severe traumatic experiences, as greater the risk of alexithymia, respectively increases the possibility that these people are unable to create emotional connections with an intimate partner, friends or colleagues, and their general functioning is impaired in society.

The personality traits that have been discussed are of great importance to a person's functioning. Attachment style is a key psychological concept. This is one of the basic personality traits that is difficult to change. Researches on the relationship of alexithymia to attachment show that during the period of attachment building and the individual's general concept of his relationship with the world and significant others, when the basic needs for care and closeness are not adequately met, the development of alexithymia also occurs. This can be seen as an attempt to protect the psyche from experiencing the severe emotional consequences of rejection, which actually occurs when basic needs are not met in childhood.

The Big Five and Dark Triad personality traits are the most widely studied personality characteristics. Their attitude to the quality of life and the way they interact with others have been studied a lot and in different contexts. Their relationship with alexithymia is relatively stable and again demonstrates that difficulties in emotion regulation are negatively associated with individual functioning. It is interesting to deepen the analysis regarding the predictive relationships between personality traits and alexithymia to investigate what change or intervention would be more effective in this context.

Occupational burnout and perceived stress at work occupy an increasing place in psychological research. The connection with alexithymia here can be explained by the need to build defense mechanisms to control intrapsychic tension. In addition to occupational burnout being highly and significantly correlated with alexithymia, there is evidence that alexithymia is a risk factor for occupational burnout. An answer should be sought to the question whether occupational burnout can induce the development of secondary alexithymia.

Job and life satisfaction are psychological constructs that are associated with better quality of life. Alexithymia correlates with them negatively, respectively the global consequences on the

individual's life can be seen when there are deficits in emotional regulation. It is important to examine the predictive abilities and effect of alexithymia on job and life satisfaction.

Empirical research design

Theoretical model of the study

After the presented literature review and on the basis of the set goals and tasks of the present dissertation, a theoretical model was created.

The current dissertation study aims to investigate all these connections in the Bulgarian socio-cultural context and more specific professional groups. The point in such research is an attempt to generalize the conceptual model of the studied phenomena. In the Bulgarian sociocultural context, there are no studies on the factors that influence the development of alexithymia. It is important to attempt to trace the effect of alexithymia on individual functioning, but also to trace various trends valid for the general non-clinical population.

After the analysis of these features, the theoretical model of the present dissertation consists of 5 groups of variables:

• personal characteristics,

• professional characteristics,

• alexithymia,

• life satisfaction,

• professional well-being.

The personality traits we chose to examine are modeled on the Big Five, the Dark Triad, and attachment style. The occupational characteristics that were selected were occupational burnout and perceived stress. Occupational well-being and life satisfaction were also examined. The following relationships were investigated:

1. Personality characteristics and alexithymia;

2. Professional characteristics and alexithymia;

3. Alexithymia and life satisfaction;

4. Alexithymia and professional well-being;

5. Demographic characteristics and alexithymia.

Each of these interactions has to some (greater or lesser) extent been investigated in the scientific literature. The contribution of the present study is in creating an integrative model that includes the role of both personality characteristics and occupational characteristics in understanding alexithymia, along with the role of alexithymia in life and occupational satisfaction. In the literature, these connections are included in various research directions. The integrative model will make it possible to trace new relationships between these hitherto isolated variables.

Aims and objectives of the research

The present study has the following objectives:

☐ To investigate the relationship between alexithymia and personality traits - Extraversion; Neuroticism; Agreeableness; Openness to experience; Consciousness; Machiavellianism; Narcissism; Psychopathy; Attachment style.

☐ To study personality factors that may be a predictor of alexithymia.

☐ To investigate whether there is a difference in the prevalence of alexithymia in different occupational groups.

☐ To study the factors from the professional sphere that can be a predictor of alexithymia.

☐ To explore the relationships of alexithymia with life satisfaction and occupational well-being.

☐ To investigate the relationship of personal and professional determinants with alexithymia.

To achieve these goals, it is necessary to fulfill the following main tasks of the current development:

✔ To explore the theories of alexithymia, personal and professional aspects of functioning of the individual.

✔ To adapt the non-standardized instruments for Bulgarian conditions - Questionnaire for the attachment style of adults (AAS, Collins, Read, 1990); Copenhagen Burnout Questionnaire (CBI,

Kristensen et al., 2005); Questionnaire for Measuring Affective Occupational Well-Being (Warr, 1990);

✔ To trace the connections between alexithymia and personality traits;

✔ To study the relationships between alexithymia and perceived stress at work;

✔ To study the relationships between occupational Burnout and alexithymia;

✔ To investigate the interaction of personality traits on the relationship between alexithymia and occupational burnout, perceived workplace stress and life satisfaction.

✔ To investigate the extent to which demographic characteristics are associated with the prevalence of alexithymia in the general population.

Hypotheses

After the literature review, the present dissertation research attempts to answer the following research questions:

What are the risk factors for alexithymia?

What are the consequences on personal and professional life?

The main hypothesis that was tested in the course of the study and in the analysis of the data was that people with an insecure attachment style who are more introverted and neurotic and with pronounced personality characteristics than the Dark Triad, as well as those who have occupational Burnout may develop secondary alexithymia as a defense mechanism.

Hypotheses on the relationship between alexithymia and personality characteristics

We might expect that personality traits from the Big Five model would have a differential relationship with alexithymia. We hypothesize (Wise et al., 1992; Bagby et al., 1994; Mann et al., 1994) that neuroticism will correlate positively with general alexithymia and its individual facets, and that, in addition, it may be its predictor, and extraversion and openness to experience will correlate negatively with alexithymia.

Regarding the relationship between alexithymia and the Dark Triad personality traits, we expect psychopathy and Machiavellianism to correlate positively with general alexithymia and its individual facets. Furthermore, we hypothesize that psychopathy and Machiavellianism may be its predictors, and narcissism may be negatively correlated. (Schimmenti, et al., 2017; Craincross et al., 2013; Jonason & Krause, 2013; Jørgensen et al. 2007).

Individuals with a developed secure attachment are likely to score lower on the alexithymia scale (Hexel, 2003). Against this background, we expect all other attachment styles to have a positive relationship with feeling nonverbal (Lang et al., 2010; Montebarocci et al., 2004; Wearden et al., 2005). In particular, we expect avoidant attachment to be shown to be a predictor of the development of alexithymia (Troisi et al., 2001).

It is important to take into account that the behavior and expectations of the individual in close relationships are related to intense inner experiences, whether they are harmonious or fearful-anxious. Therefore, one might expect that both the degree to which one feels comfortable in close relationships and the degree to which one worries about being rejected or unloved, or accepts that one may be dependent on others, would correlate negatively. with alexithymia and its facets. This is explained by the active emotional experiences that a person experiences in close relationships with others.

Hypotheses on the relationship between alexithymia and occupational characteristics

We hypothesize that occupational burnout and alexithymia will have a positive relationship. We expect that each of the burnout components will show a positive correlation with each of the facets of alexithymia, and that this trend will also hold for the relationship between general alexithymia and burnout as an overall phenomenon. Additionally, individuals with alexithymia are likely to be at greater risk for burnout due to deficits in self-reflection (Bratis et al., 2009; Matila et al., 2007; Lahoud et al., 2019, Zaeidi et al., 2020).

It is likely that people with pronounced alexithymia will perceive stress in the workplace more severely. Additionally, we expect perceived workplace stress to mediate the relationship between alexithymia and burnout (Terock et al., 2019).

We hypothesize that perceived job stress, burnout, and alexithymia as common constructs and through their individual facets will be negatively associated with life satisfaction and occupational well-being (Shibata et al., 2014).

Hypotheses on the relationship of alexithymia to life satisfaction and occupational well-being

We hypothesized that individuals with higher levels of alexithymia would report less life satisfaction. Also, we expect occupational well-being to correlate negatively with alexithymia and its facets. Alexithymia may be a negative predictor of life satisfaction and occupational well-being.

Hypotheses on the relationship between alexithymia and demographic characteristics

 (Franz et al., 2008; Honkolampi, 2001; Kokkonen et al., 2005; Salminen et al., 1999; Milhoan, R., 2017; Parker et al., 2003)

Regarding gender differences, we expect males to have higher alexithymia scores than females.

We hypothesize that the higher the educational level, the lower the levels of alexithymia will be due to developing cognitive functions.

We expect people who are in harmonious relationships and families and are satisfied with their intimate lives to have lower alexithymia scores than divorced and single people.

We hypothesize that individuals with impaired somatic health will show higher alexithymia scores and most likely be at greater risk for occupational burnout.

Instrumentarium

In order to investigate the personal and professional determinants of alexithymia, as well as the interrelationships between them and with life satisfaction and professional well-being, and in view of the set goals, tasks and hypotheses, a battery of tests was used, which included the following methods:

Toronto Alexithymia Scale (TAS-20, Bagby, Parker & Taylor, 1994),

 Big Five personality traits (Mini IPIP, Donnellan, Oswald, Baird & Lucas, 2006),

 The Dark Triad - short version (Short Dark Triad, SD3, Jones & Paulhus, 2014),

 Adult Attachment Style Scale (AAS, Collins, Read, 1990),

 Copenhagen Occupational Burnout Scale (CBI, Kristensen et al., 2005),

 Perceived Stress Scale (Cohen et al., 1983),

 Satisfaction with Life Scale (SWLS) (Diener et al., 1985),

 Questionnaire to measure affective occupational well-being (Warr, 1990).

Toronto Alexithymia Scale (TAS-20 - Bagby, Parker and Taylor, 1994)

The Toronto Alexithymia Scale is the most widely used alexithymia screening tool. It consists of 20 statements and is considered the most reliable and valid instrument for measuring alexithymia. The scale is self-report and a five-point Likert scale is used for evaluation. The first adaptation for Bulgarian conditions was by Popov and colleagues (2016), who found good internal consistency with α=0.82. In the adaptation made by Popov and colleagues, a two-factor structure was formed, with the first two factors from the original version combined into one - Difficulties in identifying or describing feelings; Outward thinking. (Popov and colleagues, 2016). The Cronbach's Alpha coefficient of the first factor is 0.89 and of the second factor is 0.69. It should be noted here that only five of the eight items of External Oriented Thinking remain in the second factor. Here, too, no significant differences were found between men (mean – 39.2 SD = 9.4) and women (mean – 37.6 SD = 9.2).

Big Five Personality Traits (Mini IPIP), (Donnellan, Oswald, Baird & Lucas, 2006)

The Big Five Personality Trait Scale was adapted for Bulgarian conditions by Karabeliova and colleagues (Karabeliova et al., 2016). It consists of 20 statements rated on a five-point Likert scale.

Contains five factors measuring: Neuroticism, Extraversion, Conscientiousness, Openness to experience, Cooperativeness. The instrument demonstrated very good internal consistency.

The Dark Triad–short version (Short Dark Triad, SD3, Jones & Paulhus, 2014)

SD3 is a scale with 27 statements, nine for each factor - Machiavellianism, Psychopathy, Narcissism. The scale is consistent with the theoretical model of the Dark Triad construct (Paulhus & Williams, 2002). The instrument is self-report and uses a five-point Likert scale. It is intended for use in a non-clinical sample. For the purposes of the present study, the Bulgarian adaptation of the scale for the study of personality traits based on the Dark Triad model was used (Koleva, 2017).

Adult Attachment Style Scale (AAS - Collins and Read, 1990)

The instrument was created in 1990, but is based on the earlier work of Hazen and Shaver (1987) and Levy and Davis (1988). The scale was developed by dividing the three original factors into a scale of 18 items that form three factors - Closeness (measures the degree to which a person feels comfortable with closeness and intimacy); Dependence (measures the extent to which a person feels they can rely on others when needed); Anxiety (measures the degree to which a person worries about being abandoned or falling out of love). The assessment is carried out using a five-point Likert scale. The instrument measures secure, anxious, and avoidant attachment styles in adults. This is done as follows:

✓ Secure attachment = high scores on the Closeness and Dependence scales, low scores on the Anxiety scale;

✓ Anxious attachment = high scores on the Anxiety scale, medium scores on the Closeness and Dependence scales;

✓ Avoidant attachment = low scores on all three subscales.

Cronbach's Alpha coefficient of the first factor is 0.8, of the second – 0.78, and of the third – 0.83, i.e. The scale shows good internal validity and reliability. For the purposes of the present study, an adaptation of the scale was carried out.

Copenhagen Professional Scale burnout (CBI, Kristensen et al., 2005)

The Copenhagen burnout survey scale contains 19 statements, divided into three subscales:

✓ Personal burnout (6 statements) – degree of physical and psychological fatigue and exhaustion;

✓ Occupational Burnout (7 statements) – degree of physical and psychological fatigue and exhaustion;

✓ Client-related (or patient, student, etc.) (6 statements) occupational Burnout.

Each of the factors contains several questions, and the assessment is carried out using a five-point Likert scale: "always", "often", "sometimes", "rarely" and "never/almost never" or a five-point Likert scale: "to a very large extent", "to a large extent", "more or less", "to a small extent", "to a very small extent". In the original version of the scale, the authors obtained good validity indicators. Cronbach's Alpha coefficient of the first factor is 0.8, of the second – 0.7, and of the third – 0.83. Gender differences are found in the PUMA study. Mean values on the personal burnout scale were 30.8 (SD=16) for men, 36.9 (SD=16.4) for women; on the occupational burnout scale 31.3 (SD=15.7) for men and 33.4 (SD=18.1) for women; on the client-oriented burnout scale 35.6(SD=18.8) for men and 30(SD=17.2) for women. For the purposes of the present study, an adaptation of the scale was carried out.

Perceived Stress Scale (Cohen et al., 1983)

The scale was adapted for Bulgarian conditions by Silgidjian, Karabelova Hristova (Silgidjian et al., 2007). The questionnaire aims to assess the impact of important life events and changes. The instrument measures the extent to which subjects rate events in their lives as stressful in the past month. Assessment is primarily related to perceptions of unpredictability, lack of control, and overwhelm. These characteristics are accepted by a number of authors as central components of the stress assessment (Karastoyanov and Hristova, 2000). The scale consists of 7 positively and 7 negatively phrased statements. The assessment is carried out using a five-point Likert scale from "never" to "very often". The scale was presented by Karastoyanov with very good internal validity (α=0.84).

Satisfaction with Life Scale (SWLS) (Diener et al., 1985)

The instrument measures the self-reflection of the examined persons in relation to their current life situation. The scale is composed of 5 statements, and the assessment is carried out using a five-point Likert scale. Life satisfaction scale was adapted for Bulgarian conditions and shows very high internal validity ($\alpha=0.805$) (Bachiyska, 1995, cited in Garvanova, 2013).

A questionnaire for measuring affective professional well-being (Warr et al., 1990)

The scale measures the degree to which a person experiences satisfaction with the intrinsic and extrinsic characteristics of their job. Overall occupational well-being is the sum of all the individual statements, and overall occupational well-being in practice accounts for overall job satisfaction (Warr, 1990). The instrument consists of 16 items and is assessed using a seven-point Likert scale from "I am completely dissatisfied" to "I am completely satisfied". In analyzing the psychometric properties of the scale, the authors arrive at a two-factor and three-factor solution, noting that there is a tendency for strong correlation between the factors and that these factor solutions may not always be obtained. The two factor solutions are as follows:

✓ Two-factor structure:

o Intrinsically motivated occupational well-being

o Extrinsically motivated occupational well-being

The mean values on the first factor were 32.61 (SD=8.25), on the second factor 37.96 (SD=8.36) (Warr, 1990).

✓ Three-factor structure:

o Satisfaction with the work itself

o Satisfaction with working conditions

o Satisfaction with relations with colleagues

Mean values on the first factor were 20.32 (SD=4.9), on the second factor 25.89 (SD=4.84), on the third factor 24.4 (SD=7.95) (Warr, 1990).

The mean on the occupational well-being scale was 70.5 with a standard deviation of 15.42 (Warr, 1990). For the purposes of the present study, an adaptation of the scale was carried out.

Method

To test the theoretical model and to achieve the goals of this dissertation, we created a test battery containing the instruments presented above. Procedures were carried out to adapt part of the instruments (Dark Triad Short Version (Jones & Paulhus, 2014), Adult Attachment Style Scale (Collins & Read, 1990), Copenhagen Scale for Occupational Burnout (Kristensen et al., 2005), Questionnaire for measuring affective occupational well-being (Warr et al., 1990) for Bulgarian conditions, through direct and back translation. The translations were further discussed with the experts who participated in the study until agreement was reached.

In order to verify the hypotheses presented above, a series of statistical procedures were carried out:

✓ Internal consistency check of each instrument was checked by Cronbach's Alpha reliability coefficient.

✓ Verification of the factor structure of the used scales was carried out by means of exploratory factor analyzes using the principal axes factoring method with promax rotation. The number of factors we included in the analyzes was determined by Kettle's criterion (the positions of appreciable change in the eigenvalues of the correlation matrix), as well as by the theoretical coherence and interpretability of the potential factor solutions. We did not perform exploratory analyzes for the scale for Personality characteristics based on the model of the Big Five and the Dark Triad, as well as for the scale for Satisfaction with life, since they have been validated for Bulgarian conditions and with a clear factor structure.

✓ Hypotheses on the interrelationships between individual groups of variables were tested by means of correlation analyzes using the Pearson linear correlation method.

✓ A number of unifactorial and multifactorial regression analyzes were conducted in order to investigate the predictive abilities of personal and professional characteristics in relation to alexithymia and alexithymia with life and job satisfaction.

✔ The T-test and one-factor variance analysis methods were used to establish differences between the individual groups in the demographic studies. We chose these methods because they are appropriate for examining qualitative differences in a quantitative outcome.

Procedure

The questionnaire was distributed online through social networks, on a snowball basis. The research was conducted on a voluntary basis, anonymously and without payment to the researched persons through the free Google Forms platform. All subjects were informed that the study was being conducted for the purposes of scientific psychological research and that the purpose was to investigate certain personal attitudes and experiences, without giving further information about the nature of the specific constructs being used. Respondents were informed about the importance of answering honestly and sincerely, and it was explicitly emphasized that they would not be graded and that there were no right or wrong answers.

The time to complete the questionnaire was between 15 and 25 minutes. The research was conducted in the period April-June 2022. The questionnaire was completed by a total of 458 subjects.

The final version of the instrument contains 141 items. The first 90 of them combine the items from the Toronto Alexithymia Scale (TAS-20), the Big Five Personality Scale (MINI-IPIP), the Dark Triad – Short Version (SD3), the Adult Attachment Style Scale (AAS). Items were presented out of order to prevent socially desirable responding. Five of the TAS-20 items were duplicated to check for consistency of response.

Data were processed using the statistical program SPSS, version 28.0.0.0. After data entry, the reverse items were recoded. All items were then grouped into the respective scales.

Sampling and psychometric characteristics of the empirical research instrument

Sample of the study

Data collection took place at the beginning of 2022. A total of 458 people participated, of which 96 were men and 362 were women. For the purpose of the study, age was divided into five groups: 18-25 years/26-35 years/36-45 years/46-55 years/56+ years. The distribution by age groups is relatively even: Most of the examined persons are in the first and last age groups, respectively 108 IL are between the ages of 18 and 25 (23.58%); 107 IL are aged 56+ years (2336%), followed by the examined persons aged between 46 and 55 years – 96 (20.96%); 78 respondents aged 26 to 35 (17.03%) and 69 respondents aged 36 to 45 (15.07%). The distribution of the surveyed persons in relation to the educational level is uneven. There are the most respondents with a master's degree - 231 (50.44%), followed by persons with secondary education - 127 (27.73%). There were 67 (14.63%) individuals with a bachelor's degree, 35 (5.46%) with a doctorate degree. There are the fewest respondents with primary education – 8 (1.75%). The distribution of the researched persons by professional direction, for the purposes of the analyses, was summarized in three groups. The first group is the group of medical personnel (46 respondents, 10% of the total number), the second group is the persons working in the field of education (152 respondents, 33.2% of the total number), the third group is Others (260 respondents, 56.8% of the total number).

Characteristics of the scales used

A factor analysis was performed for all used scales, which is described in detail in the dissertation. Only the internal consistency analyzes of the scales will be presented here.

Psychometric properties of the Toronto Alexithymia Scale (TAS-20)

Cronbach's alpha coefficient was used to determine the internal reliability of the TAS-20 in the Bulgarian sample. The results obtained in the present study testify to a high degree of reliability of the instrument within the Bulgarian socio-cultural context. A three-factor structure was established, with the first factor collecting the items from the first two facets of the original scale: "difficulties in identifying feelings" and "difficulties in describing feelings". The second factor contains four of the eight items of "externally oriented cognitive style", and the third - the remaining four, and specifically the four reversal items of this factor. The total explanatory power of the proposed three-factor solution is 36.125% of the variance. The first factor with the strongest presence in the data, we can define as "difficulties in identifying and describing feelings", the second - "flattened emotional experiences", and the third - "limited phantasmal experiences". Thus, the proposed factor

structure is confirmed by other studies of alexithymia in clinical and non-clinical samples (Popp et al., 2008; Khosravani et al., 2019). The first factor Difficulties in identifying and describing feelings showed an extremely high internal reliability coefficient, Cronbach's Alpha, α=0.879. The second and third factors have lower and almost similar values – α for the factor Equalized emotional experiences is 0.587 and for the factor Restricted phantasmal experiences is 0.574. It should be noted that the second and third factors contain only four items each, which could explain the lower Cronbach's Alpha. The psychometric properties of the Toronto General Alexithymia Scale are extremely good, at α=0.832, which is almost indistinguishable from the original version of the scale α=0.81 (Bagby et al., 1994). As described by the authors themselves, it is recommended to use the entire scale rather than individual facets.

Psychometric properties of the Big Five Personality Scale (MINI-IPIP)

The internal consistency of the five factors was between 0.658 and 0.720. The five factors showed Cronbach's Alpha coefficient values as follows: extraversion – 0.665; neuroticism – 0.720; agreeableness – 0.658; consciousness – 0.70; openness to experience – 0.715. The lower values of the coefficient can be explained by the small number of items in the individual factors. Even against the background of these borderline indicators, we can conclude that the scale has good psychometric properties and a stable factor structure.

Psychometric Characteristics of the Dark Triad – Short Version (SD3)

The results obtained during the study show good internal reliability of the Dark Triad - Short Version (SD3). The three factors were as follows: psychopathy (α=0.68), Machiavellianism (α=0.701), and narcissism (α=0.69). We can conclude that the scale has good psychometric properties and a stable factor structure.

Psychometric properties of the Adult Attachment Style Scale (AAS)

A three-factor structure was established, where the first anxiety factor showed an extremely high internal reliability coefficient Cronbach's Alpha α=0.859. The second - closeness also shows a high coefficient for internal reliability - α=0.71, but the third factor - dependence has a lower value of the coefficient, which is within the unacceptable result α=0.43. The result can be explained by the small number of items in this facet. For this reason, it will be dropped from subsequent analyzes

as a separate factor and the items will be used only as part of the overall scale. The psychometric properties of the general adult attachment style scale are extremely good, at α=0.832.

Psychometric properties of the Copenhagen Occupational Burnout Questionnaire (CBI)

A two-factor solution for CBI was found. It explains 52.208% of the total variance. The first factor is Personal Burnout and contains the six items from the original version of the scale, plus one item from the second factor. The second factor is Occupational Burnout and contains five of the seven items in the original version of the instrument. variance Cronbach's Alpha coefficient is as follows for the two factors – 0.89 and 0.85.

Psychometric properties of the Perceived Stress Scale (PSS)

A two-factor solution was found from the conducted analyses. The first factor contains all negatively worded items - perceived stress, with α=0.864, and the second - all positively worded items - perceived control, with α=0.864. All items have a good factor weight. The two-factor solution explained 53.166% of the total variance. The presented data are confirmed in other studies (Mitchell, Crane & Kim, 2008).

Psychometric characteristics of the Life Satisfaction Scale

The results obtained during the study show good internal reliability of the life satisfaction scale. The Cronbach's Alpha coefficient for the total scale was 0.847. Exploratory factor analysis revealed the presence of a one-factor solution.

Psychometric properties of the Occupational Well-Being Scale (JS)

The results obtained during the study show good internal reliability of the occupational well-being scale. Cronbach's Alpha coefficient for the total scale was 0.946. The data from the factor analysis indicated a one-factor solution, with all items demonstrating good factor weights.

Results of the empirical study

Prevalence of alexithymia in different demographic groups

Difference in alexithymia levels by age

Analysis of variance found statistically significant differences in the levels of alexithymia in relation to the age of the subjects. Regarding difficulties in identifying and describing feelings, persons aged between 19 and 25 have the highest scores, significantly different from the other groups (mean=34.73), followed by persons aged 56+ (mean=30 ,15). Respondents in the age groups 36-45 and 46-55 presented with very similar results (mean=26.76). The lowest scores on the scale for difficulties in identifying and describing feelings are shown by persons aged 26 to 35 years (mean=24.94). Toronto Total Alexithymia Scale (TAS-20) scores also showed significant age differences. The highest scores are for persons between the ages of 19 and 25 (mean=52.33). Respondents over the age of 56 showed average values on the scale of 49.74. The subjects aged 36 to 45 years (mean=45.35) and 46 to 55 years (mean=46.6) showed results without particular differences. The lowest score is for persons between the ages of 26 and 35 (mean=43.14).

Difference in levels of alexithymia according to the health status of the subjects

Despite the large differences in the distribution of the groups, the analysis of variance found statistically significant differences in the levels of alexithymia in relation to the health status of the subjects. Individuals who self-reported their health as "poor" scored highest on two of the three factors—difficulties in identifying and describing feelings and balanced emotional experiences—and also on the general alexithymia scale. The lowest scores are those who define their health status as "average", except for the factor equalized emotional experiences, where the lowest scores are given by respondents with "good" health.

Difference in levels of alexithymia by education

Differences by education in the prevalence of alexithymia were examined by analysis of variance. In the analysis of the results, a stable trend is observed - the higher the educational level, the higher the levels of alexithymia and its individual facets.

Difference in levels of alexithymia by marital status

Statistically significant differences were found in levels of alexithymia by marital status. There is a tendency for single people to experience greater difficulties in identifying and describing feelings

compared to other groups. Also, singles showed higher scores on the general alexithymia scale than others. In the limited phantasmal experiences factor, little difference was found between the groups, with the tendency for the married group to show the highest scores and the single group to show the lowest scores. In the emotional expression factor, the differences are also small. Individuals living on a family basis with their partner, who have the highest indicators on this factor, stand out here. In practice, there is no difference between the committed group and that of the single.

Relationship of alexithymia to the personality constructs used

Relationships between alexithymia and personality characteristics - the Big Five

Table 1. Pearson correlations between alexithymia and Big Five personality traits, N = 458.

	Difficulties identifying and describing feelings	limited phantasmal experiences	flattened emotional experiences	TAS-20
Neuroticism	**0,547*****	0,018	-0,065	**0,443*****
Extraversion	**-0,275*****	**0,-115***	**-0,149*****	**-0,298*****
Conscientiousness	**-0,220*****	**-0,159*****	0,008	**-0,216*****
Agreeableness	**-0,142*****	**-0,412*****	**-0,298*****	**-0,294*****
Openness to exp.	**-0,222*****	**-0,267*****	**-0,399*****	**-0,359*****

Note: * p<0.05; **p<0.01; ***p<0.001

As can be seen from the data in the table, multiple significant correlations are found. The presented results allow us to make a reasonable assumption that when a person has pronounced neuroticism as a personality trait, he will most likely have difficulties in identifying and describing his emotional experiences. On the other hand, the more extroverted a person is, the less they will experience these difficulties. Furthermore, people who are highly imaginative as a personality trait are also likely to have the cognitive abilities to identify and describe their feelings while at the same time having depth in their emotional experiences. Predictably, the more self-aware people are, the better they internalize and interpret their feelings. In terms of openness to experience, we

can say that people with a developed openness to experience will have the necessary aptitudes to recognize and describe feelings, with a corresponding depth of emotional experiences.

Relationships between alexithymia and personality characteristics according to the Dark Triad model

Table 2. Pearson correlations between alexithymia and Dark Triad personality traits, N = 458.

Variables	Difficulties identifying and describing feelings	limited phantasmal experiences	flattened emotional experiences	TAS-20
Dark triad	**.187*****	.010	.028	**.166*****
Psychopathy	**.230*****	**.119*****	.057	**.228*****
Machiavellianism	**.245*****	.002	**.108*****	**.231*****
Narcissism	-.059	**-.106****	**-.120*****	**-.092****

Note: * p<0.05; **p<0.01; ***p<0.001

The presented results allow us to make a reasonable assumption that the more pronounced (in a non-clinical sense) psychopathy and Machiavellianism are in the personality structure of a given individual, the greater deficits he will have in identifying and describing his feelings and those of others. Furthermore, it is likely that the emotional experiences of people with similar personality characteristics would be more superficial and leveled. On the other hand, the more pronounced narcissism (again in a non-clinical sense) is in the individual's personality structure, the deeper his emotional experiences, the more developed the fantasy, while at the same time the general cognitive skills for verbalizing feelings are well developed.

It is important to emphasize that the links between alexithymia and its facets with narcissism, Machiavellianism, and psychopathy are weak and the indicated dependencies have a limited presence.

Relationships between alexithymia and attachment styles in adults

Table 3. Pearson correlations between alexithymia and the adult attachment scale, N=458

Variables	Difficulties identifying and describing feelings	limited phantasmal experiences	flattened emotional experiences	TAS-20
Anxiety	**-0,702**[**]	-0,018	**-0,144**[**]	**-0,627**[**]
Closeness	**-0,405**[**]	**-0,289**[**]	**-0,121**[**]	**-0,430**[**]

Note: * p<0.05; **p<0.01; ***p<0.001

From the presented results, it is evident that both anxiety about rejection and comfort in close relationships with others correlate negatively with alexithymia.

Relationship between alexithymia and the utilized professional characteristics

Relationships between alexithymia and occupational Burnout.

Table 4. Pearson correlations between alexithymia and occupational Burnout, N=458

Variables	Difficulties identifying and describing feelings	limited phantasmal experiences	flattened emotional experiences	TAS-20
CBI	-0,021	**0,431**^{**}	**0,098**[*]	**0,384**^{**}
Personal Burnout	-0,042	**0,440**^{**}	**0,114**[*]	**0,392**^{**}
Occupational Burnout	0,009	**0,334**^{**}	0,059	**0,299**^{**}

Note: * p<0.05; **p<0.01; ***p<0.001

The presented results demonstrate a consistent tendency for individuals to exhibit higher levels of alexithymia when experiencing occupational Burnout. It is important to note that the capacity and quality of imaginative experiences are not associated with occupational Burnout. As expected, individuals suffering from occupational Burnout struggle with identifying and describing their emotions. Essentially, their emotional experiences are flattened, and these individuals are practically unable to experience emotions deeply.

Relationships between alexithymia and perceived stress

Table 5. Pearson correlations between alexithymia and perceived stress, N = 458.

Variables	Difficulties identifying and describing feelings	limited phantasmal experiences	flattened emotional experiences	TAS-20
Perceived control	**0,307**^{**}	**0,145**^{**}	0,051	**0,295**^{**}
Perceived stress	**0,391**^{**}	-0,012	**0,066**[*]	**0,335**^{**}
PSS	**0,405**^{**}	0,052	0,062	**0,358**^{**}

Note: * p<0.05; **p<0.01; ***p<0.001

The presented data indicates that higher levels of perceived stress are associated with higher levels of alexithymia.

Relationships between alexithymia and professional well-being

Table 6. Pearson correlations between alexithymia and professional well-being, N = 458.

	professional well-being
limited phantasmal experiences	**-0,133**[**]
flattened emotional experiences	0,053
Difficulties identifying and describing feelings	**-0,246**[**]
TAS-20	**-0,219**[**]

Note: * p<0.05; **p<0.01; ***p<0.001

As expected, the results demonstrate a tendency where lower levels of alexithymia and its facets are associated with higher life satisfaction. It is noteworthy that only flattened emotional experiences do not correlate with the life satisfaction scale.

Predictive abilities of personality and professional characteristics for levels of alexithymia.

The analysis of the data from the conducted regression analysis reveals that the combination of the variables neuroticism, openness to experience, agreeableness, conscientiousness, and extraversion has a statistically significant predictive ability for overall alexithymia, with F=60.275, p<0.001. The adjusted coefficient of determination (adj. R²) has a value of $R^2 = 0.393$. This indicates that 39.3% of the variations in alexithymia can be explained by the presented regression model, which has a moderate effect size. The equation for the relationship between the scales is found to be*: Alexithymia = 72.01 + 1.33 x (neuroticism) - 0.408 x (extraversion) - 1 x (agreeableness) - 0.28 x (conscientiousness) - 0.92 x (openness to experience).*

The subsequent multiple linear regression aimed to examine whether the first factor of alexithymia, difficulties in identifying and describing feelings, can be predicted by personality characteristics using the Big Five model. From the subsequent analysis, it can be observed that the combination of the variables neuroticism, openness to experience, agreeableness, conscientiousness, and extraversion has a statistically significant predictive ability for difficulties in identifying and

describing feelings, with F=55.77, p<0.001. The adjusted coefficient of determination (adj. R^2) has a value of $R^2 = 0.375$. This indicates that 37.5% of the variations in difficulties in identifying and describing feelings can be explained by the presented regression model, which has a moderate effect size. The equation for the relationship between the scales is found to be: ***Difficulties in identifying and describing feelings = 34.92 + 1.37 x (neuroticism) - 0.360 x (extraversion) - 0.416 x (agreeableness) - 0.23 x (conscientiousness) - 0.43 x (openness to experience).***

The analysis of the next regression analysis shows that the combination of the variables Machiavellianism, narcissism, psychopathy has a statistically significant predictive ability for alexithymia, with F=44.322, p<0.001. The adjusted coefficient of determination (adj. R^2) is $R^2 = 0.221$. This indicates that 22.1% of the variations in alexithymia can be explained by the presented regression model, which has a moderate effect size. The equation for the relationship between the scales is found to be: ***Alexithymia = 38.184 + 0.610 x (psychopathy) + 0.546 x (Machiavellianism) - 0.588 x (narcissism).***

The analysis of the data from the consecutive regression analysis shows that the combination of the two facets of the adult attachment scale has a statistically significant predictive ability for overall alexithymia, with F=171.530, p<0.001, and $R^2 = 0.427$. This indicates that 42.7% of the variations in alexithymia can be explained by the presented regression model, which has a high effect size. The equation for the relationship between the scales is found to be: ***Alexithymia = 84.964 - 0.790 x (anxiety) - 0.661 x (closeness).***

The combination of the variables anxiety and closeness has a statistically significant predictive ability for difficulties in identifying and describing emotions, with F=242.703, p<0.001. The adjusted coefficient of determination (adj. R^2) is $R^2 = 0.514$. This indicates that 51.4% of the variations in difficulties in identifying and describing emotions can be explained by the presented regression model, which has a larger than typical effect size. The equation for the relationship between the scales is found to be: ***Difficulties in identifying and describing emotions = 60.725 - 0.798 x (anxiety) - 0.344 x (closeness).***

The combination of the variables agreeableness, openness to experience, neuroticism, psychopathy, and anxiety has a statistically significant predictive ability for overall alexithymia,

with F=109.321, p<0.001. The adjusted coefficient of determination (adj. R²) is R² = 0.542. This indicates that 54.2% of the variations in overall alexithymia can be explained by the presented regression model, which has a larger than typical effect size. The equation for the relationship between the scales is found to be: ***Overall alexithymia = 83.138 - 0.666 x (anxiety) + 0.577 x (neuroticism) - 0.732 x (agreeableness) - 0.889 x (openness to experience) + 0.251 x (psychopathy).***

In the conducted regression analysis to examine the predictive ability of alexithymia regarding anxiety in close relationships, statistically significant results were found with F=296.660, p<0.001. The adjusted coefficient of determination (adj. R²) is R² = 0.393. This indicates that overall alexithymia explains 39.3% of the variations in anxiety, which is an impressive effect size for a single predictor. ***High levels of alexithymia suggest a weak expression of anxiety in close relationships.***

The analysis of the data shows that the combination of the variables "perceived control" and "perceived stress" is statistically significant in predicting alexithymia, with F=86.168, p<0.001. The adjusted coefficient of determination (adj. R²) is R²=0.273. This indicates that 27.3% of the variance in alexithymia can be explained by the presented regression model, which has a moderate effect size. The obtained equation for the relationship between the scales is: ***Alexithymia = 24.177 + 0.665(perceived stress) + 0.583(perceived control).***

The results of the regression analysis demonstrate that the combination of the factors "perceived stress" and "perceived control" is statistically significant in predicting difficulties in identifying and describing emotions, with F=116.761, p<0.001. The adjusted coefficient of determination is R²=0.338. This indicates that 33.8% of the variance in difficulties in identifying and describing emotions can be explained by the presented regression model, which has a moderate effect size. The obtained equation for the relationship between the scales is: ***Difficulties in identifying and describing emotions = 7.297 + 0.701(perceived stress) + 0.417(perceived control).***

Characteristics of personality and professional determinants of alexithymia

Based on the theoretical model of the alexithymia construct, the literature review conducted to study trends in this area, and the results of empirical research, we can summarize several important trends regarding the personality and professional determinants of the alexithymia construct.

Regarding the personality determinants of alexithymia, it became clear that various personality characteristics can influence or induce deficits in emotional regulation. Among the selected constructs in the present study, attachment style was found to have the greatest predictive abilities, specifically the way individuals perceive their relationships with others. When traumatic events related to attachment are experienced in early developmental stages, significant difficulties in emotional regulation can be expected in adulthood. Additionally, personality traits such as anxiety, hostility, shyness, impulsivity, sensation-seeking, grandiosity, dominance, and manipulativeness are associated with alexithymia. Protective factors against emotional regulation impairments can include personality traits such as benevolence, sociability, activity, stability (resilience), conscientiousness, rich fantasy life, and empathy. These trends are supported by existing literature, indicating their robustness over time and across cultural differences.

The professional determinants of alexithymia that were examined in this study have not been extensively investigated until now. This implies that caution should be exercised when generalizing the results. It was found that, in practice, occupational burnout alone is not associated with or a significant predictor of emotional regulation impairments. This result differs from preliminary hypotheses and expectations. Work-related exhaustion could be considered as a fragment of overall human functioning, and if there are support resources available (such as close relationships or job change), cognitive decline in emotional regulation is less likely to occur. On the other hand, it appears that exhaustion in the personal sphere, which is inherently more emotionally charged, could lead to much more pronounced difficulties in emotional regulation. These findings suggest that personal structure and experiences have a greater impact on alexithymia than professional factors. As mentioned earlier, neuroticism as a personality construct is of great importance in relation to emotional regulation. Accordingly, perceived workplace stress, whether as stress itself or as a need for control, negatively influences an individual's capacity to understand and describe their emotional experiences.

An important result of this study is the lack of difference in levels of alexithymia across different professional domains. This means that, in practical terms, the professional sphere, whether it is highly socially significant and involves extensive interpersonal interactions or entails high responsibilities and risks, does not significantly affect the level of alexithymia. The better developed an individual's skills are in understanding and describing their emotional experiences, the more capable they will be of experiencing life satisfaction, particularly in relation to their work. Satisfaction itself is a complex experience that encompasses both positive affect and the awareness and cognitive evaluation of that affect.

Conclusion

Over the past five decades, the conceptualization of the construct of alexithymia, as well as the investigation of its causes and consequences, has sparked the interest of many researchers in both clinical and non-clinical contexts. There are an increasing number of individuals suffering from psychosomatic disorders or mental states provoked by deficits in emotional regulation. This presents a challenge for the field of psychology to seek the causes and solutions for dealing with this phenomenon.

The present dissertation is dedicated to examining the personality and professional determinants of alexithymia in order to establish whether there are specific personality or professional characteristics that may serve as risk factors for its development. This study traces the conceptualization of the alexithymia construct and the development of research interest regarding the personality and professional determinants of this construct. A number of psychological phenomena have been explored, investigating their links with alexithymia in the Bulgarian sociocultural context.

The empirical study revealed numerous significant interactions between alexithymia and personality traits based on the Big Five model, with only neuroticism showing a positive correlation. Additionally, personality traits based on the Dark Triad model also exhibited moderate associations with alexithymia. However, the attachment style had the greatest effect on alexithymia, suggesting that it can be considered as a stable personality construct linked to

interactions with others, even from early childhood, particularly in relation to traumatic experiences.

Regarding the professional determinants, some weak interactions were found, and there was practically no predictive ability of occupational Burnout in relation to alexithymia. The relationships between alexithymia and life satisfaction and professional well-being were negative, while alexithymia itself did not act as a predictor for these constructs.

Further in-depth research on the professional determinants of alexithymia is warranted to confirm the absence of direct regularities. This would enhance our knowledge of the construct and provide opportunities for prevention in case alexithymia is influenced by professional circumstances. If this is not confirmed, alexithymia can be seen more as a stable personality construct rather than a dynamically changing characteristic, which would assist psychotherapy in working with it.

The results of the study can be useful in therapy. By utilizing the knowledge of the established links, a comprehensive approach can be developed to improve the therapeutic process for individuals with high levels of alexithymia. Currently, despite years of research on the construct, there is no widely accepted effective method for working with such individuals.

CONTRIBUTIONS IN THE DISSERTATION

The main contribution of this work lies in the comprehensive examination of the personal and professional determinants of alexithymia. Such a broad study has not been conducted before, not only in Bulgaria but also internationally, focusing on the healthy population.

A detailed analysis of the personal and professional determinants of alexithymia has been conducted, incorporating the most significant psychological phenomena.

The results of the empirical study reveal numerous significant relationships among various personality characteristics, professional experiences, alexithymia, and life satisfaction. In many of the examined interactions, the relationships are quite strong. In addition to high correlations, it was found that insecure attachment styles are the most significant predictor of alexithymia. This result confirms the concept of alexithymia as a stable personality construct, less influenced by temporary life issues and situations. This is further supported by the lack of strong correlations with professional characteristics and the weak predictive abilities of occupational Burnout and perceived stress.

The investigation of the psychometric properties of the Toronto Alexithymia Scale (TAS-20) highlights the need for further research in this area. The factor solution obtained in this study aligns with findings in the literature but significantly differs from the original structure of the instrument and the previously established factor structure in the Bulgarian socio-cultural context. Clarifying the factor structure of the TAS-20 is crucial for precise diagnostics.

The results of this dissertation can be applied in various domains, including the development of therapeutic strategies, preventive programs, counseling practices, and academic research to further explore the characteristics associated with alexithymia.

Publications

Publications related to the dissertation topic:

1. Tsvetkova, L. (2020). Conceptualization and research methods of alexithymia. Yearbook of Sofia University "St. Kliment Ohridski". Faculty of Philosophy. Volume 105, Book of Psychology, pp. 108-137.

2. Tsvetkova, L. (2021). Alexithymia - links to life satisfaction and the Big Five. Proceedings of the National School for PhD Students and Young Researchers in Social Sciences. Volume 2: Crisis: Individual and Social Projections, pp. 77-86.

3. Tsvetkova, L., Garkov, G., Kirilov, G. (2022). Psychometric characteristics of the Bulgarian version of the Toronto Alexithymia Scale (TAS-20). Zinovieva, I., Andreeva, L., Karabelova, S. (Eds.) Psychology - Tradition and Modernity (Collection of scientific reports from the Jubilee International Scientific Conference on the occasion of the 50th anniversary of the establishment of

the specialty "Psychology" at Sofia University "St. Kliment Ohridski", June 1-3, 2022). University Publishing House "St. Kliment Ohridski", pp. 116-125.

4. Tsvetkova, L., Zinovieva, I. (2023). Relationships between alexithymia and personality characteristics of the "Dark Triad". Diogenes, (accepted for publication).

Conference participation:

1. Tsvetkova, L. The impact of Alzheimer's disease on the relatives of institutionalized patients - "Third National Congress of Clinical Psychology with International Participation", Sofia, October 15-18, 2020.

2. Tsvetkova, L. The relationship between alexithymia, life satisfaction, and the Big Five - XII National School for PhD Students and Young Researchers "Crisis: Individual and Social Projections", October 28-30, 2020, Sofia (online).

3. Tsvetkova, L., Garkov, G., Kirilov, G. Psychometric characteristics of the Bulgarian version of the Toronto Alexithymia Scale (TAS-20) - Jubilee International Scientific Conference on the occasion of the 50th anniversary of the establishment of the specialty "Psychology" at Sofia University "St. Kliment Ohridski", June 1-3, 2022.

4. Zinovieva, I., Tsvetkova, L. Alexithymia and the Dark Triad - 30 Years of Psychology Specialty at VTU. International Scientific Conference, April 21-22, 2023.