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*Towards Psychosomatic Medicine: The Role of Age  
and Emotional Characteristics in People with Psychosomatic  
Disorders*

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W stronę medycyny psychosomatycznej. Rola wieku i cech emocjonalnych w zaburzeniach psychosomatycznych

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ABSTRACT

Studying the emotional characteristics in people with psychosomatic disorders (PSD) at the early stages of disease development is a topical research area in psychosomatic medicine, as it allows clarifying the psychological mechanisms of PSD formation. This exploratory research aims to study the age features of emotional characteristics in people with and without PSD. The study was carried out on a sample of 200 people aged 18–55 ( $M = 26.89$ ;  $SD = 7.82$ ) using the following questionnaires: the Perth Emotional Reactivity Scale-Short Form (PERS-S), the Perceived Stress Scale-10 (PSS-10), the Rumination subscale from the Cognitive Emotion Regulation Questionnaire (CERQ), the Emotion Regulation Questionnaire and the Patient Health Questionnaire-4 (PHQ-4). The results showed that the levels of stress, depressive and anxiety symptoms decrease with age. Ease/speed of activation, intensity, and duration of negative emotions, as well as rumination on stressful situations, are positively correlated with the level of stress, depressive and anxiety symptoms. With an increase in positive emotion duration, the severity of mental symptoms decreases. Compared to people aged 26–55 with or without PSD, young people aged 18–25 and especially young people with PSD have a more unfavorable psychosomatic status, which is characterized by a more explicit tendency to experience negative emotions with their higher intensity and duration. Emotion regulation difficulties

at a young age (especially intensive and prolonged experience of negative emotions) may form the basis for PSD development. Correcting these difficulties at a young age may prevent PSD.

**Keywords:** age features; emotion regulation; emotional reactivity; psychosomatic disorders; psychosomatic medicine

## INTRODUCTION

Our analysis shows that nowadays, despite a large number of publications on psychosomatic medicine, this science has ceased to seek an answer to the key question facing it: “What is the psychological mechanism triggering the psychosomatic disorders (PSD)?” (Larionow, in press). Comparative studies on psychological characteristics in patients and healthy people cannot answer this question *a priori*. That is because they examine the mental sphere of patients, and not their premorbid (premorbid refers to “personality traits existing prior to illness or injury”; Frank, 2011, p. 2010) in which certain disorder triggers could be found. Longitudinal and screening research could become the most prospective, but they are too labor-intensive. To some extent, several questions concerning premorbid personality characteristics were resolved while studying the personality in patients with PSD. The research showed no difference between patients who did not know that they had somatic disorders (SD) and healthy individuals in a number of psychological characteristics (e.g. neuroticism, state anger; Ageenkova, 2002; Larionov, Izdebski, 2020). However, this approach is quite complicated, as it requires organizing time-consuming studies based on screening methods or longitudinal studies.

We suppose that studying people with PSD of various ages (especially, young people), as well as focusing on their emotional characteristics, are the most promising ones among the accessible areas of research on psychological factors in the development of PSD. Such an approach is substantiated by several studies related to (1) research on the psychological factors in the development of PSD among children, (2) regarding and studying the emotional features as a leading psychological factor in the development of PSD. The clinical picture of chronic PSD is most explicitly manifested in middle-aged and older people. Meanwhile, their symptoms occur in both children and young people, but at this age, they do not refer to chronic diseases. Studies show that PSD related to psychological factors, in particular, stress, are found even among children (Sikorski, Ageenkova, 2003). In this regard, we agree with Velikanova and Shevchenko (2006), who noted one of the mistakes in modern medicine – focusing on the final phase of diseases. They also highlighted the need for early detection of PSD at the prenosological stage of their development, i.e. at a young age. Herewith, they specify that initial stages of SD expressed in the form of illness episodes or transient pain conditions can be observed long before the clinical stage of the disease (Velikanova, Shevchenko, 2006).

Emotional characteristics are most often considered among the main factors in PSD occurrence (Velikanova, Shevchenko, 2005). For example, the phenomenon of prolonging emotional states has been studied as a predictor of essential (primary) hypertension or high blood pressure (Ageenkova, 2016). Researchers have recently turned their attention to examining PSD risk factors (in particular, emotion regulation difficulties, the tendency to experience negative emotions and suppress them during social interactions; Basińska, Woźniewicz, 2013; Larionov, 2020; Ogińska-Bulik, Juczyński, 2008) and their role in a disease course (e.g. Kowalczyk, 2019) or quality of life (e.g. Larionow, 2022).

We suggest that specific forms of behavioral, cognitive, and emotional responses can be formed in stressful situations and difficult life circumstances, especially at a young age. For example, in research on more than 200 children with essential hypotension (low blood pressure), increased anxiety levels were found to be a reaction to a disruption in their relationships with their parents (Sikorski, Ageenkova, 2003). We assume that specific forms of behavioral, cognitive and emotional responses in stressful situations, accompanied by a typical individual somatic reaction (biological predisposition), can be preserved in the form of a typical psychosomatic reaction. This reaction will contribute to the SD becoming chronic and to PSD clinical form being developed in the future. In this regard, we consider studying psychosomatic reactions, in particular emotional characteristics as their component, in conjunction with the PSD symptoms in young people to be relevant.

This research aims to study emotional characteristics in people of different ages with and without PSD. We aim at (1) examining the relationship between age and emotional characteristics (i.e. emotion regulation, emotional reactivity, mental health symptoms), (2) determining significant predictors of stress, depressive and anxiety symptoms (adjusted for age), (3) comparing the emotional characteristics between people without PSD and with PSD or other SD in two age groups.

## METHODS

The study involved 200 people chosen from the Belarusian population (160 women and 40 men) aged 18–55 ( $M = 26.89$ ;  $SD = 7.82$ ). The majority of the subjects lived in towns (48.5%), 41.5% resided in cities (a population of one million and above), and 10% dwelled in the countryside. 65% of the respondents combined their studies at university with work, 24.5% were engaged only in professional activity, and 10.5% were just studying. 7% of the subjects had secondary education, 11.5% got vocational education, 53% were in the process of obtaining higher education, and 28.5% had a higher educational level. 71% of the respondents were single.

The study was carried out following the ethical standards for scientific research in Belarus, as well as the Declaration of Helsinki (1964) and its later

amendments. The respondents filled out questionnaires using the paper-and-pencil method (48%, who were obtaining full-time or distant higher education in several Belarusian universities) or online (52%, who were representatives of the general population having access to the Internet and a profile in social networks). The self-reports included socio-demographic data, being diagnosed with any classic PSD (gastric or duodenal ulcer, chronic gastritis, bronchial asthma, diabetes mellitus, arterial hypertension, coronary heart disease) or other SD (hypothyroidism, chronic tonsillitis, allergic rhinitis, sinusitis, pharyngitis, sinusitis, laryngitis, chronic cystitis, iron deficiency anemia, arrhythmia, tachycardia). Subjects with mental and/or neurological disorders were excluded from the analysis.

The respondents were divided into four groups depending on their age and being diagnosed with one or more classic PSD mentioned above. As studying individuals with PSD was the main purpose of the research, subjects who had only SD but did not have any PSD ( $N = 21$ ) were not included in the comparative analysis. Thus, four groups with a total number of subjects equalling  $N = 179$  were formed: 1) young people aged 18–25 without PSD or other SD ( $N = 72$ ); 2) young people aged 18–25 with PSD and other SD ( $N = 22$ ); 3) people aged 26–55 without PSD or other SD ( $N = 58$ ); 4) people aged 26–55 with PSD and other SD ( $N = 27$ ).

## MEASURES

1. The Perth Emotional Reactivity Scale-Short Form (PERS-S), developed by Preece, Becerra and Campitelli (2019), in the Russian version by Larionov, Ageenkova and Belashina (2021), was used. The PERS-S is an 18-item self-report questionnaire designed to measure three characteristics of emotional reactivity, namely activation, intensity, and duration of positive and negative emotions, separately. The PERS-S consists of six subscales (each containing three statements) and two composite scores. Positive-activation (e.g. *I tend to get happy very easily*), positive-intensity (e.g. *When I'm joyful, I tend to feel it very deeply*), positive-duration (e.g. *When I'm happy, the feeling stays with me for quite a while*) are the three subscales that form the composite score of the general positive reactivity scale. In turn, negative-activation (e.g. *I tend to get upset very easily*), negative-intensity (e.g. *If I'm upset, I feel it more intensely than everyone else*), and negative-duration (e.g. *Once in a negative mood, it's hard to snap out of it*) are the three subscales of the general negative reactivity scale. The statements are scored on a 5-point scale, ranging from 1 (*very unlike me*) to 5 (*very like me*). Higher scores indicate higher levels of emotional reactivity traits.
2. The Perceived Stress Scale-10 (PSS-10), developed by Cohen, Kamarck and Mermelstein (1983), in the Russian version by Ababkov et al. (2016), was

used for measuring the level of perceived stress during the previous month. The PSS-10 consists of ten statements (e.g. *In the last month, how often have you been able to control irritations in your life?*), which are evaluated on a 4-point Likert scale from 0 (*never*) to 4 (*very often*). Higher scores indicate a higher level of perceived stress.

3. The rumination subscale taken from the Cognitive Emotion Regulation Questionnaire (CERQ), developed by Garnefski and Kraaij (2007), in the Russian version by Rasskazova, Leonova and Pluzhnikov (2011), was used. The rumination subscale allows one to assess the frequency of using rumination as a maladaptive cognitive coping strategy, expressed in constant obsessive thoughts about some experienced stressful situations. The rumination subscale consists of four statements (e.g. *I often think about how I feel about what I have experienced*), which are scored on a 5-point Likert scale from 1 (*(almost) never*) to 5 (*(almost) always*). A higher score indicates a higher frequency of rumination.
4. The Emotion Regulation Questionnaire (ERQ), developed by Gross and John (2003), in the Russian version by Pankratova and Korniyenko (2017), was used. The questionnaire was designed to measure the usage of two emotion regulation strategies: cognitive reappraisal (six statements, e.g. *I control my emotions by changing the way I think about the situation I'm in*) and expressive suppression (four statements, e.g. *I keep my emotions to myself*). The statements are scored on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicate using these strategies more extensively.
5. The Patient Health Questionnaire-4 (PHQ-4) by Kroenke, Spitzer, Williams and Löwe (2009) is a 4-item questionnaire for measuring anxiety and depressive symptoms in the previous two weeks. The PHQ-4 has two subscales: anxiety (two statements, e.g. *Feeling nervous, anxious or on edge*) and depression (two statements, e.g. *Feeling down, depressed, or hopeless*). The statements are scored on a 4-point Likert scale from 0 (*not at all*) to 3 (*nearly every day*). Higher scores indicate higher levels of anxiety and depressive symptoms.

## RESULTS

Descriptive statistics of the studied variables are presented in Table 1. The reliability of the scales was high (Cronbach's alpha was over .70). In order to test the distribution close to normal, for all variables, including "age", we calculated the skewness and kurtosis values, that ranged from -1.17 to 1.18, which indicates a distribution close to normal.

Table 1. Descriptive statistics of the analyzed variables

Scales (variables)	Total sample ( $N = 200$ )					
	$\alpha$	$M$	$SD$	$ME$	Skewness	Kurtosis
Age	–	26.89	7.82	24.0	1.01	.33
Positive-activation	.78	12.61	2.21	13.0	–1.17	1.18
Positive-intensity	.73	10.68	2.58	11.0	–.32	–.25
Positive-duration	.81	11.29	2.61	12.0	–.61	–.34
Negative-activation	.79	9.77	3.04	10.0	–.10	–.84
Negative-intensity	.80	8.90	3.26	9.0	.10	–.74
Negative-duration	.80	8.38	3.06	8.0	.22	–.68
General positive reactivity	.86	34.57	6.08	35.0	–.68	.66
General negative reactivity	.91	27.05	8.40	27.0	.12	–.67
Depressive symptoms	.73	2.09	1.57	2.0	.83	.27
Anxiety symptoms	.75	1.87	1.63	2.0	.92	.25
Cognitive reappraisal	.78	28.06	5.92	28.0	–.10	–.01
Expressive suppression	.70	15.90	4.02	16.0	.07	.10
Rumination	.89	10.65	4.04	10.0	.58	–.56
Perceived stress	.81	27.69	6.26	27.0	.22	–.50

$\alpha$  – Cronbach's alpha;  $M$  – mean;  $SD$  – standard deviation;  $Me$  – median.

Source: Authors' own study.

As a result of the correlation analysis, several patterns were also found: 1) a person's tendency to rumination, to the rapid arousal of negative emotions, as well as to their high intensity and duration, is positively associated with the severity of stress, depressive and anxiety symptoms; 2) with an increase in a person's ability to experience positive emotions for a long time (to keep one's mood positive), the levels of stress, depressive and anxiety symptoms decrease (see Table 2).

Table 2. Pearson correlation coefficients for the analyzed variables ( $N = 200$ )

Scales (variables)	Depressive symptoms	Anxiety symptoms	Perceived stress
<b>Age</b>	<b>–.25***</b>	<b>–.30***</b>	<b>–.28***</b>
Positive-activation	–.08	–.07	–.07
Positive-intensity	.00	.11	.07
<b>Positive-duration</b>	<b>–.22***</b>	<b>–.33***</b>	<b>–.31***</b>
<b>Negative-activation</b>	<b>.36***</b>	<b>.39***</b>	<b>.50***</b>
<b>Negative-intensity</b>	<b>.46***</b>	<b>.53***</b>	<b>.57***</b>
Negative-duration	.49***	.48***	.56***

General positive reactivity	-.13	-.12	-.13
<b>General negative reactivity</b>	<b>.49***</b>	<b>.52***</b>	<b>.60***</b>
<b>Cognitive reappraisal</b>	-.03	-.11	<b>-.22**</b>
Expressive suppression	-.02	-.10	-.05
<b>Rumination</b>	<b>.35***</b>	<b>.41***</b>	<b>.51***</b>

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Significant correlations are in bold.

Source: Authors' own study.

Age was negatively associated with depressive and anxiety symptoms, as well as with stress levels. Additionally, the relationships between age and emotional characteristics were analyzed. Age appeared to be negatively correlated with negative-activation ( $r = -.23$ ;  $p < .01$ ), negative-intensity ( $r = -.26$ ;  $p < .001$ ), negative-duration ( $r = -.19$ ;  $p < .01$ ), general negative reactivity ( $r = -.25$ ;  $p < .01$ ), rumination ( $r = -.18$ ;  $p < .05$ ), as well as with positive-intensity ( $r = -.14$ ;  $p < .05$ ). Positive-duration was positively related to age at the level of a statistical trend ( $r = .13$ ;  $p = .074$ ).

While controlling the effects of age, multiple regression analysis was performed using the forced entry method to determine significant predictors of stress, depressive and anxiety symptoms (see Table 3).

Table 3. Regression models for predicting stress, depressive and anxiety symptoms ( $N = 200$ )

Model parameters	Stress prediction $F(10, 189) = 15.916$ ; $p < .001$ ; $R^2 = .46$		Depressive symptoms prediction $F(10, 189) =$ $9.122$ ; $p < .001$ ; $R^2 = .33$		Anxiety symptoms prediction $F(10, 189)$ $= 12.314$ ; $p < .001$ ; $R^2 = .39$	
	$\beta$	$p$	$\beta$	$p$	$\beta$	$p$
<b>Age</b>	<b>-.12*</b>	.037	<b>-.14*</b>	.027	<b>-.15*</b>	.015
Positive-activation	-.03	.700	-.07	.437	-.04	.629
Positive-intensity	.01	.864	-.08	.301	.09	.240
<b>Positive-duration</b>	-.10	.188	.02	.831	<b>-.20*</b>	.012
Negative-activation	.11	.204	-.03	.717	-.05	.553
<b>Negative-intensity</b>	<b>.19*</b>	.039	<b>.22*</b>	.034	<b>.31***</b>	.001
<b>Negative-duration</b>	.13	.152	<b>.34***</b>	.001	.16	.096
<b>Cognitive reappraisal</b>	-.08	.281	<b>.22**</b>	.008	.15	.053
Expressive suppression	.09	.208	-.12	.152	-.13	.101
Rumination	<b>.28***</b>	<.001	.11	.113	.13	.055

$\beta$  is the standardized regression coefficient;  $R^2$  is the proportion of variance explained.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . Significant predictors are in bold.

Source: Authors' own study.

While providing the age effect control, it was found that negative-intensity was positively associated with stress, depressive and anxiety symptoms, whereas rumination was only correlated with stress. Negative-duration was positively related to depressive symptoms. In turn, positive-duration was negatively associated with anxiety symptoms. The ambiguous role of the “cognitive reappraisal” adaptive strategy, which was positively correlated with depressive symptoms, can be noted.

Then a comparative analysis of the emotional characteristics was carried out in four groups, based on age, as well as the presence of PSD or other SD. The differences between the groups were analyzed using the non-parametric Kruskal–Wallis  $H$  test with pairwise *post hoc* comparisons with Bonferroni correction. The description of the groups and statistically significant differences between the groups are presented in Table 4.

Table 4. Comparative analysis of emotional characteristics in four groups

Scales (variables)	Comparison Groups				Effect size ( $\eta^2$ ) for Kruskal–Wallis $H$ test results
	Group 1; people aged 18–25 without PSD or other SD ( $N = 72$ )	Group 2; people aged 18–25 with PSD and other SD ( $N = 22$ )	Group 3; people aged 26–55 without PSD or other SD ( $N = 58$ )	Group 4; people aged 26–55 with PSD and other SD ( $N = 27$ )	
	Median				
Positive-activation ( $H = .56$ ; $p = .906$ )	13	12.5	13	13	.014
Positive-intensity ( $H = 2.26$ ; $p = .520$ )	11	10	10	10	.004
Positive-duration ( $H = 8.90$ ; $p = .031$ ): no significant <i>post hoc</i> differences	12	10	12	12	.034
Negative-activation ( $H = 8.76$ ; $p = .033$ ): no significant <i>post hoc</i> differences	10	10.5	9	9	.033
<b>Negative-intensity</b> ( $H = 11.86$ ; $p = .008$ ): $2 > 3$	<b>9</b>	<b>11</b>	<b>8</b>	<b>9</b>	<b>.051</b>
<b>Negative-duration</b> ( $H = 9.84$ ; $p = .020$ ): $2 > 3$	<b>8</b>	<b>10</b>	<b>7</b>	<b>7</b>	<b>.039</b>
General positive reactivity ( $H = 2.87$ ; $p = .412$ )	35	33	35.5	36	.001
<b>General negative reactivity</b> ( $H = 12.05$ ; $p = .007$ ): $2 > 3$	<b>27</b>	<b>31</b>	<b>23.5</b>	<b>27</b>	<b>.052</b>

<b>Depressive symptoms</b> ( $H = 14.37$ ; $p = .002$ ): <b>1 &gt; 3</b>	<b>2</b>	<b>2</b>	<b>1.5</b>	<b>1</b>	<b>.065</b>
<b>Anxiety symptoms</b> ( $H = 18.22$ ; $p < .001$ ): <b>1, 2 &gt; 3</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>.087</b>
Cognitive reappraisal ( $H = 4.08$ ; $p = .253$ )	28.5	27	28	28	.006
Expressive suppression ( $H = 3.77$ ; $p = .287$ )	16.	15	16	17	.004
Rumination ( $H = 6.28$ ; $p = .099$ )	10.5	9.5	9	10	.019
<b>Perceived stress</b> ( $H = 19.93$ ; $p < .001$ ): <b>1, 2 &gt; 3</b>	<b>29</b>	<b>31.5</b>	<b>25</b>	<b>27</b>	<b>.097</b>

*N* is the number of subjects in the group. *H* is the value of the Kruskal–Wallis *H* test;  $2 > 3$  means that the value of the variable in group 2 is more than in group 3 on a statistically significant level (*post hoc* comparisons with Bonferroni correction;  $p < .05$ ). Eta squared ( $\eta^2 = .01$  indicates a small effect size;  $\eta^2 = .06$  indicates a medium effect size;  $\eta^2 = .14$  indicates a large effect size). Significant differences are in bold.

Source: Authors' own study.

The results showed that in general emotional characteristics of young people aged 18–25, especially having disorders, can be characterized as less adaptive compared to people aged 26–55, regardless of their diseases.

## DISCUSSION

The main purpose of this research was to study age-related features of emotional characteristics among people with and without PSD. Our first aim was to examine the relationship between age and emotional characteristics. It was found that age was slightly negatively correlated with stress, depressive and anxiety symptoms levels, as well as rumination and the general negative reactivity with all its components. In general, our findings are in line with other studies conducted in a general community sample. For example, research showed that negative reactivity decreased with age, whereas positive reactivity was practically unrelated to age (Larionow, Mudło-Głagolska, 2022a). Recent Polish studies evidenced that younger people had higher levels of depressive and anxiety symptoms (Larionow, Mudło-Głagolska, 2022b).

Our second aim was to examine significant predictors of stress, depressive and anxiety symptoms (adjusted for age). In general, negative-intensity was positively associated with all mental health symptoms, whereas negative-duration was positively related only to depressive symptoms. Considering the fact that emotional reactivity traits refer to rather stable individual differences (Becerra, Campitelli, 2013; Preece et al., 2019), it can be concluded that these emotional reactivity traits may predispose to mental health disorders. These results are also consistent

with other studies on emotional reactivity (Larionov et al., 2021). Overall, our results showed that negative-intensity was the most valuable predictor of stress, depressive and anxiety symptoms among the examined variables (positive and negative emotional reactivity traits and emotion regulation strategies).

Our third aim was to compare emotional characteristics (i.e. emotional reactivity, emotion regulation strategies and mental health symptoms) between two age groups of people (i.e. aged 18–25 and 26–55) without PSD and with PSD. As a result of the comparative analysis, it can be stated that young people aged 18–25, regardless of whether they have PSD and other SD, have more distinct anxiety symptoms and stress levels compared to people aged 26–55 without any diseases. The statistical analysis has revealed a stable pattern expressed in a shift towards negative emotions and their more explicit intensity and duration in young people. Moreover, this form of emotional response is most typical of young people aged 18–25 with disorders. Summarizing the results, it should be observed that young people (especially young people with diseases) are characterized by a more unfavorable psychosomatic status than the corresponding groups of people aged 26–55. The emotional tension mitigation in people aged 26–55 may be explained by a more developed adaptation to life adversity, and, according to literature reviews, by an increasing ability to control emotions with age (Izdebski, Polak, 2008). We assume that it is conditioned by the patterns of growing up and by the establishment of personal and emotional maturity at an older age.

PSD in young people can be considered the initial stage in the course of the illness. In this regard, it can be preliminary assumed that PSD in young people are more closely related to the features of their emotional characteristics. These features may be considered premorbid personality characteristics that predispose people to their SD becoming chronic. Being only our tentative conclusion, it is supported by studies examining psychological factors in pre-illness. For example, having depressive symptoms was related to prehypertension among university students (Peltzer et al., 2017). It was also found that prehypertensive patients were more distressed psychologically than non-hypertensive patients (Al-Zahrani et al., 2021). Moreover, Player, King, Mainous and Geesey (2007) noted that high levels of trait anger and long-term stress were associated with an increased risk of progression from prehypertension to hypertension or coronary heart disease.

## CONCLUSIONS

Our exploratory research has shown that studying the emotional characteristics among young people with PSD as well as comparing them with other clinical or non-clinical groups of different ages is prospective for understanding the etiopathogenetic mechanisms of PSD development. We assume that the maladaptive emotional response in difficult life circumstances can form the basis of these mechanisms.

Our studies have shown that more maladaptive emotional characteristics are more characteristic of young people, especially with PSD. We assume that these characteristics, especially an intensive and prolonged experience of negative emotional states, can be considered predictors of developing PSD symptoms along with mental health problems.

We believe that an increased reactivity of the target organ (biological predisposition for dysfunction) towards the effects of a stress agent is formed at a young age, despite the higher adaptive capabilities of the body. This fact can subsequently lead to clinical forms of SD. We suggest that preventive measures against PSD should be taken at a young age, in case there is a tendency to an intense and prolonged experience of negative emotions, which can be understood as difficulties in emotion regulation or emotional dysregulation. Our tentative conclusion should be examined in future studies from the perspective of studying the unity in somatic, psychological and social areas of functioning (Shchelkova, Grandilevskaya, Burina, Trabczynski, 2011) taking into account research problems in psychosomatic medicine and ways of solving them (Larionow, in press).

## FINDINGS

The approach we proposed, related to studying age-related features of the emotional characteristics in people with PSD, has shown its effectiveness in determining possible mechanisms which underlie PSD formation.

It has been revealed that there is a more pronounced emotional dysregulation in young people aged 18–25, which is manifested in increased negative affectivity, increased levels of perceived stress and anxiety symptoms, as well as higher levels of negative emotions with their more severe intensity and duration, compared to people aged 26–55.

More pronounced emotion regulation difficulties are characteristic of young people with PSD and SD, compared to people aged 26–55, regardless of their diseases, as well as to young people without PSD and SD. Our tentative explanation suggests that the more maladaptive emotion regulation (especially intensive and a prolonged experience of negative emotions), identified in young people with PSD and other SD, can be considered an initial psychosomatic status predisposing to chronic diseases.

## LIMITATIONS AND STRENGTHS

Some limitations of the study should be stressed. Firstly, the current research is cross-sectional. Thus, no conclusions can be drawn regarding the temporal order of the analyzed variables. Secondly, the sample size is relatively small and characterized by gender imbalance. Finally, using self-report measures does

not always provide reliable results for mental health symptoms assessment. Despite these facts, the results of this exploratory study are significant, because they provide a certain contribution to psychosomatic medicine, in particular, its areas related to the search for PSD risk factors. We assume that the approach we proposed is a good base for further research in different non-clinical or clinical settings (Larionow, in press).

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## ABSTRAKT

Badanie cech natury emocjonalnej u osób z zaburzeniami psychosomatycznymi we wczesnych fazach rozwoju tych zaburzeń jest aktualnym obszarem badań w medycynie psychosomatycznej, ponieważ pozwala na wyjaśnienie psychologicznych mechanizmów powstawania chorób psychosomatycznych. Celem eksploracyjnych badań było określenie specyfiki cech emocjonalnych i ich związku z wiekiem u osób z zaburzeniami psychosomatycznymi i bez nich. Badanie przeprowadzono w próbie 200 osób w wieku 18–55 lat ( $M = 26,89$ ;  $SD = 7,82$ ). Zastosowano skróconą wersję Skali Reaktywności Emocjonalnej Perth (PERS-S), Skalę Postrzeganego Stresu (PSS-10), podskalę Ruminacja z Kwestionariusza Poznawczej Regulacji Emocji (CERQ), Kwestionariusz Regulacji Emocji oraz Kwestionariusz Zdrowia Pacjenta (PHQ-4). Wyniki wykazały, że wiek negatywnie koreluje z poziomem objawów stresu, depresji i lęku. Łatwość/szybkość aktywacji, intensywność i czas trwania negatywnych emocji oraz ruminacje dodatnio korelują z poziomem symptomów stresu, depresji i lęku. Czas trwania pozytywnych emocji negatywnie koreluje z tymi symptomami. Młodzi ludzie w wieku 18–25 lat, szczególnie z zaburzeniami psychosomatycznymi, charakteryzują się wyraźniejszą tendencją do przeżywania negatywnych emocji o większym natężeniu i czasie trwania w porównaniu do osób w wieku 26–55 lat (niezależnie od tego, czy te ostatnie mają zaburzenia psychosomatyczne). Trudności z regulacją emocji (zwłaszcza intensywne i długie przeżywanie negatywnych emocji) w młodym wieku prawdopodobnie stanowią podstawę dla rozwoju zaburzeń psychosomatycznych. Z kolei korygowanie tych trudności może zapobiec zaburzeniom psychosomatycznym.

**Słowa kluczowe:** wiek; regulacja emocji; reaktywność emocjonalna; zaburzenia psychosomatyczne; medycyna psychosomatyczna