

## Preliminary Adaptation of the Russian version of the Temperament Evaluation Memphis Pisa, Paris and San Diego Autoquestionnaire (TEMPS-A)

E A Nikitenko<sup>1</sup>, M N Dmitriev<sup>2</sup> and S N Enikolopov<sup>3</sup>

<sup>1</sup>clinical psychologist, school 499, Russia

<sup>2</sup>Rostov State Medical University, Russia

<sup>3</sup>clinical psychologist, Scientific Center of Mental Health, Russia

The Temperament evaluation Memphis Pisa, Paris and San Diego Autoquestionnaire (TEMPS-A) was developed by H.S. Akiskal and coauthors for the analysis of affective temperaments. In recent years, TEMPS-A has been translated in many countries worldwide, successfully tested and introduced into clinical practice. For our study, we used the original basic 50-point clinical version of TEMPS-A. In this paper, we present the preliminary adaptation of TEMPS-A for the Russian-language sample. The conditional "norm group" consists of 113 volunteers (45 men and 68 women) aged 18 to 78 years. The normality of the distribution of sample data was verified. Results allow us to consider the distribution to be normal. There are statistically significant correlations between the scales of the questionnaire and the age of the respondents. The older the participant in the study of the conditional "norm group", the lower the indicators on the scales "Hyperthymic temperament"  $k = -0.246$  ( $p = 0.003$ ) and "Cyclothymic temperament"  $k = -0.269$  ( $p = 0.001$ ). And the older the respondent, the higher the points on the scale "Dysthymic temperament"  $k = 0.294$  ( $p = 0.000$ ). On the "Irritable Temperament" scale, no correlation with age was found. The obtained correlation coefficients are generally not high, however, in the future, with an increase in the sample, it is planned to monitor the age factor. No statistically significant differences between groups by gender at this stage of the study were found.

The study of content validity was carried out as part of a study on patients with COPD - chronic obstructive pulmonary disease (36 men, 7 women) and with RA - rheumatoid arthritis (7 men, 50 women). To study content validity, the A. Beck Depression Scale (BDI) and the Bass-Perry Aggression Questionnaire (BPAQ) were used. The results are presented in Table 1 "Correlation analysis according to the TEMPS-A scales and the Beck Depression Scale, Bass-Perry Aggression Questionnaire".

	Hyperthymic	Cyclothymic	Irritable	Dysthymic
Cognitive-affective scale of depression	-0,35*	0,49**	0,29	0,05
Somatic scale of depression	-0,31*	0,45**	0,28	0,31*
Physical aggression	0,10	0,29	0,39*	-0,10
Anger	-0,15	0,46**	0,38*	0,04
Hostility	-0,22	0,40**	0,31*	0,09

Table 1 Correlation analysis according to the TEMPS-A scales and the Beck Depression Scale, Bass-Perry Aggression Questionnaire (n = 100)

Note: Pearson correlation coefficients, level of statistical significance \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

Analyzing the obtained relationships reflected in Table 1, we can state the fact that the hyperthymic type of temperament negatively correlates with cognitive-affective ( $r = -0.35$  for  $p < 0.05$ ) and somatic ( $r = -0.31$  for  $p < 0.05$ ) scales of depression. The cyclothymic type of temperament positively correlates with the cognitive-affective scale ( $r = 0.49$  at  $p < 0.01$ ) and the somatic scale ( $r = 0.45$  at  $p < 0.01$ ) of the BDI questionnaire, and also with the Anger scales ( $r = 0.46$  at  $p < 0.01$ ) and Hostility ( $r = 0.4$  at  $p < 0.01$ ) of the BPAQ questionnaire. The irritable type of temperament positively correlates with physical aggression ( $r = 0.39$  at  $p < 0.05$ ), anger ( $r = 0.38$  at  $p < 0.05$ ) and hostility ( $r = 0.31$  at  $p < 0.05$ ). A dysthymic type of temperament positively correlates with the somatic scale of depression BDI ( $r = 0.31$  at  $p < 0.05$ ). Thus, the TEMPS-A questionnaire at the empirical level effectively distinguishes groups of respondents with different types of temperament, prone to aggression, hostility, as well as depressive states.

To analyze the structure of the TEMPS-A questionnaire, an exploratory factor analysis (EFA) was performed using the principal component method and varimax rotation method. An analysis of the structure of the questionnaire was carried out using all items. The results showed that 4 extracted factors corresponding to 4 types of temperament describe 68% of the variance. Factor loads were also obtained. For most of the points on the scale of the questionnaire, fairly large loads (from 0.5 to 0.71) were identified, and at this stage of the study, points with small loads (from 0.34 to 0.5) were obtained. EFA results showed that there is a fairly high consistency and positive relationship on each scale between the items in the questionnaire. Internal consistency was estimated by calculating the Cronbach coefficient  $\alpha$ . The internal consistency index Cronbach coefficient  $\alpha$  was  $\alpha = 0.771$ , which is a good result and corresponds to a high level of internal consistency.

To assess the retest reliability, 71 respondents were retested using the TEMPS-A questionnaire. The intervals between the two tests were 1 month. To calculate the reliability of the test were examined 4 types of temperament TEMPS-A - 4 scales of the questionnaire. Table 2 "Results of evaluating the retest reliability of the TEMPS-A questionnaire" presents the results of evaluating the retest reliability of the TEMPS-A questionnaire using the Pearson correlation analysis. The results indicate a high level of correlation between primary and secondary testing.

Hyperthymic	Cyclothymic	Irritable	Dysthymic
$k=0,754^{**}$	$k=0,842^{**}$	$k=0,852^{**}$	$k=0,710^{**}$
$p=0,000$	$p=0,000$	$p=0,000$	$p=0,000$

Table 2 "Results of evaluating the retest reliability of the TEMPS-A questionnaire" (n=71)

Three statistically significant correlations between the scales of the TEMPS-A questionnaire were determined. The data are presented in Table 3 "Correlation analysis of the scales of the TEMPS-A questionnaire": inverse correlation between Hyperthymic and Disthymic temperament ( $p = 0,000$ ) and direct correlations: between Cyclothymic and Irritable ( $p = 0,000$ ), as well as between Irritable and Disthymic temperaments ( $p = 0.020$ ).

	Hyperthymic	Cyclothymic	Irritable	Dysthymic
Hyperthymic	1	k=0,144 p=0,082	k=0,051 p=0,537	k=-0,438** p=0,000
Cyclothymic	k=0,144 p=0,082	1	k=0,581** p=0,000	k=-0,030 p=0,722
Irritable	k=0,051 p=0,537	k=0,581** p=0,000	1	k=0,192* p=0,020
Dysthymic	k=-0,438** p=0,000	k=-0,030 p=0,722	k=0,192* p=0,020	1

Table 3 "Correlation analysis of the scales of the TEMPS-A questionnaire"

Note: Pearson correlation coefficients, significance level \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

The Russian-language version of the TEMPS-A questionnaire shows statistically significant results in the Russian-language sample. The practical implementation of this study is the application of this technique in a clinic for patients with affective pathology and comparing the results with the conditional norm group. In the future, this study plans to increase the number of respondents to clarify and confirm the results.

#### References:

- Akiskal H, Akiskal K, Haykal R, Manning J, Connor P (2005) TEMPS-A: progress towards validation of a self-rated clinical version of the Temperament Evaluation of the Memphis, Pisa, Paris, and San Diego-Autoquestionnaire. *Journal of affective disorders* 85(1-2):3-16.
- Nikitenko E, Enikolopov S, Dmitriev M, Kovaleva E (2019) Preliminary adaptation of the Russian version of the TEMPS-A questionnaire. *Vestnik of Saint Petersburg University. Psychology* 9(2):172-186. (In Russian)
- Fountoulakis K, Gonda X, Koufaki I, Hyphantis T, Cloninger C (2016) The role of temperament in the etiopathogenesis of bipolar spectrum illness. *Harvard review of psychiatry* 24(1):36-52.
- Dmitriev M, Shchegoleva A, Markova K, Rabadanova A, Nikitenko E (2017) [Personal characteristics of students with affective disorders]. *Obshhaja psihopatologija: tradicii i perspektivy. Materialy Rossijskoj nauchnoj konferencij s mezhdunarodnym uchastiem. Rostov-on-Don:108-111. (In Russian)*
- Eóry A, Gonda X, Torzsa P, Kalabay L, Rihmer Z (2011) [Affective temperaments: from neurobiological roots to clinical application]. *Orvosi Hetilap* 152(47):1879-1886.
- Dolenc B, Sprah L, Dernovšek M, Akiskal K, Akiskal H (2013) Psychometric properties of the Slovenian version of temperament evaluation of Memphis, Pisa, Paris, and San Diego-Autoquestionnaire (TEMPS-A): temperament profiles in Slovenian university students. *Journal of affective disorders* 144 (3):253-262.
- Pompili M, Girardi P, Tatarelli R, Iliceto P, De Pisa E, Tondo L, Akiskal K, Akiskal H (2008) TEMPS-A (Rome): psychometric validation of affective temperaments in clinically well subjects in mid- and south Italy. *Journal of affective disorders* 107(1-3):63-75.
- Las E.A. (2012) Emocional'no-lichnostnye prediktory otnosheniya k bolezni u pacientov s revmatoidnym artritom [Emotional-personal predictors of the relationship to the disease in patients with rheumatoid arthritis]. *Izvestiya Rossijskogo gosudarstvennogo pedagogicheskogo universiteta imeni A. I. Gercena, Sankt-Peterburg. - 150: 262-270. (In Russian)*
- Ovcharenko S.I., Galeckajte Ya.K., Volel B.A., Pushkarev D.F., Las E.A. (2013) Tipy reagirovaniya na hronicheskoe zabojevanie u pacientov s hronicheskoy obstruktivnoj bolezni'yu legkih i revmatoidnym artritom [Types of response to chronic disease in patients with chronic obstructive pulmonary disease and rheumatoid arthritis]. *Klinicist. 1:21-30. (In Russian)*
- Enikolopov S. N., Cibul'skij N. P. (2007) Psihometricheskij analiz russkoyazychnoj versii Oprosnika diagnostiki agressii A. Bassa i M. Perri [Retest reliability of the depression scale A. Beck]. *Psihologicheskij zhurnal* 1:115-124. (In Russian)
- Nasledov A. D. (2013) IBM SPSS Statistics 20 i AMOS: professional'nyj statisticheskij analiz dannyh [IBM SPSS Statistics 20 and AMOS: professional statistical data analysis]. 107-111. (In Russian)