

# Meaning-Activity Interpretation Of Coping Self-Efficacy In The Situation Of The COVID-19 Threat

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## Abstract

The aim of the study to adapt the Coping Self-efficacy Scale in Russian population in the context of the COVID-19 pandemic to study positive personal resources to overcome peritraumatic COVID-19 distress. The methods used allow to assess the connection coping self-efficacy with both the traumatic experience and the experience of post-traumatic growth and to use the results to prevent mental health in the context of the COVID-19 pandemic. In studies of the socio-psychological consequences of the COVID-19 pandemic, models focused on the negative aspects of stressors, internal problems are used to a greater extent, expanding the context and including in the field of studying positive personal resources and ways of coping with anxiety. Factors contributing to the preservation of psychological well-being involves the development of tools for diagnosing and changing attitudes to threats and the disease itself and methods of self-regulation. The Coping Self-efficacy Scale is an original tool for measuring perceived self-efficacy in overcoming challenges, threats, and life disasters. 397 (students and patients of clinic; 18,2% male, 81,8% female; age: 20-30 years) participated, Impact of Event Scale (Horowitz) and Post-Traumatic Growth Inventory (Tadeshi & Calhoun) - both adapted by M. Magomed-Eminov and method of content analysis were used. Detected significant correlation between coping self- efficacy and post-traumatic growth ( $rS = 0,261$ ,  $p < 0,01$ ) and significant negative correlation between coping self-efficacy and intensity of the impact of stressful events (IES) ( $rS = - 0,140$ ,  $p < 0,05$ ). Russian version of Coping Self-efficacy scale. confirmed high reliability-consistency and high psychometric effectiveness of the Self-efficacy Coping Scale. The connections indicate the existence of positive ways of coping to distress. The authors propose the meaning-activity approach and personality work with negative life experience (Magomed-Eminov) to interpret the results obtained and suggest that further research on the positive consequences will expand the repertoire of tools predicted the ability of a modern person to cope with adversity and use experience for deeper involvement of human resources.

**Keywords.** Pandemic Covid-19, Self-efficacy coping, extreme situation, anxiety, negative, neutral and positive consequences of an extreme situation, personality work.

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### **Introduction.**

The COVID-19 pandemic and coping strategies. The realities of pandemic existence, which bring uncertainty, confusion of landmarks, confusion, violation of the usual way of life, sometimes separation from family and friends, lack of medicines and medical resources, loss of income, social isolation to humanity, do not automatically assume that a person is capable and responsible for effectively coping with life difficulties. Indeed, studies of pandemic stressors use models that focus primarily on the negative side of psychological problems, such as traumatic stress, fear, anxiety, depressive symptoms, insomnia, etc. (Qiu et al, 2020; Bo et al, 2020; Brooks et al, 2020; Das, 2020, Dong et al, 2020; Sher, 2020; Minihan, 2020; Mamzer, 2020; Manderson, S. Levine, 2020; Taylor et al, 2020). In Russian language research, the focus is also shifted to the study of panic reactions and fears, perception and assessment of threats, anxiety (Bityutskaya et al, 2020).

Another approach to the psychological problems of the pandemic aimed at coping processes research and strategies. These studies direct attention to the ways of coping with anxiety and factors contributing to the preservation of psychological well-being during the pandemic (Cattelino et al, 2021; Gerhold, 2020; Li et al, 2021; Magomed-Eminov, et al, 2021; Polizzi et al., 2020; Prime et al., 2020; Scrivner, 2020). In this context, various methods of psychological helping and psychotherapy are being developed and tested for people with problems related to COVID-19, including medical professionals (Li et al., 2020; Montemurro, 2020; Mo et al., 2020; Klomp et al., 2020). However, in general, today the use of reliable diagnostic tools in the study of coping behavior in the era of COVID-19 is not systematic enough. The methods used in majority of studies are of the nature of clinical screenings or express surveys in the context of countering the intensive burnout of medical workers during the pandemic (Chew et al, 2020; Filippo et al, 2020; Tabernerero et al, 2020). Attempts to consider the problem from the point of view of the activity-meaning approach (M.Sh.Magomed-

Eminov, 1997, 2007, 2020, 2021) to take into account not only the resources of coping with an extreme situation. The shifting focus to allow people to resist anxiety, fear, confusion, but also to consider the processes of a personality work with his\her negative experience in the context of a triad "disorder – resilience – growth" (Magomed-Eminov, 2008, 2020) and manifestations of courage, resilience, growth and development of personality

**Theoretical foundations of the Coping Self-Efficacy methodology.** The Coping Self-Efficacy Scale (CSE), based on the theory of stress and coping with stress (Lazarus & Folkman, 1984), was created as a measuring tool for evaluating the effectiveness of interventions in psychological practice (Folkman & Moskowitz, 2004). A person's confidence in one's ability to cope effectively with difficulties, according to the theory of self-efficacy (Bandura, 1997), is an important prerequisite for changing coping behavior. Coping refers to behavioral or cognitive efforts to manage stressful situations, which are assessed as personally significant and exceeding human resources to overcome (the process of "primary appraisal") (Lazarus & Folkman, 1984). Coping includes both emotionally-oriented coping (managing emotional reactions to stressful events) and problem-oriented coping (changing the problematic aspects of stressful events). The choice of coping strategy is influenced by the assessment of coping options ("secondary appraisal") (Lazarus & Folkman, 1984), answering the question: "What can I do?" and to what extent I can control the outcome of the situation. Self-efficacy contributes to this process, which in turn affects coping (Park & Folkman, 1997). The theoretical prerequisites of Coping Self-Efficacy are also based on the idea of non-adaptive coping (coping that is unable to regulate distress or manage a source of stress) and adaptive coping (the correspondence between the manageability of a stressful situation and the choice of coping strategy which causes fewer psychological symptoms (Park, Folkman, & Bostrom, 2001)).

Cognitive behavioral interventions, such as coping Effectiveness Training (CET) (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003), which were based on socio-cognitive theory (Bandura, 1997), as well as stress and coping theory (Lazarus & Folkman, 1984), seek to increase adaptive coping - to reduce psychological distress and improve well-being. The adaptation of this methodology took place on the example of measuring the impact of such interventions on coping or, as the authors called it, "perceived self-efficacy", defined as the belief in one's ability to perform a certain behavior. Self-efficacy studies have shown also that a high level of effectiveness in one area does not necessarily correlate with a high level of self-efficacy in other areas (DiClemente, 1986; Hofstetter, Sallis, & Hovell, 1990). Self-efficacy measures were studied in relation to the fields of activity (Forsyth & Carey, 1998).

**CSE Scale** (Copying Self-Efficiency). The coping self-efficacy scale consists of 26 points (CSE - Coping Self-Efficacy), was developed by the authors in 2006 (Chespeu, M., Neilands, T., Chambers, D., Taylor, J., Folkman, S., 2006) in collaboration with Albert Bandura and adapted on two randomized clinical samples. The overall CSE score was created by summing the scores by points ( $\alpha = .95$ ; the average value on the scale = 137.4, SD = 45.6). In that study, the authors subjected the elements of the CSE scale to a targeted analysis with the specific purpose of obtaining a psychometrically justified and reduced scale form. The analysis included evaluation of design validity using exploratory and confirmatory factor analysis, reliability using Cronbach's alpha, simultaneous and predictive validity using partial correlations and multiple regression analysis. The adaptation included the correlations with other tests measured using the following methods. Psychological distress and well-being measured using seven instruments. Perceived stress was assessed using the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983). Burnout assessed using the scale developed for that studies by CET (McNair, Lorr, & Droppleman, 1981). Anxiety assessed using STAI (Spielberger, Gorsuch, & Lushene, 1974).

Negative and positive morale – using modified versions of the two subscales of the Affect balance scale (Bradburn & Caplovitz, 1965). Optimism assessed using a widely used life orientation test (LOT-R) (Scheier & Carver, 1985; Scheier, Carver, & Bridges, 1994). Positive states of consciousness (PSOM) assessed by scale (Horowitz, Adler, & Kegeles, 1988). Coping styles assessed using short version of "Ways of Coping" (Folkman, Chesney, Cooke, Boccillari, & Collette, 1994). Social support measured using the social relations scale (O'Brien, Wortman, Kessler, & Joseph, 1993).

The CSE scale was designed to measure individuals' assessments of their CSE ("perceived self-efficacy"), the ability to perform certain behaviors rather than their coping strategies. A research and confirmatory factor analysis of the CSE scale revealed three factors: the use of problem-oriented coping, the cessation of unpleasant emotions and thoughts, and receiving support from friends and family. Three derived CSE scales demonstrated good reliability and validity, they assess self-efficacy in relation to various types of coping. In accordance with the theory of stress and coping, the analysis of prognostic reliability showed that a change in the use of problem-solving skills and problem-solving-oriented emotions predicts a decrease in psychological stress over time and an increase in psychological well-being.

One of the main problems in coping studies, as the authors point out (Folkman & Lazarus, 1988), is the assessment of changes in coping. The CSE scale does not refer to a specific stressful event, but evaluates a person's confidence in the implementation of coping strategies. The three factors in the CSE scale are consistent with the three main aspects of coping that are taught in coping efficiency training – problem-oriented coping, emotionally-oriented coping and social support. The purpose of this work is to develop and test the Russian version of the coping self-efficacy scale in the situation of COVID-19 pandemic and threat of infectiopn.

### Methods.

The Coping Self-efficacy scale - CSE (Coping Self-Efficacy) (Chespeu, et al, 2006), designed to

assess a person's perceived ability to cope effectively with life problems, as well as a way to assess temporary changes in this ability. The test of the impact of stressful events (Impact of Event Scale), adapted by M.S.Magomed-Eminov (Magomed-Eminov, 2007); The questionnaire of post-traumatic growth of personality - PTG (Tadeshi and Calhoun, adapted by M.S.Magomed-Eminov (Magomed-Eminov, 2007).

**Study participants.** The study involved a total of 397 people (men 18.2%, women 81.8%, average age  $21.5 \pm 1.25$  years, mainly residents of Moscow and the Moscow region, undergraduates (11.8%) and students (89.2%) of Moscow universities of various specialties (economics, medicine, psychology, philology, physics, chemistry, etc.), who are at different stages of training. Family status: unmarried 95.3%, have their own family – 4.7%. COVID-19 - 19.1% experienced illness, 80.9% did not. Had relatives who were sick with COVID-19 - 50.2%, 49.7% of respondents had relatives who were not sick.

**Experts.** Five experts, professional psychologists, qualified specialists in the field of stress, psychological trauma, personality, psychological helping, two professionals with two specialties: psychologist and professional interpreter took part in the work of translation of the Coping Self-efficacy Scale and the examination of the compliance of the points of constructive and facial validity.

**Data processing methods.** To analyze the indicators of the Self-efficacy coping methodology we used: descriptive statistics; identification of correlations between the items of the questionnaire, the relationship with the indicators of other methods. Also we took into consideration age and academic performance (the rating of attendance and performance of work in the subjects of the two series) and professional\life success. That was carried out using Spearman's rank correlation coefficient. To identify differences in the indicators of the Coping Self-efficacy Questionnaire between men and women respondents who were sick and non-sick with COVID-19, the U-criterion Manna-Whitney used for independent samples. The reliability assessment was carried out based on determining the internal consistency of the methodology issues (Cronbach's alpha coefficient). Data processed in the program SPSS Statistics 28.0.0.0 (190). Exploratory factor analysis (EFA) used to determine the factor structure of the questionnaire.

**Results.** Reliability-consistency. Reliability – the consistency of the methodology, determined using the Alpha-Kronbach criterion, is 0.92 in the total sample, which indicates its high reliability.

Table 1 shows the average indicators of the Coping Self-efficacy Scale in relation to the socio-demographic indicators of respondents.

**Table 1. The average (M and SD) of the general indicator of the self-efficacy scale of coping among respondents with different demographic, status characteristics and transferred**

Variables		N	M	SD
Self-efficacy-total score		342	160,670	38,6853
<b>Gender</b>	Male	62	166,258	35,0306
	Female	280	159,432	39,3998
<b>Education</b>	Secondary	11	154,364	25,0770
	Incomplete higher education	294	161,146	39,3268
	Higher education	37	159,167	37,9477
<b>Marital status</b>	Single	326	160,264	38,3406
	Married	16	172,400	48,1601
Experienced COVID		65	162,264	38,1784

<b>COVID infection in respondents</b>	Did not get sick	277	152,022	41,6405
<b>COVID relatives</b>	Experienced COVID	170	160,081	40,5276
	Did not get sick	172	161,515	37,1133

The analysis of the significance of differences in indicators of gender, the experience of the disease in the respondents themselves, in relatives was carried out. The results are

presented in tables 2 (indicators of the coping self-efficacy scale) and 3 (indicators of the Coping Self-efficacy Scale with age, family and educational status).

**Table 2 Analysis of gender differences in the indicators of the coping self-efficacy scale using the Mann-Whitney criterion**

<b>Gender</b>	<b>И</b>	<b>M</b>	<b>SD</b>	<b>P-level</b>
Male	62	166,258	35,0306	.30
Female	280	159,432	39,3998	

Statistical analysis conducted using the Mann-Whitney criterion does not allow us to assert that there are gender differences in the indicators of the coping self-efficacy scale (Table

No. 2). There were also no significant differences in the severity of coping self-efficacy indicators in individuals who themselves suffered from COVID-19 disease or their relatives were ill.

**Table 3 Correlation analysis using the Ro Spearman criterion of indicators of the Coping Self-efficacy Scale with age, family and educational status**

<b>variables</b>	<b>Po</b>	<b>P-level</b>
Age	,004	,938
Education	,024	,624
Marital status	,049	,377

The study analyzed the relationship of the indicators of the Coping Self-efficacy Scale with the age of the subjects, the educational and family status of the respondents. There was no significant reliable relationship between these indicators.

**Analysis of convergent validity of the Coping Self-efficacy Scale.** In the study, using the ro Spearman correlation coefficient, the relationship of the Coping Self-efficacy Scale with the indicators of traumatic tendencies of the Impact of Stressful Events Test (Impact of Event Scale) adapted by M.S.Magomed-Eminov (Magomed-Eminov, 2009) was analyzed. A significant negative relationship was revealed  $\beta = -.140$  ( $p < .02$ ), which indicates the possibility of

overcoming the traumatic influence of a stressful event, which is the COVID-19 pandemic.

The study of the relationship of the Coping Self-efficacy Scale with the data of the questionnaire of Post-Traumatic Personality Growth - PTG (Tadeshi and Calhoun, adapted by M.S.Magomed-Eminov (Magomed-Eminov, 2007) demonstrates the presence of a significant correlation  $\beta = .262$  ( $p < .001$ ). These data suggest the possibility of overcoming the negative impact of peritraumatic distress in terms of the transformation of values, beliefs of the individual, its growth and development.

**Factor analysis.** On the basis of exploratory factor analysis (EFA) using the principal component method (Varimax axis rotation,

Kaiser normalization), five factors were extracted (Table 4), the primary meaningful grouping of the questionnaire items was performed.

Table 4. **Results of factor analysis**

Items	Component				
	1	2	3	4	5
1. Keep from getting down in the dumps.	<b>675</b>	,310	095	,045	010
2. Talk positively to yourself.	<b>656</b>	,279	335	,111	167
3. Sort out what can and cannot be changed.	296	<b>555</b>	177	,181	066
4. Get emotional support from friends and family.	141	,154	<b>629</b>	,021	,172
5. Find solutions to your most difficult problems.	301	, <b>652</b>	260	,130	141
6. Break an upsetting problem down into smaller parts.	208	, <b>690</b>	004	,094	,002
7. Leave options open when things get stressful.	081	, <b>752</b>	209	,038	152
8. Make a plan of action and follow it when confronted with a problem.	164	, <b>712</b>	161	,128	,062
9. Develop new hobbies or recreations.	260	,204	<b>558</b>	,112	<b>421</b>
10. Take your mind off unpleasant thoughts.	<b>716</b>	,116	154	,171	222
11. Look for something good in a negative situation.	<b>653</b>	,126	149	,108	370
12. Keep from feeling sad.	<b>812</b>	,215	178	,125	009
13. See things from the other person's point of view during a heated argument.	248	,153	,051	211	<b>503</b>
14. Try other solutions to your problems if your first solutions don't work.	183	, <b>725</b>	167	,065	285
15. Stop yourself from being upset by unpleasant thoughts.	<b>816</b>	,199	130	,175	,055
16. Make new friends.	122	,193	<b>715</b>	,105	226
17. Get friends to help you with the things you need.	051	,143	<b>706</b>	,172	,249
18. Do something positive for yourself when you are feeling discouraged.	399	,203	<b>533</b>	,016	,023

19. Make unpleasant thoughts go away.	802	,147	184	,203	049
20. Think about one part of the problem at a time.	372	,287	211	,261	,308
21. Visualize a pleasant activity or place.	162	,187	559	,013	277
22. Keep yourself from feeling lonely.	443	,122	537	,185	,054
23. Pray or meditate.	089	,062	140	<b>738</b>	285
24. Get emotional support from community organizations or resources.	233	,042	121	<b>712</b>	,044
25. Stand your ground and fight for what you want.	111	, <b>595</b>	336	,031	025
26. Resist the impulse to act hastily when under pressure.	122	, <b>554</b>	051	,279	,289

**Factor 1** - the cessation of unpleasant emotions and thoughts (**emotional coping**). The following characteristics contribute the greatest weight to this factor: distraction from unpleasant thoughts, search for positive things in difficult situations, do not indulge in sadness, stop getting upset from unpleasant thoughts, get rid of unpleasant thoughts, resist discouragement, talk positively to yourself.

**Factor 2** - the use of **problem-oriented coping**. This factor includes the following points: continue to look for different solutions when the situation becomes tense, make an action plan and follow it when faced with a problem; try other solutions to your problems if the first ones don't work; break an unpleasant problem into smaller parts; find solutions to your most difficult problems; resist impulsive impulses.

**Factor 3** - getting **support from friends and family**. The main characteristics are: the ability to make friends; to attract friends to help in the right things; to receive emotional support from family and friends; find new hobbies and entertainment.

**Factor 4** formed by two characteristics: to pray or meditate; to receive emotional support from public organizations or services.

**Factor 5**— decentralization: during a heated argument, look at things through the eyes of another person.

The results of factorization obtained by us grouped the points of the scale into three pronounced factors, and allowed us to identify compliance with theoretical constructs: emotional coping or the cessation of unpleasant emotions and thoughts, the second factor is problem-oriented coping and the coping factor associated with receiving support from family and friends. Factors 4 and 5 do not show a connection with known theoretical constructs, and their grouping is rather random, partly approaching emotional coping.

### Discussion.

The Russian version of the Coping Self-Efficacy Scale questionnaire demonstrated a high consistency of points, which is comparable to the author's English-language original version of this tool. There were no significant differences in coping strategies between respondents of different genders, family and educational status, as well as in connection with the COVID-19 disease of the subjects themselves and relatives ( $p > 0.50$ ). This is consistent with the data of studies of coping behavior in stressful and pandemic situations among young people (Bityutskaya E. V., Bazarov T. Yu., Korneev A. A., 2021) conducted using a questionnaire for coping with stressful

situations (N. S. Endler, J. D. A. Parker) and a questionnaire for Ways of coping (Folkman, Lazarus, 1988). In these studies, the predominance of a problem-oriented coping style among young respondents was revealed, no significant differences in coping strategies related to the pandemic were found between respondents exposed to COVID-19 and respondents who were not infected with COVID-19.

In our study the identification of a significant negative relationship of the Coping Self-efficacy Scale with the indicators of traumatic tendencies of the Stress Events Impact Test (Magomed-Eminov, 2008) may indicate the possibility and resources of overcoming extreme stressful events created by the COVID-19 pandemic, invading all spheres of our lives and transforming our very existence (Magomed-Eminov et al., 2020).

Data on the types of coping used in an extreme situation of infection or threat of infection with coronavirus must be compared with the factor of inclusion of positive resources – post-traumatic growth associated with a change in values, attitudes towards oneself, to others. In studies conducted in 2020 (Magomed-Eminov et al., 2021), it was found that patients with COVID-19 have higher rates of post-traumatic growth than those who are not infected yet. The presence of significant positive correlation of the Coping self-efficacy rate with the data of the questionnaire of Post-Traumatic personality Growth - PTG (Tadeshi and Calhoun, adapted by M.S.Magomed-Eminov (Magomed-Eminov, 2007) in our sample suggests that overcoming the negative impact of peritraumatic distress can occur not only in the context of the explanatory model of problem-oriented and emotional coping but also in terms of the transformation of values, beliefs of the individual in the course of personality work with traumatic experience. One's growth and development theoretically embedded in the model of post-traumatic growth (Tedeschi, Calhoun, 1996).

The results of factorization, in accordance with the theoretical types of coping embedded in the design of this scale, allowed us to distinguish in Russian version also: emotional coping (cessation of unpleasant emotions and

thoughts), problem-oriented coping and coping associated with receiving support from family and friends. These factors completely coincided with the factorization carried out during the adaptation of the English-language scale (Chespeu, Neilands, Chambers, Taylor & Folkman, 2006). The authors' study revealed a 5-factor structure with grouping of points around three main factors that theoretically correspond to two types of coping (using problem-oriented coping, stopping unpleasant emotions and thoughts) and receiving support from friends and family. Two more factors, according to the authors' methodology, created a chaotic structure that also did not allow to interpret meaningfully the obtained data.

### **Conclusions.**

Thus, the Russian version of the coping self-efficacy scale characterized by sufficient reliability and consistency. Its factor structure corresponds to the theoretical model and the additional data obtained during the adaptation of the methodology. The adapted methodology provides a basis for expanding the ability to measure various ways of overcoming negative conditions associated with COVID-19 infection and other related factors that create uncertainty, deterioration of the physical, social, economic, psychological situation of people during the pandemic. At the same time, it allows us to evaluate and compare the contribution of positive ways to overcome the negative consequences of an extreme situation. We plan to expand the repertoire of methods showing the importance of taking into account positive factors in order to counter the threats of a pandemic that has been creating distressing conditions for almost two years.

In accordance with the cultural and historical activity paradigm (Magomed-Eminov, et al., 2020; Magomed-Eminov et al, 2009, 2021), we propose to use the three-factor model "suffering–resistance–growth" to interpret overcoming the negative consequences of the pandemic. In terms of adaptation, this model is specified as "maladaptation-adaptation-development". The adaptive value of positive experiences and their constructive role in coping



with distress has been shown in works on post-traumatic growth (Tedeschi & Calhoun, 1996; Stallard et al, 2021; Yao et al, 2021), as well as on coping with grief and bereavement (Bonanno, G. A., Keltner, D., Holen, A., & Horowitz, M. J., 1995; Bonanno, G. A., Wortman et al, 2002; Kessler et al, 1993). Our understanding leads not only to cognitive reconstruction and adaptation (as those authors suggest), but traumatic adaptation, resilience is not just a work of recovery, it is also a transcendent transgressive work of the individual, personality work (Magomed-Eminov, 2008).

The study and development in the field of stress and coping theory (Aldwin, 2007), which appeared after the adaptation of the English version of CSE, emphasize the role of positive emotions in the process of stress and coping processes based on the meaning that supports them (Folkman & Moskowitz, 2000a, 2000b, Seligman et al, 2016). It should be taken into account that many of the coping processes are based on meaning (in particular, changing the order of life goals and finding advantages associated with enduring a stressful period of life), in our terms, on the meaning work of the individual (Magomed-Eminov, 1997). Therefore, it seems promising to develop a fourth dimension of the scale associated with coping based on meaning.

### Conflicts of Interest

The authors declare no conflicts of interest.

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