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DETERMINATION OF THE COVID-19 FEAR SCALE IN HIGH SCHOOL STUDENTS

Abstract

The article presents the results of a study of the COVID-19 fear scale of high school students in the system of studying anxiety in a pandemic. A new understanding of the phenomenon of anxiety in the emergency conditions of a pandemic is being clarified. The results of foreign studies (University of Sheffield; H. Yao, J.H. Chen, Y.F. Xu; J. Qiu, B. Shen, M. Zhao et al) at the beginning of the pandemic experimentally determined an increase in the level of anxiety and stress in the population due to the spread of COVID-19, which allowed them to identify the age groups of people most susceptible to anxiety-depressive reactions, and develop the main directions of psychological assistance, taking into account the specifics of their response. The scientific and methodological value is represented by the works of foreign scientists (E. Commodari, V.L. La Rosa; C.G. Sibley, L.M. Greaves, N. Satherley et al.) showed a direct relationship between the anxiety state of the personality of high school students caused by the COVID-19 pandemic since 2020.

Key words: high school student, modern learning conditions, anxiety, situational anxiety, personal anxiety, fear, fear scale, quarantine.

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ОРТА МЕКТЕП ОҚУШЫЛАРЫНЫҢ COVID-19 ҚОРҚЫНЫШ ШКАЛАСЫН АНЫҚТАУ

Андатпа

Мақалада пандемия кезіндегі мазасыздықты зерттеу жүйесіндегі жоғары сынып оқушыларының COVID-19 қорқыныш шкаласын зерттеу нәтижелері келтірілген. Пандемия төтенше жағдайларындағы мазасыздық құбылысы туралы жаңа түсінік нақтылануда. Шетелдік зерттеулердің нәтижелері (University of Sheffield; H. Yao, J.H. Chen, Y.F. Xu; J. Qiu, B. Shen, M. Zhao et al) пандемияның басында эксперименталды түрде covid-19 таралуына байланысты халықтың мазасыздығы мен стресс деңгейінің жоғарылауын анықтады, бұл оларға алаңдаушылық-депрессиялық реакцияға бейім адамдардың жас топтарын анықтауға және олардың жауап беру ерекшеліктерін ескере отырып, психологиялық көмектің негізгі бағыттарын жасауға мүмкіндік берді. Ғылыми және әдіснамалық құндылығы шетелдік ғалымдардың (E. Commodari, V.L. La Rosa; C.G. Sibley, L.M. Greaves, N. Satherley et al.) 2020 жылдан бастап COVID-19 пандемиясынан туындаған жоғары сынып оқушыларының жеке басының алаңдаушылық жағдайының тікелей байланысын көрсетті.

Түйін сөздер: жоғары сынып оқушысы, оқытудың заманауи шарттары, мазасыздық, ситуациялық мазасыздық, жеке мазасыздық, қорқыныш, қорқыныш шкаласы, карантин.

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ОПРЕДЕЛЕНИЕ ШКАЛЫ СТРАХА COVID-19 У СТАРШЕКЛАСНИКОВ

Аннотация

В статье представлены результаты исследования тревожности старшеклассников на основе шкалы страха COVID-19 в условиях пандемии. Дано уточнение понятия «тревожность» в чрезвычайных условиях пандемии. Результаты зарубежных исследований университета Шеффилд (Н. Yao, J.H. Chen, Y.F. Xu; J. Qiu, B. Shen, M. Zhao et al.) в начале пандемии экспериментальным путем определили повышение уровня тревоги и стресса у населения в связи с распространением COVID-19, позволив выявить возрастные группы людей, наиболее подверженных тревожно-депрессивному реагированию и разработали основные направления психологической помощи с учетом специфики их реагирования. Научную и методологическую ценность представляют работы зарубежных ученых (E. Commodari, V.L. La Rosa; C.G. Sibley, L.M. Greaves, N. Satherley et al.) показавших прямую взаимосвязь тревожного состояния личности старшеклассников, обусловленных пандемией COVID-19 начиная с 2020 года. Инструментом диагностики выступила методика «Шкала страха COVID-19» (The Fear of COVID-19 Scale) по выявлению уровня страха старшеклассников (низкий, средний, высокий), испытываемых в карантинном режиме жизнедеятельности. Результаты диагностики были статистически обработаны специалистами сектора Биостатистики Отдела Менеджмента научно-исследовательской деятельности ЗКМУ имени Марата Оспанова.

Ключевые слова: старшеклассник, современные условия обучения, тревожность, ситуативная тревожность, личностная тревожность, страх, шкала страха, карантин.

Introduction

The ubiquitous increase in the level of anxiety, depression, confusion, hopelessness observed in people around the world is quite understandable in connection with the recent unexpected and serious restrictive measures in an attempt to stop the spread of the COVID-19 virus.

It is common knowledge that in December 2019, a new coronavirus (later known as SARS-CoV-2) was discovered in Wuhan, Hubei Province, China [1]. The resulting illness was originally called "novel coronavirus-infected pneumonia" and was associated with potentially serious complications. The infection was caused mainly by person-to-person transmission, and the mortality rate was estimated at 2% [2].

On January 30, 2020, the World Health Organization (WHO) declared the outbreak of the novel coronavirus a public health emergency of international concern [3]. And on February 11, 2020, the disease caused by SARS-CoV-2 was officially named COVID-19 [4]. By March 7, 2020, the global number of confirmed cases of COVID-19 exceeded 100,000, and the number of deaths exceeded 3,000 [5]

It has become known that public health emergencies caused by COVID-19 negatively affect the mental health of the population and increase the frequency of psychological crises [6]. Since anxiety acts as a signal of danger, threat, which is important for a person, but nevertheless it disorganizes the behavior of a person, causing sometimes unreasonable panic and / or in extreme cases of suicidal thoughts. Therefore, the danger is causing the very inadequate perception of the events and phenomena by people, since the role of the stressor is an invisible threat - the fear of contracting a well-known virus, getting sick and dying,

Thus, foreign researchers (University of Sheffield; Yao H., Chen J.H., Xu Y.F.; Qiu J, Shen B, Zhao M, et al.) Were one of the first to reveal an increase in the level of anxiety and stress in population due to the spread of COVID-19, thanks to the results obtained, the age groups of people most susceptible to anxiety-depressive response were identified and the main directions of psychological assistance were developed, taking into account the specifics of their response [7, 8, 9].

Anxiety is also aggravated by recurrent uncertainties and doubts about timely, full and high-quality medical care. The following main factors are named (Li W., Yang Y., Liu ZH, et al.; Mamun MA, Griffiths MD; Montemurro N.; Mo Y., Deng L., Zhang L., Lang Q. et al.) contributing to the development of negative emotional states in the population: lack of protective equipment; problems with adequate treatment; lack of necessary medicines in pharmacies; professional burnout of medical personnel due to harsh working conditions during a pandemic, etc. [10, 11, 12, 13].

In terms of infections, children and adolescents have not been hit hard by the COVID-19 pandemic. However, the measures of social isolation have profoundly changed their lifestyle, which is believed to have a psychological impact on them. Since, the direct psychological response of people to the quarantine regime in connection with the COVID-19 pandemic is anxiety, uncertainty, fear, anxiety, in general, forming a stress response, which indicates a high probability of psychological consequences of the pandemic, thereby proving the relevance and practical significance of our study.

The aim of this study is to determine the scale of fear that leads to anxiety in high school students in the context of the COVID-19 pandemic.

The object is the anxiety of high school students, and the subject of the study is the fear scale as a factor in high school anxiety caused by COVID-19 during a pandemic.

In order to achieve this goal, we studied the state of the problem of anxiety of the individual during a pandemic and diagnosed the fear scale according to the methodology of the "COVID-19 Fear Scale" in high school students in Aktobe (Kazakhstan).

Research methodology and methods

The relevance of this study is related to the study of the psychosocial consequences of the pandemic, among which the anxiety of high school students caused by fear of the COVID-19 virus requires close attention.

The main concept of the study, "personal anxiety" (a stable personality trait), was clarified, the meaning of which is psycho-emotional stress in anticipation of a threat - anxiety, fear, suspiciousness, tension, exaggeration of the significance of perceived information, expectation of danger. The psychological content of the concept of "situational anxiety" (anxiety as an individual's response to a specific situation), associated with the passing of final exams (UNT), anxiety before the uncertainty of one's future, the mandatory choice of a profession and quarantine conditions in connection with the COVID-19 pandemic.

Scientific research interest in the problem of "anxiety in high school students" arose in different periods among representatives of different psychological trends. The scientific and methodological value of the work is a detailed analysis of the scientist A.M. Parishioners of works in the field of philosophy, sociology and psychology, in which anxiety is associated with negative types of self-esteem, with unfavorable ratios of levels of claims and self-esteem.

The recently popular The Fear of COVID-19 Scale is a valid and reliable research tool.

The COVID-19 Scale (The Fear of COVID-19 Scale) was developed by a group of scientists from Hong Kong, Iran, Great Britain and Sweden, which was tested for reliability and validity on the example of an Iranian sample [14]. The quality of the Russian-language version of the methodology was clarified by the double translation method (from Russian into English, from English into Russian) and tested in Russia and Belarus [15].

The scale consists of 7 statements related to various aspects of an individual's (respondent's) experience of the spread of coronavirus infection (COVID-19) and its consequences:

1. "I am afraid of contracting COVID-19".
2. "The thought of COVID-19 makes me uneasy".
3. "My hands sweat when I think about COVID-19".
4. "I do not rule out death from COVID-19".
5. "News about COVID-19 is annoying".
6. "I have a fear of COVID-19".
7. "My heart beats faster when I think about the possibility of contracting COVID-19".

The respondent's degree of agreement with each statement was assessed on a five-point Likert scale, where 1 is "strongly disagree," 5 is to "strongly agree" and the total score was calculated upon completion. The standardization of points for the surveyed Russian-speaking sample was carried out by us on the basis of the assumption of a normal distribution of data in the general population (population): the sum of points from 7 to 14 was attributed by us to the low level of fear, from 15 to 18 - to the average level and from 19 to 35 - to a high level of fear. To check the reliability (self-consistency) of the scale used, the Cronbach coefficient α was calculated. The result obtained indicates its high reliability: $\alpha = 0.81$.

Research results

Diagnostics of the level of anxiety was carried out, in particular, the scale of fear of the COVID-19 virus of high school students in grades 10-11 of 8 (eight) communal state institutions (CSU) of secondary schools in Aktobe: #3; #12; #13; #20; #23; #25; # 28; #64.

Due to the limitations of the quarantine regime, it was decided to conduct a survey using the COVID-19 Fear Scale methodology in an online format through the Google Forms application at the link: https://docs.google.com/forms/d/12Vwq5N4geUQaAijv2qUY3VmBmYTuqKAX_YzEtbrIrtk = sharing. The mailing was carried out through the class teachers, since the preferences of the high school students themselves and their parents in the freedom of personal choice and upholding of personal rights were taken into account. The survey was conducted on a voluntary basis, on the basis of intra-school orders with the permission of the State Institution "Education Administration of the Aktobe region" (official letter Marat Ospanov ZKMU, outgoing #13/8-21-1844 of 06/03/2021, incoming #4399 of 06/03/2021).

The sample consisted of 291 respondents, aged 71.1% (207 people) - 16 years-17 years; 23% (67 people) - 17-18 years old; 5.8% (17 people) - 14 years-15 years.

By gender: 58.1% (169 people) - female representatives; 41.9% (122 people) are males.

The results of the data obtained are presented in tables 1-7.

Table 1

All groups Descriptive statistics

	# obs er.	Aver age	Trust- 95,000 %	Trust- 95,000 %	Medi an	Mini mum	Maxi mum	Lower - Quartile	Upper - Quartile	Statistical deviation
Overall Score COVID-19 Fear Scale	290	13,4 4483	12,8132 6	14,0763 9	12,0 0000	7,00 0000	33,00 000	9,00000 0	17,0000 0	5,464455

Table 2

Outcomes Descriptive statistics

	A	#	Aver	Trust -	Trust -	Med	Mini	Maxi	Lower -	Upper -	Statistical
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	g e	obs er.	age	95,000 %	95,000 %	ian	mu m	mum	Quartile	Quartile	deviation
Overall Score COVID-19 Fear Scale	3	71	13,73239	12,44093	15,02386	12,00000	7,00000	31,00000	10,00000	16,00000	5,456209
Overall Score COVID-19 Fear Scale	2	202	13,49505	12,71571	14,27439	13,00000	7,00000	33,00000	9,00000	17,00000	5,617357
Overall Score COVID-19 Fear Scale	1	17	11,64706	10,11598	13,17813	12,00000	7,00000	17,00000	9,00000	14,00000	2,977859

Table 3

Outcomes Descriptive statistics

	Gender (1-male, 2-female)	# obs er.	Ave rag e	Trust - 95,000 %	Trust - 95,000 %	Me dian	Mini mu m	Max imu m	Lower - Quartil e	Upper - Quartil e	Statistica l deviatio n
Overall Score COVID-19 Fear Scale	1	114	13,80702	12,85353	14,76050	13,00000	7,00000	31,00000	10,00000	17,00000	5,138570
Overall Score COVID-19 Fear Scale	2	176	13,21023	12,36708	14,05337	12,00000	7,00000	33,00000	9,00000	16,00000	5,667563

Table 4

Kraskel-Wallis Rank DA

Dependent: Overall Score COVID-19 Fear Scale	Kr.Kraskela-Wallis Rank Index; Total score COVID-19 Kr.Kraskela-Wallis Fear Scale: H (2, N=290) =1,322795 p =5161			
	Code	Acceptable N	Sum of Ranks	Average Rank
1	1	17	2138,50	125,7941
2	2	202	29296,00	145,0297
3	3	71	10760,50	151,5563

Table 5

Median test

Dependent: Overall Score COVID-19 Fear Scale	Median test, total. median =12.0000 Total score COVID-19 Fear Scale Group (independent) variable: Age Chi-squared =5495313 cc = 2 p =7598			
	1	2	3	Total
<= Medians: observations expected	10,00000	100,0000	36,00000	146,0000
observables-waiting	8,55862	101,6966	35,74483	
> Medians: observations expected	1,44138	-1,6966	0,25517	
observables-waiting	7,00000	102,0000	35,00000	144,0000
Sum: observed	8,44138	100,3034	35,25517	
	-1,44138	1,6966	-0,25517	
	17,00000	202,0000	71,00000	290,0000

Table 5

z' values for multiple comparisons

Dependent: Overall Score COVID-19 Fear Scale	z' values for the set. comparisons; Overall Score COVID-19 Fear Scale Group (independent) variable: Kr.Kraskel-Wallis age: H (2, N= 290) =1,322795 p =5161		
	1 R:125,79	2 R:145,03	3 R:151,56
1		0,908299	1,137734

Dependent: Overall Score COVID-19 Fear Scale	z' values for the set. comparisons; Overall Score COVID-19 Fear Scale Group (independent) variable: Kr. Kraskel-Wallis age: H (2, N= 290) =1,322795 p =5161		
	1 R:125,79	2 R:145,03	3 R:151,56
2	0,908299		0,564102
3	1,137734	0,564102	

Table 6

P value (2-sided) for multiple comparisons

Dependent: Overall Score COVID-19 Fear Scale	p value (2-sided) for the set. comparisons; Overall Score COVID-19 Fear Scale Groups (independent) variable: Kr. Kraskel-Wallis Age: H (2, N=290) =1,322795 p =5161		
	1 R:125,79	2 R:145,03	3 R:151,56
1		1,000000	0,765695
2	1,000000		1,000000
3	0,765695	1,000000	

Table 7

Results according to criterion U Mann-Whitney criterion

U Mann-Whitney criterion for the Gender variable (1-male, 2-female) The marked criteria are significant at the level of p<05000									
	Sum of ranks - Group 1	Sum of ranks - Group 2	U	Z	p-level	Z - adju- sted	p-level	# - Gro- up 1	# - Group 2
Overall Score COVID-19 Fear Scale	17616,50	24578,50	9002,5 00	1,475 199	0,1401 60	1,479 354	0,1390 47	114	176

Foreign scientists (Mascialino G, Adana-Díaz L, et al.; Mazza M.G., Lorenzo R.D., Conte C., et al.) immediately conducted studies in emergency conditions, according to the results of which, based on the data obtained from a sociological survey, it was determined that patients with COVID-19 have symptoms of anxiety (including post-traumatic stress disorder, depression, and insomnia) [16, 17].

Discussion of the results

The coronavirus pandemic has affected almost all areas of our daily lives. Thus, an analysis of foreign sources (Commodari E., La Rosa V.L.; Sibley, C.G., Greaves, L.M., Satherley, N., et al.; Dryhurst S., Schneider C.R., Kerr J., et al.) showed a direct relationship between the anxiety state of young people studying from quarantine living conditions in almost all countries of the world caused by the COVID-19 pandemic starting in 2020 [18, 19, 20].

According to the results obtained by Italian scientists (Commodari, 2020), adolescents had a low perception of the risk of COVID-19, as well as perceived comparative susceptibility and perceived seriousness were also very low. Even the adoption and observance of restrictive measures necessary to contain the spread of the virus by young people did not upset and alarm them in any way. Despite the fact that adolescents of the so-called "red zones" showed more serious negative psychological experiences about quarantine, there were still no significant differences in the attitude of adolescents in non-dangerous regions. Therefore, it was suggested that the negative feelings of the participants may be more associated with adolescence than with the COVID-19 pandemic itself [18].

In another study, it was determined that people in the pandemic/isolation group had higher confidence in science, politicians and the police, having a higher level of patriotism and mental disorders compared to people in the pre-pandemic group before restrictions. It also highlights the

social interconnectedness, resilience and vulnerability to adversity, as well as the applied consequences of how countries solve this global problem [19].

Isolation, loss of loved ones, uncertainty and fear of it - all these have become risk factors for the development of mental illness or have aggravated existing disorders: every fifth patient has experienced mental disorders within three months after being diagnosed with COVID-19 [20].

In response to the coronavirus pandemic (COVID-19), national governments have introduced urgent sanitary and social measures to contain the spread of the virus. One such measure is quarantine, which includes restricting the movement of people by isolating infected or suspected infected to reduce the risk of new infections. Studies have shown that quarantine is a psychological stress. Of course, quarantine has a significant psychological impact at any age, but children and adolescents suffer the most due to the lack of habitual communication with classmates and friends.

Coronavirus disease 2019 (COVID-19) may not be as deadly for children and adolescents as it is for adults, but it does cause a lot of psychological stress in this age group. According to Indian scientists S.Patra, B.K. Patro adolescents experience acute and chronic stress due to parental anxiety, disruption of daily routines, increased domestic violence and home confinement with limited or no access to peers, teachers or physical activity [21].

According to F.Demaria, S.Vicari parents can also transmit their psychological stress to children and practice inappropriate parental behavior, which can contribute to the development of post-traumatic stress symptoms in children [22].

There are enough scientific studies on the psychological health of the family - parents, children, and their relationships (Kim S.J., Lee S., Han H., et al.; Cusinato M., Iannattone S., Spoto A., et al.; Romero E., López-Romero L., et al.; Marchetti D., Fontanesi L., Mazza C., et al.). Indeed, during epidemics, psychological support is no less important than infection control. During school closures due to COVID-19, prolonged partial school closures can have detrimental social and health consequences for children and their parents, increasing the burden on the family. For example, during the closing of school, children gained weight, spent less time on physical exercises and used the media more. In addition to online learning content (97.2%), YouTube was actively used (87.6%), followed by games (78.3%).

Thus, during the closure of schools due to COVID-19, many parents and children experienced various mental health difficulties. Ongoing monitoring of the mental health of high-risk groups and multiple support systems may need to be expanded to cover parents experiencing difficulties in caring for their children [23].

The study of the well-being of Italian parents and children, parental stress and resilience of children aged 5 to 17 years showed that measures of restriction of freedom and changes in the daily routine negatively affect the psychological state of parents, exposing children to a significant risk to their well-being.

The identification of personal and contextual variables involved in psychological adaptation to COVID-19 quarantine in order to identify families at risk of maladjustment allowed the development of special intervention programs aimed at their support. It is very important to focus on the needs of families and children, including their mental health, in order to mitigate the effects of the COVID-19 pandemic on health and the economy [24].

Testing of the consequences of COVID-19 in Spanish children showed that their adaptation was influenced by a chain of effects stemming from the perceived stress of parents and the emotional response to the COVID-19 crisis, through stress and special parenting methods. Parental stress provoked the negative results of the child, and specific parenting methods were more closely related to the positive results of the child, which in general better inform about possible future outbreaks, effective guidelines and preventive programs aimed at improving the well-being of the child in the family [25].

There was a need to create preventive programs to support parents during the COVID-19 pandemic. Mental health professionals and social workers should be warned about the

consequences of isolation and social distancing for the upbringing of children and, as a result, the well-being of children [26].

Therefore, it is necessary to pursue a policy in which special attention is paid to the needs of women, young people studying, and preschool children, since this will play an important role in preventing psychological disorders and mental illnesses in the future.

Of course, there was considerable variability between the different cultures of the studied countries, individualistic worldview, personal experience, prosocial values, for example, social reinforcement through friends and family turned out to be significant determinants in more than half of the countries studied. Risk perception correlated significantly with reports of preventive health measures in all ten countries [19].

If we talk about preventive measures to prevent or reduce people's anxiety in life emergencies associated with the risk of mass infection with the virus, it should be noted that existing psychological methods are used to combat stress, among which techniques aimed at overcoming feelings of uncertainty, such as positive visualization, should be chosen. Then the stress is compensated by a way of thinking aimed at individual life goals that need to be worked on.

It is known that planning, conscious appeal to known positive facts indicating safety (as opposed to ignoring and uncertainty) they are able to reduce anxiety, streamline and objectify experiences, creating the ground for greater psychological stability.

The well-known fundamental mandatory anti-epidemic measures, such as self-isolation and social distancing, were an independent stress factor in the studied sample of Russian scientists. In their opinion, the following measures are extremely important for maintaining the adaptation mechanisms of people: providing complete, convincing and reasonable information through the media about the need for compliance with anti-epidemic measures by the population; creation of a coalition of all specialists involved in the fight against the pandemic and public organizations to mobilize resources in order to respond in a timely manner to the needs for maintaining mental health of the population; conducting long-term monitoring of stress levels on various Internet platforms in order to improve preventive and psychocorrective work among the population [20].

During a pandemic, adolescents/high school students at high risk of psychological problems may find themselves under the protection provided by a protective family life, peer support and psychological support from teachers. For example, teachers and parents can be trained to identify signs and symptoms indicating poor mental health, such as sleep disorders, excessive anger and difficulty concentrating [22].

We agree with foreign scientists that it is necessary to improve the access of children and adolescents to mental health support services aimed at ensuring measures for the development of healthy survival mechanisms during the current crisis. This innovative policy in the field of mental health of children and adolescents requires direct and digital networks of cooperation between psychiatrists, psychologists, pediatricians and community volunteers [27]. Mental health professionals can then meet any mental health needs with the help of telmental medical interventions aimed at adolescents, which have shown promising results [28]. Japanese scientists correlate physical activity of high school students with psychological health, which can improve their psychological status. Therefore, physical activity is recommended in order to better support the psychological health of children and adolescents under the influence of COVID-19 [29].

Conclusion

In the context of various global changes in the life of modern people in connection with the COVID-19 pandemic, the problem of preserving the mental health of the individual, his comfortable inner state, has become relevant. Since the unknown, rejection of the oppressive reality leads to emotional tension, and subsequently to conflicting emotional states - stress, depression, affect, frustration, fear as a factor of anxiety is important in preserving the psychological health of any person. The most vulnerable stratum of the population aged 15-25 years, in particular high

school students, are of special research interest to us because they are a valuable labor capital of our country.

Since the fear of a pandemic spreads as quickly and deeply as the disease itself, manifesting itself in many ways, from the extremes of paranoia and violence to xenophobia, closed borders, economic restrictions and social distancing, therefore universal observation shows that fear permeates all strata of society.

Fear causes emotional tension. Chronic emotional stress - due to insecurity, which lasts for months or years - has a biological effect on people. Uncertainty breeds fear, and chronic fear is toxic stress. It will take two or more generations to assess the biocultural consequences of the COVID-19 crisis for people - from embryos to the elderly. It can be assumed that in the near future there will be a global increase in maternal emotional stress and a decrease in birth weight [30].

It is relevant and timely to study various changes in the psychological state of high school students in view of their special status, the stage of growing up and the period of professional self-determination, which requires close attention and caring attitude from others, especially in such an extraordinary period of the COVID-19 pandemic. This turns out to be really feasible in a specially organized educational process in conditions of purposeful and systematic work on psychological and pedagogical support of high school students.

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