

Assessment of the COVID-19 Pandemic by Russian citizens With Various Levels of Hardiness

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Abstract

Introduction. The COVID-19 pandemic provides an opportunity to examine the impact of psychological characteristics on human adaptation under uncertainty. Hardiness, which is still controversial for its role in maintaining human mental, physical, and social health, is such a psychological characteristic.

Methods. To test the hypothesis that individuals with different levels of hardiness have different attitudes towards the current COVID-19 pandemic, the present study used the short version of the Hardiness Test by E. N. Osin and E. I. Rasskazova (based on the Personal Views Survey III-R by S. Maddi) and a special questionnaire to assess various aspects of the pandemic situation, including its characteristics and impact on various spheres of life, fears, and possibilities for coping (using a 11-point Likert scale). The study was conducted during self-isolation using the Google Form (N = 421; age 18–78 years, mean age = 40.3 ± 12.6 years; 81 % females).

Results. Most Russian citizens perceived the pandemic situation as a challenge to their capabilities. The high-risk group comprised 17 % of respondents, which indicates the need for targeted psychological assistance aimed at psychological education. High hardy individuals recognize the uncertainty and complexity of the pandemic situation, and consider it controllable. For the low hardiness group, this situation is highly uncertain, complex, unpredictable, and uncontrollable, affecting physical activity and the quality of social contacts. Besides fears for their loved ones, fear of the future is pronounced among respondents of this group.

Discussion. The findings from this study are in agreement with the idea of hardiness as the ability to withstand stressful situations, while maintaining internal balance without reducing performance in activities, which indicates the predictive value of this construct.

Keywords

COVID-19 pandemic, self-isolation, uncertainty situation, situation assessment, hardiness, fears, degree of impact, Russians citizens

Highlights

► Despite the fact that the COVID-19 pandemic and self-isolation represent a complex combination of stressors, characterized by uncertainty, complexity, and uncontrollability, most Russian

citizens perceive this situation as a challenge that opens up new opportunities. Meanwhile, the high-risk group comprised 17 % of those surveyed.

➤ In contrast to low hardy individuals, those with a high level of hardiness cope more effectively with the uncertainty situation; they assess their fears lower and their opportunities higher.

➤ Low hardy individuals assess the COVID-19 pandemic as an imminent threat. Besides fears for their loved ones, fear of the future is pronounced among respondents of this group.

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Introduction

Major epidemics have always been significant socio-cultural events for all countries. Re-emerging infections pose a great threat due to growing population mobility, overcrowding in cities, adverse environmental changes, etc. The new coronavirus (COVID-19), which has turned into a global pandemic, is characterized by suddenness and population-wide coverage.

Alarming reports in the media, restrictions in everyday life and activities, a high-uncertainty situation inevitably affect the psychological health of society. Not coincidentally, this year's publications show keen interest in the psychological consequences of the pandemic and concern about the psychological health of the population in various countries: Saudi Arabia (AlHumaid, Ali, & Farooq, 2020); Chile (Caqueo-Urizar et al., 2020); India (Iqbal & Dar, 2020); Spain (Rodríguez-Rey, Garrido-Hernansaiz, & Collado, 2020); Indonesia (Abdullah, 2020); Italy (Marazziti, Pozza, Di Giuseppe, & Conversano, 2020); Australia (Berger & Reupert, 2020); Vietnam (Nguyen & Vu, 2020); America (Fitzpatrick, Harris, & Drawve, 2020); Japan (Shigemura & Kurosawa, 2020); Russia (Boyko, Medvedeva, Enikolopov, Vorontsova, & Kazmina, 2020; Tkhostov & Rasskazova, 2020), etc. The COVID-19 pandemic represents a special case of cumulative risk that will have widespread impact in the long term (Estes & Thompson, 2020; Prime, Wade, & Browne, 2020; Rodríguez-Rey et al., 2020). The pandemic may affect the aggravation of personal and interpersonal crises (Miller, 2020), an increase in the number of suicides (Reger, Stanley, & Joiner, 2020), deterioration of health, behavioral disturbances (Faris, 2020), increased feelings of loneliness (Ng & Lee, 2019), and the emergence of PTSD (Boyras & Legros, 2020). In conditions of self-isolation, there is an increase in the number of cases of domestic violence (Campbell, 2020). The most vulnerable groups include the lonely ones, those living in cramped conditions (Prime et al., 2020), the elderly, persons with disabilities, medical, social workers, and women (Boyras & Legros, 2020).

Numerous studies emphasize negative consequences of the pandemic. However, it has been argued that this situation provides an opportunity for rebirth, restoration, revision of values, and renewal of priorities (El Maarouf, Belghazi, & El Maarouf, 2020). Successful coping requires maturity (Durodié, 2020), the ability to give meaning to unpredictable circumstances (Trzebiński, Cabański, & Czarnecka, 2020), social cohesion, and flexibility (Chen & Bonanno, 2020). Some

studies pay attention to individual and social hardiness as the ability to resist difficulties (PeConga et al., 2020) and discusses the experiences of Holocaust survivors in preparing older people for a pandemic despite their particular vulnerability (Cohn-Schwartz, Sagi, O'Rourke, & Bachner, 2020). An optimistic view has been expressed that long-term hardiness will be the most common outcome, even for those most affected by COVID-19 (Cohn-Schwartz et al., 2020). On the one hand, the experience of the pandemic as a threat leads to trauma and vulnerability, aggravation of crisis phenomena in societies; on the other, when it is perceived as a challenge, new opportunities open up, which poses the challenge for psychologists to comprehend the psychological characteristics that prevent and contribute to successful adjustment to the COVID-19 pandemic.

Hardiness is one of these characteristics, which is designated as a general feeling that the environment forces a person to approach stressful situations with curiosity, to regard them as significant, interesting (involvement), and changeable (control), as an opportunity for development (risk taking) (Maddi, 2005). The important point in this dispositional theory is that it considers not only hardiness but also its alternative characteristics, including alienation, passivity, helplessness, and catastrophization of what happens (Maddi, 2006). The attitudes of 'involvement', 'control', and 'risk taking' determine the personality style, which is associated with hardiness in general and high efficiency in a wide range of stressful situations (Maddi, 2005; Maddi, 2006). In this regard, COVID-19 becomes one of such stressful situations, characterized by uncertainty, unpredictability in the short and long term, uncontrollability (Trzebiński et al., 2020), traumaticity (Boyras & Legros, 2020), a complex combination of stressors (Chen & Bonanno, 2020), and multi-layered risk (Krause, Freiling, Beets, & Brossard, 2020).

The uniqueness of the COVID-19 situation creates an additional burden on the individual and social groups who can perceive and evaluate it in different ways, and who need hardiness to transform this threatening situation into a challenging one. It is hardiness that may be a psychological characteristic that contributes to the perception of the pandemic as a challenge. Studies have shown that hardiness is a buffer for PTSD symptoms in mothers of children with terminal illnesses (Stoppelbein, McRae, & Greening, 2017), mediates psychological well-being (Alfred, Hammer, & Good, 2014), and is a protective factor for loneliness and depression (Ng & Lee, 2019), prevents problem drinking (Kulak et al., 2020). Resilient individuals have a better quality of life, are more energetic, optimistic, and have fewer somatic complaints (Manning, Williams, & Wolfe, 1988). Hardiness has also been found to be positively associated with social support, activity, and efficiency (Eschleman, Bowling, & Alarcon, 2010). The combination of factors such as optimism, cognitive flexibility, active coping, a supportive social network, and concern for physical well-being contribute to individual hardiness and, accordingly, hardiness in society (Funk, 1992; Iacoviello & Charney, 2014). High hardy individuals tend to interpret stressful events as less difficult. Therefore, they are less likely to have a negative impact on health (Kobasa, 1979).

Thus, various studies have shown the specific characteristics of the COVID-19 situation and its special, mainly negative, impact on the population. To our knowledge, the present study appears to be first on COVID-19 assessments by Russian citizens with different levels of hardiness. This study will provide important information not only about the negative aspects of the impact of the pandemic, but also about the ability of Russian citizens to adapt to the current difficult situation. All of this may contribute to create psychological assistance programs aimed at changing negative assessments towards the search for new opportunities. Thus, this study aims to examine assessments of the COVID-19 situation by Russian citizens with different levels of hardiness.

Dryhurst et al. (2020) notes that not events themselves but rather the ways we perceive and evaluate them influence effective overcoming. Therefore, the assessment of this situation (its significance, level and complexity, stressfulness, etc.) and emotional attitude towards it (the level of severity of fears) may largely determine manifestations of hardiness. Therefore, we may assume that high hardy individuals will assess the COVID-19 situation as less stressful, that is, as a challenge situation, in contrast to those with a reduced level of hardiness, who perceive it as a threat.

Methods

Research Design

The study was conducted from April 11 to June 4, 2020 during the period of self-isolation. Most part of respondents was selected in April-May 2020. The respondents were asked to fill out a Google Form, a link to which was posted on the website of the Faculty of Distance Learning, Moscow State University of Psychology and Education, and social networks. The study was voluntary. After the completion of the survey, an invitation was posted via social networks and the faculty website to discuss the first results in a generalized form at a virtual roundtable, which was organized by the Department of Psychology and Pedagogy of Distance Learning, Faculty of Distance Learning, Moscow State University of Psychology and Education, on June 29, 2020.

Sample

The study involved 421 residents of Russia aged 18–78 years (mean age = 40.3 ± 12.6 years), including 340 females and 81 males from Moscow (N = 247), Moscow region (N = 73), and other cities of Russia (N = 101).

Research techniques

Respondents filled out a questionnaire form developed by authors to assess the following aspects of the COVID-19 situation using an 11-point Likert scale:

1) uncertainty, difficulty, importance, stressfulness, unpredictability, uncontrollability, and hopelessness;

2) degree of influence on various spheres of life (employment, salary level, level of physical activity, quality of relationships with loved ones, quality of social contacts);

3) severity of various fears (dying, getting sick, illness of loved ones and inability to help them, illness and death of loved ones, being left alone, being left without work, being left without means of subsistence, worsen relations with a partner);

4) individual resources to overcome (physical, psychological, intellectual, spiritual, temporal, creative, material, and social).

Additionally, we assessed the possibility to make the COVID-19 situation a source of useful experience (yes/no).

We used the short version of the Hardiness Test by E. N. Osin and E. I. Rasskazova (based on the Personal Views Survey III-R by S. Maddi) to analyze involvement, control, and risk taking in a situation of uncertainty and to identify groups with different levels of hardiness (Osin & Rasskazova, 2013).

Results

To distinguish groups with different levels of hardiness, we used k-means clustering method, in which all three scales of the Hardiness Test (*involvement*, *control*, and *risk taking*) and the overall

hardiness score were taken as clustering variables. Since the variables ranges differ, the data were preliminarily normalized, that is, transformed to such a form in which the mean for each variable is equal to zero, and the standard deviation is equal to one. As a result, we identified the groups of respondents with high (N = 169), average (N = 181), and low (N = 71) levels of hardiness. To compare groups with different levels of hardiness by assessments of various aspects of the COVID-19 situation (ordinal level Likert scales) we used the Kruskal–Wallis H-test; for qualitative indicators we used the Pearson chi-square test.

The statistical analysis showed that individuals with different levels of hardiness assessed the COVID-19 situation differently (Table 1). Low hardy individuals showed the highest scores in uncertainty, complexity, unpredictability, uncontrollability, significance, and stressfulness of the pandemic. The group of respondents with an average level of hardiness had high scores. High hardy individuals assessed only two characteristics – uncertainty and complexity. The hopelessness of the situation had the lowest scores in all three groups.

The groups with different levels of hardiness differed significantly in assessing the impact of the pandemic situation on employment, salary level, physical activity, quality of relationships with loved ones, and the quality of social contacts (Table 1). The assessments of the impact of the COVID-19 situation on these indicators were not as high as those of the situation of the pandemic itself. Here, the estimates range from 6.8 (for the degree of impact on physical activity among low hardy respondents) to 2.7 (for the degree of impact on the quality of relationships with loved ones among high hardy respondents). The assessment of the impact of the situation on physical activity comes to the fore in the hierarchy of assessments in three groups.

Situation characteristics	Hardiness			p. significance level
	High	Average	Low	
Uncertainty	6.7 ± 2.4	7.5 ± 2.0	7.9 ± 1.7	0.001
Difficulty	6.7 ± 2.4	7.5 ± 2.0	7.9 ± 1.7	< 0.001
Importance	4.8 ± 3.0	5.7 ± 2.6	6.5 ± 2.4	< 0.001
Stressfulness	3.4 ± 2.7	4.9 ± 2.7	6.3 ± 2.9	< 0.001
Unpredictability	5.6 ± 3.1	6.8 ± 2.4	7.1 ± 2.5	< 0.001
Uncontrollability	4.6 ± 3.2	6.5 ± 2.7	7.1 ± 2.8	< 0.001

Table 1

Assessments of the pandemic situation by individuals with different levels of hardiness
(mean \pm standard deviation)

Situation characteristics	Hardiness			p, significance level
	High	Average	Low	
Hopelessness	3.1 \pm 2.6	4.5 \pm 2.4	5.5 \pm 2.5	< 0.001
Impact on various spheres of life				
Labor employment	4.8 \pm 3.7	6.1 \pm 3.3	5.4 \pm 3.8	0.005
Salary level	4.0 \pm 3.9	5.2 \pm 3.9	4.6 \pm 4.1	0.018
Physical activity level	5.7 \pm 3.6	6.8 \pm 3.2	6.8 \pm 3.3	0.005
Quality of relationships with loved ones	2.7 \pm 2.9	3.7 \pm 3.1	5.1 \pm 2.9	0.001
Quality of social contacts	4.9 \pm 3.3	5.4 \pm 3.0	6.5 \pm 2.9	0.002

We also observed statistically significant differences in the assessments of fears (Table 2). All three groups rated fears for loved ones the most, "My loved ones may get sick and I will not be able to help them" (from average rating of 5.5 in the high hardy group to high rating of 7.7 in the low hardy group).

Table 2

Assessments of fears by individuals with different levels of hardiness (mean \pm standard deviation)

Fears	Hardiness			p, significance level
	High	Average	Low	
Dying	2.1 \pm 2.5	2.9 \pm 2.8	3.1 \pm 2.09	0.001
Getting sick	2.8 \pm 2.8	4.5 \pm 2.7	4.5 \pm 3.0	< 0.001
Illness of loved ones and inability to help them	5.5 \pm 3.4	7.0 \pm 2.8	7.7 \pm 2.7	< 0.001

Table 2
Assessments of fears by individuals with different levels of hardiness (mean \pm standard deviation)

Fears	Hardiness			p, significance level
	High	Average	Low	
Illness and death of loved ones	5.1 \pm 3.6	6.7 \pm 3.0	6.8 \pm 3.1	< 0.001
Being left alone	2.4 \pm 3.2	3.7 \pm 3.3	4.8 \pm 3.5	< 0.001
Being left without work	3.0 \pm 3.2	4.4 \pm 3.2	4.6 \pm 4.0	< 0.001
Being left without means of subsistence	3.6 \pm 3.3	5.3 \pm 3.1	5.8 \pm 3.7	< 0.001
Worsen relations with a partner	1.6 \pm 2.5	2.2 \pm 2.6	2.9 \pm 3.0	0.002
Future	2.7 \pm 2.8	4.4 \pm 3.0	6.5 \pm 2.6	< 0.001

The fear that “my loved ones may get sick and die” ranks second in the hierarchy of fears and was rated at 5.1 in the high hardy group and 6.8 in the low hardy one. The degrees of these fears were high in the group with an average level of hardiness. In the hierarchy of fears the fear of the future ranks third in the group of low hardy individuals and is the last but one among high hardy individuals.

The analysis of answers to the question, “Can you consider the COVID-19 situation a source of useful experience?” showed that individuals with high and average levels of hardiness more often gave an affirmative answer, in contrast to low hardy respondents ($\chi^2 = 32.95$, at $p < 0.001$). Only 12.7 % of low hardy respondents recognized this experience (Table 3).

Table 3
Answers to the question, “Can you consider the COVID-19 situation a source of useful experience?” among individuals with different levels of hardiness

Hardiness	No	Yes
High	20.0 %	43.5 %
Average	38.3 %	43.8 %
Low	41.7 %	12.7 %

Thus, the assessments of the key aspects of the pandemic situation differ among respondents with different levels of hardiness. The lower the level hardiness is, the higher are assessments of its negative aspects. Moreover, low level of hardiness is associated with high level of fears, when individuals do not consider the COVID-19 situation a challenge that may become a source of useful experience.

To determine the resources that may contribute to a high level of hardiness, we compared groups with different levels of hardiness by the assessments of all resources. Russian citizens with different levels of hardiness assessed their own capabilities to overcome this situation also in different ways (Table 4). Spiritual and intellectual resources are leading in the hierarchy of resources in all the three groups. The lowest positions are occupied by physical and material resources, assessed as high and average by high hardy individuals, as average by individuals with an average level of hardiness, and as low by low hardy individuals. On the whole, compared to the group with low hardy respondents, individuals with a high level of hardiness assessed all the above possibilities significantly higher.

Table 4

Assessments of individual resources among individuals with different levels of hardiness (mean ± standard deviation)

<u>Resources</u>	<u>Hardiness</u>			<u>p, significance level</u>
	High	Average	Low	
Physical	6.8 ± 2.8	5.5 ± 2.8	4.4 ± 2.9	< 0.001
Psychological	7.9 ± 2.4	6.5 ± 2.5	5.1 ± 2.9	< 0.001
Intellectual	8.0 ± 2.2	6.9 ± 2.5	5.8 ± 2.8	< 0.001
Moral/spiritual	8.2 ± 2.3	7.0 ± 2.5	5.7 ± 2.7	< 0.001
Temporal	7.4 ± 2.6	6.2 ± 2.8	5.3 ± 2.8	< 0.001
Creative	7.5 ± 2.9	6.1 ± 2.9	4.7 ± 3.0	< 0.001
Material	5.9 ± 2.9	5.0 ± 2.9	3.9 ± 3.2	< 0.001
Social	6.9 ± 2.7	5.6 ± 2.6	4.7 ± 2.8	< 0.001

To determine the significance of the impact of resources on the level of hardiness, we used the univariate forecasting method for the 'low hardiness group' based on the decision tree root

node splitting according to the CHAID algorithm (Gruzdev, 2018). The statistical significance of the factor was determined using the Pearson chi-square test. All the factors were sorted in descending order of significance (chi-square statistic). The statistical analysis showed (Table 5) that all resources contribute to the level of hardiness. The most significant were moral/spiritual. Their reduced level (scores below 7 points) is characteristic only for 9.4 % of respondents with average and high levels of hardiness, and for more than a third (35.2 %) of low hardy respondents. Since the relative risk is the ratio of the risk of a certain event in individuals exposed to a risk factor in relation to the group without the influence of the factor, the relative risk = 3.76 indicates that a lack of moral/spiritual resources almost 4 times increases the risk of getting into a group with low hardiness. Decreased assessments of mental, creative, and intellectual resources almost 3 times increase the risk of getting into a group with low hardiness. Indeed, limitations in mental resources are inherent in 9.5 % of respondents from groups with average and high levels of hardiness and 30.4 % of respondents from the group of low hardy respondents. Limitations in creative resources are inherent in 8.0 % of respondents from the groups with average and high levels of hardiness and 26.9 % of low hardy respondents.

Resources	Frequency (risk %)		Relative risk (95 % confidence interval)
	Hardiness		
	High & average	Low	
Moral/spiritual < 7.0	28 (9.4 %)	43 (35.2 %)	3.76 (2.46; 5.77)
Mental < 7.0	26 (9.5 %)	45 (30.4 %)	3.19 (2.06; 4.95)
Creative < 7.0	18 (8.0 %)	53 (26.9 %)	3.35 (2.03; 5.52)
Intellectual < 7.0	32 (10.9 %)	39 (30.5 %)	2.79 (1.84; 4.24)
Social < 5.0	38 (12.0 %)	33 (31.7 %)	2.65 (1.76; 3.99)
Temporal < 7.0	23 (9.8 %)	48 (25.8 %)	2.64 (1.67; 4.17)
Material < 3.0	45 (13.4 %)	26 (30.6 %)	2.28 (1.50; 3.48)
Physical < 6.0	26 (10.9 %)	45 (24.6 %)	2.25 (1.45; 3.50)

Material and physical resources turned out to be the least important; their lack doubles the risk of getting into a group with low level of hardiness. If we restrict ourselves and take into account only the lower limit of the confidence interval, then we may conclude that moral/spiritual, mental and creative resources are the most important, since their lack doubles the risk of getting into a group with low hardiness (2.03 to 2.46 times).

Discussion

The life experience contributes to assessing the situation of uncertainty. The COVID-19 situation is a striking example of such a situation, which makes us rethink our past, present, and future. The coronavirus pandemic provides a good opportunity for rethinking the experience of Russian citizens with different levels of hardiness and an opportunity to share this experience. The identification of groups with different levels of hardiness has led to a deeper understanding of this situation and its clarifying on the basis of assessments of respondents themselves. The respondents of all three groups unequivocally indicated that the situation of the pandemic is uncertain and rather complex, affecting physical activity under conditions of forced self-isolation. Russian citizens fear for their loved ones the most. However, they are confident in their spiritual resources, which are in the first place in the hierarchy of designated resources.

This study showed that the majority of Russian citizens belong to the groups with high and average levels of hardiness – 40 % and 43 %, respectively. The risk group comprises 17 % of respondents. High hardy individuals are not inclined to assess the COVID-19 situation as catastrophic. They recognize that it is ambiguous, difficult, but controlled. High hardy individuals highly rated their own capabilities: intellectual, spiritual, psychological, creative, physical, social, and material. They believe that the COVID-19 situation may be a source of useful experience.

Respondents from the group with an average level of hardiness are interested in what is happening, motivated, and enjoy their activities. They assess this situation as uncertain, complex, unpredictable, uncontrollable, affecting physical activity and employment. However, this situation is not hopeless for them. Individuals from this group are concerned only with fears for their loved ones; they highly assessed their spiritual, intellectual, and psychological capabilities.

For low hardy respondents, the COVID-19 situation turned out to be highly uncertain, complex, unpredictable, important enough and uncontrollable, affecting not only physical activity, but also the quality of social contacts. In addition to fears for their loved ones, individuals from this group fear the future. They are less confident in their capabilities, and many of them do not perceive the situation as an experience. However, this situation is not hopeless for them.

The results obtained in this study are in accordance with the concept of hardiness as an individual's ability to withstand stressful situations, while maintaining internal balance without reducing the performance in activities. This speaks in favour of the predictive value of this construct. The main limitation of this study is the insufficient size of a sample of male respondents. A comparative analysis of the assessments of the COVID-19 situation by representatives of different generations, with different levels of education and different social status seems promising.

Conclusions

The situation of the COVID-19 pandemic is a complex combination of stressors, which is characterized by uncertainty, complexity, unpredictability, uncontrollability, and importance that requires hardiness from individuals and social groups to transform a threat into a challenge.

When a pandemic is experienced as a threat, many crisis phenomena in societies are aggravated. Experiencing the COVID-19 as a challenge opens up new opportunities. Hardiness becomes a central psychological characteristics contributing to the perception of COVID-19 as a challenge.

Most Russian citizens perceived the pandemic as a challenge to their capabilities (spiritual, intellectual, psychological, creative, etc.). The risk group included 17 % of respondents who perceive this situation as a threat, fear for their future, do not accept it, assess their capabilities lower, more than others need social contacts, but do not consider the COVID-19 situation hopeless. It is this group that requires psychological assistance aimed at education (Aven & Boudier, 2020) and casework to change pessimistic assessments. In a pandemic, this is possible through open online events. From the very beginning of the pandemic a series of such events was implemented at the Moscow State University of Psychology and Education. Thus, the COVID-19 pandemic, as an unexpected event, became a test of hardiness for Russian citizens as the ability to successfully use internal and external resources to solve problems.

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