

<https://doi.org/10.34142/23129387.2024.71.04>

UDC 159.93

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## FEATURES OF PSYCHOLOGICAL IMMUNITY OF PATIENTS TO COVID-19

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*The relevance of the study Psychological immunity is the ability of an individual to maintain and restore their mental health through the use of psychological knowledge. Psychological immunity is the most important factor in the formation of not only health but also a mature personality.*

*The sample of subjects consisted of 150 people, evenly represented according to the criterion of the course of the disease: 1 group - did not suffer from COVID, 2 group - suffered from mild form of COVID, and 3 - suffered from severe form of COVID. In addition to the psychological immunity research methodology standardized by us (Khomulenko, Kislova), we also diagnosed the indicators according to the self-efficacy scale of R. Shvartser and M. Jerusalem, according to the "NPU - PROGNOZ" scale, and Tangney method of studying self-control.*

*Results. A number of positive (low) correlations between the psychological immunity and neuropsychological resilience were established for individuals with different experiences of the disease during the onset of the COVID-19 pandemic*

*A number of positive relationships (high) were established between self-control and psychological immunity, except for the synchronicity indicator, based on the sample of subjects with different experiences of the disease during the COVID-19 pandemic.*

*A number of positive (high) relationships between self-efficacy and correlates of psychological immunity, except for the synchronicity indicator and impulsivity self-control, were established in the general sample of subjects with different experiences of the disease during the COVID-19 pandemic.*

*A number of positive relationships (higher) were established between dispositional optimism and psychological immunity, in addition to the*

*synchronicity indicator and impulsivity self-control, based on the sample of subjects with different experiences of the disease during the COVID-19 pandemic.*

*A number of positive (weak) relationships between positive reappraisal (cognitive coping strategy) and indicators of psychological immunity were established for the general sample of subjects with different experiences of the disease during the COVID-19 pandemic, and three positive (high) connections that require consideration.*

**Keywords:** *psychological immunity, COVID-19 pandemic, resilience, self-efficacy, self-control, dispositional optimism, coping strategy.*

## **Особливості психологічного імунітету хворих на COVID-19**

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Актуальність дослідження. Психологічний імунітет – здатність індивіда зберігати та відновлювати своє психічне здоров'я шляхом використання психологічних знань. Психологічний імунітет є найважливішим фактором формування не тільки здоров'я, а й зрілої особистості.

Вибірка складала 150 осіб, рівномірно представлених за критерієм перебігу захворювання: 1 група - не хворіли на COVID, 2 група - страждали на легку форму COVID, 3 - страждали на важку форму COVID. Окрім стандартизованої нами методики дослідження психологічного імунітету (Хомуленко, Кислова), ми також діагностували показники за шкалою самоефективності Р. Шварцера та М. Єрусалимської, за шкалою «NPU – PROGNOSZ», методикою вивчення самоконтролю Тагні.

Результати. Встановлено низку позитивних (низьких) кореляцій між психологічним імунітетом та нейропсихологічною стійкістю для осіб із різним досвідом захворювання під час початку пандемії COVID-19. Встановлено низку позитивних зв'язків (високих) між самоконтролем та психологічним імунітетом, за винятком показника синхронності, на основі вибірки суб'єктів із різним досвідом захворювання під час пандемії COVID-19. У загальній вибірці суб'єктів із різним досвідом захворювання під час пандемії COVID-19 встановлено низку позитивних (високих) зв'язків між

*самоефективністю та корелятами психологічного імунітету, за винятком показника синхронності та імпульсивного самоконтролю. На основі вибірки суб'єктів із різним досвідом захворювання під час пандемії COVID-19 встановлено низку позитивних зв'язків (вищих) між диспозиційним оптимізмом та психологічним імунітетом, крім показника синхронності та імпульсивного самоконтролю. Було встановлено низку позитивних (слабких) зв'язків між позитивною переорієнтацією (когнітивною стратегією подолання) та показниками психологічного імунітету для загальної вибірки суб'єктів із різним досвідом захворювання під час пандемії COVID-19, а також три позитивні (високі) зв'язки, які вимагають розгляду.*

**Ключові слова:** психологічний імунітет, пандемія COVID-19, стійкість, самоефективність, самоконтроль, диспозиційний оптимізм, копінг-стратегія.

**Introduction.** Psychological immunity is the ability of an individual to maintain and restore their mental health through the use of psychological knowledge. Psychological immunity is the most important factor in the formation of not only health but also a mature personality.

Psychological immunity allows a person to resist

- stressful situations
- aggression, violence;
- conflicts
- problems in relationships;
- physical and mental illnesses.

Domestic authors agree that psychological immunity is a personality trait that helps to maintain the adaptive state of a person under the influence of adverse factors through the use of psychological resources.

These resources are not only psychological protection and coping strategies, but also self-regulation, reflection, awareness and consciousness, coherence, etc.

Psychological immunity is a new and poorly understood concept in domestic psychology, while in foreign literature one can find many different concepts about the substantive, structural and functional characteristics of psychological immunity, as well as tools for diagnosis, development and correction.

The sample of subjects consisted of 150 people, evenly represented according to the criterion of the course of the disease: 1 group - did not suffer from COVID, 2 group - suffered from mild form of COVID, and 3 - suffered from severe form of COVID. In addition to the psychological immunity research methodology standardized by us (Khomulenko, Kislova), we also diagnosed the indicators according to the self-efficacy scale of R. Shvartser and M. Jerusalem, according to the "NPU - PROGNOZ" scale, and Tangney method of studying self-control.

**Results.**

Table 1 shows that a number of positive (low) correlations between the psychological immunity and neuropsychological resilience were established for individuals with different experiences of the disease during the onset of the COVID-19 pandemic, which indicates that during the onset of the COVID-19 pandemic 19 (under conditions of stress) the studied persons have a low level of adaptation, which means that in complex extreme situations a person is more subject to emotional impulses, unable to think positively and make constructive decisions.

*Table 1*

**Correlations of neuropsychological stability and psychological immunity of the individual**

| Indicators of psychological immunity  | Indicator of neuropsychological stability |
|---------------------------------------|---|
| Positive thinking                     | -0,53**                                   |
| A sense of control                    | -0,38**                                   |
| A sense of coherence                  | -0,33**                                   |
| A sense of self-development           | -0,50**                                   |
| Orientation to challenges and changes | -0,49**                                   |
| Social monitoring                     | 0,08                                      |
| Orientation towards achieving goals   | -0,46**                                   |
| Social creativity                     | -0,39**                                   |
| Ability to solve problems             | -0,44**                                   |
| Self-efficacy                         | -0,41**                                   |
| Ability to social mobilization        | -0,52**                                   |
| Synchronism                           | 0,19*                                     |
| Self-control of impulsivity           | 0,17                                      |
| Emotional self-control                | -0,61**                                   |
| Self-control of irrationality         | -0,52**                                   |

\*0,05 \*\*0,0001

The lower the NS indicator, the less a person can control himself, be self-efficacious and capable of making his own constructive decisions in adverse conditions. Unsatisfactory NPS, which is characterized by a high probability of neuropsychological breakdowns in adverse conditions, namely in the conditions of the COVID-pandemic, maladapt a person, destroys faith in a bright future, does not allow to adequately assess negative events and, as a result, to solve problems that arose during COVID-19.

Table 2 shows that, in general, a number of positive relationships (high) were established between self-control and psychological immunity, except for the synchronicity indicator, based on the sample of subjects with different experiences of the disease during the COVID-19 pandemic. And this means that subjects with a high level of self-control during the COVID-pandemic demonstrate a higher level of emotional stability (self-control) and are more oriented to challenges and changes when difficult difficulties appear.

Table 2

**Correlations of the indicator of self-control with indicators of psychological immunity.**

| Indicators of psychological immunity  | Self-control |
|---------------------------------------|--------------|
| Positive thinking                     | 0,39***      |
| A sense of control                    | 0,33***      |
| A sense of coherence                  | 0,31**       |
| A sense of self-development           | 0,41***      |
| Orientation to challenges and changes | 0,39***      |
| Social monitoring                     | 0,03         |
| Orientation towards achieving goals   | 0,48***      |
| Social creativity                     | 0,33***      |
| Ability to solve problems             | 0,41***      |
| Self-efficacy                         | 0,39***      |
| Ability to social mobilization        | 0,32***      |
| Synchronism                           | -0,18*       |
| Self-control of impulsivity           | 0,02         |
| Emotional self-control                | 0,36***      |
| Self-control of irrationality         | 0,30**       |

\*0,05 \*\*0,001 \*\*\*0,0001

Our results also show that people with a high level of self-control are characterized by more positive thinking when analyzing negative life situations, which is manifested in a tendency to optimistically explain life difficulties, internality when explaining failures, and general self-efficacy. Expressed self-control helps to believe in the future and evaluate the events that are happening as more manageable and controllable, but it is possible that developed positive thinking helps to control one's behavior and solve negative problems during negative life situations.

Table 3 shows that a number of positive (high) relationships between self-efficacy and psychological immunity, except for the synchronicity indicator and impulsivity self-control, were established in the general sample of subjects with different experiences of the disease during the COVID-19 pandemic.

Table 3

**Correlations of the self-efficacy indicator with indicators of psychological immunity.**

| Indicators of psychological immunity  | Self-efficacy |
|---------------------------------------|---------------|
| Positive thinking                     | 0,52***       |
| A sense of control                    | 0,37***       |
| A sense of coherence                  | 0,34***       |
| A sense of self-development           | 0,40***       |
| Orientation to challenges and changes | 0,37***       |
| Social monitoring                     | 0,00          |
| Orientation towards achieving goals   | 0,53***       |
| Social creativity                     | 0,41***       |
| Ability to solve problems             | 0,42***       |
| Self-efficacy                         | 0,29***       |
| Ability to social mobilization        | 0,51***       |
| Synchronism                           | -0,01         |
| Self-control of impulsivity           | -0,33**       |
| Emotional self-control                | 0,32**        |
| Self-control of irrationality         | 0,21*         |

\*0,05 \*\*0,001 \*\*\*0,0001

And this means that a person, during a negative situation, believes in his own strength, his own capabilities, can be competent

and make effective decisions and, as a result, cope with the tasks and difficulties set before him, provided that the person can control himself and not succumb to one's own emotional impulses, will be internal, listen to oneself, and not write off negative events to an external locus (destiny, fate, etc.)

It can be seen from Table 4 that, in general, a number of positive relationships (higher) were established between dispositional optimism and psychological immunity, in addition to the synchronicity indicator and impulsivity self-control, based on the sample of subjects with different experiences of the disease during the COVID-19 pandemic.

*Table 4*

**Correlations of the indicator of dispositional optimism with indicators of psychological immunity.**

| Indicators of psychological immunity  | Dispositional optimism |
|---------------------------------------|------------------------|
| Positive thinking                     | 0,49***                |
| A sense of control                    | 0,24*                  |
| A sense of coherence                  | 0,36***                |
| A sense of self-development           | 0,41***                |
| Orientation to challenges and changes | 0,53***                |
| Social monitoring                     | 0,03                   |
| Orientation towards achieving goals   | 0,43***                |
| Social creativity                     | 0,28**                 |
| Ability to solve problems             | 0,45***                |
| Self-efficacy                         | 0,35***                |
| Ability to social mobilization        | 0,37***                |
| Synchronism                           | -0,07                  |
| Self-control of impulsivity           | -0,09                  |
| Emotional self-control                | 0,48***                |
| Self-control of irrationality         | 0,32***                |

\*0,01 \*\*0,001 \*\*\*0,0001

The higher the index of dispositional optimism in the subjects during severe stressful situations, the more positive thinking they expressed regarding the expectation that good and not bad events will occur in the future. In critical situations under the influence of

impulse, a person can lose self-control, attribute the events that have occurred to external factors, but emotional self-control and self-control of irrationality prevails over this momentary weakness and a person controls himself, a model of self-regulation and self-efficacy is activated, which help a person make efforts to overcome difficulties to achieve the set goal. But only as long as her expectations of future success are quite favorable. When people have serious doubts about achieving a successful outcome, they tend to give up trying to achieve their goals. The feeling of getting closer to the desired goals is associated with the predominance of positive affect, and, conversely, in the case of significant problems on the way to achieving the goals, a negative affect arises. In our case, under the influence of various negative events, namely during the COVID-19 pandemic, the higher the variable of dispositional optimism, which is understood as a stable personal characteristic that reflects the subject's positive expectations about the future, the higher the psychological immunity and psychological correlates of a person.

Table 5 shows that a number of positive (weak) relationships between positive reappraisal (cognitive coping strategy) and indicators of psychological immunity were established for the general sample of subjects with different experiences of the disease during the COVID-19 pandemic, and three positive (high) connections that require consideration.

The first link between positive reappraisal and orientation to challenges and changes. The more a person gives a positive meaning to an event, that is, imagines the event in perspective by comparing it with other worse events, the more he orients himself to challenges and changes, and the faster he finds a way out of difficult life situations.

The second high positive relationship between self-efficacy and positive reappraisal. The more a person positively reevaluates an event by comparing it with more negative events that he has already overcome in the past, the higher the self-efficacy of a person during stressful long-term life circumstances.

The third is positive (high) between positive reappraisal and social monitoring. The more a person gives a positive meaning to a negative stressful situation, the more such a person is able to rationally find, interpret and apply the information found in order to get out of crisis life circumstances.

Table 5

**The level of psychological immunity in subjects who suffered from mild and severe coronavirus infection during the COVID-19 pandemic**

| Indicators of psychological immunity  | Groups of the study |         |            |         | t     | p     |
|---------------------------------------|---------------------|---------|------------|---------|-------|-------|
|                                       | Light form          |         | Heavy form |         |       |       |
|                                       | Mean                | Std.dev | Mean       | Std.dev |       |       |
| Positive thinking                     | 18,06               | 2,94    | 10,78      | 4,92    | 8,98  | 0,000 |
| A sense of control                    | 17,62               | 3,08    | 14,72      | 3,98    | 4,07  | 0,000 |
| A sense of coherence                  | 12,88               | 1,88    | 10,68      | 2,51    | 4,96  | 0,000 |
| A sense of self-development           | 16,62               | 2,69    | 14,20      | 2,99    | 4,26  | 0,000 |
| Orientation to challenges and changes | 18,56               | 3,49    | 14,66      | 3,57    | 5,52  | 0,000 |
| Social monitoring                     | 9,16                | 2,53    | 9,86       | 2,63    | -1,36 | 0,178 |
| Orientation towards achieving goals   | 14,06               | 2,97    | 8,88       | 3,88    | 7,50  | 0,000 |
| Social creativity                     | 14,52               | 4,20    | 10,80      | 4,22    | 4,42  | 0,000 |
| Ability to solve problems             | 12,86               | 2,44    | 10,08      | 3,14    | 4,95  | 0,000 |
| Self-efficacy                         | 19,36               | 3,64    | 17,28      | 3,70    | 2,83  | 0,006 |
| Ability to social mobilization        | 18,14               | 4,61    | 11,52      | 6,20    | 6,06  | 0,000 |
| Synchronism                           | 7,92                | 2,55    | 8,60       | 2,33    | -1,39 | 0,167 |
| Self-control of impulsivity           | 10,50               | 2,71    | 12,88      | 1,77    | -5,20 | 0,000 |
| Emotional self-control                | 14,60               | 3,71    | 10,80      | 3,76    | 5,09  | 0,000 |
| Self-control of irrationality         | 11,76               | 2,16    | 10,18      | 2,62    | 3,29  | 0,001 |

It can be seen that the level of psychological immunity in subjects who were ill with mild form of COVID-19 differs from those who were ill with severe form of coronavirus infection by the following correlates of psychological immunity, namely:

1) Social monitoring in people who were ill with severe form of COVID-19 is higher than in people who were ill with mild form of coronavirus infection;

2) Synchronicity is higher;

3) Self-control of impulsivity is higher.

Therefore, it can be concluded that people who have fallen ill with COVID-19 in a severe form are exposed to a greater extent to their momentary negative impulses, cannot control their negative thoughts and emotions in a timely manner, and are much more vulnerable than those studied, who had a mild form of COVID-19 and did not have a coronavirus infection at all.

**Conclusions.** A number of positive relationships (high) were established between psychological immunity and self-control, self-efficacy, dispositional optimism, positive reappraisal (cognitive coping strategy) based on the sample of subjects with different experiences of the disease during the COVID-19 pandemic.

The level of psychological immunity in subjects who were ill with mild form of COVID-19 differs from those who were ill with severe form. The first group has higher social monitoring, synchronicity and self-control.

### Література

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