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# CONCEPT OF MENTAL UNITS SELF-REGULATION

*Abstract: We analyzed the correlation and associative form, color, sound and their effects on the mental state of a person based on what types of devices offered two mental self.*

*Keywords: sensory channels, color and sound correlation device psychological self*

**Statement of the problem.** Among mentally ill people can be divided into several categories in terms of treatments and the need for qualified supervision. For patients who are in hostrokrytychniy stage disease or those whose mental state is stable inadequate and one that threatens both by the patient and the people around them required medical treatment in the minds of the hospital. However, a significant number of patients on the verge of disorder and healthy state of mind. This category can be added and healthy people who are on the verge of a mental disorder. For such people can treat at home and use appropriate units of mental self-regulation, in which the patient is able to improve itself, within certain limits, their condition. The creation of such devices is, therefore, an urgent problem.

**Analysis of recent research and publications.** To create a device mental self is necessary to determine the mental personality structure, channels of interaction with the environment and especially the impact of each on the overall well-being. As the theoretical basis of these studies apply the theory of self-organizing complex systems from the S- wave model space [1, 2], which is adequate tools for the solution of such problems.

Modern technical equipment, which should be used as a prototype designed to reproduce shapes, colors and sounds. These same factors will be used in our proposals. Effect of shape, color and sound to psycho-emotional state remains largely unexplored even for each factor separately, especially for their synergy [3-5].

Features of disease stage specific disease treatment strategy is the initial information to determine the specific needs of patients and claims which the device must meet the mental self. In the authors rely on [6,7].

The implementation of the proposed concept of mental self- oriented devices on the modernization of the two types of devices - tablets and theremin [8,9].

**The wording of Article goals.** The objectives of this report are: the exact place and weight channels of perception of shapes, colors and sounds system interactions mentally ill person with the environment and the mechanisms of their effects on psycho-emotional state of a person, the coordination of these factors, the formulation of the concept of two types of mental adjustment to the individual characteristics of types of patients and their diseases.

**The main part.**

*Clarification of space and weight perception channels shapes, colors and sounds system interactions mentally ill person with the environment.*

List and weights of individual channels of perception of the surrounding reality for a healthy individual is given in [1]. Note that for individuals and psycho weight of individual channels (indicator of sophistication) differs from the "universa" scheme that, to some extent, determines their social and occupational stratification . From this perspective, mental illness also affects the number and weight of channels of interaction with the environment with a corresponding change in mental portrait of the patient, which is determined by the results of specific tests. For example, a portrait of a schizophrenic patient noted a weakening of intuition , will and cognitive abilities , as well as an exaggerated ego (Fig. 1).

We note three factors:

1. Reducing the sensory perception of mentally ill people is not due to a disability, and the weakening of intuition and cognitive abilities, that lies in the recognition;

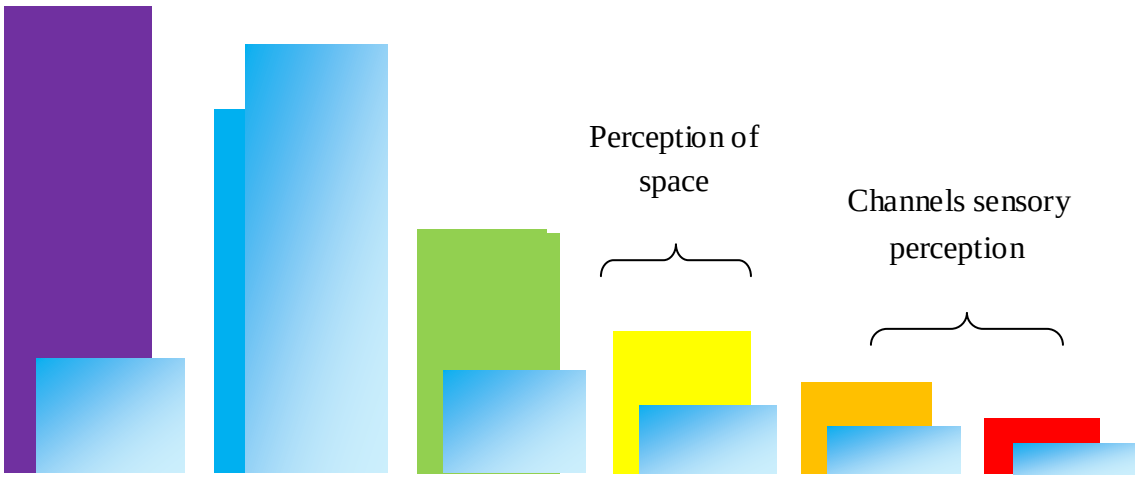


*Figure. 1. Generalized psychological portrait of a schizophrenic patient. In the background - grouped by level feeds the perception of a healthy person, on the front - the same for a sick person*

2. Within each weight of channels are not the same - the weight of a person in an amount of perceived information for healthy people is estimated by various sources, 70-90%, and hearing - in 8-10% of patients people are likely to benefit vision remains;

3. The perception of space overrides (creates context) and more weight in forming a coherent picture of the world as compared to the perception of color and sound.

From the above it follows that psycho regulating device may be limited reproduction of shapes, colors and sounds.

*Clarification of the mechanisms of influence of the shape, color and sound to the psycho-emotional state.* In addition to direct, "mechanical" effect on the psycho-emotional state, whereby in most cases can be estimated given weights are important emotional and associative mechanisms of action. Some of them have a common human nature, or at least common to members of certain ethnic, cultural, religious or professional groups, while others are individual achievements of the individual. In general, the emotional mechanisms are more general than association. From precision setting both the first and second on the effectiveness

psihoregulyatsii. Therefore, it is advisable to use two types of devices: one that focuses on the emotional responses of the fixed program impact, the other focused on the association reaction is to assume individual settings. As for the aesthetic impact, then it is characteristic of a systemic nature (composition), there is objective (formal) and subjective (informal) components, and therefore it can be present in both types of devices.

Synergy influence of the shape, color, sound. The combination of two factors - the shape and color or color and sound is more research, however, and there are many "white spots". For example, modern scholars believe false concept of "color music" (in Russian tsvetomuzыka ) proposed LB Castel and based on the hypothesis of the existence and Newton formal connection between the notes and octaves primary colors and instead offer a variety of correlations based on associative and aesthetic similarities ("lumiere", n. Svetomuzыka) [3,4]. It is easy to see that such research as the results and methodically in many ways contradict each other.

A more robust look correlations based on common emotional reactions. Thus, according to [4], and a questionnaire survey of members of the Union of Soviet Composers was found:

- lack of " vision" of the individual color tones;

- separation of tones : low - dark , tall - light ;

- instruments timbre are low, correspond to darker colors (brown , purple , black), instruments with high sound color - bright colors (light blue, pink, yellow, orange) ;

- major tonalities correspond to lighter colors than minor, diezni tone associated with brightness and activity bemolni - with washiness and passivity ;

-often increase the intensity of the sound stimulus intensity corresponds to an increase in the world, although sometimes observed an inverse relationship.

It was found other correlations , such as rhythm and dynamics of sound correlates with the rhythm and dynamics of light, melodic development of a

musical composition - a graphic image development , loudness of sound - the size of the spot light , tone development - the development of color visible picture.

Now we present data on the relationship of 8 colors M. Luscher test of the 9 main colors for C. Izard. Relevant studies were conducted AM Etkind (Table 1) [4].

*Table 1.*

Correlations of colors and emotions by M. Luscher test

| **color** | **Emotions** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | interest | joy | surprise | sorrow | anger | disgust | shame | fear | fatigue |
| gray | 6 | 4 | 2 | 27 | 1 | 15 | 18 | 12 | 53 |
| blue | 27 | 4 | 2 | 27 | 5 | 7 | 13 | 15 | 8 |
| green | 26 | 10 | 26 | 13 | 8 | 7 | 19 | 8 | 7 |
| red | 16 | 52 | 23 | 4 | 55 | 4 | 4 | 17 | 2 |
| yellow | 20 | 24 | 56 | 1 | 9 | 19 | 12 | 15 | 1 |
| violet | 5 | 12 | 14 | 12 | 6 | 22 | 16 | 7 | 12 |
| brown | 10 | 8 | 3 | 14 | 4 | 27 | 17 | 3 | 23 |
| black | 10 | 2 | 2 | 22 | 38 | 18 | 13 | 43 | 24 |

As shown in Table 1, we can only talk about the relative correlations (maximum percentage not exceeding 56), some colors are associated with two emotions (blue - with curiosity and worry). And for some there is no distinct associations (for example, purple).

Now add to these factors influence the form. It is necessary to differentiate the influence of the form itself and the influence of associations connected with it. The impact of how this can be assessed by comparing a chart that describes the sequence of actuation levels and channels of human interaction with the environment , with a diagram that describes the sequence of decomposition of the form [1]. The greater the difference (including weighting coefficient equal), the greater the impact of a particular form. Depending on the divergence structure diagrams can be given a qualitative interpretation of the impact. The dimensions and proportions affect the strength of influence form and emotional .

Associative effect of form depends on the cultural environment and personal experience (yes, some people in Star brings back memories of Christmas, and in

the other a symbol of Lucifer ), though there are common associations connected with these or other events of the myth of creation (eg, fighting light and dark forces associated with the number 2, grapheme Tai Chi, chess boards, etc., and mobilize the will and thirst for combat ) [1].

Thus, if based on scientific evidence and reject widely represented in popular literature of the association "everything with everything", you can make a correction psychophysical state programs that will have a universal character, matching shapes, colors and sounds of similarity emotional impact. For example, this may be the program "Joy", "Serenity", "Surprise" etc., and in some situations - " Disgust ", "sadness" and so on. It is also possible programs built on individual associative relations.

Concept Device mental adjustment. For sick people in the stage of rehabilitation or for the sick and healthy people who are at risk of health and disorder, the need for self-regulation are different [6,7]. For the first diagnosis is certain and clear to be corrective influences. For the second situation is uncertain, and corrective effects are chosen based on personal assessment of sensations. Accordingly, the mental adjustment devices shall be of two types, such as electronic tablet in which the doctor laid individually matched to a particular set of patient treatment programs , and which has high quality speakers and screen , such as the theremin [8,9], supplemented display, where in time with the music changing shape and color (Fig. 2).


*Figure. 2. The concept of the unit of mental self - upgraded theremin*

Both devices can also be used during the sessions of art therapy: for example, noting the positive effect on the theremin tracks the patient, the doctor picks up similar programs on the tablet, or vice versa, the patient learns to play the theremin, using the program with the tablet.

**Conclusions.** A systematic approach allowing to specify the channels of perception and weight of shapes, colors and sounds system interactions mentally ill person with the environment and mechanisms of the effect of form, color and sound to the psycho-emotional state. Analysis of the data in the literature about the emotional impact of shapes, colors, sounds and allow synergies to justify these factors, which are formulated based on the concept of two types of mental control. A possible technical solution to both types of devices, and outlines areas of their appropriate use.

**Prospects for future research** are to clarify and expand the correlation form - color - audio, developing applications based on this correction the mental state of specific action, determining the location of devices among other means of treatment and rehabilitation, creation of instruments and test their effectiveness in the recommended application areas

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*Аннотация*

***Ковалев Ю.Н., Кфиа Д.В. Концепция устройств психической саморегуляции.*** *Проанализированы корреляционные и ассоциативные связи формы, цвета, звука и их влияния на психическое состояние человека, на основании чего предложены два типа устройств психического саморегулирования.*

*Ключевые слова: сенсорные каналы, цветовые и звуковые корреляции, устройство психического саморегулирования.*

*Анотація*

***Ковальов Ю.М., Кфіа Д.В. Концепція пристроїв психічної саморегуляції.*** *Проаналізовані кореляційні і асоціативні зв'язки форми, кольору, звуку та їх впливу на психічний стан людини, на підставі чого запропоновані два типи пристроїв психічного саморегулювання.*

*Ключові слова: сенсорні канали, колірні і звукові кореляції, пристрій психічного саморегулювання.*