

## Mental Representation of Characteristics of a Mental State Image

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**Abstract:** The study represents investigations of an image of a mental state in life situations with different levels of tension, namely in ordinary and high-stress circumstances. There was analyzed a subjective description of an mental state image as well as methods of its identification in case with other person. Students were offered to recall a state experienced by them in five given situations. The test subjects evaluated the degree of influence of a definite situation on an image of every state. It was demonstrated that the image of a mental state was stable and did not depend on the situation which actualized the image. An objective presentation of the image obtained on the basis of study of its profile in the life situations under consideration differed from a subjective evaluation of the degree of situational influence on a mental state. The most significant constituents of an image of an own mental state were concepts of physical and physiological manifestations of such state, specific features of behavior in this state as well as description of feelings experienced in this state. In a stressful situation, irrespective of modality images of mental states preserved their configuration typical for the levels of mental activity represented by them. Behavior characteristics, somatic manifestations and feelings were included into description of a subjective image. An image of mental state of other person included descriptions of appearance, behavior, expressiveness and specific characteristics of communication.

**Key words:** Mental state, image, situation, stress, identification

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### INTRODUCTION

Study of human mental states raises a question of imaging of the states being experienced in consciousness of a person. The results of such imaging in a form of an image and knowledge as an aggregate of personal judgment of a mental state are attributed to mental representations. Mental representations allow describing a content of mental imaging as well as a format of such imaging. It's worth noting that in the course of time mental representations obtain definite structure: they have associative, evaluative, conceptual and imagery levels (Brushlinskiy and Sergienko, 1998).

Mental representations may be considered as a process (a process of imaging, representation) and as a result, a unit (description of experience within the context of a world image). The first approach is specific for the investigations which accentuate a procedural, dynamic part of mental representation as well as its cognitive functions (Blatt *et al.*, 1997; Cooper, 1990; Geller *et al.*, 2010; Kemp, 1998; Lukowitsky and Pincus, 2011).

Within the framework of the second approach mental representations are being considered as inner structures being formed in the course of human life which represent

personal preconceived image of a world, a society and of a person himself/herself. Such paradigm of mental representations is shown in a range of researches (Kubriakova and Demyankov, 2007; Bascoe *et al.*, 2009; Lotto *et al.*, 2006; Savadori *et al.*, 2001; Kholodnaya, 2002). It allows analyzing organization and content of verbal and imagery perception of a person.

Study of mental representations of mental states has a specific value since a mental state is an individual subjective phenomenon of human mentality, so determining of general regularities in its representation may also be helpful in identifying regularities in formation of a world image and of a structure of concepts of a world.

It is important to note that a number of researches in one way or other (more often indirectly) address the problems of mental representations of emotional sphere (in some researches emotions were treated as synonyms of mental states). The investigations raised an issue of structure and development of knowledge about emotions in the course of ontogenesis (Prusakova and Sergienko, 2002) of emotional fullness of mental images (Gostev, 2007) of a degree of emotions, representation at various levels of consciousness, etc. Dorfman performed

investigations based on the approach which ensured analysis of knowledge and concepts of emotions in the context of global cognitive structures.

Nevertheless despite of availability of some works dedicated to mental representations of emotions in general it should be noted that currently there are no investigations which would be particularly aimed at comprehensive study and description of a content, structure and dynamics of mental representations of mental states, their interrelations with other mental phenomena and constructs of consciousness.

**MATERIALS AND METHODS**

Let’s refer to an imagery component of mental representations. Within the context of study of a mental state the it is important to know how mental state is being imaged (reflected) in consciousness of a person? Does an image of the state depend on a life situation?

**Situation of routine life activity and a mental state image:**

The state of joy was taken as a mental state image model. Joy was chosen among the whole diversity of mental states, since it’s precisely the state which is frequently experienced in a daily life and may be caused by various situations and what is the most important positive states with high degree of activity have the most complicated organizational structure, i.e., the identified regularities will have the most hypogene and generalized nature.

A sample group included 40 subjects (20 young men and 20 young women) aged from 17-22. All of them were students. For study of a mental state image the methodology “Profile of a mental state” (Prokhorov, 1998) was used.

The students were offered to recall the state of joy which was experienced by them in five predetermined situations:

- During contact with beauty
- During meeting with a friend
- During a celebration of something, a large-scale action
- When a sports team gained a victory
- At time of acquisition of a long-expected thing

Judging from their feelings the subjects evaluated the degree of influence of the situation on the image of each state of joy. It appeared that the first place was taken by “contact with beauty”, the second by “meeting with a friend”, the third by “acquisition of a thing”, the fourth by “a sports team victory” and the last one by “a

celebration”, at that the positions are arranged in the ascending order the higher the influence on the mental state the higher the position.

**RESULTS AND DISCUSSION**

As the results show the profiles of image of all mental states of joy in five different situation (during contact with beauty; during meeting with a friend; during a celebration, a large-scale action; victory of a sports team; acquisition of a long-expected thing) appeared to be almost identical (Fig. 1).

The vertical axis shows the grade of intensity of the state of joy in the different life situations. The horizontal axis shows the following indicators: 1-10 characteristics of mental processes; 11-20 characteristics of physiological reactions; 21-30 of feelings; 31-40 of behavior.

Subjective sensation of a situation influence is not confirmed by objective results: the image of mental state reserves its stability. It is important to note that all described variations are far from statistically significant level. This statement is supported by a suggestion that a spatial organization (structure) of a mental state image is stable and does not change depending on a situation.

It is interesting also to mention the following aspect: an objective presentation of an image obtained as a result of study of its profile in the life situations under consideration differs from a subjective evaluation of the degree of situational influence on the mental state.

**A mental state image in a high-stress situation:**

Investigations were carried out with involvement of 53 students at time of taking examination, during the investigation the students were asked to describe 4 states, namely joy, anger, calm and fatigue.

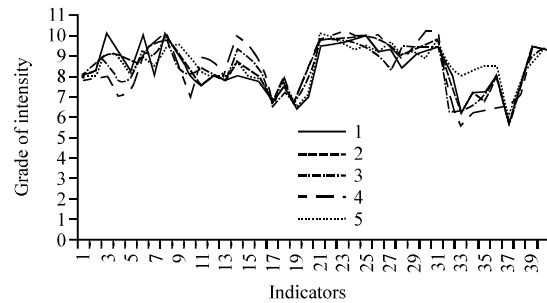


Fig. 1: The profile of the image of the mental state of joy in five different life situations: Number “1” on the chart stands for joy “at time of contact with beauty”; number “2” stands for joy “during meeting with a friend”; number “3” for joy “during a celebration”, “a large-scale action”; number “4” for “a sports team victory”; number “5” for “acquisition of long-expected thing”

The investigations showed that the image of the positive state with high level of activity (joy) had high values in all four substructures of the image. The most significant intensiveness is being demonstrated by the elements of substructure of experience which almost reach the maximum values. Simultaneously, the mental processes also come to high level of manifestation. Almost all parameters of the block of behavior in the image are represented by low values which can be indicative of a blocking action of the state of stress towards behavioral manifestations in the image of joy.

The image of the negative state with high level of mental activity (anger) has very prominent profile with the indices of mental processes, experience and behavior as terminal points. The values of physiological reactions in the image vary within the average level, i.e., during experience of anger the parameters of activity of experience as well as of activity and intensity of behavior are being reflected in the consciousness with more high impression.

The state with medium level of activity (calm) during stress is being represented in the image within the values above the average. The image profile is uniform for all substructures except for the block of behavior where the values vary from 4.86-9.45. The mental processes and behavior can be regarded as the most intense.

The negative state with low level of mental activity (fatigue): the values of parameters of this image vary within the average and below the average level. The image profile is non-uniform. In the image of fatigue state all of the indices have low intensity except for the emotional processes. The feelings become dull, motion activity gets lower; such experience as depressiveness, somnolence and passivity become actual, nevertheless behavior keeps being steady and adequate. The last substructure is more intensive in the image.

**Subjective description of a mental state image:** In order to study a subjective description of a mental state image we've drawn up a questionnaire consisting of 3 open questions:

- Describe how do you get to know that you experience a positive /a negative state?
- Describe how do you get to know that this positive/negative state is experienced by other person?
- Describe how do you get to know that this positive/negative state is not experienced by other person?

The subjects had interested and adequate attitude in regard of the investigation. Time for the task execution was not limited.

The investigation involved 47 persons. The age of the subjects was 21-22 years. All of the subjects were senior students. 35 men and 12 women among them.

We've received the answers to the first question of the investigation (How do you get to know that you experience a positive /a negative state?) which allowed identifying the following content-related components of mental states images.

**The include:**

- Description of physical and physiological manifestations of mental states
- Characteristic features of behavior or changes in behavior
- Description of a mental state via feelings or other states
- Specific features of attitude to other people or change of attitude to other people
- Change of reality perception
- Presence of a mental state is being identified not by inner but by outer determinants, i.e., characteristics of the situation which caused or accompanied a mental state are described as characteristics of this mental state

The obtained data evidence that in the most cases a content-related description of the positive mental states includes description of physical and physiological manifestations of these states (49%), enumeration of specific features of behavior or changes in behavior (49%) as well as description of a mental state through feelings or other states (60%). At the same time, the attributes of the negative mental states are described through the specific features of behavior (64%) as well as through description of feelings (62%).

Therefore, a conclusion may be drawn that the most significant components of the image of an own mental state are concepts of physical and physiological manifestations of this mental state, specific features of behavior while being in the state as well as description of feelings experienced in the state. There were no considerable differences revealed between the compositions of the positive and the negative mental states images.

The answers to the secon question (How do you get to know that this positive/negative state is experienced by other person?) allowed to identify the following components of the image of a mental state of other person:

- Characteristics of contact: is it easy or difficult to initiate contact with other person, what is this person's reaction to the attempts to communicate
- Description of specific features of behavior
- Description of appearance typical for this mental state, i.e., facial expression, expression of eyes, nature of movements
- Description of feelings experienced by other person in this mental state

Besides 8 persons (19%) mentioned empathy as a method of understanding of actual mental state of other person. Quantitative characteristics of the components of the image of a mental state of other person are given in the table (total number of subjects who gave answers makes 42 persons).

The results show that the answers describing behavioral features (60 and 69%) and appearance of other person (57 and 48%) were the most frequent. There were no considerable differences revealed between the compositions of the positive and the negative mental states images.

When answering to the third question of the investigation (How do you get to know that this positive/negative state is not experienced by other person?) 14 persons (30%) didn't give any answer. Among the rest 27 (57%) subjects in their answer to the question described the signs of presence of the opposite mental state and only 6 subjects (13%) mentioned the signs which should be absent if a respondent experienced the mental state under consideration.

**Findings:** Therefore, description of a subjective image of a mental state is most frequently made through concepts of physical and physiological manifestations of the mentioned state, specific features of behavior in this state and feelings experiences in this state. On the other hand characteristics of contact, description of specific features of behavior and appearance of a person experiencing a definite mental state as well as description of feelings of a person in this state refer to the components of the image of a mental state of other person. The concepts of specific behavioral features and of feelings experienced by a person in a definite mental state are common for the image of an own mental state and the image of a mental state of other person.

### CONCLUSION

The results of the investigation prove that the image of a mental state is stable does not depend on a situation within the context of which it is being experienced, i.e., the

image of an experienced mental state fit into a subjective experience of a person and will be stably reproduced within the context of any situation which actualized the same.

In a high-stress situation notwithstanding its modality the images of mental states reserve their configuration typical for the levels of mental activity (energy) reflected by such states.

It was demonstrated that the description of a subjective mental state image includes the characteristics of behavior, somatic manifestations and feelings. The image of a mental state of other person is represented through descriptions of appearance, behavior, expressiveness and specific features of communication.

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