Mental Characteristics of Psychic States Images
Within the Temporal Continuum "Past-Present-Future"

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Abstract: In this article the temporal specificity of the mental characteristics of the image of mental states. The image of psychic states comprises internal indicators of person's states and events which cause this state. The actual image contains the greatest number of characteristics. the image of psychic state being the result or reflection of internal conditions in consciousness. Content characteristics of the state image form a structure changeable in time, but nevertheless it keeps isomorphism to the state. The person always identifies the state in which he finds himself at the moment, remembers his last experiences, states and can imagine himself in a certain state in the future. Creation of psychic state image takes place in the process of person's experience of state.

Key words: Mental characteristics · The image of mental states · The temporal continuum.

INTRODUCTION

The subject perceives and cognizes his states studying them from introspective point of view (flowing of psychic processes, physiological changes, behavior reactions etc.), i.e. the formation of some view or the description of the state that we call image is taking place. Using the notion "image", we try to emphasize the way the psychic state is presented in conscious, what structural and content-related characteristics are fixing in it. In other words, it refers to a structural organization of the state represented in conscious. A.O.Prokhorov gives the following definition of a psychic state image – it is an aggregate of perceptional characteristics reflecting in the form of structured combination psychological, somatic, behavioral and other indications of a subject represented in conscious, isomorphic to the experienced psychic state [1-3].1

The image of a psychic state, being a generalized view of the state, is characterized by inner processes of experience and cognitive processes of cognition of person's experience. Through the reflection of inner feelings in one's consciousness and their comparison with the experience at hand, the image of state is being formed. L.G.Dikaya defines the image of current psychic state as "systemic sense", due to this feeling the outside environment of the body as well as internal one in the form of a variety of interoceptive sensations are reflected [2,4,5].

The person always identifies the state in which he finds himself at the moment, remembers his last experiences, states and can imagine himself in a certain state in the future. So, ability to integrate a temporal continuum allows a person to develop an actual image of the state both in the past and in the future and to operate it in the present. Intensity, brightness of the image of state is defined by experience and the borders of the image, its compliance to an experienced state are established by means of reflection. "The conscious image of states is the highest level of subjective reflection, knowledge, experience and attitude are merged in it…." Thus, the image of psychic state being the result or reflection of internal conditions in consciousness, contain information (knowledge) about the situation caused this state, situation experience (events of external and inner world), relation between components of psychic (cognitive processes, somatic and behavioural manifestations, etc.) [5].

Creation of psychic state image takes place in the process of person's experience of state. "Internal sensations and impressions caused by events and situations experienced by the subject, passing the stage

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where the comparison with the past experience happens to be, turn into conceptions about experienced state and further, through perception process, into its image". Content characteristics of the state image form a structure changeable in time, but nevertheless it keeps isomorphism to the state [6].

According to these views we carried out the research to study images of psychic states in temporary continuum "*past-present-future*".

MATERIALS AND METHODS

The procedure of the research was as follows. On the first day the people under study (93 persons, all of them are students) were given the task introspectively, in the form of self-reports, "here and now" to describe their own present state. At the follow-up meetings each respondent described the psychic state he had on the first day of the research, but with regard to the way it was experienced in the past: *a week ago, a month ago, a year ago* and the way it would be experienced in the future: *week ahead, month ahead, year ahead*.

Word-combinations: *characteristics, factors, indicators, components, operants* - they are all content-rich elements of psychic states images - are used as synonyms

Described actual states were divided according to the modality and level of mental activity: *positive states of high level of mental activity* (joy, cheerfulness, love, liveliness, etc.); *negative states of high level of mental activity* (hatred, fear, anger, irritability, restlessness, anxiety, etc.); *positive states of the average level of mental activity* (calmness, tranquility, interest, concentration); *negative states of the average level of mental activity* (indifference, unequanimity, indefiniteness, dissatisfaction, etc.); *negative states of low level of mental activity* (fatigue, tiredness, laziness, sadness, apathy, sleepiness, singleness, melancholy, indifference, etc.).

Self-reports were subjected to content-analysis. Then, by means of computation of mean values (short statistics) of images characteristics, their dynamics and frequency of occurrence were defined.

RESULTS AND DISCUSSION

In compliance with the results of testees' self-reports content analysis, the expert commission revealed 18 factors that characterized psychic states. Table 1 presents characteristics with the corresponding empirical indicators.
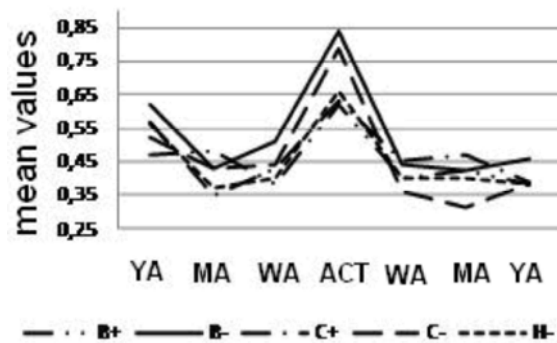

Fig. 1: The common pattern of occurrence frequency of indicators in images of each group of states with temporal continuum in view. Conventional symbols: B+ - positive states of high level of mental activity; B- - negative states of high level of mental activity; C+ - positive states of average level of mental activity; C- - negative states of average level of mental activity; N- - negative states of low level of mental activity. YA-year ago, MA-month ago, WA-week ago, ACT-actual, WA-week ahead, MA-month ahead, YA-year ahead.

Thus, these characteristics refer to different manifestations of psychic states (physiological reactions, psychic and cognitive processes, behavior manifestations, demand-meaningful, emotive and image spheres) and also to external factors (events, situations, natural phenomena).

Thus, the image contains both inner indicators of a person's state and events which cause this state.

Respondents' self-reports on their states in the past, present and future were analyzed and it was found that in one self-report one factor had several empirical indicators, i.e. it was used not once. Thus, we determined the frequency of the factor occurrence for different groups of states with due regard to temporal continuum (average values of 18 indicators in singled out groups of states of different samples) and then each indicator was separately determined

Let us analyse the data of Figure 1 that reflect the occurrence dynamics of indicators of described groups of states with time intervals in view. Images of states of all modalities (positive, negative) and activity levels (high, average, low) in actual time contain the greatest number of described characteristics.

The image in the section *year ago* is presented in consciousness more fully than the image in the section *year ahead*. In actual time images of negative states of high and average level of activity contain the greatest

Table 1: Empirical indicators of psychic states image characteristics

No	Characteristics	Empirical indicators of characteristics
1.	Physiological/energy processes	limbs are relaxed", "hyperactivity", "slight hunger", "great inner power", "tiredness", "nothing is aching" etc.
2.	Behavior/actions/reactions/ activities/ sensorimotor	"I will rest", "it has no external signs", "sluggish actions", "laugh", "abrupt movements", "flowing activity", "not going out" etc.
3.	Feelings/ expectations/time/faith	"anticipation of future", "warm feelings inside", "optimism", "appeasement", "the feeling of needlessness", "lack of rueful feelings", "I experience warm-hearted feelings" etc.
4.	Emotions/ mood	"good mood", "irritation", "fear", "sorrow", "frolicsome", "I'm happy", "dismay", "bad mood", "quietness" etc.
5.	Events/ situations	"in connection with exams", "a friend tried to make up", "with parents at home", "holiday", "much work", "on a surgical table", "spring", "I am going to the concert", etc.
6.	Motivation/wishes/ readiness/ demands/ opportunities/dreams/	"it is interesting", "wanted to start as soon as possible", "ansence of wish", "I will dream", "unwillingness", "readiness for…", "want …", "don't want …" etc.
7.	Attitude/assessment/comparison	"this ungatheredness is everlasting", "nothing changes", "I just worried", "it was not long", "it has also been", "do not change at all", "care about everything", etc.
8.	Transcedentness/metaphoricalness	"to fly up and land", "inside light", "wish to fly", "was bringing joy for the world", "this condition I name "the fifth form, the second term" etc.
9.	Thinking	"I think…", "there were many thoughts about it", "decided to think over something interesting", "no obsession", "I suppose…", "I knew that …" etc.
10.	Perception	"appear at sight of …", "contemplation of …", "hypersusceptibility to everything external", "apprehension of incoming information" etc.
11.	Speech	"sociability", "to talk to somebody", "more talkative", "I conduct conversations actively", " to say something in the wrong way", "communicating", "slow speech", "to talk little", "I am chatting", "to talk without stopping" etc.
12.	Attention	"concentration", "attentiveness", "inattentiveness", "attention is focused", "attention is good", "poor attention", "absent-mindedness" etc.
13.	Memory/ concepts/ memory images	"I remember", "hard to remember", "to forget something", "thoughts about the past", "do not remember", "difficult to imagine", "good work of memory" etc.
14.	Consciousness	"consciousness is sluggish", "consciousness of availability", "unconsciously", "clear mind", "awareness of events", "clear consciousness", etc.
15.	Sensations	"sensation of impactedness", "the sense that there is some trick", "everything will be felt", "sensation of pain", "discomfort", "no senses" etc.
16.	Imagination	"flight of imagination", "all possible variants are performed", "to think over something", "imagination works well", "difficult to think over something" etc.
17.	Volitional processes	"tried to keep myself busy", "I will not be lazy", "they could not be put aside", "unorganized", "I am strong", "distraction", "absence of will" etc.
18.	Reflection	"It seems to me that …", "I did not experience this state a month ago", "such an internal sate", "…so as...", "self-withdrawal" etc.

quantity of operants than images of other states in their structure. In the section of the past (*week ago, month ago*) and the future *(week ahead, month ahead)* there is observed the decrease of occurrence frequency of characteristics which extends to a year in future and in the past, on the contrary, in the section *year ahead* frequency increases.

So, high availability of characteristics in an actual image is observed in negative states of the high and average level of activity. Let us analyze further the continuum of the past. Decrease of occurrence frequency of indicators from the section *week ago* to the section *month ago* and also increase of frequency to the section a *year ago* is created by all groups of states except one that includes positive states of high level of activity. The other picture is in the continuum of the future. Smooth decrease in number of used characteristics to the section *year ahead* is created due to averaging of wide data scattering in these groups of states. Positive states of high and average level of activity in the section *month ahead* are described with the use of bigger quantity of operants than in other sections of the future and by *a year ahead* the occurrence frequency of indicators decreases. Negative states of the same levels of activity show opposite dynamics. So, in the section *month ahead* the smaller number of characteristics is used for the description but they increase by a *year ahead*. Thus, it should be noted: in the section *year ahead* the occurrence frequency of state images indicators is identical to all groups of states, except negative states of high level of activity.

Table 2: Mean values of indicators of images of positive states of high level of mental activity in the range *a year ago – year ahead*

Name of indicators	Temporary continuum						
	ya	ma	wa	act	wa	ma	ya
1.Physiological/ energy processes	0,42	0,68	0,42	0,53	0,53	0,42	0,47
2.Behaviuor/ psychomotor apparatus	1,47	1,47	1,47	2,53	1,16	1,84	1,32
3.Experiences/ expectations	0,95	1,05	1,16	0,89	1,16	1,37	1,11
4.Emotions/mood	1,37	1,37	1,16	1,58	1,26	0,79	0,95
5.Events/ situations	0,95	1,16	0,74	0,53	0,68	0,63	0,42
6.Motivation/ readiness	0,68	0,89	0,63	2,37	0,42	0,63	0,95
7.Attitude/ assessment	0,63	0,37	0,32	0,53	0,58	0,42	0,42
8.Transcedentness/ metaphor	0,32	0,37	0,26	0,21	0,37	0,32	0,32
9.Thinking processes	0,68	0,32	0,16	0,47	0,37	0,32	0,11
10. Perception	0,05	0,00	0,00	0,05	0,00	0,00	0,05
11.Speech/ communication	0,05	0,11	0,16	0,63	0,11	0,16	0,16
12.Attention	0,05	0,05	0,05	0,11	0,11	0,00	0,05
13.Memory/views	0,11	0,05	0,05	0,05	0,00	0,00	0,00
14.Consciousness	0,05	0,00	0,00	0,00	0,00	0,05	0,00
15.Sensations	0,16	0,16	0,00	0,16	0,05	0,16	0,21
16.Imagination	0,00	0,00	0,05	0,00	0,00	0,05	0,00
17.Volitional processes	0,00	0,00	0,00	0,11	0,00	0,00	0,00
18.Reflection	0,58	0,53	0,21	0,47	0,42	0,37	0,26

Conventional symbols: ya-year ago, ma-month ago, wa-week ago, act-actual, wa-week *ahead*, ma-month ahead, ya-year ahead.

Further we will consider the dynamics of occurrence frequency of each characteristic of images of separately taken groups of states with a temporary continuum in view. As illustration we will consider mean values of indicators of images of positive states of high level of mental activity (liveliness, joy, love, etc.), presented in Table 2. As it follows from the table, in the description of states of high level of activity of positive modality in all sections the respondents use operants of behavior more often (*activity, acts, reactions, actions, psychomotor apparatus*), they also pointed out features of experiences and emotional manifestations.

The *motivational component* in descriptions is more often met only in actual time and emphasis on the events connected with the state is made in section a *month ago* in a greater degree.

There are factors which in some sections are not mentioned, "zero" indicators. For example, the emphasis on *volitional processes* by some respondents was placed only in actual time. The factor *attention* was used in some cases, but is completely absent in the image of states in the section *month ahead*. The factor *sensations* is absent only in section *week ago*. Also not in all temporary periods respondents pointed to such components as *perception, memories/views, consciousness, imagination*. So, we can note that respondents seldom reveal the flow of psychical processes when they describe psychic states.

By analogy we will consider these data of Table 3, reflecting occurrence frequency of indicators in images of negative states of high level of mental activity (hatred, discomposure, fear, jealousy, anxiety, etc.) in a temporary continuum. According to the table data it is seen that in all temporary continuum these states are described most often by an operant *physiological / energetic processes*, a *behavior/psychomotor apparatus*. Emotional manifestations are noted generally in images of the past, the present and the near future (*week ahead*) and features of experiences, expectations – in an actual image and in extreme boundaries of the past, the future (*a year ago, year ahead*). The emphasis on events, situations which have caused psychic states of this group and also on a motivational component is marked only in descriptions of actual time. Thinking processes, reflection of outlived state are expressed in sections *a year ago, actual time*. Factors which in specific temporary sections are not used in descriptions of respondents have been revealed. So, for example, *transcendence/metaphor* and *speech* factors are absent in images of states only in the interval *a month ago* and *imagination* is specified only in *actual time and year ahead*, but with the minimum occurrence frequency. Also, respondents did not point to such components as *perception, consciousness, sensations* in all temporary periods. So, the description of psychical processes flow is rarely met in contrast to other components.

Table 3: Mean values of indicators of positive states images of high level of mental activity in the range *year ago-year ahead*.

Name of indicators	Temporary continuum						
	ya	ma	wa	act	wa	ma	ya
1.Physiological/ energy processes	1,47	1,41	1,41	2,24	1,41	1,18	0,88
2.Behaviuor/ psychomotor apparatus	1,00	0,65	0,59	1,47	0,59	0,94	0,47
3.Experiences/ expectations	1,24	1,29	1,00	1,24	1,59	1,29	1,12
4.Emotions/mood	1,47	0,82	1,18	1,53	0,71	1,24	1,12
5.Events/ situations	1,24	0,18	0,76	0,47	0,47	0,82	0,59
6.Motivation/ readiness	0,76	0,47	0,71	1,24	0,76	0,59	0,35
7.Attitude/ assessment	0,35	0,29	0,41	0,12	0,65	0,29	0,65
8.Transcedentness/metaphor	0,24	0,00	0,12	0,06	0,29	0,06	0,12
9.Thinking processes	0,76	0,12	0,47	1,00	0,53	0,71	0,35
10. Perception	0,12	0,06	0,12	0,18	0,18	0,06	0,12
11.Speech/ communication	0,06	0,00	0,06	0,06	0,00	0,06	0,00
12.Attention	0,00	0,12	0,06	0,29	0,00	0,12	0,00
13.Memory/views	0,12	0,06	0,06	0,00	0,00	0,00	0,06
14.Consciousness	0,12	0,06	0,06	0,00	0,12	0,06	0,06
15.Sensations	0,41	0,29	0,24	0,53	0,29	0,35	0,35
16.Imagination	0,18	0,00	0,00	0,00	0,06	0,12	0,12
17.Volitional processes	0,12	0,12	0,06	0,00	0,12	0,12	0,00
18.Reflection	0,59	0,41	0,47	0,88	0,41	0,47	0,71

Conventional symbols: ya-year ago, ma-month ago, wa-week ago, act-actual, wa-week *ahead*, ma-month ahead, ya-year ahead.

Without considering in detail images of other states, we will note that all of them are characterized by definite specifics. Thus, leading indicators of positive states images of average level of mental activity (tranquility, calmness, interest, concentration) in the range a *year ago - year ahead* are such indicators as *physiological/energetic processes, experiences/ expectations, emotion/mood*.

Behavior/psychomotor apparatus, motivation/ readiness, thinking processes factors show high occurrence frequency in an actual image and *events/situations, a behavior/psychomotor apparatus* factors are evident in the section *year ago*. Also "zero" operants which were not used by respondents in the descriptions were found: components *transcendence/metaphor, consciousness* are used in descriptions by a small number of respondents and in sections *month ago and actual time*, respectively, are absent at all.

Also, images of states are not presented by factors *speech, attention, memories/representations, imagination, volitional processes* in all temporary sections The greatest number of "zero" operants is revealed in sections of the future. In general, it is possible to note that the smallest occurrence frequency in all temporary continuum characterizes the indicators reflecting the flow of mental processes.

In its turn, in images of negative states of average level of mental activity (indifference, dissatisfaction, unequaminity, instability, etc.) in all temporary continuum

experience/expectations factor is used most of all. In actual time states were represented through the description of physiological and behavioural reactions, features of experiences and emotional manifestations, the description of reflective and thinking processes and also through a motivational component. *Experience/ expectation, relation/ assessment* indicators show high occurrence frequency in descriptions of states of the past and the future as well. Thus in the section *year ahead*, as well as in *actual time*, *physiological/energetic processes* characteristic is often applied and in the section a *year ago – thinking processes, a behavior/ psychomotor apparatus*. "Zero" indicators characterize images of the past and future mainly in the near future intervals (week and monthly sections): the factor *consciousness* is completely absent in the image of states of this class and the factor *attention* was used only in *actual time*. *Transcendence/metaphor, perception, speech, memory/representation, imagination* operants are not met not in each temporary section and show low occurrence frequency.

In images of negative states of low level of mental activity (tiredness, sadness, sleepiness, despondency, etc.) in all temporary continuum, *physiological/energetic processes* factor is generally used. The description of behavioural manifestations is often observed in images of the past, present and future. Reflective processes are allocated in the section a *year ago, actual time*. Also, only in an actual image of states with high occurrence frequency *experiences/expectations, emotion/mood,*

motivation/readiness factors are often met and in the image of the section a *year ago* we meet *attitude/assessment* factor. There were detected components which were used in the description of states only in a specific temporary section: *transcendence/metaphor* factor is absent in the section *year ahead*, *perception* – in the section *week ago*, *memory/representation* – in *actual time*, *imagination* – *in a year ago*. And components *speech, consciousness* appeared even less often, especially in the section of future.

CONCLUSIONS

- The image of psychic states comprises not only internal indicators of person's states (physiological reactions, mental and cognitive processes, behavioural manifestations, demand-meaning, emotional and imaginative/figurative spheres), but also events which cause this state.
- Occurrence frequency of each factor is specific on its own and depends on the modality and level of states mental activity. The actual image contains the greatest number of characteristics, i.e. it is rich and fully presented in consciousness. The image of future in all sections is presented by the smallest number of characteristics, i.e. the description of assumed staying in this or that state in future is presented less poorly, "dimly", the image is "poor". Images of state in some sections of the past (*month and week ago*) gave the same difference, whereas the image in the section *a year ago* is presented by respondents more fully than in other sections of the past and future.
- There were revealed factors which in definite temporary sections were not used in respondents' descriptions, "zero" ones. Empirical indicators reflecting the flow of psychical processes refer to them.

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