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Self-System and Mental States of Students: Regulatory Aspect

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Abstract

The relevance of the problem being investigated is related to the importance of understanding the processes of mental states regulation in order to improve the quality and effectiveness of human's life. Considering the key role of the individual's self-system in the regulation of mental life, it determined the purpose of this study: to research the self-system and the nature of the relationship between its components and features of the mental states experience, as well as its connections with individual methods and styles of self-regulation. The leading research methods were testing, content analysis of self-reporting texts, followed by analysis of statistical connections and differences. The article presents conclusions about the level structure of the self-system; the peculiarities of the relationship of its components with the global attitude to the world are presented. The research results confirm the involvement of the self-system in actualization of reflexive processes, the formation of behavioral patterns occurring in the process of mental states regulation. Practical application of the obtained data may consist in creating, on the basis of the results of the study, tools of psychological counseling and correction of students' conditions.

Keywords: self-system, self-consciousness, unbalanced mental states, self-regulation, subjective experience.

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Introduction

The study of regulating of personal mental states and activity is one of the most important tasks facing modern psychological science. Understanding the mental state as a kind of procedural background on which mental activity proceeds makes it relevant to study the person's subjective experience of mental state. Advancing knowledge in this area gives new possibilities for mental states regulation and, consequently, the entire life of a person.

The idea of self-consciousness as the most important sign of consciousness (Dubrovsky, 1994), its epicenter, allows to talk about the key role of the self-system in the human mental reality. Self-system, as an existential core of the personality, provides its internal self-organization and self-regulation (Golub, 2012), acting as a determinant of human behavior.

Despite the relevance and domestic and foreign researcher's wide interest to the problem of self-identity, nowadays there is no single theoretical field in this area. In numerous existing concepts and approaches, a different conceptual framework is used. Categories "self-concept", "Self-image", "self-consciousness" are mixed and used to describe different phenomena of the Self depending on the aspect of research (Baryshnikova, 1999).

However, despite significant differences in approaches, most researchers admit the mental regulation as one of the main functions of the self-system. As a self-regulation's mechanism self-consciousness controls and regulates person's behavior and activities, through the perception of oneself and the world, own experience and external influences. Relationships and dynamics of the self-system's components are considered as a necessary condition for self-regulation and are an internal point for understanding the patterns of its processes (Agapov, 2013). At the same time, it is the regulatory components of self-consciousness that have been studied extremely insufficiently (Petrova, 2007). Their contribution to changes in the mental state, the role and significance in the regulatory process has not been studied.

Literature review

Most researchers recognize the multi-dimensional, hierarchical character of self- system including a wide range of representations: self-image, emotional value, self-esteem, etc. Dorfman (2019) emphasizes the need for an integrative approach to the self phenomenon in order to present it as a coherent organized system. In the focus of this direction is not a plurality of separate Me, but a single self-system integrating a number of basic interconnected elements. Analyzing self as a system the key points appear coherence

(structure), multi-dimensionality, and multi-level (hierarchy) of one self. Kon (1984), Stolin (1983), Sokolova (1989) wrote about the level structure of the self. They considered the self-image as an integrative adjusting formation, including a cognitive component: representation of own qualities, abilities, capabilities, social significance, appearance, etc; affective component – self-attitude (self-esteem, self-love, self-denial, etc); behavioral component - the practical implementation of motives and goals in relevant behavioral acts.

Self-image is inextricably linked part of the world-image - the background on which all human mental activity unfolds (Petukhov, 1984). In turn, the concept of the world-image is related to the category of "subjective experience" as private with the whole (Artemyeva, 1999). Since we mean the self-system, as the structure that mediates a person's connection with the world, it obliges to consider its components included in the structure of the world-image. Agapov (1999) emphasizes inclusion of self-concept in the universal interconnection of processes and phenomena of the material world. He considers the self-concept an integral of the processes of individual mental activity and the open environment.

Conception of the integrating, developing, self-organizing functions of mental states suggests that the study of the relationship between the self system's elements and the subjective experience of the mental states is the most promising and relevant for understanding the processes of mental regulation. In this vein, a study of the self phenomena in interconnectedness and interpenetration at all levels of subjective experience in the context of unbalanced (unstable) mental states is especially revealing. The latter is due to the fact that one of the most important and basic functions of unbalanced states is their ability to self-organize the mental space (Prokhorov, 1997).

The study of the relationship between the self-system's elements I and the features of unbalanced (unstable) states reveals wide possibilities for studying the phenomenon of the Self in the structure of the subjective experience. The data obtained in this direction of research can significantly expand the understanding of such important fundamental problems of psychology as self-consciousness, subjective experience, a system of mental structures, and the possibilities of self-regulation. It is especially relevant for educational activities of students.

Purpose and objectives of the study

Based on the foregoing, the aim of the study is to research the self of the individual, as a single system of interrelated elements having its own structure and hierarchy; exploring the nature of the relationship between the components of the self-system and the features of the experience of mental states; study of

the relationship between the components of self-attitude and individual methods and styles of students᾽ self-regulation.

Methodology

Participants (30 students, age 20-23) were registered conceptual, associative and metaphorical characteristics of mental states. The states of different levels of intensity and modality were studied: states of a high level of mental activity (excitement, rage); average level of mental activity (calm); state of low level of mental activity (loneliness, fatigue).

Methods for studying mental conditions have been selected taking into account the level organization of subjective (mental) experience. To study the perceptual layer of subjective experience "Relief of the mental state" was used (Prokhorov, 2004). In order to study the semantic layer of subjective experience, the method of semantic differentiation was used, with the help of which we determined the emotional-personal attitude of subjects to the named mental conditions (Petrenko, 2005). Also, to characterize the semantic layer the method of directed associations, when the students gave free associations for the mental states, was used. The conceptual layer of subjective experience was studied by the method of definitions, where students gave conceptual definitions of mental states.

Diagnosis of students' self-attitude was carried out using the self-assessment questionnaire (Stolin & Panteleev, 1988). The test reveals the traits of three levels of subject's self-attitude: an integral indicator of self-attitude, differentiated aspects of self-attitude and the level of specific self-directed actions.

To determine the global, most generalized level of attitude towards oneself and the world, the "Global differential – Me" and the "Global differential – World" were used (Gudkova, 2010). The participants are asked to select and evaluate the feature from each of 14 bipolar characteristics pairs, answering to the questions "What kind of person am I?" and "What is the world around me?".

To describe the individual features of self-regulation, the following aspects were considered: styles of self-regulation were studied using the questionnaire "Style of self-regulation of behavior - ССП98" (Morosanova, 1998); preferred types of self-regulation - "Typology of self-regulation methods of mental states" was used; individual effectiveness of self-regulation methods - "Efficiency of self-regulation" was used (Prokhorov & Nazarov, 2019).

The received data was processed using standard features of Microsoft Office Excel 2010; SPSS 22.0, Statistika 9. To estimate the correlation the Spearman rank correlation coefficient was used.

Results

The study of global attitude towards oneself and the world

The analysis of data obtained by the "Global Differential – Me" revealed that dominant student's global attitude towards oneself is positive (94%). At the same time, the measure of estimation of the affective and cognitive components of global attitude is not always uniform.

A part of students (20%) have a discrepancy between indicators of the affective and cognitive components of global attitude. The affective component has negative value, when the cognitive component is positive. That is, their judgments about themselves are more positive than feelings toward themselves.

Global attitude to the world is mostly positive (70%) and also controversial. Giving a positive emotional assessment of the world around them, at the same time students may have negative judgments about it. Mismatched assessments of the cognitive and affective components of their attitude to the world have 60% of students.

Direct significant relationships between the components of the global attitude to oneself and to the world were revealed (Figure 1).
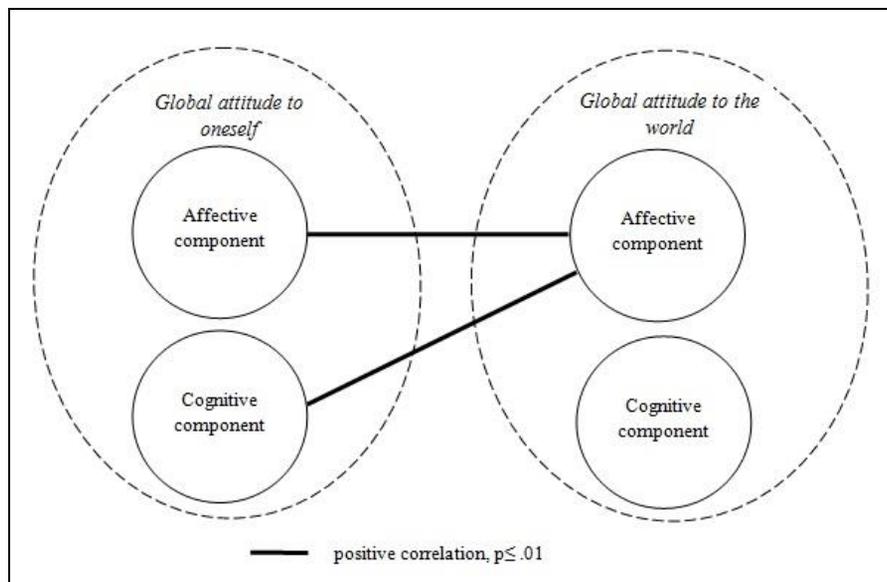

Figure 1. Correlations between the components of global attitudes to oneself and to the world

The correlation coefficient between the affective component of the global attitude to the world and the affective component of the global attitude to oneself: r = 0,551 (p≤0,01); cognitive component of the global attitude to oneself: r = 0,528 (p≤0,01). Those who are positive about the world and their reality are also positive about themselves, both in terms of emotional self-acceptance and in terms of their cognitive assessment of themselves.

Research of the self-attitude levels

The questionnaire by Stolin was used to identify distinct features of student self-attitude at different levels of generalization. In general, the results confirm the positive attitude of students to themselves. At the same time, despite the high level of integral self-attitude (average value of 97.9% of the accumulated frequencies), the subjects also demonstrated a high level of inconsistency in evaluation of various aspects of self-attitude. Having an internally undifferentiated feeling "for" oneself, self-esteem and self-confidence, at the same time, a part of the students (36%) have a low rating on one or more of the following scales: self-sympathy, self-interest, self-acceptance, expected attitude to oneself.

The components of self-attitude of the different levels of generalization are linked by correlations of different intensity and modality, depending on the level in the hierarchical organization of the self-system (Table 1).

Table 1. Correlations between the components of self-system

Indicators	Correlation coefficient
Integral indicators of self-attitude	
Affective component of the global attitude to oneself	
Integral self-attitude	-,424*
Self-esteem	-,375*
Self-understanding	-,385*
Integral self-attitude	
Self-sympathy	,485**
Expected attitude	,362*
Self-interest	,388*
Indicators of self-attitude's distinct aspects	
Self-sympathy	
Expected attitude	,466**
Self-confidence	,527**
Self-blame	-,445*
Expected attitude	
Self-acceptance	,459*
Self-understanding	,372*

Self-interest	
Self-confidence	,388[*]
Self-acceptance	,492[**]
Indicators of level of specific self-directed actions	
Attitude of other	
Self-acceptance	,373[*]
Self-acceptance	
Self-interest II	,456[*]
Self consistency	
Self-understanding	,504[**]
Self-blame	
Self-interest II	,380[*]
Self-understanding	-,403[*]

Note: ** $p<.01$, * $p<.05$

Affective component of the global attitude towards oneself has an inverse correlation with integral indicator of self-attitude, as well as with measures of self-esteem and self-understanding. The greatest number of connections was found between differentiated indicators of self-attitude: self-esteem, self-sympathy, self-interest and expected attitude to oneself and indicators of the level of specific actions (readiness for them) in self-direction.

Summarizing the results, it is possible to assume the presence of unified self-system with level structure constituted from interconnected elements.

Correlation between the components of the self-system and the features of mental states self-regulation

The correlation analysis of the data revealed the interconnections between the components of all levels of the self-system and the individual features of self-regulation. Correlations have different significance and modality.

The result of the analysis suggests the links between the individual features of the self-regulation methods and the level of different components of the self-system.

Subjects with a lower level of self-attitude, in particular aspects such as self-esteem, self-sympathy, expected attitude of others, self-confidence, self-interest and self-understanding, choose the following types of self-regulation: actualization of positive images, reflection, passive discharge. The same self-regulation methods apply to people with higher rates of self-blame.

The stylistic features of students' self-regulation also have relationships with indicators of the components of the self-system. Planning and modeling are the typical styles of self-regulation for participants with a

higher level of positive aspects of self-attitude, such as self-esteem, self-interest, self-confidence, self-consistency and a high integral measure of self-attitude. The style feature "evaluation of results" is typical for students with a low level of self-acceptance.

The effectiveness of self-regulation has no significant links with the distinctive components of self-relationship. However, it is interconnected with the affective component of the global attitude to the world: have positive correlations with all scales of effectiveness. Cognitive component of the global attitude to oneself has positive correlations with the scales "mental processes", "experiencing", "general level of self-regulation efficiency". That is, the efficiency of particular self-regulation method for individual (through physiological manifestations, behaviors, experiences or mental processes) does not depend on the level of self-relation, but is related to the attitude to the world. High level of global attitudes towards oneself and the world affects a high level of self-regulation effectiveness. For the self-attitude the participation of the cognitive component is mostly, when for the attitude to the world - the participation of the affective component.

In general, an indicator of self-interest has the largest number of positive interactions with self-regulation features. The level of self-interest is related to indicators of preferred methods of self-regulation: passive rest, actualization of positive images, switching/disconnecting; with stylistic features of self-regulation: planning, modeling, programming. A significant positive correlation has been found between the self-interest indicator and the indicator of the general level of self-regulation.

Correlations between the global attitudes and subjective experience of mental states

The correlation analysis has shown that the affective and cognitive components of global attitude to oneself and the world are related to the indicators of layers (perceptual, semantic, conceptual) of subjective (mental) experiences of mental states.

As an illustration, we consider the relationship between the affective and cognitive components of the global attitude to oneself and the world and the elements of the subjective (mental) experience of unbalanced mental states of high levels of mental activity (excitement), average (calm) and low (fatigue) (Figures 2-3).
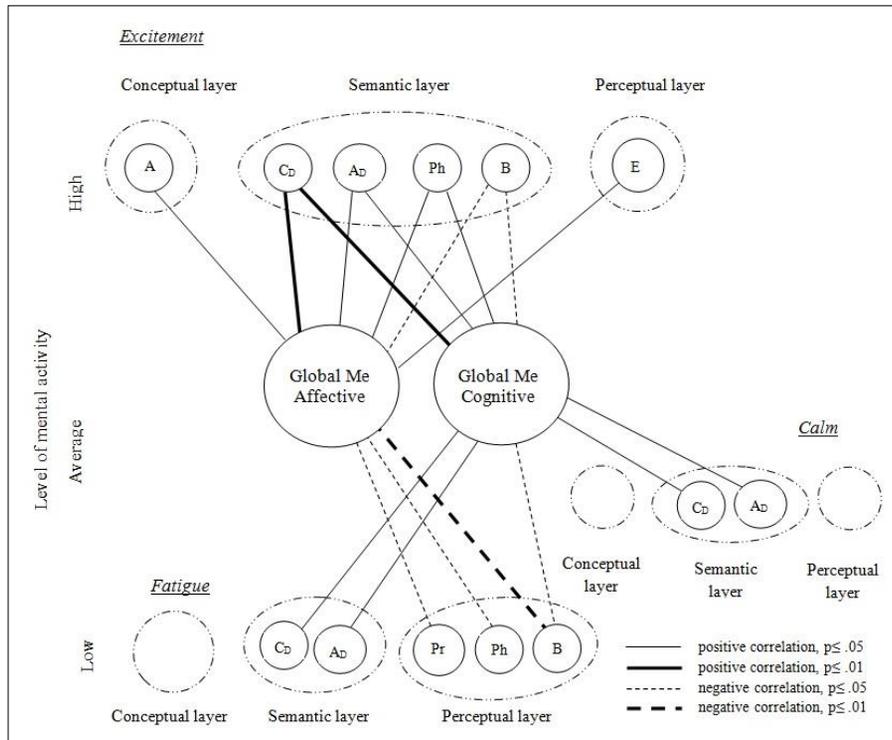
Figure 2. Correlations between the global attitude to oneself and the elements of the subjective (mental) experience of unbalanced mental states: of high (excitement), average (calm) and low (fatigue) levels of mental activity

Specification:

A – affective component of subjective experience;

B – behavioral component of subjective experience;

C - cognitive component of subjective experience;

Ph - physiological component of subjective experience;

AD – affective component of semantic differential;

CD – cognitive component of semantic differential;

Pr – scale of psychological processes of mental state's relief;

E – scale of experiences of mental state's relief;

Global Me Affective – affective component of global attitude to oneself;

Global Me Cognitive – cognitive component of global attitude to oneself;

Global World Affective – affective component of global attitude to the world;

Global World Cognitive – cognitive component of global attitude to the world;
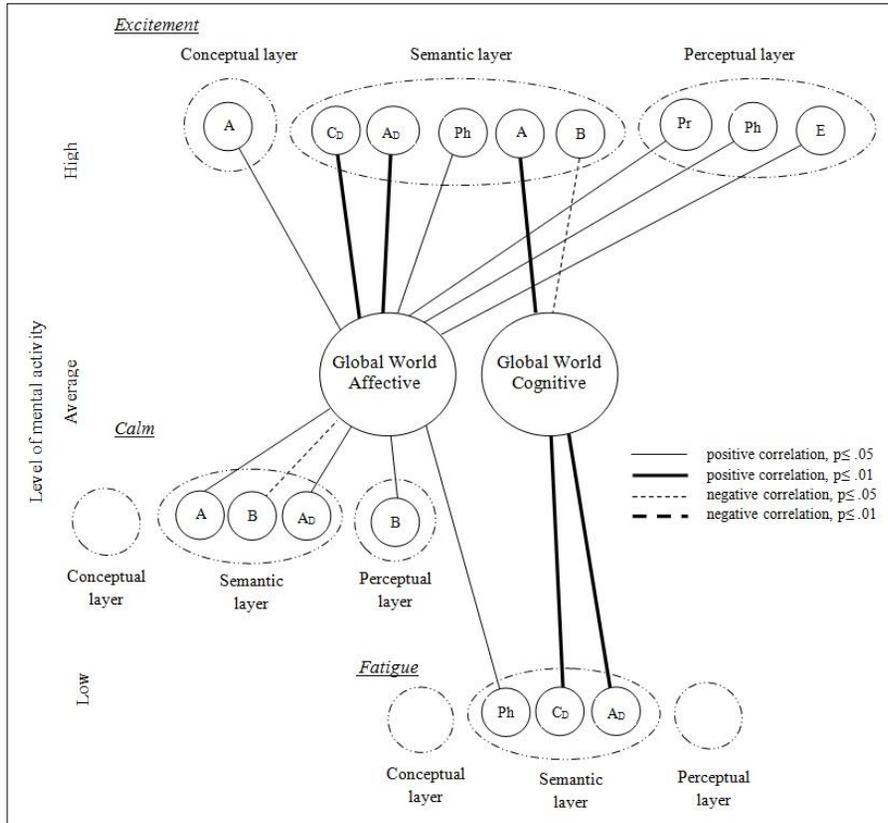
Figure 3. Correlations between the global attitude to the world and the elements of the subjective (mental) experience of unbalanced mental states: of high (excitement), average (calm) and low (fatigue) levels of mental activity

Specification is the same as for Figure 2.

As shown in Figures 2 and 3, the most intensive interrelationship of the indicators of global attitudes to oneself and the world is observed with the components (cognitive, affective, behavioral, physiological) of semantic layer of subjective mental state experiences. Being an intermediate between the superficial (perceptual) layer and the conceptual core of subjective experience, the semantic layer is a structured complex of subjective attitudes to the actually perceived objects. It is presented as a system of subjective meanings in terms that describe the subjective world. Apparently, as a synthesis of complex objects, the image of this layer acts as a mnemonic matrix in a subjective semantic space.

The next in intensity of interconnections with the components of global attitudes to oneself and the world is the perceptual layer. This is due to the fact that the components of the perceptual layer, reflecting the perception of the situation, are implicitly associated with the image of the world and with the states of the

subject. The interconnection of the elements of the perceptual layer of the mental states subjective experience and indicators of global self-attitude is most common in low-energy negative states.

The interconnection of the components of the global attitude to oneself and the world with the elements of the conceptual level of experience is typical only for positive and negative states of high mental activity (excitement, rage).

As follows from the figures, more close relationships are observed between the elements of semantic layer of experience and indicators of global attitude in the experience of intensive positive states.

Correlation the features of self-attitude and subjective (mental) experience of mental states

The results of the study show that all components of the self-system (self-attitude) are associated with various components (affective, cognitive, physiological, behavioral) of the perceptual, semantic, conceptual layers of subjective (mental) experience. The intensity and nature of the relationship are different for specific mental states.

The most related to the components of the subjective experience are such aspects of self-attitude as self-acceptance, self-blame, self-interest. Negative unbalanced states of high and low intensity (rage, loneliness, fatigue) are characterized by interrelations with indicators of self-blame and self-acceptance. The level of self-interest is mainly associated with the characteristics of positive states: excitement and calmness.

The analysis of the inclusion of layers of subjective experience in relationships with the characteristics of the self-system allows to distinguish certain features of correlations.

So, excitement (state of high level of mental activity) through the semantic layers of subjective (mental) experience is connected with integral indicator of self-attitude, self-sympathy, self-confidence, self-blame, self-interest; rage through the semantic, perceptual and conceptual characteristics of layers of experience is connected with self-esteem, self-acceptance, self-consistency, self-blame and self-understanding. States of low-level activity (fatigue) through the perceptual and semantic layers with self-acceptance, self-blame and self-interest, and loneliness through the semantic layers with self-acceptance, self-consistency, self-blame and self-understanding. The state of an average level of mental activity - calmness is characterized by the lack of correlations between indicators of self and layers of subjective experience. In other words, only extreme by intensity states are more strongly reinforced in the subject's subjective (mental) experience.

It is interesting to note the distribution of states by layers of subjective (mental) experience. States of a high level of mental activity are represented in layers of subjective experience in a greater extent: excitement

(associative, affective, perceptual, cognitive, behavioral, physiological characteristics) and rage (associative, behavioral, affective, physiological, cognitive characteristics), whereas, for example, loneliness is characterized by connections with affective, cognitive, behavioral indicators, as well as experiences. The data indicate that the effect of fixing states of a high energy level manifests itself more diverse in the layers of subjective experience.

In general, the greatest number of correlations between indicators of self-attitude and elements of subjective experience is typically for positive modality states.

The subjective experience of negative states is characterized by the absence of interconnections with the components of the self. Negative, unapproved by the individual components and new contents in subjective experience, specific for negative states, are not associated (not "assigned") with the self system. In contrast to the states of positive modality, where the high intensity of the relationship between the components of the self and the mental state subjective experience indicates inclusion, the individual's desire to associate with positive components and new contents typical for positive states.

In general, this gives reason to conclude that at the deep level of subjective experience, the construct of self is positive and does not integrate with negative aspects associated with experiences of negative unbalanced mental states.

Discussions

The most studies of state regulation consider the psychological qualities of the subject as the main basement, and the activity or behavior is meant as the direction of the regulatory process. At the same time, the mental component of the regulatory process is the least developed in these concepts: the contribution of consciousness structures to changes the subject's states; their role and significance in the regulatory process have not been sufficiently studied.

It seems appropriate to consider the model of mental regulation as the structure of the relationship between mental states, characteristics of consciousness (representations, reflection, experiences, semantic structures, mental (subjective) experience) and external factors (situations, cultural space, way of life, temporal factors and social environment).

As a central part of the subjective (mental) experience, an integrative complex, the self-system plays a key role in the mental regulation. The components of the layers of subjective experience, "bounded" to each other and, in turn, included in interactions through the self-system with values and experience, form the

structure of consciousness and determine the occurrence and change of mental states. The processes of reflection that occur during semantic regulation are associated with a dialogue between different self-present in the space of consciousness.

It can be assumed that in the processes of state regulation, levels of reflexive activity can be distinguished: at a low level, individual executive actions on state regulation are reflected and controlled, at a higher level the subject represents itself as self-system (self-image, self-conception) planning and evaluating its actions.

Conclusion

The self-system of person has a level structure, the components of which are the representations, images and assessments of the individual about him/herself, as well as the idea of other people's evaluation and attitude towards him/her. The components of the self system constitute an integrated complex of interconnected elements with a hierarchical structure. The first level of the structure consisted of indicators of global self-attitudes (affective and cognitive) and an integrative indicator of self-attitude. The second level includes more differentiated indicators: self-esteem, self-sympathy, expected attitude to oneself, self-interest. The third level consists of the most differentiated indicators that reflect the level of specific actions in self-direction: self-understanding, self-confidence, self-acceptance, self-consistency, self-blame.

Global attitudes to oneself and to the world are associated with layers of subjective (mental) experience of mental states (perceptual, semantic, conceptual). Moreover, relationships with characteristics of perceptual and semantic layers are most pronounced. Differentiation of the inclusion of global attitudes in the layers of the subjective experience of unstable states is revealed: a wider range of connections is more typical for positive states of high level of activity. With the reduction of the states' intensity the number of connections decreases and the links localize into different components of the experience layers.

The features of the self-system of (self-attitude) are interrelated with affective, cognitive, physiological, behavioral indicators of the perceptual, semantic, conceptual layers of the subjective experience of mental states. These connections are most pronounced for the extreme by mental intensity states: excitement, rage, fatigue and loneliness.

Individual features of self-regulation are interlinked with the components of all levels of attitude to oneself and to the world. The preferred method and effectiveness of self-regulation, as well as its styles, are related to integral indicators of attitude to oneself and to the world, measures of differentiated aspects of self-attitude, and indicators of specific actions self-direction. The components of the global attitude to oneself and to the world are most closely related to the effectiveness of self-regulation methods (through behavior,

physiological manifestation, experience, or mental processes). The level of specific aspects of self-relationship is correlated with preferred types of self-regulation and its stylistic features.

Therefore, it can be concluded, elements of all the self-system's level participate in the actualization of reflexive processes and the formation of new patterns of behavior that occur in the process of experiencing unbalanced mental states.

Acknowledgements

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