Implicit color-emotional diagnostics of subjective representation of mental health and psychological well-being

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Traditionally, the affective component of mental health representations and psychological well-being refers to emotions, moods, feelings, which are usually measured using questionnaires and other deliberate techniques. However, not all components of emotional processes are conscious, which is why the question of implicit assessment of mental health representations and psychological well-being is still very important. This study refers to the perceptual-semantic association methodology (Kisel'nikov et al., 2013), based on Sokolov's vector spherical psychophysiological model of color, emotions and semantics (Sokolov, 2013). This methodology treats colors as mediators that can help measure implicit associations between emotions and specific semantic categories. The aim of the study was to reveal the implicit multidimensional structure of subjective emotional-semantic representation of specific categories related to mental health and psychological well-being.

Methods. The method of perceptual-semantic association was used and 36 participants (30 females, aged 21.9 ± 3.8 years old) were tested. Factor analysis was applied to the averaged matrix of subjective differences between 1) 10 basic emotions 2) 15 crucial semantic categories for mental health and psychological well-being, and 3) 10 basic colors.

Emotions	anger, surprise, fear, sadness, disgust, happiness, calmness, shame, contempt, interest
Colors	red, green, yellow, blue, purple, sky, blue, orange, black, grey, white
Semantic categories	self, life, family, friends, work, independence, leisure, future, faith, wealth, stress, psychologist, depression, mentally ill, psychological help

Two-factor emotional-semantic subjective space

The concepts with negative valence are: «stress», «depression», and «psychological help». On the «Arousal» axis we can see that pole of high activation is represented by «wealth», «anger», and «stress», while low activation is represented by «sadness», «calmness», «depression», and «psychological help». Cluster analysis shows four major clusters: negative valence and high arousal, negative valence and low arousal, positive valence and high arousal, positive valence and low arousal. The negative valence high arousal cluster includes «anger», «disgust», «shame», «fear», «contempt», «stress», and «psychological help». The negative valence and low arousal cluster includes «sadness» and «depression». The cluster of positive valence and high arousal is formed by «interest», «happiness», «surprise», «leisure», «friends», «work», «family», and «wealth». And the final major cluster, the cluster of positive valence and low arousal has the following stimuli: «calmness», «psychologist», «mentally ill», «future», «faith», «life», «independence», and «self».

Results. The classical two-factor emotional-semantic subjective space was revealed (Russell, 1980). Semantic categories representing mental health and psychological well-being are located definitely on the surface of the implicit two-dimensional Russel's affective circumplex (classical «Valence» and «Arousal» basic affective axes). Most of concepts are on the positive pole of the «Valence» axis, close to emotions «happiness», «interest», «surprise» and «calmness». The concepts with positive valence are: «friends», «work», «life», «leisure», «faith», «future», «family», «psychologist», «mentally ill», «independence», «self», «wealth». The negative pole of the «Valence» axis is formed mostly by negative emotions: «contempt», «disgust», «fear», «shame», «anger», and «sadness».

Cluster structure of emotions and semantic categories grouping

Discussion. The perceptual-semantic association method is a precise research tool which helps to uncover the implicit emotional load of verbal categories related to mental health and psychological well-being. It is of most interest that «psychological help» ended up in negative valence, while «mentally ill» has positive valence and is close to «psychologist». Former is probably due to the negative affective connotations of the severities of medical treatment, and the latter is probably due to the strong empathy between psychologist and patient.