

# The Attributive and Stylistic Determination of the Internal Picture of Smokers' Psychological Health

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## **Abstract**

The article is devoted to theoretical substantiation and empirical research of features of determination of the internal picture of health of the person in the contexts of personal predispositions, affective states, cognitive-behavioral coping strategies, and quality of life and subjective parameters of healthy functioning of an individual. coping strategies of mediation of experience; personal conditionality of the internal picture of health; subjective assessment of quality of life and health; neuropsychological and neuro-personological invariants. Developed the idea of the relationship of the system of concepts: "attributive styles", "cognitive-behavioral strategies", "internal picture of health", "neuropsychological invariants of subjective attitude to health", "personal conditioning". Neuropsychological features of experiencing the internal picture of smoker's health are identified and systematized. The peculiarities of determining the internal picture of a smoker's health with the leading patterns and tendencies of using coping strategies are determined. It was found that the content of the internal picture of human health when using constructive transformative cognitive-behavioral coping strategies are represented by such invariants as: "Ability to autonomy", "Physical security and viability", "Constructive self and environment", "Self-control and integrity", "Achievement and independence", "Demanding and hard work", "Proactivity", "Cognitive ability". For people with a predominance of constructive adaptive strategies, the content of the internal picture of health is formed by such factors as: "Situational capacity", "Focus on medical and social care", "Compensatory life satisfaction", "Balance of resources", "Dependence", "Excessive psychologization", "Painful social functioning", "Euphoria and unrealism", "Eco-dependence", "Pro-sociality". The content of the internal picture of the health of people who are characterized by unconstructive coping strategies, which consists of such invariants as: "Physicality", "Irrational fears", "Rigidity and

unconstructiveness", "Unhappiness, avoidance", "Forced activity". The internal picture of individuals' health has been shown to be more variable when using constructive cognitive-behavioral coping strategies.

**Keywords:** smokers; psychological health; cognitive-behavioral coping strategies; smoking in mental health; prevention and control of smoking; neuro-personology.

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The phenomenology of attributive and stylistic determination of the internal picture of health is an urgent scientific and practical problem in view of the trends of modern society, focused on the promotion and mythologizing of a healthy lifestyle (Alstead, Campsmith, Halley, Hartfield, Goldbaum, Wood; Lytvynenko) [1; 10]. The problem of mental health and well-being is complicated by unconstructive coping strategies, which include numerous chemical and behavioral addictions, including addiction to smoking (Hajat, Stein, Ramstrom, Shantikumar, Polosa; Yile) [6; 16]. Online workplace health promotion campaigns are known to prevent or stop smoking (Hui, Mierzwinski-Urban) [7]. The Convention on the Rights of Persons with Disabilities as a tool for combating smoking in mental health (van der Eijk) [14] and the problems of emergency prevention and control of smoking are becoming relevant (Hoffman, Tan [8]; Reynales-Shigematsu, Roa-Rodríguez, Barrington, Trimis, Blanco-Marquizo) [11].

The psychological context of the researched problem remains out of due attention due to the tendencies to its excessive medicalization. In historical and psychological retrospect, various aspects of subjective assessment and perception of health, mainly considered from the standpoint of emphasis on clinical and pathological signs, especially disease and covered in such concepts as: internal picture of the disease (Luria) [15]. Therefore, various aspects of personal mediation and determination of the internal picture of health its conditionality by attributive and cognitive-behavioral styles, rationality of attitudes, personality traits and patterns, are of particular importance.

It should be noted that numerous studies of attitudes and beliefs also show that a positive attitude reduces the depth of individual processing of important information (Kahneman) [9]: people in a positive mood instead rely on general cognitive structures and internal connections, including pre-written procedures, scripts, and scenarios. It is noted that negative attributive moods, especially sadness and related states, usually have a mirror effect to that described above. Compared to neutral and positive attitudes, sad attitudes (Sinclair, Mark, & Clore) [12] increase the thoroughness of individuals' handling of important information in dialogue, especially when it comes to argumentation and persuasion; rely less on general knowledge structures such as scripts, stereotypes (Bodenhausen, Kramer, & Suesser) [2]; less susceptible to halo effects; demonstrate less propensity for fundamental attribution error; show greater transitivity of preferences. In general, sad moods work as a trigger for a more systematic, data- and fact-oriented, analytical form of thinking in the spirit of logical rationality. It is established that the increase in efficiency is inherent only in mild states of sadness (sad moods); more intense and long-term conditions, such as chronic depression, interfere with productive and effective thinking (Conway & Giannopoulos) [3].

On the one hand, although existing theories of attribution have found application in the study of human health and related forms of human behavior (Bradley, 1985), it should be noted that the concept of "internal health picture" (IHP) is poorly understood and needs positivist approach to understanding its content.

Given the above, scientific research on the features of the attributive and stylistic determination of the internal picture of the health of smokers, which led to this study.

**The purpose of the study:** to establish the features of attributive and stylistic determination of the internal picture of smokers' psychological health.

### Materials and Methods

To solve the problems of research and ensure its objectivity, several methods were used: theoretical methods - theoretical analysis of sources, system-structural analysis and interpretation of the obtained data; empirical methods - methods of neuromonitoring of subjects during a structured interview, modeling, analysis, standardized and valid psychodiagnostic and neuropsychological methods.

To determine: attributive-stylistic determination of the internal picture of health used: test of attributive styles (L. Rudina); Methods for diagnosing the presence and severity of irrational attitudes (A. Ellis), the Scale for assessing the complexity and uncertainty of the situation (N. Vodopyanova); Coping strategies of mediation of experience applied the Method of identifying cognitive-behavioral strategies for overcoming (I. Sizova, S. Filippchenkova); personal conditionality of the internal picture of health - Methods of research of the index of life satisfaction (adaptation of N. Panina), California Psychological Questionnaire and Ammon Test (scales of constructiveness, destructiveness, deficiency of self-functions); Subjective Assessment of Quality of Life and Health used the World Health Organization Quality of Life Questionnaire (nuclear module) and the Short Form of Health Assessment (MOS SF-36). To determine the neuropsychological invariants of the models of internal health picture used: neurointerface "EMOTIV Epoc +" and software "EmotivPRO" (for the analysis of cognitive-emotional indicators) and methods of mapping electrical activity of the brain using neurointerface "EMOTIV Epoc +" and software «Brain Activity Map».

The empirical study was conducted on three samples, differentiated by the Method of identifying cognitive-behavioral coping strategies (I. Sizova, S. Filippchenkova): EG1 (n 36) - smokers who mainly use constructive conversion strategies of coping; EG2 (n 39) - smokers who mainly use constructive adaptive coping strategies; EG3 (n 44) - smokers who mostly use unconstructive coping strategies. By sex, the sample is heterogeneous, the age of the subjects from 24 to 43 years. The article is based on the data of Dr. L. Gudkin under the supervision of prof. V. Lunov [4; 5].

The anatomical-functional approach to the neuropersonology of the subjects was used. Neuromonitoring of the subjects during the structured interview differentiated the leading responses to stress due to the discussion of the concepts of disease, health, threats, and predictions about the latter. It is shown based on which indicators of cognitive-emotional reactions of brain activity diagnosed by the neurointerface, the assessment of leading trends in reactions to stress due to the experience of the semantics of "health - disease".

The study codified and interpreted the primary electroencephalogram (EEG) data into six main cognitive and emotional indicators: 1. Stress - an indicator that shows the degree of comfort or discomfort, mobilization; 2. Interaction - an indicator that shows the degree of involvement of the subject in a particular psychological event; 3. Interest - an indicator that shows the degree of interest in the situation or object; 4. Excitement - an indicator that identifies emotional arousal; 5. Concentration - an indicator that shows the degree of concentration on a given event or object; 6. Relaxation - an indicator that reflects the level of mental peace.

### Results and discussion

According to the results of factor analysis of smokers' potential to assess the complexity and uncertainty of situations, attributive styles, personality traits and patterns, components of life satisfaction, trends of irrational attitudes, types of health and quality of life, distribution of constructive, destructive and deficient levels of functioning The peculiarities of determining the internal picture of health in the subjects with different types of cognitive-behavioral coping strategies are determined.

In the group of smokers EG1 found that the content of the internal picture of health consists of the following 8 factors (70.67% variance): "Ability to autonomy", "Physical security and viability", "Constructive self and environment", "Self-control" and integrity ", " Achievement and independence ", " Demanding and hard work ", " Proactivity ", " Cognitive ability ".

The group of smokers EG2 determined the content of the internal picture of health, which is formed from the following 10 factors (68.33% variance): "Situational capacity", "Focus on medical and social care", "Compensatory life satisfaction", "Balance" resources", "Dependence ", " Excessive psychologization ", " Painful social functioning ", " Euphoria and unrealism", "Eco-dependence", "Prosociality ".

For the group of smokers EG3 determined the content of the internal picture of health, represented by the following 5 factors (65.54% variance): "Physicality", "Irrational fears", "Rigidity and unconstructiveness", "Rigidity and unconstructiveness", "Unhappiness, avoidance", "Forced" activity". It has been stated that the internal health picture of individuals who use constructive strategies of cognitive-behavioral coping is more variable and resourceful than those who are characterized by unconstructive behavioral strategies.

The neuropsychological features of experiencing the inner picture of a person's health are presented. It is noted that based on the neuropersonological approach [13] and using the methods of neuropsychological assessment, 11 subgroups were differentiated, which represent the leading trends in experiencing the internal picture of health in the context of considerations of subjective health assessment are researched. Accordingly, in the group EG1 found four (EG1.1, EG1.2, EG1.3, EG1.4), in EG2 four (EG2.1, EG.2.2, EG2.3, EG2.4), in EG 3 three EG3.1, EG3.2, EG3.3) subgroups.

It has been established that EG1 smokers who use constructive conversion strategies of coping are characterized by high social status. Four clusters were identified, which are represented by smokers with functional enhancement of dorsolateral (DL), orbito-frontal (OF) and ventromedial (VM) parts of the prefrontal cortex, as well as weakening of the ventromedial.

It is noted that persons with functional enhancement of DL (EG1.1) are characterized by a moderately high rate of stress (men 38.7%; women 37.6%), the rate of interaction is slightly higher (men 43.3%; women 46.2 %), the rate of interest is slightly higher (men 56.7%; women 53.6%), the rate of excitement is high (men 61.2%; women 66.1%), the rate of concentration is moderate (men 51.7%; women 55 , 6%), relaxation rate - within normal limits (men 20.8%; women 16.3%). A sensible response to stress due to health concerns has been reported.

It was determined that smokers with functional impairment of VM (EG1.2) are characterized by a reduced rate of stress (men 15.3%; women 11.2%), the rate of interaction is the highest (men 96.5%; women 98.1% ), the rate of interest is also the highest (men 97.3%; women 98.6%), the rate of excitement is low (men 23.0%; women 19.7%), the rate of concentration is the highest (men 78.5% ; women 83.4%), relaxation rate is also maximum (men 86.7%; women 88.1%). It was found that the subjects are characterized by maximum satisfaction from stressful situations, which indicates the proactivity of coping and health attributions.

It is presented that smokers with functional amplification of OF (EG1.3) are characterized by a moderately high rate of stress (men 36.4%; women 32.8%), the rate of interaction is slightly higher (men 56.1%; women 54.9 %), the rate of interest is high (men 65.9%; women 66.5%), the rate of excitement is within normal limits (men 33.5%; women 36.1%), the rate of concentration is high (men 69.1% ; women 75.3%), relaxation rate - within normal limits (men 26.2%; women 21.2%). It has been clarified that individuals with certain neuropsychological characteristics are more focused and adequate in solving problems related to stress and health.

It was stated that smokers with functional amplification of VM (EG1.4) are characterized by a slightly increased rate of stress (men 44.7%; women 48.5%), the rate of interaction - the maximum (men 81.7%; women 86.6% ), the rate of interest is high (men 72%; women 77.9%), the rate of excitement is high (men 71.7%;

women 76.1%), the rate of concentration is high (men 62.3%; women 66, 4%), the relaxation rate is minimal (men 8.3%; women 5.4%). It can be assumed that the subjects of this subgroup, although overly emotionally concerned about the problems, but the approach to solving them and the result are constructive.

The results of neuropsychological research on the EG2 group are presented, the subjects of which mainly use constructive adaptive coping strategies, and, accordingly, are characterized by average social status. Four clusters were identified, which are represented by individuals with functional enhancement of dorsolateral (DL), ventromedial (VM), orbito-frontal (OF) and parts of the prefrontal, as well as enhancement of the anterior cingulate (AC) cortex.

It was found that persons with functional enhancement of DL (EG2.1) are characterized by a moderately high rate of stress (men 37.2%; women 39.7%), the rate of interaction - within normal limits (men 40.1%; women 41, 3%), interest rate - increased (men 66.4%; women 68.1%), anxiety rate - high (men 65.9%; women 66.3%), concentration rate - increased (men 58.3% ; women 63.1%), relaxation rate - within normal limits (men 18.2%; women 14.4%). Reasonable increased curiosity and emotionality in the process of self-change under the influence of stress was stated.

It is determined that persons with functional amplification of VM (EG2.2) are characterized by a slightly increased rate of stress (men 46.2%; women 52.1%), the rate of interaction reaches a maximum level (men 76.5%; women 80.4% ), the rate of interest is high (men 62.6%; women 65.7%), the rate of excitement is high (men 72.7%; women 77.1%), the rate of concentration is also high (men 70.8%; women 73.6%), relaxation rate is minimal (men 10.1%; women 8.3%). It is noted that the respondents tend to experience the process of self-change in terms of health very carefully and emotionally, but the strategy is constructive.

Individuals with functional strengthening of the AC (EG2.3) are characterized by a slightly increased rate of stress (men 45.3%; women 43.8%), the rate of interaction is slightly increased (men 50.2; women 55.1), the rate of interest is slightly higher increased (men 56.3%; women 60.1%), anxiety - increased (men 50.6%; women 51.5%), concentration is also increased (men 50.5%; women 56.8%) , the rate of relaxation is slightly higher (men 36.5%; women 38.9%). It was found that the subjects can mobilize in the process of self-change in health and go through this process without significant mental experience.

It was stated that for smokers with functional amplification of OF (EG2.4) are characterized by a moderately high rate of stress (men 41.5%; women 37.1%), the rate of interaction is elevated (men 58.8%; women 60.2 %), the rate of interest is also high (men 68.7%; women 70.9%), the rate of excitement is within normal limits (men 30%; women 32.7%), the rate of concentration is high (men 70.4% ; women 74.8%), relaxation rate - slightly increased (men 32.1%; women 29.4%). It is specified that people with certain neuropsychological features are interested in the process of self-change in health.

The results of neuropsychological research on the EG3 group, whose subjects use unconstructive coping strategies, and characterized by low social status presented. In this group, three clusters were identified, which are represented by individuals with functional impairment of the dorsolateral (DL), orbito-frontal (OF) and parts of the prefrontal and anterior cingulate (AC) cerebral cortex.

It was found that for smokers with functional impairment DL (EG3.1) are characterized by a high rate of stress (men 80.9%; women 76.4%), the rate of interaction is maximum (men 95.8%; women 97.4%), the rate of interest is very high (men 82.5%; women 78.1%), the rate of excitement is maximum (men 90.6%; women 96.7%), the rate of concentration is very low (men 7.1%; women 12 , 3%), relaxation rate - low (men 7.9%; women 9.0%). Significant influence of states of disorientation, panic, and self-escape from reality as the main tendencies of formation of the internal picture of health is proved.

It was stated that persons with functional impairment of OF (EG3.2) are characterized by a slightly increased rate of stress (men 35.3%; women 33.0%), the rate of interaction is within normal limits (men 45.3%; women 44, 2%), the rate of interest is also within the norm (men 50.3% of women 51.1%), the rate of

excitement - within the norm (men 26.1%; women 28.6%), the rate of concentration - within the norm men 21.6%; women 23.4%), relaxation rate is also within normal limits (men 29.5%; women 24.7%). For people in this group, the reaction to stress is seen as something ordinary and familiar, as a familiar element of life.

It is argued that for persons with functional impairment of the AC (EG3.3) are characterized by the maximum rate of stress (men 95.2%; women 88.4%), the rate of interaction - the maximum (men 87.7%; women 89.1%), the rate of interest is also the highest (men 88.7%; women 89.9%), the rate of excitement - high (men 70.2%; women 79.8%), the rate of concentration - high (men 62.8%; women 66.3%), relaxation rate - reduced (men 11.2%; women 15.7%). It is assumed that the subjects of this subgroup experience stress and health problems with excessive catastrophe, the desire to solve problems on their own, probably with low effectiveness.

According to the results of brain mapping, the content of interhemispheric interaction in the subjects EG1, EG2, EG3 is presented in the process of structured interviews to recall and verbalize the current stressful situation related to health. High activity of the right hemisphere was revealed, which indicates a rational approach and depressive tendencies. This trend is typical for people with functional amplification of VM from groups EG1 and EG2, as well as in group EG3 for people with impaired functional DL and AC of the cerebral cortex.

It is noted that instead the activity of the left hemisphere indicates emotional problem-solving and high mood, which is characteristic of people with EG1 with functional strengthening of DL and weakening of VM parts of the prefrontal cortex. It was stated that the interhemispheric balance reflects the tendency of balance in the approach to solving a stressful situation. However, there is always a minimal advantage of a hemisphere, which determines the nuances of the reaction to psychological events. The minimal predominance of the left hemisphere over the right indicates the ease of response to stress and this trend is characteristic of functional enhancement of OF with EG 1, functional enhancement of DL with EG2 and functional weakening of OF cerebral cortex with EG 3. For other subjects is minimal which indicates the complexity of perception of health issues and the involvement of cognitive resources to address it.

## Conclusions

The peculiarities of determining the internal picture of the health of smokers with leading patterns and trends in the use of coping strategies are identified. It was found that the content of the internal picture of smokers' health with the use of constructive transformative cognitive-behavioral coping strategies is represented by such invariants as: "Ability to autonomy", "Physical security and viability", "Constructive self and environment", "Self-control and integrity", "Achievement and independence", "Demanding and hard work", "Proactivity", "Cognitive ability". For people with a predominance of constructive adaptive strategies, the content of the internal picture of health is formed by such factors as: "Situational capacity", "Focus on medical and social care", "Compensatory life satisfaction", "Balance of resources", "Dependence", "Excessive psychologization", "Painful social functioning", "Euphoria and unrealism", "Eco-dependence", "Prosociality". The content of the internal picture of smokers' health is determined, which is characterized by unconstructive coping strategies, which consists of such invariants as: "Physicality", "Irrational fears", "Rigidity and unconstructiveness", "Unhappiness, avoidance", "Forced activity". It has been proven that the internal picture of individuals' health is more variable when using constructive strategies of cognitive-behavioral coping.

Neuropsychological features of experiencing the internal picture of smokers' health have been identified and systematized. It is established that the weakening of the dorsolateral and orbito-frontal parts of the prefrontal and anterior lumbar cortex causes unconstructive cognitive-behavioral strategies to overcome stress, which is manifested by passivity. While the enhanced functioning of the dorsolateral, orbito-frontal, and ventromedial parts of the prefrontal cortex leads to constructive cognitive-behavioral strategies to overcome

stress, manifested by changing their perceptions or changing themselves under new circumstances. It is proved that the functional weakening of the ventromedial part of the prefrontal cortex causes egocentric constructive transformation for a person in a stressful situation. It was found that the social capabilities of the individual are decisive in cognitive-behavioral strategies to overcome stress and determine the internal picture of health.

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