Psychosemantic Diagnosis of Alcoholic Dependencies Tested at the Subconscious Level in Military Personnel with Posttraumatic Stress Disorder (PTSD)

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Abstract

Thirty-three military combatants, established on record as alcoholic beverages abusers, were tested. Nineteen were clinically diagnosed with stage 1 alcohol dependency syndrome, and 14 were not. To test combatants, words or short phrases were quickly flashed on the computer monitor screen. The participants being tested saw, instead of words, a row of 15 random numbers/consonants that the program overlaid over the words/stimuli. Participants pressed a special button at the occurrence of each stimulus on the monitor screen. The reaction was measured from the moment the stimulus was presented until the moment the button was pressed. During diagnosis at the subconscious level, 30 patients showed statistically significant reactions to the word "fear." Especially large statistical differences were observed during testing of the phrase "fear of death" between patients diagnosed with alcohol dependencies and those who were not. For the topic "alcohol," 12 patients responded with an increase in complex visual-motor reaction time and 7 with a decrease. In addition, 5 patients were diagnosed with hidden tendencies to alcohol abuse. A subconscious semantic response measurement technique allowed precise diagnosis of the psychosemantic nucleus and changes in the personality of PTSD patients with alcohol dependency.

Key words: PTSD, alcohol dependency, personality disorder, psychosemantics, psychoprobing.
Psychosemantic diagnosis

Introduction

The analysis of the clinical data, collected over many years of studying the psychological disorders following the stress of military action, acts of terrorism, natural catastrophes, transportation accidents, torture, physical or sexual violence/abuse, witnessing a violent death, armed assault, fire, and the like, have established that victims have common and repetitive symptoms of mental disorder with expressed and specific features. (Brahmsen, 1995; Dekel, Solomon, Ginzburg, Neria, 2003; Naparenko, Matchuk, 2001)

Taking into account that in accepted nosologic forms this phenomenon did not correspond to any previously identified disorder, it was suggested this phenomenon be given an independent syndrome called Posttraumatic Stress Disorder (PTSD). The term PTSD has been widely acknowledged in medical practice since 1980. It was included in the official list of American mental disorders, *Diagnostic and Statistical Manual of Mental Disorder (DSM-III)* and also *DSM-IV* (1994). In 1995, this disorder and its diagnostic criteria from *DSM* were entered into the 10th edition of the *International Qualifier of Diseases*, the basic diagnostic standard used in European countries.

It has been well known that the majority of military personnel tested following combat have experienced significant stress overloads. According to some authors (Solovev, 2000; Tarabrina, 2001), 15%-25% of returning military personnel had PTSD, which was usually alleviated by dependencies on alcohol, narcotics, gambling, or other severe behavioral abnormalities.

It is often difficult for an individual to acclimate to war with its dangers and deprivations, and it is often a challenge to get used to a different set of life values and
priorities. Adaptation to new conditions demands breaking former stereotypes of consciousness and behaviors. Without doing so, it may be impossible to survive in extreme situations. In real situations, where there is a possibility of death, the significant psychological pressure in some cases can reach such intensity that it results in disorganization and failure of the mind. It is one of the major reasons for the occurrence of PTSD, the direct consequence of conflicting behavior of the person in the individual's social environment: inability to accept new game rules, unwillingness to compromise, or attempts to resolve every day conflicts by force, etc. (Pozdidaev, 1999).

As a rule, society responds to recent military returnees with misunderstanding and apprehension that only deepens and aggravates their pain and reactions. Life experience for those who have experienced and lived through war is frequently complex, full of contradictions and cruelty. Change of heart, failures, exasperation, irreconcilability, and increase of conflicts on one hand; weariness and apathy on the other hand become characteristic attributes. Return to a peaceful life can proceed painfully slowly because reorganization of the psyche often takes many years (Duggan & Gunn, 1995).

Aspiring to escape reality; these people try to change their mental state with various substances, often with alcohol. When alcohol is ingested, it can create a temporary illusion of the elimination of emotional discomfort, reduction in the level of anxiety, the raising of self-esteem, restoration of mental equilibrium, and indemnification of an inferiority complex (Musienko & Baranenko, 2003). The drinking process grips these individuals with such force that alcohol starts to control their lives. These individuals become helpless to deal with the weakness caused by alcohol, mental dependencies are formed, and then physical need develops. Some authors have described
this tendency of military personnel with PTSD to use alcohol in up to 76.3% of cases (Chernov, 2003). These alcoholic behaviors become a real problem for functioning in society.

The research and diagnosis of the psychological content of such behaviors have become today’s issues. Traditional biographical methods and the methods of various tests and questioners have been insufficient because the participant’s conscious mind was between the researcher and the memory of the participant, which comprehended all input and output information and amended it according to the participant’s personal coping strategy or the logic of the moment, etc. (Baranova. 1994). Our study has been devoted to finding a practical application for psychosemantic methods of testing, which would allow studying the contents of the psyche of the person who struggles with different dependencies (drug, alcohol, etc.) without the active participation of the person’s conscious mind.

Influences at the Subconscious Level

The meaning of influence at the subconscious level has been closely connected to the question of the threshold of perceptions of the sensory organs (Dixon, 1971; Gershuni, 1955). For a signal to be perceived by the conscious mind, its exposure should reach certain parameters, e. g., the level of sound and light contrast in radio and television broadcasting. These requirements were developed empirically in full conformity with common sense and practical requirements (Dixon, 1971).

For many years, it was believed that, if any given stimuli had not been realized by the conscious mind, it meant it had no signal value and, hence, rendered no influence on
the organism. However, a large amount of actual material has spoken to the opposite (Dixon, 1971; Kostandov, 1976).

The idea of people being influenced by subconscious stimuli came from Democritus, who wrote, "Much of what is perceived by the person is not realized" (Dixon, 1971, p. 207). Ideas about the possibility of subconscious perception were contained in *Timee* by Plato and in works by Aristotle. In particular, Aristotle had, for the first time, brought forward an idea that subconscious stimuli influenced the contents of dreams (Aristoteles, 1908).

The theory of hidden forms of consciousness, or unconscious perception, was first developed by Leibniz (1898). In his theory, Leibniz expressed more precisely the essence of subconscious perception and stated the idea of the existence of the subconscious processes of creativity. He wrote, "The belief that the soul does not perceive anything besides what is realized by the soul is a source of big error." According to Leibniz, a person was exposed to plenty of different influences, almost imperceptible and insufficiently realized to be noticed; however, they could, under certain conditions, appear in the most unexpected form "to help to operate faster, obeying an instinct and not to be distracted with strong sensations perceived before from other objects whose number is indefinite".

Interest in this direction in psychology by the 20th century increased so dramatically that in 1910 in Boston an international meeting devoted to the participant of the unconscious mind was held during which original reviews of ideas that had taken place in the field of research of the unconsciousness were revived. The reaction caused by over the threshold stimuli reflected in the consciousness of the person became known
as conscious perception and subconscious perception—the reaction caused by the subthreshold stimuli and not reflected in the conscious mind of the person. Therefore, subthreshold ranges were settled between a physiological threshold and a threshold of comprehension (Fig 1). As illustrated by others, the threshold of comprehension varied depending on the features of the psycho-physiological conditions of a person; but, during each moment of time, the position of a threshold was precise and definite (Stevens, 1951).

In 1939, Miller established that motivational aspects played an essential role in a person’s subconscious perceptions. Immediate positive reinforcement of a participant after giving a right answer (when electroshock was administered as a negative reinforcement after wrong answers) sharply raised the participant's ability to distinguish geometric forms at subthreshold levels.

In psychophysiology, there also exists the phenomenon of perceptual defense, which consists of an increase or reduction of the thresholds of perception of an emotionally significant stimulus in comparison to a neutral stimulus. This concept has been well established, confirmed in many experiments and no longer challenged (Brown, 1961; Eriksen & Browne, 1956).

By the middle of the 20th century, many researchers received authentic experimental facts and confirmations of subconscious perception. It has been established, (Dixon, 1971) that:

1. The subjective experience called intuition, which in turn is formed by the subconscious acoustical and visual stimuli, can influence verbal reactions.
2. Different subconscious stimuli can influence perception, which is processed consciously.

3. The visual images presented on the tachistoscope below a threshold of perception can appear in subsequent dreams.

4. Subconscious stimulation can change the threshold of the conscious perception.

(Dixon, 1971)

Wide introduction in the practice of psychological experiments in the use of EEG and the evoked potentials promoted increases in their methodological accuracy. Kostandov (1976) revealed significant increases in the ability to recognize emotionally significant words over the thresholds of neutral verbal stimuli. Thus, the effect of influences of the subthreshold emotionally significant verbal stimuli was that the bioelectric and vegetative reactions were formed at a lower intensity of the influence of the stimuli than its identification. Two types of reactions to the subthreshold emotionally significant stimulus have been obtained. In the first case (two thirds of the examinees), emotionally significant stimuli caused a reduction in the threshold of recognition, and in the second, an increase of thresholds against neutral stimulus.

Furthermore, it was established by Kostandov and Arzumanov (1978) that even between two subthreshold (subconscious) signals, time connections could be formed, but they appeared short lived and the authors concluded that these were stored only in short term memory. Also, the ability of a subthreshold conditional-reflex activation of the decision-making process was evidenced experimentally.

In summary, the results of the aforementioned experiments suggest that, in many cases the conscious perception could be formed by subthreshold stimuli, which could
influence the estimation of the sizes and forms of perceived objects and also judgments about the substance of the phenomena. Thus, presently sufficient experimental and factual material concerning the phenomenon of subconscious perception exists; it is a natural and necessary mental phenomenon because, in any state, the person is participant to a constant stream of exteroceptive, interoceptive, and proprioceptive impulses of which only a small part reaches the conscious mind.

Psychosemantics

Many researchers have allocated a special role to semantic factors (i.e., semantic, information) during human life (Smirnov, Beznosjuk, & Zhuravlyov, 1995). In the process of the evolution of the psyche, the role of semantic signals has grown. The second signal system was a system of semantic symbols, mainly of the verbal type, that are symbolic of language. Therefore, a basis of mental activity of the human brain was the semantic stimulus, a word or an image. A reaction to a particular stimulus resulted from activation of memory contents that corresponded to the stimulus in question.

Any stimulus that could be perceived by the psyche and capable of causing any reactions—except orientation reactions—(i.e., novelty) are called semantic. As the measure of maturity of the individual increased due to their life experiences, the number of stimuli that were meaningless and caused only an orientation reaction sharply decreased. Therefore, practically any information could be correlated to any already available elements of memory, traces of memory of previous events, which by any attributes were similar to information received presently. It was impossible to imagine what one did not know. Any perceived information immediately caused an associative chain of corresponding memories. From this reasoning followed that any perceived
stimulus was stored in memory not in the form of an independent semantic element but only in an aggregate of associative connections with other elements (Smirnov et al., 1995).

Any internal or environmental change entailed change of mental activity and a respective alteration of behavior. If the stimulus was completely new to the perceived object and was not associated with anything from previous experience, the reaction to it was a defensive orientation: increases in the level of wakefulness, readiness for action, and the active analysis of stimulus after-action. If this stimulus was accompanied with significant life changes, a special meaning was appropriated to it. The meaning of stimuli (which the word or an image represented) was its connection and association with concrete changes of the emotional state. Thus, having determined a group of significant words that were emotionally associated for the individual, it became possible to change the person's mental activity and behavior in a different way by showing these words to the participant (Smirnov et al., 1995).

A measure of the importance of a word is the quantity of the associative connections to other words. On the basis of such words, the accent locus of latent information (ALLI) as a base semantic nucleus of personality is created (Smirnov et al., 1995). The personality never realized its own ALLI under any conditions. ALLI contained original reference points, allowing understanding of the principles of reaction of the person's psyche to different stimuli.

Thus, drawing up ALLI, for example, as a psychological portrait of the person being tested allowed researchers to determine the participant's true attitude to different spheres of life and activity; to answer the most innate questions (Smirnov et al., 1995);
and to reveal motivation and propensities to addictive behavior, dependencies, etc. (Smirnov et al., 1995).

**Method**

Thirty-three military personnel with an average age of 23.5 ± 1.1 years were investigated. All of them received medical treatment in the military hospital from the Trauma Department, (15 persons with trauma of the lower and upper extremities, 4 with no penetrating fragmental wounds of the scull, but with concussion syndrome), Surgery Department (3 persons with penetrating wounds of the thorax, 6 with wounds of the abdominal cavity), and the Neurology Department (5 persons with wounds of the peripheral nerves of the upper extremities). All had the accompanying diagnosis of PTSD.

Fourteen patients reported ingesting alcohol a few times per week (3 to 5 drinks), 11 drank at least once per week to a degree of heavy intoxication, and 8 patients also drank heavily for 2-3 days in a row. Nineteen (58 %) had been clinically diagnosed by a group of psychiatrists (specialists in substance dependency) with the syndrome of alcoholic dependence stage1 (addicted to alcohol). These patients were assigned to a base group for clinical purposes. Fourteen patients (42%) had not been clinically diagnosed by the same group of psychiatrists as alcohol dependent and formed the control group (not addicted to alcohol).

The research procedure of the computer psychosemantic analysis to subconscious stimuli to study the mechanisms of pathological processes of the psyche was used as in Smirnov et al. (1995):

1. **Subconscious presentation of stimuli:**
a. Control stimuli were items that had no meaning to the subject. They were in the form of a row of randomly-chosen 15 numbers or consonants that flash across the screen at approximately 40 msec, registering through the retina into the brain. This control was then masked by a different row of randomly-chosen 15 numbers or consonants (500 msec duration). The first row, the control, was seen subconsciously. The second row, the masker, was seen consciously.

b. Probe stimuli were semantically meaningful stimuli in the form of a word that moved across the screen at 40 msec, registering through the retina into the brain. This probe/word was then masked by a row of randomly-chosen 15 numbers or consonants (500 msec duration). The probe/word was seen subconsciously and the masker row of numbers or consonants was seen consciously. Three groups of words were chosen for this study: Fear (fear, fear of death, fear of captivity, fear of injury), Alcohol (alcohol, vodka) and Name of the person studied (name, nick name, last name)

2. The ability to develop new semantic meaning (reper) for some stimuli values (positive, negative or neutral) with the purpose of providing a scale for psychosemantic elements. Reper is a different kind of control. It is a measurement developed to gauge defense reaction subconsciously (the subject’s reaction to the “punishment” they receive during the test). This subconscious reaction was then measured to know how the subject’s subconscious mind responds defensively. Word “cobra” was used to develop such a defense reaction.

3. The analysis of subconscious reactions to semantic stimuli.

The subconscious mind of the person responded to the information by influencing the participant's reactions. The reaction was measured as the time from the moment the subconscious stimulus was presented until the moment the button was pressed.
4. Construction and analysis of an individual psychosemantic space (accent locus latent information - ALLI).

The positive reference point (the name of the participant) was usually characterized by a faster reaction in comparison to a reaction to a group of neutral words. If words in the alcohol group were located near the group of neutral words (the difference between the average times of reaction statistically was not significant), it meant the participant being tested had a low emotional value for these words and could be considered as not having alcohol addiction or hidden tendency to alcohol.

In theory, the patients did not realize that they reacted to words that "were hidden" by the masker row of numbers. The brain, nevertheless, registers and reacts to the information hidden behind the row of numbers irrespective of the will and desire of the subject being tested. The subject cannot prepare beforehand for such a procedure and cannot control his reactions.

Each person reacts to words differently. If a row of stimuli contains unconditionally significant words or phrases for the patient, he unconsciously reacts to their presentation differently than stimuli that carry little significance for him.

For testing, the participant was positioned comfortably in front of the computer monitor (standard desk top computer with windows 2000 or higher used) and asked to press the mouse button when control or probe group of words occurred except for the word "cobra" (reper/control word) for which the mouse was not to be pressed. Words of groups described above were quickly flashed on the computer monitor (green letters on black background) with an exposition time 40 or 500 msec. and random appearance within 700-1,200 msec. In the case of a mistake (pressing the mouse for the word
"cobra"), the person heard through the headphones (with the maximum loudness of 80 to 100 decibels), "Don't press," so the word "cobra" gained new semantic negative value. The participant was compelled to avoid the unpleasant sound by making fewer mistakes. After thirty right answers per each word, required for statistical analysis, the test ended.

The subconscious mind of the person responded to this information by influencing the participant's reactions. We registered these reactions, measuring the time the mouse was pressed after presentation of the disguised word. Further, the program calculated statistical differences in reaction times of pressing the mouse during the presentation of indifferent (neutral) words and words from other groups, thus registering the speed of the complex visual-motor reaction in response to the presentation of various semantic stimuli in the subthreshold range. For calculation of the statistical data the STATISTICA program (StaSoft) was used; Student's distribution calculations were applied (Spiegel, 1992). The hypotheses were accepted at 95% significance.

To maintain independence between psychosemantic and clinical diagnosis and to establish the validity of the psychosemantic method described in details above, the patients were tested randomly. Information concerning the clinical diagnoses was available for comparison only after psychosemantic testing, analysis of the data and diagnoses were fully completed.

As all our patients were clinically diagnosed with PTSD and some of them with the subsequent alcohol addiction, using SSRM Tek, we were testing 2 hypotheses:

1. Was or is the emotion of fear (fear of death, fear of captivity, fear of injury) an underlaying emotion of PTSD?

2. Who are at risk of having alcohol dependency or hidden tendencies to alcohol?
An alcohol abuse and dependence are frequently under diagnosed in the clinical setting, typically due to inadequate screening and the unreliability of self-reported alcohol use (Myrick, 2006).

Results

Statistically significant responses were obtained from up to 91% of the patients who responded to words or phrases in these semantic groups shown subconsciously p<0.05: fear and fear of death, fear of captivity and alcohol (Table 1).

Out of 33 patients tested for alcohol dependencies, using psychosemantic method, described above, 19 patients showed statistically significant results for alcohol dependencies and it fully corresponded to the clinical base group of patients (Table 1). In all cases, statistically significant differences in the average reaction times were revealed during the presentation of words that were connected with the topic vodka, which was tested against a group of control words.

In Figure 2, the average reaction time to a group of neutral words (NS) was 538.6 msec., [t(118)= 2.67 p < 0.05] compared to a group of words associated with an alcohol topic which was 573.9 msec., and to the individual word "alcohol" the maximum delay in reaction time was 587.2 msec. [t(58)= 2.71 p < 0.05]. Twelve patients (63%) out of 19 showed a delay in reaction time in pressing the mouse button to words in topic “alcohol”, as shown in Figure 2; but 7 (37 %) patients showed an acceleration of time in pressing the mouse button to words in topic “alcohol” [t(118)= 2.22 p < 0.05] Fig 3.

In addition, five patients, who corresponded to a clinical control group, were diagnosed with hidden tendencies to alcohol abuse based on statistically significant
responses to words “vodka” and “alcohol” (Table 1; Figure 3). In addition, this was suggested based not only on their statistically significant reactions to words such as "vodka" and "alcohol" but also by the displacement of pathological emotional importance of groups of words for alcohol to a positive reference point (group of words Name), \[t(118) = 2.05 \ p < 0.05\]. Our data on 19 patients from the clinical base group correlated perfectly with their clinical diagnosis.

During diagnosis of the individual psychosemantic space at the subconscious level of 30 patients a statistically significant response reaction was registered to the word "fear" in comparison with a group of meaningless words \(p<0.05\). Especially large response differences \(p<0.01\) were seen in 24 patients when testing the phrase “fear of death” (Table 2); 19 patients corresponded to the clinical base group and 5 patients to the control group. By our opinion that was, most likely, a consequence of combat trauma with the fear of death; this fear underlay the current psychopathological dependent behavior of patients in the clinically defined base group and patients from the clinically defined control group who were diagnosed, using the computer psychosemantic analysis, as having tendencies to alcohol abuse \(p<0.05\).

**Discussion**

Lack of efficiency in the methods used for the treatment of alcohol and other dependencies requires further research. The war veterans with PTSD represent a special category of people with alcohol dependency. Among the major social consequences of PTSD are the changes to the professional and, quite often, the marital status of the person because of an inability to work or an inability to sustain work; prolonged hospitalization,
which changes the habitual social environment of the patient, then changes the total mental makeup and mental time orientation of the patient (Brahmsen, 1995).

Therefore, to be successful in rehabilitation work with patients who have PTSD, psychotherapy is a major task. Each psychotherapeutic school has focused on a certain time modality and prefers to deal either with the past, the present, or the future of the patient. (Greenson, 1972; Melges, 1982; Perls, 1969)

The therapists, focused on psychoanalysis, searched for the roots of past mental and behavioral disorders in the patients (Greenson, 1972). Psychotherapists of an existential-humanistic direction worked in the present modality (Perls, 1969). This was expressed in gestalt therapy and group therapy, where the patients learned to recognize their feelings and to operate in the "here and now." Psychotherapist Frederic Melges (1982) put forward a hypothesis that "the future influences the present" and has developed "psychotherapy focused on reconstruction of the future".

It is characteristic for veterans of war to re-experience psychologically their previous traumatic events as present events, which is confusing (Brahmsen, 1995). To increase the efficiency of PTSD treatment for people with alcohol dependence, the strategy of psychotherapy should include not only procedures directed to general psycho-emotional relaxation and development of indifference and disgust for alcohol but also procedures to influence the roots of mental and behavioral disorders, such as reconciliation with the past and erasing the effects of the past, teaching the patient to work with the modality of the present, and reconstruction of the future.

For such a psycho-correctional orientation to become an effective tool, it should be based on in-depth analysis and qualification of the mental condition of the patient. If
the mechanism of formation of the pathological need for alcohol were clearly understood, and if the mechanism of change of the hierarchy of the basic motives were also understood, then these categories would be filled with physical meaning and such hypothetical categories would obtain operational status.

This could provide an opportunity to change the internal world of the patient and the importance of the semantic elements of the person's psyche. Therefore, by operating within these categories, it might be possible not only to precisely diagnose the changes of the psyche for different patients but also to treat them etiopathogenically. For example, it would be possible to cancel a priority of dominating pathological motives for alcohol and to assign a priority of motivation to achieve a socially acceptable goal.

We have used a tool which permitted analysis of the complex visual-motor reactions in response to the presentation of various semantic stimuli in the sub-threshold range to study the psyche. Based on this approach, we have developed a research procedure with the potential of providing the diagnosis of alcohol or other dependencies. This procedure can provide objective information that has not been altered by the conscious mind of the participant being tested or the conditions of the experiment. This approach allows for the study of the psychosemantic nucleus of the personalities of PTSD patients with alcohol dependencies. It is also allows the investigation of the mechanisms of pathological mental processes, the understanding of which are necessities for the effective treatment of such conditions.

For example, having statistically significant results for psychosemantic testing for topics “fear” and “alcohol” in 5 patients from the control group suggests that either they are consciously under reporting their consumption and trying to consciously hide their
alcohol tendency or they are in a state of conscious denial of their tendency or they do not consider a drinking habit as a dangerous social and health problem.

The positive reference point (the name of the participant) was usually characterized by a faster reaction in comparison to a reaction to a group of neutral words. If words in the alcohol group were located near the group of neutral words (the difference between the average times of reaction statistically was not significant), it meant the participant being tested had a low emotional value for these words and could be considered as not having alcohol addiction or hidden tendency to alcohol.

If words in the alcohol group were located near a positive reference point and there was a statistical difference of the average values with the group of neutral words, this meant that these concepts had high positive importance and high emotional content for the participant being tested. Because stimuli that were relevant to the needs of the personality were perceived more correctly and more quickly (a principle of a resonance) than nonrelevant ones, we have concluded that significant displacement of the responses for words in the group alcohol to a positive reference point signaled the presence of hidden tendencies for alcohol abuse.

Also, as we observed patients, some showed a delay in reaction time to “Alcohol” topic while others showed acceleration. These reactions were attributed to the different forms of psychological protection used by the patients.

The presence of such protective mechanisms in individuals' psyches, in our opinion, may have caused individual distinctions in the ways people reacted to stress. For example, hysterogenic people, with replacement as their primary type of protection, poorly recognized the stressogenic stimuli and they subjected these stimuli to greater
distortion which was then expressed in greater reaction delay. Other types of behavior
distinguished people who were inclined to other types of psychological protection, such
as isolation or rationalization. Persons of similar typology identified negative
stressogenic stimuli that are expressed in the reduction of their reaction times.

Computer-based psychoanalysis such as the approach described here may afford
the speedy uncovering of subconscious tendencies and/or preferences of the participant
being tested and has established basic positive personal motivation (Smirnov et al.,
1995), which has served as a guide for the prescription of a precise treatment. This has
defined the direction and character of change of the psyche and consequently the
behavior of the patient (Smirnov et al., 1995).

Conclusion

This research once again confirmed the presence of the phenomenon of
subconscious recognition of semantically meaningful stimuli for different patients.
Psychosemantic testing allowed for differentiating the forms of psychological protection
used by the patient. When groups of words which included alcohol, were presented in the
subconscious mode, patients with hysterogenic type, replacement as the primary type of
protection, responded with a delay in their reaction times and an acceleration in isolation
or rationalization.

Hidden tendencies could be diagnosed using psychosemantic testing including
alcohol abuse (5 patients). Psychosemantic diagnosis of dependencies at the subconscious
level allowed researchers to determine groups of words significant to the individual and
to receive the objective information not altered by the conscious mind of the participant
and not limited to the artificial conditions of the experiment.
This technique allows precise diagnosis in the changes of the personality of PTSD patients with alcohol dependency.

The study of the psychosemantic nucleus of the personality allows researchers to begin new approaches to etiological and pathogenic simultaneous treatments (treatment of motives/causes of such conditions) and to develop a new view of the nature and mechanisms of the pathological mental processes, which are necessary both to fundamental science and its practical applications.
References


Rendering of the psychological help and psycho rehabilitation.] P.111. Moscow.

Don.


Table 1. Results of psychosemantic testing in comparison with clinical data. Patients of base group (19) clinically diagnosed as PTSD and alcohol addicted patients. Patients of control group (14) clinically diagnosed as PTSD patients without alcohol addiction. 19 patients out of 33 patients of the psychosemantic test group shown alcoholic dependency (Group of words “Vodka”) and corresponded with clinically defined group “Base” additional 5 patients also shown alcoholic dependency or hidden tendency to alcohol and correspond to clinically defined group “Control”. All patients were clinically diagnosed as having PTSD after returning from combat area. We have diagnosed in 30 patients PTSD based on general “Fear”. Though the patients diagnosed with “Fear of death” as being a reason for PTSD, concur with diagnosis of alcoholic dependency in the same patients (Group of words “Vodka”).

<table>
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<th>Clinically Defined Groups</th>
<th>Base</th>
<th>Control</th>
<th>Total</th>
<th>%Total</th>
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<td>14</td>
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**Psychosemantic test group of 33 patients**

**Topic tested**

**Group of words "alcohol"**

| "Alcohol" | 17* | 5* | 22* | 67 |
| "Vodka"   | 19* | 5* | 24* | 73 |

**Group of words "fear"**

| "Fear"   | 19* | 11* | 30* | 91 |
| “Fear of death” | 19** | 5** | 24** | 73 |
| “Fear of a captivity” | 16* | 1* | 17* | 52 |
| “Fear of injury”   | 11* | 3* | 14* | 42 |

* - p<0.05

** - p<0.01
Figure Captions

*Figure 1.* Relation between stimuli threshold and perception of the stimuli. On the left it is shown stimuli threshold, on the right shown stimuli perception. When stimuli parameters are between physiological organ perception and comprehension, perception of such stimuli is subconscious. When stimuli are over the threshold of comprehension, perception of such stimuli is conscious.

*Figure 2.* Example of a patient exhibiting an alcohol dependency. Left column represent mean reaction time to single words or topics tested. “N-S” cluster a vertical line represent mean of the controls given before tested stimuli. “All” a vertical line represent mean of all controls given throughout testing. Dark color shows statistically significant response (p<0.05). Topic “alcohol” compared to “N-S” [t (118) = 2.67 p < 0.05]. Word “alcohol” compared to “N-S” [t (58) = 2.71 p < 0.05]. Topic “alcohol” compared to “ALL” [t (178) = 2.55 p < 0.05]. Word “alcohol” compared to “ALL” [t (148) = 2.72 p < 0.05].

*Figure 3.* Example of a patient exhibiting a tendency to alcohol. Left column represent mean reaction time to single words or topics tested. “N-S” cluster a vertical line represent mean of the controls given before tested stimuli. “All” a vertical line represent mean of all controls given throughout testing. Dark color shows a statistically significant response (p<0.05). Topic “alcohol” compared to “N-S” [t (118) = 2.22 p < 0.05]. Topic “George” compared to “N-S” [t (118) = 2.05 p < 0.05]. Topic “alcohol” compared to “ALL” [t (178) = 2.19 p < 0.05]. Topic “George” compared to “ALL” [t (178) = 1.98 p < 0.05].
Figure 1

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Figure 2

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Clusters:
- REFER - COBRA, COROB, SNAKE
- EGO - VLADIC, VLADIMIR
- ALCOHOL - VODKA, ALCOHOL
Figure 3

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