

Conference Paper

Manifestations of Irrational Thinking in Neurotic Disorders

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Abstract

The study addresses peculiarities of irrational thinking in neurotic disorders. Some scholars (V. N. Myasishev, V. D. Mendelevich, A. I. Zakharov, B. J. Zebb, M. C. Moore, C. Sica, C. Novara, E. Sanavio, B. Futrell, P. Brugger, I. Viaud-Delmon, S. N. Enikolopov and S. V. Lebedev) indicate that there exists a relationship between neurotic symptoms and irrational thinking. To reveal the peculiarities of irrational thinking we used the following methodology: The Paranormal Belief Scale (J. Tobacyk, adapted by D. S. Grigoriev), the Superstitiousness Inventory (I. Abitov) and the Constructive Thinking Inventory (S. Epstein, adapted by S. N. Enikolopov and S. V. Lebedev). The population of the study consisted of 50 patients undergoing in-patient neurotic disorders treatment at the psychotherapeutic department of the Kazan' city clinical hospital No. 18. Control group included 50 respondents who did not have neurotic disorders in their medical stories and had not previously sought psychotherapeutic aid. The acquired data show that neurotic disorders patients are more inclined to believe in psychic abilities (like psychokinesis or levitation) and to observe various superstitious beliefs. Also, it was revealed that neurotic disorders patients have higher indexes of behavioral coping than the control group, that is, they tend to undertake particular actions to solve problems. In addition to the aforementioned, they have higher results of the scales 'Superstitious Thinking' and 'Naive Optimism'. Correlational analysis showed that the neurosis patients' group has inverse correlations between Constructive thinking on the one hand and Superstitiousness and Witchcraft belief on the other hand. The research findings correspond with the results gained by S. N. Enikolopov and S. V. Lebedev and may be used in indicating the so-called 'psychotherapeutic targets' and in planning the psychotherapeutic intervention.

Keywords: irrational thinking, superstitiousness, paranormal beliefs, constructive thinking, neurotic disorders

1. Introduction

According to official data of the World Health Organization, during the last 65 years the total number of patients with neuroses has increased 24 times. This may be caused by

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infocination (informational overload), rapid pace of life, economic difficulties in some countries and by many other reasons. V. N. Myasishchev notes that neurosis is result of an irrational, unconstructive conflict resolution [1].

A. I. Zakharov believes that 'magic' thinking performs protective function for boys suffering from neuroses. Girls and boys with low spirits show a more manifested 'magical' mood [9].

Describing a disharmonious character that prevents from effective social adaptation and self-fulfillment, V. D. Mendeleovich indicates unsound judgment and irrationality as the key factors. The authors thinks that these features are based on superstitiousness. Describing the personality of a 'potential neurotic' he pays special attention to its rigidity and prognostic incompetence. He thinks that a person becomes unable to predict the consequences of his behavior and possible negative events in the future because (alongside with some other considerable reasons) in the process of education and socialization the family members and society in general (by means of national traditions expressed in proverbs and sayings) impress and fix a psychological stereotype. This stereotype is forbiddance to expect the possible negative events [6].

Brugger and Viaud-Delmon note that superstition and obsessive-compulsive disorder exist within one continuum. The authors pay special attention to the difference between superstition as behavior and superstition as a form of beliefs. They show that there is an empirically measurable dichotomy between behavior and beliefs; it is possible to differentiate superstition as behavior and superstition (or ideas about magical things) as beliefs. Different nerve chains are responsible for these two forms of manifestation of superstition. Thus it is possible to identify damaged neurocognitive systems by determining which form of superstition is most manifested in the patient's symptoms [2].

Sica, Novara and Sanavio studied 258 students who completed the Italian versions of well-established measures of obsessive-compulsive (OC) cognitions and symptoms, depression and anxiety. (10 'true-wrong' questions about widespread superstitions). Respondents with a superstitiousness indexes below average were identified as slightly superstitious, and those with indexes higher than average we grouped as highly superstitious. The results showed that highly superstitious patients demonstrate higher anxiety, depression and discomfort [7].

Futrell also hypothesized that superstition directly correlates with the trait anxiety symptoms. In addition, it was assumed that women have higher rates of superstitiousness and trait anxiety symptoms than men. Both hypotheses were confirmed by the

results of the study. Superstitious behaviors were a significant indicator for developing trait anxiety. [4].

Zebb and Moore made a supposition that superstitiousness may be a subclinical manifestation of obsessive-compulsive symptomatology. A sample of 191 undergraduates completed measures associated with superstitiousness, obsessive-compulsive symptoms, symptoms of anxiety disorders other than obsessive-compulsive disorder (panic symptoms, agoraphobic cognitions, worry, and social fears), general psychological distress (anxiety, depression, and stress), and perception of anxiety control. Results indicated a gender difference in superstitiousness exists, with females being significantly more superstitious than males. Little relationship was found between superstitiousness and the other constructs in males, whereas moderate relationships were found between superstitiousness and the other constructs in females. [10].

Whitson and Galinsky conducted experiments that tested whether lacking control increases illusory pattern perception, which the authors define as the identification of a coherent and meaningful interrelationship among a set of random or unrelated stimuli. Participants who lacked control were more likely to perceive a variety of illusory patterns, including seeing images in noise, forming illusory correlations in stock market information, perceiving conspiracies, and developing superstitions. Additionally, they demonstrated that increased pattern perception has a motivational basis by measuring the need for structure directly and showing that the causal link between lack of control and illusory pattern perception is reduced by affirming the self. Although these many disparate forms of pattern perception are typically discussed as separate phenomena, the study results suggested that there was a common motive underlying them. [8].

Enikolopov and Lebedev studied respondents who survived traumatic situations and indicated that there existed a relationship between non-constructive thinking and post-traumatic stress symptoms [3].

Thus, many researchers consider irrational, superstitious or 'magic' thinking as one of the causes of neurotic symptoms. At the same time, there was no study of irrational thinking manifestations in the sample group with clinically apparent neurotic symptoms.

In the given study a hypothesis was developed that neurotic disorders patients have higher indexes of some forms of non-constructive thinking, superstitiousness and paranormal beliefs than respondents with no neurotic disorders diagnosis.

The goal of the study was to reveal peculiarities of irrational thinking manifestations in neurotic disorders.

2. Methodology

The following measures were used to reveal superstitiousness and paranormal beliefs: The Paranormal Belief Scale by J. Tobacyk [5] and The Superstitiousness Inventory (I. Abitov). The Paranormal Belief Scale (J. Tobacyk) consists of 26 items and 7 subscales: traditional religious belief, psi-ability belief, witchcraft, spiritualism, superstition, extraordinary life forms, and precognition. It includes a seven-point rating scale (1 – «strongly disagree», 7 – «strongly agree»). To determine the superstitiousness manifestation an original questionnaire 'The Superstitiousness Inventory' was worked out that consists of 30 statements to reveal if the respondents behave and act according to superstitious beliefs and if they accept the beliefs that are typical in the contemporary Russian society. To gain a more objective data the respondents were also asked to list signs and beliefs that they follow but that were not included in the inventory. A 4-points scale was used to evaluate the suggested statements: 0 – 'I never do this', '1 – I do this rarely', '2 – I do this often', '3 – I always do this'. One of the partial tasks of the study was to test the face validity of the developed inventory. To study constructive thinking the Constructive Thinking Inventory (S. Epstein, adapted by S. N. Enikolopov and S. V. Lebedev) [3] was used. This questionnaire includes the following scales: Emotional Coping, Behavioral Coping, Categorical Thinking, Superstitious Thinking, Naive Optimism and Esoteric Thinking. It consists of 97 items using 5-point ratings (1 = completely false to 5 = completely true).

The population of the study included 50 patients (12 male and 38 female) undergoing in-patient neurotic disorders treatment at the psychotherapeutic department of the Kazan' city clinical hospital No. 18. To verify the hypothesis the empiric study was also conducted in the group of healthy people that included 50 respondents as well (12 male and 38 female) who did not have neurotic disorders in their medical stories and had not previously sought psychotherapeutic aid. The respondents' age in both sample groups ranged from 25 to 55 years old.

The Mann-Whitney test was used to determine the differences between the studied samples. The Spearman correlation coefficient was used to identify correlations between the various parameters.

3. Results

The Mann-Whitney test used for independent samples showed a number of differences between the studied sample groups. Patients with neurotic disorders have

higher scores of psi-ability ($U = 927.5; p \leq 0.026$) and superstitions ($U = 755.0; p \leq 0.001$) scales of the J. Tobasik's questionnaire than the control group of healthy respondents. The neurotic disorders group also showed higher superstitiousness indicator values than the 'healthy' group according to the I. R. Abitov's questionnaire ($U = 943.0, p \leq 0.034$). Patients with neurotic disorders have higher scores of the following scales of the S. Epstein's inventory: Behavioral Coping ($U = 849.5; p \leq 0.006$), Naive Optimism ($U = 657.5; p \leq 0.0001$) and Superstitious Thinking ($U = 883.5; p \leq 0.011$).

TABLE 1: Differences between the sample groups (the Mann-Whitney U-test for independent samples).

Parameters	Average rank, neuroses	Average rank, healthy	Mann-Whitney U test	Significance level
Psi-ability belief	56.95	44.05	927.5	$p \leq 0.026$
Superstition	60.4	40.6	755.0	$p \leq 0.001$
Superstitiousness	56.64	44.36	943.0	$p \leq 0.034$
Behavioral Coping	58.51	42.49	849.5	$p \leq 0.006$
Naive Optimism	62.35	38.65	657.5	$p \leq 0.0001$
Superstitious Thinking	57.83	43.17	883.5	$p \leq 0.011$

The Spearman rank correlation coefficient was used to determine the relationship between the studied parameters.

Significant direct interconnections between Esoteric thinking and various scales of J. Tobasik's inventory were revealed in both groups. In the 'healthy' group Esoteric thinking has significant direct correlations with spiritualism, traditional religious belief, belief in psi-abilities, witchcraft, superstition, and precognition. In the 'neurosis' group it correlates with the belief in witchcraft, extraordinary forms of life, spiritualism and superstition. Esoteric thinking also has significant direct interconnections with superstitious index according to the I. R. Abitov's inventory. The sample group of patients with neurotic disorders has direct significant interrelations between categorical thinking and superstitiousness index (I. R. Abitov's Inventory) ($r = 0.49, p \leq 0.01$) and superstition (J. Tobasik's Questionnaire) ($r = 0.38, p \leq 0.01$). Also, this 'neurosis' group showed statistically significant inverse correlations between constructive thinking and belief in witchcraft (J. Tobasik's Questionnaire) ($r = -0.37, p \leq 0.01$) and superstitiousness index according to I. R. Abitov's measure ($r = -0.44, p \leq 0.01$).

4. Discussion

The findings of the study indicate that neurotic disorders patients are more likely to believe that some people have special abilities to have mental impact on the external objects and on other people than healthy persons. Also, neurotic disorders patients have more expressed faith in superstitious beliefs and signs. They tend to perform various rituals prescribed by these signs and beliefs. These findings correspond with the V. D. Mendeleev's idea that neurotic disorders patients show strongly pronounced irrational attitudes, that conflict with the attitudes aimed at making an objective forecast of a changing situation. Neurotic disorders patients are more inclined to believe in the possibility of 'mental' influence on the environment and in the possibility of avoiding unpleasant consequences by performing ritual actions that 'healthy' respondents. These results agree with the study of students conducted by C. Sica, C. Novara and E. Sanavio, where it was found that superstitiousness correlates with higher levels of anxiety, depression and discomfort. To explain these facts it sounds logic to accept a hypothesis that the mentioned superstitions and beliefs allow the people suffering from neurotic disorders to keep the illusion of control over the situation and function as an alternative to the 'healthy' coping. This fact is confirmed by the study of J. A. Whitson and A. D. Galinsky.

Patients suffering from neurotic disorders are more likely than healthy people to plan their actions to resolve difficult situations, and show a more optimistic view on their possibilities to overcome difficulties. This may be explained by their current experience in resolving conflict situations (they undergo neurotic disorder treatment, attempt to resolve their current conflict) and with the impact of psychotherapeutic interventions (in-patient treatment). Also, neurotic patients to create their own 'signs' and rituals more often than 'healthy' respondents, and tend to observe them, and they are more unreasonably optimistic. The acquired results correspond with the study findings gained by S. N. Enikolopov and S. V. Lebedev where similar picture was revealed in the post-trauma stress disorder sample group. S. N. Enikolopov and S. V. Lebedev note that superstitions fulfil protective function and are very often related with the motivation to avoid failure. Higher superstitiousness, personal superstitions and unwarranted optimism may form the basis for the non-constructive coping with challenges or for the refusal of coping. This may lead to distress and neurotic symptoms as ways of non-constructive conflict resolution.

Direct interrelations between esoteric thinking on one hand and superstitiousness and various paranormal beliefs (belief in witchcraft, precognition, spiritualism) in both

sample groups may be explained by the substantial similarity of these concepts. J. Tobasik and S. Epshtein understood esoteric thinking and paranormal beliefs as very close phenomena: A tendency to believe in the possibility of magical influence, communication with spirits, predictions of horoscopes, signs, etc.

The higher the inclination of neurotic disorders patients to the categorical 'black and white' thinking, the more they are inclined to believe in various signs and observe them. In our opinion, this relationship is explained by the fact that in this group belief in signs and their observance compensate for the tension caused by the propensity to extreme judgement and categorical conclusions. It is the equivalent of a protective mechanism that allows to keep the faith in a better future if a person would perform some rituals in a difficult situation, and at the same time it baffles the objective analysis of the situation.

In the 'neurosis' group the higher the constructive thinking index is, the less the respondents are inclined to believe in witchcraft and in signs, the less they are inclined to perform rituals to ensure success or to avoid troubles. In our opinion, this relationship reflects the essential contradiction between belief in witchcraft and superstition on the one hand, as a way to influence reality and other people, and constructive thinking on the other hand that allows to realistically assess both inner reality and external environment, and make decisions based on this realistic assessment.

5. Conclusions

Therefore the study findings allow making several conclusions:

1. Respondents with neurotic disorders diagnoses show a more pronounced belief in extraordinary abilities of some people, such as psychokinesis or levitation as well as faith in 'signs' and tendency to observe them.
2. Compared to the 'healthy' sample, respondents with neurotic disorders diagnoses are more inclined to create their own beliefs and rituals, and to observe them. They are more groundlessly optimistic than healthy respondents.
3. The sample group of neuroses patients have significant direct correlation between categorical thinking and superstitiousness parameters, that is, more categorically these respondents think, more subject they are to superstitions.
4. For the sample group of neuroses patients constructive thinking parameter has significant inverse correlation with witchcraft and superstition beliefs, that is,

more constructively they think the less they are inclined to believe in witchcraft and signs.

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