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Магическое мышление в норме и при патологии: обзор литературы

М.С. Чертищев

Казанский государственный медицинский университет, Казань, Россия

АННОТАЦИЯ

Проведён анализ научной литературы по проблеме магического мышления. Даны обзор исследований по данной проблеме в исторической перспективе (работы представителей английской антропологической и французской социологической школ, психоаналитического направления), различные описания структуры магического мышления и возможных причин развития. Представлен краткий обзор экспериментальных исследований магического мышления у людей без психической патологии. Также приведены описания магического мышления у детей. Рассмотрены исследования магического мышления при различных видах психической патологии как одной из форм «психозоподобных переживаний» (psychosis-like experiences), а также в качестве феномена «слияния мысли и действия» (thought action fusion).

Ключевые слова: суеверия, иррациональное мышление, магическое мышление, когнитивные искажения, психозоподобные переживания.

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Magical thinking in normal and pathological conditions: literature review

Michail S. Chertishchev

Kazan State Medical University, Kazan, Russia

ABSTRACT

The scientific literature analysis on a magical thinking problem was conducted. A review of studies in a historical perspective on this problem was given (English anthropological and French sociological schools, psychoanalysis views), various descriptions of magical thinking structure and possible causes of its development were discussed. A brief review of experimental studies of magical thinking of people without mental pathology is described as well as a specificity of magical thinking in children's mind. The study of magical thinking in various mental pathologies is considered as one of the forms of "psychosis-like experiences", as well as the phenomenon of "thought action fusion".

Keywords: *superstition, irrational thinking, magical thinking, psychosis-like experiences.*

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Currently, magical thinking is an urgent problem facing psychiatry and psychology, as well as the other social sciences. The increase in interest in this problem is because of the prevalence of this phenomenon among the population¹. The study of magical thinking is of particular interest as an indistinct phenomenon from the standpoint of mental norms and pathology, and as a specific approach to a particular category of disorders, considering the currently developing dimensional and spectral approaches to understanding mental pathology [1].

The concept of magical thinking has several similar definitions in the scientific literature.

– It is the belief that a significant or decisive influence can be exerted on the true causes of events happening in reality through symbolic physical and/or mental actions [2].

– It is the belief that thinking is equal to action [3].

– It is the belief that thinking about something that can happen is the same as causing it to happen [4].

– It is the belief that the words, thoughts, or actions of a person can have a special effect or prevent a special effect, which in some way cannot be explained by a general causal relationship [5].

Zhmurov gives two close definitions of the phenomenon [2] as follows:

– It is the confidence of an individual that everything that is happening at present is the exact embodiment of their previous thoughts, fantasies, or dreams about it; that is, it is the result of their mental activity

– A delusional or delusion-like belief, according to which desires, hopes, or thoughts can have a direct impact on external reality (“thoughts are things, everything happens because of them”).

The same author describes the “symptom of the omnipotence of thoughts” (a condition in which patients believe that their thoughts, immediately or after some time, become reality with absolute and photographic accuracy). According to Meehl, magical thinking is “the notion that events that cannot have causal relationships affect each other” [6]. Karagodina identifies its main characteristics as “ignoring the laws of reasoning, insensitivity to objective cause-and-effect relationships, the principle of ‘hard’ determinism, animism, evaluating events according to the ‘after the event means because of the event’ principle” [7].

In cognitive science, this phenomenon is often understood as the binding of objects of one category of knowledge by the laws of causality of another category [8]. According to Saenko, mythological thinking, unlike logical thinking, uses associative links instead of logical ones, based on the observed adjacency of phenomena according to the principle of time and space [9].

In the earliest studies, evolutionist tendencies are noted, according to which magical thinking represents a certain stage in the development of human thinking, preceding the modern, logical, and rational one, therefore, “magical thinking” in studies is often called “paralogical,” “prelogical,” “primitive,” or “archaic.” This phenomenon is believed to be typical of representatives of archaic cultures.

The first researchers to become interested in the phenomenon of magical thinking were anthropologists and sociologists. Fraser singled out two principles as a basis for it. One is the law of similarity, according to which “like produces like, or an effect is similar to its cause.” The other is the law of contact or infection (“things that once came into contact with each other continue to interact at a distance after the cessation of direct contact”). The author calls both of these principles “methods of abuse of the copulation of ideas.” Based on this, he distinguishes two types of magic—imitative and contagious. Imitative magic implies the copulation of ideas by similarity; while contagious magic is based on the copulation of ideas by contiguity [10].

The anthropologist, Tylor, believed that magical thinking is the result of a simple delusion. At an early stage in the development of thinking, a human learned to create connections in thought between things that they perceived to be interconnected in reality, but later, distorted this relationship erroneously, believing that a mental association should imply the same connection in reality [11].

Ribot and Mayer identified two types of thinking—emotional and rational. Emotional thinking, even though it had prevailed in ancient times among primitive peoples, did not disappear with the development of mankind and remains relevant. This is because, according to the authors, rational logic cannot cover the entire breadth of human knowledge

¹Levada Center Research. <https://www.levada.ru/2017/11/16/17049/>.

and activity. The main difference between emotional thinking and rational thinking is the principle of finiteness. In acts of emotional thinking, the process of cognition fades into the background and emotional logic focuses on an affectively charged goal and directed toward it [12, 13].

Levy-Bruhl believed that the mystical primitive consciousness distorts the principle of causality. For example, the bearers of magical ideas may associate phenomena depending on their sequence in time and not according to true cause-and-effect relationships. Simultaneously, the author notes that this condition is characteristic but insufficient to explain the organization of magical thinking. When constructing magical cause-and-effect relationships, the obvious sequences are often ignored. Mystical thinking is filled with culturally determined collective representations, while it is not permeable by experience.

According to Levy-Bruhl, the basic principle of the organization of magical thinking is the law of participation, that is, the interaction between objects and phenomena. Participation can exist in different forms, such as transference, contact, and sympathy. Collective representations create such participation through affect.

The author uses the term “paralogical” to refer to this type of thinking. Logic is present in it, but it is not of paramount importance, instead yielding primacy to the guiding force of the law of participation. Syntheses in paralogical thinking are not the consequence of a preliminary analysis but are already given immediately, along with representations. Syntheses in the thinking of primitive man were almost always indecomposable. That is why magical thinking is not permeable by experience and is not susceptible to contradictions. Participation determines the processes of abstraction and generalization under the influence of emotions, which, in turn, are formed by collective representations, and thus, a magical interpretation of various phenomena and circumstances is formed [14].

Freud, the founder of psychoanalysis, described the phenomenon as the “omnipotence of thoughts” (a phrase that the author adopted from his patient who suffered from compulsion neurosis). He compared the use of magic by primitive people with the behavior of a child (the imitation of a child’s desires in a game is compared with similar principles of imitation in the magical manipulations of ancient

people). Freud further explained the manifestation of the “omnipotence of thoughts” in childhood by the peculiarities of different stages of psychosexual development. The “omnipotence of thoughts” that arises in a modern person in adulthood, according to Freud, is a manifestation of neurosis [15].

In addition, magical thinking was mentioned later by authors in the psychoanalytic field. According to Berne, several superstitions are based on the reassessment of thoughts and feelings and the idea of their omnipotence. He also discussed the emotional saturation of superstitions, which contributes to the distortion of images of the surrounding world [16]. Fromm emphasized the attributive function of superstitions whereby the causes of human actions are attributed to external forces [17].

Subbotsky singled out four main classes of events considered in the scientific literature to be manifestations of magic [18].

1) The direct effect of consciousness on matter, such as the movement or creation of physical objects by pure will

2) The sudden acquisition of spontaneity (the ability to feel or act) by inanimate objects

3) The violation of the fundamental physical laws of the permanence of an object, when an object suddenly changes its shape, appears from nothing, or disappears without a trace

4) The belief that certain objects (e.g., stones or skulls) or actions (e.g., crossing fingers or knocking on wood) bring good luck or influence the course of external events.

Various combinations thereof can be formed.

Subbotsky believed that magical thinking is characteristic of children, and he also believed that it does not disappear in adulthood, but passes into the spheres of reality adequate to it (e.g., myths, fairy tales, and dreams) and, under certain conditions, can penetrate everyday reality.

Subbotsky described a series of experiments that show that even educated adults who deny a belief in magical causality verbally, in situations associated with increased risk, can demonstrate such a belief with their behavior.

Similar experiments were performed by other researchers. It has been established that even educated adults often unconsciously follow the principle that thought can directly impact reality (i.e., the law of

participation). The subjects followed both the “law of similarity” and the “law of infection” during the experiments. This happens even in the case of a critical assessment of such beliefs [18].

Subbotsky also associated magical thinking with the hypothesis that human consciousness is associated with the ability to be in two worlds simultaneously, namely, the real and everyday world and an imaginary and magical world. Moreover, in children between 9 and 10 years, this border is unstable, and magical reality breaks into ordinary life. Therefore, children need to make an effort to distinguish between these two realities. The author singled out a special psychological mechanism, which he called “an effort to distinguish between realities.” He believed that, historically, with the development of culture, this mechanism became automated and unconscious. From the author’s perspective, magical thinking is one of the manifestations of a violation of this mechanism [19].

Zhmurov wrote that magical thinking can coexist with other types of thinking, along with more complex and developed cognitive programs. In certain situations, the structures of magical thinking can be applied in contrast to rational ones. The author notes that, currently, there is no serious scientific evidence that the manifestation of magical thinking is a regression toward a phylogenetically older or childish level, as is often considered in the literature. “There are more reasons to believe that as the higher instances of thinking decay or slow down, some remaining fragments of its structure are integrated under the influence of emotions in such a way that the emerging mental formations acquire some similarity with magical thinking” [2].

For many sources, magical thinking is considered the norm for children aged 3–5 years [3, 5, 21]. Piaget, studying the development of logical thinking in children, noted the presence of magical thinking in them, which is due to the inability of children to realize that their mind is separate from the rest of the world. It can manifest itself in animism (children think that inanimate objects are alive), as well as in the fact that children are not able to distinguish an object from its name (a flower in the mind of a child is no longer a flower under any other name). Piaget noted that magical thinking gradually disappears

in children with age, and this happens due to their accumulation of objective ideas about reality [22].

Several studies, including experimental ones, also confirmed that magical thinking is especially characteristic of childhood [23]. Zakharov, describing the pathogenesis of childhood neuroses, suggested that preschool children are characterized by magical thinking, which can result in various childhood fears (elements, mysterious phenomena, and coincidences) [24]. It has been noted that children under seven years of age are characterized only by an imitative version of magical thinking; children are not capable of contagious thinking due to their insufficiently developed abstract thinking and the inability to comprehend and imagine an invisible event or its result [25]. In a study that compared children of different ages, it was demonstrated that as children grow older, the intensity of magical thinking decreases. Furthermore, it has been established that it continues to decrease with age in adults as well, and older people are less prone to magical thinking than younger people [26].

Notably, the magical thinking of an adult and a child are similar but not analogous phenomena. The magical thinking of adults is not an artifact of irrational children’s thinking, but rather, a complex cognitive process that coexists with rationality and requires complex concepts and developed symbolic and abstract thinking, which the child lacks [25].

There is no single viewpoint on the question of the pathological nature of magical thinking in an adult as representative of modern culture since various authors propose to consider it a way of thinking that is inherent in all people to varying degrees, a persistent delusion, and a symptom of various mental disorders or a factor predisposing to them [2, 27]. Some researchers believe that magical thinking should be corrected as a cognitive error [28], while others, in contrast, suggest using it for therapeutic purposes [29].

Saenko, like some other authors, believed that two types of thinking can coexist simultaneously, namely, logical (rational) and mythological, which is the source of superstition. Mythological thinking can regulate ordinary everyday situations, and logical thinking is aimed at aspects concerning science and knowledge related to professional activities. He believed that magical thinking is a characteristic of people regardless of their intelligence, gender,

age, and social status [30]. Stoyanova believed that magical thinking, at the unconscious level, is inherent in everyone [31], and Yalom argued that magical representations are universal and are native to everyone in varying degrees of awareness [32].

Polozhiy also believed that magical thinking can exist at a nonpathological (psychological) level as a persistent delusion. Simultaneously, he emphasized the special psychopathological state in which magical beliefs “become psychopathological phenomena, acquiring the character of overvalued or dominant ideas that are extremely difficult to correct due to their high emotional intension and close connection with a pathologically altered personality” [33].

For this condition, the author used the term “magiphrenic syndrome” or “magiphrenia” [27, 33]. He singled out the following diagnostic criteria for “magiphrenia” as follows:

- A disorder of thinking in the form of overvalued (dominant, delusion-like) ideas of mystical content
- The emotional saturation of mystical beliefs
- A lack of criticism of them
- A sharp narrowing of the range of interests beyond the dominant idea
- Changing the habitual life stereotype

Magiphrenia is described in the National Guidelines for Psychiatry as one of three variants of adjustment disorders, namely, those caused by social stress (distress associated with large-scale and radical changes in society), along with two others, the anomic and dissocial variants [27]. However, “magiphrenia” in modern classifications is not distinguished either as a separate nosological unit or as a separate psychopathological syndrome. “Magiphrenia” denotes both delusions of magical content and thinking and fears associated with belief in spiritual powers, which is incorrect, since these phenomena are combined in content, not in structural, clinical, and psychopathological aspects [2].

The spread of irrationality and magical thinking in periods of crisis in society is also mentioned by other authors [34, 35]. It has been established that people living in combat areas and experiencing severe stress are more prone to magical thinking and superstition [36].

Several studies reveal the relationship between magical thinking and various forms of psychological defense. Thus, magical thinking is considered

a protective mechanism for dealing with the consequences of childhood traumas [37]. According to Yalom, mystical representations perform the function of protecting the individual from “the fear of aging and death, the fear of reality.” At the same time, Yalom believed that the task of psychotherapy is “the combat against magic” and hence, the preference for rationality [32].

Olshansky considered superstition a mechanism of psychological defense against anxiety in situations of uncertainty, a mechanism that provides psychological control [37].

Stoyanova engaged in the study of magical thinking as one of the forms of the so-called paralogical formations within the study of defensive strategies that manifest themselves in people suffering from nonpsychotic mental disorders, namely, neurotic, psychosomatic, and addictive disorders [31]. Her research noted a general tendency for people suffering from neurotic and psychosomatic disorders to be more prone to various beliefs and superstitions, reduce causal relationships, and rely on the traditions and actions of magical forces. At the same time, in the norm group, magical thinking (a paralogical defense), in addition to its function of psychological defense, serves as a strategy for coping with problem situations and a resource that increases the efficiency of self-organization. In healthy subjects, paralogical defenses supplemented the various levels of individual response [38].

Suvorova considered magical thinking an ineffective and nonadaptive coping strategy, the manifestation of which is associated with early psychological trauma and the experience of helplessness “in the face of a hostile world” [39]. She also singled out the so-called predictors of magical thinking as follows:

- An eclectic worldview (“a combination of magical, religious, and scientific picture of the world”), distortion of cause-and-effect relationships, and adherence to the principle of strict determinism
- Increased anxiety, a tendency to over-control
- An affective imagination and a tendency toward escapism.

Enikolopov and Bayramova believed that magical thinking often accompanies various mental disorders and only in rare cases can serve as a way of coping with stressful situations, and more often it complicates

the process of recovery and social adaptation [40].

Some authors have identified that magical thinking has similarities with various forms of mental pathology. Karagodina indicated that magical beliefs that are inherent in people engaged in healing have signs characteristic of delusional ideas, and their formation is similar to the mechanisms of the formation of delusional symptoms [41]. Various authors have noted that a high level of expressiveness of magical thinking may be a symptom of a schizophrenia spectrum disorder or indicate a predisposition to it [42]. Several studies have indicated a greater propensity for magical thinking in patients with schizophrenia [43, 44].

Meehl revealed that people predisposed to schizophrenia are characterized by manifestations of magical thinking [6]. Based on research, Spitzer, Endicott, and Gibbon considered it to be a characteristic symptom of schizotypal disorder [45]. In their studies, George and Neufeld revealed a difference in the level of magical thinking between healthy adults and patients with schizophrenia—in healthy people, it is much lower. The authors suggested that magical thinking might embody the specifics of a schizophrenic disorder [46]. In their study, Eckblad and Chapman revealed that patients with a high level of magical thinking have more affective symptoms, psychotic experiences, and difficulties with concentration compared to the control group [47].

Notably, magical thinking is a symptom that, together with others, serves as a criterion for the diagnosis of schizotypal disorder in the 10th edition of the International Classification of Diseases, in both the original and the Russian editions.

Magical thinking is often considered one of the forms of the so-called “psychosis-like experiences” understood as subthreshold, nonclinical forms of psychotic symptoms [48]. Similar experiences were studied in a sample of approximately 1500 adolescents without psychiatric diagnoses, and about half of the respondents reported experiences related to magical thinking [49]. Magical thinking, as one of the most common “psychosis-like experiences” among adolescents, is also indicated in other works [50].

In a study of prodromal symptoms in patients with schizophrenia, magical thinking is listed as one of the most common [51]. Nelson, Fusar-Poli, and Yung noted that, unlike other “psychosis-like experiences”

(e.g., paranoid ideas, bizarre thinking, and perceptual anomalies), magical thinking indicates the lowest risk of the further development of a mental disorder, although, in general, persistent forms of psychosis-like experiences are considered high-risk factors [52].

Furthermore, we investigated the relationship between psychosis-like experiences with distress, depression, and social maladaptation. Magical thinking, unlike others, was not associated with any of these phenomena [53]. Another study showed that magical thinking, compared with other symptoms, revealed the weakest correlation with the level of perceived stress [54].

In the Russian-speaking sample, a comparison of the magical thinking levels in groups of patients with various mental disorders and healthy subjects did not show any differences between them [55]. However, a direct relationship has been established between magical thinking and ideational disorders (specifically, with a decrease in the level of generalization) [56].

Various studies have been published that have analyzed the place of the phenomenon of magical thinking in the structure of obsessive–compulsive disorders [57]. Fite, Adut, and Magee believe that magical thinking allows patients with an obsessive–compulsive disorder to gain a sense of control when obsessions occur [58].

The relationship of magical thinking with the feeling of loss of control was described in one study [59]; in addition, it was established that the lower the tolerance for uncertainty, the higher the level of magical thinking [60]. Several researchers consider magical thinking the central cognitive construct in people with obsessive–compulsive disorder [57].

In studies of magical thinking in terms of its connection with various mental disorders, two types of the described phenomenon are distinguished, namely, magical ideation and thought–action fusion (TAF). The latter type is best studied as a cognitive phenomenon in various mental disorders; TAF is understood as a process in which thoughts are perceived to be exerting an influence similar to external actions [61].

This phenomenon was first described by Rachman and Salkovskis in their cognitive theory of obsessions [62, 63]. Later, Shafran, Thordarson, and Rachman developed a test method for assessing TAF, which investigated the relationship of this phenomenon

with various mental disorders (i.e., depression, obsessive-compulsive disorder, anxiety disorders, eating disorders, schizophrenia, and schizotypal disorder). Two components of TAF were distinguished, namely, predictive (the belief that thinking about an unacceptable or disturbing event increases the probability of its occurrence) and moral (the belief that having an unacceptable thought becomes the moral equivalent of committing an unacceptable or disturbing action) [64]. The results show that the predictive component is associated more with symptoms of obsessive-compulsive disorder and other anxiety disorders, while the moral component is associated more with symptoms of depression [61]. In addition, another study showed a positive relationship between TAF and alexithymia [65].

Magical thinking has also been studied in several other diseases and disorders of a nonpsychiatric nature. Wildt and Schultz-Venrath studied magical thinking in patients with multiple sclerosis, suggesting that its intensity should increase with this pathology. The authors attributed this to the loss of control over life experienced by patients. However, no difference was revealed between healthy and sick people, but the level of magical thinking in both of them was correlated with dissociation, which the researchers explained by the protective function of superstition [66].

There is evidence that patients suffering from neurotic disorders have a much more pronounced belief in supernatural abilities and various signs and a tendency to create and follow their own signs and rituals [67]. Saenko cited a study that identified a direct relationship between superstition and anxiety, and superstition and externality (external locus of control) [68].

Several works considered the problem of the relationship between magical thinking and prognostication. It has been noted that people with neurotic disorders express “irrational attitudes that are in conflict

with attitudes aimed at creating an objective prognosis of a changing situation” [69]. Moreover, it has been established that patients suffering from neurotic disorders, who have a higher tendency to superstition, have a lower estimate of the probability of a negative prognosis, which the authors attribute to a weak ability to predict [70].

Several studies have investigated the relationship between magical thinking and addictions. Abitov et al. revealed that people with addictions are less prone to superstition than healthy people; however, they are more religious [71]. Stoyanova noted a higher level of beliefs and superstitions among people living with alcoholism and drug addiction [31]. Notably, indicators of magical thinking contribute to the formation of ritual forms of behavior associated with the use of drugs and alcohol. Furthermore, dysfunctional ways of thinking, including magical thinking, are typical in adolescents prone to gambling [72]. Another study revealed a direct relationship between magical thinking and the frequency of cannabis use [73].

Thus, studies conducted in different countries and on different language samples (using the same methods) often show conflicting results. Therefore, the question arises of the reliability and universality of such studies. To date, there is no single and universal method for assessing magical thinking. The question of the pathological nature of the phenomenon under discussion and its place in the structure of various mental disorders or factors predisposing to them remains open and requires further study.

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ОБ АВТОРЕ

Чертисhev Михаил Сергеевич, каф. психиатрии и медицинской психологии, аспирант;
ORCID: <http://orcid.org/0000-0002-8692-1868>;
e-mail: chertishev.mihail@mail.ru

AUTHOR INFO

Michail S. Chertishchev, Postgraduate Student, Depart. of Psychiatry and Medical Psychology;
ORCID: <http://orcid.org/0000-0002-8692-1868>;
e-mail: chertishev.mihail@mail.ru