Research paper: the influence of art in psychiatry and also the psychiatry’s impact in art

Trabalho de investigação: a influência da arte na psiquiatria e também o impacto da psiquiatria na arte

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ABSTRACT
Artists with psychiatry disorder can express themselves very well in art and this became an object of study in the whole world. This review article has the objective of analyze artists with suspected or diagnosed psychiatric disorders who had a major impact on art history. Also understand the possible correlation between the disorder and the processes of creativity and artistic production. This study was an observational study. We searched for following keywords: Mental Disorders; Famous artists; Art; Writing; Literature; Music; Paintings. We found about one hundred papers and books and used sixty references such as papers based on citations and relevance of their journal. They were searched on PubMed and SciELO database. The results achieved were that increased combinatorial thinking, consequences of positive affect such as increased unusual associations and increased speed of thought are some of the notable factors of the relation that is not necessarily causal, but correlative between mood disorders and the creative process. In conclusion, there are countless types of correlations between psychopathologies and the creative process, whether the disease is cause or context, tends to interfere in the final result of the artistic creation process. Elucidating both the impact of the disease on patients' lives as a whole, as well as the broad relation that is established between art, creativity and the particularities of disorders.

Keywords: mental disorders, famous artists, art.
RESUMO
Artistas com distúrbios psiquiátricos podem expressar-se muito bem na arte e isto tornou-se um objecto de estudo em todo o mundo. Este artigo de revisão tem o objectivo de analisar artistas com perturbações psiquiátricas suspeitas ou diagnosticadas, que tiveram um grande impacto na história da arte. Compreender também a possível correlação entre a perturbação e os processos de criatividade e produção artística. Este estudo foi um estudo observacional. Procurámos as seguintes palavras-chave: Perturbações mentais; Artistas famosos; Arte; Escrita; Literatura; Música; Pinturas. Encontrámos cerca de cem artigos e livros e utilizámos sessenta referências tais como artigos baseados em citações e relevância da sua revista. Foram pesquisados na base de dados PubMed e SciELO. Os resultados alcançados foram o aumento do pensamento combinatório, consequências de efeitos positivos como o aumento de associações invulgares e o aumento da velocidade do pensamento são alguns dos factores notáveis da relação que não é necessariamente causal, mas correlativa entre as perturbações de humor e o processo criativo. Em conclusão, existem inúmeros tipos de correlações entre as psicopatologias e o processo criativo, quer a doença seja causa ou contexto, tende a interferir no resultado final do processo de criação artística. Elucidando tanto o impacto da doença na vida dos pacientes como um todo, como a ampla relação que se estabelece entre arte, criatividade e as particularidades das perturbações.

Palavras-chave: distúrbios mentais, artistas famosos, arte.

1 INTRODUÇÃO

The correlation between psychiatric disorders and artistic production began to be supposed in musical art after 1756 with the birth of Wolfgang Amadeus Mozart, considered one of the most brilliant minds of all time [1].

In literature, according to the chronology, Ernest Hemingway stands out with significant evidence of having bipolar disorder, alcohol dependence and a probable narcissistic and impatient personality. He used self-medication and an aggressive and risky lifestyle as a defense mechanism to survive his untreated mental disorder. A critic called him “the spectacular author since Shakespeare’s death. However his self-defense mechanism that made him tolerate his existence failed and resulted in his suicide in 1961 [2].

In England, Agatha Christie, titled as Lady of Order of the British Empire, was diagnosed with bipolar disorder. Her mother’s death in addition to her husband’s infidelity could have triggered a depression episode that led her to with subsequent amnesia in 1926. Apparently these breakdown episodes were recurrent, so that she defined success as something unfortunate [3].

In view of the examples presented, it can be suggested that psychiatric disorders and artistic development have a certain relation, especially if we establish a relation between the works and the phases of the disease that the artists went through. In this way, we will follow a reflective approach to the theme after analyzing some outstanding artists.
2 DISCUSSION

EDVARD MUNCH

Figure 1: Edvard Munch - Self-Portrait ‘à la Marat,’ Beside a Bathtub at Dr. Jacobson’s Clinic, 1908-09

Edvard Munch stood out in art for being one of the founders of the expressionist movement, which led to his fame and recognition [4].

Themes such as pain, death, loneliness and anguish were characteristics of his works; one peculiar factor related to his psychiatric instability is the fact that he made many self-portraits throughout his life (approximately 50) at different times and becoming more intense during periods of hospitalization. Munch was hospitalized on several occasions between 1905 and 1909 due to alcoholism associated with hallucinatory productivity, depressed mood and suicidal ideation. During this period he was highly productive. His psychiatric condition was characterized by alternating periods of intense personality instability with relatively conserved activity; the affective instability, confirmed by the succession of depressive phases and periods of euphoria with altered sensory perception, confirm and are crucial for the diagnosis nowadays known as bipolar affective disorder [5].

As can be noticed, the painter had periods of intense artistic production that coincided with stereotypically manic moments. Munch shows awareness of his own pathology. He once said, "my problems are part of me and my art. They are indistinguishable from myself. A treatment would destroy my art. I want to keep my suffering" [4].
EDGAR ALLAN POE

Figure 2: Edgar Allan Poe – public domain

Edgar Allan Poe was born in Boston, United States in January 1809, and died at a young age in 1849 in the city of Baltimore. He is considered one of the greatest writers of universal literature and was the author of several world-renowned works, such as the famous poem “The Raven”, published in 1851 [6]. He is considered a pioneer of the detective novel, and known for his horror stories and mystery tales [7]. When he worked as a journalist and writer he had endless problems due to frequent bouts of depression, mood swings and substance abuse such as alcohol, opium, laudanum and morphine [8].

Edgar Allan Poe's medical history and death are the source of speculation; therefore different hypotheses have been suggested in the medical literature. Poe's behavior, with recurrent episodes of depression and mood changes, associated with alcohol and drug abuse, such as opium, laudanum and morphine, could suggest a diagnosis of bipolar affective disorder with periods of depression and hypomania [8].

JACKSON POLLOCK

Figure 3: Pollock painting in his studio – public domain
Jackson Pollock was born in the city of Cody, Wyoming, United States, in 1912; he was one of the pioneers of the Abstract Expressionism movement. He also emerged as an artistic avant-garde, mainly in New York, after the Second World War, influenced by the perception of human irrationality and vulnerability. In the 1940s, Jackson Pollock introduced his famous "drip paintings", which certainly impacted American art history [9]. His innovative method brought him great visibility and repercussions for his work while still alive, in the 1950s, when he reached his peak. He was considered a leader of one of the most important American artistic movements of the twentieth century, with his work being exhibited and reported on in significant art environments and media [10].

Although his diagnosis was not conclusive, it is speculated that he suffered from manic depression. His chemical dependence, the relationship with his own body and the way it influenced his art; his depressive condition marked by melancholy and lack of creativity followed by peaks of creativity in his cathartic moments — probably in manic or hypomanic moments — reinforce the diagnostic hypothesis [11].

**ZELDA FITZGERALD**

Figure 4: Zelda Fitzgerald practicing ballet [CSU Archives / Everett Having]

Zelda Fitzgerald was born on July 24, 1900 in Montgomery, Alabama, United States. Before being diagnosed with a mental illness, she was described by her friends as having a lateral and idiosyncratic thinking, making unexpected associations between different ideas, often talking about allegories and metaphors and expressing herself in an original way, which resulted in worldwide recognition [12].

She was hospitalized for the first time with psychiatric issues at the age of 30. The course of her illness until her death at the age of 48 was marked by surreal beliefs, transient auditory
hallucinations and occasional acts of violence, usually directed at herself [13]. After her first hospitalization in 1930, diagnosed with Schizophrenia, Zelda stopped practicing ballet, one of her passions. However, she continued with her artistic hobbies such as writing and painting, which enabled her to achieve considerable success from her tales and art exhibitions. Her novel "Save Me the Waltz" received the greatest recognition. [14].

VINCENT VAN GOGH

Figure 5: Self-portrait of Van Gogh with a straw hat - Van Gogh Museum

Vincent Van Gogh, was born on March 30, 1853 in Zundert, in the Netherlands, and died on July 29, 1890 at 37 in Auvers-sur-Oise, France [15]. He stood out in the Impressionist movement. Van Gogh manifested emotional lability throughout most of his life, was considered grouchy, sloppy and neglectful even with his own nutrition and hygiene. Periodically, he manifested terror paroxysms, episodic colic, tonic spasms of his hands, as well as blank stares and lapses of consciousness, followed by a cognitive state of amnesia [16].

Throughout adulthood, he experienced unpredictable mood swings from creative activity euphoria to indescribable anguish dysphoria, intense sorrow, deep melancholy, severe anxiety and apathy to the point of exhaustion. His psychiatric episodes were more pronounced during the last decade of his life.

The sudden appearance of mental and physical symptoms became apparent for days to weeks, followed by periods of recovery and lucidity. He manifested visual, hearing and tactile hallucinations; paranoia; mood fluctuations ranging from depression to hypomania; and, less frequently, psychomotor agitation associated with self-mutilation and violence [16].

Authors who have studied it thoroughly proposed the following differential diagnoses. Psychological: narcissism, masochism, cyclothymia, and dementia. Psychiatry: schizophrenia, luetic meningoencephalitis, unipolar depression, bipolar affective disorder. Toxicological: acute intermittent porphyria, terpene poisoning [17].
CRIATIVITY

Creativity suggests a unique phenomenon in Homo Sapiens, the only one capable of creating something, that has some sort of subjective added value to itself, such as an idea, a joke, a literary work, a painting or musical composition, a solution or an invention. In other words, structures that did not exist before, originated from the confluence of results from the interactive combination of neuropsychological competences and human cognitive structures [18].

Andreasen [19] expands the perspective of the deep creativity, mentioning three components of it: authenticity, utility and production. Authenticity was defined as the holder and precursor of new relationships, perspectives and awareness. In relation to artistic creativity, utility means to extract new and different feelings from someone, creating new associations through impression. And finally, production is about creating a product.

There is a qualitative impetus behind any act of creation, which is generally perceived and associated with intelligence and cognition. However, another aspect must be considered. Other authors emphasized the social benefits of the created entity. According to Plucker, creativity involves the interactions between aptitude, process and the environment by which an individual or group produces a perceptible product that is both innovative and useful, as defined within a social context [20].

THE CREATIVE PROCESS

There are several lines of reasoning to elucidate how the creative thinking works. Consider its great structural complexity and plurality of components, such as the analysis checks completed by the creative process in parts, in an attempt to map under variable perspectives the structure and functioning of the original capacity, the creative process itself.

Andreasen [21] defined creativity as a process with multiple stages. The process begins with preparation, in which the information and skills are gathered, and then it moves to the next step, incubation. At this stage, there is still no conscious activity, the person does not strive to solve a problem, but several connections are made unconsciously. Incubation will result in inspiration, as when unexpectedly a person comes up with an idea or an answer. The process ends with the stage called production, during which insights and understandings are rationally placed in a useful form.

Rothenberg [22] discussed three concepts of the creative process: articulation, Janusian process and homospatial process. During the articulation, the entities are interposed and overlapped, which means that different parts of an art work are linked in a new and different way and come together as a whole.
The Janusian process is defined as an ability to think multiple thoughts, while the homospatial process is described as an ability to conceive a new entity or component by thinking of two or more different entities occupying the same place together.

Neuroscience considers that the generation of ideas is often conceived as a bottom-up process associated with diffuse attention, while the evaluation of ideas involves focused attention and cognitive control [23]. The neural networks that support the generation and evaluation of ideas, however, have only recently been examined using brain imaging techniques.

Resting status and functional magnetic resonance imaging have identified several large-scale brain networks that underlie central cognitive and attentional processes. Two of the most studied networks are the standard network and the executive control network. The standard network consists of median and lower posterior parietal regions that show increased metabolic activity in the absence of most cognitive tasks presented externally [24]. Standard network activity is associated with spontaneous and self-generated thinking, including mental wandering, mental simulation, social cognition, autobiographical recovery and episodic future thinking [25]. The control network consists of pre-frontal parietal and lateral antero-inferior regions, and its activity is associated with cognitive processes that require externally directed attention, including working memory, relational integration and task switching [26]. Standard and control networks can exhibit an antagonistic relationship at rest and during many cognitive tasks. This shows that for a creative process to emerge, there is a need of the spontaneous and genetic part of the standard network, acting together and influencing, in varying proportions, the cognitive processes of the control network.

In general, we claim that the standard network influences the generation of candidate ideas, but the control network can restrict and direct this process to meet specific task goals through top-down monitoring and executive control [27]. Thus, control and pattern networks can cooperate to leverage the top-down (executive) and “bottom-up” (generative) processes during creative cognition.

Explanations infuse and complement themselves, because in the cognitive point of view, creativity has some elements, such as observational learning, memory, cognitive flexibility and novelty seeking. The search for novelty can be defined as an exploratory activity in response to a new stimulus, while cognitive flexibility implies a fluidity of thought and departure from the concrete. In that way, the center of artistic creativity is the development of symbolic thinking, allowing the demobilization of the immediate present mind and the meta-representation given to intentions, beliefs and generating processes of combination and recombination [28].
PSYCHOPHATOLOGY AND CREATIVITY

The connection between creativity and psychopathology has interested doctors and neuroscientists for decades. Studies designed to dissect the main components of mania have shown that patients with bipolar disorder often report “feeling creative”. They often describe themselves as "very artistic and creative" with "outbursts of inspiration or creativity" and "mentally sharp, bright and smart" [23].

There are studies that show the correlation between personality traits and creativity, such as Eysenck [29], which indicates that psychoticism as a personality dimension is the main factor for both psychosis and creativity. He argues that a common resource between creativity and psychosis is the inclusive cognitive approach. This concept refers to an ability to combine different cognitive elements in an unusual but useful way. Another personality trait of Eysenck's theory, the openness to experience, was moderately related to creativity [30].

Furnham et al. [31] chose the divergent thinking (an ability to generate many different ideas about a subject) as one of the measures of creativity in their research and found significantly significant relations between extraversion, openness and hypomania.

To better understand these relationships, we will approach the most prominent studies on the topic with varied methods and different analysis perspectives.

Trethowan [32] examined biographies of 60 composers and stated that 30 composers had a melancholy temperament, among which mood disorders were the most common and apparently seen.

Jamison [33] observed that mood disorders, suicides and hospitalizations were markedly prevalent among poets and their families. Six of them were hospitalized and this ratio was 20 times greater than the general population that lived during this specified period of time. Symptoms that are suggestive of mood disorders were found among more than half of the poets and almost 25% of them had bipolar disorder. Six poets were said to be cyclothymic and to have had Bipolar Affective Disorder (BAD). Four poets were reported to have recurrent depressive episodes. During this period, the prevalence of bipolar disorder, cyclothymia and major depressive disorder was 1%, 1-2% and 5%, respectively. Taking these reasons into count, it was concluded that depression was observed 30 times more and cyclothymia or BAD 10 to 20 times more among the poets in this sample.

Juda [34] was one of the first systematics on bipolar disorder and creativity. In this research, face-to-face interviews were carried out with almost 5000 people between 1927 and 1943. The sample involved 113 German artists (architects, sculptors, painters, musicians and poets) and 181 scientists. From the sample, 1.3% was determined to be "manic depression". Contradictory to other research, it was indicated that "manic depression" was more prevalent among scientists. Following
the same line, Juda investigated a group of 294 people, composed of highly talented artists and scientists who had in common being born in German-speaking territories between 1650 and 1900.

She concludes that there is no definite relation between higher mental capacity and mental disease, on the other hand, she assesses that among those evaluated who had high mental capacity, the rates of psychopathology were also increased.

Andreasen [35] carried out the first research on the relation between creativity and mental disorders, an Iowa study. In this research, 30 writers from the University of Iowa Writers Workshop (27 men, 3 women) were matched demographically with people from various occupations. A higher incidence of mood disorders, especially bipolar disorder (43%), was observed among the writers. Of the authors, 80% experienced a mood episode in some period of their lives, while this proportion was 30% in the control group. The prevalence of mood and creativity disorders was significantly high among first-degree relatives of writers. However, creativity among relatives was more related to other fields (journalism, painting, music, dance, mathematics, etc.) than to literary creativity.

Richards and colleagues [36] raised the concept of everyday creativity rather than studying creativity among eminent and successful artists. They defined this concept in terms of creative potential in many different fields, and not just as eminent creativity [36]. This research was the first study that took into account the criteria for psychiatric diagnosis. The daily creativity scores of patients with BAD and cyclothymia and their first-degree relatives were significantly higher than the control participants. The greatest creativity was observed among cyclothymics and normal relatives. As a result, they concluded that mild symptoms increase creativity [36].

Mumcu [37] examined the association between creativity and mood disorders between 54 artists (musician-writer / poet-visual artist) and 33 healthy people who did not have a psychiatric disorder and worked in a bank's general management division. Mood disorders were more prevalent among artists and their families (mother, father, siblings and maternal and second-degree paternal relatives) and there were more creative people among artist families. It was observed that creative productivity increased more in manic / hypomanic periods and decreased in depression and partially in euthymia. A significant relation was found between creative acts and seasonality. It was also observed that artists with mood disorders were beginning to act creatively at young ages.

Frantom and Sherman [38] evaluated creativity among people at genetic risk for BAD. In this research, which included fifty-four visual artists, it was shown that the possibility of affect instability was greater among participants whose relatives had a mood disorder and there was a significant relationship between the instability of affection and creativity. There was no difference between male and female visual artists.
Shapiro and Weisberg [39] examined the measure in which the relation between BAD and creativity could be patterned among creative people in a university sample. The highest creativity scores were obtained by participants who met the criteria for hyperthymia (elevated subclinical mood and/or mild depression), the creativity values were not as high as expected among people who met the criteria for cyclothymia or had cyclothymic patterns. In fact, there was no significant difference between the scores and scores of the euthymic participants. Creativity was found to be related to hypomanic or euphoric symptoms, whereas depressive symptoms had inhibitory effects on creativity. In addition, it was determined that the hypomanic symptoms associated with creativity were increased energy, ideational fluency, and a search for sensations, impulsiveness and dedication to work.

Simenova et al [40] obtained findings that support the genetic transmission of creativity and BAD. This research showed that children with BAD who had parents with BAD were more creative than the healthy controls. However, the negative relation between disease duration and creativity was explained as a negative effect in manic periods on school and psychosocial functioning that resulted in decreased creativity.

Kyaga published a study entitled “Family study of 300,000 people with severe mental disorders” in the British Journal of Psychiatry. This case-control study of the total Swedish population is larger than previous studies and demonstrates an increased probability both for people with schizophrenia and bipolar disorder, and for their respective relatives, to work in a creative occupation, compared to controls. Thus, the present study strongly supports the idea that creativity is familiarly associated with schizophrenia and bipolar disorder, which has even been suggested in previous studies [41]. Along with national representation and the lack of selection bias, the greatest strength of this study was the study in the relatives of the affected individuals. This circumvents the sequels of bias that mental disorders themselves have in any measure of creativity. The main finding of this study, therefore, is unaffected first-degree relatives of people with schizophrenia or bipolar disorder show greater creativity compared to a control group [41]. In conclusion, the present study found a clear association between specific psychopathologies and creative occupations. The main associations between schizophrenia, bipolar disorder, unipolar depression and creative occupations are illustrated in the schizophrenia subgroup. Compared to the control group, those with schizophrenia showed no difference in having a creative profession, but showed a significantly lower chance of maintaining a scientific occupation. There was also a significant increase in chance of performing an artistic occupation, which, in turn, resulted mainly from the increase in visual artistic occupations. Parents and siblings of schizophrenic individuals were significantly more likely to have a creative profession compared to the control group. This increase was present in all creative
domains. Individuals with bipolar disorder were significantly overrepresented in creative professions compared to the control group [41].

Combinatorial thinking processes among manic patients are manifested as humorous and sometimes extremely rude. Schuldberg [42; 43] found that hypomanic characteristics increase creative performance and show that they are related to creative thinking, attitude and behavior. He associated the creative thinking process with hypomanic escape of ideas, rather than disorganized associations in schizophrenia [42].

Murray and Johnson [44] state that the symptoms include positive affection, which are the main features of extroversion, and predict the manic periods (although they are more severe). The authors argued that positive affection played a significant role in relation to creativity in BAD. They suggest that when someone feels good, they can form many different variables with information in their memory. Then, the focus of attention will be broadened, so that one can present many possible reasons. Fodor [45] stated that when he experienced an increase in positive mood (for example, writing a memoir about his success), creativity is also increased among people with mild symptoms. He emphasizes that bipolar disorder alone is not enough for creativity. In his study, he demonstrates that as the speed of thought increases, the positive affection increase; also people felt more creative, energetic and powerful.

3 CONCLUSION

Several researchers have emphasized that creative periods are unique. Jamison [33, 34], Richards and Kinney [36], Mumcu [37], Shapiro and Weisberg [39] demonstrated that creativity increases in hypomanic periods, while it is inhibited in depressive periods. According to the results of their factor analysis study, Richards and Kinney showed that no symptoms of mood are observed in the most creative periods in terms of emotional, cognitive and behavioral characteristics. In addition, they argue that some creative people described their most creative periods when they felt normal; and during those periods that were named well-being, self-esteem, longing and intense feelings, the characteristics for hyperthymia are not satisfied. Thus, Richards and Kinney debate whether there is an intermediate area for “real creative normality”.

It is also possible to look at the relation between mood disorders and creativity by the differences between the characteristics of art works. For example, Wadeson [46] states that works of patients with unipolar depression and bipolar disorder have different styles. It indicates that the lack of color in the paintings of depressed people is notable, with more white spaces and even incomplete figures. In addition, she made an interpretation that figures were drawn with less effort. The creative manner also had the quality of a mirror image, like the disorder. He says that when
depressed, bipolar patients drew similar images, however, in mania phase, generally vivid and bright colors dominated the images. Likewise, when novels by unipolar and bipolar writers were observed, similar characteristics could be traced, in terms of subject, theme, presentation, and relation between time of setting and ideological-psychological dimensions.

To conclude, we will use the analysis of the creation process of “The Scream” or “the Screech” by Edvard Munch. In his diary, Munch recorded his initial conception in 1891 for his most famous work of art as: “I was walking down the road with two friends when the sun set; suddenly, the sky turned as red as blood. I stopped and leaned against the fence, feeling unspeakably tired. Tongues of fire and blood stretched over the bluish black fjord. My friends went on walking, while I lagged behind, shivering with fear. Then I heard the enormous infinite scream of nature.”[47]. Munch creatively transformed this experience, clearly a visual hallucination, over eighteen months, into a work of art.

![Figure 6: The Scream, 1893.](image)

During the process, many modifications and adjustments were made, between the first sketch and the final screen, eight codes are totaled, Munch, thereby visually connected the man who screamed with the scene and produced what was described as a universal problem. This work of art is a metaphor interpreted as "the scream of nature" or "the scream of man and nature". It is affected both by the signs of direct illness and by the cognitive structure of an artist who is invariably presented as sick. [22]

Mental disorders, although they can exist concurrently with creativity, do not imply a special gift. Creative people must struggle to cope or overcome the effects of possible changes through
creative psychological processes that are healthy and adaptable themselves. The disorder, as any mental illness, brings more suffering than fulfillment. We aim in this way to emphasize that there are direct and indirect relations between psychopathologies and the creative process, creativity, the speed of thought and the abstract capacity; the disease can be cause or context, it does not interfere in the final result of the creation process including artistic matter. This theme is important by itself, given the need to understand the way the disease impacts patients’ lives and therefore the relation that exists between art, creativity and the particularities of disorders.

There are countless types of correlations between psychopathologies and the creative process, whether the disease is cause or context, tends to interfere in the final result of the artistic creation process. Elucidating both the impact of the disease on patients’ lives as a whole, as well as the broad relation that is established between art, creativity and the particularities of disorders.

ACKNOWLEDGMENT

Bipolar Affective Disorder (BAD)
REFERENCES


**FIGURE LEGENDS**

Figure 7: Edvard Munch - Self-Portrait ‘à la Marat,’ Beside a Bathtub at Dr. Jacobson’s Clinic, 1908-09

Figure 8: Edgar Allan Poe – public domain

Figure 9: Pollock painting in his studio – public domain

Figure 10: Zelda Fitzgerald praticando ballet [CSU Archives / Everett Having]

Figure 11: Autorretrato de Van Gogh com Chapéu de Palha - Van Gogh Museum

Figure 12: The Scream, 1893.