

# The biology of psychiatric disorders research paper example

[Science](#), [Genetics](#)



## **Introduction**

The global burden of psychiatric disorders is high and the etiology of these diseases varies between and within individuals. Current studies are focusing on genetic factors associated with each class of disorders. Other studies take a psychological approach to the management of psychiatric disorders.

## **Article Summaries**

Anxiety disorders are the most common psychiatric disorders affecting up to 13.3% of the population in the U. S. Anxiety disorders have been associated with decreased productivity, increased morbidity and mortality rates, and increased growth of alcohol and drug abuse (Bystritsky et al., 2013). Studies have found an extensive presence of comorbidities in patients presenting with symptoms of anxiety. In particular, in generalized anxiety disorder (GAD) and social anxiety disorder (SAD) the presence of comorbidities is rather extensive.

Anxiety disorders are not as noticeable as schizophrenia, depression, and bipolar disorder but these disorders are every bit as incapacitating. Anxiety disorders are complex and their diagnoses are frequently revised as new modalities evolve that helps our understanding of their etiology. Recently, the focus of diagnosis has been on novel neuroimaging techniques, genetic research and cognitive-behavioral interventions. The symptomology of anxiety disorders are the result of a complex interplay between biology, stress, environment and genetics. There are two different approaches to the treatment of anxiety disorders, psychopharmacological and cognitive-behavioral depending on the symptom to be addressed (Bystritsky et al.,

2013). Sometimes a combination of both approaches works best but the main focus remains the management of functional impairment.

One problem in the diagnosis of anxiety disorders is that different disorders manifest themselves in the same patient and different times in the patient's life. One example is panic disorder which can reach full remission with therapy but a pattern of symptoms appears later more suggestive of obsessive compulsive disorder (OCD) or generalized anxiety disorder (GAD) (Bystritsky et al., 2013). It is not known whether the new disorder evolved from the original disorder or whether we are dealing with two separate disorders.

Another critical issue with the current classification of anxiety disorders is that their etiology is poorly understood and that different diagnostic categories require different symptom management approaches. Unlike depression, no single gene or a cluster of genes has been associated with any single anxiety disorder, even though a genetic link has been found for OCD and panic disorder (Bystritsky et al., 2013). Nevertheless, studies with twins show the importance of hereditary factors that are possibly shared among the different disorder, such as anxiety disorders, depression, and alcohol and drug abuse.

It has been estimated that schizophrenia and bipolar disorder affect approximately 2% of the global population (Thomson et al., 2013). Together with depression, these disorders fall in the top ten causes of disability, which is defined as time missed from work. The three disorders impacts family and society and represent a significant financial burden. For this reason, there has been much motivation to identify genes that are associated with these

disorders. One gene, DISC, was found to correlate with a wide spectrum of disorders including schizophrenia, schizoaffective disorder, schizophrenia spectrum, bipolar disorder, Asperger's syndrome and autism spectrum disorder (Thomson et al., 2013). There are also numerous studies showing an association between gender and psychiatric disorders. The expression of the DISC gene affects brain structure and activation. The gene appears to work at the sub-cellular level and at the synapse level. Proteins that are associated with the DIS gene have also been connected to increased risk of psychiatric illness and brain-related traits.

A great percentage of psychiatric disorders are inheritable and in a significant number of people, psychiatric disorders are a combination of genetics and the environment. For example, a search of the literature shows that the DISC1 gene is linked to schizophrenia, bipolar disorder and depression (Thomson et al., 2013). Therefore, an understanding of the mechanism behind DISC1 can help us understand the etiology of these diseases. The effect of DISC1 is on the brain.

There is significant and widespread pessimism concerning the prognosis of depression. This is in part due to the growing body of biological data linking depression to genetics.

Lebowitz, Ahn and Nolen-Hoeksema (2013) evaluated the effect of psychoeducation on a symptomatic patient's perception of their own prognosis for depression. The authors' hypothesis was that were the patients led to understand that the biology of depression is not rigid but that its effect can be altered then pessimism over their prognosis would decrease the symptoms of depression.

The selection process was online and subjects took the Beck Depression Inventory-II (BDI-II) online. Subjects with BDI-II scores greater than 16 attributed their depression status to biological factors and predicted long symptom duration. When these subjects received audiovisual intervention stressing the mutability of the effect of genetics on depression, their perception of the duration of their symptoms took a positive turn. The subjects level of guilt and hopelessness dropped and their feelings of control rose. Thus, associating biochemical and genetic agents with the symptoms of depression impacted prognostic pessimism in patients with symptoms of depression. When patients realized they could control their depression, their symptoms improved.

## **Conclusion**

The etiology of psychiatric disorders is complex and much research is still needed to isolate the factors associated with each of the wide spectrum of disorders. The main focus of research is to identify the genes involved in these disorders, however, that is a long-term view. In the short term, a behavioral approach is best.

## **References**

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