Genetics And Mental Illnesses Essay, Research Paper

Discoveries in genetics have helped change the way society looks at mental illnesses such as manic depression and schizophrenia. A generation ago, the leading theory about schizophrenia was that this devastating emotional and mental disorder was caused by cold and distant mothering, itself the result of the mother’s unconscious wish that her child had never been born. A nation-wide lobbying effort was launched to combat such unfounded mother blaming, and 20 years later that artifact of the Freudian era is entirely discredited. It’s widely accepted today that psychotic disorders are brain disorders, probably with genetic roots (Herbert 72).

Just like every other topic in the genetics debates there are a few sides to the debate on the causes of mental disorders. One side feels mental illnesses are caused purely by genetic inheritance and another feels they are caused by environmental factors. A different side feels that it is a combination of the two.

The problem is that most people take a side that supports either genetics or environment when most cases are not only genetic, but also environment. Take this situation for example. I have a thirteen year old friend who has been depressed a lot for the past few months, maybe even a year. Her mother recently decided to get her screened for depression. Well, they decided that she has a “chemical imbalance” in her brain that causes her to be depressed. In other words, she’s depressed because genetically she’s abnormal and that abnormality keeps her brain from making a certain chemical she needs to keep from being depressed. The thing is that’s not the only reason she’s depressed. She’s not very happy at home. Her parents won’t let her do anything, which includes seeing her friends outside of school most of the time. They made her work all summer in her stepfather’s shop and almost didn’t let her quit when school started. She’s only allowed one phone call a day and it is limited to five to ten minutes.

Now, as far as I am concerned, that is reason to be depressed. With circumstances like this, maybe her depression isn’t all just the chemical imbalance caused by her genes, and maybe it has something to do with her environment. This situation illustrates the idea that mental illnesses are not only genetic, but are also environmentally caused. As Leonard Darwin says in “The Need for Eugenic Reform”, “In studying cases of insanity both factors must always be taken into account, and the only logical course to adopt is to entirely discard all such phrases as due to heredity and due to environment.”

This does not mean that genetics does not sometimes cause the depression. For example, David Rosenthal summarized dozens of studies reporting that schizophrenia, a mental illness, clusters in families; that is, relatives of a schizophrenic are considerably more likely to become schizophrenic than are people without schizophrenic relatives” (Stark 134). David G. Myers says at one point, “Some people more than others seem genetically predisposed to particular fears and high anxiety. Identical twins often develop similar phobias, in some cases even when raised separately” (Myers 464).

Many studies have been done on the subject of twins who develop the same mental illnesses. In one study it was found that “one pair of 35-year old identical female twins independently developed claustrophobia” (Myers 464). Years of studies of families, adopted children, and twins separated at birth, suggest that both schizophrenia and manic-depressive illness run in families” (Herbert 77). These problems become more prominent in instances where the afflicted person is an identical twin (Myers 464). This means that the closer you are genetically, the more likely you are to be schizophrenic also. The risk of having the gene is 10-15% if you have an affected sibling, but only 2-3% if your parent is the afflicted relative (Wilson). It has been proven that “the 1-in-100 odds of any person’s being diagnosed with schizophrenia become 1 in 10 among those with an afflicted sibling or parent, and close to 1 in 2 among those who have an afflicted twin (Myers 478). This is true “whether the twins are reared together or apart” (Myers 478). Thus it is obvious that genetics must play some part in the causing of some mental disorders.

A study of an Amish community was undertaken by Medical Sociologist Janice Egeland. “In this community of quiet-spoken humble pacifists, such behavior stands out against the social landscape” (Wallis 67). The report that was published in Nature confirmed the link between manic depression and the “human chromosome 11.” “‘This is the first demonstration of a possible genetic basis for one of the major mental disorders,’ says Dr. Darrel Regier, director of the division of clinical research at the National Institute of Mental Health (NIMH). ‘The study ushers in a new era of psychiatric research’” (Wallis 67). Unfortunately these recent discoveries do nothing to make diagnosis specific enough in genetic counseling. In other words, it is still not possible to determine whether or not a person will definitely have the mental illness (Wilson).

Many people feel about mental illnesses being caused by genetics the way they did when Christopher Columbus first came up with the idea that the world was round. In other words they feel the old way of looking at mental illnesses, which is that they are caused by the environment of the person is the right answer and all other answers are nonsense. “‘The major problem [in this research area] is all the non-replications,’ says Elliot Gershon of the National Institute of Mental Health (NIMH) in Bethesda, Maryland. ‘The question is why?’” (Barnes 314). What he means is that even though two people have the same environment and one becomes schizophrenic, too often the other person doesn’t. This makes it hard to prove that mental illnesses are entirely environmental. If mental illnesses were purely environmental wouldn’t everyone who lives in the same type of environment have schizophrenia? This shows the inability to prove environmental causes of mental illnesses so far.

Many anti-genetic cause believers feel the non-replications are because genetics do not have anything to do with the causes of mental illnesses. Miron Baron, of Columbia University College of Physicians says, “There are now a number of studies in the literature [including his] that have reported linkage on the X chromosome in major depressive illness and a number of other studies that have reported something different” (Barnes 313). This shows that even though it is believed to be purely genetic or purely environmental, studies have shown that this is not possible. The results differ from study to study. One shows it is pure genetics and the other shows it is pure environment. This proves it is neither genetics nor environment alone, but both of them together. Later in the article the author quotes Kenneth Kidd of Yale University School of Medicine about methodology. He says, “‘A linkage analysis cannot be done without specifying a mode of inheritance, without specifying that a single gene causes the disease, without specifying how penetrant the gene is’” (Barnes 314). What this means is that in order to prove it genetically caused, they would have to isolate a single gene that is found in all patients that causes the mental illnesses. This information is still not known for diseases such as schizophrenia and manic depression, so how can it be proved that genetics has anything to do with mental illnesses? James Gusella of Massachusetts General Hospital in Boston says this about the information needed, “The only way to prove heterogeneity is to localize or isolate all the different genes. And this would be tremendously difficult with current approaches” (Barnes 314). The very people who are defending genetic links to mental illnesses are forced to say that it cannot yet be proved. As for the experiment done with the Amish, Claudia Wallis says this in her article, Is Mental Illness Inherited?, “Does the same genetic defect play role in all manic depression? Not necessarily” (p.67).

There is no proof that mental illnesses are caused by one problem alone. “Behavioral geneticists suspect that several genes may underlie the illness, and that some environmental stress-perhaps a virus or birth complications-also might be required to trigger the disorder” (Herbert 77). “The discrepancies could result from any of several factors, he suggests. One for instance, is genetic heterogeneity, meaning that the same group of disorders has different genetic causes. Another is misdiagnosis of certain people in the families under study,” says Miron Baron (Barnes 313). What this means is that mental illnesses are not caused by either genetics or environment alone. They are the result of many combinations of both. As stated in The Need for Eugenic Reform by Leonard Darwin, “If either heredity or environment is ignored, when considering the problems here dealt with, many pitfalls will be found in our path from which escape is difficult for those who have been thus entrapped” (229).

As far as I’m concerned neither genetics nor environment have sole effect over mental illnesses. While some mental illnesses may be caused only by genetics or only by environment, others are caused by both. “Not only do two brothers who develop schizophrenia have a similar genetic inheritance, they also grew up in the same home with the same parents and were exposed to similar social circumstances outside the home” (Stark 134). As we continue to learn more about our genetic makeup we will learn that the mental illnesses we now believe to be caused only by environment or only by genetics, are really caused by a combination of both.

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