Sample essay

Discuss ethical considerations in research into genetic influences on behaviour

Within the biological level of analysis it is assumed that research into genetic influence on behaviour can eventually reveal the causes of illness or psychological disorders such as depression, which will be used as an example in this paper. The diathesis-stress theory suggests that genes may lead to a predisposition to illness or psychological disorders but there must be a trigger for the illness to develop. At this point in science, knowledge about the exact role of specific genes is still incomplete. Research into the role of genes in behaviour is confronted with serious ethical considerations such as how much is actually known about genetic predisposition, how knowledge about genetic vulnerability could affect an individual and how society could use – or misuse - genetic knowledge.

Research into genetic influences on depression face further ethical considerations than informed consent and anonymity. This is because psychological disorders interfere with important human functions such as emotions, feelings and thoughts, which are at the core of human personality. Furthermore, psychiatric disorders often lead to ‘stigmatization’. An important factor to take into consideration in genetic research is thus if genetic research could result in stigmatization of people or groups of people being classified as genetically inferior. The balance between scientific progress and ethical considerations must be carefully balanced and scrutinized not only by researchers but also by ethic committees and politicians.

This could be illustrated in the Human Genome Project, which mapped all human genes in order to eventually understand the effect of each gene in human behaviour. Wallace (2004) claims that the Human Genome Project is perhaps not ethically neutral. Misuse of ethically sensible data was already seen in Nazi Germany and the eugenic policies in many modern societies with practices such as sterilization of individuals thought to be inferior. This should serve as a warning to modern geneticists. First of all genetic research is by nature correlational, which means that it is not possible to state a clear cause-effect relationship between genes and disorders like depression. Secondly, researchers are far from being able to determine the
specific role of genes in psychiatric disorders. Since a psychiatric diagnosis is often a social stigma that is difficult to remove, it would be necessary to start public education to reduce stigmatization in patients if genetic testing became the norm according to Wallace. He argues that it could be possible one day to identify genes that play a role in the development of depression and that this could perhaps serve as a diagnostic tool. However, the question is whether it is ethical to make estimations on whether or not an individual will develop depression based on the patient’s genes. This raises ethical considerations such as whether presymptomatic testing should be done at all and whether it is ethical to test for depression that may or may not develop.

This is a relevant concern since we are not facing genetic determinism but rather genetic vulnerability. This implicates that even though an individual might be vulnerable to depression the disorder may not develop unless triggered by an environmental factor. Newson (2009) claims that genetic testing for depression could perhaps help people prevent the onset of depression. However, it could also be that knowing of a genetic vulnerability to depression could act as a trigger for the disease itself thus becoming a self-fulfilling prophecy. The main problem in research into genetic influence on depression is that so little is known. For example the 5-HTT gene has been linked to depression but so far the 5-HTT gene has only revealed vulnerability so the gene is a measure of risk rather than certainty.

This is supported by the evidence gained from genetic research in depression where twin studies are used to determine genetic influences on the disease. Nurnberger and Gershon (1982) did a review of twin studies with the aim of investigating concordance rates for clinical depression in a sample of MZ and DZ twins. The researchers found that the concordance rate for clinical depression was 65% in MZ twins and 14 % for DZ twins. The fact that the concordance rate for MZ twins is far below 100% indicates that genes are not the only factor to take into account when it comes to depression. A person may be genetically vulnerable but the evidence from genetic studies points towards a much broader understanding of the disease. This could serve as an example of caution in research into genetic influences on behaviour.
Twin and family studies indicate some degree of genetic inheritance in disorders like depression but even though there may be a genetic predisposition it does not mean that the disorder will develop. Today most researchers agree that knowledge of genes and their role in behaviour is vital to understanding serious disorders like depression but they also agree that genes may merely predispose an individual to developing the disease. The complexity of interaction of genes and environmental factors is not yet well understood. This is one more reason to say that ethical considerations must be taken seriously so that new knowledge is generated to the benefit of all but it should be done without harming individuals or society.

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