FEARFULLY AND WONDERFULLY MADE: IS THERE A GOD GENE?

In recent years, there has been increased scientific investigation into the possible biological sources of religiosity which, for the purposes of this article, includes one's beliefs about the nature of God, the ability to have what are sometimes referred to as spiritual experiences, and other beliefs and behaviors that are often associated with being religious or believing in God. Scientific inquiry cannot prove or disprove the existence of God. Rather, science can give us insights into the mechanisms that allow or promote religious beliefs and behaviors.

Behavior genetics examines individual differences, as accounted for by the effects of genes and the environment. American geneticist and author, Dean Hamer, received international attention for identifying a specific gene that appears to contribute to the ability to have spiritual experiences. Hamer believes the genetic potential to have spiritual experiences may make people more optimistic and altruistic, improve health, and prolong life. He notes there is not only one "God gene," but many such genes and that having these genes does not prove or disprove the existence of God, but rather gives one the predisposition to have spiritual experiences.

Twin studies are another path of inquiry in the field of behavior genetics. Twin studies take advantage of the fact that monozygotic ("identical") twins (MZ) share all of their genes, while dizygotic ("fraternal") twins (DZ) share roughly half their genes, giving them the same genetic similarity as non-twin siblings. However, both MZ and DZ twins reared together share the same family environment from birth. Therefore, similarities in MZ twins are seen as evidence of genetic influences, while differences in MZ twins are accounted for by environmental effects that impact each twin differently. Differences in DZ twins can result from the effects of genes and/or the environment.

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In twin studies, genetic effects are reported, as well as two types of environmental effects. Common environmental effects (sometimes called the shared or family environment) are effects of the environment that are shared by both twins. Unique environmental effects, on the other hand, are effects of the environment that impact each twin differently.

Twin studies have shown that nearly all traits are influenced, in part, by genetic factors. Religiosity has been studied and varying degrees of genetic influence on religious beliefs and behaviors have been reported. As with other methods of investigation, findings are influenced by the type of measurement used. Some single item measures of religiosity have been found to be largely influenced by common environmental effects. Examples include religious affiliation (i.e., whether one is Christian, Jewish, Muslim, Hindu, etc.) and church attendance in males (interestingly, genetics have been reported to have a modest effect on church attendance in females). However, varying levels of genetic effects have been reported on broader measures of religious attitudes and practices, including intrinsic and extrinsic religiosity, religious and spiritual well-being, and personal devotion.

In a twin study by this author and colleagues, we examined seven broad measures of religiosity, including general religiosity, social religiosity, belief that God is involved in one's daily life, forgiveness, belief in God as judge, not seeking revenge, and thankfulness. Genetic influences and unique environmental effects were reported for each of the factors. For two factors—social religiosity and God as judge—common environmental effects also had a modest influence. We further reported that genetic factors appear to influence the predisposition to become religious, while environmental factors influence the specific ways religiosity is expressed.

So to the question, "Is there a God gene?"... the answer is yes and no. There is evidence that genetic influences are present in a variety of religious beliefs and behaviors. No single gene has been identified definitively as the "God gene" and, in fact, religious beliefs and behaviors are likely influenced by many genes. Moreover, as noted by psychology professor, Dr. Paige Harden, behavior and beliefs that are identified as religious are defined at the social, not biological, level.

For example, we describe prayer as a religious activity, but this is defined socially, not biologically.

It is reasonable to conclude that the Creator designed humans to be biologically capable of enjoying spiritual experiences. However, there are several important considerations to keep in mind. First, having genes that predispose one toward religiosity does not mean these genes are expressed or the potential for such expression is fully reached. This is the difference between genotype (genetic makeup up a cell) and phenotype (observable physical or biochemical characteristics of an organism) and brings to mind biblical references to the necessity of being taught and practicing what one believes.

For example, Romans 10:14, "... And how are they to believe in him of whom they have never heard? ..." and Mark 4:24, "... with the measure you use, it will be measured to you..." Second, as Harden has observed, religiosity is intertwined with other influential environmental factors, such as race and family structure. Overall, the genetic effects on religiosity are likely modest and complex. Nevertheless, recent scientific studies have yielded new insights into the factors that shape religious beliefs and practices.

For now, we see through a glass, darkly. Science has only begun to scratch the surface of what can be understood about how we have been made. Believers need not fear science. The scientific method can never prove or disprove the existence of God. What science can do, and is increasingly doing, is help us understand the complex nature of creation, including the biological underpinnings of how we are able to experience the divine. 

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Endnotes

4. Ibid.