

Parallel Thinking Part 36: Genetics II

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Our genes determine physical traits, such as the colour of our hair and eyes, the shape of our noses and our height. They also determine whether we are more prone to developing certain diseases. Do they also determine aspects of our personality?

While our environment – including our upbringing, schooling and childhood experiences – has an enormous influence on our personality, for some time geneticists have thought that our genes also influence our character traits. For example, in a 2011 paper published in *Personality and Social Psychology Bulletin* (37:12), a German Professor of Psychology, Christian Kandler, found significant genetic influences on the five primary personality types of extraversion, agreeableness, openness, conscientiousness and neuroticism.

American geneticist Dr. Dean Hamer took this idea one step further. Hamer questioned whether there is a genetic influence which explains why certain people have an inclination towards religious beliefs, while others do not. In his 2005 book *The God Gene*, Hamer sets out his argument as follows:

Feelings of spirituality can be related to what Hamer calls self-transcendence. He explains that “self-transcendent individuals tend to see everything, including themselves, as part of one great totality. They have a strong sense of ‘at-one-ness’ — of the connections between people, places, and things”. This includes feelings of being at one with nature, being able to lose oneself in a task, feeling mystical about life experiences and viewing intuition as being profound and significant.

Hamer was able to measure ‘self-transcendence levels’ of volunteers through a personality questionnaire. He then analysed their DNA. If any genes were more prevalent in people scoring high

on the self-transcendence scale, according to Hamer those genes may be influencing the way humans relate to God.

The results yielded one gene, known as SLC18A2, which was significantly more likely to be present (in one particular form) in people with a high score of self-transcendence. The gene produces a protein called VMAT2 which regulates the flow of mood-altering chemicals in the brain. Hamer speculated that this could account for a greater disposition towards feelings of spirituality.

Surprisingly, Hamer’s theory is related to studies on the effects of psychoactive drugs. Substances such as psilocybin, found in over 200 species of mushroom, are known to generate intense ‘mystical’ or ‘spiritual’ hallucinogenic feelings and have been used to enable trance-like visions by many religious and cultural groups, such as Siberian shamans and Native Americans. Hamer argued that the VMAT2 protein produces a similar neurochemical effect, albeit on a much smaller scale.

If so, is religion hardwired into our genes? The simple answer is a resounding ‘no’. Critics argue that spirituality cannot be reduced to one set of personality traits, let alone to one gene. Indeed, Hamer admits that his research has not been repeated in any other study, as most genes only have a small effect on personality and behavioural traits are very complex by their nature.

Most importantly however, as Hamer himself contends, there is a stark difference between spirituality and religion. The next article will develop this idea further and examine the emergence of faith in humans through the development of spiritual feelings and religious belief in children.

