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Steven Pinker on Genetic Determinism



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Synonyms

[Biological determinism](#)

Definition

Genetic determinism is an emerging idea in the genetic field that suggests that there are genetic predictors for behavior traits.

Introduction

Experimental psychologist Steven Pinker volunteered to submit his DNA to kick off George Church's Personal Genome Project (P.G.P.). The P.G.P. sought to create an online database of 100,000 people's genomes and traits to allow global engagement of geneticists. Pinker explains that increased interest in globalizing genetics and making access greater is leading to a rise in consumer genetics. Consumer genetics refers to

commercially available genetic testing that can explain who each person is via their own genetic code. These genetic kits can vary in depth of information and offer consumers data on their ancestry, traits, and disease risk (Pinker 2009).

Benefits

Personal genomics allows everyday people to access information about their disease risk and other health factors. This information could lead to a future of personalized medicine with regimens and drugs that are established based on a patient's individualized gene code and needs, thus reducing the need for trial and error testing or prevention screening. The information would also shift the healthcare debate in a direction toward national health insurance by changing the way we view preexisting conditions and how insurers cover them, along with how customers purchase insurance plans (Pinker 2009). Additionally, by being knowledgeable of genetic history, individuals can make informed choices regarding the risks of passing along hereditary diseases during reproduction.

Understanding one's genetics also allows for greater understanding of one's personality. Genetic makeup plays a huge role in understanding what shapes a person beyond their environment. The variations in human genes are inevitably what causes human behavioral traits, which explains why people who are biologically

related are more similar than unrelated people. This can especially be seen in instances of biological versus adopted siblings. The intensity of this similarity can also be seen in identical twins compared to fraternal twins or siblings, where identical twins with identical genetic makeup are much more similar in personality than twins or siblings that share only related genetic makeup according to Pinker (2009). Furthermore, understanding the underlying genetic causes of personality will allow greater understanding of how environment affects personality in comparison (Pinker 2009).

Genetic Determinism of Psychological Traits

Neuroscience and genetic testing express the link between genetic makeup and psychological traits such as intelligence. Genetic predisposition for certain levels of intelligence can be seen when comparing identical twins raised together or that were separated at birth (Pinker 2006). The possible explanation for why humans differ in intelligence is mutation-selection. Unlike personality, where different personality traits have different values in society, higher intelligence is universally valued. Intelligence is also made up of a wide network of brain areas, along with physical well-being and health, and thus is dependent on a wide variety of genes that can be affected by mutation. These mutations may, in turn, cause decreased levels of intelligence (Pinker 2009).

Genetic testing can be used to determine how dopamine receptors affect specific personality traits. Since dopamine is associated with wanting, satisfaction, and attention, the receptors evident in the gene code could adjust personality traits accordingly. While one form of the receptor could make a person novelty seeking and extraverted, a less effective version of the receptor would predispose a person for substance abuse and obesity due to impulsivity (Pinker 2009). Testing has further expanded to serotonin as well by looking at the genes in charge of SERT, the serotonin transporter, and its link to anxiety and

depression. There are a variety of genes that match up with the lengths of the SERT in the human body, and the varying lengths are linked to how affectively the SERT work to transport serotonin (Pinker 2009). Pinker explains that knowing the genetic makeup of our personality leads to fear of determinism – that behaviors and traits will be blamed on genetics instead of holding actions and free will accountable. Furthermore, the fear that boiling human behavior down to just the gene code creates a sense of nihilism (Baer et al. 2008; Pinker 2006). Despite this, Pinker states that understanding the science of human nature only furthers our relation to the moral nature of human kind and expands the understanding of human individuality (Pinker 2006).

Pitfalls

Pinker discusses that the costs of personal genome testing are high, ranging from \$400 for 23andMe to \$99,500 for Knome (Pinker 2009). These initial high costs are due to the infancy of the technology, and as it matures and becomes more popular, Pinker hypothesized that the prices would become much more accessible. The accessibility, however, lends itself to future political issues. George Bush signed the Genetic Information Nondiscrimination Act in 2008 in order to make job or health insurance discrimination due to genetic information illegal and several states are taking action against genetic companies saying they're overstepping by ordering tests only doctors can order (Pinker 2009). As accessibility increases, new abuses of genetic data will likely arise, and more political restrictions to prevent this will follow. Furthermore, there will likely be "paternalistic measures" to prevent genetic testing from gaining momentum, but Pinker believes people's desire to know this information will not allow the industry to remain stifled (Pinker 2009).

Conclusion

According to Steven Pinker, despite the potential financial and ethical drawbacks, genetic determinism offers endless future possibilities of global genetics and provides the opportunity for individuals to personally become active agents in their genetic potential (regarding reproduction and insurance/medication).

Cross-References

- ▶ [Determinism \(Philosophy\)](#)
- ▶ [Genetic Determinism](#)
- ▶ [Steven Pinker](#)

References

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