Short Communication
Volume 16:10, 2022

Journal of Molecular and Genetic Medicine

ISSN: 1747-0862 Open Access

Benefits and Risks of Studying Entrepreneurial Genes

Waylen Gael*

Department of Science, University of California, Los Angeles, USA

Introduction

The vast and intricate genomic data sets created by recent advances in genome sequencing techniques have been used to discover the genetic correlates of psychological traits like personality traits as well as strictly medical phenomena. In this commentary, we advocate for unlocking the valuable field of the genetics of entrepreneurship through the use of genomic data analysis. Given the significance of entrepreneurship to individual, organizational and societal development and success, it is essential to comprehend what makes an entrepreneur and what accounts for their success. The vast majority of studies on the genetics of entrepreneurship have compared parent–offspring or twin studies to examine familial entrepreneurial tendencies. However, these do not present a complete picture of entrepreneurship's etiology. By allowing researchers to precisely identify which genes and pathways underlie entrepreneurial behavior and success, big data analytics and the rapidly expanding field of genetic mapping have the potential to provide a more complete picture of the etiology of entrepreneurship. We go over the risks and opportunities that come with this project and argue that, in the end, it could be beneficial to both science and society to prioritize more research into the genetics of entrepreneurship.

Description

Genome-wide association studies (GWAS) have also shed light on the genetic correlates of personality traits, in addition to studying the genetics of strictly medical conditions. The five-factor model (FFM), which asserts that the structure of human personality can be characterized using five broad factors, is the most widely used theory of personality characteristics. receptiveness to encounter, which alludes to a singular's interest, curiosity and propensity towards mentally testing undertakings conscientiousness, which is a person's sense of duty, self-control and accountability extraversion, which describes a person's tendency to be outgoing, assertive and social suitability, which alludes to a singular's helpfulness, courteousness and propensity towards social amicability last but not least, neuroticism, which describes a person's propensity for negative emotions like rage, anxiety, or depression. Studies have also found genetic correlates for more specific personality traits, so genetic findings are not limited to broad psychological factors. Impulsivity, perseverance and willingness to take risks were among the characteristics examined [1].

The study of psychological factors genetics is essential for both basic and applied science. The foundation of applied research and knowledge is basic psychology science, which aims to shed light on the causal mechanisms that underlie human behavior and mind, both normal and abnormal. We can learn more about how normal and abnormal personalities are formed, how they are affected by internal or external factors and how the genetic correlates of personality are expressed neurologically by uncovering the genetics of personality. As a result, genetic research on personality is a promising strategy that has the potential to revolutionize the study, comprehension and explanation of human personality. Given that personality traits predict behavioural, social and health outcomes like substance abuse, job performance and educational attainment, genetic research of personality can also have far-reaching applications. However, there are risks associated with this strategy, particularly with regard to social policy. Research on the genetics of intelligence, for instance, has previously been used to justify allocating resources to people who have genes that have been found to be predictive of higher intelligence [2].

Another argument attempted to link genes to violence and crime, arguing that society may benefit from educating potential criminals and locating them (presumably based on genetic data. It appears that hasty decisions based on incomplete and early research may have negative effects on society, given our limited understanding of gene environment interactions. When looking at factors that have a significant impact on both positive and negative life outcomes but may be influenced by one's environment (such as education and experience), these dangers become especially apparent. These factors include, among others, creativity, prosocial behavior and intelligence. Entrepreneurship is one such factor and this commentary focuses on it. “An activity that involves the discovery, evaluation and exploitation of opportunities to introduce new goods and services, ways of organizing, markets, process and raw materials through organizing efforts that previously had not existed,” according to the definition of entrepreneurialism. Entrepreneurship is crucial to economic growth, success and even the survival of individuals, organizations and nations, according to both research and practice. As a result, entrepreneurship has emerged as a significant area of study [3].

A lot of research on entrepreneurship has focused on people's entrepreneurial skills, abilities, knowledge and traits in addition to the environmental and societal factors. Over the past few decades, researchers have tried to figure out why people decide to start businesses and become entrepreneurs. Some have examined governmental policy, social network structures, entrepreneurial education, or specific aspects thereof, with a focus on situational and environmental factors. Others, on the other hand, have looked at personality traits or constructs to find the roots of entrepreneurship. These individual-level constructs include specific traits like the proactive personality, broad personality factors like the five-factor model, motives like the need to succeed and more general attitudes, beliefs and intentions like generalized self-efficacy.

Since not every person who decides to launch a business initiative is ultimately successful, additional studies have focused on what makes a successful entrepreneur, in addition to comprehending the etiology of entrepreneurial behavior (such as the creation of ventures). Despite the fact that many of the factors that determine who becomes an entrepreneur are also predictors of success, there are also individual- (for example, entrepreneurial expertise and social competence; and factors at the environmental level, such as the entrepreneurial ecosystem; which make the difference between entrepreneurs who succeed and those who fail and as a result, are a major focus of entrepreneurship research [4].

However, recent genomic studies have found no significant genome-wide associations with entrepreneurial behavior (surprising given previous heritability estimates). Common SNPs with insufficiently significant effects and the need for relatively large sample sizes may be to blame for this loss of heritability and inability to locate significant associations. Nevertheless, despite the fact that researchers are unable to identify specific SNPs due to its apparent

***Address for Correspondence:** Waylen Gael, Department of Science, University of California, Los Angeles, USA, E-mail: gaelwaylen@gmail.com*

Received: 01 October, 2022, Manuscript No: jmgm-22-81850; **Editor Assigned:** 03 October, 2022, Pre-QC No. P-81850; **Reviewed:** 15 October, 2022, QC No. Q-81850; **Revised:** 20 October, 2022, Manuscript No: R-81850; **Published:** 28 October, 2022, DOI: 10.37421/1747-0862.2022.16.577

highly polygenetic nature (for one yet-to-be replicated candidate gene), it seems plausible to assume that entrepreneurial behavior and success are at least slightly to moderately genetically heritable. In this regard, constructing a polygenetic index, which entails constructing a weighted sum of all SNPs that have been found to be significantly related to a particular phenotype (such as entrepreneurial behavior) via a GWAS and using it to examine the predictive power of the index in a population that is similar, may be of assistance [5].

Conclusion

This involves combining our knowledge of the genomic basis of the psychological and behavioural predictors of entrepreneurship with the extensive literature on these topics. However, the following are the more significant drawbacks of employing polygenic indexes and proxy-phenotype analyses. Only individuals from the genetic population studied can benefit from their findings; they only show the relative likelihood of an individual expressing the phenotype, not the absolute likelihood. This endeavour becomes even more challenging as a result of the restrictions that must be kept in mind. All things considered, the genes and pathways that underlie the genetic etiology of entrepreneurship have not yet been reliably identified.

Acknowledgement

None.

Conflict of Interest

None.

References

1. Shendure, Jay, Shankar Balasubramanian, George M. Church and Walter Gilbert, et al. "DNA sequencing at 40: Past, present and future." *Nature* 550 (2017): 345-353.
2. Yuan, Jie, Assaf Gordon, Daniel Speyer and Richard Aufrichtig, et al. "DNA Land is a framework to collect genomes and phenomes in the era of abundant genetic information." *Nat Genet* 50 (2018): 160-165.
3. Van der Loos, Matthijs JHM, Philipp D. Koellinger and Patrick JF Groenen, et al. "Genome-wide association studies and the genetics of entrepreneurship." *Eur J Epidemiol* 25 (2010): 1-3.
4. Okbay, Aysu, Bart ML Baselmans, Jan-Emmanuel De Neve and Patrick Turley, et al. "Genetic variants associated with subjective well-being, depressive symptoms and neuroticism identified through genome-wide analyses." *Nature genetics* 48 (2016): 624-633.
5. DiPrete, Thomas A., Casper AP Burik and Philipp D. Koellinger. "Genetic instrumental variable regression: Explaining socioeconomic and health outcomes in nonexperimental data." Proc Natl Acad Sci 115 (2018): E4970-E4979.

How to cite this article: Gael, Waylen. "Benefits and Risks of Studying Entrepreneurial Genes." J Mol Genet Med 16 (2022): 577.