

24Genetics



Olivia, this is your
Personality test



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1. Introduction

On the following pages we offer you the personality report obtained from the analysis of your DNA. In it you will find information about your genetic predispositions in relation to multiple aspects of personality, cognitive traits or neuropsychiatric disorders.

Below, we detail essential aspects to consider before reading this report.

The process with which we obtain your personalized report

The process we have followed to prepare your report consists of:

1. **Extract DNA** from the saliva sample you sent us.
2. Transform the biological data contained in DNA into bioinformatic data. This process is called **sequencing**. If you already had your DNA sequenced, these first two steps were not necessary, and we went directly to step 3 with the raw data of your genetic map (RAW DATA file).
3. **The algorithms** developed exclusively by 24Genetics for this computer data, allows us to obtain your personalized report.

As you can see, we combine purely biological processes with computer processes to process enormous amounts of information and offer detailed reports without losing scientific rigor.

What is our algorithm like?

The 24Genetics algorithm is based on the **analysis and study of thousands of publications** (called " papers " in the scientific environment), contrasted, validated, and recognized by the scientific community internationally, and which add value to our reports.

Thanks to the reliability of our ancestry test, the first step of our genetic analysis is to **identify the sex and ancestry** of each individual. From there, we exclusively apply the appropriate studies for each profile whenever possible. To obtain the genetic report of a European woman, we do not usually use, for example, studies whose population analyzed has been exclusively male or Asian. At this point, we could apply a single study, but we **combine a multitude of validated publications**, perfecting the process with the use of artificial intelligence. Thus, we apply all the scientific knowledge available to calculate different genetic predispositions.

With this, we gain **accuracy and reliability in our results**.

Methodology

Our genetic reports are obtained based on three types of analysis methodology:

- **GWAS** (Genome-Wide Association Study). It is a type of study in which DNA markers across the genome (a person's entire genetic material) of people with a condition or trait are compared to those of people who do not have that condition or trait. It is a study based on statistics that takes into account a large number of genes associated with a predisposition in a not-so-direct way but whose sum offers a relevant conclusion.

- **Multivariate analysis.** In this case, our algorithm analyzes several genetic variants or mutations of one or several genes, which have a more direct correlation with predisposition.

- **Univariate analysis.** In this type of methodology, a single variant of a single gene determines the predisposition due to its solid correlation with the genotype.

Each of the traits analyzed in this report is based on one of these three types of methodology.

The data and conclusions in this report, as well as the advancement of scientific research in genetics, may evolve. New mutations are continually being discovered, and the ones we analyze today are becoming better known. At 24Genetics, we apply newly established scientific discoveries significantly to our reports.

What information do we offer you?

The information provided by our reports speaks of predispositions. And what do we mean by that? Let's take an example. The possibility of suffering from anxiety is influenced by multiple factors, which we could group into 2 groups: genetic and environmental. Genetic factors indicate the innate propensity we have to suffer from this emotional disorder. On the other hand, environmental factors include elements that also affect, such as workload, work, family and personal environment, stress level, education, etc. Whether we really develop this disorder depends on the combination of both types of factors. Even if we have a genetic predisposition, we may never suffer from it, especially if we take care of preventive care, have good emotional health, keep our workload at appropriate levels, etc.

Therefore, what our reports tell you are always genetic predispositions. By controlling environmental factors, we can help prevent these predispositions from developing.

What does this genetic report give you?

In this report, you have a lot of scientifically validated information about your predispositions, allowing you to know **how your body works** naturally and what aspects you should pay attention to.

At 24Genetics, we recommend that you always consult a general practitioner or dermatologist specialist, who will act with all his knowledge and experience, being able to clarify your doubts, complement this report with your available health history and family history, supervise the follow-up of your possible pathology or trait, or prescribe additional diagnostic tests, if deemed necessary to confirm the risk of one or more specific predispositions.

A fundamental concept: the genetic variant.

Regarding genetic concepts, we want to share with you a basic one, which appears in all the features of our reports and is essential for you to understand briefly, such as **genetic variants** (also called variation or mutation). The variant is a permanent change in the DNA sequence that makes up a gene and is what marks an individual predisposition. Therefore, in each trait in this report, you will see information on the gene or genes affected in said trait. It is one or more variants in that gene or genes that determine the different predispositions of some people compared to others.

For example, in the case of the trait of responsibility, it is the variant rs4680 of the COMT gene which may mark the predisposition to show high levels of responsibility.

1.1. Structure of this report

In order to facilitate your understanding, this report is organized into the following categories:

1. Personality

The individual personality is made up of a unique combination of characteristics that include traits such as kindness, responsibility, openness to experience and many others that we collect in this section. The environment and life experiences play an important role in personality development, but genetics also exerts a significant influence and in this report we tell you about your individual predisposition in multiple characteristics of your personality.

2. Cognitive traits

Cognitive traits are the distinctive characteristics or qualities of the way a person processes information and carries out mental activities. Cognitive traits vary from person to person and influence how a person learns, remembers, thinks, and behaves in different situations. Genetics can mark the individual predisposition in traits associated with auditory processing, visual processing and others that we include in this section.

3. Dependencies

Genetics is an influencing factor in the predisposition to addiction to different psychoactive substances. In this section of the report you will be able to find out your personal predisposition to suffer addiction to substances such as caffeine, tobacco, alcohol, marijuana, cocaine and opiates.

4. Pathologies

In the pathologies section we include several neuropsychiatric disorders, which affect brain function and mental health, including mood and behavioral disorders, degenerative neurological conditions or conditions related to brain function and the nervous system.

5. Sleep

The analysis of genetics' influence on our sleep patterns reveals our innate predispositions in this regard. In this section, we show you your personal propensity regarding the intensity and duration of your sleep. Additionally, since environmental factors are also an influencing factor, we mention some techniques that can help you enjoy better rest.

*** The information provided in this report is valid for research, information, and educational purposes only. In no case is it valid for clinical or diagnostic use.**

1.2. Frequent questions

Does it all have to do with my genes?

Although genes are an essential parameter in the functioning of your body, many other circumstances significantly influence your well-being. Therefore, your genetic predisposition is only one factor that affects your body's functioning. Our genetic reports offer you valuable information to help you know your body well and take better care of it.

What are the scientific bases of this genetic personality test?

Our tests are based on countless genetic studies recognized and accepted by the scientific community. Relevant scientific studies are published in certain databases through international scientific institutions and organizations, as long as there is a certain level of consensus. Our DNA analysis algorithm, developed entirely by 24Genetics, includes numerous verified studies and is also regularly updated with new genetics publications that affect our areas of interest.

If my report says that I have a high genetic predisposition to display a certain personality trait, does that mark my way of being?

People are our genetics and our experiences. Apart from your genes, there are many other environmental and internal factors that influence your personality, so you may have a genetic predisposition to have, for example, leadership qualities, and never develop it due to educational, cultural, or social environment factors. ...But you can also not have that predisposition and develop those leadership skills through life experiences. Furthermore, depending on each trait, genetics may have a greater or lesser influence on its development.

Knowing our genetics through a personality DNA test allows health professionals, psychiatrists, psychologists, etc., to carry out their work with much more information. In addition, it allows you to design skill development plans that can make a big difference.

Should I change my habits or behavior on my own as a result of the results of this personality DNA test?

Our reports provide data on your personal genetic predispositions, but there are many other external, environmental factors or habits that influence your personality or cognitive traits. Therefore, we consider our reports as preventive, not diagnostic. Our recommendation is to always consult with health specialists, psychiatrists or psychologists, if you have any questions that may arise from this test, since a professional will be able to recommend the best treatment, therapy or care options for your specific case.

Is this genetic personality test valid for clinical use?

No. If there is a trait or disorder that your doctors need to diagnose, there are other types of specific tests more suitable for that purpose.

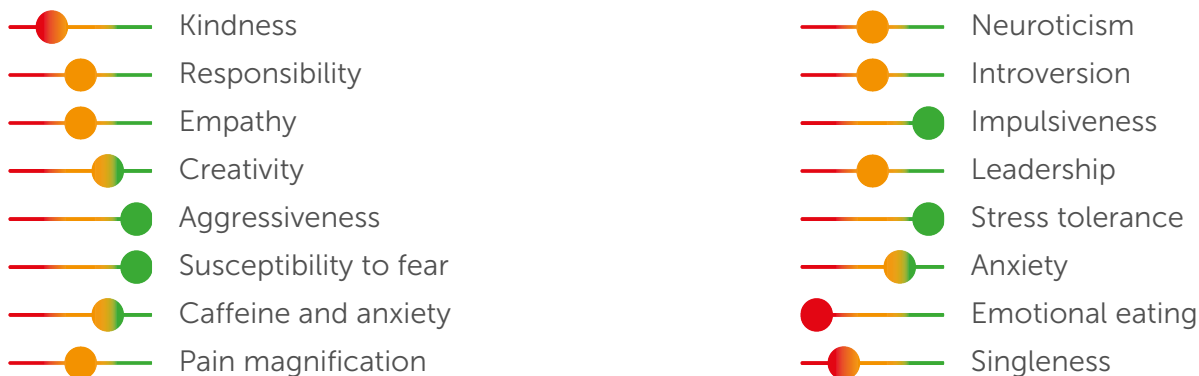
Some of the studies on which our genetic personality test is based.

The 24Genetics genetic personality test is based on numerous genetic research agreed upon by the international scientific community. Our system selects the research that is applicable to you (depending on your gender and your ancestry, whenever possible) and our algorithm combines them to provide you with the greatest amount of useful information for your personal development. These are some examples of genetic research used:

- <https://pubmed.ncbi.nlm.nih.gov/21966062/>
- <https://pubmed.ncbi.nlm.nih.gov/22688188/>
- <https://pubmed.ncbi.nlm.nih.gov/23459689/>
- <https://pubmed.ncbi.nlm.nih.gov/24782743/>

2. Summary

Personality



Cognitive traits



Dependencies



Pathologies



Sleep



Caption:

- Your analyzed genotype is favorable.
- Your analyzed genotype is a little favorable.
- Your analyzed genotype doesn't particularly affect you.
- Your analyzed genotype is a little unfavorable.
- Your analyzed genotype is unfavorable.



3. Genetic Results

3.1. How to understand your report?

Category/
Section

Trait analysed

General
information
about the
trait analysed

Personality

Neuroticism

Neurosis is a term that has been used in the field of psychology to describe a group of mental disorders characterized by emotional symptoms and dysfunctional behaviors, but that do not involve a complete loss of contact with reality. Among its main symptoms are emotional instability and insecurity, high rates of anxiety, continuous state of worry, tendency to guilt, and generally accompanied by psychosomatic symptomatology. The exact causes of neurosis are not fully known, but it is believed to be the result of a combination of biological, psychological, environmental, and genetic factors, and, in this sense, it has been found that certain variations in the HTR1A and COMT genes are related to a greater or lesser predisposition to suffer from neurotic disorders.

Gene
COMT

Genotype
AG

Genes
analysed

What do your genetics tell us?

According to your genotype, you do not have a special predisposition to suffer from neurosis. Other genetic and clinical factors can influence. Treatment approaches for neurosis can vary depending on the severity and type of specific disorder, but some options include lifestyle changes, psychotherapy, and medication. In any case, treatment should be tailored to the specific needs of each person and it is essential to seek medical help from a psychiatrist or psychologist, to receive an appropriate diagnosis and a personalized treatment plan.

Your genetic
predisposition

Personality

Kindness

Kindness is a personality trait that describes a person's ability to be pleasant, affectionate, and courteous to others. People with a high degree of kindness tend to be considered caring and develop better social relationships, greater job satisfaction, and greater psychological well-being. On the other hand, high levels of kindness can sometimes be associated with a tendency to avoid conflicts and difficulty in making difficult decisions or in the ability to assert oneself when necessary. It is important to keep in mind that kindness can change over time, experience, and personal growth. However, recent genetic studies have linked a mutation in the COMT gene with dopamine levels, which influences the predisposition to develop high levels of kindness.

Your genetic map

Gene	Genotype
COMT	AG

What do your genetics say?



According to your genotype, you do not have a special predisposition to develop high levels of kindness. Other genetic and clinical factors may influence. Kindness is a trait considered one of the 'big five,' which are used to describe and classify individual differences in personality, along with openness to experience, conscientiousness, extraversion, and neuroticism. Several of these are analyzed in other sections of this report.

Personality

Neuroticism

Neurosis is a term that has been used in the field of psychology to describe a group of mental disorders characterized by emotional symptoms and dysfunctional behaviors, but that do not involve a complete loss of contact with reality. Among its main symptoms are emotional instability and insecurity, high rates of anxiety, continuous state of worry, tendency to guilt, and generally accompanied by psychosomatic symptomatology. The exact causes of neurosis are not fully known, but it is believed to be the result of a combination of biological, psychological, environmental, and genetic factors, and, in this sense, it has been found that certain variations in the HTR1A and COMT genes are related to a greater or lesser predisposition to suffer from neurotic disorders.

Your genetic map

Gene	Genotype
COMT	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to suffer from neurosis. Other genetic and clinical factors can influence.

Personality

Responsibility

Responsibility, also called conscientiousness in scientific circles, is part of the 'Big Five' personality traits and is defined as the tendency to be organized, reliable, detail-oriented, and goal-oriented. People with high levels of conscientiousness tend to be hardworking, responsible, and self-disciplined, and are often considered trustworthy. Research has shown that conscientiousness has a strong connection with job success, and with overall satisfaction in life and longevity. The influence of experience and environment plays an important role in the development of personality traits, including conscientiousness. However, at the genetic level, a correlation has been found between conscientiousness and a specific variation in the COMT gene, which implies a greater predisposition to be a responsible and conscientious person.

Your genetic map

Gene	Genotype
COMT	AG

What do your genetics say?



According to your genotype, you are not particularly predisposed to having high levels of consciousness or responsibility. Other genetic and clinical factors may influence.

Personality

Introversion

Introversion is a personality trait characterized by a tendency to focus attention on the inner world, a preference for solitary activities, and the need for alone time to recharge energies. It should not be considered a disorder or disease, introverted people are often reflective, contemplative, imaginative, and creative, and can be just as successful and happy in life as extroverts. It should also not be confused with shyness, which is characterized by anxiety in social interactions. An introvert can perfectly have a rich social life, although they usually need more alone time than other people. As with any personality trait, experiences and learning influence this trait, but genetics is also an influencing factor, as demonstrated by a variant of the BDNF gene, which is correlated with a greater tendency towards introversion.

Your genetic map

Gene	Genotype
BDNF	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to develop an introverted personality. Other genetic and clinical factors may influence.

Personality

Empathy

Empathy refers to the ability to share the feelings and experiences of others, and involves recognizing and interpreting emotional signals and responding with appropriate emotions. Research has identified several aspects of empathy: affective empathy, which involves sharing the emotional experiences of others; cognitive empathy, which involves understanding the perspective of others; and motor empathy, which consists of the tendency to imitate and synchronize one's own facial expression, posture, or body movements with those of another. Empathy is a complex psychological phenomenon that can be influenced by various factors, such as personality traits, social and cultural norms, and life experiences, but genetics also shows as an influencing factor, as it has been proven that, in women, a mutation in the OXTR gene indicates a predisposition to greater empathy.

Your genetic map

Gene	Genotype
OXTR	AG

What do your genetics say?



According to your genotype, your predisposition to developing high levels of empathy is standard. Other genetic and clinical factors may influence this. Regardless of natural empathy tendencies, it is possible to develop and enhance it through training. Techniques such as perspective-taking, active listening, and mindfulness can help individuals become more attuned to the emotional experiences of others. In general, empathy plays a fundamental role in human social interaction and is essential for building positive relationships.

Personality

Impulsiveness

Impulsivity refers to the tendency to react in an unreflective, quick, and sometimes excessive manner to internal or external stimuli, without considering the possible consequences of our actions. It has been analyzed that impulsivity can sometimes be a risk factor for violent behaviors. Impulsive behavior can be the result of the interaction of various factors, such as attention deficit hyperactivity disorder (ADHD), borderline personality disorder (BPD), drug use, depression, anxiety, or relationship problems, among many others, but genetics can also be a predisposing factor, as scientific studies demonstrate that a specific mutation of the DBH gene, which is related to dopamine metabolism, is associated with a predisposition to impulsivity.

Your genetic map

Gene	Genotype
DBH	CC
HTR1A	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to exhibit impulsive personality traits. Other genetic and clinical factors may influence.

Personality

Creativity

Creativity is a human ability that refers to the capacity to create something new, and is a fundamental aspect of human development and individual and social success. There are different types of creativity depending on the process by which the new creation is reached. Usually, there are 5 main types: mimetic, bisociative, analogical, narrative, and intuitive. We could say that the latter is where the imagination becomes more productive and ideas are born easily and without the influence of other existing ideas. However, we should not mythologize intuitive creativity since in any of its other types it is a valuable trait. Apart from environmental factors, which influence any personality trait, scientific studies have shown that a specific mutation in the COMT gene is related to creativity levels.

Your genetic map

Gene	Genotype
COMT	AG

What do your genetics say?



According to your genotype, you have a predisposition to develop creative skills. Other genetic and clinical factors may influence. Creativity can be trained. Regardless of your genetic predisposition, there are multiple techniques and habits that can help you develop it. Accepting new ideas, avoiding premature judgment, practicing observation, paying attention to details, noting down ideas, reading and consuming art, or accepting failures are just some of the options. Additionally, a psychologist can design a personalized creative development plan for you.

Personality

Leadership

Leadership is defined as the set of skills of an individual that allow the rest of the people to identify them as someone who leads, inspires, and motivates them. We usually associate the concept of leadership with the professional environment, but in reality, it is a characteristic that can be developed in any aspect of life. The ability to lead is influenced by personality traits such as empathy, confidence, and decision-making skills, which depend largely on experiences, education, and many other environmental variables, but are also influenced by certain genetic variations. Therefore, both groups of influencing factors shape the leadership style. Specifically, in the genetic realm, it has been found that a specific variant of the CHRNA3 gene is correlated with the predisposition to play a leadership role.

Your genetic map

Gene	Genotype
CHRNA3	AG

What do your genetics say?



According to your genotype, your predisposition to develop leadership skills is standard. Other genetic and clinical factors may influence. Regarding the environment as an influencing factor, the ability to lead can be trained and developed. Listening, being clear in communication, leading by example, being consistent in decisions, integrating personal values, directing people according to their potential, being humble, or allowing mistakes are just some examples of attitudes that help become a good leader.

Personality

Aggressiveness

Aggressiveness describes violent or hostile behavior that can manifest physically, verbally, or emotionally, and varies in intensity, from small acts of frustration to severe violent behaviors. Aggressive personality can be influenced by the education received, the social environment, the level of stress, and many other factors. However, it is not necessarily a negative trait in itself and, in certain contexts, such as self-defense or the protection of others, it can be an appropriate and necessary response, and it is important to remember that it also does not define a person in their entirety. However, when it becomes uncontrolled it can be harmful both for the individual and their environment. In addition to these mentioned factors, genetics is also an influencing factor, and a variant of the DBH gene, which is involved in the production of dopamine, is related to the predisposition to an aggressive personality.

Your genetic map

Gene	Genotype
DBH	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to aggressiveness. Other genetic and clinical factors may influence.

Personality

Stress tolerance

Stress is a natural response of the body to an external destabilizing factor, in the form of physical or emotional tension, which usually includes feelings of frustration, fury, or mainly, nervousness. Unlike anxiety, which is often a reaction to an internal stimulus and frequently prolongs over time, stress is usually more temporally limited, and once the external cause that provoked it ends, the stress ends as well. There are a number of factors that can influence stress tolerance, such as personal experience, life events, or family history, which can mark a greater tendency to suffer from depression or other mental illnesses. However, genetics is also an influencing factor, and scientific studies have found that a variant in the FAAH gene is related to stress tolerance.

Your genetic map

Gene	Genotype
FAAH	AC

What do your genetics say?



According to your genotype, you are predisposed to having a high stress tolerance. Other genetic and clinical factors may influence.

Personality

Susceptibility to fear

Fear is a common feeling in human beings that arises in response to the perception of a real or perceived danger or threat. Although fear has some similarities with anxiety, it also has substantial differences, such as being very immediate in the face of a specific and concrete threat, focusing on the present moment, and usually having an acute and brief intensity. The response to fear depends on the perception of danger and can lead to confrontation or flight (fight or flight dichotomous response), and in extreme cases, such as in horror and terror, it can provoke a freezing or paralysis response. Environmental factors such as life experiences, environment, education, etc., can influence our personality regarding fear, but at a genetic level, it has been shown that a specific variant of the FAAH gene is associated with susceptibility to fear.

Your genetic map

Gene	Genotype
FAAH	AC

What do your genetics say?



According to your genotype, you have a predisposition to have low susceptibility to fear. Other genetic and clinical factors may influence.

Personality

Anxiety

Anxiety is a feeling of fear or unease in the face of real or subjective risk situations, and can be temporary or prolonged over time. Anxiety is often necessary and helps us respond to threats. However, when it becomes constant, excessive, or uncontrollable, and interferes with daily activities, it can turn into a mental health disorder. Anxiety disorders are the most common mental disorders and affect about 40 million adults in the United States. Symptoms may include fear, apprehension, racing thoughts, and physical sensations such as sweating, trembling, or difficulty breathing. The causes of anxiety disorders are complex and often involve environmental and psychological factors, but genetics is also an important influencing factor, and it has been confirmed that a specific variant of the HTR3B gene is associated with a higher predisposition to suffer from anxiety disorders.

Your genetic map

Gene	Genotype
HTR3B	AA

What do your genetics say?



According to your genotype, you do not have a special predisposition to develop anxiety disorders. Other genetic and clinical factors may influence.

Personality

Caffeine and anxiety

Caffeine is an alkaloid of the xanthine group. This solid, crystalline, white and bitter-tasting substance acts as a psychoactive drug to stimulate the central nervous system. In addition to this and other effects, caffeine is also related to anxiety, which is described as a feeling of restlessness, nervousness, worry, fear, or panic about what may happen. This process is triggered by neuronal receptors, called adenosine receptors, that are located in the brain and are closely related to activities such as sleep and neuronal activity. Recent studies have discovered a relationship between a genetic variant in the ADORA2A gene and caffeine-induced anxiety.

Your genetic map

Gene	Genotype
ADORA2A	CC

What do your genetics say?



Based on your genotype, your predisposition to caffeine-influenced anxiety is average. Other genetic and clinical factors may be relevant. Even though, as noted earlier, caffeine is related to anxiety, sometimes increased caffeine consumption seems to dampen this effect on anxiety as the individual becomes accustomed to its components.

Personality

Emotional eating

Emotional eating, or loss of control in eating, is the tendency to eat more than usual as a result of stress, anxiety, anger, or certain social situations that generate insecurity or discomfort. This behavior can be associated with emotional disorders from 2 perspectives: they are often the cause but at the same time, other disorders can be the consequence, since emotional eating sometimes leads to overweight, a trait that also has a great social pressure. Another cause of emotional eating can be the pleasure produced by the act of eating itself, which tries to compensate for other unsatisfactory areas of the affected person's life. Some studies indicate that a certain variation in the TAS2R38 gene may cause some people to be more prone to disordered eating under certain mood states, with a special incidence in females.

Your genetic map

Gene	Genotype
TAS2R38	GG
MC4R	TC

What do your genetics say?



According to your genotype, you are predisposed to increased intake for emotional reasons. Other genetic and clinical factors may influence. Treatment of emotional eating usually involves identifying the triggers for this behavior, namely, the emotions. The most common approach is to start psychotherapy treatment, which identifies the specific causes for each patient and implements measures to manage them appropriately, such as exercise, meditation, relaxation, and, of course, promoting a healthy and rational relationship with food.

Personality

Pain magnification

Pain magnification (also called pain catastrophizing in scientific contexts) is a cognitive distortion characterized by an exaggerated negative response to real or anticipated pain, which generates an increase in fear and anxiety and a decrease in the ability to cope with it. Many people who suffer from it believe that the pain will never go away or will worsen. Sometimes, this means avoiding activities that may cause pain, and therefore affecting the daily life of individuals. Pain catastrophizing is associated with various types of chronic pain, such as lower back pain, fibromyalgia, arthritis, and migraines. Genetics also plays an important role in this personal characteristic, and several studies have shown that genetic variants in the SLC6A4, HTR3B, and HTR1B genes are related to the propensity to magnify pain.

Your genetic map

Gene	Genotype
SLC6A4	CC
HTR3B	AA
HTR1B	AT

What do your genetics say?



According to your genotype, you do not have a special predisposition to magnify pain. Other genetic and clinical factors may influence.

Personality

Singleness

Each person's profile regarding the possibility or predisposition to maintain a romantic relationship, in any of the infinite possible options, may vary throughout life, but evidence seems to indicate that there are people more predisposed to these situations and others who tend to maintain a status of singleness. Sociological and psychological research confirms that there are multiple factors that influence when establishing a romantic relationship, such as personality, physical appearance, or socioeconomic status, among many others, and that these factors vary from one person to another. However, there is also evidence that DNA can influence this aspect of personality, and specifically, a variant of the HTR1A gene, which regulates serotonin levels, a hormone that influences behavior associated with love, is correlated with the genetic predisposition to be single.

Your genetic map

Gene	Genotype
HTR1A	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to singleness. Other genetic and clinical factors may influence.

Cognitive traits

Reading ability

Reading ability is the capacity to understand and process information from a written text. It is an essential skill for learning and acquiring knowledge, and involves several competencies. Firstly, the ability to decode words, that is, to recognize letters and join them to form words; then, to understand the meaning of the words and how they combine to form meaningful sentences; and, finally, to grasp the overall meaning of a text by identifying the main ideas, making inferences, and recognizing the rhetorical strategies used by the author. In terms of genetics, it has been discovered that a specific variant of the ROBO1 gene, which plays an important role in the development of the nervous system and is associated with various neurological conditions, is related to reading ability.

Your genetic map

Gene	Genotype
ROBO1	CC

What do your genetics say?



According to your genotype, you are predisposed to have normal reading ability. Other genetic and clinical factors may influence. Regardless of genetics, to improve reading ability, it is essential to practice reading regularly. Reading varied texts contributes to the development of vocabulary and reading comprehension. Additionally, it is useful to use reading strategies, such as asking questions, highlighting or taking notes, and summarizing information to verify understanding. A speech therapist can design a personalized reading improvement strategy.

Cognitive traits

Auditory processing of movement

Auditory processing of movement (APM) is the ability to use hearing to track and understand the movement of objects in space. It is an important skill for communication, reading, writing, and learning. If APM is impaired, it can have a range of negative effects in childhood, presenting problems with following instructions, understanding figurative language, learning to read, writing fluently, learning in a noisy environment, or performing physical activities. Deficiencies in auditory processing of movement have been linked to certain neurological disorders, such as autism, dyslexia, and attention deficit hyperactivity disorder (ADHD). Genetics can influence this neurological process, as scientific studies have associated a variation in the ROBO1 gene with the ability to process movement through hearing.

Your genetic map

Gene	Genotype
ROBO1	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to suffer from incorrect auditory processing of movement. Other genetic and clinical factors may also influence.

Cognitive traits

Cognitive capacity in old age

The aging process affects each individual differently in relation to their cognitive abilities, which are those skills by which our brain allows us to learn, pay attention, memorize, speak, read, reason, and understand, among other functions. An important influencing factor in cognitive decline is the degradation of dopamine in the prefrontal cortex. At the genetic level, the COMT gene encodes an enzyme that degrades dopamine, which influences cognitive performance in old age. Additionally, the KL gene encodes for a protein called neuropilin-1, which is crucial for the development and functioning of neurons. In conclusion, it has been proven that certain variants in the COMT and KL genes are correlated with cognitive capacity in old age.

Your genetic map

Gene	Genotype
KL	AC
COMT	AG
KL	GG

What do your genetics say?



According to your genotype, you are not particularly predisposed to cognitive decline in old age. Other genetic and clinical factors may influence. Early diagnosis of cognitive decline is an important factor in initiating treatments and/or therapies that can slow the progression of the disease and enjoy more years with adequate quality of life. A neurologist can prescribe the necessary tests to confirm cognitive degradation.

Cognitive traits

Visual Processing of Movement

Visual processing of movement (VPM) is the ability to see and understand movement, allowing the perception of depth, distance, three-dimensional structures, speed, and direction of moving objects, etc. This makes it essential for many cognitive skills or daily life activities, such as driving, playing sports, and navigating the environment. Malfunctioning of VPM can lead to a wide spectrum of difficulties, from mild to severe. In addition to its effect on the performance of everyday activities, it can cause attention, concentration problems, and difficulties in certain areas of learning. Genetic studies have shown that a specific variant of the ROBO1 gene, which encodes for a protein in the immunoglobulin family, is related to visual processing of movement.

Your genetic map

Gene	Genotype
ROBO1	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to suffer from incorrect visual processing of movement. Other genetic and clinical factors may also influence.

Dependencies

Caffeine and addiction

Coffee is one of the most consumed beverages in the world. Due to the large number of people who drink it, there is a great interest in analysing its effects. As a result, the biochemistry of coffee has been extensively documented and we know that as the unroasted green bean is processed, it undergoes chemical changes en route to becoming the coffee we drink. The type of bean, the degree of roasting and the preparation method all influence its biochemical make-up. Roasted coffee has potentially therapeutic, antioxidant, anti-inflammatory, antifibrotic and anticancer effects, although it can also lead to addiction and/or be associated with a greater predisposition to start smoking, increased adiposity or higher fasting insulin and glucose levels, along with other effects.

The GCKR and ABCG2 genes, among others, have been associated with a greater tendency, and possible addiction, to caffeine consumption.

Your genetic map

Gene	Genotype
GCKR	TC
ABCG2	AA
LOC10192760	CC
POR	AG
ND	AG
Intergenic	CC
EFCAB5	GG
MLXIPL	TT

What do your genetics say?



Based on this study, your predisposition is average. Other genetic and clinical factors may be relevant. For healthy adults, the U.S. Food and Drug Administration (FDA) has indicated that 400 milligrams a day of coffee (4 to 5 cups) is not generally related to adverse or dangerous effects.

Dependencies

Alcohol dependence

Alcohol is one of the most addictive substances worldwide, capable of causing physical and psychological dependency in its consumers. According to the WHO, inadequate alcohol consumption is responsible for more than 3.3 million deaths each year worldwide. Personality, family context, and especially the social and cultural environment influence the habit, and beyond, the addiction to alcohol consumption. In many societies, the consumption of alcoholic beverages is a daily act in interpersonal relationships and is very commonly associated with celebration and happiness. Apart from all these external factors, called environmental, genetics is also an influencing factor and it has been proven that certain mutations in the genes OPRM1, ADLH2 and CNR1 influence the female predisposition to suffer from alcohol addiction.

Your genetic map

Gene	Genotype
ADH1B	CC
OPRM1	AA
ANKK1	AA
Intergenic	TT
ALDH2	GG
CNR1	TC
	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to suffer from alcohol addiction. Other genetic and clinical factors may influence.

Dependencies

Marijuana dependence

Although marijuana is one of the most consumed illegal substances worldwide, the vast majority of people who use it do not develop significant dependency. However, many people do develop dependency, with a consequent negative impact on their lives. Seeking appropriate treatment and support can be crucial to overcoming it and improving quality of life. The environments in which marijuana is used, the availability of cannabis, and many other social factors, combined with certain personality traits, often influence the risk of developing a dependency. Nevertheless, scientific studies have confirmed that genetics influence how the brain responds to marijuana and how addiction develops, specifically, a certain mutation in the AKT1 gene is related to the predisposition to develop marijuana dependency.

Your genetic map

Gene	Genotype
AKT1	TC

What do your genetics say?



According to your genotype, your predisposition to develop marijuana dependence is standard. Other genetic and clinical factors may influence.

Dependencies

Cocaine Dependence

The consumption of certain narcotic substances can generate sensations considered pleasurable but creates both emotional and physical dependence, which causes a problem that affects many people and is characterized by compulsive seeking and continued use of the substance, with the consequent negative consequences on health and well-being. In addition, people who suffer from dependence have a high risk of relapsing into consumption after a period of abstinence. Cocaine dependence usually has social and emotional components, but genetics is also an influencing factor since scientific studies have related specific variants in the CNR1 gene with a greater propensity for dependence on this substance.

Your genetic map

Gene	Genotype
CNR1	TT
CNR1	TC

What do your genetics say?



According to your genotype, your predisposition to develop cocaine dependence is standard. Other genetic and clinical factors may influence.

Dependencies

Opioid Dependence

Dopamine is a neurotransmitter widely recognized for its role in mediating the drug reward and reinforcement system, making it an important candidate for understanding the underlying mechanisms of addiction to certain substances. The consumption and possible dependency on opioids, like other types of drugs, usually have social, emotional, and cultural components, but genetics is also an influencing factor, as a variant in a dopaminergic gene, which influences the predisposition to suffer from opioid dependency, has been identified specifically in the DRD2 gene.

Your genetic map

Gene	Genotype
DRD2	CC

What do your genetics say?



According to your genotype, your predisposition to develop opioid dependence is standard. Other genetic and clinical factors may influence.

Pathologies

Motion Sickness

Motion sickness, or travel sickness, is a disorder that occurs during travel in vehicles such as cars, trains, boats, or planes, and in certain recreational attractions at fairs or theme parks. Its main symptom is dizziness, accompanied by vomiting, nausea, and lack of balance, mainly caused by the accelerations and decelerations that occur during these movements. A variant of motion sickness is space adaptation syndrome, which is the disorder suffered by astronauts due to the absence of gravity, and to which they adapt a few days after the start of the flight. Approximately one in three people is very susceptible to dizziness, and although the underlying causes are not completely clear, it has been proven to be a highly heritable disorder. At the genetic level, mutations in the PVRL3 and GPD2 genes, among others, have been found to be related to the predisposition to suffer from motion sickness.

Your genetic map

Gene	Genotype
PVRL3	AG
GPD2	AG
LINC01243	AC
AUTS2	GG
LINC02641	AA
CBLN4	TT
MUTED	GC
LINGO2	AG
CPNE4	AA
LOC10192821	AG
PRDM16	TT
NLGN1	AC
HOXD3	GG
Intergenic	AC
TLE4	AA
HOXB3	CC
ST18	AA
SDK1	AG
LINC00924	TC
CELF2	AG
PDZRN4	AA
MCTP2	CC
ARAP2	CC
AUTS2	AG
RGS5	TT
MAP2K5	TT
AGA	CC
POU6F2	AT
LINC01241	AG
GXYLT2	TT

What do your genetics say?



According to this study, you are more predisposed to suffer from this disorder than most of the population. Other genetic and clinical factors may influence. If you suffer from motion sickness, there are some habits that can help mitigate the symptoms, such as drinking plenty of water, avoiding heavy meals before traveling, sitting in the front part of the vehicle, or listening to calm music, among others. If symptoms are severe, it may be necessary to take a medication against dizziness.

Sleep

Sleep Intensity

Sleep intensity is related to the efficacy and ability of sleep to provide the necessary rest, and inadequate sleep intensity can contribute to a series of disorders, such as increased stress, cognitive difficulties, or impairment of immune function. Throughout the night, different stages of sleep develop, during which the body relaxes, heart rate and breathing decrease, and the brain releases hormones, such as growth hormone. High-intensity sleep involves a higher proportion of deep and REM sleep, phases in which vital processes of recovery and memory consolidation occur, and is associated with better health and reduced risk of chronic diseases. In relation to genetics, research shows that a mutation in the ADA gene, which regulates the circadian rhythm, may be related to sleep intensity.

Your genetic map

Gene	Genotype
ADA	CC

What do your genetics say?



According to your genotype, you don't have a special predisposition to enjoy high intensity sleep. Other genetic and clinical factors may influence. To achieve adequate sleep duration and intensity, proper guidelines and habits can help. Having a stable schedule, that is, going to bed and waking up at the same time; ensuring a suitable environment, with optimal temperature, lighting and noise level; avoiding stimulants and exercise before sleep; and trying to achieve a state of relaxation prior to sleep can facilitate optimal sleep.

Sleep

Sleep Duration

Scientific research has determined that a healthy sleep duration is between 7-8 hours. Below this time, it is referred to as short sleep and above, as prolonged sleep. Sleep duration affects our quality of life, the performance of our daily professional and personal activities, our physical appearance, and often even our mood. But beyond that, prospective epidemiological research has shown that both short sleep and prolonged sleep can be related to cognitive, psychiatric, metabolic, cardiovascular, or immunological conditions, although causality has not been demonstrated in the onset or progression of these conditions. In relation to genetics, various studies have found that a variant in the GRIA3 gene can be related to a greater predisposition to habitually sleep more than eight hours.

Your genetic map

Gene	Genotype
GRIA3	CC

What do your genetics say?



According to your genotype, you do not have a special predisposition to habitually sleep more than eight hours. Other genetic and clinical factors may influence. To achieve adequate sleep duration and intensity, correct guidelines and habits can help. Having a stable schedule, that is, going to bed and getting up at the same time; ensuring an appropriate environment, with optimal temperature, lighting, and noise levels; avoiding stimulants and exercise before sleep; and trying to achieve a state of relaxation beforehand can facilitate optimal and restorative sleep.



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