UGENOME

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Brain Health

Summary Report

REPORT CATEGORIES

MENTAL HEALTH

COGNITION

Sample Client

Report date: 30 April 2026

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Viewing this medical test requires a medical doctor or use one of our contracted genetic counselors. By accessing these results, you acknowledge and agree that you will consult with a licensed physician or one of our contracted genetic counselors to review and interpret the results, and you agree not to rely on this information as a substitute for professional medical advice, diagnosis, or treatment.

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 10" 178cm

WEIGHT

215lb 97.5kg

REPORT PROVIDED BY

UGenome

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Summary

Some of us get stressed out by every single detail, while others go through life with a smile on their face. Going out for a drink after work, one has a single glass, while another downs an entire bottle. In a college class, one student pours through a text, while another googles up possible places to eat after class.

How our brains handle the daily environment is as unique as the individual. Past experiences, one's current environment, diet, lifestyle, and of course, your DNA all affect how the brain functions and responds.

Putting together all of these factors to get a better picture of your brain's health can be difficult, but it's crucial. **Knowing your genetics is a great starting point!** This Comprehensive Brain Report covers key aspects of brain health, such as:

- Mental health
- Substance use and eating disorders
- Cognitive problems
- Cognitive traits

This summary report contains:

91 Genetic Results

15 Recommendations

3 Lifestyle Assessments

Overview of Your Results

Mental Health

MORE LIKELY

Psychological Trauma

More likely to have PTSD

MORE LIKELY

Teeth Grinding

More likely to have bruxism

TYPICAL LIKELIHOOD

Obsessive-Compulsive Tendencies

Typical likelihood of OCD

TYPICAL LIKELIHOOD

Schizophrenia

Typical likelihood of schizophrenia

TYPICAL LIKELIHOOD

Tics

Typical likelihood of tic disorders

TYPICAL LIKELIHOOD

Nail Biting

Typical likelihood of biting your nails

TYPICAL LIKELIHOOD

Hair Pulling

Typical likelihood of hair-pulling disorder

LESS LIKELY

Delirium

Less likely to have delirium

LESS LIKELY

Borderline Personality

Less likely to have BPD

LESS LIKELY

Psychosis

Less likely to have psychosis

Mood & Emotions

MORE LIKELY

Low Mood

More likely to have chronically low mood

MORE LIKELY

Bipolar Disorder

More likely to get bipolar disorder

MORE LIKELY

Anger

More likely to feel angry

HIGHER
Irritability
Predisposed to higher irritability

MORE LIKELY
Emotional Blindness
More likely to have alexithymia

TYPICAL LIKELIHOOD
Seasonal Low Mood
Typical likelihood of seasonal affective disorder

TYPICAL LIKELIHOOD
Mania
Typical likelihood of mania

TYPICAL
Aggression
Predisposed to typical aggression

TYPICAL LIKELIHOOD
Guilty Feelings
Typical likelihood of guilty feelings

LESS LIKELY
Anhedonia
Less likely to have anhedonia

Cognitive Problems

TYPICAL LIKELIHOOD
Short-Term Memory Impairment
Typical likelihood of short-term memory impairment

TYPICAL LIKELIHOOD
Dyslexia
Typical likelihood of having dyslexia

TYPICAL
Attention
Typical likelihood of ADHD

TYPICAL LIKELIHOOD
Alzheimer's Disease
Typical likelihood of Alzheimer's disease

TYPICAL LIKELIHOOD
Dementia
Typical likelihood of dementia

TYPICAL LIKELIHOOD
Amnesia
Typical likelihood of amnesia

LESS LIKELY
Cognitive Decline
Less likely to have cognitive decline

LESS LIKELY
Brain Fog
Less likely to have brain fog

LESS LIKELY
Neurodivergence
Less likely to have autism spectrum disorder (ASD)

Stress & Anxiety

MORE LIKELY
Agoraphobia
More likely to have agoraphobia

TYPICAL LIKELIHOOD
Anxiety
Typical likelihood of anxiety

TYPICAL LIKELIHOOD
Social Anxiety
Typical likelihood of social anxiety

TYPICAL LIKELIHOOD
Panic Attacks
Typical likelihood of having panic attacks

TYPICAL LIKELIHOOD
Phobias
Typical likelihood of having a phobia

TYPICAL RESPONSE
Response to Stress (Functional)
Predisposed to typical response to stress

TYPICAL
Nervousness
Likely typical nervousness

TYPICAL LIKELIHOOD
Worrying
Typical likelihood of worrying

TYPICAL LEVELS
Cortisol
Predisposed to typical cortisol levels

LESS LIKELY
Stress
Less likely to feel stressed

LESS LIKELY
Caffeine-Related Anxiety
Less likely to experience caffeine-related anxiety

Cognitive Traits

LOWER
Processing Speed
Predisposed to lower processing speed

TYPICAL
Executive Function
Predisposed to typical executive function

TYPICAL
Memory Performance
Predisposed to typical memory performance

TYPICAL
Cognitive Function
Predisposed to typical cognition

TYPICAL
Reaction Time
Predisposed to typical reaction time

TYPICAL
Episodic Memory
Predisposed to typical episodic memory

TYPICAL
Verbal Ability
Predisposed to a typical verbal ability

TYPICAL ABILITY
Problem Solving
Predisposed to typical problem-solving ability

HIGHER
Creativity
Predisposed to higher creativity

Addictions And Eating Disorders

MORE LIKELY
Tobacco Addiction
More likely to be addicted to tobacco

TYPICAL LIKELIHOOD
Eating Disorders
Typical likelihood of eating disorders

TYPICAL LIKELIHOOD
Alcohol Addiction
Typical likelihood of alcohol addiction

TYPICAL LIKELIHOOD
Cannabis Addiction
Typical likelihood of cannabis addiction

LESS LIKELY
Addiction
Less likely to have addictions

LESS LIKELY
Binge Eating
Less likely to binge eat

Brain Chemicals & Genes

LOWER ACTIVITY
SLC6A4 (Fatigue, Mental Health)
Likely lower SLC6A4 activity

LIKELY S/S
5-HTTLPR (Serotonin)
Likely S/S genotype at 5HTTLPR

WORSE GENETICS
TPH2 (Serotonin)
Likely worse TPH2 genetics

HIGHER ACTIVITY

MAOA (Dopamine/Serotonin)

Likely higher MAOA activity

HIGHER ACTIVITY

MAOB (Dopamine/ Phenylethylamine)

Likely higher MAOB activity

LOWER ACTIVITY

GABA-A

Likely lower GABA-A activity

WORSE

GAD1 (Glutamate/GABA)

Likely worse GAD1 genetics

LOWER ACTIVITY

CRHR2 (Stress/HPA Axis)

Likely lower CRHR2 activity

LOWER ACTIVITY

DRD2 (Dopamine)

Likely lower DRD2 activity

HIGHER ACTIVITY

DRD3 (Dopamine/Energy)

Likely higher DRD3 activity

WORSE GENETICS

NPAS2 (Mood/ Sleep Schedule)

Likely worse NPAS2 genetics

LOWER ACTIVITY

RGS2 (Anxiety)

Likely lower RGS2 activity

SLIGHTLY LOWER LEVELS

BDNF

Slightly lower BDNF levels

LOWER ACTIVITY

ADA (Cognition/Longevity)

Likely lower ADA activity

LOWER ACTIVITY

ENPP6 (Cognition)

Likely lower ENPP6 activity

TYPICAL ACTIVITY

SNAP25 (Mental Health)

Likely typical SNAP25 activity

TYPICAL ACTIVITY

SLC6A2 (Mental Health)

Likely typical SLC6A2 activity

TYPICAL ACTIVITY

OXTR (Oxytocin)

Likely typical OXTR activity

E3/E3

APOE

You carry two APOE ε3 variants

HIGHER LEVELS

Serotonin

Predisposed to higher brain serotonin levels

TYPICAL ACTIVITY

GSK3B (Serotonin)

Likely typical GSK3B activity

TYPICAL ACTIVITY

HTR2A (Serotonin)

Likely typical HTR2A activity

LOWER ACTIVITY

FAAH (Cannabinoids)

Likely lower FAAH activity

TYPICAL ACTIVITY

CNR1 (Cannabinoids)

Likely typical CNR1 activity

TYPICAL ACTIVITY

CRHR1 (Stress/HPA Axis)

Likely typical CRHR1 activity

TYPICAL ACTIVITY

GRIA3 (Sleep/Mood)

Likely typical GRIA3 activity

TYPICAL ACTIVITY

ADORA2A (Anxiety)

Likely typical ADORA2A activity

TYPICAL ACTIVITY

COMT

Likely typical COMT activity

TYPICAL ACTIVITY

NFKBIL1 (Cognition)

Likely typical NFKBIL1 activity

TYPICAL ACTIVITY

TNFSF9 (Cognition)

Likely typical TNFSF9 activity

TYPICAL ACTIVITY

TF (Iron & Cognition)

Predisposed to typical TF activity

HIGHER ACTIVITY

HTR1A (Serotonin)

Likely higher HTR1A activity

LOWER ACTIVITY

FKBP5 (Stress/ HPA Axis)

Likely lower FKBP5 activity

HIGHER ACTIVITY

TUSC3 (Cognition)

Likely higher TUSC3 activity

LOWER ACTIVITY

SOAT1 (Cholesterol/ Cognition)

Likely lower SOAT1 activity

HIGHER ACTIVITY

KIBRA/WWC1 (Cognition)

Likely higher KIBRA/WWC1 activity

Recommendations Overview

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

		DOSAGE
1	Aerobic Exercise (Cardio)	1 hour
2	Cognitive-Behavioral Therapy (CBT)	
3	Psychotherapy	1 hour
4	Yoga	30 minutes
5	Relaxation Techniques	30 minutes
6	Acceptance and Commitment Therapy (ACT)	
7	Meditation	30 minutes
8	Music Therapy	30 minutes
9	Omega-3 (Fish Oil)	2000 mg
10	Art Therapy	1 hour
11	Pet Therapy	30 minutes
12	Mindfulness Meditation	30 minutes
13	Progressive Muscle Relaxation	10 minutes
14	Melatonin	500 mcg
15	Tryptophan	500 mg

Your Results in Details

Mental Health

Mental health disorders encompass a broad spectrum of conditions, from psychological trauma to neurodevelopmental challenges like schizophrenia and borderline personality disorder. Genetics can influence susceptibility to these conditions, affecting neurotransmitter function and brain development.

This section explores the genetic factors that may predispose individuals to eating disorders, panic attacks, phobias, tics, and more. By identifying genetic markers linked to mental health problems, you can better understand your risk and work toward personalized approaches for managing or preventing these conditions.

MORE LIKELY

Psychological Trauma

More likely to have PTSD

MORE LIKELY

Teeth Grinding

More likely to have bruxism

TYPICAL LIKELIHOOD

Obsessive-Compulsive Tendencies

Typical likelihood of OCD

TYPICAL LIKELIHOOD

Schizophrenia

Typical likelihood of schizophrenia

TYPICAL LIKELIHOOD

Tics

Typical likelihood of tic disorders

TYPICAL LIKELIHOOD

Nail Biting

Typical likelihood of biting your nails

TYPICAL LIKELIHOOD

Hair Pulling

Typical likelihood of hair-pulling disorder

LESS LIKELY

Delirium

Less likely to have delirium

LESS LIKELY

Borderline Personality

Less likely to have BPD

LESS LIKELY

Psychosis

Less likely to have psychosis

Psychological Trauma

Key Takeaways:

- Up to **40%** of differences in people's chances of developing PTSD may be due to genetics.
- Risk factors include being female, events that cause fear and/or helplessness, lack of support after trauma, additional stressful events, history of mental health conditions or substance abuse, genetics.
- If you have high genetic risk or symptoms, you may want to take action on your modifiable factors to reduce your overall risk.
- Click the **next steps** tab for relevant labs and lifestyle factors.

Post-traumatic stress disorder (PTSD) is a mental health condition that commonly affects war veterans. **However, anyone who has experienced trauma can develop PTSD** [R, R].

About 1 in 12 people develop PTSD in their lifetime. Women are more prone to PTSD than men [R].

Risk factors for PTSD include [R]:

- Experiencing events that cause extreme fear or helplessness
- Lack of support after traumatic events
- Experiencing additional stressful events after the initial trauma
- A history of mental health conditions or substance abuse

Flashbacks are the classic symptom of PTSD. They cause a person to relive previous trauma. A common trigger is the sound of fireworks, which can remind war veterans of gunfire. Flashbacks can include **physical symptoms, such as sweating and fast heart rate** [R, R].

Other symptoms of PTSD include [R, R]:

- Nightmares or frightening thoughts
- Avoiding places, situations, objects, or thoughts that remind you of the traumatic event
- Being easily startled
- Tension
- Poor or disrupted sleep
- Negative feelings about oneself or the world
- Feelings of guilt

It's normal to experience some of the above symptoms after a traumatic event. **However, it's important to seek professional help if the symptoms last for longer than one month and affect daily activities** [R].

People with PTSD may be at a higher risk of [R]:

- Panic disorder
- Depression
- Substance abuse
- Suicide

Treatment for PTSD usually includes talk therapy and medication [R, R, R].

Up to 40% of differences in people's chances of developing PTSD may be attributed to genetics. Genes involved in PTSD may influence [R, R, R]:

- Dopamine activity (*DRD2*, *PARK2*)
- Serotonin activity (*SLC6A4*)

MORE LIKELY

More likely to have PTSD based on 440,652 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CRHR2	rs2267715	AA
UST	rs10457838	CT
RORA	rs8041061	TG
MAPT	rs12938031	AG
/	rs58649573	CT
RGS2	rs4606	CC
ANKK1	rs1800497	GA
/	rs61793204	AG
TBC1D2	rs7866350	GC
CSMD1	rs2616978	CT
FBLL1	rs10038727	AG
SH2D1B	rs386231	TC
NOS1AP	rs10918936	AA
TNF	rs1800629	GG
C1ORF226	rs12027674	GA
ARHGAP27	rs4792887	CC
BDNF	rs6265	CT
FAAH	rs324420	AC
NOS1	rs10744891	GT
ESR1	rs9340799	AG
KIAA1109	rs45510091	AA

- Brain cell communication (*PODXL*)
- Adrenaline (epinephrine) activity (*ZDHHC14*)

GENE	SNP	GENOTYPE
IL1B	rs16944	GA
TERT	rs2736100	CA
TCF4	rs599550	AA
MLKL	rs62056018	AG
SOX6	rs931774	TC
SERPING1	rs2509805	CT
FAM120AOS	rs10992729	TC
/	rs11933210	TC
ZNF804A	rs62176173	TG
ACE	rs4311	CC
IL6	rs1800795	GG
FAAH	rs2295633	AA
TULP1	rs3800373	AA
DUSP23	rs1130864	GG
PTPN7	rs3100127	CC
PTPN7	rs4511180	GG
POGK	rs2312236	CC
ATP10B	rs17504106	GG
ADRB2	rs2400707	GA
SRR	rs4523957	GG
OXTR	rs53576	GG
UNC13C	rs73419609	AA
TTC12	rs2075652	GG
LRRC4C	rs10768747	GG
PRTFDC1	rs1033962	TT
DUSP23	rs3091244	GG
TRIM27	rs145108206	GG
/	rs1246683	GG
MAPT	rs62056789	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Teeth Grinding

Key Takeaways:

- Genes involved in teeth grinding may influence dopamine and serotonin activity.
- Other risk factors include certain personality types, stress, cigarette/alcohol/caffeine use, and certain medications.
- Teeth grinding is not uncommon, affecting children and young adults more, with about 3 times the rate occurring while sleeping.
- If your genetic risk is high, you may lower your overall risk by taking action on factors that you can change. If you have symptoms, talk to a dentist about appropriate actions to take.

Bruxism is a condition involving excessive teeth grinding. It can happen when people are awake, but more commonly occurs during sleep [R, R].

Many people that have sleep bruxism don't know that they have it! Often, a bed partner may notice that the other person grinds their teeth at night. Alternatively, a dentist may bring it to their attention [R].

Your jaws and teeth are strong - they can exert around 250 lbs (greater than 110 kg) of force! That is why teeth grinding can damage [R]:

- Teeth
- Joints that open and close the mouth
- Jaw muscles

If left untreated, teeth grinding can lead to [R]:

- Damaged, fractured, or loose teeth
- Headaches or earaches
- Tense or painful face muscles
- Pain or clicking in the jaw

Bruxism is usually diagnosed by a dentist. Grinding your teeth leaves wear marks that a dentist can easily identify [R].

If you have bruxism, a dental device like a splint or a mouthguard can help prevent damage to your teeth. Talk to your doctor or dentist about treatment options for bruxism [R, R].

Doctors don't know the exact cause of bruxism. It can happen in any age group and is fairly common in children. Risk factors for teeth grinding include [R, R, R]:

- Certain personality types, such as being very driven or competitive
- Stress
- Cigarette, alcohol, and caffeine use
- Some medications

The risk of bruxism depends partly on genetics. Many people with bruxism have a first-degree relative with the condition. Genes involved in teeth grinding may influence [R, R, R, R, R, R]:

- Dopamine activity
- Serotonin activity

MORE LIKELY

More likely to have bruxism based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
DRD5	rs6283	TT
HTR2A	rs2770304	TC
ANKK1	rs1800497	GA
DRD1	rs686	GA
HTR2A	rs6313	AG
DRD3	rs6280	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Obsessive-Compulsive Tendencies

Key Takeaways:

- OCD is affected by genes impacting impulse control, learning, and decision making.
- OCD is a rare condition, so even if your genetic risk is high, the overall risk is low.
- High levels of stress and/or trauma can be a factor in raising the risk. If you have a high genetic risk, you may want to address these issues if they are relevant.
- Click the **next steps** tab for relevant labs.

People with OCD have recurrent obsessions, which cause anxiety, and compulsions, which are supposed to relieve the anxiety. Many factors may play a role in the development of OCD. These include R, R, R, R, R:

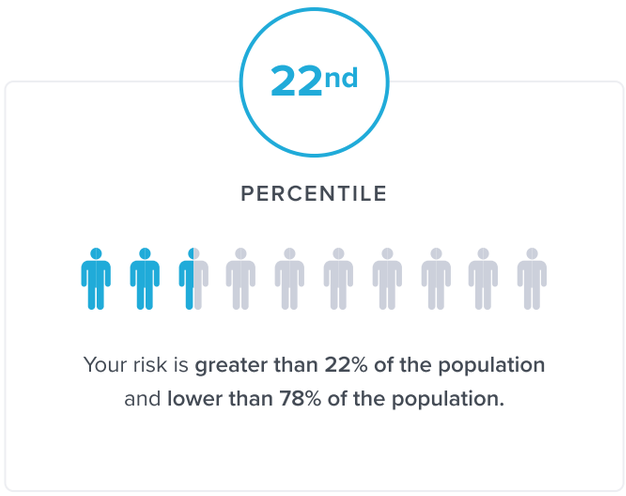
- Stressful or traumatic life events
- **Genetics**

Genes that may play a role in OCD may influence parts of the brain that help people R, R, R, R:

- Learn
- Make decisions
- Control their impulses

TYPICAL LIKELIHOOD

Typical likelihood of OCD based on 4,097 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TCF25	rs4785741	TT
PCDH18	rs11735612	AA
KIF16B	rs6034559	TC
FOXB1	rs8032150	CG
CDH2	rs12605662	AG
FAM76B	rs11021169	GG
CLN5	rs11149058	TT
ANKRD18A	rs10973956	AC
FANCL	rs35881094	TG
TRPC4	rs6563569	TC
SSH2	rs6354	TT
DLC1	rs75216060	AA
DRAXIN	rs12045323	CC
IMPA2	rs2075824	CC
RHOJ	rs59093387	GG
UFL1	rs767619	TT
PTH2R	rs78907274	AA
CCN1	rs72722664	GG
EIF4EBP2	rs9731813	AA
FBXW12	rs17080138	CC
TNF	rs1800629	GG

GENE	SNP	GENOTYPE
LSAMP	rs149183310	AA
ATP9A	rs55797066	TT
ARPP21	rs73070160	CC
ADGRA3	rs61792199	AA
/	rs25531	TT
NECTIN1	rs4271390	CC
TXNL1	rs12959570	AA
CYLC2	rs7848024	GG
CHMP2B	rs4988462	CC
CAMTA1	rs7524258	CC
/	rs859980	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Schizophrenia

About **70-80%** of differences in people's schizophrenia rates may be due to **genetics**! Individuals with a close family member, like a parent or sibling with the disorder, are more likely to develop schizophrenia than those without a family history.

Genetically high fasting insulin and alpha-linolenic acid levels may be causally associated with schizophrenia. In contrast, genetically high levels of omega-3s may be causally associated with a lower risk [R, R, R, R].

Several genes are associated with an increased risk of schizophrenia, but no single gene causes the disorder by itself. It's believed that a complex interplay of genetics and one's environment contributes to the development of the disorder.

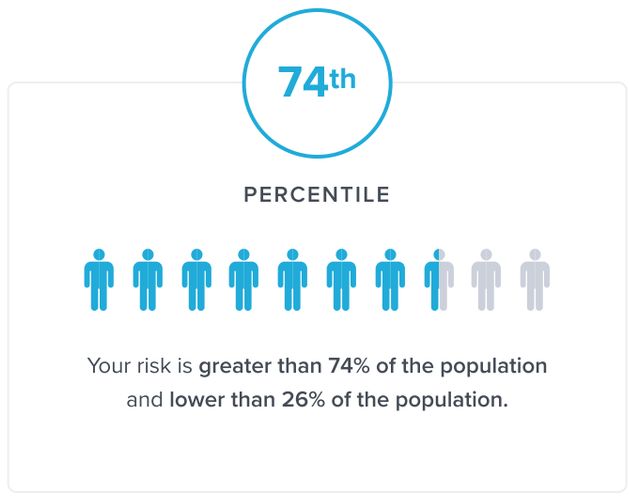
Factors that might increase the risk of developing schizophrenia include:

- Increased immune system activation, such as from inflammation or infections.
- Complications during birth.
- Psychosocial stresses during early adulthood.
- Psychoactive drug use during adolescence.
- Some pregnancy and birth complications, like malnutrition or exposure to viruses.

Please note: This report accounts for only a fraction of schizophrenia's genetic component. Even if your risk is higher, it doesn't mean you are likely to have or develop the condition.

TYPICAL LIKELIHOOD

Typical likelihood of schizophrenia based on 1,033,405 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NRN1	rs4960155	TC
COMT	rs737865	AA
DPYD	rs1702294	CC
PILRB	rs41295924	CC
H4C13	rs140365013	GG
CBLN3	rs146732081	CC
EFCAB6	rs76365544	GG
EDEM3	rs78444298	GG
ELAPOR2	rs137881681	GG
OR4C12	rs139161789	GG
DLC1	rs143092720	GG
RD3	rs117251211	GG
ARSA	rs113706174	CC
SIX3	rs79028395	GG
ZFP69	rs150863806	GG
CCDC85A	rs74759822	TT
STAT6	rs61937595	CC
/	rs9456970	AA
TEF	rs143426938	GG
RBFOX1	rs79478621	TT
CCDC68	rs34751112	AA

GENE	SNP	GENOTYPE
LRRC46	rs11652374	TT
SFXN2	rs12571643	GG
SH3YL1	rs6548238	TC
CCDC68	rs12966547	AG
NAT16	rs1006507	CT
SP3	rs117073909	GG
SPATS2L	rs140001745	TT
RELN	rs62480723	CC
STAT6	rs34073963	GG
REX1BD	rs72999390	GG
ZNF365	rs11596514	TT
ARL5B	rs7893279	TT
TCF4	rs72934602	GG
FTCDNL1	rs76432012	TT
GRM3	rs35274762	TT
ATP5MC3	rs62184532	GG
ACVR2A	rs114664644	GG
FUT9	rs117178087	CC
THAP8	rs3810450	TT
RELN	rs7341475	GA
TDRD3	rs139971826	CG
EPHX2	rs73229090	CA
ANKRD36	rs7575796	AG
COMT	rs4680	GA
NRN1	rs9379002	TT
NRN1	rs3763180	GG
NRN1	rs1475157	AA
GRIN3A	rs149729514	GG
KLF9	rs11142387	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Tics

Risk factors for tic disorders include [R]:

- Genetics: A family history of tic disorders or Tourette syndrome increases the risk.
- Sex: Males are more commonly affected than females.
- Age: Symptoms typically appear in childhood, often around the age of 5-7.
- Other disorders: Associated conditions include ADHD and OCD.

There is a strong genetic component in many tic disorders, particularly Tourette syndrome. The exact genes involved are not yet fully understood, but family studies suggest a hereditary pattern.

There is no known way to prevent tic disorders. However, early intervention can help manage symptoms and reduce the impact on the individual's quality of life. Awareness and understanding of the condition are also crucial to reduce stigma and support those affected.

Similarly, there is no cure for tic disorders. Treatment is aimed at controlling tics that interfere with everyday activities and functioning, and includes [R]:

- Behavioral therapy: Habit reversal training and other behavioral techniques.
- Medications: Neuroleptics, alpha-adrenergic agonists, or other medications may be used to manage severe tics.
- Education and support: Educating the family and patient about the condition and counseling can be beneficial.
- Deep brain stimulation: This technique involves implanting a battery-operated medical device in the brain to deliver electrical stimulation to targeted areas that control movement. It might help in case of severe tics that don't respond to other treatments.

TYPICAL LIKELIHOOD

Typical likelihood of tic disorders based on 463 genetic variants we looked at

28th

PERCENTILE

Your risk is **greater than 28% of the population** and **lower than 72% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
OTUD1	rs191044310	TT
CSMD3	rs117648881	GG
FAM76B	rs11021169	GG
/	rs9393366	AA
POLR3B	rs6539267	TT
XYLT1	rs74772983	AA
CLN5	rs11149058	TT
TSPYL5	rs117780640	CC
AGA	rs4047771	AA
TSHR	rs66489957	TT
CYLC2	rs10990268	TC
LMO3	rs10846381	TT
TMEM200B	rs6670211	CC
CCDC66	rs6445765	CC
SGPP2	rs1865896	GG
CD276	rs4886520	CC
ANKRD18A	rs10973956	AC
RUNX1T1	rs72673503	GA
TRPC4	rs6563569	TC
FANCL	rs35881094	TG
MPHOSPH9	rs1619561	GC

GENE	SNP	GENOTYPE
ZFYVE28	rs73205493	TC
/	rs1906252	AC
FANCL	rs2708146	GA
PHEX	rs5951698	A
RBMS1	rs13407215	CC
NMRK1	rs72734943	GG
TENM2	rs147208935	CC
NARS2	rs17137210	TT
MUC16	rs150975336	CC
LSAMP	rs149183310	AA
SAXO2	rs66904072	AA
ATP9A	rs55797066	TT
COL27A1	rs7868992	AA
ARPP21	rs73070160	CC
TMEM106B	rs769111	GG
ADGRA3	rs61792199	AA
PICALM	rs621942	CC
NECTIN1	rs4271390	CC
TXNL1	rs12959570	AA
CYLC2	rs7848024	GG
FPR3	rs12459560	GG
CHMP2B	rs4988462	CC
CAMTA1	rs7524258	CC
/	rs859980	TT
FLT3	rs2504235	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Nail Biting

Risk factors for nail biting include:

- Stress and anxiety, since nail biting is often a stress-relieving or self-soothing habit.
- Boredom or idle hands: Some people may bite their nails simply out of habit when they have nothing else to do with their hands.
- Imitation: Children may pick up nail biting from observing parents or siblings who do it.
- Other mental health disorders: Conditions like ADHD, OCD, or other BFRBs may be associated with nail biting.

Genetics may play a role in the propensity to develop BFRBs like nail biting, especially if there is a family history of similar behaviors. For instance, a variant of the *DLGAP3* gene has been linked to nail biting. However, environmental factors are also significant contributors [R].

The condition can be managed with the following strategies:

- Behavioral therapy: Techniques such as habit reversal training can be effective.
- Bitter-tasting nail polishes: Designed to deter nail biting.
- Stress management: Addressing underlying stress or anxiety through relaxation techniques, exercise, or other stress-relief activities.
- Mindfulness and awareness training: Becoming more aware of the habit and developing strategies to stop.
- Occupying the hands: Keeping hands busy with other activities or objects can help.

TYPICAL LIKELIHOOD

Typical likelihood of biting your nails based on the genetic variants we looked at

44%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **44% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SFPQ	rs4653109	GA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Hair Pulling

Risk factors for hair-pulling disorder include [R]:

- Age: Often develops during preadolescence or young adulthood, though it can begin at any age.
- Family history: Those with a family member who has hair-pulling disorder are more likely to develop it.
- Other mental health disorders: Anxiety, depression, and OCD may be associated with hair-pulling disorder.
- Stress: Periods of high stress or emotional trauma can trigger the condition.

While the exact cause of trichotillomania is unclear, genetics likely plays a role. It's not uncommon for individuals with hair-pulling disorder to have a close family member with the same or a similar disorder, suggesting a hereditary predisposition.

Types of therapy that may be helpful for hair-pulling disorder include [R]:

- Cognitive-behavioral therapy (CBT), particularly habit reversal training, is a mainstay in treatment.
- Medications such as SSRIs may be helpful in some cases, but their effectiveness varies.
- Stress-management techniques like meditation, yoga, or exercise may reduce the urge to pull hair.
- Support groups can provide empathy, understanding, and coping strategies.

TYPICAL LIKELIHOOD

Typical likelihood of hair-pulling disorder based on 3 genetic variants we looked at

74th

PERCENTILE

Your risk is **greater than 74% of the population** and **lower than 26% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SMIM12	rs6662980	AG
DLGAP3	rs4652869	GT
HTR2A	rs6313	AG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Delirium

Symptoms of delirium are diverse and can include memory deficits, disorientation, language disturbance, and disturbances in the sleep-wake cycle. These symptoms typically fluctuate over the course of the day, with periods of lucidity followed by increased confusion.

Delirium is not only distressing for the patient but also for caregivers and family members, necessitating a careful multi-disciplinary approach for its management and treatment. Prompt recognition of delirium is critical, as it may be the only outward sign of a potentially life-threatening underlying condition.

LESS LIKELY

Less likely to have delirium based on 1,673 genetic variants we looked at

Borderline Personality

Factors that might increase the risk of developing BPD include:

- Childhood abandonment, neglect, or abuse
- A family history of BPD or other mental health disorders
- Brain abnormalities, particularly in regions related to emotion regulation, impulsivity, and aggression
- Neurochemical imbalances in the brain
- Genetics

There is evidence suggesting that genetics plays a role in BPD development. Having a close family member, such as a parent or sibling, with the disorder can increase the risk of developing BPD. Research has indicated that certain genetic variants might be linked to BPD, affecting how the brain regulates emotions and impulsivity.

LESS LIKELY

Less likely to have BPD based on 243,226 genetic variants we looked at

1st

PERCENTILE

Your risk is **greater than 1% of the population** and **lower than 99% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
/	rs150592717	TT
DPYD	rs187785463	GG
MYCN	rs57726666	AA
SKP2	rs34416917	GG
SYT1	rs11110253	AA
FAM155A	rs9520569	TT
TRDN	rs2145737	TT
SNX9	rs6922614	TC
GAP43	rs283386	AG
MAML3	rs13136239	GA
GAS1	rs7859734	TC
DPRX	rs8104156	GT
METTL21C	rs675828	GA
TWIST1	rs114497090	GG
/	rs115689122	TT
/	rs62127626	CC
GDF6	rs11784341	CC
CLEC4C	rs113507694	AA
/	rs187058036	TT
FOXK1	rs6975373	CC
EME1	rs1985762	CC

GENE	SNP	GENOTYPE
TSPAN14	rs7074356	GG
/	rs76695126	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Psychosis

The exact cause of psychosis isn't known, but a combination of genetic, physical, psychological, and environmental factors can contribute:

- Genetics: A family history of psychotic disorders increases the risk.
- Brain chemistry and structure: Alterations in brain chemistry, particularly involving neurotransmitters like dopamine and serotonin, and structural changes in the brain have been linked to psychosis.
- Substance use: Abuse of substances such as marijuana, LSD, amphetamines, and alcohol can trigger psychosis.
- Trauma: Severe stress or traumatic events, especially during early childhood, can precipitate the onset of psychotic disorders.
- Physical illness or injury: Certain conditions like brain tumors, brain infections, stroke, and Alzheimer’s disease can cause psychosis.

Treatment for psychosis may include:

- Medication: Antipsychotic drugs are the cornerstone of treatment, helping to manage symptoms by affecting brain neurotransmitters.
- Psychotherapy: Cognitive-behavioral therapy (CBT) and other forms of therapy can help manage and interpret reality.
- Hospitalization: In severe cases, hospitalization may be necessary to ensure safety, proper nutrition, and sleep, and to stabilize the condition.
- Supportive services: Social and vocational training to help those with psychosis live more independently.

Early intervention and treatment are crucial for improving the prognosis of psychotic disorders, potentially allowing individuals to lead fulfilling and productive lives. Ongoing research continues to expand the understanding of psychosis, leading to more effective treatments and supportive approaches.

LESS LIKELY

Less likely to have psychosis based on 18,099 genetic variants we looked at

1st

PERCENTILE

Your risk is **greater than 1% of the population** and **lower than 99% of the population.**

Mood & Emotions

Mood and emotional disorders, ranging from mild irritability to severe depression, can impact daily life and well-being. Genetics plays a significant role in how individuals experience and regulate emotions, with certain genes affecting mood stability, anxiety levels, and responses to stress.

This section delves into genetic predispositions for conditions such as low mood, anxiety, and even anger. By understanding how your genetics may influence your emotional health, you can take proactive steps to manage your mood and enhance emotional resilience.

MORE LIKELY

Low Mood

More likely to have chronically low mood

MORE LIKELY

Bipolar Disorder

More likely to get bipolar disorder

MORE LIKELY

Anger

More likely to feel angry

HIGHER

Irritability

Predisposed to higher irritability

MORE LIKELY

Emotional Blindness

More likely to have alexithymia

TYPICAL LIKELIHOOD

Seasonal Low Mood

Typical likelihood of seasonal affective disorder

TYPICAL LIKELIHOOD

Mania

Typical likelihood of mania

TYPICAL

Aggression

Predisposed to typical aggression

TYPICAL LIKELIHOOD

Guilty Feelings

Typical likelihood of guilty feelings

LESS LIKELY

Anhedonia

Less likely to have anhedonia

Low Mood

Key Takeaways:

- About 40% of differences in people's odds of developing depression may be due to genetics.
- It is more likely for young adults and the elderly but can affect people of all ages.
- Other risk factors include traumatic and stressful events, serious medical conditions, and substance use problems.
- If you have high genetic risk, you may want to consider optimizing your stress management.
- Click the **next steps** tab for relevant labs and lifestyle factors.

Depression is more than just a low mood. People with depression tend to have [R]:

- Low motivation
- Problems with concentration
- Changes in appetite
- Poor sleep quality
- Aches and pains
- Thoughts of self-harm or suicide

If any of these symptoms resonate with you, you can work with your doctor to improve them. **Psychotherapy and medication are the most effective treatments for depression.** Strategies such as exercise may also boost your mood [R, R].

The strategies most likely to work for you may depend on your genetics. This is because genetic factors account for roughly 40% of differences in depression [R].

Gene variants linked to this condition may cause [R, R, R, R]:

- An exaggerated stress response (*CRHR1*, *COMT*)
- Low levels or activity of brain chemicals (*COMT*, *OPRM1*, *SLC6A4*, *DRD2*)
- Impaired brain function (*BDNF*, *VRK2*)
- Inflammation (*IL6*, *VRK2*)
- Sleep disturbances (*CLOCK*, *TIMELESS*)

Genetically high white blood cell count and testosterone and low DHA may be causally associated with a higher risk of depression. Moreover, depression may also lead to increased white blood cells [R, R, R].

It's important to note that **genetics is only one piece of the puzzle.** Other risk factors for depression include [R]:

- Stressful or traumatic events
- Serious medical conditions, such as cancer
- Heavy drug and alcohol use

MORE LIKELY

More likely to have chronically low mood based on 84,172 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MTHFR	rs1801133	AA
NEGR1	rs1993709	GG
MICB	rs1150757	GG
MEF2C	rs409645	GG
TCF4	rs1452787	GA
TTC12	rs1554929	CC
NOX4	rs10047486	AA
ZCCHC7	rs6476606	GG
FKBP4	rs2302729	CC
RNF180	rs878567	GG
TULP1	rs9296158	GG
FAM53B	rs35936514	CC
ANKK1	rs1800497	GA
OXTR	rs2254298	AG
TERT	rs2736100	CA
SH3YL1	rs6548238	TC
FAAH	rs324420	AC
TPH1	rs1799913	TG
PUM3	rs7044150	CT
MAOA	rs909525	C
TTC12	rs2283265	CA

GENE	SNP	GENOTYPE
CES1	rs1566652	TG
TTC12	rs1079727	TC
TTC12	rs1079597	CT
TTC12	rs1076560	CA
ANK3	rs10761482	CT
CRHR2	rs3779250	TC
CNR1	rs806371	TT
CNR1	rs1049353	TT
SLC25A21	rs17105696	AA
PTPRR	rs4760933	AA
UGT2B4	rs6832167	AA
ARNTL	rs7107287	TT
CHRM2	rs1824024	CC
ATG9A	rs7596956	TT
HCN4	rs12905211	TT
TMEM263	rs10861683	TA
BHLHE40	rs9311395	AA
TPH2	rs1843809	TT
CHRM2	rs2061174	GG
EHD3	rs590557	GA
CNIH4	rs11579964	CC
GNB3	rs5443	CT
VPS8	rs7647854	GG
VGLL4	rs6781822	TC
GYPE	rs7676614	AG
CHST11	rs1344677	CT
PHACTR3	rs8122984	GA
UGGT2	rs17767562	CT
LHFPL2	rs12651937	TC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Bipolar Disorder

Key Takeaways:

- Up to **80%** of differences in people's chances of developing bipolar disorder may be due to genetics.
- Risk factors: being female, childhood bullying, excessive social media use, stressful events, and alcohol/drug abuse.
- If you have high genetic risk or symptoms, you may want to take action on modifiable risk factors to reduce your overall risk.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and **next steps** for relevant labs.

Anger, sadness, and joy are everyday human experiences. It's normal to feel a wide range of emotions. **However, some people experience extreme changes in emotions that interfere with their lives.** These are called **mood swings**, and they can be a symptom of a deeper problem.
One cause of mood swings is bipolar disorder. This condition causes mood changes that are severe enough to affect daily life. It can also cause shifts in energy, focus, and ability to perform basic tasks [R, R, R].
People with bipolar disorder have periods of high energy and good mood followed by periods of low energy and poor mood. **These 'up' periods are called *manic* episodes, and the 'down' periods are called *depressive* episodes. Some people experience less extreme highs called *hypomanic* episodes** [R, R].
Other conditions that can cause mood swings include [R, R, R]:

- Personality disorders (e.g., borderline personality disorder)
- Premenstrual syndrome (PMS)

About **2-3%** of people may develop some form of bipolar disorder during their lifetime. Most people develop it as teens or young adults [R].
Women are more likely to develop bipolar disorder than men.
Other risk factors include [R, R]:

- Childhood bullying
- Excessive social media use
- Stressful or traumatic events
- Alcohol or drug abuse
- **Genetics**

Bipolar disorder can have negative effects on a person's life. It can increase the risk of [R, R]:

- Alcohol or drug abuse
- Other health conditions (e.g., obesity, heart disease, or diabetes)
- Self-harm
- Relationship problems
- Financial issues
- Poor performance at work or school

It is important to work with your doctor and find appropriate ways to manage bipolar disorder. Management options include [R]:

- Medication
- Talk therapy
- Lifestyle changes, such as regular exercise
- Brain stimulation therapies

People with untreated mood disorders are considerably more likely to harm themselves and even die by suicide. If you are diagnosed with a mood disorder, it is essential to follow your doctor's treatment plan [R].
About 80% of differences in people's chances of developing bipolar disorder may be attributed to genetics. Genes involved

MORE LIKELY

More likely to get bipolar disorder based on 1,044,121 genetic variants we looked at

75th

PERCENTILE

Your risk is **greater than 75% of the population** and **lower than 25% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NRN1	rs4960155	TC
DUSP28	rs2953145	CC
DCTN5	rs420259	AA
PSAPL1	rs7683874	AG
THRA	rs2314339	CC
HES6	rs2304672	GG
ARVCF	rs165599	GA
BCR	rs131690	GG
CMTM8	rs4276227	CC
BCR	rs131702	GG
TDRD9	rs11622475	CC
WHRN	rs10982256	TT
SH2B3	rs3847953	CC
MAPK1	rs8136867	AA
TPH2	rs17110747	GG
THRA	rs2071427	CC
CDC25B	rs3761218	TT
POU3F3	rs7570682	AG
HES6	rs2304669	TT
THRA	rs939348	CC
DPP10	rs1375144	AG

in bipolar disorder may influence [R, R, R]:

- Brain activity (*DAOA*, *BDNF*, *CACNA1C*, *SCN2A*)
- Nerve inflammation (*CD47*)
- Serotonin levels (*SLC6A4*)

Genetically high levels of omega-3s may be causally associated with a lower risk of mood swings [R].

GENE	SNP	GENOTYPE
TPH2	rs1843809	TT
THRA	rs2269457	TT
PPARGC1B	rs7732671	CG
CHD9	rs1344484	CT
TRIB2	rs4027132	GA
SDCCAG8	rs6703335	AG
CHRNA7	rs6494223	TC
BICRAL	rs6458307	TC
NT5C2	rs11191580	TC
CLOCK	rs12504300	CG
NFIA	rs7556462	TC
CCDC198	rs10134944	TC
CLOCK	rs3805148	CA
CLOCK	rs4864542	GC
NFKB1	rs230529	TC
NPAS2	rs1562313	TC
MANBA	rs230535	AC
ZNF804A	rs1344706	CA
CLOCK	rs12648271	CG
/	rs145410455	GG
SPPL3	rs58235352	GG
SORCS3	rs61867293	CC
MYH15	rs1531188	CC
PLXNB2	rs113872034	GG
EIF3M	rs143864773	TT
OLFM4	rs12552	AA
SOX6	rs977509	CC
RARRES1	rs7430565	GG
EFNA5	rs55993664	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Anger

Up to **20%** of the differences in anger may be due to **genetics** [R].

People with certain genetic markers may be predisposed to aggressive behaviors or heightened anger responses. However, genes alone don't dictate behavior. The following factors also play significant roles in how anger is expressed and managed:

- Chronic stress
- A family environment where anger was expressed violently or aggressively
- Past trauma or abuse.
- Chronic pain or certain medical conditions.
- Certain mental health disorders (e.g., depression, ADHD, or borderline personality disorder)
- Substance misuse (alcohol or illegal) drugs

MORE LIKELY

More likely to feel angry based on 14 genetic variants we looked at

PERCENTILE

Your risk is **greater than 90% of the population** and **lower than 10% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PLEK	rs7578047	AA
/	rs6834498	CC
E2F3	rs555017	AA
TRIM31	rs2844775	GG
CSE1L	rs6012564	GG
UQCRFS1	rs8102754	TT
DPY19L1	rs6954895	TC
QSER1	rs16924133	AA
ABAT	rs1299926	AA
GREM2	rs16840114	AA
FYN	rs2148710	CC
PNLIP	rs12249434	CC
PHEX	rs3752433	C
IYD	rs670292	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Irritability

Everyone gets angry or upset from time to time. However, some people have more of a temper than others. *Irritability* is a tendency to get angry or lose your temper [R].

Personality is affected by both the environment and our DNA. Up to 60% of differences in irritability may be due to genetics. It's no surprise that most "personality genes" affect the way the brain works [R, R, R, R].

If you struggle with a short temper, consider talking to a therapist. The best ways to control irritability are to reduce stress and try anger management techniques [R].

HIGHER

Predisposed to higher irritability based on 529,010 genetic variants we looked at

94th

PERCENTILE

Your risk is **greater than 94% of the population** and **lower than 6% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CAMKMT	rs343949	AA
DPYD	rs4411173	AA
/	rs10905638	GC
TCF4	rs4570961	CT
AMT	rs4499638	GC
SIM1	rs9403716	AG
MSRA	rs17151565	GC
LRP12	rs4734804	AG
BBX	rs507078	TG
DPYS	rs2959025	AG
ARVCF	rs9332377	TC
CRHR1	rs2106785	CC
CRHR1	rs62055701	GG
CFAP77	rs999483	TT
MAPT	rs17650842	AA
PLEKHM1	rs62065453	CC
MEF2C	rs1422192	GG
KANSL1	rs17661015	TT
WNT3	rs70600	CC
NCOA6	rs62211616	GG
MAP1LC3A	rs6087607	GG

GENE	SNP	GENOTYPE
FOXP2	rs6969188	GG
/	rs631140	GG
NCOA6	rs7265992	GG
SIX3	rs4953152	GG
AUTS2	rs13223152	GG
ASIP	rs62212173	CC
CADM2	rs6549048	GG
ICOS	rs6711058	GG
TEF	rs4820434	GG
LYRM9	rs9630740	GG
/	rs17592462	CC
MMP16	rs16884419	GG
PANK4	rs7535528	GG
/	rs58446129	CC
/	rs1158960	CC
/	rs10905619	GG
ERCC4	rs4781534	GG
/	rs12886000	GG
TCF4	rs28758902	CC
CELF4	rs2217127	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Emotional Blindness

Up to 13% of the population may experience alexithymia, with the condition being more common in males than females [R].

Alexithymia is commonly observed in various psychiatric disorders such as autism spectrum disorder (ASD), post-traumatic stess disorder (PTSD), or certain personality disorders. It can also be present in depression, anxiety disroders, or eating disorders.

Other risk factors for alexithymia include:

- Brain damage to a region called *insula*
- History of childhood trauma
- Advancing age
- Low level of education
- Low socioeconomic status
- Low emotional intelligence

Research on twins indicates that there is a genetic component to alexithymia. People are more likely to have alexithymia if a close relative also has it [R].

The condition is typically diagnosed through self-report questionnaires and clinical interviews. It's important for healthcare professionals to distinguish between alexithymia and conditions with similar symptoms, such as ASD and depression.

Understanding and managing alexithymia involves recognizing the unique challenges it presents and developing strategies to enhance emotional awareness and expression. Collaboration with mental health professionals can provide valuable support for individuals with alexithymia. Management strategies typically include:

- Therapy: Psychological therapies, particularly those focusing on emotional regulation and recognition.
- Mindfulness and emotional awareness exercises: Practices that encourage individuals to focus on their internal emotional state.
- Communication skills training: Helping individuals articulate their emotions more effectively.

MORE LIKELY

More likely to have alexithymia based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
RNF180	rs6295	GG
BDNF	rs6265	CT
COMT	rs4680	GA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Seasonal Low Mood

Seasonal affective disorder (SAD) is a type of depression that occurs seasonally, usually during the fall and winter months when there is less sunlight.

Genetics may account for about **30%** of the differences in people's seasonality, including mood changes. Genes involved in SAD may influence the body's internal clock and serotonin levels [R, R].

Other risk factors include [R]:

- Family history
- Living at higher latitudes
- Low vitamin D levels

In some people with **depression and bipolar disorder**, symptoms tend to worsen seasonally [R].

TYPICAL LIKELIHOOD

Typical likelihood of seasonal affective disorder based on 90 genetic variants we looked at

67th

PERCENTILE

Your risk is **greater than 67% of the population** and **lower than 33% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PTGER3	rs113067418	CC
MYO16	rs9559377	AA
/	rs379533	CC
PSAP	rs61852182	CC
DGKB	rs190675597	GA
CAMKMT	rs17498753	AA
POLR2M	rs1808478	TC
MAP3K1	rs3936510	TG
HLCS	rs2835490	TT
HLCS	rs2835475	TT
HLCS	rs12151959	AA
MYO16	rs9555488	TC
TJP2	rs2498436	GA
SDC1	rs1131351	GC
ERAP2	rs31019	CT
TJP2	rs7870657	GA
NPAS2	rs11894671	GG
ZBTB20	rs17756220	GA
RPL31	rs6738097	CT
RPL31	rs12622050	AG
NPAS2	rs1562313	TC

GENE	SNP	GENOTYPE
NPAS2	rs2305159	CA
NPAS2	rs1542179	GA
MPHOSPH6	rs7190761	AG
CLOCK	rs1801260	AG
ARNTL	rs7107287	TT
TARS1	rs55685444	CG
RPL31	rs2278722	GA
DNAJB4	rs1323097	TC
NRDE2	rs4904644	AG
DNAJB4	rs2351912	TA
DNAJB4	rs2181453	TC
FGGY	rs835365	CT
NRDE2	rs4900029	AT
GSTM3	rs3754450	TC
NRDE2	rs2184281	AG
GSTM3	rs11101980	TG
PSMC1	rs9743577	GT
PSMC1	rs7153255	AG
NRDE2	rs2183189	GA
NRDE2	rs2104704	AG
NRDE2	rs12889902	TC
RORB	rs1327836	GT
MTERF2	rs2287161	CG
PER2	rs934945	CT
OPN4	rs2014084	CT
SRD5A3	rs11932595	AG
OPN4	rs1079610	CT
BTBD10	rs2278749	CT
MYC	rs13257657	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Mania

Risk factors for mania include:

- Bipolar disorder
- Family history
- Stress
- Drug use
- Sleep deprivation

Treating mania typically involves a combination of medication, psychotherapy, and lifestyle adjustments. Mood stabilizers such as lithium, anticonvulsants like valproate or carbamazepine, and atypical antipsychotics are often prescribed to manage manic episodes and prevent their recurrence. Psychotherapy, particularly cognitive-behavioral therapy (CBT) or psychoeducation, can help individuals recognize triggers, develop coping strategies, and improve insight into their condition. In acute situations, hospitalization may be necessary for safety and stabilization.

Additionally, maintaining a regular sleep schedule, avoiding drugs and alcohol, and reducing stress through relaxation techniques or mindfulness practices can complement medical treatment in managing manic symptoms.

TYPICAL LIKELIHOOD

Typical likelihood of mania based on 12,980 genetic variants we looked at

29th

PERCENTILE

Your risk is **greater than 29% of the population** and **lower than 71% of the population.**

Aggression

Aggression is the instinct that drives humans and animals to anger and violence. It is helpful for animals in the wild to protect themselves or to hunt. A bit of aggression may be beneficial in humas as well, but it generally causes major problems if not controlled [R].

About 50% of differences in aggression may be due to genetics. Genes that impact aggression may influence [R, R, R]:

- Reward signals
- The fight or flight response

If you struggle with a short temper, consider talking to a therapist. The best ways to control aggression are to reduce stress and try anger management techniques [R].

TYPICAL

Predisposed to typical aggression based on 2,788 genetic variants we looked at

45th

PERCENTILE

Your risk is **greater than 45% of the population** and **lower than 55% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
QSER1	rs16924133	AA
TRIM31	rs2844775	GG
CSE1L	rs6012564	GG
ABAT	rs1299926	AA
GREM2	rs16840114	AA
PLEK	rs7578047	AA
FYN	rs2148710	CC
PNLIP	rs12249434	CC
DPY19L1	rs6954895	TC
/	rs6834498	CC
E2F3	rs555017	AA
PHEX	rs3752433	C
IYD	rs670292	GG
UQCRFS1	rs8102754	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Guilty Feelings

Guilt arises **when you think you have done something wrong.** It often motivates us to repair damages and make amends, promoting **prosocial behavior** [R, R, R, R, R].

Genes that have been linked to guilty feelings tend to **affect brain function** (e.g. *BDNF, MAOA*) [R, R].

A lack of guilt can be related to psychopathic traits and antisocial personality disorder. Excessive guilt, on the other hand, has been linked to conditions such as depression, anxiety, and compulsive behaviors [R, R, R, R, R].

Treatment for excessive guilt may include therapy to dissect the root causes of guilt and **cognitive behavioral techniques** to reframe the thought processes and alleviate the detrimental effects of guilt on the overall quality of life [R, R].

TYPICAL LIKELIHOOD

Typical likelihood of guilty feelings based on 7,287,400 genetic variants we looked at

42nd

PERCENTILE

Your risk is **greater than 42% of the population** and **lower than 58% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ARNTL	rs55769038	GG
ELAVL2	rs10119773	GG
H3C12	rs200988	TT
DRD2	rs12420205	TT
H3C12	rs9366697	TT
BTN3A2	rs9467707	GG
SLC17A1	rs9461218	GG
TTC12	rs10789942	AA
H4C13	rs149949	TT
ZSCAN9	rs6910838	CC
ZKSCAN4	rs1736904	GG
H2BC5	rs34961555	CC
TRIM39-RPP21	rs6986	GC
KLHL29	rs34657012	CA
GRIK3	rs681875	AC
CNTNAP5	rs780024	TA
UBXN2A	rs56343114	CC
UBXN2A	rs7569424	AA
UBXN2A	rs12616250	TT
HACE1	rs12528131	AA
CELF4	rs1557339	AA

GENE	SNP	GENOTYPE
CRHR1	rs77804065	CC
KANSL1	rs62062288	GG
KANSL1	rs4471723	CC
PRKCA	rs2109648	GG
ASTN2	rs35623509	GG
TLR4	rs524440	GG
WNT3	rs199525	TT
LRRC37A	rs2696532	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Anhedonia

Factors that might increase the risk of experiencing anhedonia include:

- Having a mood disorder, like depression or bipolar disorder.
- Chronic stress or exposure to traumatic events.
- Neurochemical imbalances in the brain.
- Chronic physical illnesses, such as Parkinson's disease or multiple sclerosis.
- Substance abuse or withdrawal from substances like alcohol or drugs.
- Genetics

Anhedonia and other depressive symptoms tend to run in families, indicating a potential genetic predisposition. Specific genes related to neurotransmitter function, especially dopamine and serotonin, might influence an individual's risk for developing anhedonia.

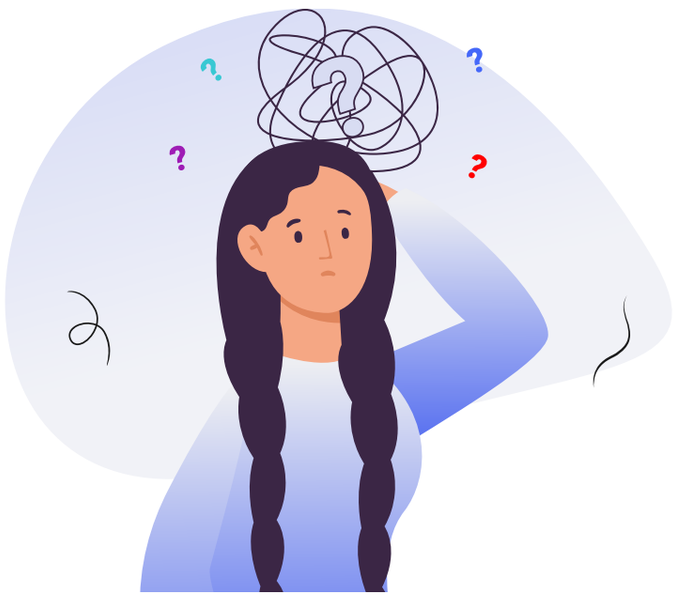
LESS LIKELY

Less likely to have anhedonia based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LRRC4C	rs140920627	CC
ESRRG	rs12042302	TT
EVI5L	rs2335859	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.



Cognitive Problems

Oh, look! It's a squirrel! Wait, what are we even doing in the park? **Sometimes it can be difficult to focus as distractions are our reality**. Focus can be further impaired by the fuzziness of brain fog.

What seems like minor disruptions to everyday life can become significant problems over time. **This section looks at your predispositions toward various cognitive problems**.

TYPICAL LIKELIHOOD

Short-Term Memory Impairment

Typical likelihood of short-term memory impairment

TYPICAL LIKELIHOOD

Dyslexia

Typical likelihood of having dyslexia

TYPICAL

Attention

Typical likelihood of ADHD

TYPICAL LIKELIHOOD

Alzheimer's Disease

Typical likelihood of Alzheimer's disease

TYPICAL LIKELIHOOD

Dementia

Typical likelihood of dementia

TYPICAL LIKELIHOOD

Amnesia

Typical likelihood of amnesia

LESS LIKELY

Cognitive Decline

Less likely to have cognitive decline

LESS LIKELY

Brain Fog

Less likely to have brain fog

LESS LIKELY

Neurodivergence

Less likely to have autism spectrum disorder (ASD)

Short-Term Memory Impairment

Key Takeaways:

- About **40%** of differences in people's short-term memory may be due to genetics.
- Other risk factors include poor sleep quality, lack of physical activity, stress, mental health disorders, and medical conditions affecting the brain.
- Loss of short-term memory is rare under the age of 50, but becomes more common with age beyond 60 years.
- If your genetic risk is high, your overall risk is going to still be low before age 50. If you are older, you may want to take action now on those factors you can change.
- Click the **next steps** tab for relevant lifestyle assessments.

Short-term memory refers to the retention of information pieces (memory chunks) for **up to 30 seconds.**
Memory is a part of cognitive function, which has a **strong genetic component**. About **40%** of differences in people's short-term memory may be due to genetics. Involved genes may affect [R, R, R]:

- Brain development
- Brain chemicals
- Blood vessel health

Keep in mind that lifestyle factors such as **sleep quality and physical activity** also have a significant impact on memory and other aspects of cognition. In other words, there are things you can do to boost your memory regardless of genetic predisposition [R, R, R, R].
It's important to note that **short-term memory loss** can be a symptom of a serious underlying condition such as dementia or Alzheimer's disease. It's best to consult a doctor if you have concerns about your memory.

TYPICAL LIKELIHOOD

Typical likelihood of short-term memory impairment based on 1,038,899 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOE	rs4420638	AA
NECTIN2	rs6857	CC
NECTIN2	rs2075650	AA
NECTIN2	rs157582	CC
PCDH20	rs9528369	CC
PCDH20	rs9528371	CC
PCDH20	rs9528370	GG
PCDH20	rs9539264	GG
PCDH20	rs9528377	CC
PCDH20	rs7319943	AA
PCDH20	rs2323486	TT
PCDH20	rs9528358	GG
PCDH20	rs11148561	AA
PCDH20	rs6562198	CC
PCDH20	rs7999738	TT
PCDH20	rs7987424	CC
PCDH20	rs1417468	AA
PCDH20	rs947025	GG
PCDH20	rs11619219	AA
PCDH20	rs7317350	GG
PCDH20	rs9539276	GG
PCDH20	rs9539274	CC
PCDH20	rs1417467	CC
PCDH20	rs1340808	TT
PCDH20	rs4886361	AA
PCDH20	rs4886360	GG
PCDH20	rs4886359	GG
PCDH20	rs9539278	GG

GENE	SNP	GENOTYPE
PCDH20	rs4884391	GG
PCDH20	rs9539273	AA
PCDH20	rs7319561	AA
PCDH20	rs9528383	AA
PCDH20	rs1417465	CC
PCDH20	rs9539246	CC
PCDH20	rs7324265	TT
PCDH20	rs6562204	TT
PCDH20	rs1538918	CC
PCDH20	rs2875068	AA
PCDH20	rs9528373	CC
PCDH20	rs7985087	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Dyslexia

Dyslexia is a learning disorder affecting reading skills. It involves issues with identifying speech sounds and learning how they relate to letters and words (decoding).

About **40-60%** of the differences in dyslexia may be due to genetics. Involved variants may play a role in brain function and development. They may also be linked to other conditions, including [R]:

- Bipolar disorder
- ADHD
- Schizophrenia

A **family history** of dyslexia and other reading difficulties is a major risk factor. Factors like **poor support and care** for a child with dyslexia may greatly contribute to its complications [R].

TYPICAL LIKELIHOOD

Typical likelihood of having dyslexia based on 176 genetic variants we looked at

42nd

PERCENTILE

Your risk is **greater than 42% of the population** and **lower than 58% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
POM121	rs77059784	GG
KAT2B	rs17805117	TT
C1ORF87	rs12737449	GG
/	rs75197892	GG
GSDMB	rs12453682	TT
/	rs11600333	GG
LRRC37A	rs12150530	TT
RNF144B	rs2064081	GG
SH2B3	rs7310615	GG
GNAQ	rs10869969	CC
FHIT	rs1026989	TT
UNC119B	rs4767921	GG
SETDB2	rs7328782	TT
STMND1	rs2876430	TT
PCCB	rs13082684	GA
/	rs906549	TC
BCL11B	rs7160112	AT
NRXN1	rs6749530	TC
SGCD	rs867009	AG
ADGRL2	rs564753333	TT
PDE4D	rs114353145	AA

GENE	SNP	GENOTYPE
UNC5D	rs117723510	GG
FUT10	rs79445414	TT
/	rs115653413	CC
AUTS2	rs3735260	AA
NFIB	rs12555752	GG
B3GAT1	rs77867811	AA
TTC14	rs7625418	AA
BABAM2	rs1969131	CC
/	rs719166	AA
/	rs57431669	CC
MITF	rs13097431	CC
SMARCA2	rs10964508	AA
CCDC171	rs3122702	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Attention

Key Takeaways:

- Up to **80%** of differences in people's chances of developing ADHD may be due to genetics.
- About **6.4 million** American children aged 4-17 have ADHD, along with **4% of adults**.
- Risk factors include: smoking, drug or alcohol use during pregnancy, toxins, brain injuries, and being male.
- ADHD can lead to substance abuse and money problems in adults.
- Since the condition is rare in adults, a high genetic risk is not necessarily a reason to worry.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and **next steps** for relevant labs.

We've all struggled to stay focused on an important task. However, some people have more trouble paying attention than others.

The most important part of the brain for attention and focus is the *prefrontal cortex*. This region also helps you plan and solve problems [R].

Other parts of the brain help to filter important information without having to think about it. This allows you to avoid distractions [R].

Problems in these brain regions may make it harder to stay focused. Some people have so much difficulty focusing that it interferes with their daily lives. This is a sign of *attention-deficit/hyperactivity disorder* (ADHD) [R].

ADHD affects millions of children and teenagers in the US. More boys are diagnosed with ADHD than girls [R].

Children and teens with ADHD tend to have trouble with school. They might also experience problems with relationships [R, R, R, R].

Attention problems often continue into adulthood. Adults with ADHD are more likely to experience [R]:

- Substance abuse
- Car accidents
- Money problems

Treatment for ADHD usually includes talk therapy and medication [R].

The cause of ADHD is unknown. Risk factors include [R]:

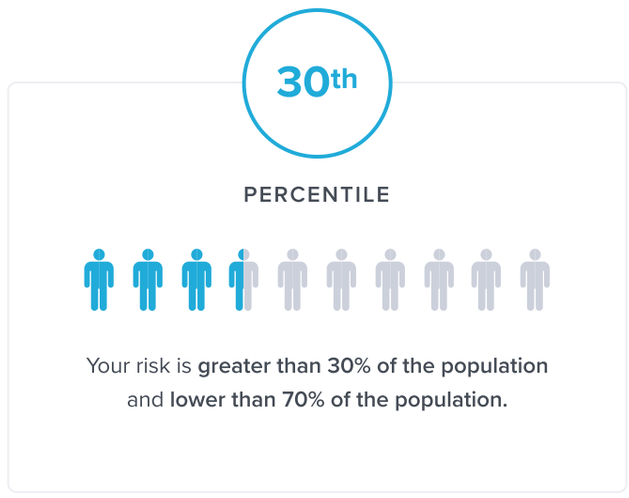
- Maternal use of cigarettes, drugs, or alcohol during pregnancy
- Environmental toxins
- Brain injuries
- Genetics

Up to 80% of differences in people's chances of developing ADHD may be attributed to genetics. Genes involved in ADHD may influence [R, R, R, R, R, R, R]:

- Dopamine (*DRD4*, *DRD5*, *COMT*)
- Serotonin (*HTR1B*, *SLC6A4*, *SNAP25*)
- Brain cell growth (*BAIAP2*)

TYPICAL

Typical likelihood of ADHD based on 261,702 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LPCAT1	rs27072	CC
DLC1	rs2410116	GG
COMT	rs4680	GA
TPH2	rs1843809	TT
MFHAS1	rs13439086	CT
AXIN2	rs8074751	AA
MUC15	rs10767556	AG
ANAPC4	rs28612433	CT
FBN3	rs35624673	CT
BDNF	rs56164415	GG
/	rs9545903	TC
CHRNA4	rs1044396	GG
CLPTM1L	rs11564750	GG
SLC26A5	rs144525	CC
PLXDC2	rs10828015	CT
BLOC1S2	rs35835615	CC
TPH2	rs1386497	AA
LGR4	rs11030104	AA
HTR2C	rs3813929	C
BDNF	rs6265	CT
ANKK1	rs1800497	GA

GENE	SNP	GENOTYPE
MAOA	rs6323	G
COMT	rs4633	CT
SLC6A2	rs3785151	GC
CES1	rs1566652	TG
DRD1	rs265981	AG
SFXN1	rs5326	CT
DRD1	rs686	GA
KCTD3	rs6540899	GA
PFKP	rs1537617	GA
SNAP25	rs362987	AC
CNTLN	rs10962864	TC
SNAP25	rs3746544	GT
EXOC1L	rs895614	AG
CNTLN	rs6475111	TC
ZNF584	rs35782676	CT
DTNBP1	rs760761	AG
ADA	rs73598374	TC
HTR1B	rs6296	CG
DTNBP1	rs2619528	TC
DTNBP1	rs2619522	CA
DTNBP1	rs1018381	AG
SNAP25	rs363039	GA
ESD	rs7984966	TT
IL10RB	rs77224013	GG
SLC6A2	rs3785143	CC
C21ORF62	rs112686226	AA
TNR	rs6686722	CC
SPATA7	rs61975260	CC
HERC2	rs4778174	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Alzheimer's Disease

Key Takeaways:

- About **60-80%** of differences in people's chances of getting Alzheimer's disease may be due to genetics.
- Alzheimer's disease can wipe out cognitive abilities.
- **5.8 million** Americans have Alzheimer's disease, the vast majority of them being over 75 years of age.
- Other risk factors include old age, female sex, air pollution, alcohol abuse, and obesity.
- **This report doesn't take into account the APOE-e4 variant.**

Some of the risk factors for Alzheimer's include [R]:

- Being over the age of 75
- Being female
- High exposure to air pollution
- Poor sleep patterns
- Alcohol abuse
- Sedentary lifestyle
- Low social interaction
- Low involvement in mentally stimulating activities

The following conditions may contribute to Alzheimer's disease [R]:

- Mild cognitive impairment
- Head trauma
- Obesity
- Diabetes
- High cholesterol
- Down syndrome

About **60-80%** of differences in people's chances of getting Alzheimer's disease may be due to genetics [R].

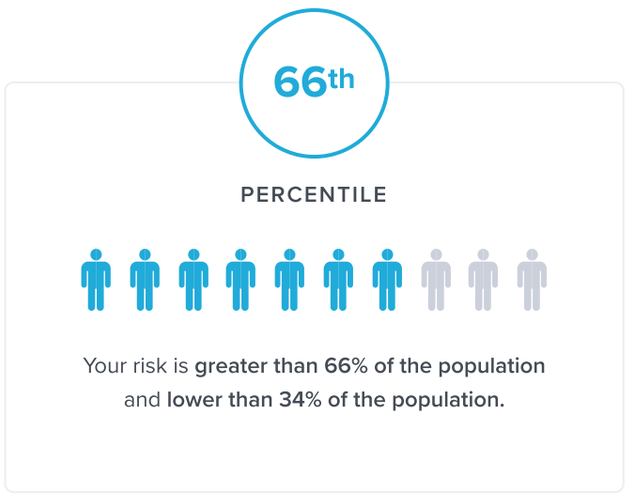
Genetically high fasting insulin, ApoB, and neutrophil levels may be causally associated with a higher risk of Alzheimer's disease [R, R, R, R].

In contrast, genetic predisposition to high total testosterone and glucosamine supplement use may be causally associated with a lower risk [R, R].

Please note: Genetic models analyzing a lot of variants (PRS models) usually don't take into account variants with large effects, such as **APOE-e4**. This variant is by far the strongest genetic factor for Alzheimer's disease. If you carry it, your predisposition to Alzheimer's disease is higher, regardless of your result for this report.

TYPICAL LIKELIHOOD

Typical likelihood of Alzheimer's disease based on 1,049,157 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CHRM2	rs6962027	TT
PICALM	rs3851179	TT
GSK3B	rs334558	GA
CD55	rs3818361	GA
POLR2E	rs12151021	AA
HLA-DRB1	rs9271192	CA
CD55	rs679515	CT
ECHDC3	rs7912495	GG
SORT1	rs11102972	CT
CLNK	rs6846529	CT
COX7C	rs62374257	CT
CPSF3	rs72777026	AG
WDR81	rs35048651	DEL(GAG)T
IGHG3	rs7157106	GA
LILRB5	rs587709	CT
SNX1	rs3848143	AG
GC	rs2282679	GT
CLU	rs11136000	CC
APOE	rs429358	TT
TREM2	rs75932628	CC
PTGS2	rs20417	GG

GENE	SNP	GENOTYPE
RELN	rs528528	CC
SETD7	rs535347112	CC
BDNF	rs56164415	GG
SYPL2	rs17646665	AA
NGFR	rs2072446	CC
SLC20A1	rs1800587	GG
TREML1	rs60755019	AA
SORL1	rs11218343	TT
NCK2	rs143080277	TT
TREM2	rs143332484	CC
SORT1	rs141749679	TT
GPX4	rs3764650	TT
ABI3	rs616338	CC
WWC1	rs17070145	TT
ATP8B4	rs138799625	CC
PILRB	rs1476679	TT
BIN1	rs744373	AA
SORL1	rs74685827	TT
BIN1	rs6733839	CC
MME	rs61762319	AA
SHARPIN	rs34173062	GG
FOXF1	rs16941239	TT
C1QTNF4	rs10838725	TT
DBNDD1	rs56407236	GG
APH1B	rs117618017	CC
CD2AP	rs9349407	GG
STYX	rs17125924	AA
RASGEF1C	rs113706587	GG
OTULIN	rs112403360	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Dementia

Symptoms of dementia may include:

- Memory loss: Particularly problems with short-term memory, such as forgetting conversations, appointments, or recent events.
- Communication difficulties: Trouble with finding the right words, following conversations, or understanding instructions.
- Mood changes: Shifts in mood and personality, including increased confusion, anxiety, and depression.
- Cognitive impairment: Difficulty in reasoning, complex tasking, organizing, planning, and handling complex tasks.
- Disorientation: Losing track of dates, seasons, and the passage of time.
- Impaired visual and spatial abilities: Difficulty judging distance or distinguishing color or contrast, which can affect driving.

While most types of dementia are progressive and incurable, some therapeutic approaches and medications can manage symptoms and improve quality of life. These include:

- Medications: Such as cholinesterase inhibitors and memantine to manage symptoms.
- Therapeutic strategies: Cognitive therapy, physiotherapy, occupational therapy, and speech therapy.
- Lifestyle changes: Regular physical activity, a healthy diet, cognitive training, and social engagement have been shown to help delay the onset or slow the progression of symptoms.
- Support services: Support for both patients and caregivers, including counseling and caregiver education, is crucial.

TYPICAL LIKELIHOOD

Typical likelihood of dementia based on 1,674 genetic variants we looked at

52nd

PERCENTILE

Your risk is **greater than 52% of the population** and **lower than 48% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
RFX4	rs11610873	GG
ZNF334	rs202380	CC
CDH4	rs34197461	AG
HFE	rs1799945	CC
TFAP2A	rs116443000	CC
LHX6	rs181518405	GG
CFAP46	rs146777408	CC
PCSK5	rs73650172	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Amnesia

There are different types of amnesia, such as anterograde amnesia, which affects the ability to form new memories after the onset of amnesia, and retrograde amnesia, which affects the recall of memories before the event that caused the condition. Depending on the underlying cause, amnesia can resolve over time, or it might be a chronic condition requiring ongoing management.

The treatment typically focuses on occupational or cognitive therapies and developing compensatory strategies to cope with memory loss.

TYPICAL LIKELIHOOD

Typical likelihood of amnesia based on 38,986 genetic variants we looked at

27th

PERCENTILE

Your risk is **greater than 27% of the population** and **lower than 73% of the population.**

Cognitive Decline

Mild cognitive decline is a normal part of aging that can affect cognitive functions such as memory, attention, and problem-solving.

About **60-70%** of the differences in people's cognitive decline may come from genetics. For example, genetically high total and bioavailable testosterone may be causally associated with larger gray matter volume in men [R, R, R].

Other risk factors for cognitive decline include [R]:

- Older age
- Female sex
- Lifestyle factors like smoking and being inactive
- Lower education level

Different health conditions may play a role in cognitive decline, including high cholesterol and blood pressure [R].

LESS LIKELY

Less likely to have cognitive decline based on 272,168 genetic variants we looked at

2nd

PERCENTILE

Your risk is **greater than 2% of the population** and **lower than 98% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CDCA7	rs182734936	CC
ANXA5	rs141005242	CC
/	rs200668351	GG
TEK	rs147486058	AA
DUSP15	rs6089150	CC
CTBP2	rs61869228	CC
HHEX	rs60320343	AA
CRP	rs1205	CC
FOXO3	rs4946936	CC
APOE	rs7412	CC
CLU	rs11136000	CC
KIF11	rs6583817	CC
MS4A6A	rs610932	GG
TRIM32	rs7852872	CC
LHFPL6	rs9315702	AA
DPP4	rs6741949	GG
/	rs11706133	TT
WDFY2	rs9535753	TT
LAMP3	rs630527	GG
FOXJ2	rs7138264	GG
OPCML	rs11606197	TT

GENE	SNP	GENOTYPE
/	rs72956174	TT
B3GALNT1	rs4455332	CC
C3ORF56	rs11716691	AA
IRX2	rs72720951	AA
ZNF799	rs4804181	AA
/	rs57169846	GG
BDNF	rs6265	CT
ALCAM	rs34476301	AG
SIRT1	rs3758391	CT
TNF	rs1799724	CT
SNRPB	rs2076650	TC
A2M	rs11609582	TA
APBB2	rs13133980	GC
BCHE	rs1803274	CT
PRR16	rs3991625	CT
CEMIP2	rs12237894	GC
SALL1	rs2075199	CT
MRPS18C	rs10004897	AG
SALL3	rs7231688	AG
CHD6	rs6072411	GA
HSD11B1	rs60686175	TC
/	rs10457441	TT
TMEM106B	rs1990622	AG
APOE	rs429358	TT
TNS1	rs13013766	GG
/	rs62477365	TT
BCL11A	rs6545794	GG
IFNL3	rs73050457	CC
ABCA2	rs908832	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Brain Fog

Key Takeaways:

- Brain fog is a common symptom of chronic fatigue syndrome.
- It manifests as memory problems, difficulty focusing, jumbled or hazy thoughts, and confusion.
- Risk factors include stress, sleep problems, air pollution, smoking, and your genetics.
- A high genetic risk may be mitigated by addressing modifiable risk factors.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and next steps for relevant labs.

Brain fog is a feeling of mental slowness and fatigue. People with brain fog may experience [R, R]:

- Memory problems
- Difficulty focusing
- Jumbled or hazy thoughts
- Confusion

The exact cause of brain fog is unknown. Factors that may contribute to it include [R, R, R, R, R]:

- Stress
- Sleep problems
- Air pollution
- Smoking
- **Genetics**

Brain fog is a common symptom of **chronic fatigue syndrome**. People with this condition are tired even after getting lots of rest [R, R].

Other conditions that may cause brain fog include:

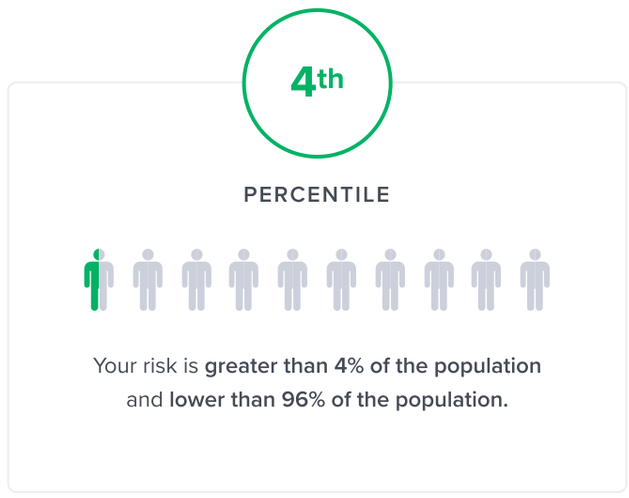
- Autoimmune disease [R, R, R]
- Some infections [R, R, R, R]
- Pain [R, R]
- Conditions affecting the brain [R, R, R]

You may be able to improve brain fog by addressing its cause. If the cause is sleep deprivation, for example, it should go away with enough rest [R, R].

If you are struggling with brain fog, work with your doctor to figure out the cause.

LESS LIKELY

Less likely to have brain fog based on 5,525 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CNR1	rs1049353	TT
EXOC5	rs565429549	AA
/	rs77332613	GG
CNTN2	rs114589565	CC
/	rs148678515	TT
MRPS9	rs185526961	TT
CCDC138	rs115847251	AA
MRPS9	rs181406718	GG
OOSP1	rs115901332	CC
PSG9	rs115749421	CC
PSD3	rs113714584	TT
MRPS9	rs145642147	TT
MRPS9	rs138753234	GG
ACTL7B	rs190045124	GG
CNOT2	rs142649262	CC
PKD2L2	rs10070991	TT
RAB1A	rs185175713	TT
/	rs193120535	TT
MRO	rs143628339	TT
ADAMTS16	rs139940967	GG
ATXN3	rs10137541	GG

GENE	SNP	GENOTYPE
GBE1	rs57463270	TT
PTPRN2	rs75917522	TT
CHGA	rs147711399	GG
/	rs376394962	TT
MEIS1	rs116270157	TT
KLF5	rs112829029	CC
/	rs181434062	AA
UBASH3B	rs192926887	TT
BCL9	rs190129535	CC
N4BP2L2	rs75423524	TT
ADAM2	rs141786817	GG
ASAH2B	rs183843763	CC
FOXA2	rs191545966	CC
POT1	rs140241460	AA
ASAH2B	rs112784518	GG
POMZP3	rs186085204	GG
SNTG2	rs75614170	TT
FOXA2	rs187277830	CC
PAX1	rs190927285	GG
TCF12	rs147774332	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Neurodivergence

Up to **90%** of the differences in autism spectrum disorder (ASD) may be due to **genetics**. The influence of genetics may vary by cognitive ability [R, R, R].

Several genes appear to have a connection with the development of ASD. Between **10%** and **20%** of cases can be linked to genetic disorders, such as mutations in genes like *SHANK3* and genetic conditions like:

- Down syndrome
- Rett syndrome
- Fragile X syndrome.

The following factors may also interact with genetic predispositions and increase the risk of ASD:

- Age of parents: Older parents are more likely to have a child with ASD
- Preterm birth: Babies born before 26 weeks of gestation may have a higher risk of ASD

Please note: This report is not looking at your predisposition to the rare genetic disorders mentioned above. Most of the available genetic research has been conducted on children, so please take your results with a grain of salt.

LESS LIKELY

Less likely to have autism spectrum disorder (ASD) based on 112,310 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NRSN1	rs145570843	AA
SSUH2	rs405182	GG
GABRB3	rs2081648	TC
ASMT	rs5989681	G
NSD3	rs60527016	TC
FOLR3	rs2071010	GG
REEP3	rs141319505	AA
ESRRB	rs201369005	GG
/	rs142920272	CC
ARHGAP27	rs141455452	TT
FEZF2	rs1452075	TT
KIZ	rs6047270	TT
ADTRP	rs210894	TT
/	rs34739626	TT
/	rs11185408	GG
PTP4A3	rs11787216	CC
RSU1	rs45595836	CT
GABBR1	rs740883	TA
CRHR1	rs12942300	TA
XRN2	rs910805	GA
PTBP2	rs2391769	GA
NRSN1	rs12203328	GC
NEDD4L	rs292441	GA
SNX7	rs6701243	CA
/	rs2635182	CT
B3GALT2	rs6692705	AG
/	rs325485	GA
KCNN2	rs13188074	GA
AKAP17A	rs4446909	A

GENE	SNP	GENOTYPE
BTG1	rs61925919	GG
FOLR3	rs2298444	TT
TCN2	rs1801198	GG
MFHAS1	rs36059156	AA
IL1B	rs16944	GA
SPIDR	rs183563276	AA
SGO1	rs148587110	TT
GALNT1	rs143609523	AA
ZNF568	rs138867053	GG
SERPINA1	rs112635299	GG
KMT2E	rs111931861	AA
PCDH9	rs77691144	TT
GUCY1A2	rs117603308	CC
ASAP1	rs10110094	GG
/	rs79940520	AA
FAM167A	rs10099100	GG
ADO	rs113764414	GG
GALNT10	rs34509057	GG
MEF2C	rs4916723	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Stress & Anxiety

Stress and anxiety are deeply intertwined, and both have a significant genetic component. This section explores how your genetic predispositions may influence your body's response to stress, feelings of anxiety, and even your reaction to stimulants like caffeine. Genes related to cortisol production, the body's primary stress hormone, play a critical role in regulating your stress response.

Additionally, genetic factors may affect how prone you are to anxiety and nervousness, shedding light on your emotional and physiological reactions to stressful situations. Understanding these genetic links can help you manage stress more effectively and reduce anxiety triggers.

MORE LIKELY

Agoraphobia

More likely to have agoraphobia

TYPICAL LIKELIHOOD

Anxiety

Typical likelihood of anxiety

TYPICAL LIKELIHOOD

Social Anxiety

Typical likelihood of social anxiety

TYPICAL LIKELIHOOD

Panic Attacks

Typical likelihood of having panic attacks

TYPICAL LIKELIHOOD

Phobias

Typical likelihood of having a phobia

TYPICAL RESPONSE

Response to Stress (Functional)

Predisposed to typical response to stress

TYPICAL

Nervousness

Likely typical nervousness

TYPICAL LIKELIHOOD

Worrying

Typical likelihood of worrying

TYPICAL LEVELS

Cortisol

Predisposed to typical cortisol levels

LESS LIKELY

Stress

Less likely to feel stressed

LESS LIKELY

Caffeine-Related Anxiety

Less likely to experience caffeine-related anxiety

Agoraphobia

Agoraphobia is an anxiety disorder characterized by an intense fear of entering open or crowded places, being in situations where escape may be difficult, or where help might not be available in the event of a panic attack. Individuals with agoraphobia often experience extreme distress when they encounter these situations, which can lead to avoidance behaviors.

As a result, they may avoid places like public transport, shopping centers, or even open areas. The fear is disproportionate to the actual danger of the place or situation but is persistent and can be incapacitating.

This disorder can severely limit a person's ability to function in daily life, impacting their social interactions, employment, and overall quality of life. Agoraphobia can occur on its own or coexist with other panic disorders. Treatment typically involves a combination of cognitive-behavioral therapy (CBT), which focuses on changing thought patterns and behaviors, as well as medication to manage symptoms.

Exposure therapy, a subset of CBT that involves gradual exposure to feared situations, is often effective. Support from family and friends, along with professional guidance, is essential to recovery.

MORE LIKELY

More likely to have agoraphobia based on 1,660 genetic variants we looked at

82nd

PERCENTILE

Your risk is **greater than 82% of the population** and **lower than 18% of the population.**

Anxiety

Key Takeaways:

- Up to **65%** of the differences in people's risk of getting anxiety may be due to genetics.
- Other risk factors include traumatic and stressful events, thyroid problems, heart problems, and substance use problems.
- If your genetic risk is high, managing stress and substance use may help reduce overall risk.
- Anxiety can cause issues with sleep, fatigue, the gut, stress, focus, and mood.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and **next steps** for relevant labs.

It's completely normal to feel anxious about things from time to time. Occasional anxiety can help us solve problems and make better life decisions. However, people with *anxiety disorders* often worry about normal activities, which impacts their daily life [R, R].

Two parts of your brain process threats [R, R, R]:

- The *amygdala* helps activate the "fight or flight" response
- Frontal areas of your brain override the amygdala and help you respond logically

People experience anxiety when they have too much activity in their amygdala or too little in frontal brain areas [R, R].

If you're anxious, you may experience [R]:

- Restlessness
- Fatigue
- Problems concentrating
- Short temper
- Muscle tension
- Heavy sweating
- Trembling
- Gut problems
- Heart rate changes
- Sleep problems

People are more likely to have these symptoms if they experience [R]:

- Traumatic or stressful events
- Thyroid problems
- Heart problems
- Substance use problems

Another important risk factor for anxiety is genetics. About 30-65% of the differences in people's chances of getting anxiety can be attributed to genetics. Genes linked to anxiety may influence the levels and activity of different brain chemicals, such as [R, R, R, R, R, R, R]:

- Serotonin and dopamine, which make you feel happy (*SLC6A4*, *HTR1A*, *TPH2*, *MAOA*)
- GABA, which calms the mind (*GABRG2*)
- Stress hormones such as cortisol (*MC4R*, *MAOA*)
- Substances that promote new brain cell growth (*BDNF*, *NGF*)

TYPICAL LIKELIHOOD

Typical likelihood of anxiety based on 806,651 genetic variants we looked at

62nd

PERCENTILE

Your risk is **greater than 62% of the population** and **lower than 38% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ATP8B4	rs2413998	AA
/	rs16838980	GG
DNAH8	rs4714177	AA
NUP107	rs11177321	GG
FKBP4	rs2302729	CC
PREPL	rs1067327	CC
RNF180	rs6295	GG
IL20RB	rs17374749	GG
PID1	rs10498237	GG
/	rs10092548	AA
C6ORF118	rs9295300	AA
NOX4	rs17221829	CC
NOX4	rs10830352	GG
GABRG2	rs211037	TT
MARCHF4	rs955816	GG
IRX6	rs2397376	TT
HTR2A	rs12584920	GG
COMT	rs4680	GA
ERCC6L2	rs7867155	CC
COMT	rs4633	CT
SLC6A2	rs3785151	GC

GENE	SNP	GENOTYPE
CES1	rs1566652	TG
GAD1	rs3828275	CT
GAD1	rs701492	TC
GAD1	rs769407	CG
GAD1	rs3791878	TG
IL18R1	rs2058622	AG
GAD1	rs3791851	CT
ZPLD1	rs1709393	CT
DMD	rs921896	C
CAMTA1	rs11120917	TC
OR5P3	rs7112002	AC
SRBD1	rs2344662	CA
ADRB1	rs1034258	AG
SSH2	rs6354	TT
ESR1	rs9340799	AG
ESR1	rs2234693	TC
AKAP6	rs17406568	GG
OSCP1	rs906228	CA
AGPAT4	rs3798943	CC
CCNY	rs2086153	CT
COX7B2	rs6447514	TT
DDT	rs755622	GG
TULP1	rs3800373	AA
RGS2	rs10801153	GG
RNF220	rs12138940	GA
MC4R	rs10871777	AA
TBL1X	rs5934574	T
TACR1	rs3771841	GA
DSCAM	rs1040315	AG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Social Anxiety

The exact cause of social anxiety disorder is not fully understood, but it is believed to result from a complex interplay of genetic and environmental factors. Social anxiety typically begins in the early to mid-teens, though it can also start in childhood or even in adulthood.

Various treatment options are available for those with social anxiety, including cognitive behavioral therapy, which helps individuals change negative thought patterns and behaviors, and medication, such as selective serotonin reuptake inhibitors (SSRIs). With appropriate treatment, people with social anxiety can learn to manage their symptoms and significantly improve their ability to function in social and performance situations.

TYPICAL LIKELIHOOD

Typical likelihood of social anxiety based on 705,967 genetic variants we looked at

24th

PERCENTILE

Your risk is **greater than 24% of the population** and **lower than 76% of the population.**

Panic Attacks

Factors that might increase the risk of developing panic attacks include:

- Family history of panic attacks or panic disorder
- Major life stressors, such as the death of a loved one or a traumatic event
- History of physical or sexual abuse
- Experiencing a traumatic event, such as an accident or a natural disaster
- History of other mental health disorders, such as depression or anxiety
- Smoking or excessive caffeine consumption
- Certain medical conditions, including thyroid problems or heart issues
- Genetics

There is evidence to suggest a genetic predisposition to panic attacks and panic disorder. Individuals with a family history of these conditions are more likely to experience them. Genetic factors can influence the brain's response to stress and anxiety, making certain individuals more prone to experiencing panic attacks when faced with triggers.

TYPICAL LIKELIHOOD

Typical likelihood of having panic attacks based on 1,664 genetic variants we looked at

58th

PERCENTILE

Your risk is **greater than 58% of the population** and **lower than 42% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TMEM132D	rs11060369	AA
LGSN	rs6914428	GG
SNURF	rs2554444	AT
BLMH	rs140701	TT
BLMH	rs4583306	GG
SSH2	rs6354	TT
TPH1	rs1800532	TG
COMT	rs4680	GA
/	rs25531	TT
HTR2A	rs6313	AG
TFAP2C	rs79919349	GG
SMAD1	rs144783209	GG
SUSD1	rs41280169	CC
CCK	rs1799923	GG
CERS5	rs685012	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Phobias

Factors that might increase the risk of developing phobias include:

- Traumatic experiences, e.g., nearly drowning leading to fear of water
- Childhood environment, especially overly anxious parents
- Illness or another stressful event
- Other anxiety disorders or depression
- Parents with a history of phobias or other mental health disorders
- Genetics

There's evidence to suggest that phobias have a genetic component. Individuals with a family history of specific phobias or other anxiety disorders are at an increased risk of developing similar conditions. Certain genes might affect neurotransmitters that regulate mood and the body's response to stress, making an individual more susceptible to phobias.

TYPICAL LIKELIHOOD

Typical likelihood of having a phobia based on 1,662 genetic variants we looked at

74th

PERCENTILE

Your risk is **greater than 74% of the population** and **lower than 26% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ESR1	rs9340799	AG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Response To Stress (Functional)

The *COMT* gene encodes an enzyme that helps break down the chemical messengers cdopamine, epinephrine , and norepinephrine [R, R, R].

A SNP in the *COMT* gene (rs4680) may affect COMT enzyme activity. The 'A' variant has been nicknamed the “worrier” variant. This variant makes an enzyme that breaks down stress-related chemical messengers more slowly. People who carry this variant may have a harder time adapting to stress. They may do well on cognitive tasks until they experience stress, at which point they tend to perform worse [R, R, R].

The 'G' variant of has been nicknamed the “warrior" variant. This variant makes an enzyme that breaks down stress-related chemical messengers more quickly. People who carry this variant may recover more quickly from periods of stress. They may do worse on cognitive tasks than people with the 'A' variant, but this is reversed under stress [R, R, R].

The *MAOA* gene codes for *monoamine oxidase*, an enzyme that helps break down the chemical messengers such as dopamin, serotonin, and epinephrine [R].

Research suggests that emotional stress during childhood and adolescence further increases the risk of antisocial, aggressive, and hyperactive behavior, in carriers of low-activity *MAOA* variants such as ‘T’ at rs6323 [R, R, R, R, R, R, R, R, R, R].

The *CRHR1* gene encodes a receptor for CRH, the first hormone of the HPA axis. This receptor promotes anxiety, arousal, and depression upon activation. Several variants with increased *CRHR1* activity have been associated with PTSD, depression, chronic fatigue, and IBS-related anxiety [R, R, R, R, R, R, R].

The *CRHR2* gene encodes another receptor for CRH. Contrary to CRHR1, the activation of CRHR2 receptors *reduces* anxiety, arousal, and depression. Two variants with presumably lower CRHR2 activity have been associated with PTSD [R, R, R, R].

The *FKBP5* encodes an immune system protein that also regulates the sensitivity of glucocorticoid receptors, meaning that it may alter the way stress hormones affect the body. Variants with excess FKBP5 activity may reduce your ability to recover from stressful events and have been associated with stress-related psychiatric disorders like PTSD, depression, and bipolar disorder [R, R, R, R, R, R].

The *NR3C1* gene codes for the glucocorticoid receptor. Upon activation by cortisol, this protein is able to regulate the production of stress-related, inflammatory proteins. Excess cortisol release may lead to continuous stimulation of the glucocorticoid receptor, which may ultimately lower the sensitivity of the receptor to glucocorticoids. This is called *glucocorticoid resistance.* Several variants causing a reduced sensitivity of the glucocorticoid receptor have been associated with chronic fatigue syndrome [R, R, R, R, R, R].

The *HTR1A* gene helps produce a serotonin receptor, 5HT1A. The most widely-investigated *HTR1A* variant is rs6295. Its minor ‘C’ allele has been associated with higher susceptibility to anxiety and depression from stressful events [R, R, R].

The *HTR2A* gene helps produce another serotonin receptor, 5HT2A. The most widely investigated variant is rs6313. Its minor ‘A’ allele increases the number of active receptors. This variant has been associated with a decreased risk of suicide attempts

TYPICAL RESPONSE

Predisposed to typical response to stress based on 30 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
COMT	rs4680	GA
CNR1	rs1049353	TT
OXTR	rs53576	GG
TPRA1	rs604300	GG
CNR1	rs2180619	GG
BDNF	rs6265	CT
ARHGAP27	rs4792887	CC
RGS2	rs4606	CC
MAPT	rs12944712	GG
CRHR1	rs17689882	GG
CRHR2	rs2267715	AA
CRHR2	rs2190242	AA
NR3C1	rs2918419	TT
NR3C1	rs6196	AA
HTR2A	rs6313	AG
HTR2A	rs6311	TC
FAAH	rs324420	AC
OXTR	rs2254298	AG
MAPT	rs12938031	AG
NR3C1	rs852977	AG
NR3C1	rs1866388	AG
NR3C1	rs6188	CA
MAOA	rs6323	G
HTR2C	rs6318	G
RNF180	rs6295	GG
MAPT	rs110402	AA
TULP1	rs9470080	CC
TULP1	rs3800373	AA
SPACA1	rs1406977	TT

and chronic fatigue. Another well-researched variant is rs6311. Its minor 'T' variant is usually inherited together with the 'A' variant at rs6313 and also increases the number of active 5HT2A receptors [R, R, R, R, R].

The *HTR2C* gene encodes a serotonin receptor, 5-HT2C, present mostly in the brain that plays crucial roles in mental health, metabolism, and pain control. The 'C' allele of rs6318 has been associated with increased reactivity to stress [R, R, R, R, R, R, R].

The *BDNF* gene helps produce BDNF, a protein that promotes the production of new brain cells and the growth of new connections between them. A crucial *BDNF* gene variant is rs6265, also known as "Val66Met". It may affect BDNF production, storage, and release in brain cells. This variant may play a role in multiple cognitive and mental health aspects, including stress and anxiety [R, R, R, R].

The *RGS2* gene encodes a protein called 'regulator of G protein signaling 2'. Some variants produce less RGS2 protein. As a result, fewer G protein-coupled receptors will turn off and your brain becomes more active than normal, leading to anxiety [R, R].

The *FAAH* gene helps create an enzyme called fatty acid amide hydrolase (FAAH). The main function of the FAAH enzyme is to break down certain compounds in the body, including endocannabinoids. A variant associated with reduced activity, rs324420, has been linked to lower anxiety in response to stressful situations [R, R].

OXTR encodes the receptor for oxytocin, an important signalling molecule in the brain. Two variants, 'G' at rs53576 and 'A' at rs2254298, have been associated with increased emotional reactivity to stress [R, R, R, R].

MGLL acts like a cleanup crew for your body's natural stress-calming molecules, particularly one called 2-AG. When MGLL is very active, it quickly breaks down these calming molecules, potentially making it harder for your body to maintain its natural calm. A variant in this gene (rs604300) can affect how long these stress-relief molecules stay active in your system, influencing your recovery from stressful situations.

CNR1 creates receptors for your body's natural stress-relieving molecules (cannabinoids) in the brain. When these molecules dock at CNR1 receptors, they help reduce anxiety and promote relaxation. Different variants of CNR1 can affect how many receptors you have and how well they respond to these calming signals, ultimately influencing your ability to recover from stress.

GENE	SNP	GENOTYPE
FKBP5	rs1360780	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Nervousness

People get nervous for many reasons. An upcoming project deadline, a first date, or a job interview can all make you feel nervous. **It is totally normal to feel nervous about things from time to time.** It is part of our response to stress.

Not everybody responds to stress in the same way. Some people seem to thrive under pressure. Others need a much calmer environment to be at their best. This may be partially due to your genetics [R].

If you tend to get nervous, there are a couple things that you can do to ease those symptoms [R, R, R, R, R, R, R]:

- Prepare well for any event or situation that you may be feeling nervous about
- Talk with someone who's been in a similar situation
- Remember to breathe – taking deep breaths can help the body relax
- Think positive
- Use a grounding exercise
- Engage in brief physical activity, such as a quick run
- Practice mindfulness

TYPICAL

Likely typical nervousness based on 7,239,820 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MC4R	rs11665052	AA
DLST	rs2193596	GG
DLST	rs17093914	CC
C1QTNF4	rs12787112	AG
C1QTNF4	rs34467936	AG
MTCH2	rs11039391	GA
CADM2	rs9854869	AC
CADM2	rs35344466	CA
CADM2	rs7611991	AG
DENND1A	rs6478623	GT
MADD	rs10501320	GG
CELF4	rs62081501	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Worrying

The physical manifestations of worrying are part of the body's fight-or-flight response, a primitive survival mechanism that can be overactive in individuals who worry excessively. If this condition persists, it can lead to difficulties in concentration, sleep disturbances, and a generally heightened state of stress which can exacerbate other health conditions.

The chronic stress associated with long-term worrying is linked to digestive disorders, a weakened immune system, and cardiovascular health issues, making it crucial for individuals suffering from excessive worrying to seek psychological assistance or stress management strategies.

TYPICAL LIKELIHOOD

Typical likelihood of worrying based on 494,121 genetic variants we looked at

70th

PERCENTILE

Your risk is **greater than 70% of the population** and **lower than 30% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ITIH4	rs6798941	CC
ITIH4	rs12489490	CC
MC4R	rs58084604	CC
STAG1	rs6791142	CC
MSL2	rs1729951	GG
COMT	rs4680	GA
CADM2	rs62250713	AG
CADM2	rs1551042	AC
TNXB	rs2269426	GA
AS3MT	rs4919695	AG
NT5C2	rs7077291	CT
AS3MT	rs943035	TC
DENND1B	rs2488398	GC
HLA-DQA1	rs12055445	AG
DENND1B	rs2759663	CG
DENND1B	rs10737693	CT
STAB1	rs11130306	GA
CELF4	rs72893199	CT
RBFOX1	rs55997507	GC
AREL1	rs7152906	CT
PAM	rs187580	TG

GENE	SNP	GENOTYPE
DENND1B	rs17642632	AG
BAG6	rs1077393	AG
UBE3B	rs11067376	AG
DLST	rs3759741	AG
LSMEM2	rs57462170	AG
GLYCTK	rs353547	CT
KCTD10	rs7132057	AC
FAM76B	rs10765762	TC
ST3GAL3	rs2367724	TC
CRHR1	rs17688916	TT
NOTCH4	rs520692	TT
LRRC4	rs3808072	CC
KANSL1	rs2696457	CC
/	rs61957597	GG
/	rs4444227	TT
KANSL1	rs62062288	GG
CRHR1	rs62057151	CC
TCF4	rs7228159	TT
LRRC4	rs17151377	CC
SND1	rs806166	TT
PAX6	rs3026389	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Cortisol

Cortisol is a hormone produced by the adrenal glands — small glands on top of the kidneys. It is most widely known as a **"stress hormone"** that initiates the body's "fight-or-flight" response. This helps the body react to stress by shifting into an "emergency mode" where non-critical functions are put on hold [R, R].

Genetics influence cortisol levels. Up to 60% of people's differences in blood cortisol levels may be due to genetics. **Please note that this report is looking at your genetics of salivary cortisol**, which is closely related to blood cortisol [R, R].

Cortisol levels vary naturally throughout the day. They are generally highest in the morning after waking and gradually decrease throughout the day [R, R].

Cortisol levels also rise naturally:

- After eating [R]
- After physical activity [R, R, R, R, R]
- In response to physical and psychological stress [R, R, R, R, R, R]

Very high or low cortisol levels may be indicative of chronic health conditions such as [R]:

- Hypercortisolism or high cortisol (e.g. Cushing syndrome)
- Hypocortisolism or low cortisol (e.g. Addison's disease)

Genetically higher cortisol may be causally associated with:

- Depression [R]
- Heart disease [R, R, R]
- Atrial fibrillation [R, R]
- Muscle mass (women) [R]
- Strength (women) [R]
- Cognitive decline [R]
- Alzheimer's (lower risk) [R]
- Parkinson's (lower risk) [R]
- Overweight [R]
- High blood pressure [R]

TYPICAL LEVELS

Predisposed to typical cortisol levels based on 10 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CNTNAP5	rs11899245	CT
TULP1	rs9470080	CC
FKBP5	rs1360780	CC
FKBP5	rs7748266	CC
DGKH	rs1170109	TG
PDE10A	rs2983496	AG
LDLR	rs5927	GA
SPC24	rs11557092	CT
/	rs6768297	AA
ZFP42	rs6849009	CC
INHBA	rs10244501	CC
TFAP2C	rs6069930	GG
TMPRSS9	rs7248779	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Stress

Not everybody responds to stress in the same way. Some people seem to thrive under pressure. Others need a much calmer environment to be at their best [R].

Up to 45% of differences in the way we perceive stress may be attributed to genetics. Genes involved influence [R, R, R]:

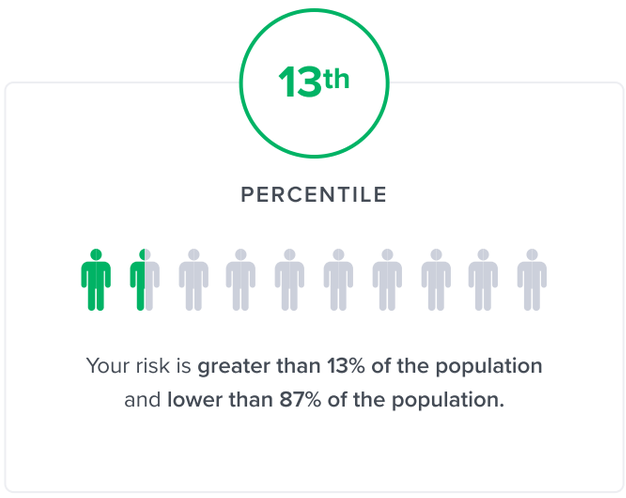
- Stress hormones like cortisol (*NR3C1*, *ACE*, *ZNF366*)
- Calming brain chemicals (*GABRA6*, *OPRM1*)
- Brain function (*BDNF*)

There are many effective ways to reduce stress, including:

- **Physical activity**. Exercise boosts mood and lowers stress hormones [R].
- **Relaxation techniques**. Deep breathing, mindfulness or massage can help calm down your nervous system [R, R, R].
- **Time in nature**. Being in nature helps calm down our nervous system [R, R, R].
- **Connecting with others**. Having a social support network makes us more resilient to stress [R, R].
- **Hobbies**. Doing something you enjoy can improve your well-being [R].
- **Positive thinking**. Seeing the world through a more positive lens is linked to less chronic stress and may even help people live longer [R, R, R].

LESS LIKELY

Less likely to feel stressed based on 7,226,795 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SPG7	rs2292954	GG
OXTR	rs2254298	AG
MROH2A	rs7606893	CA
PDCD6IP	rs2053425	AC
LMCD1	rs114122346	CC
STAC	rs112766131	GG
/	rs76192797	CA
KCTD12	rs674041	CC
DPYSL5	rs12474330	GG
PSMD7	rs7193343	TT
CDH12	rs1545967	AT
BDNF	rs6265	CT
RBM17	rs1073646	CA
MPPED1	rs9614176	GG
SMARCA2	rs10965522	CC
HLA-DPB1	rs2064479	CC
/	rs2650673	CT
RASGEF1B	rs10033652	TT
PTGS2	rs20417	GG
/	rs137970858	TT
OXTR	rs53576	GG

GENE	SNP	GENOTYPE
/	rs150429966	AA
CHRM3	rs10925907	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Caffeine-Related Anxiety

People drink coffee for an energy and mood boost. Caffeine is the main ingredient responsible for these effects. However, caffeine can make some people feel jittery and have trouble falling asleep. Caffeine may also increase the risk of anxiety and other mental health problems [R, R, R].

A gene called *ADORA2A* may change the way caffeine affects your body [R].

The *ADORA2A* gene makes a protein that allows the brain to use a compound called adenosine. This compound helps make you sleepy and calm. Caffeine works by blocking the ADORA2A protein. Then adenosine can't work on your brain, and you feel more awake [R].

For example, one *ADORA2A* gene variant may change the way you respond to caffeine. Caffeine may make people with this variant more anxious. Women tend to be affected more strongly than men [R, R, R].

People with this variant may be able to build up a kind of tolerance to caffeine. If they drink caffeinated drinks every day, it may not trigger anxiety anymore [R].

LESS LIKELY

Less likely to experience caffeine-related anxiety based on the genetic variants we looked at

68%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **68% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADORA2A	rs5751876	CT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Cognitive Traits

Thinking outside the box, ideas that transcend traditional concepts, or methods to create something new and original, are at the core of creativity. Some people...what was it?...Oh, yes! Some people have memory problems, like walking to the kitchen for a reason that is forgotten by the time they get there. Others can memorize Pi out to 100 digits with little effort.

DNA is greatly responsible for these differences! That's why, in this section, **we analyze your genetics of cognitive traits including creativity, memory performance, and more**.

LOWER

Processing Speed

Predisposed to lower processing speed

TYPICAL

Executive Function

Predisposed to typical executive function

TYPICAL

Memory Performance

Predisposed to typical memory performance

TYPICAL

Cognitive Function

Predisposed to typical cognition

TYPICAL

Reaction Time

Predisposed to typical reaction time

TYPICAL

Episodic Memory

Predisposed to typical episodic memory

TYPICAL

Verbal Ability

Predisposed to a typical verbal ability

TYPICAL ABILITY

Problem Solving

Predisposed to typical problem-solving ability

HIGHER

Creativity

Predisposed to higher creativity

Processing Speed

Processing speed is a measure of **how fast you are able to understand visual or auditory information and respond to it** [R].

About **65%** of the differences in people's processing speed may be due to **genetics**. The genes involved in processing speed play a role in brain function and development [R].

Faster processing speed is linked to healthier aging [R].

These can improve your processing speed:

- Getting enough sleep [R]
- A healthy diet, rich in omega-3s [R, R, R, R, R]
- Physical activity (aerobic exercise and resistance training) [R, R, R, R]
- Learning new things and engaging in brain games and puzzles [R, R, R]

Predisposed to lower processing speed based on 7,285,692 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CADM2	rs17518584	CT
PGAP3	rs4795390	CC
IRX6	rs17291845	GG
KRTAP7-1	rs7283316	AA
MYRIP	rs9985399	TT
JAG1	rs1884136	GG
TTYH2	rs7219585	GG
TMEM245	rs523340	GG
PKNOX1	rs2839627	CC
PRB2	rs2908835	CC
TRIB3	rs6051520	GT
CHRNA4	rs1044396	GG
NRSN1	rs6922632	AC
TBX20	rs2392362	TC
/	rs2567426	AG
SPATA7	rs17124581	TT
COMT	rs4680	GA
HLA-C	rs2230365	CC
IQGAP1	rs12915189	AG
SHLD1	rs4815868	AA
APOE	rs429358	TT
HNF4G	rs16939046	TT
DCDC2	rs793834	GG
DDX39B	rs2255798	GG
SYNJ1	rs7279487	TT
HOMER1	rs7713917	AA
KL	rs9536314	TT
DTNBP1	rs2619522	CA
ATP5PD	rs11077773	TT

GENE	SNP	GENOTYPE
ACP1	rs11542478	AA
NSG2	rs10475598	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Executive Function

Executive function refers to a **set of cognitive processes that drive goal-oriented behavior**. These include the abilities to think flexibly, focus, plan and solve problems [R, R].

Up to 80-100% of differences in people's executive functions may be **due to genetics!** The genes that are involved in executive function often affect **brain function and brain chemical messengers**, such as dopamine, serotonin, and acetylcholine [R, R, R, R].

Other factors that influence executive function include [R, R, R, R, R, R]:

- Aging
- Lack of sleep
- Lack of physical activity
- High-stress environments
- Poor nutrition
- Addiction
- Disease or disorders such as**:** Alzheimer's, Parkinson's, ADHD, autism spectrum disorder, anxiety and depression

Things you can do to improve your executive function include [R, R, R, R, R, R, R]:

- Getting enough high quality sleep
- Staying physically active
- Eating a healthy nutritious diet
- Practicing mindfulness to improve focus.
- Engaging your brain with games of strategy, puzzles or learning something new.

TYPICAL

Predisposed to typical executive function based on 6,779,636 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PLEKHG1	rs140578927	GG
HUNK	rs76885705	AA
GSDMB	rs112779146	CC
ELFN2	rs144501203	GG
BARHL2	rs116496126	AA
ADRA1A	rs117710302	TT
TASP1	rs146628683	CC
METTL11B	rs2990655	GG
BIN1	rs3845674	GG
DPPA2	rs1163379	CC
/	rs10912172	CC
EGFLAM	rs4562066	CT
ARL4A	rs2357052	AT
LRRTM4	rs34996456	AG
ST8SIA1	rs11046348	GC
ADARB2	rs148353837	GG
CRYBB2	rs79191028	CC
IKZF1	rs186807222	GG
BHLHE40	rs73095926	GG
NELFCD	rs16982556	CC
C9ORF116	rs62573681	CC
RIMS1	rs72932157	TT
NUAK1	rs10507203	GG
MYO5C	rs12915773	CC
PDE6H	rs73300930	TT
RAPGEF1	rs11243356	CC
IGFBP3	rs11763946	AA
PODXL	rs1421361	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Memory Performance

Memory performance refers to how good your brain is at storing and recalling information [R, R, R].

About 30-70% of differences in people's memory performance may be due to genetics. Genes involved in memory may influence [R, R, R, R]:

- The way brain cells grow and develop
- Brain cell communication

Ways to boost your memory performance include [R, R, R, R]:

- Being physically active
- Getting 7-9 hours of good-quality sleep every night
- Eating a healthy diet
- Spending time with family and friends
- Engaging your mind (e.g, reading, solving puzzles, learning new skills)

If you want to go the extra mile, there are specific techniques you can use to train your memory (e.g. mind palace). There is even a world memory championship!

TYPICAL

Predisposed to typical memory performance based on 7,166,380 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HDGFL1	rs9466427	GG
HDGFL1	rs9348530	AA
HDGFL1	rs9358578	GG
HTATIP2	rs10741845	AT
/	rs9345419	TT
TMEM63A	rs6426075	AG
NT5DC2	rs4687625	CT
NT5DC2	rs2015971	CT
NT5DC2	rs11711421	CT
ITIH1	rs3774354	GA
ITIH1	rs1961958	AG
ITIH1	rs3774355	GA
ITIH1	rs6778844	TC
ITIH1	rs12487445	AC
ITIH1	rs6798246	GA
ITIH1	rs1961959	GC
PBRM1	rs17264436	TA
ITIH1	rs2289249	GA
GNL3	rs11177	GA
ITIH1	rs10865973	AT
ITIH1	rs2118540	TC
ITIH1	rs11717836	AG
ITIH1	rs6976	CT
ITIH1	rs2268027	GA
ITIH1	rs2239551	GA
CGGBP1	rs12492805	GT
ITIH1	rs2268025	AT
NEK4	rs1029871	GC
ITIH1	rs2286798	AC

GENE	SNP	GENOTYPE
TDRD3	rs4886229	TC
TEK	rs10757641	TC
TEK	rs633903	TG
TEK	rs581724	GT
MAT1A	rs4933327	GG
ZNF804A	rs1344706	CA
STARD3	rs879606	GG
COMT	rs4680	GA
DTNBP1	rs2619522	CA
TTC12	rs1076560	CA
SLC19A1	rs1051266	TC
SYNJ2	rs10945973	AG
LMX1A	rs4657412	AG
SYNJ2	rs2502601	AG
MAT1A	rs3851059	AG
SYNJ2	rs9356200	CT
SORL1	rs3824968	AT
COL4A2	rs4773144	AA
SYNJ2	rs10455935	GA
UBE2Z	rs15563	AA
WWC1	rs17070145	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Cognitive Function

Some people are really good at math, but bad at memorizing facts. Others excel at learning languages, but lack spatial awareness and get easily lost. Everyone's brain works differently.

Your strengths and your weaknesses depend on your education, your life experiences and your genes. Up to **50-80%** of differences in cognitive ability may be due to **genetics**. Genes that affect our cognitive function tend to influence **brain development, structure and function** [R, R, R, R, R].

Other factors that affect our cognitive function include [R, R, R, R, R, R]:

- Lifestyle (e.g. physical activity, sleep quality)
- Education
- Physical and mental health
- Sensory loss (e.g. vision or hearing loss)
- Aging
- Social connectedness
- Environment (e.g. air pollution)
- Being cognitively active (e.g. reading, having intellectual-stimulating jobs)

To improve cognitive function focus on:

- Staying physically active [R, R, R]
- Getting enough good quality sleep [R, R]
- Staying social (in person) [R, R, R]
- Eating a healthy, balanced diet [R, R]
- Keeping the mind active (e.g., with puzzles, games of strategy or learning new skills) [R, R, R, R]

TYPICAL

Predisposed to typical cognition based on 7,159,700 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SNAP25	rs363043	CC
ARMC2	rs9384679	TT
CHRM2	rs8191992	TT
MAPRE1	rs406193	CC
CABP5	rs3936340	TT
PAM	rs35658696	AA
MTHFR	rs1801133	AA
GYPC	rs1550404	TT
PRMT6	rs12125971	CC
/	rs17813294	CC
TET2	rs2454205	TT
NEGR1	rs7531118	TT
/	rs2478286	CC
SCMH1	rs12035012	AA
UBA7	rs7613360	TT
CNR1	rs1049353	TT
UBA7	rs9855505	TT
BCL2	rs956572	GG
/	rs9388349	TT
ST8SIA6	rs7897269	TT
CHRM2	rs7799047	GG
REC114	rs7171755	GA
CLSTN2	rs6439886	AA
NR2F2	rs4984541	AA
SNAP25	rs363016	TC
CHRM2	rs2350786	AA
DPP4	rs1913808	GG
ST8SIA6	rs17141089	GG
PKN2	rs17130578	GG

GENE	SNP	GENOTYPE
DPYD	rs1702294	CC
SLC10A7	rs11737630	CC
SBNO1	rs1060105	CC
PPA2	rs2726491	AG
/	rs9320747	GT
AKR1C3	rs9423406	GA
BDNF	rs6265	CT
COMT	rs4680	GA
SNAP25	rs363050	AG
SNAP25	rs363039	GA
PLXNB2	rs28379706	TC
CHRM2	rs2350780	AG
TFAM	rs1937	GC
ARVCF	rs165599	GA
SCN2A	rs10174400	CT
NEGR1	rs12128707	AG
RBM6	rs13100903	CT
/	rs12211582	GT
NR1D2	rs6550835	AG
NEGR1	rs1486091	TC
ELAVL2	rs10733389	GA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Reaction Time

Reaction time measures **how quickly you respond to a stimulus**. About **50-60%** of the differences in reaction times between people may be **due to genetics** [R, R, R].

Other contributing factors include [R, R, R, R, R, R]:

- Age
- Gender
- Fitness
- Fatigue
- Drugs and alcohol
- Certain medical conditions

There are a number of things that you can do to improve your overall reaction time. These include [R, R]:

- Getting enough sleep
- Exercising regularly
- Challenging your mind with plays, tasks, and social interactions

Caffeine may also cause short-term improvements in reaction time [R, R].

TYPICAL

Predisposed to typical reaction time based on 7,178,186 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ATG13	rs7127529	AA
ARF3	rs10875906	CC
/	rs4627212	AA
PFDN1	rs269767	GG
SEMA6D	rs10519132	GA
TP53I11	rs7937459	AC
MFSD9	rs817225	AG
KRTAP7-1	rs7283316	AA
SPATA7	rs17124581	TT
PKNOX1	rs2839627	CC
MYRIP	rs9985399	TT
TMEM245	rs523340	GG
TTYH2	rs7219585	GG
JAG1	rs1884136	GG
IRX6	rs17291845	GG
PRB2	rs2908835	CC
NRSN1	rs6922632	AC
TRIB3	rs6051520	GT
IQGAP1	rs12915189	AG
TBX20	rs2392362	TC
/	rs2567426	AG
LRRC37A	rs35838379	AA
SH2B3	rs7309325	GG
/	rs13028903	CC
RMI1	rs10125715	AA
RORB	rs2045193	CC
CSMD1	rs1011587	AA
ARMC2	rs1575676	TT
/	rs390296	CC

GENE	SNP	GENOTYPE
ATP5PD	rs11077773	TT
HNF4G	rs16939046	TT
ACP1	rs11542478	AA
SHLD1	rs4815868	AA
DCDC2	rs793834	GG
NSG2	rs10475598	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Episodic Memory

Episodic memory enables us to **relive experiences from our past**. It is sometimes referred to as "**mental time travel**" [R, R, R].

About **60%** of people's differences in episodic memory may be due to **genetics** [R, R].

Other factors that affect our episodic memory include:

- Age [R]
- Stress [R, R, R]
- Lack of sleep [R]
- Psychoactive substances, including alcohol and certain drugs and medications [R, R]
- Conditions such as depression, PTSD and anxiety [R, R, R, R]
- Diseases and injuries that affect the brain (e.g. Alzheimer's) [R]

There are a number of things that have a beneficial effect on your episodic memory [R, R, R, R]:

- Engaging in social, leisure and physical activities
- Eating a healthy diet
- Getting enough sleep
- Challenging your mind

TYPICAL

Predisposed to typical episodic memory based on 7,286,902 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BACE2	rs146756105	GG
/	rs62529410	CC
SEMA3C	rs114908661	GG
HTR2A	rs73485231	GG
GRIN2A	rs7205428	AA
ARSJ	rs75864335	GG
LRATD1	rs2033352	TT
UFM1	rs604312	TT
GPATCH2L	rs10138361	GG
TRHDE	rs4426171	GG
ESR1	rs9340799	AG
CLSTN2	rs6439886	AA
MOXD1	rs9321334	GA
/	rs10128294	AG
ESR1	rs2234693	TC
WWC1	rs17070145	TT
FCHO2	rs116140617	GG
/	rs140372794	CC
FOXC2	rs115291988	CC
COASY	rs615942	CC
RPRM	rs4664134	GG
TRPM6	rs78943450	TT
CEP350	rs59621235	GG
APOE	rs429358	TT
METRNL	rs34596959	TT
RXFP2	rs277187	AA
SLC24A3	rs1033549	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Verbal Ability

Verbal ability refers to our ability to **understand and use language effectively**. This involves listening, speaking, reading, and writing. Verbal ability enables us to comprehend ideas, express thoughts clearly, and communicate with others.

Anywhere between **25-85%** of people's differences in verbal ability may be due to **genetics** [R, R].

Other contributing factors include [R, R, R, R, R, R]:

- Education
- Socioeconomic status
- Motivation
- Stress
- Developmental disorders and certain neurological diseases, such as Autism spectrum disorder, Parkinson's or Alzheimer's disease

TYPICAL

Predisposed to a typical verbal ability based on 7,233,228 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
COL22A1	rs4736068	TT
SH2B3	rs3184504	TC
RFTN1	rs73146230	GG
ATP5PD	rs4789114	CC
LHFPL3	rs34595826	GA
SYNJ2	rs1744169	AG
RHD	rs311477	AG
NDUFA6	rs2284087	CT
CYP2D6	rs5751191	TC
DPPA2	rs1163379	CC
EPHA6	rs12107293	GG
CYP2D6	rs134882	TC
CTNNA3	rs73303490	CC
DMRT1	rs147817153	AA
NECTIN2	rs2075650	AA
NRIP1	rs73892445	GG
SLC35E1	rs8101774	GG
SYNJ2	rs9456954	TA
SYNJ2	rs7758206	GC
COG1	rs150640387	CC
CYP2D6	rs5751255	CT
AEN	rs2289416	AA
NOX3	rs183974875	AA
CCDC6	rs76884292	GG
MTHFSD	rs143617408	GG
PLEKHG1	rs140578927	GG
DTNBP1	rs1018381	AG
TEX51	rs10754937	AA
SEC16B	rs140234736	CC

GENE	SNP	GENOTYPE
BBS9	rs117363837	TT
FYN	rs142068961	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Problem Solving

Problem-solving refers to our capacity to identify, analyze and resolve challenges. About **50%** of differences in problem-solving ability may be due to **genetics** [R, R].

Genes involved in problem solving may influence [R, R, R, R]:

- The way brain cells (neurons) grow and develop
- Building connections within the brain (synapses)
- The creation of new brain cell (neurogenesis)

Other factors that influence are problem solving ability include:

- **Expertise**. If we have domain-specific knowledge, we are more likely to solve it.
- **Prior experience**. If we are familiar with similar problems, that may change our approach and help us solve the current one.
- **Motivation**. Having a strong desire to solve a problem helps.
- **Stress**. Stress can have a negative effect on our problem-solving ability.

These can help boost your problem-solving ability [R, R, R, R, R, R, R, R]:

- Being well-rested
- Staying physically active
- Eating a healthy nutritious diet
- Keeping your mind active (e.g., reading, solving brain puzzles, learning something new)

TYPICAL ABILITY

Predisposed to typical problem-solving ability based on 7,225,442 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ARMC2	rs9384679	TT
/	rs17813294	CC
PPA2	rs2726491	AG
/	rs9320747	GT
NEGR1	rs12128707	AG
RBM6	rs13100903	CT
/	rs12211582	GT
NR1D2	rs6550835	AG
ANKK1	rs1800497	GA
ANKK1	rs6278	CA
TTC12	rs2283265	CA
TTC12	rs1076560	CA
ANKK1	rs6279	GC
ANKK1	rs6276	CT
SLC39A8	rs13107325	CC
NEGR1	rs3128341	CC
PTGFRN	rs181618490	CC
LRIG2	rs148546838	AA
VPS45	rs114087868	CC
TSPAN2	rs117428094	AA
HRNR	rs369236100	CC
RPRD2	rs141574752	TT
RPRD2	rs149662128	TT
KAZN	rs115043163	AA
/	rs183017176	CC
SPAG17	rs140162843	CC
TENT5C	rs74422216	TT
AGMAT	rs147196657	GG
TENT5C	rs142480388	CC

GENE	SNP	GENOTYPE
S100A10	rs147925147	CC
WDR3	rs147261618	CC
KAZN	rs115204536	TT
CRNN	rs76106423	GG
SLC16A1	rs75675436	GG
MAGI3	rs114187503	TT
/	rs187823545	CC
RAB13	rs372941760	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Creativity

Creativity is the ability to **think "outside the box"**, or approach situations with novel ideas. People often count on their creativity to make works of art or to solve difficult problems [R, R, R].

Some people are more creative than others. This may partly be due to genetics. In fact, about 20% of differences in people's creativity levels may be attributed to genetics. Genes that are linked to creativity tend to affect brain function [R, R, R, R].

To help boost your creativity, you can try [R]:

- Following a creative passion that resonates with you (e.g. painting, learning a musical instrument)
- Setting aside some alone time for self-reflection
- Daydreaming
- Being more open to new experiences (e.g., trying a new art form)
- Doing things in an unconventional way

HIGHER

Predisposed to higher creativity based on 7,294,282 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SAFB2	rs12610010	AA
OXGR1	rs9584408	AA
PGS1	rs4969170	GA
CDH9	rs183649533	GG
DCTD	rs62336284	AA
WDR6	rs73082337	CC
PRR20E	rs9537647	GG
UBA7	rs73079014	CC
IP6K2	rs73078357	TT
HYAL3	rs71326918	CC
APEH	rs34427167	CC
RBM6	rs7613875	AA
HYAL3	rs9858059	CC
PDCL3	rs56242838	GG
/	rs75269928	AG
/	rs1906252	AC
PCDH7	rs35800293	GA
MEF2C	rs448809	TG
EXOC4	rs6976440	GA
SYNGR1	rs6519190	AG
AFF3	rs11691869	CA
/	rs1933720	CT
RYBP	rs7349566	TC
ELAVL2	rs11793831	TG
MAIP1	rs17629496	AA
SLC16A9	rs4424624	TT
NRG1	rs73234132	AA
AKAP7	rs7756781	GT
DPYD	rs17379561	AA

GENE	SNP	GENOTYPE
ERBB4	rs7601502	GG
DCC	rs62097976	GG
TLE4	rs4877513	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Addictions and Eating Disorders

Let's face it, we all like to feel good. Our brains do this by releasing chemicals to generate that sensation, whether it be sex, great food, exercise, compliments, and so on. We will generally try to do things that promote these feelings.

Some substances cause the same chemical release in the brain, like tobacco for example. **This is part of why quitting addictive substances can be so difficult**. The same can be said for some eating disorders, where food becomes the salve to get rid of negative feelings.

This section looks at genetic predispositions toward addictions and eating disorders.

MORE LIKELY

Tobacco Addiction

More likely to be addicted to tobacco

TYPICAL LIKELIHOOD

Eating Disorders

Typical likelihood of eating disorders

TYPICAL LIKELIHOOD

Alcohol Addiction

Typical likelihood of alcohol addiction

TYPICAL LIKELIHOOD

Cannabis Addiction

Typical likelihood of cannabis addiction

LESS LIKELY

Addiction

Less likely to have addictions

LESS LIKELY

Binge Eating

Less likely to binge eat

Tobacco Addiction

Key Takeaways:

- About **50%** of the differences in people's chances of developing tobacco addiction may be due to genetics.
- Other risk factors include age, parents and peers who use tobacco, other substance use, mental health issues like depression or PTSD.
- About **8%** of people in the U.S. aged 12 and older have a nicotine dependence.
- Ending tobacco addiction is difficult. Possible actions to take include nicotine replacement therapy, support groups, and talk therapy.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

Some people only smoke in social situations or every once in a while. Others can't stop smoking. These differences may be partly due to genetics. In fact, about **50%** of the differences in people's chances of developing tobacco addiction may be due to genetics [R].
Risk factors for a nicotine addiction beyond genetics include [R]:

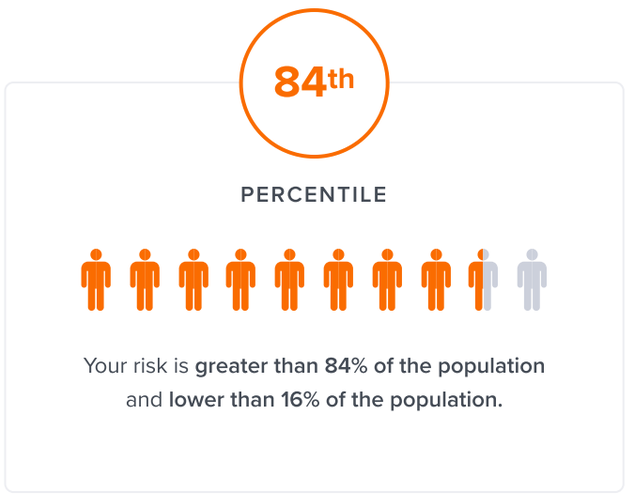
- Age
- Parents and peers who use tobacco
- Other substance use
- Mental health issues like depression or PTSD

It's difficult to quit tobacco if you are addicted to it. Some methods to help you quit include [R, R]:

- Nicotine replacement therapy (e.g., nicotine gum, nicotine patch)
- Talk therapy
- Support groups

MORE LIKELY

More likely to be addicted to tobacco based on 1,136,842 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NELL1	rs148586747	GG
ZMYM6	rs77109747	GG
POLR1F	rs6461441	AA
R3HCC1L	rs61873668	CC
ICE1	rs187632	GG
CDH10	rs374098	TC
TANC1	rs890622	GG
CACNA2D3	rs56247223	GG
CHRNA4	rs6062901	AG
CHRNA4	rs2273500	TC
AZIN2	rs199563603	DEL(G)T
GPSM1	rs28714232	CT
ADAMTSL1	rs17198023	AA
GFRA2	rs11779702	GC
CHRNB3	rs55828312	AA
IREB2	rs8034191	CT
HLA-F	rs62392942	CT
NR5A2	rs1060061	CT
HLA-F	rs56020557	TC
GLIS3	rs12348139	CT
CHRNB3	rs4950	AA

GENE	SNP	GENOTYPE
GNAI1	rs2714674	TT
DNMT3B	rs910083	CA
BCL11B	rs188595723	AA
IL9	rs78018149	GG
KLF12	rs75012440	GG
SARDH	rs56116178	AA
ZNF608	rs55644503	TT
MPPE1	rs72868658	GG
FAM200B	rs16892135	AA
SLC22A23	rs9503551	GG
FBXO48	rs144481999	CC
IREB2	rs34684276	GG
PEX2	rs12680810	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Eating Disorders

Key Takeaways:

- Up to **80%** of differences in people's chances of developing eating disorders may be due to genetics.
- Other risk factors include dieting, major stressful events, and other mental health conditions. If you have symptoms, talk to a healthcare professional.
- About **1%** of people may develop an eating disorder at some point in their life.
- If your genetic risk is high, you may lower your overall risk by taking action on those factors that you can change. However, eating disorders are rare, so a high genetic risk is still a low overall risk.
- Click the **Recommendations** tab for potential dietary and lifestyle changes and **next steps** for relevant labs.

Eating disorders are mental health conditions that impact eating habits. People with eating disorders have an unhealthy relationship with food, their weight, and the shape of their body [R].

The most common eating disorders are [R]:

- Binge eating disorder
- Anorexia nervosa
- Bulimia nervosa

Binge eating is the consumption of very large amounts of food in a short period of time. People who binge eat regularly and feel like they can't stop may have binge eating disorder [R].

Anorexia is an intense fear of gaining weight. People with this condition avoid eating and tend to lose a lot of weight. They may also use laxatives, diet aids, or other products and methods to try to reduce their calorie intake [R].

Bulimia is characterized by a "binge and purge" eating cycle. People with this condition binge eat and then attempt to get rid of the extra calories in an unhealthy way (*purge*). One common form of purging is induced vomiting [R].

About 1% of people may develop an eating disorder at some point in their life. Most eating disorders arise in adolescence or early adulthood. They are more common in women. They are also more common in Western countries [R, R, R].

Risk factors of eating disorders may include [R, R, R, R]:

- Dieting
- Major stressful events (e.g., breakups, starting a new job, etc.)
- Other mental health conditions
- **Genetics**

Eating disorders can cause serious physical and mental health problems. These include [R, R]:

- Depression
- Anxiety
- Suicidal thoughts
- Growth and development problems
- Substance use disorders
- Work, school, and social problems
- Malnutrition

TYPICAL LIKELIHOOD

Typical likelihood of eating disorders based on 10,958 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
RASGRF2	rs138206701	AA
OPTN	rs10906233	CC
MAGI3	rs61742849	GG
CAMK1D	rs75263140	AA
OLIG1	rs117124364	CC
TAS2R5	rs145241704	TT
PCDH7	rs74879986	GG
C4ORF17	rs148915469	AC
RMI2	rs117096873	CC
NKAIN3	rs142014203	TT
CHODL	rs77600076	AA
HSD17B11	rs115694618	AA
ZNF503	rs2043090	AA
C8ORF37	rs77742018	AA
BLMH	rs2129785	TT
BLMH	rs11867581	AA
DAB1	rs985795	TT
MSRA	rs6999631	CC
SELENOM	rs111383589	CC
ALDH4A1	rs28441017	GG
SMIM21	rs62090893	GG

- Heart, gut, or kidney problems

Treatment options depend on the type of eating disorder. They often include [R]:

- Talk therapy
- Family or friend support
- Nutrition education
- Medication

In severe cases, people with eating disorders may need a visit to the hospital [R].

Up to 80% of differences in people's chances of developing eating disorders may be attributed to genetics. Genes involved in eating disorders may influence [R, R, R]:

- Mental health
- Weight control
- Metabolism

GENE	SNP	GENOTYPE
/	rs28631020	GG
ACYP2	rs56148675	TT
PERP	rs1556640	TT
KIAA0825	rs469339	GA
/	rs78661745	CC
TMEM106B	rs114945094	AG
QSOX1	rs55946907	CC
GRID1	rs76765968	TT
CAMLG	rs299362	AA
MACROD2	rs11087123	GA
HRNR	rs3120667	AG
COL23A1	rs2910124	CC
SRPRB	rs11708304	CC
NT5C1B	rs1445130	AA
CCDC69	rs7724774	GG
/	rs8024343	AA
EMP2	rs2221433	GT
SRPX	rs56156506	A
ATP8A2	rs7322916	GG
WWOX	rs8050187	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Alcohol Addiction

Key Takeaways:

- About **50%** of the differences in people's chances of developing alcohol addiction may be due to genetics.
- Other risk factors include mental health conditions like anxiety and depression, previous trauma, binge drinking at an early age, steady drinking over time, social and cultural influences.
- About **10%** of people aged 12 and older have an alcohol addiction.
- If you have high genetic risk, you may lower your overall risk by taking action on those factors you can change. If you have symptoms, speak to a healthcare professional about your options.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

Some people can drink alcohol once in a while and not think twice about it. Others crave alcohol daily. These differences may be partly due to genetics. In fact, genetics may account for up to **50%** of the differences in developing alcohol addiction [R].

Other risk factors for alcohol addiction include [R]:

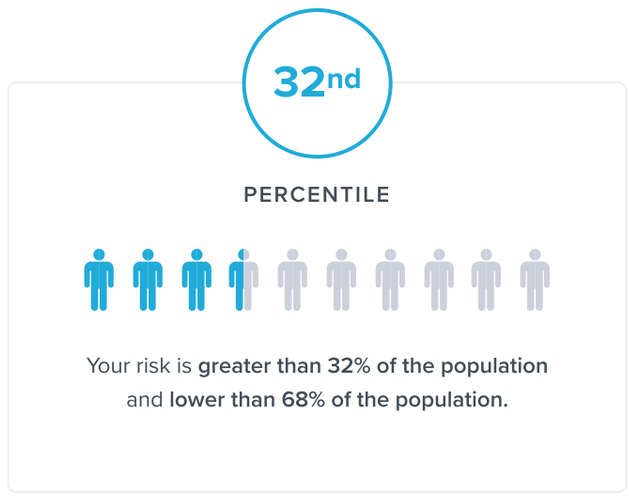
- Mental health conditions like anxiety and depression
- Previous trauma
- Binge drinking at an early age
- Steady drinking over some time
- Social and cultural influences

If you are struggling with alcohol addiction, talk to your doctor. There are many treatment options. These include [R]:

- Detox and withdrawal
- Counseling
- Support groups
- Medications

TYPICAL LIKELIHOOD

Typical likelihood of alcohol addiction based on 459,237 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADH1B	rs1229984	CT
ADH1C	rs1042026	CT
MYC	rs72716801	GG
ADH1B	rs2066702	GG
CLOCK	rs2412646	CC
CENPQ	rs74745534	CT
HNRNPA1P48	rs11076221	GG
NPSR1	rs324981	AA
MRPL39	rs59551326	AA
ADH4	rs6822348	TT
ADH4	rs17028615	AA
DHRS4L2	rs10483282	TT
ADH1A	rs1789882	GG
ADH1A	rs1693457	TT
ADH1A	rs904092	GG
SRD5A3	rs11240	CG
CLOCK	rs2412648	GT
CLOCK	rs3805151	CT
ADH1C	rs2173201	AC
ADH1C	rs4699741	TC
FBXO8	rs55768019	GG

GENE	SNP	GENOTYPE
TSPAN5	rs72900220	AA
RBPJ	rs6810498	GA
ADH1C	rs1614972	TC
ADH1C	rs2241894	CT
ADH1C	rs12639833	TC
SLC39A8	rs13107325	CC
GLRX3	rs10741210	GA
OPRM1	rs1799971	AG
GNAL	rs75433892	GG
CAMTA1	rs75562159	CC
ABI3BP	rs12632235	CC
CNTN5	rs117557854	GG
/	rs181048070	GG
RTN4	rs1437396	CC
GET1	rs79978308	CC
NRIP1	rs57126985	GG
MSR1	rs13340561	TT
GINS3	rs7199896	AA
AOX1	rs2253612	TT
SUGCT	rs17620991	GG
TWIST2	rs62191099	GG
PPFIA2	rs2400954	TT
MICB	rs9378160	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Cannabis Addiction

48.2 million people, or about 18% of Americans, used cannabis at least once in 2019. It is estimated that approximately **3 in 10 people** who use cannabis have an addiction issue.

About **50-70%** of differences in people's chances of having cannabis addiction may be due to **genetics.** Involved genes may influence the body's **cannabinoid system** and brain chemicals such as dopamine and serotonin [R].

Cannabis addiction can be influenced by a variety of other factors, including:

- Age (the younger the age of initial usage, the higher the risk)
- Frequency and amount of use
- Mental health issues like depression or PTSD
- Lower socioeconomic status

TYPICAL LIKELIHOOD

Typical likelihood of cannabis addiction based on 1,648 genetic variants we looked at

20th

PERCENTILE

Your risk is **greater than 20% of the population** and **lower than 80% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AP2A2	rs7107977	AA
FAAH	rs4141964	TT
FAAH	rs324420	AC
TPRA1	rs604300	GG
HS3ST4	rs57514421	CT
PMM1	rs4822044	GG
ACYP2	rs2287641	GA
CSDC2	rs202629	TT
TUFM	rs10499	AA
NCAM1	rs4471463	TC
CADM2	rs7651996	TT
CADM2	rs2875907	AG
CADM2	rs1448602	GA
NCAM1	rs9919557	TC
/	rs58691539	TT
SP9	rs2033867	GG
CNR1	rs806380	AA
CNR1	rs806368	TT
ZNF704	rs9773390	TT
IPO8	rs2099149	TT
NANOS1	rs150525973	CC

GENE	SNP	GENOTYPE
NR2F2	rs4984460	TT
ANO3	rs4075765	GG
SRR	rs17761723	CC
SDK1	rs10085617	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Addiction

Key Takeaways:

- About 40% of differences in people's chances of developing an addiction may be attributed to genetics.
- Risk factors include mental health conditions, difficult family life, peer pressure, substance use at a young age, and your genetics.
- If you have a high genetic risk, struggle with risk factors, or experience symptoms of addiction, you may want to talk to a healthcare professional about the best action to take.
- Addiction is heavily influenced by lifestyle and environmental factors, so even with a high genetic risk, your overall risk can be low with appropriate precautions.

Addiction is defined as a dependence on a behavior or substance. Researchers think almost anything that can stimulate a person can eventually lead to an addiction. This happens when something that is first done out of habit ends up becoming an obligation [R].

Things that people can become addicted to include [R]:

- Gambling
- Technology (e.g., internet, gaming, smartphones)
- Exercise
- Sex
- Shopping
- Substances

The brain has built-in systems for feeling pleasure and reward. For example, when you have a pleasant experience, dopamine systems are activated. These systems reward behaviors that help us survive and reproduce, such as eating and having sex. In response, we become motivated to take part in these behaviors again [R, R].

However, many addictive substances and behaviors can also activate the dopamine system. This can cause changes in parts of the brain that reinforce habits related to drug use. In people with a drug addiction, just being around a certain person or object can trigger the urge to use a drug [R, R, R].

Substance use disorder is the medical term for drug addiction. Substances that people can become addicted to include [R]:

- Tobacco
- Alcohol
- Cannabis
- Opioids (e.g., heroin, morphine, codeine)
- Stimulants (e.g., amphetamines, meth, cocaine)

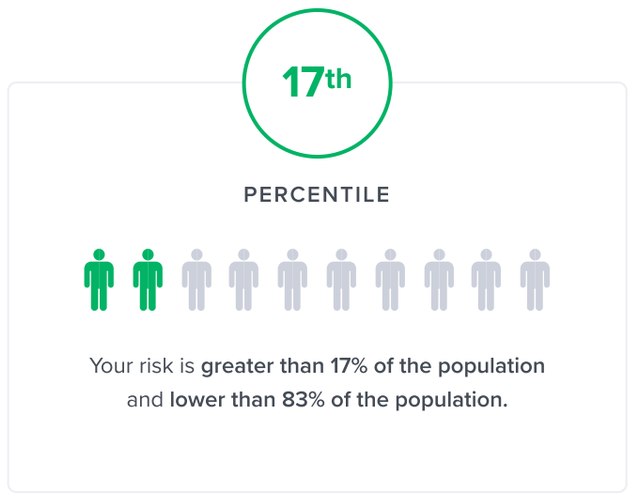
Up to 1 in 10 Americans may have substance use disorder at some point in their lives. What's more, only 1 in 4 of these people will seek treatment [R].

Addiction can have serious consequences. It may contribute to [R]:

- Road accidents
- Infectious disease (through shared needles or unsafe sex)
- Family or social problems
- Work or school problems
- Legal or money problems
- Mental health conditions
- Suicide or fatal overdose

LESS LIKELY

Less likely to have addictions based on 847,156 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
DOCK3	rs148179194	TT
RGS18	rs12126348	GG
PMM1	rs4822044	GG
CSDC2	rs202629	TT
ADH1B	rs1229984	CT
DNMT3B	rs910083	CA
ADH1C	rs1042026	CT
ZNF516	rs73973283	AA
CDH6	rs62357000	TT
ANKK1	rs1800497	GA
LPCAT1	rs27072	CC
EFNA5	rs71575441	TC
MYC	rs72716801	GG
DRD1	rs265981	AG
SFXN1	rs5326	CT
TTC12	rs1079727	TC
DRD1	rs686	GA
TTC12	rs1079597	CT
TTC12	rs2283265	CA
TTC12	rs1076560	CA
CENPQ	rs74745534	CT

Risk factors for addictions include [R]:

- Mental health conditions
- Difficult family life
- Peer pressure
- Substance use at a young age
- **Genetics**

Overcoming an addiction includes avoiding the substance, behavior, or associated trigger. This is very difficult. To help with the process, doctors may recommend [R, R, R, R]:

- Withdrawal therapy (e.g., drug "detox" programs)
- Talk therapy
- Medication
- Long-term follow-up to prevent relapse

About 40% of differences in people's chances of developing an addiction may be attributed to genetics. Genes involved in addiction may influence [R]:

- Ability to control impulses (*MAOA*, *HTR2B*)
- Dopamine (*COMT*)
- Serotonin (*SLC6A4*)
- Opioids (*OPRM1*)
- Alcohol metabolism (*ALDH2*, *ADH1B*)

GENE	SNP	GENOTYPE
ZMYM6	rs77109747	GG
POLR1F	rs6461441	AA
PRKCE	rs7591351	TC
TANC1	rs890622	GG
HS3ST4	rs57514421	CT
OPRM1	rs1799971	AG
ACYP2	rs2287641	GA
COMT	rs4680	GA
BLMH	rs2129785	TT
BLMH	rs11867581	AA
HTR2A	rs6313	AG
MYLK4	rs2249437	TC
CADM2	rs2875907	AG
IREB2	rs8034191	CT
HLA-F	rs62392942	CT
CENPW	rs139878170	CC
XYLT1	rs3943418	GG
SLC22A23	rs9503551	GG
GNAL	rs75433892	GG
SLITRK5	rs7332726	GG
NTM	rs75038630	CC
MAOA	rs6323	G
LPCAT1	rs464049	GG
SLC6A3	rs27048	TT
MAOB	rs1799836	T
DRD3	rs167771	AA
ANKK1	rs12364283	AA
DEAF1	rs11246226	CC
CAMTA1	rs75562159	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Binge Eating

Binge eating can be associated with:

- Psychological issues: Low self-esteem, body dissatisfaction, and significant stress can trigger binge eating.
- Biological factors: Genetic mutations may affect hunger and satiety, through alterations in brain chemistry that can predispose individuals to eating disorders.
- Social and cultural factors: Dysfunctional family dynamics, professions and activities that focus on appearance and dieting, and traumatic situations such as bullying or abuse can increase the risk of BED.
- Dieting: Some people with binge eating disorder have a history of dieting or restrictive eating, which may trigger an urge to binge eat.

Treatment of binge eating disorder may involve:

- Psychotherapy: Cognitive-behavioral therapy (CBT) is considered effective for treating BED. It involves teaching individuals to regulate their eating patterns and to replace unhealthy thoughts and behaviors with healthier ones.
- Medications: Antidepressants, antiepileptic drugs, and certain stimulants such as lisdexamfetamine are sometimes prescribed to help control symptoms of binge eating.
- Nutritional counseling: Working with a nutritionist can help create healthier eating habits and mend one's relationship with food.
- Support groups: These can provide a network of support and an environment to share experiences and coping strategies.

Moreover, the following lifestyle interventions may help:

- Regular eating schedules: Eating regular meals and avoiding skipping meals can prevent extreme hunger that might trigger a binge.
- Mindfulness practices: Techniques such as mindful eating can help improve awareness of hunger cues and feelings of fullness.
- Stress management: Learning and implementing stress reduction techniques can help manage the emotional component often associated with binge eating.

LESS LIKELY

Less likely to binge eat based on 13,449 genetic variants we looked at

7th

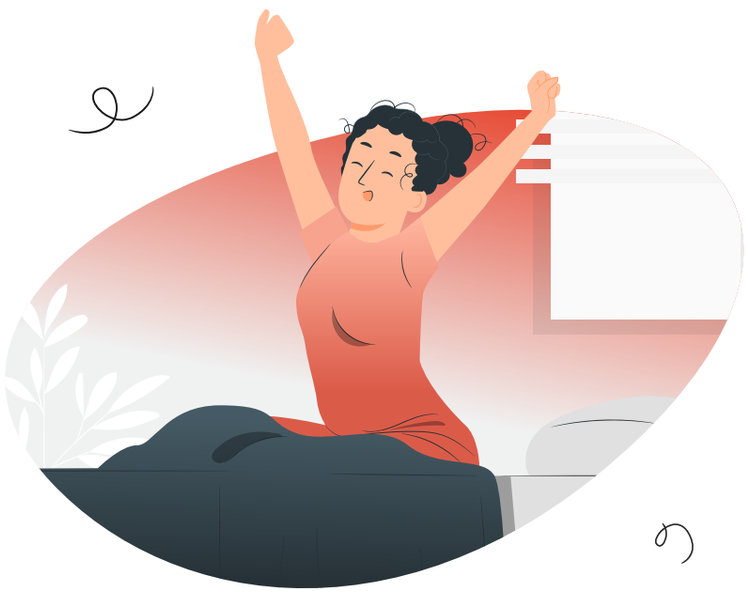
PERCENTILE

Your risk is **greater than 7% of the population** and **lower than 93% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NUP35	rs1950038	CT
CUBN	rs7904579	GC
BCKDHB	rs17810023	CC
MMADHC	rs182107583	AA
RGPD4	rs111940429	CC
SYNDIG1	rs76087671	CC
SLC25A26	rs145763646	GG
FTO	rs9939609	TT
/	rs73057489	AA
MC4R	rs17782313	TT
ARHGAP8	rs726170	CC
/	rs7337127	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.



Brain Chemicals & Genes

Brain chemicals, or neurotransmitters, are essential for regulating mood, emotions, and cognitive function. This section dives into key genes related to serotonin, dopamine, GABA, oxytocin, and cannabinoids—chemicals that influence your mental health and emotional well-being.

Genetic variations in serotonin-related genes can affect mood stability and susceptibility to depression or anxiety. Dopamine and norepinephrine pathways regulate motivation and emotional resilience. By understanding your genetic predispositions in these critical brain chemical systems, you can gain insights into your mental health and explore personalized strategies for balance.

LOWER ACTIVITY

SLC6A4 (Fatigue, Mental Health)

Likely lower SLC6A4 activity

LIKELY S/S

5-HTTLPR (Serotonin)

Likely S/S genotype at 5HTTLPR

WORSE GENETICS

TPH2 (Serotonin)

Likely worse TPH2 genetics

HIGHER ACTIVITY

MAOA (Dopamine/Serotonin)

Likely higher MAOA activity

HIGHER ACTIVITY

MAOB (Dopamine/ Phenylethylamine)

Likely higher MAOB activity

LOWER ACTIVITY

GABA-A

Likely lower GABA-A activity

WORSE

GAD1 (Glutamate/GABA)

Likely worse GAD1 genetics

LOWER ACTIVITY

CRHR2 (Stress/HPA Axis)

Likely lower CRHR2 activity

LOWER ACTIVITY

DRD2 (Dopamine)

Likely lower DRD2 activity

HIGHER ACTIVITY

DRD3 (Dopamine/Energy)

Likely higher DRD3 activity

WORSE GENETICS

NPAS2 (Mood/ Sleep Schedule)

Likely worse NPAS2 genetics

LOWER ACTIVITY

RGS2 (Anxiety)

Likely lower RGS2 activity

SLIGHTLY LOWER LEVELS

BDNF

Slightly lower BDNF levels

LOWER ACTIVITY

ADA (Cognition/Longevity)

Likely lower ADA activity

LOWER ACTIVITY

ENPP6 (Cognition)

Likely lower ENPP6 activity

TYPICAL ACTIVITY

SNAP25 (Mental Health)

Likely typical SNAP25 activity

TYPICAL ACTIVITY

SLC6A2 (Mental Health)

Likely typical SLC6A2 activity

TYPICAL ACTIVITY

OXTR (Oxytocin)

Likely typical OXTR activity

E3/E3

APOE

You carry two APOE ε3 variants

HIGHER LEVELS

Serotonin

Predisposed to higher brain serotonin levels

TYPICAL ACTIVITY

GSK3B (Serotonin)

Likely typical GSK3B activity

TYPICAL ACTIVITY

HTR2A (Serotonin)

Likely typical HTR2A activity

LOWER ACTIVITY

FAAH (Cannabinoids)

Likely lower FAAH activity

TYPICAL ACTIVITY

CNR1 (Cannabinoids)

Likely typical CNR1 activity

TYPICAL ACTIVITY

CRHR1 (Stress/HPA Axis)

Likely typical CRHR1 activity

TYPICAL ACTIVITY

GRIA3 (Sleep/Mood)

Likely typical GRIA3 activity

TYPICAL ACTIVITY

ADORA2A (Anxiety)

Likely typical ADORA2A activity

TYPICAL ACTIVITY

COMT

Likely typical COMT activity

TYPICAL ACTIVITY

NFKBIL1 (Cognition)

Likely typical NFKBIL1 activity

TYPICAL ACTIVITY

TNFSF9 (Cognition)

Likely typical TNFSF9 activity

TYPICAL ACTIVITY

TF (Iron & Cognition)

Predisposed to typical TF activity

HIGHER ACTIVITY

HTR1A (Serotonin)

Likely higher HTR1A activity

LOWER ACTIVITY

FKBP5 (Stress/ HPA Axis)

Likely lower FKBP5 activity

HIGHER ACTIVITY

TUSC3 (Cognition)

Likely higher TUSC3 activity

LOWER ACTIVITY

SOAT1 (Cholesterol/ Cognition)

Likely lower SOAT1 activity

HIGHER ACTIVITY

KIBRA/WWC1 (Cognition)

Likely higher KIBRA/WWC1 activity

SLC6A4 (Fatigue, Mental Health)

Two *SLC6A4* variants, 'G' at **rs2066713** and 'T' at **rs140701**, have been associated with higher rates of chronic fatigue syndrome [R].

The rs2066713-G variant has also been associated with:

- Increased risk of schizophrenia [R]
- Increased risk of migraines with aura [R]
- Increased risk of nicotine dependence [R]
- Decreased risk of alcohol use disorder [R]
- Decreased risk of autism [R]
- Decreased risk of type 2 diabetes [R]

In turn, the rs140701-T allele has been associated with:

- Increased anxiety and risk of panic disorder and social anxiety disorder [R, R, R]
- Increased risk of breast cancer [R]

These variants may reduce SLC6A4 activity. As a result, they may increase the brain's sensitivity to both good and bad environmental changes [R, R].

LOWER ACTIVITY

Likely lower SLC6A4 activity based on 2 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BLMH	rs140701	TT
BLMH	rs2066713	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

5-HTTLPR (Serotonin)

PLEASE NOTE: This report doesn't directly look into the long and short 5-HTTLPR alleles, but estimates your genotype based on two polymorphisms that are usually inherited together with these variants. Hence, your predicted genotype may be inaccurate.

Another genetic variant, **rs25531-C**, reduces serotonin transporter activity, making it equivalent to the **short 5-HTTLPR allele**. Please see the genotype for that variant and consider it **in addition to the results of this report** for a more accurate estimate. For example, rs25531-CT indicates at least one short allele, even if your result says "L/L". Likewise, rs25531-CC indicates two short alleles, even if your result says "L/L" or "L/S".

Depending on the presence or absence of a specific sequence, the 5HTTLPR variant can originate two different alleles [R]:

- Short (S): lower activity of the gene
- Long (L) allele: 3-fold higher activity of the gene compared to the S allele

The S allele reduces the rate at which serotonin is recycled after a signal, ultimately lowering the circulating levels of this chemical [R].

This polymorphism has been widely investigated in psychiatry. Although the evidence is mixed in some cases, the S allele has been associated with an increased risk of:

- Major depressive disorder [R, R]
- Postpartum depression [R]
- Depression in Parkinson's disease [R]
- Depression in coronary heart disease [R]
- Post-stroke depression [R, R]
- Geriatric depression [R]
- Illness anxiety (hypochondria) [R]
- PTSD [R]
- Bipolar disorder [R, R]
- Alcohol abuse and dependence [R, R]
- Anorexia nervosa [R]
- Suicide attempts [R, R, R]
- Premature ejaculation [R, R]
- Migraines [R]
- Canker sores [R]
- Antidepressant-induced mania [R]
- Failure of SSRI treatment [R]

In turn, the L allele has been linked to:

- IBS, especially IBS-C [R, R]
- Obstructive sleep apnea [R]

Different combinations of the rs2129785 and rs11867581 polymorphisms of this gene are usually inherited together with the S and L alleles and can be used to predict the genotype of this variant. While carrying the 'T' variant at rs2129785 and 'A' at rs11867581 predicts the S allele in 91% of cases, 96% of people carrying 'T' at rs2129785 and 'G' at rs11867581 and 100% of those with 'C' at rs2129785 and 'A' at rs11867581 have the L allele [R].

Other variants of this gene have been associated with chronic fatigue syndrome [R, R].

LIKELY S/S

Likely S/S genotype at 5HTTLPR based on the genetic variants we looked at

26%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **26% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BLMH	rs2129785	TT
BLMH	rs11867581	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

TPH2 (Serotonin)

The rs4570625 variant has been most widely investigated. Its minor ‘T’ allele is believed to reduce TPH2 production, resulting in **lower serotonin levels**. Carriers of this variant show higher activity in the part of the brain responsible for stress and fear processing (the *amygdala*) in response to emotional stimuli [R, R, R, R].

The T-allele is abundant among adults high in the personality trait "harm avoidance" [R].

However, the ‘T’ variant has also been associated with **higher GABA levels**. GABA is the main inhibitory neurotransmitter that protects mental health. In line with this, studies have linked the "T" allele to **lower odds** of [R, R, R]:

- Anxiety disorders such as panic disorder [R]
- Severe ADHD symptoms and poor sustained attention in healthy individuals [R]
- Early-onset OCD [R]
- Depression [R]
- Suicide attempts [R]
- Schizophrenia [R]
- Failure of placebo treatments to improve anxiety [R]

The link of this variant with both low serotonin and high GABA levels may explain its complex association with mental health traits.

WORSE GENETICS

Likely worse TPH2 genetics based on the genetic variants we looked at

63%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **63% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TPH2	rs4570625	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

MAOA (Dopamine/Serotonin)

There are multiple *MAOA* variants affecting enzyme activity. While low-activity variants lead to increased levels of the monoamine neurotransmitters dopamine, serotonin, and norepinephrine, variants with high activity decrease them. The main one is **rs6323**, and its **"T" allele** encodes a MAO-A protein with **lower activity** [R].

Another important variant is rs909525, but it's often inherited together with rs6323, so it may not be an independent genetic factor.

The first low-activity variants described were associated with increased aggressiveness, which earned *MAOA* the nickname "the Warrior gene." This received high media coverage and raised the ethical question of whether carriers of certain variants should be held fully responsible for their actions. In some cases, it even resulted in sentence reductions [R, R, R, R]!

Other conditions associated with lower MAOA activity include:

- Autism [R, R, R]
- Schizophrenia [R, R, R]
- Suicidal behavior [R, R, R]
- Alcoholism [R, R, R]
- Substance use disorder [R, R]
- Obesity [R, R, R]

In contrast, variants with high activity lead to reduced dopamine, serotonin, and norepinephrine levels. These variants have been associated with the following conditions:

- Depression [R, R, R, R]
- Panic disorder [R, R]
- Obsessive-compulsive disorder [R, R]
- ADHD [R, R, R, R, R]
- Tourette syndrome [R, R]
- Heavy smoking [R, R, R]
- Parkinson's disease [R, R]
- Migraines [R, R]
- Chronic fatigue syndrome [R]

Drugs that block MAOA can improve several of these conditions and are commonly prescribed for mood disorders. However, inhibitors of another monoamine oxidase version (MAOB) are preferred in the case of Parkinson's disease because they are more effective for motor symptoms and brain cell death [R, R].

MAOA also plays a role in **histamine metabolism**. It breaks down histamine by removing an amine group, primarily in brain and gut tissues. When MAOA activity is reduced, histamine remains active longer, potentially contributing to prolonged allergy symptoms or sensitivity reactions.

Nevertheless, keep in mind that the research on the health effects of *MAOA* variants is very complex, and often results in mixed or inconsistent findings. Factors that may modify the associations of specific *MAOA* variants with health conditions include:

- Their combination with other *MAOA* variants
- Many other genes
- Gender and sex hormone levels
- Environmental factors

HIGHER ACTIVITY

Likely higher MAOA activity based on the genetic variants we looked at

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **40% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MAOA	rs6323	G
MAOA	rs909525	C

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

MAOB (Dopamine/ Phenylethylamine)

A higher amount of monoamine oxidase B implies lower monoamine levels (due to increased breakdown), and vice versa. *MAOB* variants with increased activity have been associated with chronic fatigue syndrome [R, R].

The main variants associated with this condition are [R]:

- 'G' at rs3027452
- 'G' at rs2283729
- 'T' at rs1799836

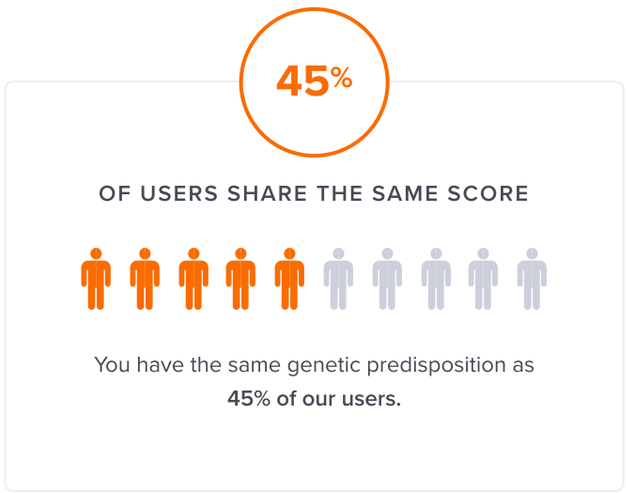
The 'T' allele of rs1799836 is also associated with higher anger [R].

The 'G' allele of rs3027452 is linked to lower blood pressure and higher mood improvement in response to tryptophan treatment [R, R].

MAOB also plays a role in **histamine metabolism**. While it primarily targets other compounds, it is a backup system for histamine degradation when MAOA function is insufficient. It's crucial in the liver and certain brain regions where it can compensate for limited MAOA activity in processing excess histamine.

HIGHER ACTIVITY

Likely higher MAOB activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MAOB	rs3027452	G
MAOB	rs2283729	G
MAOB	rs1799836	T

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

GABA-A

The *GABRG2* gene codes for the gamma-aminobutyric acid type A subunit gamma2 (GABRG2) of the GABA-A receptor. The 'T' allele of its rs211037 polymorphism likely impairs GABA-A receptor function and has been associated with an increased risk of [R]:

- Anxiety and impaired stress response [R]
- Seizures [R]
- Benzodiazepine-associated liver encephalopathy [R]

Another gene, *GABRA6*, encodes the alpha6 subunit of this receptor. The 'T' allele of its rs3219151 polymorphisms, which may also impair GABA-A activity, has been associated with an increased risk of [R]:

- Anxiety and impaired stress response [R, R, R]
- Alcohol dependence [R]
- Stress-associated suicide [R]

However, this variant has been associated with a reduced risk of schizophrenia, and the studies testing its effects on epilepsy produced mixed results [R, R, R].

LOWER ACTIVITY

Likely lower GABA-A activity based on the genetic variants we looked at

17%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **17% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GABRG2	rs211037	TT
GABRA6	rs3219151	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

GAD1 (Glutamate/GABA)

The most well-researched *GAD1* polymorphism is rs3749034. Its major 'G' allele has been shown to reduce GAD1 activity, resulting in lower GABA levels in the brain. In addition, this variant has been associated with an increased risk of [R]:

- Schizophrenia [R, R, R]
- Hyperactive and impulsive symptoms in ADHD [R]

However, this variant has also been linked to lower odds of bipolar disorder and fewer respiratory symptoms in people with panic disorder [R, R].

Another variant associated with schizophrenia is the minor 'A' allele at rs1978340. Surprisingly, this variant has been shown to reduce GABA levels. The fact that GABA acts as an inhibitory neurotransmitter in the mature brain but has the opposite activity during brain development may explain the complex effects of GABA levels on conditions such as schizophrenia and ADHD [R, R, R, R].

This variant has also been linked to:

- Cocaine dependence [R]
- Panic disorder and respiratory symptoms in this condition [R, R]
- Earlier onset of alcohol dependence [R]

However, this allele was associated with a reduced risk of heroin addiction [R].

WORSE

Likely worse GAD1 genetics based on the genetic variants we looked at

37%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **37% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GAD1	rs3749034	GG
GAD1	rs1978340	AG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

CRHR2 (Stress/HPA Axis)

A study of 491 veterans exposed to trauma and their partners associated the 'A' allele of rs2267715 and rs2190242 with an increased risk of PTSD in women. The study speculated that both variants may decrease *CRHR2* activity, thereby stimulating the stress response [R].

The rs2267715 variant was associated with PTSD symptom severity in a study of 1132 earthquake survivors [R].

LOWER ACTIVITY

Likely lower CRHR2 activity based on the genetic variants we looked at

65%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **65% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CRHR2	rs2267715	AA
CRHR2	rs2190242	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

DRD2 (Dopamine)

When it comes to the *DRD2* gene, the most studied variant is rs1800497, also known as Taq1A. Interestingly, this variant is found in another gene, *ANKK1*, which controls the activity of *DRD2* [R, R, R].

The **"A" ("A1") allele** of this variant is linked to different pleasure-seeking behaviors, such as:

- Alcohol and substance misuse [R, R, R]
- Food cravings and emotional eating [R, R, R, R]
- Other addictive behaviors [R]

This allele is linked to a **30%** lower number of D2 receptors in brain regions responsible for **motivation and reward**. People with this allele may **seek more pleasure** from alcohol, high-calorie foods, drugs, and other addictive substances and behaviors [R, R, R].

This variant may also be linked to [R, R, R, R, R]:

- Depression
- Negative feelings
- Chronic pain
- PTSD

On the positive side, people with this variant may be more motivated and have better cognitive function [R, R, R, R].

Due to the complex functions of D2 receptors, we can't simply say if this variant increases or decreases dopamine. **Hence, people with this variant should try to maintain balanced dopamine levels.** Some natural ways to balance dopamine include [R, R, R, R]:

- Exercise [R]
- Relaxation [R, R, R, R]
- Reduced sugar intake [R]

LOWER ACTIVITY

Likely lower DRD2 activity based on the genetic variants we looked at

33%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **33% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ANKK1	rs1800497	GA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

DRD3 (Dopamine/Energy)

The ‘T’ allele of **rs6280** (Ser9Gly) has been associated with chronic fatigue syndrome, an illness characterized by prolonged low energy. This variant may increase the sensitivity or production of dopamine receptor D3, which may result in excessive fatigue when activated by dopamine [R].

HIGHER ACTIVITY

Likely higher DRD3 activity based on the genetic variants we looked at

45%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **45% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
DRD3	rs6280	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

NPAS2 (Mood/ Sleep Schedule)

The main *NPAS2* variant, **rs2305160**, is often studied in relation to cancer. A 2015 meta-analysis confirmed the link between the **A allele and lower odds of cancer, especially breast cancer** [R].

Another *NPAS2* variant, **rs11123857**, may also be linked to slightly higher odds of breast cancer. It may also correlate with **depression**, according to one study. People with the **G allele** had 1.5x higher odds of depression [R, R].

NPAS2 helps determine when we sleep and when we eat. The above associations are not surprising, given the key role of our internal clock in mood and cellular health.

More precisely, **eating late and having small fasting windows** may contribute to inflammatory changes linked to breast cancer. Disrupted circadian rhythm also has an established role in depression and other mood disorders [R, R].

WORSE GENETICS

Likely worse NPAS2 genetics based on the genetic variants we looked at

43%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **43% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NPAS2	rs2305160	GG
NPAS2	rs11123857	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

RGS2 (Anxiety)

Some variants produce less RGS2 protein. As a result, fewer G protein-coupled receptors will turn off and your brain becomes more active than normal, leading to anxiety. Some of these variants include [R, R]:

- ‘C’ at **rs4606**
- ‘G’ at **rs10801153**
- ‘G’ at **rs16834831**
- ‘A’ at **rs1890397**
- ‘A’ at **rs16829458**

LOWER ACTIVITY

Likely lower RGS2 activity based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
RGS2	rs10801153	GG
RGS2	rs4606	CC
RGS2	rs16834831	TG
RGS2	rs1890397	AG
RO60	rs16829458	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

BDNF

The *BDNF* gene helps produce BDNF and strongly impacts its levels and activity [R].

A crucial *BDNF* gene variant is **rs6265**, also known as "**Val66Met**". It may affect BDNF production, storage, and release in brain cells [R, R, R, R].

As a result, the **"T" ("Met") allele is linked to reduced cognitive function**, including [R, R, R, R]:

- Learning difficulties
- Poor memory
- Dementia

Besides cognitive effects, this variant may also play a role in [R, R, R, R, R, R, R]:

- Stress and anxiety
- PTSD and OCD
- Weight control
- Migraines
- Fatigue

Moreover, the "T" variant may impair response to the antidepressant effects of low-dose ketamine. Nevertheless, this variant may not affect the effectiveness of ketamine for treatment-resistant depression [R, R, R, R, R].

However, you should keep in mind some **important limitations** [R, R, R, R, R, R]:

- The effects of this variant on some traits are conflicting.
- Many studies looking into the cognitive effects of this variant are limited to people with mental health problems.
- The link between this variant and some conditions, such as OCD and dementia, may be significant only in women.
- **Your other genetic variants, lifestyle, and environment may also influence your BDNF levels and activity.**

SLIGHTLY LOWER LEVELS

Slightly lower BDNF levels based on the genetic variants we looked at

32%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **32% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BDNF	rs6265	CT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

ADA (Cognition/Longevity)

The ‘T’ allele of **rs73598374** encodes a protein with an amino acid substitution resulting in a 35% reduced ADA activity. As a result, carriers have higher adenosine levels and less inosine [R].

This variant has been associated with worse attention performance, probably because the increased tiredness and fatigue caused by adenosine buildup may worsen attention span [R].

Regarding longevity, this variant has been linked to reduced odds of living past 88 years old but increased odds of living between 68 and 88 years in men. Two mechanisms may explain the dual effects of this variant. On the one hand, it has been associated with shorter telomeres, which would reduce the odds of reaching a very advanced age. On the other hand, adenosine reduces coronary artery disease risk and ischemic attack mortality, potentially reducing the risk of premature death [R, R].

LOWER ACTIVITY

Likely lower ADA activity based on the genetic variants we looked at

12%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **12% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADA	rs73598374	TC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

ENPP6 (Cognition)

SNPs in the *ENPP6* gene (such as **rs4241784**) have also been associated with more specific individual cognitive functions, such as **fluid intelligence**, **processing speed**, and **learning and memory.** The 'T' allele of this polymorphism is associated with enhanced cognitive ability due to increased myelination throughout the brain [R, R, R].

LOWER ACTIVITY

Likely lower ENPP6 activity based on the genetic variants we looked at

42%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **42% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ENPP6	rs4241784	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

SNAP25 (Mental Health)

One of the best-characterized *SNAP25* polymorphism is **rs3746544**. Its minor 'T' allele may reduce SNAP25 levels and has been associated with an increased risk of ADHD, as well as more impulsivity and hyperactiviy in people with this condition. In contrast, this variant has been linked to lower schizophrenia rates [R, R, R, R, R].

Another minor allele, 'A' at **rs363039**, has been associated with a lower IQ. However, this allele may also reduce working memory deficits in people with ADHD and the risk of early-onset Alzheimer's disease [R, R, R, R].

Finally, the major 'A' allele of **rs362987** has been associated with an increased risk of ADHD but also with better educational attainment [R, R, R].

TYPICAL ACTIVITY

Likely typical SNAP25 activity based on 3 genetic variants we looked at

50th

PERCENTILE

Your risk is **greater than 50% of the population** and **lower than 50% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SNAP25	rs3746544	GT
SNAP25	rs363039	GA
SNAP25	rs362987	AC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

SLC6A2 (Mental Health)

In line with the role of norepinephrine in several aspects of attention such as increased focus, memory recall, and alertness, dysfunction of the norepinephrine system has been linked to ADHD [R, R].

The following SLC6A2 variants have been associated with ADHD risk and worse inattention symptoms:

- ‘T’ at **rs3785143** (especially true for oppositional defiant disorder) [R, R, R, R, R, R]
- ‘T’ at **rs3785157** [R, R, R]
- ‘C’ at **rs11568324** [R, R]
- ‘C’ at **rs2242447** [R]
- ‘T’ at **rs28386840** [R, R, R]

These variants may increase *SLC6A2* expression and reduce norepinephrine levels in the brain, potentially contributing to ADHD symptoms.

Some of these variants have also been found to affect the effectiveness of ADHD treatment. For instance, multiple studies found that children with ADHD were more likely to respond to methylphenidate if they carried the risk allele at rs28386840 [R].

In contrast, carriers of the ‘T’ allele of rs3785143 may not respond to atomoxetine [R, R].

TYPICAL ACTIVITY

Likely typical SLC6A2 activity based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC6A2	rs11568324	CC
SLC6A2	rs28386840	AT
CES1	rs2242447	TC
SLC6A2	rs3785143	CC
SLC6A2	rs3785157	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

OXTR (Oxytocin)

The best-researched *OXTR* polymorphism is **rs53576**. Its minor 'A' allele is associated with decreased activity in the oxytocin system and lowered effects of oxytocin supplementation When compared to those with the 'GG' genotype, those with the 'A' allele may have [R]:

- Lower optimism, empathy, and pro-social behavior [R, R]
- Decreased emotion-reading ability [R, R]
- Lower predisposition to forgive [R]
- Decreased happiness in marriage [R]
- Lower non-verbal IQ [R]
- Higher predisposition to major depression [R]
- Increased risk of autism spectrum disorders [R, R, R]

However, people with this allele may deal better with stress and social rejection [R, R].

Another well-researched polymorphism is **rs2254298**. Its minor 'A' allele may increase oxytocin sensitivity and amygdala size. This variant has been associated with [R, R, R]:

- Higher anxiety and sensitivity to stress [R, R]
- Higher empathic concern of their partner's distress in romantic relationships [R]
- Lower optimism [R]
- Worse executive functioning and decision-making [R, R]
- Decreased emotion-reading ability [R]

Interestingly, the heterozygous 'AG' genotype may be the most empathetic one compared to 'AA' and 'GG' [R].

Another minor variant, 'T' at **rs1042778**, may decrease oxytocin levels. This variant has been associated with [R]:

- Less empathy for the partner in romantic relationships [R]
- Decreased generosity and kindness [R]
- Less pro-social behavior [R]

The major 'T' allele of **rs13316193** may decrease the number of oxytocin receptors in the brain. The 'TT' genotype of this variant has been associated with [R]:

- Increased risk of low mood and autism [R]
- Less empathy for the partner in romantic relationships [R]
- Decreased generosity and kindness [R]
- Less pro-social behavior [R]

Finally, the rare 'A' allele of **rs2268494** may cause lower oxytocin levels or less efficient oxytocin receptors. This variant has been associated with an increased risk of autism and less empathy for the partner in romantic relationships [R, R].

TYPICAL ACTIVITY

Likely typical OXTR activity based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
OXTR	rs1042778	TG
OXTR	rs13316193	TC
OXTR	rs2254298	AG
OXTR	rs53576	GG
OXTR	rs2268494	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

APOE

Key Takeaways:

- If you carry one or both **ε4** variants, your risk for Alzheimer's disease may be higher.
- The risk is greatest for late onset (after age 65) Alzheimer's disease.
- Even if your risk is higher due to the **ε4** variants, numerous other factors from your environment to lifestyle to other genetic variants impact overall risk.
- People with both variants may never get Alzheimer's, and some who have neither variant can get the disease.

There are three major forms (variants) of the *APOE* gene. These are called ε2, ε3, and ε4. You can have two copies of the same variant or two different variants [R, R].

ε2, ε3, and ε4 change the shape of the ApoE protein. This can impact how well ApoE functions [R, R].

ε3 is the most common variant. It makes a protein that is good at clearing plaque from the brain and fats from the blood. Most people have two ε3 variants and a typical risk of Alzheimer's disease [R].

ε4 is less common. It makes a protein that is not as good at clearing plaque from the brain and fats from the blood. ε4 has been linked to a higher risk of Alzheimer's disease and artery hardening [R, R].

ε2 is another less common variant. It makes a protein that is better than ε3 at removing plaque from the brain, but not as good at removing fats from the blood. ε2 has been linked to a lower risk of Alzheimer's disease [R, R, R].

However, it has also been linked to a higher risk of artery hardening in people with two ε2 variants and an underlying chronic health condition, such as obesity or diabetes [R, R, R].

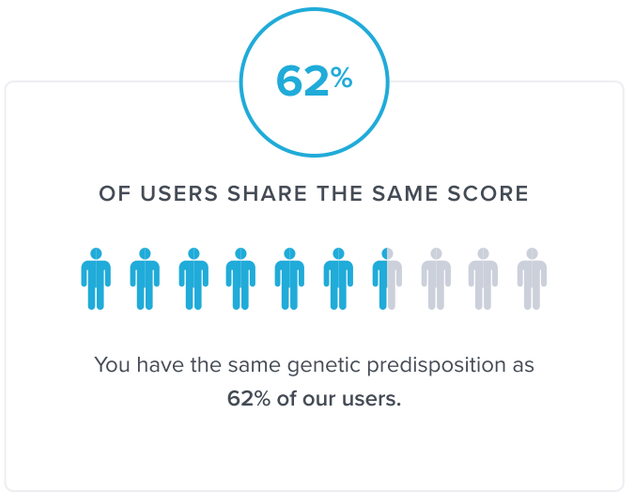
Did you know? The **ε4** variant was much more common among ancient hunter-gatherers. Scientists suggest this variant might have improved their [R]:

- Inflammatory response to germs in the wilderness
- Vitamin D status in less sunny European areas
- Aerobic endurance, crucial for a hunter-gatherer lifestyle

As humans largely switched to farming, some effects of this variant became useless or even harmful. For this reason, evolution strongly favored the **ε3** variant in ancient farmers and their modern descendants [R].

E3/E3

You carry two APOE ε3 variants based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOE	rs7412	CC
APOE	rs429358	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Serotonin

Blood serotonin gets rapidly broken down into inactive metabolites. The main metabolite is **5-HIAA** (5-hydroxyindoleacetic acid). It can be measured in different fluids to estimate serotonin levels [R].

Blood serotonin generally doesn't reach the brain. Hence, **the levels of serotonin in the blood don't always correlate with the levels of active serotonin in the brain** [R].

A more reliable test of **brain serotonin** measures 5-HIAA levels in the *cerebrospinal fluid* (CSF). Low levels may be linked to [R, R, R, R, R]:

- Aggressive and suicidal behavior
- Depression
- Parkinson's disease

Around **30%** of differences in brain serotonin levels may be due to genetics. Involved genes may play a role in [R]:

- Mental health
- Transport and release of brain chemicals
- Glutamate activity

Keep in mind that your health condition, lifestyle, and environment also influence your brain serotonin levels.

HIGHER LEVELS

Predisposed to higher brain serotonin levels based on 993 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GPC5	rs61970269	AT
SRR	rs11078884	CT
PCSK5	rs7047865	GT
PROX1	rs4655303	TA
KIF25	rs2843012	AG
/	rs2244067	AT
HAS2	rs279612	AG
WWOX	rs78867184	AG
SDC3	rs4949316	CG
KCNJ5	rs11221522	GG
/	rs13402855	TT
CSMD1	rs77265424	AA
MCPH1	rs6559140	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

GSK3B (Serotonin)

Variants that produce more GSK3β are associated with having an increased risk of anxiety in patients with major depressive disorder. For instance, the 'A' allele of rs334558 increases the activity of the *GSK3B* gene by 40%. Carriers of this variant may have a higher risk of [R, R]:

- Major depressive disorder [R, R]
- Alzheimer's disease [R]

However, this variant may protect against:

- Insomnia [R]
- Multiple sclerosis [R]
- Colorectal cancer [R]

Another variant, 'A' at rs6438552, encodes an alternative form of the protein that may have increased activity. This variant has been associated with an increased risk of [R, R]:

- Major depressive disorder [R]
- Alzheimer's disease [R]
- Colorectal cancer [R]
- Parkinson's disease [R, R]

The minor 'A' allele of rs3755557 may produce twice the levels of GSK3β than 'T'. This variant has been associated with an increased risk of [R]:

- Schizophrenia [R, R, R]
- ADHD [R]

Finally, the minor 'T' variant of rs12630592 has been linked to decreased GSK3β levels in the prefrontal cortex of healthy subjects. This variant has been linked to an increased risk of schizophrenia [R, R].

TYPICAL ACTIVITY

Likely typical GSK3B activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GSK3B	rs334558	GA
GSK3B	rs6438552	GA
GSK3B	rs12630592	TG
LRRC58	rs3755557	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

HTR2A (Serotonin)

The most widely investigated variant is rs6313. Its minor 'A' allele increases the number of active receptors. This variant has been associated with an increased risk of [R, R]:

- Chronic pain, including hip and low back pain [R, R]
- Panic disorder [R]

Carriers may also require higher doses of anesthetic drugs (propofol) and longer times to induce sedation [R].

However, it may be protective against:

- Fatigue disorders such as chronic fatigue syndrome and fibromyalgia [R]
- Headaches [R]
- IBS [R]
- Temporomandibular joint disorders [R]
- Suicide attempts [R]

Another well-researched variant is rs6311. Its minor 'T' variant is usually inherited together with the 'A' variant at rs6313 and also increases the number of active 5HT2A receptors. This variant has been associated with [R, R]:

- Increased odds of chronic pain, including hip and low back pain [R, R]
- Greater depressive symptoms [R]
- Increased risk of IBS [R]

However, this variant may be protective against:

- Headaches [R]
- Rheumatoid arthritis [R]

Interestingly, this variant has been associated with decreased aggressiveness and social dominance. This was linked to being a worse speed dater in men but better in women [R].

Finally, two variants believed to impair serotonin signaling ('A' at rs7322347 and 'C' at rs7984966) have been associated with an increased risk of ADHD [R, R].

TYPICAL ACTIVITY

Likely typical HTR2A activity based on the genetic variants we looked at

47%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **47% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HTR2A	rs6313	AG
HTR2A	rs6311	TC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

FAAH (Cannabinoids)

One common variant of the *FAAH* gene, rs324420, is associated with reduced FAAH levels and activity. As a result, carriers of the minor 'A' allele have higher levels of endocannabinoids such as anandamide [R].

Carriers of this variant may have:

- Lower anxiety in response to stressful situations [R]
- Lower odds of PTSD [R]
- Decreased pain sensitivity [R]
- Better athletic performance [R, R]

However, this variant is also linked to an increased risk of:

- ARDS [R]
- Obesity (especially early-onset) [R, R]
- Antipsychotic-induced weight gain [R]
- Problematic drug and alcohol use [R, R, R, R]
- Generalized epilepsy [R]
- Heart attack [R]

LOWER ACTIVITY

Likely lower FAAH activity based on the genetic variants we looked at

44%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **44% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FAAH	rs324420	AC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

CNR1 (Cannabinoids)

The most studied SNP in this gene is rs1049353 or 1359G/A. Its minor 'T' allele doesn't change the CB1 receptor structure, but is believed to impair gene expression and receptor activity [R, R]. This variant has been associated with:

- Lower BMI, belly fat, and weight gain [R, R, R, R]
- Increased risk of major depression and PTSD but better response to antidepressants [R, R, R, R, R]
- Increased risk of brain fog
- Reduced risk of risky gambling, cannabis use, and heroin addiction [R, R, R, R]
- Increased risk of lectin sensitivity
- Reduced risk of ulcerative colitis and young-onset Crohn's disease but worse gut inflammation in people with IBD [R, R, R]
- Reduced risk of heart disease in people with type 2 diabetes [R, R]

Another polymorphism, 'G' at rs6454674, seems to lower blood CB1 levels. This variant has been linked to [R]:

- Increased odds of childhood obesity [R]
- Increased susceptibility to anxiety disorders and, possibly, depression [R]
- Increased dependence to alcohol, cannabis, and cocaine [R, R, R, R]

The minor 'C' allele of rs2023239 seems to increase CB1 levels, especially in people using marijuana. This variant has been associated with [R, R, R]:

- Decreased odds of childhood obesity [R]
- Increased impulsivity, cigarette smoking, and cannabis rewarding, craving, and withdrawal [R, R, R, R]
- Decreased odds of major depression in opiate-dependent outpatients on methadone therapy [R]
- Increased risk of metabolic syndrome [R]

The minor 'T' variant of rs806378 is believed to increase CNR1 activity. This allele has been associated with [R, R]:

- Faster colonic transit and gassiness in people with diarrhea-predominant IBS [R, R]
- Weight gain in people treated with antipsychotics [R]

Another minor variant believed to decrease CB1 levels is 'G' at rs806380. This variant has been associated with:

- Decreased risk of unsafe sex behavior, alcohol use, and cannabis dependence [R, R]
- Repeated episodes of severe nausea and vomiting [R]

The minor 'C' variant of rs806374, which seems to reduce CB1 levels in the gut and fatty tissues, has been linked to frequent marijuana use around the age of 18 [R, R].

Finally, a variant that seems to decrease CB1 levels in the brain, 'G' at rs2180619, has been linked to substance abuse in European Americans but not in African Americans [R, R].

TYPICAL ACTIVITY

Likely typical CNR1 activity based on 7 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CNR1	rs1049353	TT
CNR1	rs806378	CC
CNR1	rs2180619	GG
CNR1	rs806380	AA
CNR1	rs806374	TT
CNR1	rs6454674	TT
CNR1	rs2023239	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

CRHR1 (Stress/HPA Axis)

Two variants, ‘A’ at rs12938031 and ‘C’ at rs4792887, have been associated with increased odds and severity of PTSD. These variants are believed to increase *CRHR1* expression or activity [R, R].

Another variant believed to increase CRHR1 activity, ‘G’ at rs12944712, has been associated with acute PTSD symptoms in children. However, the ‘A’ allele at this polymorphism is the one associated with depression [R, R].

The ‘G’ variant of rs17689882, which may also increase CRHR1 activity, has been associated with depression due to childhood trauma in young adulthood [R].

The ‘A’ variant of rs110402 is believed to decrease *CRHR1* expression. This variant has been associated with relatively higher rates of chronic fatigue. However, this variant may protect from depression linked to childhood abuse and IBS. In IBS patients, the ‘A’ variant is associated with predomination of diarrhea in men and constipation or mixed symptoms in women [R, R, R, R, R, R].

Finally, the ‘G’ allele of rs242924, which may increase CRHR1 activity, has been associated with higher IBS rates and associated anxiety. This variant has also been associated with major depression in adults who suffered from childhood abuse. However, this variant may be protective against chronic fatigue [R, R, R].

TYPICAL ACTIVITY

Likely typical CRHR1 activity based on 6 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ARHGAP27	rs4792887	CC
MAPT	rs12944712	GG
CRHR1	rs17689882	GG
MAPT	rs12938031	AG
MAPT	rs242924	TT
MAPT	rs110402	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

GRIA3 (Sleep/Mood)

The minor ‘A’ allele of the **rs687577** polymorphism has been associated with a decreased risk of depression in women and with longer sleep duration. Given the role of glutamate as an excitatory neurotransmitter, this variant may reduce GRIA3 activity by either decreasing the number of active receptors or attenuating the excitatory effects upon glutamate binding [R, R].

TYPICAL ACTIVITY

Likely typical GRIA3 activity based on the genetic variants we looked at

85%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **85% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GRIA3	rs687577	C

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

ADORA2A (Anxiety)

Some *ADORA2A* gene variants may reduce the number of adenosine receptors. Lower adenosine activity promotes wakefulness but may also promote anxiety [R, R].

The main one is **rs5751876-T, linked to anxiety and panic disorder**. Caffeine may make people with this variant even more anxious. Women tend to be affected more strongly than men [R, R, R, R].

Another important variant is **rs2298383-C**, linked to anxiety, depression, and sleep disturbances [R, R, R].

These two variants are almost always inherited together, meaning you will likely have either none or both. Interestingly, rs2298383 could be the one causing a change in adenosine receptors, even though the research has mainly focused on rs5751876 [R].

Two more ADORA2A variants potentially linked to anxiety are rs3761422 and rs5751862, but this link is not well established [R].

TYPICAL ACTIVITY

Likely typical ADORA2A activity based on the genetic variants we looked at

47%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **47% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADORA2A	rs5751876	CT
ADORA2A	rs2298383	TC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

COMT

One common variant of the *COMT* gene, rs4680, may affect COMT enzyme activity. Some people call rs4680 the “worrier or warrior” variant [R, R].

The “G” allele of this variant is linked to a higher COMT enzyme activity. People with two copies of this allele (GG) have been nicknamed the “warriors.” They break down stress-related chemical messengers more quickly. This may help improve their performance under stress [R].

On the negative side, “warriors” may have lower cognitive performance under relaxed conditions [R, R, R].

People with two copies of the “A” allele (AA) may have lower COMT enzyme activity. They have been nicknamed the “worriers.” They break down stress-related chemical messengers more slowly in the brain. For this reason, they may be more vulnerable to stress. This includes an increased susceptibility to heart disease, possibly due to the effects of these chemical messengers on blood pressure and heart rate [R, R, R, R].

The good news is that "worriers" may become more emotionally resilient with age. They also tend to have enhanced cognitive performance under relaxed conditions. Interestingly, "worriers" seem to have a more pronounced placebo response due to higher dopamine levels [R, R, R, R, R].

People carrying both alleles (AG) tend to be in between the described extremes [R, R].

Did you know? People with “warrior” genetics may be more likely to engage in combat sports, justifying the nickname of this variant [R].

However, keep in mind that your cognitive function and response to stress are also influenced by other factors, such as:

- Other variants in the *COMT* gene
- Many other genes
- Environmental factors

TYPICAL ACTIVITY

Likely typical COMT activity based on the genetic variants we looked at

45%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **45% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
COMT	rs4680	GA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

NFKBIL1 (Cognition)

A large-scale study of over 1,700 people found that people who carry the minor alleles 'T' at **rs2230365** and 'C' at **rs2255798** show enhanced performance on several common tests of cognitive processing speed, such as the "*symbol search*" and "*digit-substitution*" tasks [R].

Additionally, this study also linked the minor alleles to enhanced overall processing speed across an even larger number of cognitive skill tests, further reinforcing the connection between *NFKBIL1* and the brain's ability to process information quickly [R].

This variants are usually inherited together, meaning you will most likely carry both or neither of them.

TYPICAL ACTIVITY

Likely typical NFKBIL1 activity based on the genetic variants we looked at

74%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **74% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HLA-C	rs2230365	CC
DDX39B	rs2255798	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

TNFSF9 (Cognition)

The minor ‘T’ allele of **rs348373** has been associated with a worse performance at fluid intelligence tests. This variant may cause increased *TNFSF9* activation, potentially increasing inflammation in the brain [R, R, R, R].

TYPICAL ACTIVITY

Likely typical TNFSF9 activity based on the genetic variants we looked at

78%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **78% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TNFSF9	rs348373	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

TF (Iron & Cognition)

The TF variant **rs1049296** (Pro570Ser; C1/C2) changes the transferrin protein. This small change can have significant effects on iron metabolism. The **“T” allele**, also called **C2**, may impair transferrin’s iron binding capacity. This may lead to either increased or decreased iron levels in different contexts [R].

Studies have linked this variant to [R, R, R]:

- Lower hemoglobin and hematocrit levels
- Higher odds of Alzheimer’s disease

When transferrin function is impaired:

1. **Less efficient iron delivery** to bone marrow for hemoglobin synthesis, potentially leading to lower hemoglobin levels
2. Paradoxically, while overall iron transport is reduced, there can be inappropriate **iron accumulation in the brain** due to disrupted iron homeostasis and trafficking

Think of it like a traffic system where the trucks (transferrin) aren't working properly—you get less delivery to the factory (bone marrow) and traffic jams in sensitive areas (brain).

Another TF variant, rs3811647, may affect transferrin function, but its links to iron parameters are mixed and don’t point to a clear conclusion [R].

TYPICAL ACTIVITY

Predisposed to typical TF activity based on the genetic variants we looked at

75%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **75% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TF	rs1049296	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

HTR1A (Serotonin)

The most widely-investigated *HTR1A* variant is rs6295. Its minor 'C' allele leads to higher expression of 5HT1A autoreceptors, a lower expression of postsynaptic receptors, and decreased overall activity in serotonin neurons [R, R].

This variant has been associated with:

- Decreased self-awareness or emotional intelligence (*alexithymia*), especially in males with early-life stress [R, R]
- Decreased comfort with close relationships and lower odds of being in a romantic relationship [R]
- Higher susceptibility to anxiety and depression from stressful events [R]
- Increased impulsiveness and aggression [R]
- Higher odds of ADHD [R]
- Impaired working memory in premenstrual women [R]
- Increased pain perception in response to intense stimuli (but decreased perception of mild pain) [R]

HIGHER ACTIVITY

Likely higher HTR1A activity based on the genetic variants we looked at

20%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **20% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
RNF180	rs6295	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

FKBP5 (Stress/ HPA Axis)

The following variants increase *FKBP5* expression and impair stress response. People carrying the risk alleles have a harder time recovering from childhood or early life traumas, leading to increased severity of PTSD [R, R, R]:

- 'C' at rs3800373
- 'T' at rs1360780
- 'T' at rs9470080

In contrast, these variants have also been associated with a reduced susceptibility to chronic pain, such as back pain and neuralgia [R, R, R].

Another variant believed to increase FKBP5 activity, 'G' at rs9394314, was found to be protective against chronic neuralgia. However, this allele was associated with overall and neck pain after trauma [R, R].

LOWER ACTIVITY

Likely lower FKBP5 activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FKBP5	rs9394314	AG
TULP1	rs9470080	CC
TULP1	rs3800373	AA
FKBP5	rs1360780	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

TUSC3 (Cognition)

A large-scale GWAS study with ~1,500 participants found that there were significant differences in the IQ scores of people with different genotypes for the **rs240657** polymorphism. People with two copies of the major 'A' allele came out on top with an above-average mean IQ score of 112. By comparison, people with 'G' alleles tended to have IQ scores closer to the general population average of 100 — and the more copies of the 'G' allele they had, the lower their relative scores were [R].

This suggests that carriers of the minor 'G' allele may have a copy of this gene that is less efficient at absorbing and transporting magnesium.

HIGHER ACTIVITY

Likely higher TUSC3 activity based on the genetic variants we looked at

78%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **78% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TUSC3	rs240657	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

SOAT1 (Cholesterol/ Cognition)

The main *SOAT1* (ACAT-1) variant is **rs1044925**. Its **"C" allele is generally considered "bad"** due to its link with higher SOAT1 activity, which may imply increased cholesterol buildup.

Studies have linked this variant to [R, R, R, R]:

- Higher cholesterol levels in men
- Higher blood pressure
- Alzheimer's disease
- Chagas disease (tropical disease that may involve heart problems)

However, some studies didn't find a link between this variant and blood lipids or Alzheimer's. One study even found a protective effect on heart health due to higher HDL cholesterol levels [R, R, R, R].

Other SOAT1 variants include:

- rs11545566-G: A study linked it to heart disease and artery hardening [R]
- rs2247071-C: May be linked to Alzheimer's disease [R]
- rs13306731-G: Studies have linked it to heart problems [R]

Lower SOAT1 (ACAT-1) activity means less conversion of free cholesterol to cholesterol esters. This reduces cholesterol storage in cells and may help prevent foam cell formation in arteries. It may also reduce the formation of amyloid plaques in the brain [R, R].

LOWER ACTIVITY

Likely lower SOAT1 activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AXDND1	rs11545566	GG
TOR3A	rs2247071	CC
AXDND1	rs1044925	AA
SOAT1	rs13306731	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

KIBRA/WWC1 (Cognition)

One of the best-studied polymorphisms of this gene is **rs17070145**. Its minor 'T' allele has been linked to larger hippocampal volume and better connectivity between this brain region and the prefrontal cortex. In line with this, this allele has been associated with [R]:

- Better episodic and working memory performance [R, R, R]
- Slower cognitive decline during aging [R]
- Decreased risk of Alzheimer's disease [R, R]

HIGHER ACTIVITY

Likely higher KIBRA/WWC1 activity based on the genetic variants we looked at

58%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **58% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
WWC1	rs17070145	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Recommendations Details

1 Aerobic Exercise (Cardio)

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Helps with these Symptoms & Conditions:

- Allergies
- Anxiety
- High Blood Pressure
- Migraines

Helps with these Goals:

- Energy
- Immunity
- Mood

Helps with these DNA Risks:

- Bipolar Disorder
- Low Mood
- Agoraphobia
- Anger
- BDNF
- DRD2 (Dopamine)
- Irritability
- Processing Speed
- Psychological Trauma
- Tobacco Addiction

Helps with these Lifestyle Risks:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Anxiety
- Depression

2 Cognitive-Behavioral Therapy (CBT)

Schedule weekly sessions with a certified cognitive-behavioral therapist for a period of 5 to 20 weeks. Engage actively in exercises assigned by your therapist both during sessions and as homework to apply CBT strategies to daily life.

Helps with these Symptoms & Conditions:

- Anxiety
- Migraines

Helps with these Goals:

Energy

Mood

Helps with these DNA Risks:

Bipolar Disorder

Low Mood

Agoraphobia

Anger

CRHR2 (Stress/HPA Axis)

Irritability

MAOA (Dopamine/Serotonin)

Psychological Trauma

RGS2 (Anxiety)

SLC6A4 (Fatigue, Mental Health)

Teeth Grinding

Tobacco Addiction

Helps with these Lifestyle Risks:

Attention Deficit Hyperactivity Disorder (ADHD)

Anxiety

Depression

3 Psychotherapy

Schedule and attend regular sessions with a licensed psychotherapist, typically once a week for 50-60 minutes, over a period of several months to years depending on your individual needs and progress. Consistency is key, and the duration can vary widely based on personal goals and the type of psychotherapy being practiced.

TYPICAL STARTING DOSE

1 hour

Helps with these Symptoms & Conditions:

Anxiety

Helps with these Goals:

Energy

Mood

Helps with these DNA Risks:

Bipolar Disorder

Low Mood

Psychological Trauma

RGS2 (Anxiety)

Tobacco Addiction

Helps with these Lifestyle Risks:

Attention Deficit Hyperactivity Disorder (ADHD)

Anxiety

Depression

4 Yoga

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

Anxiety | High Blood Pressure | Migraines

Helps with these Goals:

Energy | Exercise Recovery | Immunity | Mood | Muscle Growth

Helps with these DNA Risks:

Bipolar Disorder | Low Mood | BDNF | DRD2 (Dopamine) | Emotional Blindness | Irritability | Processing Speed | Psychological Trauma | Tobacco Addiction

Helps with these Lifestyle Risks:

Attention Deficit Hyperactivity Disorder (ADHD) | Anxiety | Depression

5 Relaxation Techniques

Incorporate relaxation techniques such as deep breathing exercises, meditation, or yoga into your daily routine. Spend at least 15-30 minutes each day practicing one of these techniques, preferably in a quiet, comfortable space without interruptions.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

Anxiety | High Blood Pressure | Migraines

Helps with these Goals:

Energy | Immunity | Mood

Helps with these DNA Risks:

- Bipolar Disorder
- Low Mood
- 5-HTTLPR (Serotonin)
- CRHR2 (Stress/HPA Axis)
- DRD2 (Dopamine)
- MAOA (Dopamine/Serotonin)
- Psychological Trauma
- RGS2 (Anxiety)
- Teeth Grinding
- Tobacco Addiction

Helps with these Lifestyle Risks:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Anxiety
- Depression

6 Acceptance and Commitment Therapy (ACT)

Participate in Acceptance and Commitment Therapy (ACT) sessions with a licensed therapist weekly for a minimum of 8 to 12 weeks. During this period, engage in daily ACT exercises at home as recommended by your therapist, such as mindfulness practices and writing exercises that help you connect with your values and accept your thoughts without judgment.

Helps with these Symptoms & Conditions:

- Anxiety

Helps with these Goals:

- Mood

Helps with these DNA Risks:

- Bipolar Disorder
- Low Mood
- Agoraphobia
- Anger
- Emotional Blindness
- Psychological Trauma
- Tobacco Addiction

Helps with these Lifestyle Risks:

- Anxiety
- Depression

7 Meditation

Set aside 10-20 minutes each day in a quiet space without distractions to practice meditation. Focus on your breath or perform guided meditation using an app or audio track.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

- Anxiety
- Migraines

Helps with these Goals:

- Energy
- Immunity
- Mood

Helps with these DNA Risks:

- Bipolar Disorder
- Low Mood
- BDNF
- DRD2 (Dopamine)
- Irritability
- Processing Speed
- Psychological Trauma
- RGS2 (Anxiety)
- Teeth Grinding

Helps with these Lifestyle Risks:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Anxiety
- Depression

8 Music Therapy

Engage in music therapy sessions for at least 30 minutes a day, three times a week. These sessions can involve listening to music, playing an instrument, singing, or writing songs, facilitated by a certified music therapist if possible.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

- Anxiety
- High Blood Pressure
- Migraines

Helps with these Goals:

- Exercise Recovery
- Mood

Helps with these DNA Risks:

- Low Mood
- DRD2 (Dopamine)
- Processing Speed
- Psychological Trauma
- RGS2 (Anxiety)

Helps with these Lifestyle Risks:

Attention Deficit Hyperactivity Disorder (ADHD)

Anxiety

Depression

9 Omega-3 (Fish Oil)

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

2000 mg

Helps with these Symptoms & Conditions:

Anxiety

High Blood Pressure

Migraines

Helps with these Goals:

Exercise Recovery

Immunity

Mood

Helps with these DNA Risks:

Bipolar Disorder

Low Mood

BDNF

CRHR2 (Stress/HPA Axis)

DRD2 (Dopamine)

DRD3 (Dopamine/Energy)

GAD1 (Glutamate/GABA)

MAOA (Dopamine/Serotonin)

MAOB (Dopamine/ Phenylethylamine)

Processing Speed

Psychological Trauma

SLC6A4 (Fatigue, Mental Health)

Tobacco Addiction

Helps with these Lifestyle Risks:

Attention Deficit Hyperactivity Disorder (ADHD)

Anxiety

Depression

10 Art Therapy

Participate in art therapy sessions, which can include activities such as painting, sculpting, or drawing, for 1-2 hours per week. These sessions can be done either in group settings guided by a trained art therapist or individually, depending on your comfort level and goals. It is beneficial to engage in this practice consistently for several months to observe the therapeutic benefits.

TYPICAL STARTING DOSE

1 hour

Helps with these Symptoms & Conditions:

Anxiety

Helps with these Goals:

Mood

Helps with these DNA Risks:

Bipolar Disorder | Low Mood | Psychological Trauma | Tobacco Addiction

Helps with these Lifestyle Risks:

Anxiety | Depression

11 Pet Therapy

Engage with a pet, such as a dog or cat, for at least 15-30 minutes a day. This can include activities like playing, petting, or simply sitting together. It's beneficial to do this regularly, aiming for daily interactions, to maximize the emotional and physical health benefits.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

Anxiety | High Blood Pressure

Helps with these Goals:

Mood

Helps with these DNA Risks:

Low Mood | Psychological Trauma

Helps with these Lifestyle Risks:

Attention Deficit Hyperactivity Disorder (ADHD) | Anxiety | Depression

12 Mindfulness Meditation

Practice mindfulness meditation for 10-20 minutes daily. Find a quiet, comfortable place to sit or lie down, then focus on your breath, observing thoughts and sensations without judgment. Consistency is key, so try to incorporate it into your daily routine, perhaps in the morning or before bed.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

- Anxiety

Helps with these Goals:

- Immunity
- Mood

Helps with these DNA Risks:

- Low Mood
- Agoraphobia
- BDNF
- DRD2 (Dopamine)
- Emotional Blindness
- RGS2 (Anxiety)
- Teeth Grinding
- Tobacco Addiction

Helps with these Lifestyle Risks:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Anxiety
- Depression

13 Progressive Muscle Relaxation

Set aside at least 10-15 minutes daily in a quiet, comfortable spot where you won't be disturbed. Start by tensing the muscles in your feet for 5 seconds, then relax for 30 seconds, and progressively work your way up through the major muscle groups of your body, tensing then relaxing each for 5 and 30 seconds respectively.

TYPICAL STARTING DOSE

10 minutes

Helps with these Symptoms & Conditions:

- Anxiety
- High Blood Pressure
- Migraines

Helps with these Goals:

- Energy
- Exercise Recovery
- Mood

Helps with these DNA Risks:

- Low Mood
- Anger
- RGS2 (Anxiety)
- Teeth Grinding
- Tobacco Addiction

Helps with these Lifestyle Risks:

- Attention Deficit Hyperactivity Disorder (ADHD)
- Anxiety
- Depression

14 Melatonin

Take 500 mcg of melatonin orally, about 30 minutes before bedtime, to help with sleep. It can be taken daily as needed.

TYPICAL STARTING DOSE

500 mcg

Helps with these Symptoms & Conditions:

- Anxiety
- High Blood Pressure
- Migraines

Helps with these Goals:

- Energy
- Immunity
- Mood

Helps with these DNA Risks:

- Bipolar Disorder
- Low Mood
- NPAS2 (Mood/ Sleep Schedule)
- Tobacco Addiction

Helps with these Lifestyle Risks:

- Anxiety
- Depression

15 Tryptophan

Take 500 mg of tryptophan supplement daily. This dosage can be taken all at once, preferably before bedtime to support sleep, or as directed by a healthcare professional.

TYPICAL STARTING DOSE

500 mg

Helps with these Symptoms & Conditions:

Anxiety

Migraines

Helps with these Goals:

Immunity

Mood

Helps with these DNA Risks:

Bipolar Disorder

Low Mood

5-HTTLPR (Serotonin)

MAOA (Dopamine/Serotonin)

MAOB (Dopamine/ Phenylethylamine)

SLC6A4 (Fatigue, Mental Health)

TPH2 (Serotonin)

Helps with these Lifestyle Risks:

Anxiety

Depression

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

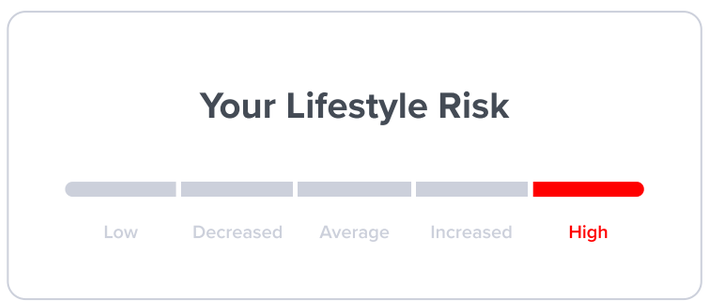
Your Lifestyle Assessments

Ever heard of the term Nature vs. Nurture?

The thing is, both DNA and environment play a role in determining your health risks. The following assessments shows how much of an impact your lifestyle, environment and medical history are having on your health risks.

LIFESTYLE

You have an increased risk of Attention Deficit Hyperactivity Disorder (ADHD) based on the answers you provided.



Factors impacting your risk:

Has your household ever received social welfare (e.g., Medicaid, housing assistance, AFDC etc.)?

Yes

Increasing Risk

How many years of formal education did your biological mother complete?

13-14 years

Increasing Risk

How much sleep do you get in a typical night?

6 hours or less

Increasing Risk

Do you have a parent or sibling who has ever been diagnosed with ADHD?

Yes

Increasing Risk

Did you grow up in a single-parent household for most of your early childhood?

Yes

Increasing Risk

What is your sex?

Male

Increasing Risk

Did your mother smoke while pregnant with you?

No

Decreasing Risk

Were you born early (before 37 weeks)?

No

Decreasing Risk

Has your biological mother ever suffered from depression?

Not sure

Decreasing Risk

LIFESTYLE

You have a slightly increased risk of anxiety based on the answers you provided.

Factors impacting your risk:

Have either of your biological parents ever suffered from anxiety?

Yes

Increasing Risk

What is your current marital status?

Single or not living with partner

Increasing Risk

Do you consume at least 1000 mg caffeine per week (equivalent to 2 cups of coffee, 4 cups of tea, 6 cans of cola, or 1 energy drink per day)?

Yes

Increasing Risk

What is your sex?

Male

Increasing Risk

Do you regularly use drugs such as cannabis, cocaine, amphetamines, or opioids in a way that appreciably harms your health, social relationships, or occupational duties?

Yes

Increasing Risk

Have you ever struggled with substance misuse?

Yes

Increasing Risk

In a typical week, how many times do you participate in any physical activities or exercise for 30 minutes at a time? (such as walking, running, bike riding, weight training, yoga, etc.)

*Note: longer exercise equals more sessions (e.g., 1 hour = 2 sessions)

8 or more

Decreasing Risk

Do you smoke tobacco?

No, never

Decreasing Risk

Do you often experience periods of low mood?

No

Decreasing Risk

How much alcohol do you drink on a typical day?
Calculate your alcohol consumption in units here

0 units

Decreasing Risk

Did you ever suffer from physical abuse or physical bullying during your childhood?

No

Decreasing Risk

Did you ever suffer from sexual abuse during your childhood?

No

Decreasing Risk

Have you ever been diagnosed with rheumatoid arthritis (autoimmune joint inflammation)?

No

Decreasing Risk

What is your ethnicity?

Other

Decreasing Risk

Do you suffer from chronic pain?

No

Decreasing Risk

What is your current employment status?

Self-employed

Decreasing Risk

Did you ever suffer from emotional or physical neglect during your childhood?

No

Decreasing Risk

Have you ever been diagnosed with alcohol use disorder?

No

Decreasing Risk

LIFESTYLE

You have an average risk of depression based on the answers you provided.

Factors impacting your risk:

What is your age?

41

Increasing Risk

Do you have a parent or sibling who has ever suffered from depression?

Yes

Increasing Risk

Your BMI:

30.77

Increasing Risk

In a typical week, how many times do you participate in any physical activities or exercise for 30 minutes at a time? (such as walking, running, bike riding, weight training, yoga, etc.)

*Note: longer exercise equals more sessions (e.g., 1 hour = 2 sessions)

8 or more

Decreasing Risk

Do you smoke tobacco?

No, never

Decreasing Risk

Did you ever suffer from physical abuse or physical bullying during your childhood?

No

Decreasing Risk

Did you ever suffer from sexual abuse during your childhood?

No

Decreasing Risk

What is your height?

178 cm

No impact

What is your current weight?

97.5 kg

No impact