

Problem Solving

DNA Health Report

REPORT CATEGORY —



COGNITION

Sample Client

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omicsedge

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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.

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

We all solve problems on a daily basis. Problem solving is important for our work, school, or home life. In fact, our **ability to solve problems is one of the reasons humans have been so successful as a species** [\[R\]](#), [\[R\]](#).

Problem-solving refers to our capacity to **identify, analyze and resolve challenges**. We solve problems using a combination of [\[R\]](#):

- logical reasoning
- critical thinking
- creativity

When problem-solving, we use a part of the brain called the **prefrontal cortex**. We know this because people with damage to the prefrontal cortex have a hard time solving problems. This part of the brain is important for reasoning, attention and working memory [\[R\]](#), [\[R\]](#).

Contributing Factors

PERSONALIZED TO GENES

Based on the gene variants we looked at, you likely have typical problem-solving ability. However, your lifestyle and environment may also affect your ability to solve problems.

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	GA
/	rs9320747	TG
NEGR1	rs12128707	AG
RBM6	rs13100903	CT
/	rs12211582	TG
NR1D2	rs6550835	GA
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
S100A10	rs147925147	CC
WDR3	rs147261618	CC
KAZN	rs115204536	TT

GENE	SNP	GENOTYPE
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.

Your Recommendations

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			DOSAGE
1	Aerobic Exercise (Cardio)	1 hour	2	Mediterranean Diet	
3	Yoga	30 minutes	4	Avoid Air Pollution	
5	D-Serine		6	Bee Pollen and Royal Jelly	
7	Social Activity	1 hour	8	Strength Training	1 hour
9	Blueberries		10	Berries	
11	Cognitive Training	15 minutes	12	Pycnogenol	100 mg
13	Cognitive-Behavioral Therapy (CBT)		14	Tai Chi	1 hour
15	Avoid Illicit Drugs		16	Drink at Least 8 Glasses of Water a Day	
17	Bacognize (Bacopa monnieri)	300 mg	18	Acceptance and Commitment Therapy (ACT)	
19	Meditation	30 minutes	20	Avoid Aluminum Exposure	
21	Sleep for 7+ Hours		22	Applied Relaxation	30 minutes
23	Mindfulness Meditation	30 minutes	24	L-Theanine	100 mg
25	Exercise At Least One Hour a Day	1 hour			

1



Aerobic Exercise (Cardio)

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Studies show that [exercise](#) is one of the most important ways to support brain health. Exercise may improve [brain blood flow](#), reduce [inflammation](#), and stimulate the growth of new brain cells [[R](#), [R](#), [R](#), [R](#)].

Aerobic exercise may improve long-term memory, learning, and working memory, among other cognitive aspects [[R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#)].

Exercise may be even more effective when combined with cognitive training and diet changes [[R](#), [R](#), [R](#)].

2



Mediterranean Diet

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The [Mediterranean diet](#) is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats ([olive oil](#)).

The [Mediterranean diet](#) focuses on traditional cuisine from the Mediterranean regions. It’s rich in [\[R\]](#):

- [Olive oil](#)
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [\[R, R, R, R\]](#).

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [\[R\]](#).

How it helps

People who follow the [Mediterranean diet](#) may have better cognitive function in problem solving and other areas such as [\[R, R, R, R, R, R\]](#).

Moreover, this diet is linked to lower rates of cognitive decline and dementia [\[R, R, R\]](#).

3



Yoga

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R, R, R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

How it helps

[Yoga](#) may improve different cognitive functions, including problem solving [\[R, R, R, R, R, R\]](#).

Some studies combined it with other relaxation techniques or cognitive training [\[R, R, R, R\]](#).

Yoga (4-12 weeks) may also enhance this and other aspects of cognition in **older people**. However, one study didn’t find this benefit [\[R, R, R, R, R, R\]](#).

4



Avoid Air Pollution

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Stay indoors on days when air quality indexes (AQI) indicate high pollution levels, which are often reported by weather services or government environmental agencies. **Install air purifiers** in your home, especially in bedrooms, to reduce indoor pollutants. Limit outdoor exercise when air pollution warnings are issued, opting for indoor activities instead.

Description

Avoiding air pollution by reducing exposure to pollutants in the environment is essential for respiratory and overall health. It can help lower the risk of respiratory diseases, cardiovascular conditions, and other health issues associated with poor air quality.

While city life is convenient in a lot of ways, it comes with some health hazards. Cars, factories, and other sources increase air [pollution](#) ^[R].

Air pollution plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Lung disease
- Heart disease
- Diabetes
- Asthma
- Skin conditions

How it helps

A meta-analysis of 10 studies found significant associations between air pollution and decreased volumes, cortical thickness, and surface area of specific brain structures such as in the prefrontal cortex and temporal lobe, as well as reduced connectivity. Air pollution had negative effects on cognitive outcomes, particularly in problem solving and executive function [\[R\]](#).

5



D-Serine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take d-serine as a dietary supplement in doses ranging from 30 to 120 milligrams per kilogram of body weight per day. It is typically consumed in capsule or powder form mixed with water or another beverage. Start with the lower end of the dosage range and adjust based on tolerance and effectiveness, not exceeding the recommended maximum unless directed by a healthcare provider.

Description

D-serine is an amino acid that plays a role in brain function and may be used in supplemental form to support cognitive health.

Serine is a non-essential amino acid that we generally get from our diet through protein sources. It is key to the production of proteins, enzymes and muscle tissue. Serine is needed for the proper metabolism of fats and fatty acids. It also helps in the production of antibodies [\[R\]](#).

Serine is used as a natural moisturizing agent in some cosmetics and skin care products, as well as for certain psychiatric and neurological disorders [\[R\]](#), [\[R\]](#).

How it helps

D-serine is thought to support cognitive functions, including problem-solving, by assisting in the neurotransmission process in the brain. However, there's not enough scientific evidence to conclude that this supplement will directly treat cognitive conditions or improve problem-solving abilities.

D-serine supplementation in older adults may improve spatial memory, learning, and problem-solving abilities, suggesting its potential as a cognitive enhancement strategy [\[R\]](#).

Please note: *High doses of D-serine (120 mg/kg/day or about 8 g/day) may damage the kidneys. Make sure to consult your doctor before taking D-serine, especially if you have kidney disease [\[R\]](#).*

6



Bee Pollen and Royal Jelly

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Take a combined supplement of bee pollen and royal jelly daily, starting with a quarter teaspoon and gradually increasing up to 1-2 teaspoons per day, as per tolerance. It's best consumed in the morning with food to improve absorption and minimize potential stomach discomfort. Continue this regimen daily for at least two months to observe benefits.

Description

Bee pollen is a natural product collected by bees and is rich in vitamins, minerals, and antioxidants. It is believed to have various health benefits, including potential anti-inflammatory and immune-boosting properties.

Royal jelly is a nutrient-rich substance secreted by worker bees to feed bee larvae and the queen bee. Royal jelly contains protein B-vitamins, calcium and iron. It is taken as a supplement for it's potential energy-boosting and immune-supporting properties.

How it helps

A supplement with fermented pollen and royal jelly (Melbrosia, 1-2 capsules/day for 12 weeks) improved problem-solving ability and blood lipid profiles in an uncontrolled trial of 60 postmenopausal women [\[R\]](#).

7



Social Activity

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Participate in group activities or gatherings with friends, family, or community members at least twice a week. This could include joining clubs, attending local events, or scheduling regular outings with friends. Aim for these social engagements to last at least an hour each time to foster meaningful connections and conversations.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in social activities, such as spending time with friends and family or participating in group events, can have numerous mental and emotional health benefits. It helps reduce feelings of loneliness, enhances mood, and promotes a sense of belonging and well-being.

Social activities involve physical and mental activities with others that you enjoy and find meaningful. There are plenty of ways to stay socially active and maintain social well-being as you age.

Research has shown that a socially active lifestyle [\[R\]](#):

- Makes you less likely to develop certain chronic conditions.
- May promote a longer lifespan.
- Can improve mood and mental health.
- Can improve memory and other aspects of cognition.

How it helps

Social activity stimulates the brain, enhancing cognitive function and thus improving problem-solving skills. It also helps prevent cognitive decline by keeping the mind active and engaged.

8



Strength Training

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [\[R\]](#). Some of the most common strength training methods include [\[R\]](#):

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [\[R\]](#):

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Strength training exercises your brain by forcing it to strategize about weightlifting steps, which improves problem-solving skills. Regular training also boosts brain health which can minimize intellectual decline and enhance cognitive abilities.

9



Blueberries

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a half to one cup of fresh or frozen blueberries into your daily diet. You can add them to your breakfast cereal, smoothies, or enjoy them as a snack on their own.

Description

Blueberries are a nutritious fruit packed with antioxidants, vitamins, and fiber. They are known for their potential to support brain health, reduce the risk of chronic diseases, and promote overall well-being.

[Blueberries](#) are enjoyed all around the world for their sweet taste and nutritional benefits. They may support [\[R\]](#):

- Heart health
- Cognitive function
- Normal blood sugar levels

How it helps

Blueberries are rich in antioxidants that protect your brain from oxidative stress, promoting brain health and improving cognitive skills, including problem-solving. They also have flavonoids that may delay brain aging and improve memory.

10



Berries

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a variety of berries such as strawberries, blueberries, raspberries, and blackberries into your daily diet. Aim for at least one cup of fresh or frozen berries every day, either as a snack, part of your breakfast (such as in oatmeal or yogurt), or as a dessert.

Description

Berries, such as strawberries, blueberries, and raspberries, are packed with antioxidants, vitamins, and fiber. Regular consumption of berries may support heart health, improve cognitive function, and contribute to overall well-being.

How it helps

Berries are rich in antioxidants and flavonoids which may improve memory and cognitive processes.

11



Cognitive Training

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Engage in exercises that challenge your brain for at least 15 minutes per day, five days a week. This can include puzzles, memory games, learning a new language, or playing a musical instrument.

TYPICAL STARTING DOSE

15 minutes

Description

Cognitive training involves structured exercises and activities designed to improve specific cognitive functions, such as memory, attention, and problem-solving skills. It can be beneficial for individuals looking to enhance cognitive abilities or address cognitive challenges associated with conditions like Alzheimer's disease or attention deficit hyperactivity disorder (ADHD).

Cognitive training programs guide you through challenging tasks. They aim to support some cognitive functions, including [\[R\]](#):

- Memory
- Attention
- Problem-solving skills

Some scientists like to think of the brain as a muscle. They say people should “use it or lose it.” In line with this, cognitive training can be considered “brain exercise.” It is often provided through computer programs [\[R\]](#), [\[R\]](#).

How it helps

Cognitive training can help with problem-solving by challenging and strengthening the brain's ability to process and solve different scenarios. Similar to how physical exercise impacts muscles, this mental exercise can make your brain more versatile and resilient, thus improving problem-solving skills.

12



Pycnogenol

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 100 mg of pycnogenol supplement daily. This can be taken in a single dose or divided into two doses of 50 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE
100 mg

Description

Pycnogenol (pine bark extract) is derived from the bark of the maritime pine (Pinus pinaster). It has been used in traditional n European folk medicine for centuries, and more recently as a supplement. The extract contains a group of bioactive compounds known as proanthocyanidins, which may be beneficial in supporting cardiovascular health, promoting skin health, and aiding in the management of various conditions related to inflammation and oxidative stress.

Pycnogenol comes from the bark of pine trees that grow in the Mediterranean [\[R\]](#), [\[R\]](#).

It may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Athletic performance
- Seasonal allergies
- Cognitive function
- Joint health
- Varicose veins

How it helps

Pycnogenol, a plant extract with antioxidant and anti-inflammatory properties, may improve problem-solving skills by enhancing cognitive function and promoting mental clarity.

13



Cognitive-Behavioral Therapy (CBT)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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.

Description

Cognitive-behavioral therapy (CBT) is a psychotherapeutic approach that has been effective in treating various mental health conditions by helping individuals identify and change negative thought patterns and behaviors. It is widely used for conditions like depression, anxiety, and phobias.

Psychotherapy (talk therapy) involves talking about your health with a licensed therapist. It may improve the way you react to certain experiences [\[R\]](#).

Talk therapy is a great way to improve many conditions, including [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Depression
- Anxiety disorders
- PTSD
- OCD
- Substance use disorder
- Bipolar disorder

Cognitive-behavioral therapy (CBT) is a type of talk therapy. CBT aims to change the way you think about your life and yourself. Through CBT, a therapist can help you develop healthy coping mechanisms [\[R\]](#).

How it helps

CBT helps to identify and change negative thought patterns and behaviors. Improved cognitive processes through CBT can lead to better problem-solving skills by fostering more adaptive thinking.

14



Tai Chi

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

TYPICAL STARTING DOSE

1 hour

Description

Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

Tai chi involves gentle movements and breathing to strengthen and relax the mind and body. Practicing tai chi may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

How it helps

Tai Chi enhances mental concentration and agility, helping with problem-solving as the mind becomes sharper and more alert by focusing on slow deliberate movements. Regular practice can help avoid issues with problem-solving as it promotes mental clarity and reduces stress, enhancing your cognitive abilities.

15



Avoid Illicit Drugs

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Refrain from using any illegal substances, including but not limited to, narcotics, stimulants, hallucinogens, and cannabis where it's not legalized. This means not purchasing, possessing, or consuming these substances in any form or amount. Commit to this practice indefinitely for long-term health benefits.

Description

Avoiding the use of illicit drugs is essential for preserving physical and mental health, as these substances can lead to addiction, mental health disorders, and other physical health issues. Abstaining from their use supports a safer and healthier lifestyle.

Illicit drugs are highly addictive, illegal drugs. Examples include **marijuana, cocaine, meth, and MDMA (ecstasy)**. The term can also refer to a non-medical use of drugs that are legally available (e.g., medical marijuana in some countries and states) [\[R\]](#).

Illicit drug use can have a **devastating impact on all aspects of your health and wellbeing**. It can lead to [\[R\]](#):

- Dependence and addiction
- Injury and accidents
- Health and sleep problems
- Problems in family and social life

How it helps

Avoiding illicit drugs can substantially improve problem-solving abilities, as these substances can impair brain function and disrupt cognitive processes. Regular abstinence can prevent long-term mental health disorders and enhance cognitive health.

16



Drink at Least 8 Glasses of Water a Day

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Consume a total of at least 64 ounces (or approximately 1.9 liters) of water over the course of the day. This can be divided into 8 glasses, each containing 8 ounces of water. Aim to drink evenly throughout the day to avoid dehydration.

Description

Water is an essential nutrient for nearly every process in your body, helping to mainting brain and gut function, maintain a health weight, as well as energy and performance levels, among others.

Water is essential for life. It supports nearly every process in your body [\[R\]](#).

Water helps maintain [\[R\]](#):

- Energy and performance levels
- Brain function
- Gut function
- Healthy weight

Most experts recommend drinking **around 8 glasses (64 oz. or 2 L) of water daily**. You might need more or less than this, depending on how active you are, where you live, or what your overall health is like [\[R\]](#).

How it helps

Drinking enough water supports the function of your brain, which plays a crucial role in problem solving. Proper hydration helps maintain cognitive functions and fosters a clear mind, enhancing problem-solving skills.

17



Bacognize (Bacopa monnieri)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take bacopa as a supplement in a dose of 300-450 mg per day, ideally with food to enhance absorption. It should be taken daily for at least 4-6 weeks to begin noticing benefits in cognitive function and stress reduction.

TYPICAL STARTING DOSE
300 mg

Description

Bacopa, also known as Brahmi, is an herb traditionally used in Ayurvedic medicine to support cognitive function and memory. It is believed to have neuroprotective properties and is used in herbal supplements for mental well-being.

[Bacopa](#) (*Bacopa monnieri*) grows as a weed in the rice fields of East Asia and the US [\[R\]](#).

Bacopa is used in Ayurveda (Indian traditional medicine) to support cognition [\[R\]](#).

Note that bacopa is fat-soluble. This means that **taking it with a fatty meal should help you absorb it better** [\[R\]](#).

How it helps

Bacopa monnieri is a herb that promotes brain health, including improved cognition and memory retention. This may in turn enhance problem-solving capacity by supporting mental clarity and decision-making ability.

18



Acceptance and Commitment Therapy (ACT)

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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.

Description

ACT is a type of psychotherapy that focuses on accepting one's thoughts and feelings while committing to actions that align with personal values. It is used to improve mental well-being and treat conditions like anxiety and depression.

How it helps

ACT is a form of cognitive-behavioral therapy that helps individuals accept their thoughts and feelings rather than fighting or feeling guilty for them. This can lead to increased psychological flexibility, which is beneficial in problem-solving as it allows one to adapt to changing situations and consider various solutions.

19



Meditation

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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

Description

Meditation is a mindfulness practice that can reduce stress, improve mental clarity, and promote relaxation. Regular meditation is associated with numerous mental and emotional health benefits, including reduced anxiety and enhanced emotional well-being.

Meditation is a relaxation technique that trains your mind to focus and redirect your thoughts. Some of the main types of meditation are [\[R\]](#):

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

People use meditation to improve [\[R\]](#), [\[R\]](#):

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

Meditation helps with problem solving as it improves focus and reduces stress, thereby improving your cognitive abilities to assess and resolve issues. Regular practice can thus prevent the issue from becoming a chronic problem.

20



Avoid Aluminum Exposure

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Use aluminum-free deodorants and avoid cooking or storing food in aluminum foil or aluminum cookware. Instead, opt for glass, stainless steel, or ceramic options for cooking and storing food. Check labels on over-the-counter medications, such as antacids, for aluminum compounds and choose aluminum-free alternatives. Aim to do this consistently for the long term to effectively minimize your aluminum exposure.

Description

Aluminum is a common metal used in manufacturing and food containers. Humans accidentally consume trace amounts of it on a daily basis. High levels can be found in the environment, certain workplaces (e.g., transportation industries), deodorants, and contaminated foods. Exposure to high levels of aluminum can potentially lead to aluminum toxicity.

Aluminum is a lightweight metal. It is **the most abundant metal in the Earth's crust** and is naturally found in the environment. It is usually used for food preservation, cans, cookware, and cars [\[R\]](#).

Aluminum-containing products are major sources of aluminum exposure including [\[R\]](#):

- Antacids (heartburn drugs)
- Food additives
- Cosmetics (e.g., antiperspirants, makeup foundations, toothpaste)

Excessive aluminum exposure may increase [oxidative stress](#) and contribute to various health issues, such as [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Neurological disorders
- Cognitive problems
- Bone disorders
- Breast cancer

How it helps

By reducing aluminum exposure, it's possible to decrease its neurotoxic effects, which could lead to improved cognitive functions such as problem-solving abilities.

21



Sleep for 7+ Hours

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

[Sleep supports your body and mind](#) [R, R]. More precisely, sleep helps:

- Support brain health [R, R]
- Maintain a healthy weight and appetite [R, R, R]
- Regulate blood pressure [R, R]
- Balance blood sugar [R, R]

Ways to sleep better include [R]:

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that’s cool, dark, and quiet

How it helps

Optimizing sleep improves your brain's ability to problem solve by strengthening memory and cognitive function. Proper sleep also lowers stress and enhances mood which can decrease problems and improve problem-solving skills.

22

Applied Relaxation

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Practice applied relaxation by dedicating 15-30 minutes each day to learning and practicing relaxation techniques, such as deep breathing, progressive muscle relaxation, or guided imagery. Consistency is key, so aim to incorporate these practices into your daily routine for an ongoing period to effectively manage stress and anxiety.

TYPICAL STARTING DOSE

30 minutes

Description

Applied relaxation is a stress management technique that involves systematically tensing and then relaxing muscle groups in the body to reduce tension and promote relaxation. It can be effective in reducing anxiety and stress-related symptoms.

How it helps

Applied relaxation techniques involve learning how to relax your muscles through a specific set of exercises. This practice can decrease stress levels, thereby enhancing mental clarity and improving the ability to tackle complex problems.

23

Mindfulness Meditation

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

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

Description

Mindfulness meditation involves focused attention on the breath or a specific point of focus to cultivate mindfulness and reduce stress. Regular meditation practice is associated with improved mental clarity, emotional regulation, and overall well-being.

How it helps

Mindfulness meditation enhances one's ability to focus on the present moment and acknowledge thoughts without judgment. This can improve cognitive flexibility and problem-solving skills by allowing the mind to approach challenges with a fresh perspective.

24



L-Theanine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 100-400 mg of L-theanine supplement daily. It can be consumed at any time of the day, with or without food.

TYPICAL STARTING DOSE

100 mg

Description

L-theanine is an amino acid found in tea leaves, known for its calming and relaxation-promoting effects. It is often used to reduce stress and anxiety and may contribute to improved focus and cognitive performance.

[L-theanine](#) is an amino acid found in black and [green tea](#) [\[R\]](#).

People take L-theanine as a supplement to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Improve cognition
- Boost immunity
- Relieve anxiety and stress

How it helps

L-Theanine is believed to stimulate alpha brain waves, promoting a state of relaxed attentiveness, which could potentially aid in problem-solving tasks. It can also help manage stress, which indirectly improves one's ability to solve problems.

25



Exercise At Least One Hour a Day

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

[Exercise](#) can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

Regular physical activity can improve brain function, enhance mood and reduce stress, which can contribute to more effective problem-solving abilities.

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 lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.