

Verbal Ability

DNA Health Report

REPORT CATEGORY —



COGNITION

Sample Client

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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

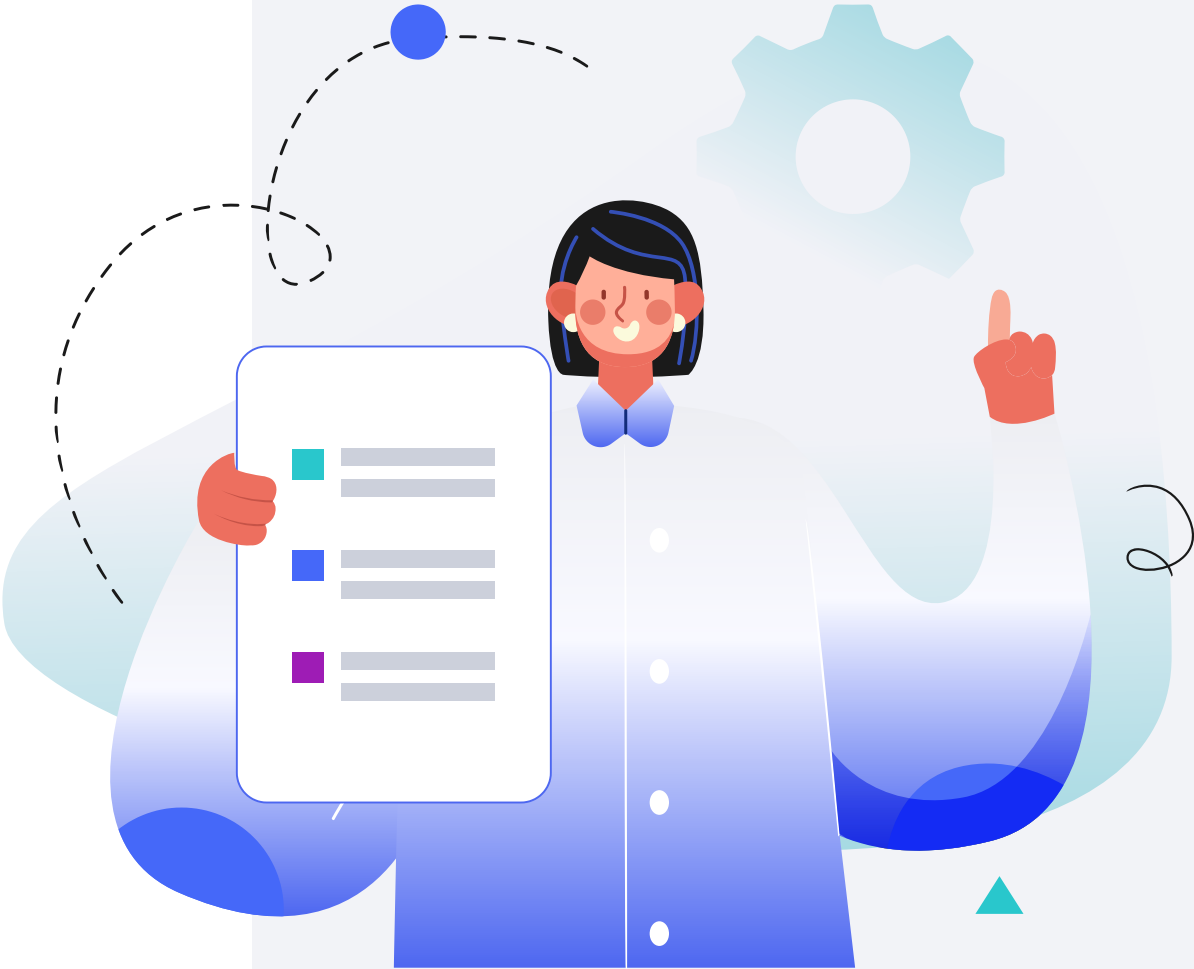
Male

HEIGHT

5ft 5" 165cm

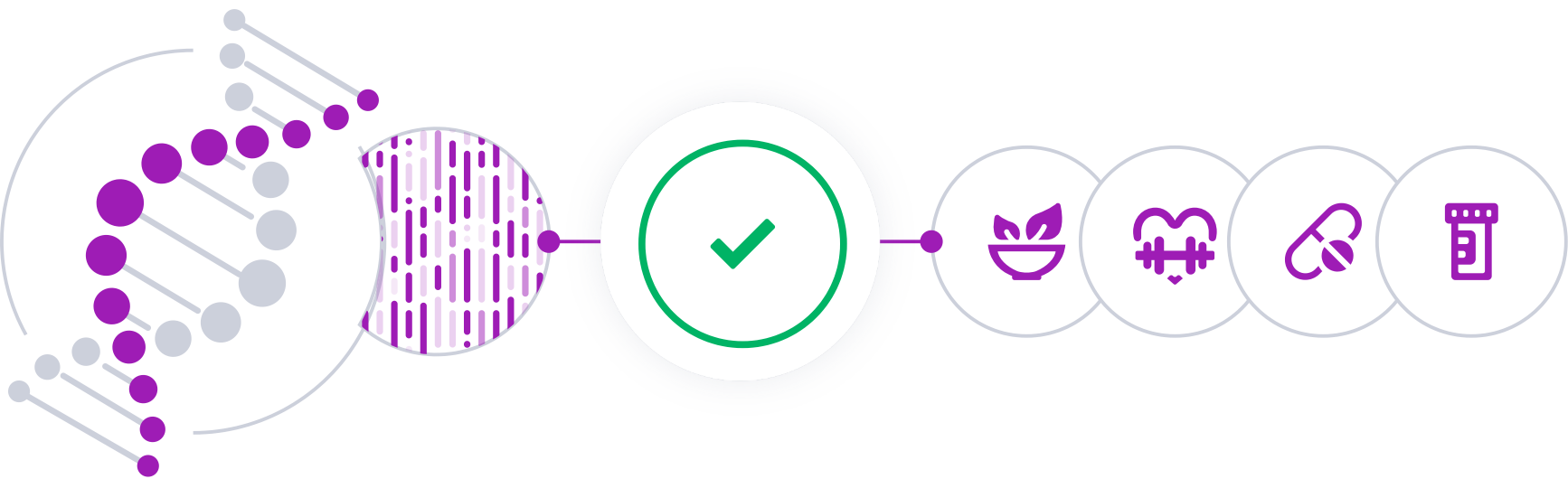
WEIGHT

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.

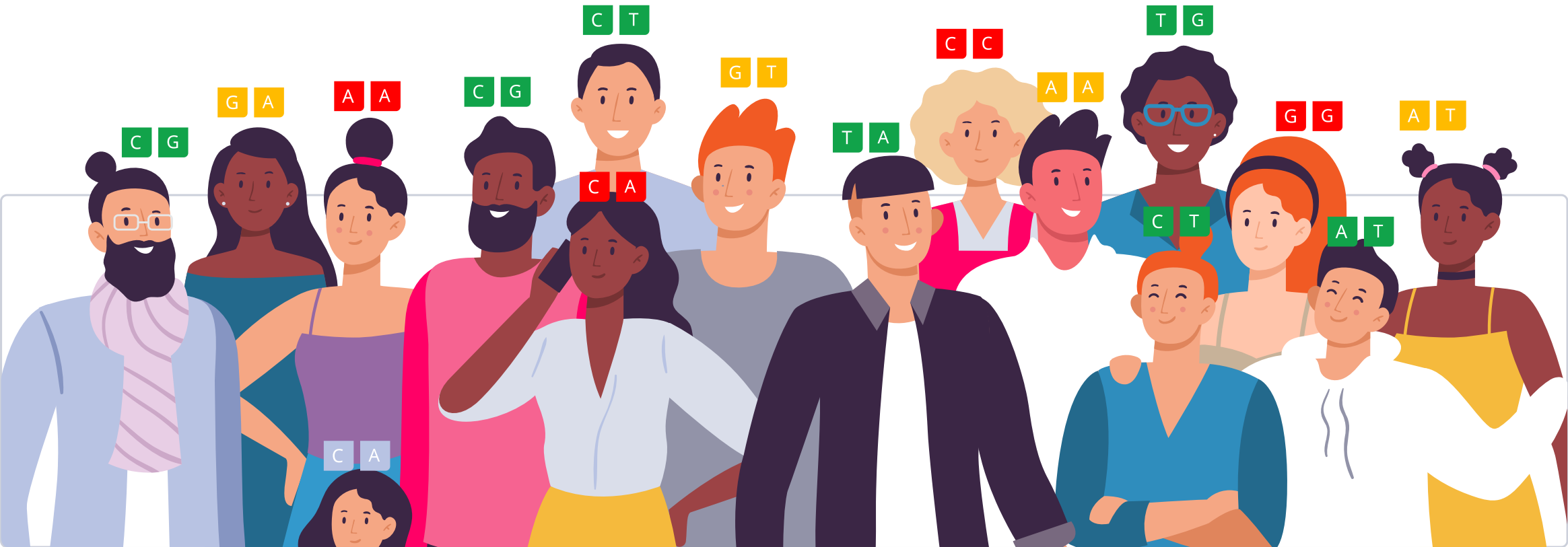


Similarly, our Trait Reports look at how your DNA influences your traits.



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

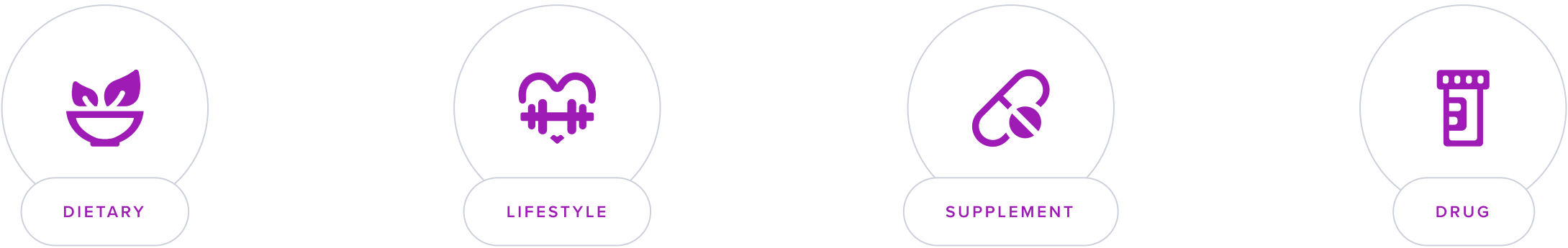
You have 2 risk alleles

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

Verbal ability is the ability to understand and use language effectively. Language includes a number of components, such as [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Vocabulary: the wide range of words you can use in a language.
- Grammar and syntax: the rules for building meaningful phrases and sentences.
- Semantics and pragmatics: the logical and context-dependent meaning of language.

When verbal ability is measured, researchers usually look at two different skills [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Comprehension: The ability to understand the meaning of written and spoken language.
- Expression: The ability to communicate effectively in writing and speaking.

Apart from listening, speaking, reading and writing, verbal ability is important for a number of other tasks, including [\[R\]](#), [\[R\]](#):

- Critical thinking
- Problem solving
- Social interaction

Contributing Factors

PERSONALIZED TO GENES

Based on the variants we looked at, you are predisposed to a lower verbal ability. However, reading habits, education, vocabulary practice, communication experience, and language exposure are key factors in developing verbal skills.

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	GA
NDUFA6	rs2284087	TC
CYP2D6	rs5751191	CT
DPPA2	rs1163379	CC
EPHA6	rs12107293	GG
CYP2D6	rs134882	CT
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	TC
AEN	rs2289416	AA
NOX3	rs183974875	AA
CCDC6	rs76884292	GG
MTHFSD	rs143617408	GG
PLEKHG1	rs140578927	GG
DTNBP1	rs1018381	AG
TEX51	rs10754937	AA
SEC16B	rs140234736	CC
BBS9	rs117363837	TT
FYN	rs142068961	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	Avoid Noise Pollution	
3	Pyrroloquinoline Quinone (PQQ)	20 mg	4	Music Therapy	30 minutes
5	Pilates	30 minutes	6	Transcendental Meditation	20 minutes
7	Chicken Liver		8	Eleuthero	300 mg
9	Focused Attention Meditation	20 minutes	10	N-Back Training	20 minutes
11	Avoid Triclosan		12	Avoid Arsenic Exposure	
13	Dietary Omega-3 Fatty Acids		14	Meditation	30 minutes
15	Social Activity	1 hour	16	Speech Therapy	45 minutes
17	Cognitive Training	15 minutes			

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](#)].

Exercise (including cardio) may improve verbal ability and other areas of cognitive function [[R](#), [R](#), [R](#), [R](#), [R](#)].

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

2



Avoid Noise Pollution

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Minimize exposure to loud environments by using noise-cancelling headphones or earplugs, especially in areas known for high noise levels such as construction sites, concerts, and busy urban streets. Aim to keep the volume of personal audio devices below 60% of their maximum. At home, use carpets, curtains, and wall fabrics to reduce indoor noise, and prefer quieter appliances. Try to dedicate at least one hour of quiet time before bed to aid in relaxation and improve sleep quality.

Description

Noise pollution refers to the presence of excessive, disruptive, or unwanted sound in the environment. It often includes sounds from traffic, industrial machinery, construction, loud music, and other sources that exceed acceptable or comfortable noise levels. Noise pollution disrupts normal activities and can have detrimental effects on human health, well-being, and the natural world.

Prolonged exposure to high noise levels can lead to a range of health issues, including:

- Stress
- Anxiety,
- Sleep disturbances
- High blood pressure
- Heart disease
- Impaired cognitive function

How it helps

A meta-analysis of 48 studies concluded that high noise exposure worsens language abilities [\[R\]](#).

3



Pyrroloquinoline Quinone (PQQ)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 20 to 40 mg of Pyrroloquinoline Quinone (PQQ) daily as an oral supplement, ideally with meals to enhance absorption. This dosage can be maintained indefinitely as part of your daily supplement routine.

TYPICAL STARTING DOSE

20 mg

Description

PQQ is a micronutrient found in foods like spinach, green tea, and kiwifruit. It acts as a cofactor for enzymes involved in energy metabolism and may support mitochondrial health, which is essential for overall cellular function and vitality.

Pyrroloquinoline quinone (PQQ), also known as methoxatin, is a compound that helps enzymes work better. PQQ is also involved in the production of new mitochondrias. By doing so, PQQ helps improve [\[R\]](#), [\[R\]](#):

- Energy levels
- Antioxidant protection
- Growth
- Reproduction

How it helps

In 2 placebo-controlled trials of 120 participants, supplementation with PQQ (20-21.5 mg/day) for 12 weeks improved verbal memory and other cognitive aspects. PQQ may improve cognition by increasing activity in the right PFC, as seen in a placebo-controlled trial of 20 healthy subjects aged 50-70 [\[R\]](#), [\[R\]](#), [\[R\]](#).

PQQ is thought to stimulate the growth and development of mitochondria in brain cells, leading to improved cognition. In addition, PQQ works as an antioxidant that could protect the brain from harmful oxidative stress.

4



Music Therapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

Description

Music therapy is a therapeutic approach that uses music to address physical, emotional, cognitive, and social needs. It can improve mental health, enhance emotional expression, and support overall well-being.

[Music](#) therapy is a form of therapy that involves making, reflecting on, and/or listening to music. It can be applied individually or in groups and may not require the presence of a therapist [\[R\]](#).

Music therapy provides tools for body relaxation and positive imagery. It aims to improve communication, quality of life, and well-being [\[R\]](#), [\[R\]](#).

How it helps

In a non-placebo-controlled trial of 176 children, exposure to a musically-enriched environment improved verbal IQ but had no effect on executive function or short-term memory [\[R\]](#).

Music therapy stimulates several parts of the brain concurrently, thereby enhancing verbal abilities by associating words and phrases with melodies and rhythms.

5



Pilates

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Engage in Pilates exercises for at least 20-30 minutes, 3 times a week. Focus on core strength, flexibility, and mindful breathing. It is suitable for both beginners and advanced individuals, adjusting the difficulty of exercises as necessary.

TYPICAL STARTING DOSE

30 minutes

Description

Pilates is a form of exercise that focuses on strengthening the core, improving flexibility, and enhancing overall body awareness through controlled movements and breathing techniques. Its health benefits include increased core strength, improved posture, enhanced flexibility, and better balance, making it a popular choice for those seeking a holistic approach to fitness.

Pilates is a type of exercise that emphasizes proper alignment, breathing techniques, and precise movements.

It involves a series of controlled movements performed on a mat or with specialized equipment, such as a reformer or Cadillac. Pilates helps strengthen the core muscles, improve flexibility, and promote mind-body awareness.

How it helps

In a non-placebo-controlled trial of 110 older women, undergoing a 12-week Pilates program improved cognitive function, including verbal fluency. Both Pilates and aerobic exercise were similarly effective at improving verbal fluency in the short term in a non-placebo-controlled trial of 52 physically inactive volunteers. In a non-placebo-controlled trial of 34 patients with multiple sclerosis, the combination of Pilates and aerobic exercise (3x/week for 8 weeks) improved verbal fluency, long-term verbal memory, and other cognitive aspects [\[R\]](#), [\[R\]](#), [\[R\]](#).

6



Transcendental Meditation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Practice transcendental meditation for 20 minutes twice a day, once in the morning before breakfast and once in the afternoon or early evening. Sit comfortably in a quiet place, close your eyes, and silently repeat a mantra given to you by a certified transcendental meditation teacher.

TYPICAL STARTING DOSE

20 minutes

Description

Transcendental Meditation is a technique for mindfulness and stress reduction that involves silently repeating a specific mantra to attain a state of deep relaxation and heightened awareness. It is associated with reduced stress, improved focus, and enhanced overall well-being.

How it helps

Practicing Transcendental Meditation can reduce stress and anxiety, which in turn can help improve cognitive functions including verbal ability. By calming the mind, it helps enhance focus and clarity, which can lead to improved verbal communication skills.

In a non-placebo-controlled trial of 17 dementia caregivers, participating in a 12-week (14-hour) transcendental meditation program improved several measures of cognitive function. In a non-placebo-controlled trial of 73 residents of elderly homes, those who performed transcendental meditation had better word fluency and perceived control [\[R\]](#), [\[R\]](#).

7



Chicken Liver

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate chicken liver into your meals 1-2 times per week, aiming for portions of about 100 grams (3.5 ounces) per serving. You can cook it by pan-frying, baking, or incorporating it into dishes like pâtés or spreads.

Description

Chicken liver is a nutrient-dense food that is rich in iron, vitamin A, and other essential nutrients. It can be a valuable addition to the diet to support healthy blood and overall nutritional health.

How it helps

In a non-placebo-controlled trial of 60 children, consuming liver meatballs 3x/week for 90 days improved the scores at verbal cognitive function tests [\[R\]](#).

Chicken liver is rich in vitamins like B12 and iron, which are critical for brain function and overall cognitive health. These nutrients help in the formation of brain cells and their proper functioning, thus enhancing cognition.

8



Eleuthero

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take an eleuthero supplement of 300 to 1200 mg daily, usually divided into two or three doses. It is recommended to follow this dosage for up to 6 weeks, after which a break or consultation with a healthcare provider is advised.

TYPICAL STARTING DOSE
300 mg

Description

Eleuthero, also known as Siberian ginseng, is an adaptogenic herb that may help the body cope with stress, support immune function, and increase energy levels. It's used in herbal remedies to promote resilience and vitality.

How it helps

In a [placebo-controlled trial of 40 women](#), taking a single dose of a combination of eleuthero, schisandra, and rhodiola **improved attention, speed, and accuracy during stressful cognitive tasks** [\[R\]](#).

The combination of eleuthero leaf and Drynaria fortunei rhizome extracts taken for 12 weeks **improved recall, language, and semantic fluency** in a [placebo-controlled trial of 31 healthy adults](#) [\[R\]](#).

However, adding eleuthero (120 mg/day for 8 weeks) to stress management training provided **no added benefits on concentration** in a [non-placebo-controlled trial of 144 participants suffering from asthenia and reduced working capacity related to chronic stress](#) [\[R\]](#).

9



Focused Attention Meditation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Sit in a quiet and comfortable place for 10-20 minutes daily, focusing your attention on a single object, thought, or breathing without letting your mind wander. If distractions occur, gently redirect your focus back to the chosen object or activity.

TYPICAL STARTING DOSE
20 minutes

Description

Focused attention meditation is a mindfulness practice that involves concentrating on a specific object, thought, or sensation. It can enhance concentration, reduce stress, and improve overall mental well-being when practiced regularly.

How it helps

Practicing focused attention meditation (20 min/session) for 3 consecutive days improved verbal fluency in a placebo-controlled trial of 59 mediation-naïve volunteers [\[R\]](#).

10

N-Back Training

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To implement n-back training, practice this cognitive exercise for 20 minutes daily over a period of at least 4 weeks. Use a computer program or mobile app designed specifically for n-back tasks, choosing a difficulty level that challenges you without causing frustration.

TYPICAL STARTING DOSE

20 minutes

Description

N-back training is a cognitive training exercise that involves memory and attention tasks, which may help enhance working memory, cognitive skills, and mental sharpness when practiced regularly.

How it helps

In a non-placebo-controlled trial of 60 participants, N-back training (12 sessions) improved verbal fluency and general cognition in young participants, and long- and short-term memory and general cognition in older participants [\[R\]](#).

N-back training may help by enhancing working memory. This exercise may boost your mental agility, enabling you to retrieve and use verbal information more efficiently.

11

Avoid Triclosan

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Check product labels for triclosan and choose alternatives without this chemical. This includes personal care products like toothpaste, soaps, and hand sanitizers. Aim to replace products as they run out with triclosan-free versions.

Description

Avoiding products containing triclosan, an antibacterial and antifungal agent, can help prevent potential side effects and antibiotic resistance. Choosing triclosan-free alternatives supports safer and more sustainable hygiene practices.

How it helps

A study of 193 mother-child pairs associated high urinary triclosan concentrations at delivery and at age 1 year with lower reading composite at age 8 [\[R\]](#).

Triclosan can disrupt thyroid and other hormone functions crucial for brain development and cognitive function.

12



Avoid Arsenic Exposure

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Use a water filter certified to remove arsenic if you rely on well water, opt for arsenic-tested rice or rice products, and avoid using contaminated pesticides or herbicides in gardening or farming. Test your home for arsenic if you live in an area known for high levels of arsenic in soil or water. Limit consumption of foods known to accumulate arsenic such as rice and rice-based products, especially if you are pregnant, nursing, or preparing meals for young children.

Description

Avoiding arsenic exposure is essential for preventing potential health risks associated with arsenic contamination in drinking water and foods. Chronic exposure to arsenic has been linked to various health issues, including cancer and cardiovascular problems.

Arsenic is a [heavy metal](#) naturally found in the environment. It is used for mining, fracking, and industrial applications, such as the production of pesticides and wood preservatives, and the use of fossil fuels [\[R\]](#).

The main sources of exposure to arsenic are contaminated [\[R\]](#), [\[R\]](#), [\[R\]](#):

- **Drinking water**
- **Rice** and fish
- Air

Long-term exposure to high amounts of arsenic may be linked to health problems, including [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Skin disorders
- Heart disease
- High blood pressure
- Stroke
- Diabetes
- Cancer

Please note: *Soaking, washing until clear, and cooking rice with a high (1:6) water-to-rice ratio may help reduce rice’s arsenic content* [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

Exposure to arsenic may worsen verbal ability more in people with certain gene variants [\[R\]](#).

13



Dietary Omega-3 Fatty Acids

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for mental and heart health** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Omega-3 fatty acids found in foods like fish may help with cognitive functions, which includes language and verbal communication skills.

14



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, particularly mindfulness meditation, can enhance focus and attention, which are critical for processing and utilizing verbal information effectively.

15



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

Engaging in social activities enhances verbal communication and can help maintain and improve verbal ability through conversational practice.

16



Speech Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Attend speech therapy sessions with a certified speech-language pathologist for 45 to 60 minutes per session, 1-2 times per week, for a period that can range from a few months to over a year, depending on the specific needs and progress.

TYPICAL STARTING DOSE

45 minutes

Description

Speech therapy is a specialized form of therapy that focuses on improving communication skills, speech fluency, and language development in individuals with speech and language disorders, offering support for improved communication and quality of life.

Speech therapy is used to assess and treat speech and communication problems. It helps people develop the skills needed for more effective communication. It is used to treat everything from childhood speech disorders to speech impairments caused by stroke or brain injury.

Speech and language therapy (SLT) aims to improve [\[R\]](#), [\[R\]](#):

- Communication
- Eating
- Drinking
- Swallowing

These programs support children and adults who [\[R\]](#):

- Recover from a stroke or brain injury
- Have speech disorders (e.g., stuttering)
- Have swallowing or joint disorders

How it helps

Speech therapy directly aims to improve verbal ability by using specific exercises to enhance language skills and address communication disorders.

17



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 exercises, such as brain games and puzzles, can have a targeted impact on improving verbal ability by engaging language centers in the brain.