



Think differently about

NOOTROPICS

Consumer insights to power your next innovation in brain and cognition

Consumers are redefining what 'nootropic' means. Insights tell a broader story – there is a growing space for next generation dietary supplements that go beyond cognitive enhancement to unlock the full potential of the brain by expanding into the realms of sleep, mood and stress.

Ready to find out what consumers *really* think about nootropics and take your brain boosters to the next level?

[> Get started](#)

Executive summary

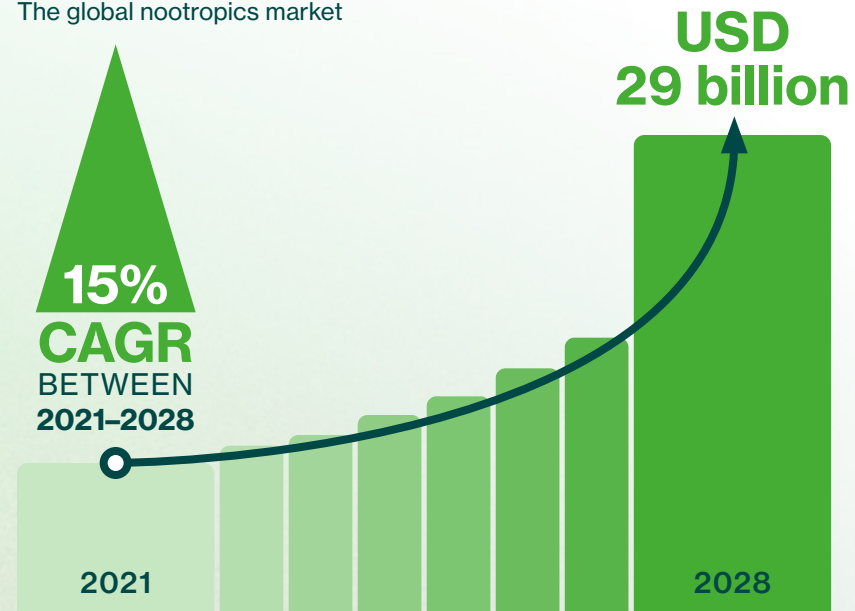
We live in an 'always-on', fast-paced world. Where we're constantly challenged to be and feel our best. **This takes brainpower.**

While the idea that a supplement could ensure we're always at the top of our game may sound like science fiction – boosting our brain's performance *is* achievable with science-backed neuro-nutrition.

Welcome to a new world of possibilities for cognitive enhancement!

The global nootropics market is estimated to value **USD 29 billion by 2028** (with a **15% CAGR between 2021–2028**); fueled by rising consumer demand for solutions that will protect, and even enhance, their mental performance over time.¹

The global nootropics market



But with growing competition in the market, **how can brands stay ahead of the curve to win the hearts (and minds) of consumers?**

When it comes to true breakthroughs in the health and wellness market, identifying and acting on indicators of change is key. At DSM, we deliver people-centric solutions by *really* understanding consumers' daily challenges by conducting social listening research. To identify the signals that point to innovation opportunities in the nootropics landscape, we investigated the evolving consumer experience and understanding of cognitive performance products – including the 'nootropic' ingredients that are top of mind.

This report illuminates key insights from the voice of the consumer between January and March 2022; revealing the latest trends, whitespace and decision drivers shaping the future of the brain health category – plus top tips for transforming insights into action.

[> Ready to dive in?](#)

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Demystifying the ‘gray matter’ surrounding nootropics

Although brain-enhancing supplements have been around for a long time, a lot of unknowns still surround ‘nootropic’ ingredients in the sphere of brain health. One thing is for certain though. The category holds significant innovation opportunities for dietary supplement brands, powered by growing consumer interest.

So what exactly are nootropics and how do they support cognitive performance?

The conversation and science behind nootropics is growing

~17,000

online news articles cover nootropics²

39,100

scientific publications (1945 to 2023) focused on nootropics (4% dedicated to natural nootropics – indicating whitespace for research)³

~1,000

per year (since 2010)³



Nicolas Meyrial
Global Head
Brain Health Solutions, DSM

1 What are nootropics?

Nootropics – also known as ‘smart drugs’, ‘brain boosters’ or ‘cognitive enhancers’ – are compounds that support improved cognitive function. Although nootropic ingredients have been consumed for centuries to elevate the mind and boost mental stamina, the phrase ‘nootropic’ is somewhat new to the mainstream supplement market and awareness of the term is growing amongst consumers.

2 What are the benefits of nootropics?

Brain-related benefits of nootropics include:

- + Optimized cognitive functions – improved alertness, information processing, focus and higher reasoning
- + Greater motivation, memory, mental horsepower and productivity
- + Mood enhancement

3 How do they boost brainpower?

There are many different types of nootropics and they all have unique interactions with the brain – so there is not one simple answer to this question. But some of the ways in which they are thought to boost cognitive function is by stimulating the activity of neurotransmitters in certain regions of the brain, increasing specific brain growth factors, improving blood flow, reducing inflammation and supporting overall neuroprotection pathways.

4 What is the difference between synthetic and natural nootropics?

Synthetic nootropics are lab-made drugs, typically prescribed by a healthcare provider to overcome cognitive deficits, such as dementia and mild cognitive impairments. They have been mostly studied for their neuroprotection, general cognition and memory benefits.

On the other end of the nootropic spectrum is natural herbal extracts, like bacopa, ginkgo or ginseng. The best nootropics from herbal sources have been shown to improve cognition, combat fatigue, enhance memory and promote overall brain health in healthy adults and even in some individuals where standard medical treatments are insufficient.

5 Why should dietary supplement brands care about nootropics?

In a world where we are constantly on-the-go and striving to achieve more, consumers of all ages and backgrounds – from students and athletes to busy parents, military personnel and overworked employees working in high stress environments – are seeking solutions that will give them the edge in their day-to-day lives.

There are an endless number of brain health products currently on the market. Yet few are able to optimize cognitive function while managing stress levels, improving mood and preventing burnout at the same time. The short-term buzz from stimulants, such as caffeine, just doesn't cut it anymore. A rising number of consumers no longer view caffeine as the panacea for brain power and energy; making room for consumer-friendly, caffeine-free alternatives on the market.

With wide-ranging benefits, nootropics – when combined with the right supporting ingredients – have the potential to support multiple consumer needs. Innovation in this category has the capacity to improve cognitive horsepower on demand, while addressing other important mental health and emotional balance demands in a more natural and sustainable way.

6 Are there any challenges and opportunities associated with nootropic innovation?

Consumers are asking more from brain health solutions. They want to 'switch on' the brain to give them the mental edge they need, while promoting feelings of calm and control at the same time. This is creating a space for nootropic+ products – i.e. solutions that target areas, like quality sleep, elevated mood and resilience to stress, so that the full benefits of nootropic ingredients can be unlocked.

Key to supporting the growth of this category is continued advancement of science and research. Many nootropic ingredients have been clinically studied. However, outcomes have varied depending on the study design, such as dosage, duration, quality of nootropic and test population. Future scientific investigations are needed to clarify the uncertainties in order to help build the knowledge and trust of consumers.

76%

of adults say their mental and physical health are equally important²



Mental health



Physical health



The evolving nootropics space

It's time to think beyond quick-fix 'energy boosts' when it comes to cutting-edge innovation in the nootropic space.

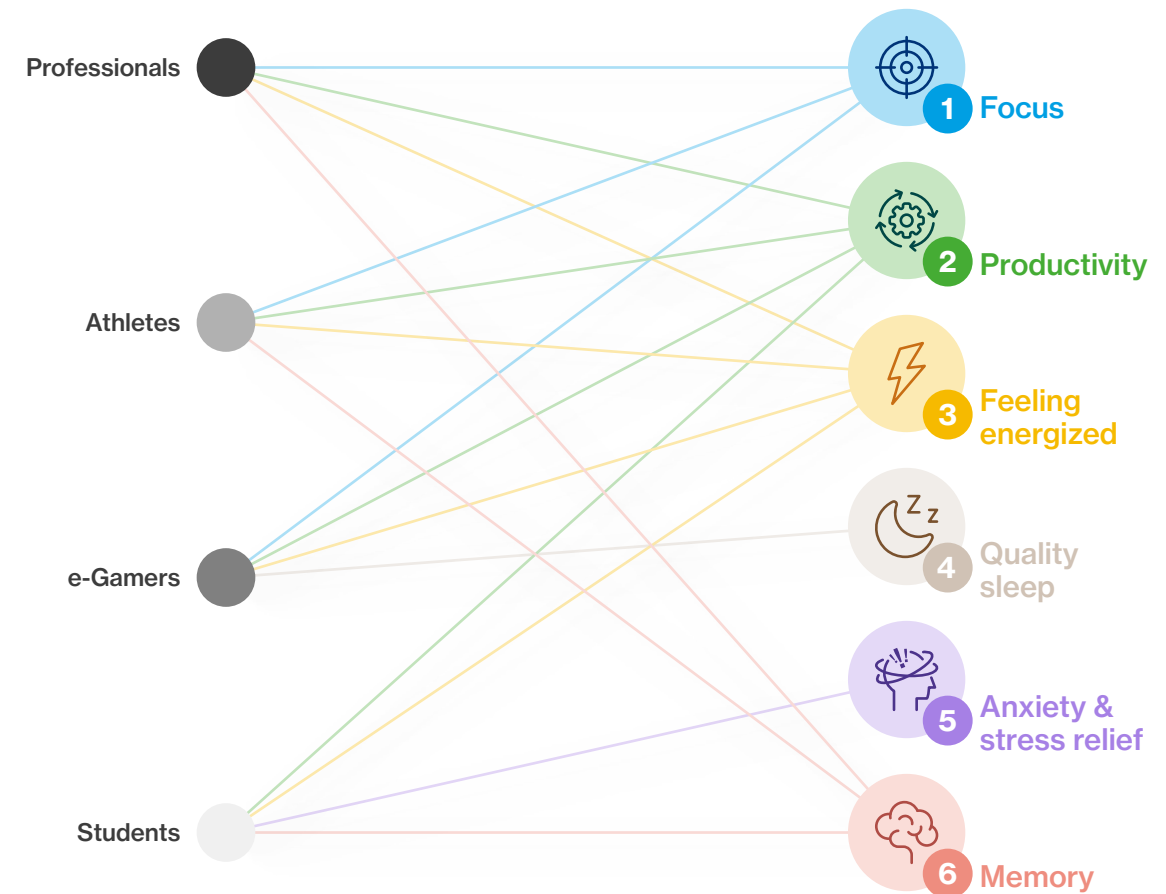
Stressful lives, demanding jobs, fast-paced routines, digital dependency, busy calendars and information overload have created demand for products that do more to help consumers thrive. For the brain to perform at its best, brands must look past cognitive enhancers alone to target functions that provide the right environment for nootropic ingredients to flourish.

DSM is taking a new approach to innovation in the nootropic landscape to attract today's modern consumer. **It's time to introduce nootropic+ solutions to the market.** Are you ready?

+ Explore our concepts

6 health benefits of nootropic+ products

Successfully connecting with nootropic consumers means getting to know their brain health pain points. Discover the top 6 concerns shaping the online brain and cognition conversations today.²





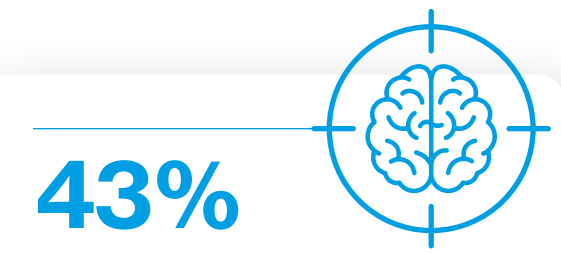
1 Focus

Improving focus is a top priority for professionals, gamers and athletes²

We often think of 'brain fog' as something that affects the older generation only. Or individuals that have not had a quality night's sleep. However, if you combine the 'always-on' social media culture with schoolwork, long work weeks, e-gaming and sports, younger generations are struggling to focus too.

Caffeine is the best-known and most widely consumed stimulant worldwide, scientifically proven to improve concentration, alertness and performance – but only for a short period of time. In addition, consuming too much of it can bring undesirable side effects, like 'the jitters', anxiety or the crash after the 'high'.

This is drawing attention to products that offer sustained mental energy and cognitive horsepower support but without adverse effects. Nootropics can offer enhanced concentration and focus without the ill-effects experienced with caffeine.



43%

struggle with **mental focus**⁵

49%

of **consumers** said they find it **hard to concentrate**⁵

Speak to one of our experts and find out more.

[+ Explore our concepts](#)



2 Productivity

Professionals associate productivity with positive impact on work²

Whether at work or play we all want to perform at our best. But distractions when working from home or struggling to switch off after a stressful day can hamper our ability to be productive. So how can consumers – particularly professionals and students – boost their productivity to perform at the highest level?

Since many factors contribute to how an individual performs – including focus, memory, high energy, stress management and motivation – a multi-ingredient approach is key to addressing this complex element of our daily lives.

Nootropic-based solutions plus ingredients that bring stress relief benefits can help to support better productivity by promoting a relaxed – yet energized – state of mind that’s resilient against distractions and emotional disturbances.



20%
of **students** are
interested in **productivity²**



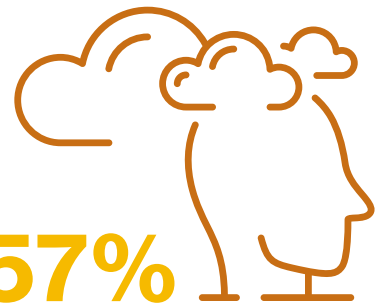


3 Feeling energized

Energy products tend to appeal to two separate groups of consumers: athletes who need a quick boost to support physical performance and the more general population who want to feel energized to drive peak cognitive performance and mental stamina throughout the day. However, some people are becoming increasingly skeptical of stimulants like caffeine. For them, coffee isn't the answer to all.

Instead, consumers are turning to healthier alternatives that deliver lasting energy levels in more sustained ways. The focus is on fast-acting, long-lasting solutions that don't just mask fatigue but get to the root of the problem.

Nootropics can help to fire consumers up with the mental energy they need to thrive in their day-to-day lives, without the side effects of traditional energy products.



57%

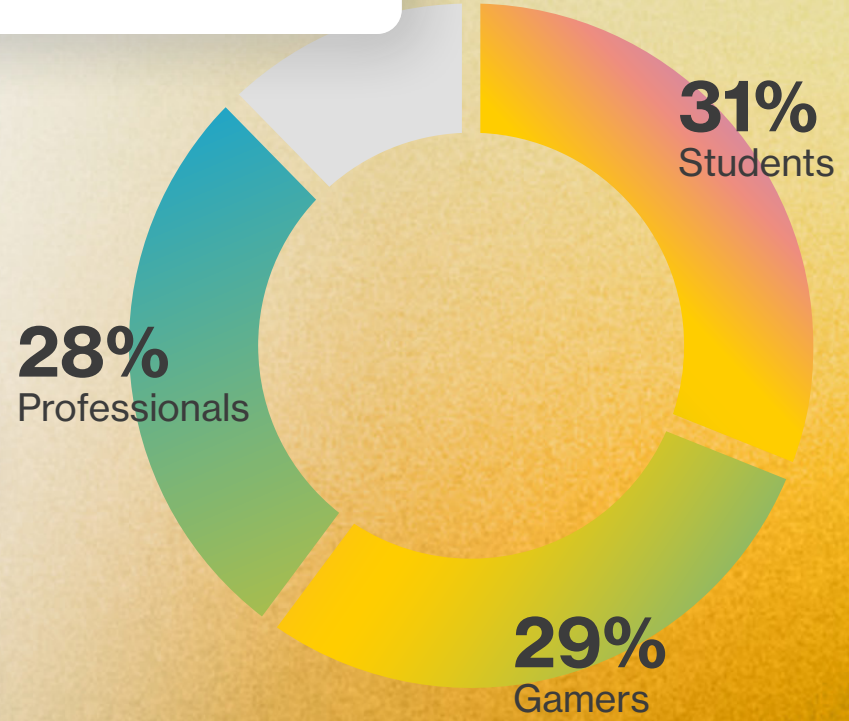
consumers say they regularly feel tired or fatigued⁵

Energy is a **top priority** for **students, gamers** and **professionals**²



52%

of **US consumers** concerned about **tiredness or lack of energy**⁶





4 Quality sleep

Quality sleep is most important to the gamer persona²

High quality sleep is critical for optimal cognition throughout the day, general wellbeing and helping us recharge. For example, memory consolidation, coding and storing happens during sleep and sufficient sleep is needed to support focus and learning. Yet, many consumers, young and old, suffer from chronic sleep deprivation linked to modern lifestyles. The impact of disrupted sleep on brain function and emotional wellbeing is concerning.

Poor sleep quality is strongly associated with mental health disorders, like depression, and a long list of chronic health conditions, from Alzheimer's disease to hypertension.⁷ It also affects our attention and decision-making capacity.

Nootropic ingredients may not provide sleep benefits. However, including nootropics and natural sleep solutions (that are targeted towards better and more restorative sleep) into routines can help consumers optimize sleep-wake cycles. Ultimately, this will help to enhance brain recovery and overall cognitive performance – unlocking the best possible benefits for daytime brainpower.

Consumers strongly associate poor sleep with anxiety and depression⁴



Up to **45%** of the global population **doesn't get enough sleep⁸**

Student personas are most interested in products for anxiety and stress²



5 Anxiety & stress relief

The conversation around mental health is getting louder – with mentions of the topic growing by 44% between 2021 and 2022 online, in part fueled by the impact of the COVID-19 pandemic.⁴ Millennials comment most on the impact of anxiety and depression on work. Meanwhile, the 65+ community are more engaged in conversations about depression, loneliness and isolation. This is motivating people to find healthier ways to cope with mental health issues, like stress and anxiety, and burnouts.

Although nootropics are more focused on enhancing cognitive function, a rising number of consumers want brain solutions that support stress management and positive mood. That's where neuro-adaptogens, like ashwagandha and rhodiola, are entering the discussion. These ingredients demonstrate anti-anxiety and anti-stress properties by supporting a healthy hormone and neurotransmitter response; promoting positive mood and a better 'flow-state' of relaxed productivity.⁹ Ultimately, this helps people to feel better *and* enables improved cognitive function.



31%

of all adults in the US will experience an **anxiety disorder** at some point in their lives¹⁰

53%

consumers taking proactive steps to **improve their mental and cognitive health**¹¹






6 Memory

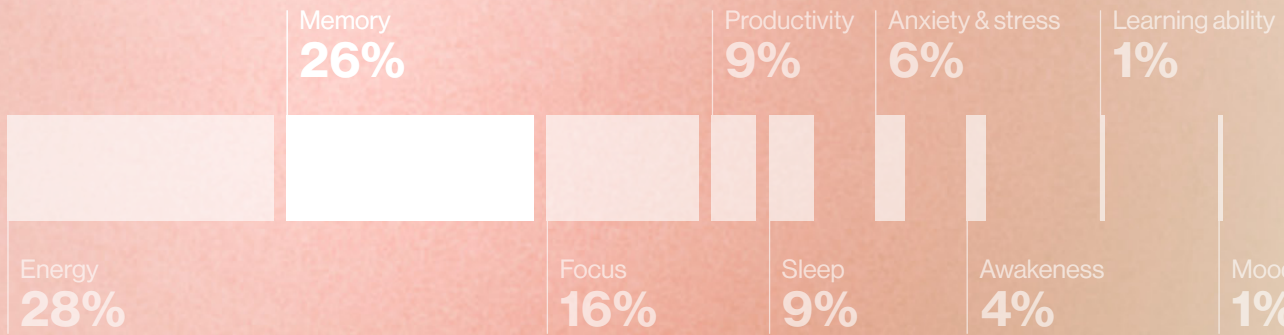
A healthy memory function is fundamental for navigating everyday life – from remembering where our keys are to the critical financial data for your next board meeting (and everything in between). Some nootropics, and other ingredients involved in brain function, such as vitamin Bs and omega-3s, are well documented memory boosters that can enhance processes linked to memory.¹²

Thus, whilst memory-supporting products remain popular with the older population to help slow memory decline, ‘memory pills’ are appealing to younger demographics who are increasingly dealing with information overload and stress in their personal and professional lives.



67%
of consumers in **US** and **59% in UK** concerned about brain and memory health¹³

Memory is the **2nd biggest** priority for **athletes**, after energy.²



What's top of mind for consumers?

DSM's insights and marketing expert services explored social media conversations to identify what today's consumers understand about neuro-enhancing solutions and which ingredients (nootropics and more) they most strongly associate with cognitive enhancement and mental wellbeing.

Read on to illuminate the most discussed ingredients in the nootropic-related online conversations and unlock new opportunities in brain-based product development.

1. CBD

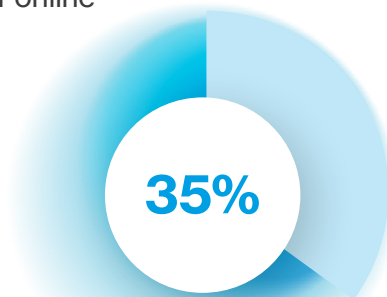
CBD – or cannabidiol – is a common cannabinoid supported by a fast-developing body of science and growing consumer acceptance. Although technically *not* a nootropic, CBD is increasingly perceived as a solution for mental and emotional wellbeing and progressively becoming part of online conversations related to brain performance.²

+ **35%** of online conversations featured CBD

+ Perceived brain benefits:

- **Decreased anxiety & stress***
- Chronic pain management
- Better-quality sleep

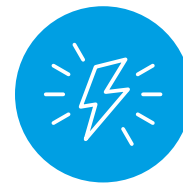
+ **85%** of CBD conversations mentioned gummies as a format



2. Vitamin B

The B vitamins are a class of water-soluble vitamins that play important roles in cell metabolism and brain function. Vitamin B12 specifically has entered the cognitive enhancement conversation, as it is essential for the synthesis of neurotransmitters that affect alertness, cognition, memory and mood; maintenance of the myelin sheaths that protect neurons; and red blood cell formation.²

+ Perceived brain benefits:



Boosts energy levels*



Stress management



Improved brain function

*Most discussed benefit within ingredient category

3. Omega-3 fatty acids

Omega-3 fatty acids – especially docosahexaenoic acid (DHA) – are well-recognized to both support brain development in early life and maintain healthy cognitive function as we get older. Getting sufficient omega-3 nutrition is therefore important to brain health at all ages.

Although technically *not* a nootropic, the fact that consumers are making a strong connection between omega-3s and brain performance demonstrates the changing perceptions of consumers and evolution of the conversations being held within the nootropics arena.²

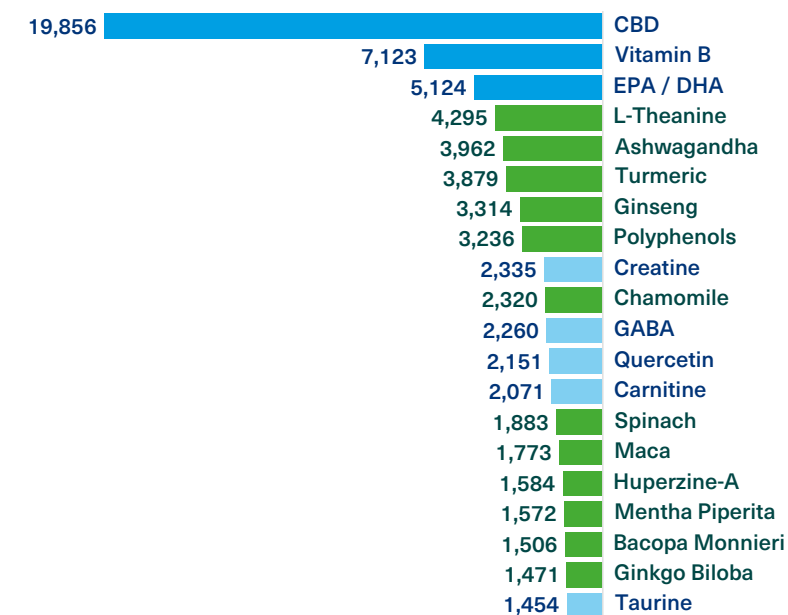
- + Perceived brain benefits:
 - **Better-quality sleep***
 - General brain health
 - Improved brain function
 - Brain development

*Most discussed benefit within ingredient category

40%

Botanicals make up more than **40% of the total online nootropic conversation** – highlighting that they are top of mind when the dialog turns to brain boosting solutions.²

Table 1: Top 20 ingredients discussed online in nootropic-related discussions, outside of stimulants such as caffeine.²



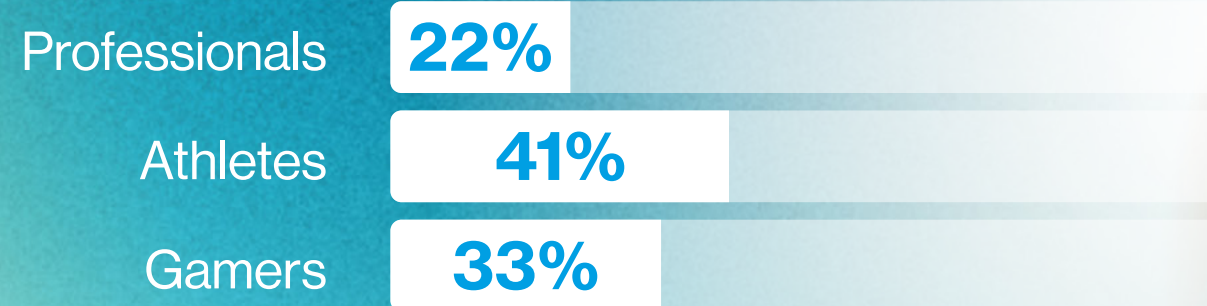
Understanding the nootropic+ consumer

Keeping up with the nootropic – and wider mental enhancement – conversation is key to tuning into what’s trending.

There is a captive audience for brain health solutions that support the fast-paced, ‘always-on’ lifestyle of today’s modern consumer. But gaining buyers’ attention is reliant on fully understanding their needs, what resonates, the language they use and preferences when it comes to ingredients and product formats.



When it comes to brain-supporting ingredients, **CBD** is the **most discussed** amongst **professionals, athletes and e-gamers**²



Among online discussion attributable to a tracked persona

90%

of people talking about **nootropics** are **professionals** and **athletes**²

Professionals

Whether working in healthcare, the military, as a first responder or in an office, there is a growing interest in brain health supplements that support all-day job performance, keeping focus and increasing productivity.

Speak to one of our experts and find out more.

[+ Explore our concepts](#)

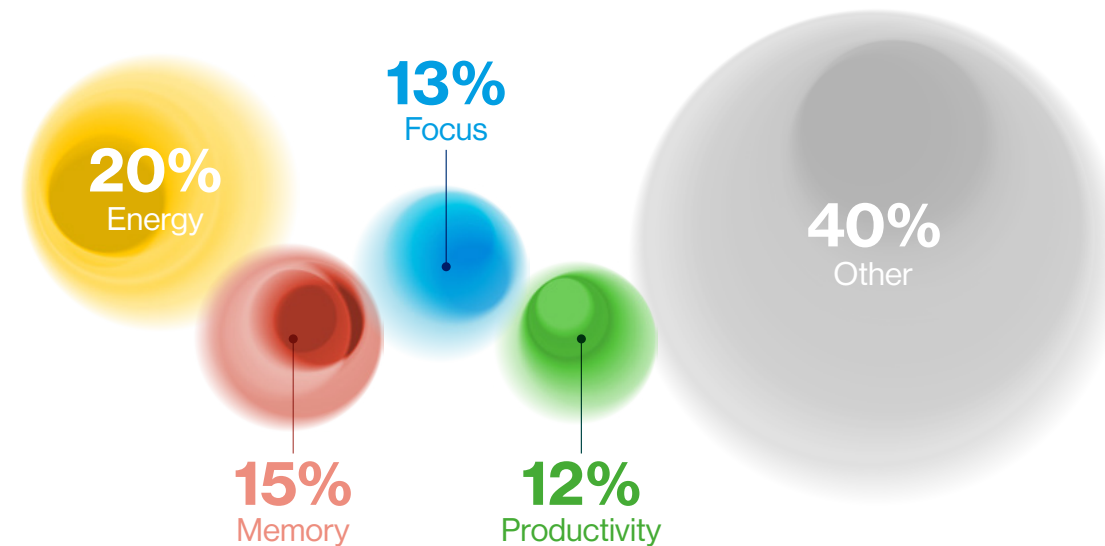
Social listening excerpts

"Took Huperzine A for the first time today and I can feel the difference. I've been more focused, had more energy and felt my brain working on a higher level."

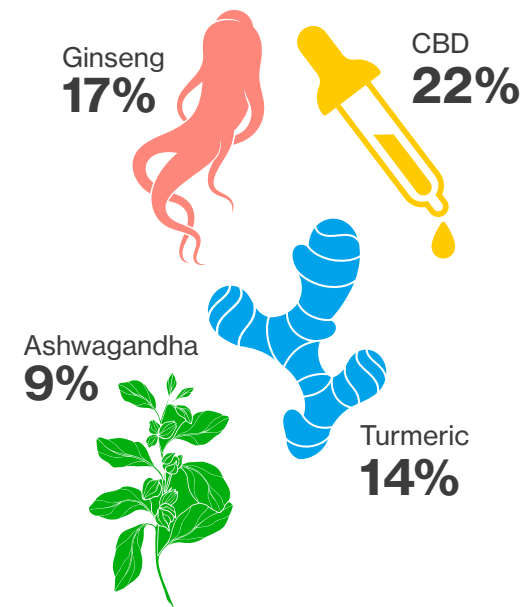
"Combining pepper and turmeric can help enhance memory."

28%
Energy is a top priority for professionals²

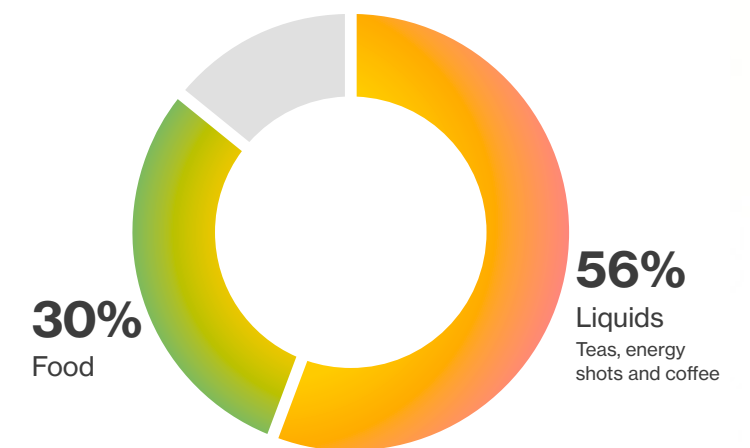
Top cognitive benefits²



Most discussed ingredients²



Format preferences²



Athletes

Athletes are constantly looking for ways to gain a competitive edge. The link between mental and physical performance is nothing new. Enhanced mental acuteness, faster processing times and increased focus helps competitors optimize reaction times and stay on top of their game. One way to achieve this is via pre-workout formulations with added nootropics, providing robust and long-lasting energy, motivation and concentration to maximize training.

But it's not just elite athletes driving the discussion in this category, nootropics are gaining traction in the broader performance nutrition market and active-lifestyle category, which includes regular gym-goers.

Speak to one of our experts and find out more.

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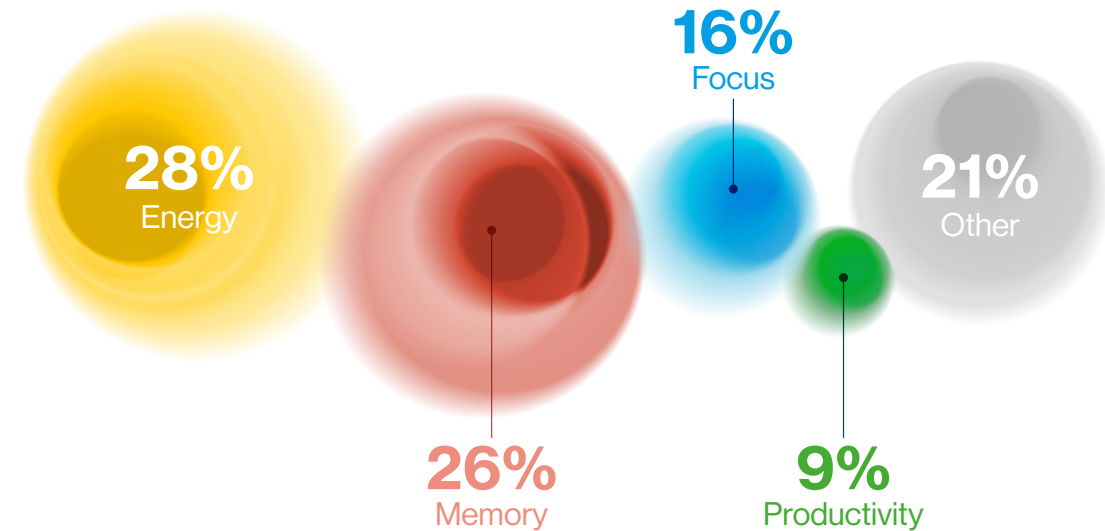
Social listening excerpts

"Have you tried alternative morning beverages to coffee? I've had luck with green tea extract, lots of vitamin B and other mood and brain performance boosting ingredients."

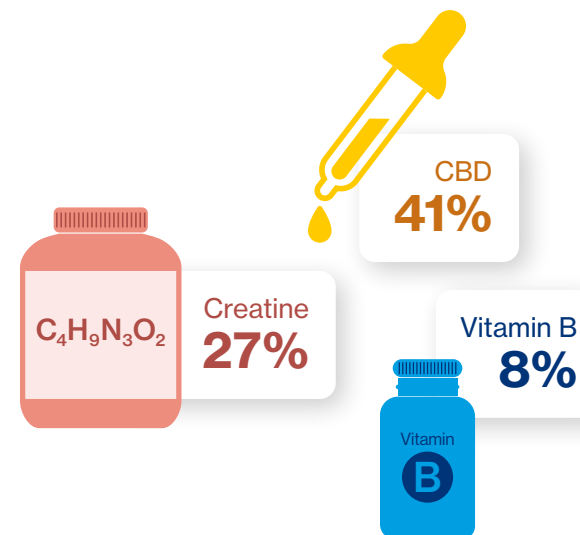
"For me, coffee is an added energy boost, but I can't say many benefits beyond that. Creatine though is amazing stuff."

Energy (28%) and **memory (26%)** are the biggest health priorities for athletes²

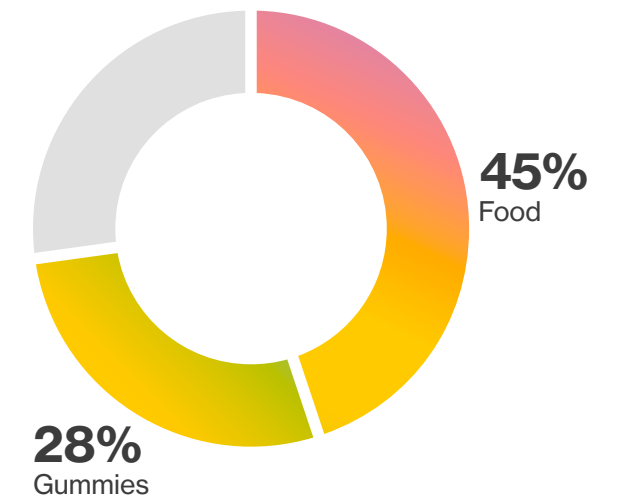
Top cognitive benefits²



Most discussed ingredients²



Format preferences²



e-Gamers

For all gamers (but especially professional esports participants), it is critical to maintain alertness and focus over a long period of gameplay – where fast reactions are the difference between winning and losing. At the same time, optimal performance under pressure requires gamers to keep their calm and limit feelings of frustration and anxiety that can adversely affect their performance.

To support these areas, solutions that deliver benefits for visual processing, visual memory, attention and hand-eye coordination could help e-Gamers outperform the competition.

Speak to one of our experts and find out more.

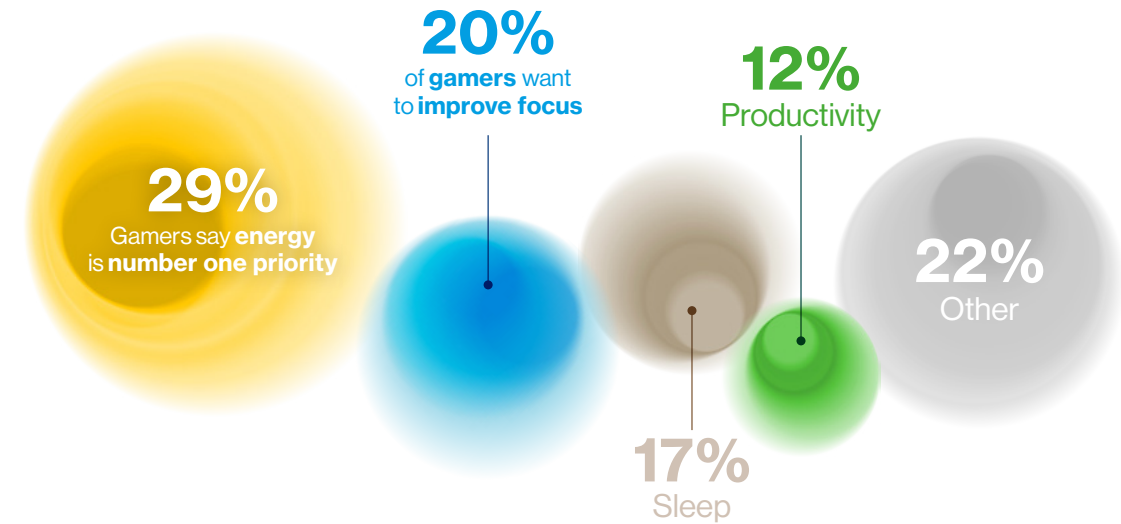
[+ Explore our concepts](#)

Social listening excerpts

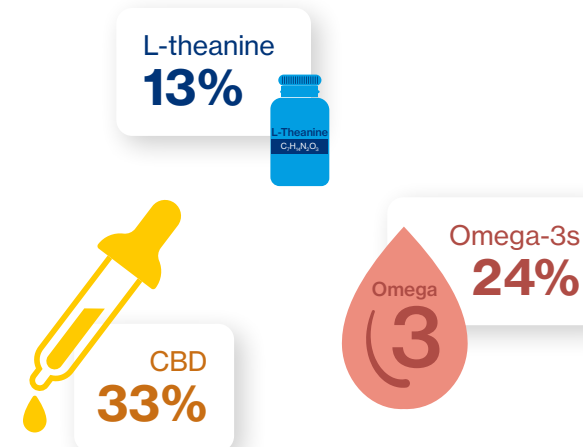
“You know what keeps me fueled? Supplements that amplify energy, focus, recovery and promote restful sleep.”

“I bought some vitamin B12 gummies for energy... they definitely do the trick.”

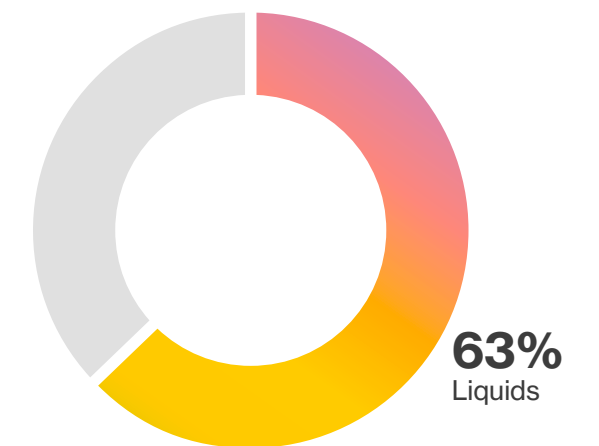
Top cognitive benefits²



Most discussed ingredients²



Format preferences²



Students

Students experience demanding workloads and stressful exam periods which require optimal memory skills, enhanced learning ability and peak productivity. While they recognize that stimulants, like caffeine, are useful when in need of an instant boost, they increasingly consider them unsustainable. As a result, high achievers are increasingly turning to natural nootropic ingredients to help them continuously excel in their studies.

Speak to one of our experts and find out more.

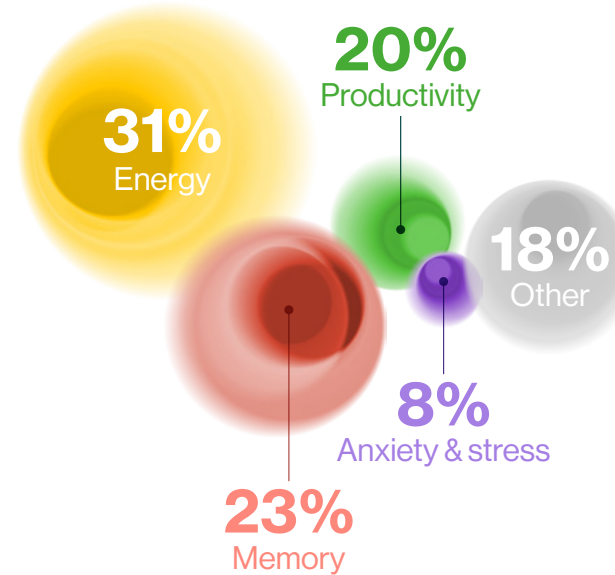
[+ Explore our concepts](#)

Social listening excerpts

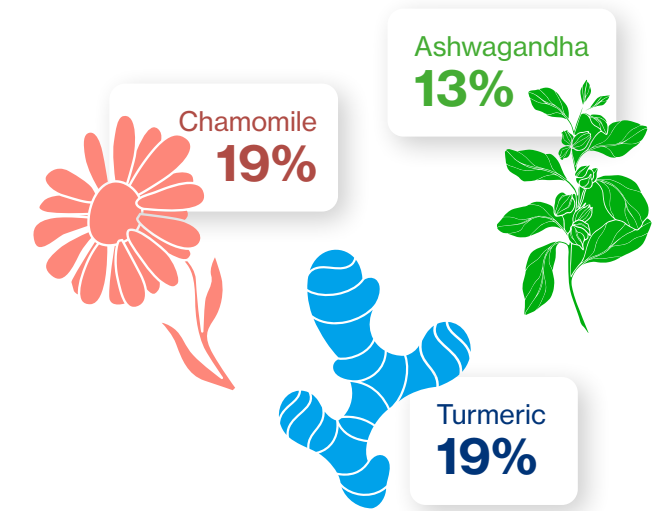
Green tea is surprisingly better than coffee for cognitive performance due to the L-theanine holding the caffeine anxiety effects back.

Ashwagandha and L-theanine all help with mental clarity and stress.

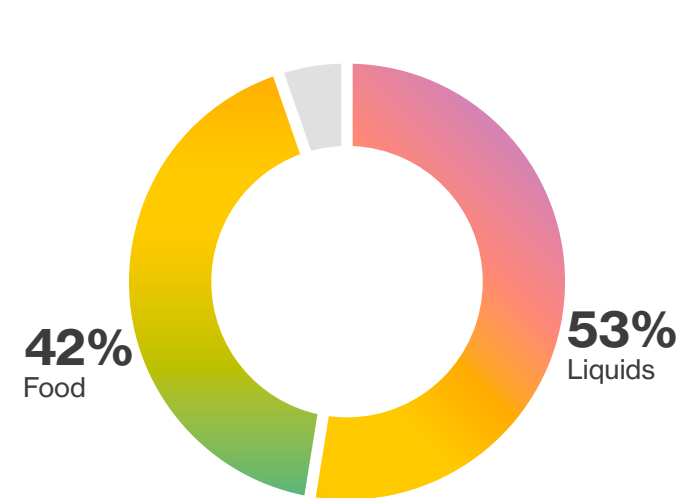
Top cognitive benefits²



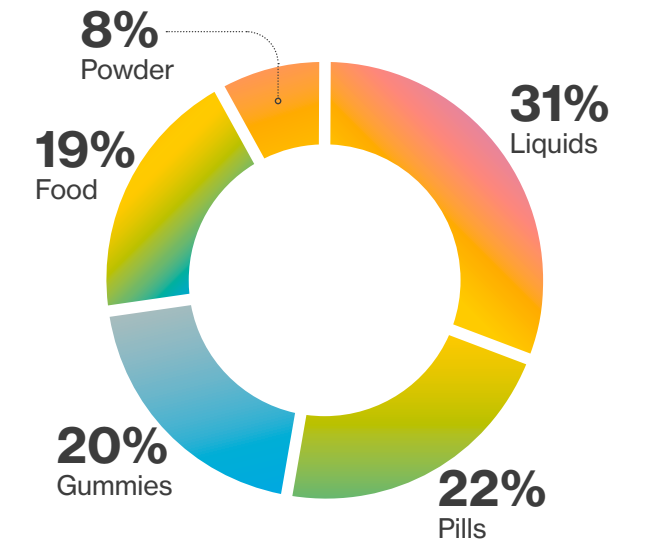
Most discussed ingredients²



Key ingredients²



Product formats popular in the nootropics market²



4 top tips for innovation

The potential for nootropic+ innovation is **huge** considering the diverse ingredients available, the multiple ways in which they can benefit the brain and the range of needs from different consumer personas seeking brain-supporting solutions.

To help you on your way to creating purpose-led, consumer-driven cognitive enhancing products, here are our four top tips for getting started in the nootropics arena.

Food for thought:

Help consumers balance mental alertness and feelings of calm by combining nootropics with ingredients like neuro-adaptogens or botanicals. This way of thinking could attract the attention of a rising number of consumers who want an all-round brain powering solution.



1 Focus on science-backed ingredients

There is an opportunity to leverage trending nootropic ingredients to raise the shelf-appeal of your products to savvy consumers. Remember though – always choose science-backed, high-quality ingredients that consumers can trust.



Hint: Don't forget natural adaptogenic ingredients, such as *Aswaghandha*. Although not nootropics as such, they are perceived by consumers to have important brain benefits and the research behind both is promising. The same can be said for vitamin Bs and omega-3s. Although not deemed conventional nootropics, they are increasingly part of the conversation due to robust science, high awareness, trust and regulatory approved brain related claims in key markets.

2 Create the right ingredient stacks

How about taking your new product development further still by adopting a broader approach to innovation? The best way to appeal to different consumer personas is to customize your formulation to their health needs and preferences. This is possible by creating unique 'nootropic stacks' that are fine-tuned to support specific cognitive functions. To achieve this, formulators can combine and balance multiple ingredients with distinct cognition enhancement and mental wellbeing benefits.

3 Push boundaries in format development



To deliver nootropic ingredients in the best possible way and attract busy consumers, format innovation is key but a largely untapped opportunity in this category. Although there is still space for pills and capsules, shoppers are getting tired of traditional delivery systems; seeking more enjoyable ways to fuel their brains and empower their minds.

Trending formats include gummies, strips, gels and functional foods and beverages due to their convenient, on-the-go delivery of ingredients.

Top tip: Don't be afraid to challenge the status quo and experiment with different product formats to stand out from the sea of supplements!

4 Make education a priority

Although brain boosting ingredients are bursting onto the brain health scene, many consumers have difficulties recognizing most ingredients and what specific combinations will meet their unique needs. This lack of knowledge is creating a barrier to reaching and attracting many consumers.

To broaden the market, there is an opportunity for brands to educate consumers about the best ways they can support their brain health and cognitive performance via the right neuro-nutrition.



Unlock the brain's full potential with DSM

We're with you, from concept to consumer.

DSM can help you transform consumer insights into cutting-edge brain health solutions with proven health benefits. This takes more than ingredients. It takes a partner.

We're at the forefront of brain health and cognition enhancement advancements and can help you access wider market opportunities, faster. When you partner with us, you'll benefit from our high-quality ingredient portfolio, insider knowledge of trends, deep understanding of brain science, regulatory and marketing experience and formulation expertise.

Our customized solutions and unmatched end-to-end capabilities support you from concept to consumer; helping you launch your next stand-out solution with purpose, speed and confidence. With a broad portfolio of propriety products such as lipids and vitamins combined with nootropics as a Premix or Market-ready solution, we can simplify your supply chain, fast track your innovation and together push new boundaries in the brain health arena.

Get inspired!

Explore our market-ready solutions and premix solutions to power your brain performance products.

 Get started today at partnerwithdsm.com



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