BIZKIT

DOGNITION REPORT - JUNE 17, 2025

Dognition®

SOCIAL GRACES ARE THE KEYS TO THE SOCIALITE'S SUCCESS.

It's hard work making everything look so easy. In a culture obsessed with academic achievement, sometimes it is easy to overlook the fact that gracefully interacting and communicating with others requires talent. In Bizkit's case, he takes this talent to a whole new level - it is definitely his genius.

Although Bizkit is not as adept at independent problem-solving skills as other dogs, don't jump to any conclusions about his intelligence. Bizkit relies on a very specific strategy - using you and other humans in his pack to get what he wants. Judging from his performance in the social games, we suspect that most of the time this strategy succeeds.

THE DOGNITION PROFILE

Usually, when you get test results, you see a score that means you either passed or failed. To compare your results to someone else, you see who got the higher score. This is why your dog didn't take a test. Instead, you played a series of games together - and when you play a game there is more than one way to win. Success often comes from playing to your strengths.

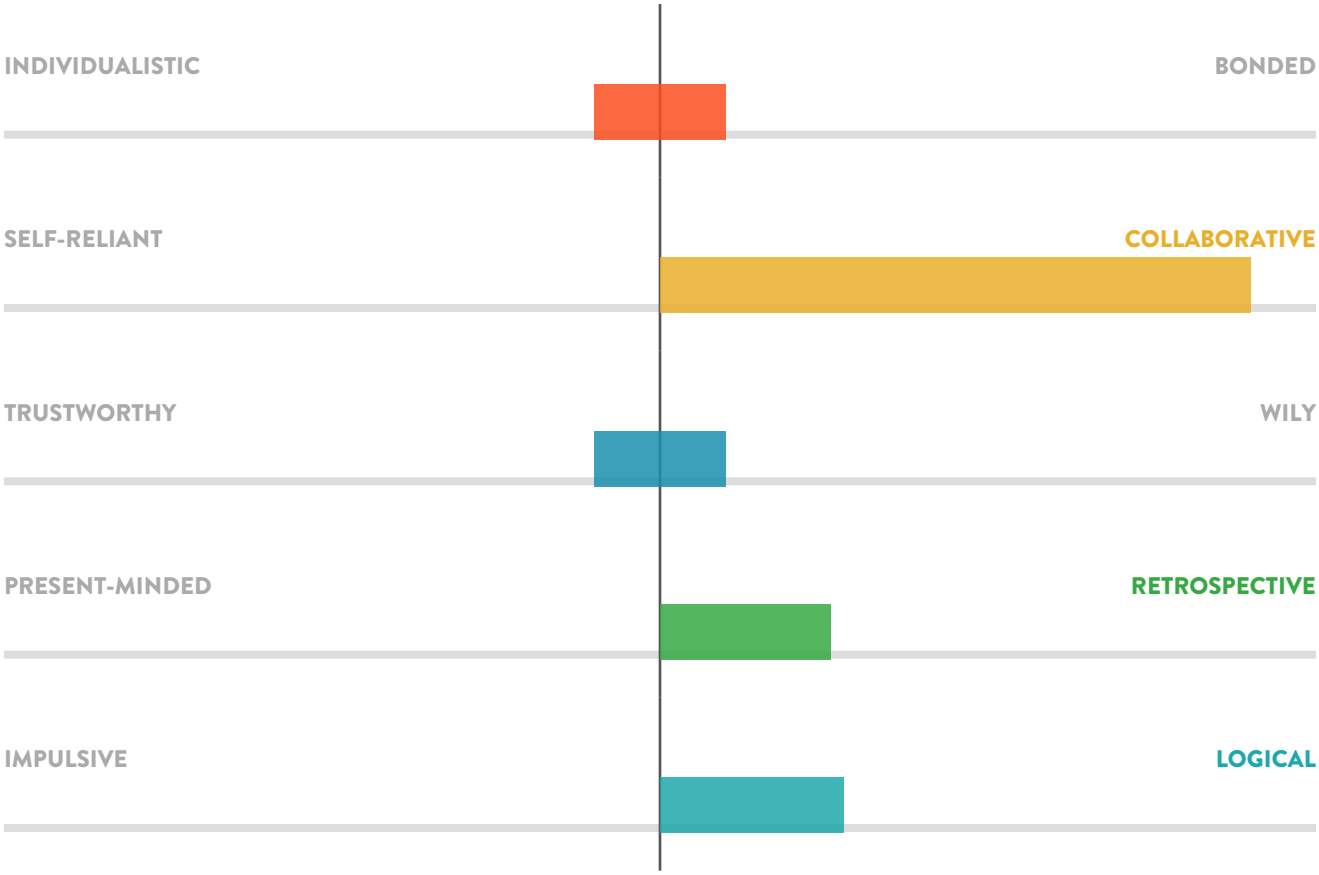
There has recently been a revolution in how we think about intelligence. The Dognition Profile is based on this cutting-edge field called cognitive science. Cognition is the study of how the mind works and draws on many scientific disciplines, from psychology to computer science to neuroscience.

By studying animals, cognitive scientists have made three important discoveries:

> Animals use many types of cognition to survive (learning skills from others, remembering the location of food, inferring the solution to a new problem or deceiving others during competition).
>
> Different animals rely on different cognitive strategies. Asking if a crow is more intelligent than a dolphin is like asking whether a hammer is a better tool than a saw. Each animal has strategies to solve a unique set of problems.
>
> Just because an animal tends to use a certain strategy to solve specific problems doesn't mean he or she will always apply that strategy to all types of problems. Animals rely on a toolbox of strategies that depend on a variety of factors. Dognition gives you insight to the most significant tools that your dog will use on a daily basis to interact with you and the world.

Based on these findings, the Dognition Profile looks at five cognitive dimensions. Rather than counting correct and incorrect answers, the Dognition Profile identifies your dog's cognitive style, and the strategies he relies on to solve a variety of problems. Using this revolutionary new science, the Dognition Profile will give you an unprecedented window into the workings of Bizkit's mind and reveal his particular genius.

COGNITIVE DIMENSION RESULTS



EMPATHY - Reading and responding to the emotions of others

COMMUNICATION - Using information from others to learn about the environment

CUNNING - Using information from others to avoid detection

MEMORY - Storing past experiences to make future choices

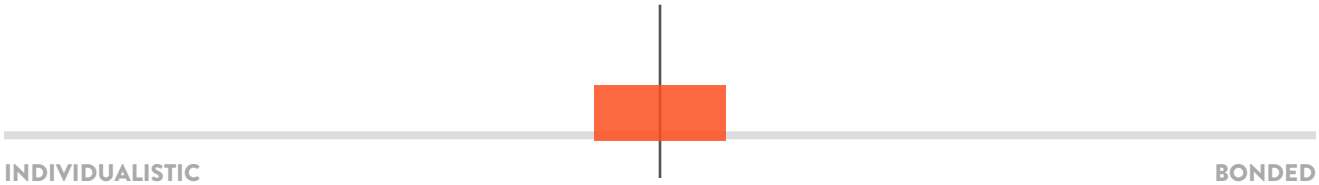
REASONING - Inferring the solution to new problems

EMPATHY

The two games you played were looking for signs of empathy, and Bizkit gave a solid performance. Empathy is the ability to feel what someone else is feeling. We usually think of empathy as being a human quality, but researchers have recently suggested that animals might also have a basic form of empathy.

Bizkit was somewhere between bonded and individualistic in the Empathy dimension. This means that while Bizkit has an independent streak, he is still very attached to you. Since relationships are all about balance, this probably suits you perfectly.

FIG.1



Playing and interacting with your dog like you did in the Dognition games increases your oxytocin, the hormone responsible for feelings of pleasure, bonding, and affection.

YAWN GAME

In this game, you yawned and recorded whether Bizkit yawned in response. Yawning in dogs can be an indicator of stress, but we were measuring something different - social yawning. The rationale behind this game is that even as young children, we laugh when we see someone laughing, and we cry when we see someone in distress. Our ability to "catch" the emotions of others is called emotional contagion. A common form of emotional contagion is yawning. If you see, hear or even think about someone yawning, you will probably feel an irresistible urge to yawn.

Bizkit did not yawn in response to your yawn, but this is not surprising. Although dogs are one of the few species besides humans that contagiously yawn, there is variation among dogs. Data from several research groups shows differing results, but our preliminary data shows that only 20% of dogs yawn contagiously.

EYE CONTACT GAME

In this game, you timed how long Bizkit held your eye contact. Before babies can hug or speak, they use eye gaze to bond with their mothers. Research with dogs has shown that a similar phenomenon may happen with owners and dogs. Owners whose dogs stared at them for longer had significant increases in the hormone oxytocin. Oxytocin, also known as the "hug hormone," is related to feelings of bonding, pleasure and affection.

Judging by the extraordinary length of time Bizkit spent gazing soulfully into your eyes, you probably often find him staring at you for no reason. You might wonder if Bizkit is trying to tell you something, like he is hungry, needs to go to the bathroom or has an opinion on what to do over the weekend. But Bizkit may not want or need anything - he may be just hugging you with his eyes.

Dogs can even be better than aspirin. Children in a hospital reported that their pain was four times less when they played with a dog than when they spent the same time relaxing.

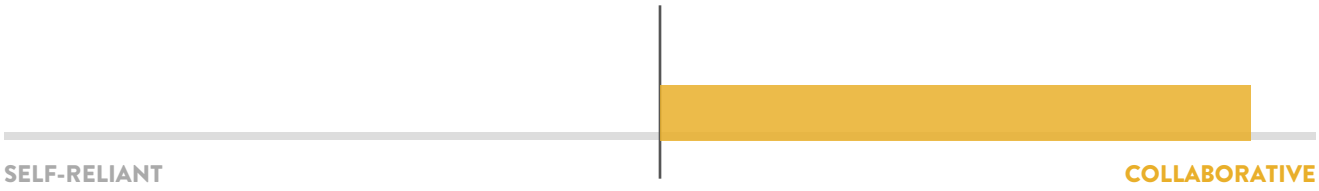
COMMUNICATION

Bizkit's performance was highly collaborative. You probably notice that Bizkit can read you like a book. Maybe he seems to know where you are going before you do. Maybe he can tell where to find a lost ball just by you glancing in the right direction. However his talent expresses itself, you can be sure that Bizkit pays close attention to your gestures and what you are trying to communicate.

Bizkit is remarkably like a human infant, who start reading communicative gestures at around nine months old. This ability is the foundation for all forms of culture and communication, including language.

Communication is the basis of many relationships, including our relationship with dogs. Bizkit's behavior in the Communication games demonstrated exactly why the dog and human relationship is so special.

FIG.2



ARM POINTING

You probably don't take much notice when Bizkit effortlessly uses your pointing gesture in all sorts of situations, from finding a toy to figuring out which direction to go next. But this is a remarkable skill. Bizkit did so well in this game that his skills are similar to those of a human infant. At around nine months old, infants begin paying attention to what people are trying to communicate when they point. Infants also begin pointing things out to people. Whether infants point to their favorite toy or watch you point to a bird, they are beginning to build core communication skills. Just like an infant, Bizkit relies on your communicative gestures to solve all sorts of problems he probably could not solve alone.

Did you know that, on average, dogs can start following a human point as young as 6 weeks old?

FOOT POINTING

Although Bizkit followed you almost every time when you pointed with your hand, when you pointed with your foot Bizkit did not seem as sure.

Bizkit probably does not see you point with your foot very often, so this game was a way of seeing how flexibly Bizkit can read new gestures. Giving animals a new version of a problem they have seen before is a common tactic used to reveal what strategy they are using to solve a problem.

Although Bizkit did not follow you every time, he may have sensed your communicative intent, and would probably not need much practice to start using a range of new gestures. Especially since he was such an expert in the hand pointing game.

Many dogs tend to ignore unintentional cues from humans. The most effective way to communicate is to call the dog's name, make eye contact, then point and look in the direction of the object.

CUNNING

In the Cunning games, you placed a treat in front of Bizkit and let him know not to take the treat. You then showed Bizkit three different attentional states -- watching, turning your back, and covering your eyes.

In order to be at either end of this cognitive dimension, trustworthy or wily, Bizkit must show that he can tell when you are looking, and use this information when deciding when to go for the treat. In this case, Bizkit's decision did not change no matter which attentional state you presented; he waited roughly the same amount of time in each trial.

This doesn't mean that Bizkit can't be trusted, it just shows us that there are other internal factors influencing Bizkit's decision.

FIG.3

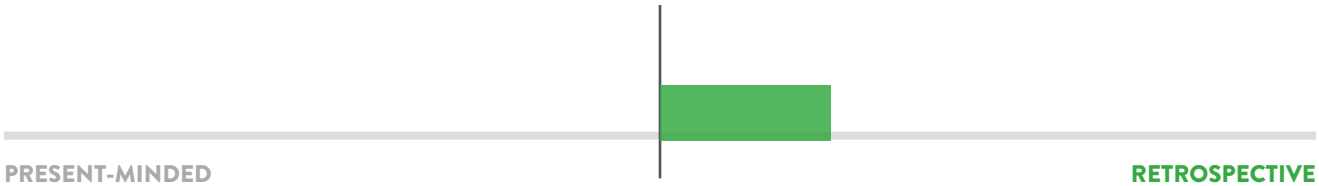
When it comes to begging, dogs prefer to be sure you're paying attention. In one study, dogs preferred to beg from a person who was looking at them rather than someone wearing dark sunglasses.

MEMORY

These games examined how heavily Bizkit relies on his working memory. Working memory is the kind of memory that allows your dog to keep information in mind for a few minutes and mentally manipulate it to solve problems.

In the memory games, Bizkit had to understand that even though the treat disappeared from view, it still existed, and it was his job to find it. It looks like Bizkit has a good working memory, but also uses other information, such as smell or social gestures, when making decisions and solving problems.

FIG.4



Most dogs can remember their mothers even if they haven't seen them for two years. However, they can't remember their brothers and sisters after a similar separation.

MEMORY VERSUS POINTING

Bizkit clearly sees you as someone to believe in. When Bizkit saw you put the treat under one cup then point to the other cup, he chose to rely on your communicative gestures rather than what he can see and remember.

It's no wonder Bizkit was so collaborative in the Communication dimension. He is an expert when it comes to reading your gestures, and relies on your input in all kinds of situations.

MEMORY VERSUS SMELL

Since dogs have such a keen sense of smell, you may have been surprised that after you switched the cups, Bizkit used his memory over his sense of smell. He went to where he remembered seeing the treat hidden, rather than sniffing out where the treat was.

Because a dog's nose can sniff everything from narcotics to cancer, whenever we run a study where we hide a treat under one of two cups, the first question people always ask is, "Can't my dog just smell the food under the cup?" It was certainly our first question, but extensive research by half a dozen independent research groups has concluded that dogs do not rely on their sense of smell to find the food in these games.

If dogs were using smell, they would go directly to the cup with the hidden food. In fact, these studies found that dogs only choose the correct cup around half the time - which means they are guessing. Dogs do have an excellent sense of smell and can probably detect food if allowed to sniff both cups before choosing. But when you study their first choice, they cannot localize the food to a specific cup from a distance of six feet away.

One study found that to successfully track a person's direction of travel, tracking dogs need at least five sequential footsteps.

DELAYED CUP GAME

Working memory is critical for animals that are endurance hunters such as wolves or feral dogs. Endurance hunters chase after prey for long periods of time, slowly wearing them out. During long chases the prey may not always be in direct sight, so the hunter has to remember where its prey was last seen.

Just like his ancestors, Bizkit had to remember the location of the target for different amounts of time. Although the modern world has many distractions, it looks like Bizkit still did pretty well, using his working memory to find the treat most of the time. This is no easy feat, as even you may have forgotten where the treat was during the longer delays.

By no means did Bizkit do badly on this game; in fact, he developed quite a clever strategy. He developed a right or left side bias, meaning when he didn't know which side was correct, he went to one side every time. This is pretty clever, because 50% of the time he was correct.

REASONING

You can be very proud. Bizkit just aced the most difficult games in the Assessment. Reasoning is the ability to solve a problem when you can't see the answer and have to imagine the solution. Unlike learning through trial and error, which doesn't necessarily require much understanding, reasoning requires that you truly understand the problem and the phenomena behind the problem.

A Sherlock Holmes among dogs, Bizkit was able to solve the mystery by imagining different solutions and choosing the one that made the most sense. This leads to a lot of flexibility. He can solve a new version of a problem he has seen before, and spontaneously solve new problems he has never seen before. This is a sign of true genius.

FIG.5

Some studies show dogs are better at solving complex puzzles when humans are not around. When humans are around, dogs look to us for help rather than solving it themselves.

INFERENTIAL REASONING GAME

In this game, you presented Bizkit with a problem and provided some, but not all of the information needed to solve it. When you showed Bizkit the empty cup he had to infer that the treat must be in the other cup.

This is not as easy as it sounds because Bizkit was also attracted to the empty cup, for the simple reason that you touched it. It looks like Bizkit switched back and forth between strategies in this game, sometimes making an inference and choosing the correct cup, and sometimes relying on your social cues. Either way, this shows impressive flexibility.

Bizkit is quite the clever dog! Once again, when faced with a difficult decision during this game he consistently chose one side. Kudos to him for developing this unique strategy.

Ravens and crows have been shown to have incredible reasoning abilities that surpass dogs, and even rival some human children. But when it comes to being our best friends, dogs still take the cup.

PHYSICAL REASONING GAME

In this game, Bizkit demonstrated an excellent understanding of a fundamental property of the physical world - that one solid object cannot pass through another solid object.

Bizkit had to infer that a piece of paper on an angle meant that a treat was hidden behind it. This talent would come in handy in the wild, since animals often have to keep track of objects that become hidden. To find these objects, animals have to maintain a representation of the object and predict where it might appear.

Humans intuitively understand basic physical phenomena like the solidity principle - it looks like Bizkit does too.

Even though many dogs may struggle with physical properties like gravity, this doesn't stop them from thoroughly enjoying a game of fetch.

NEXT STEPS

We hope you've enjoyed reading Bizkit's Dognition Profile and gaining fresh perspective on how he sees the world!

You can fill your friends in on what you've discovered about Bizkit very easily. Download and email or print Bizkit's profile report any time from your portal.

Of course, these five cognitive dimensions are only part of the picture; the magic of your relationship with Bizkit is how you spend your time together. To that end, a Dognition membership gives you on-going games and tips that will help provide even more insight into what makes Bizkit tick and how to act on that information.

As a member, each month you'll receive:

- A new game that will shed light on another aspect of how Bizkit thinks and sees the world.

- Tips and activities prepared for Bizkit from canine training experts based on how Bizkit sees the world.

- Exclusive offers from Dognition partners, including brands such as Kong and Purina ONE.

- New findings about how all dogs think and how Bizkit's strategies compare.

At the same time, by contributing to Dognition you and Bizkit are helping to build the world's knowledge about all dogs. This allows us to tackle fresh questions -- how do certain breeds think compared to others? To what extent do memory skills decline by age? Are female dogs any more empathic than male dogs? And many more!

What questions would you like answered? We'd love any feedback on that or anything else related to Dognition. Contact us any time at hello@dognition.com.

Woof!

The Dognition Team

See the World Through Your Dog's Eyes

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