RYDER

DOGNITION REPORT - MAY 04, 2025

Dognition®

THE PROTODOG IS REMINISCENT OF THE FIRST DOGS THAT BEGAN THEIR RELATIONSHIP WITH EARLY MANKIND- BURGEONING SOCIAL SKILLS THAT ALLOWED DOGS LIKE YOURS TO BECOME A MUCH LOVED MEMBER OF THE HUMAN PACK.

Thousands of years ago, when our human and canine ancestors first began their extraordinary relationship, there was something about certain types of wolves that distinguished them from the rest of the pack. Rather than a traditional form of intelligence, these pioneer dogs, or protodogs, had budding social skills that allowed them to approach and interact with humans. Ryder is reminiscent of these first dogs. Independent problem solving may not be a strong suit, but she has what counts - a desire to communicate and connect with you.

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.

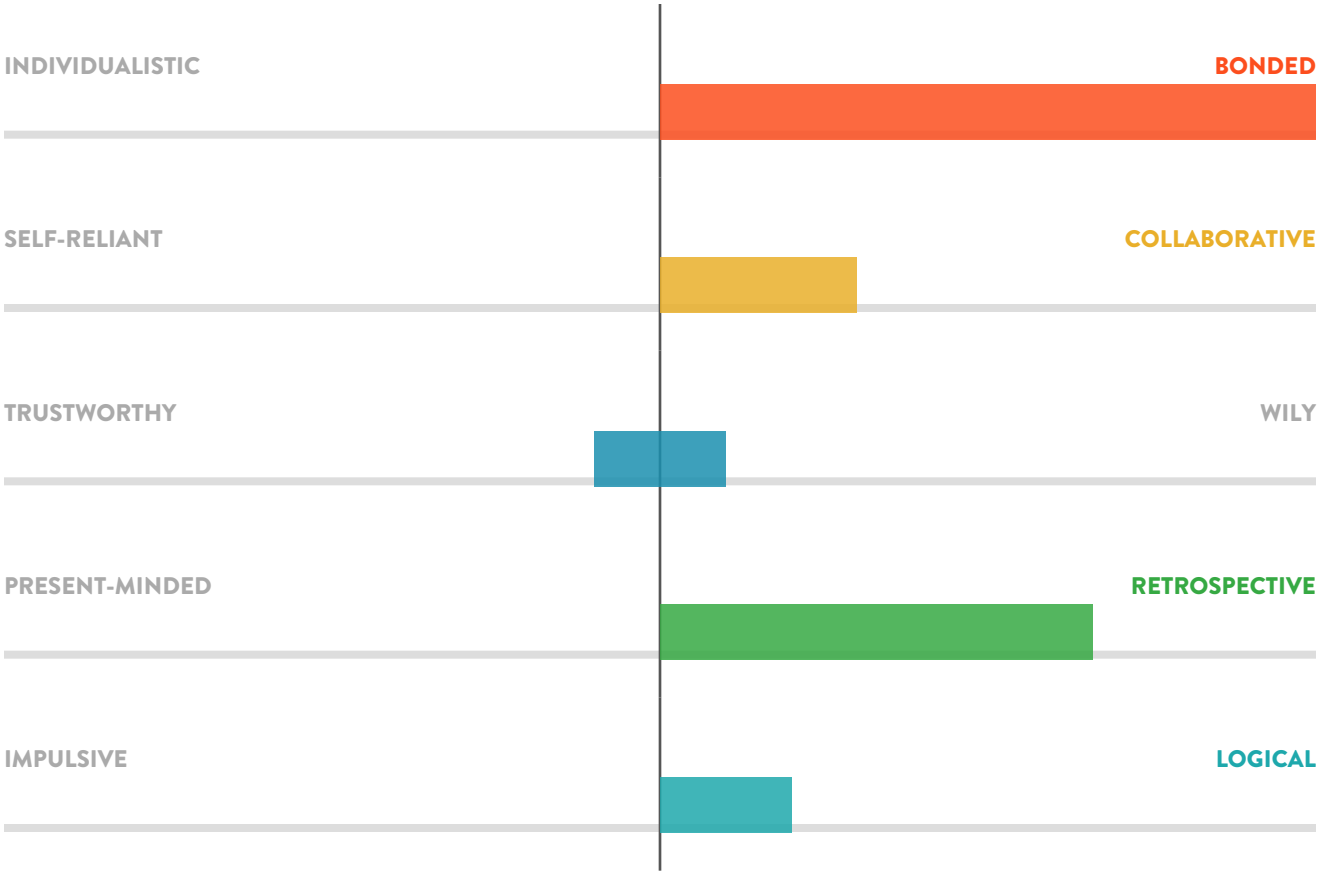
There has recently been a revolution in how we think about intelligence. The Dognition Profile is based on this cutting-edge field called cognitive science. Cognition is the study of how the mind works and draws on many scientific disciplines, from psychology to computer science to neuroscience.

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 she 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 Ryder's mind and reveal her 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

Ryder's empathy scores were off the charts. Empathy is the ability to feel what someone else is feeling. Humans are extremely empathetic; it is one of our best qualities. Empathy is not something we are taught; it is present even in young children, growing and strengthening as we get older.

Researchers have recently suggested that other animals also have empathy, or at least a basic form of empathy. If this is true, dogs are an ideal place to look. Humans and dogs go back thousands of years - enough time for the bond between us to develop into something special.

If most dogs are bonded to their owners, Ryder absolutely adores you.

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 Ryder 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.

Ryder 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.

Recent studies have shown that dogs only catch yawns from humans, not other dogs.

EYE CONTACT GAME

In this game, you timed how long Ryder 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 Ryder spent gazing soulfully into your eyes, you probably often find her staring at you for no reason. You might wonder if Ryder is trying to tell you something, like she is hungry, needs to go to the bathroom or has an opinion on what to do over the weekend. But Ryder may not want or need anything - she may be just hugging you with her 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.

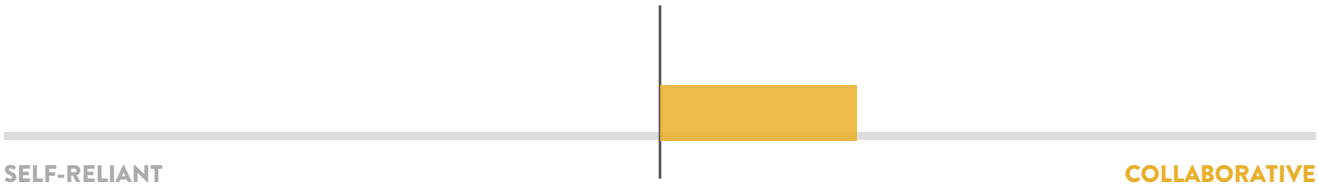
COMMUNICATION

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

Ryder 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. Ryder'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 Ryder 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. Ryder did so well in this game that her 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, Ryder relies on your communicative gestures to solve all sorts of problems she 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 Ryder followed you almost every time when you pointed with your hand, when you pointed with your foot Ryder did not seem as sure.

Ryder probably does not see you point with your foot very often, so this game was a way of seeing how flexibly Ryder 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 Ryder did not follow you every time, she may have sensed your communicative intent, and would probably not need much practice to start using a range of new gestures. Especially since she 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 Ryder and let her know not to take the treat. You then showed Ryder 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, Ryder must show that she can tell when you are looking, and use this information when deciding when to go for the treat. In this case, Ryder's decision did not change no matter which attentional state you presented; she waited roughly the same amount of time in each trial.

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

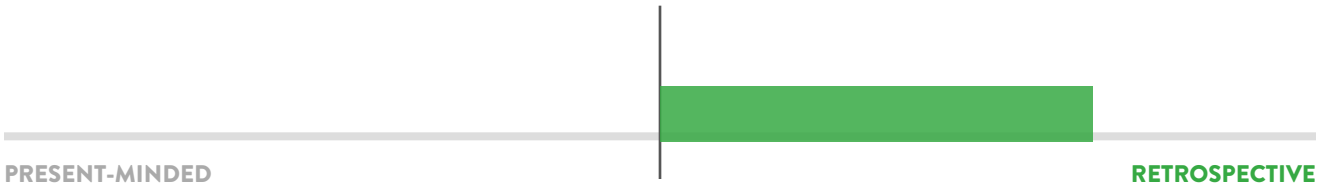
Ryder has an amazing working memory, which is a type of memory that allows your dog to keep information in mind for a few minutes and mentally manipulate it. This may sound simple, but working memory is crucial for any kind of problem-solving. In humans, working memory has been found to correlate with skills in learning, math, reading, and language. Researchers have even found some evidence that in children, working memory is more predictive of academic success than IQ.

In these memory games, Ryder had to understand that the treat continued to exist, even though it had disappeared from view. In the wild, this ability is essential. Animals have to keep track of mates, predators, and prey that might disappear momentarily behind a bush or a rock.

If Ryder is an avid fetch player, you've probably noticed that no stick or ball escapes for long. Ryder skillfully searching for an object that has briefly disappeared is a perfect example of her using her working memory to solve a problem.

For Ryder, out of sight is definitely not out of mind.

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

Ryder was clearly trying hard to figure this one out. When she saw you hide the treat under one cup but point to the other cup, she wanted to use the information you were giving her, but she also knew what she saw. Rather than choose one strategy, she switched back and forth between the two, which shows impressive flexibility.

Despite being genetically similar, dogs and wolves make opposite choices in this game. This difference may be behind why we love dogs so much.

MEMORY VERSUS SMELL

Although Ryder did occasionally go to where the treat was hidden, rather than where you showed her you hid the treat, it is unlikely Ryder could smell the food. If Ryder relied on smell alone she would have found the food each time.

This is completely normal. 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. However, in similar studies, 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 look at their first choice, they cannot localize the food to a specific cup from a distance of 6 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

This game was a perfect demonstration of Ryder's excellent working memory. After you hid the treat Ryder had to retain the information for up to two and a half minutes before making a choice.

This skill comes in handy in the wild. Feral dogs tend to be endurance hunters, slowly wearing down their prey. During the chase, the prey may not always be in direct sight, and feral dogs have to remember where their prey was last seen and predict where they might reappear.

In these kinds of memory games, most cats quickly start to forget where an object is after only 10 seconds, while most dogs are still able to show success for up to 4 minutes.

REASONING

Ryder shows solid reasoning skills in one or both of the games. This is impressive, since the games in this dimension were the most difficult of the Assessment. Reasoning is the ability to solve a problem when you can't see the answer and have to imagine the solution.

Ryder was somewhere in between logical and impulsive. It seems that sometimes she uses her powers of deduction, but sometimes she prefers to make decisions on the fly.

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 Ryder with a problem and provided some, but not all of the information needed to solve it. When you showed Ryder the empty cup she had to infer that the treat must be in the other cup.

This is not as easy as it sounds because Ryder was also attracted to the empty cup, for the simple reason that you touched it. It looks like Ryder 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.

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

PHYSICAL REASONING GAME

Ryder did seem to understand the principle of solidity - that one solid object cannot pass through another - at least some of the time.

Although this might have seemed like a simple game, it was actually quite complicated. First, Ryder had to infer that you hid a treat (since Ryder didn't actually see you hide it). Then she had to understand enough of the physical world to infer that a piece of paper at an angle indicated that the treat was hidden behind it. It is impressive that Ryder figured out the answer as often as she did.

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

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 Ryder's Dognition Profile and gaining fresh perspective on how she sees the world!

You can fill your friends in on what you've discovered about Ryder very easily. Download and email or print Ryder'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 Ryder 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 Ryder 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 Ryder thinks and sees the world.

- Tips and activities prepared for Ryder from canine training experts based on how Ryder 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 Ryder's strategies compare.

At the same time, by contributing to Dognition you and Ryder 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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