LUCY

DOGNITION REPORT - SEPTEMBER 14, 2026

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. Lucy 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.

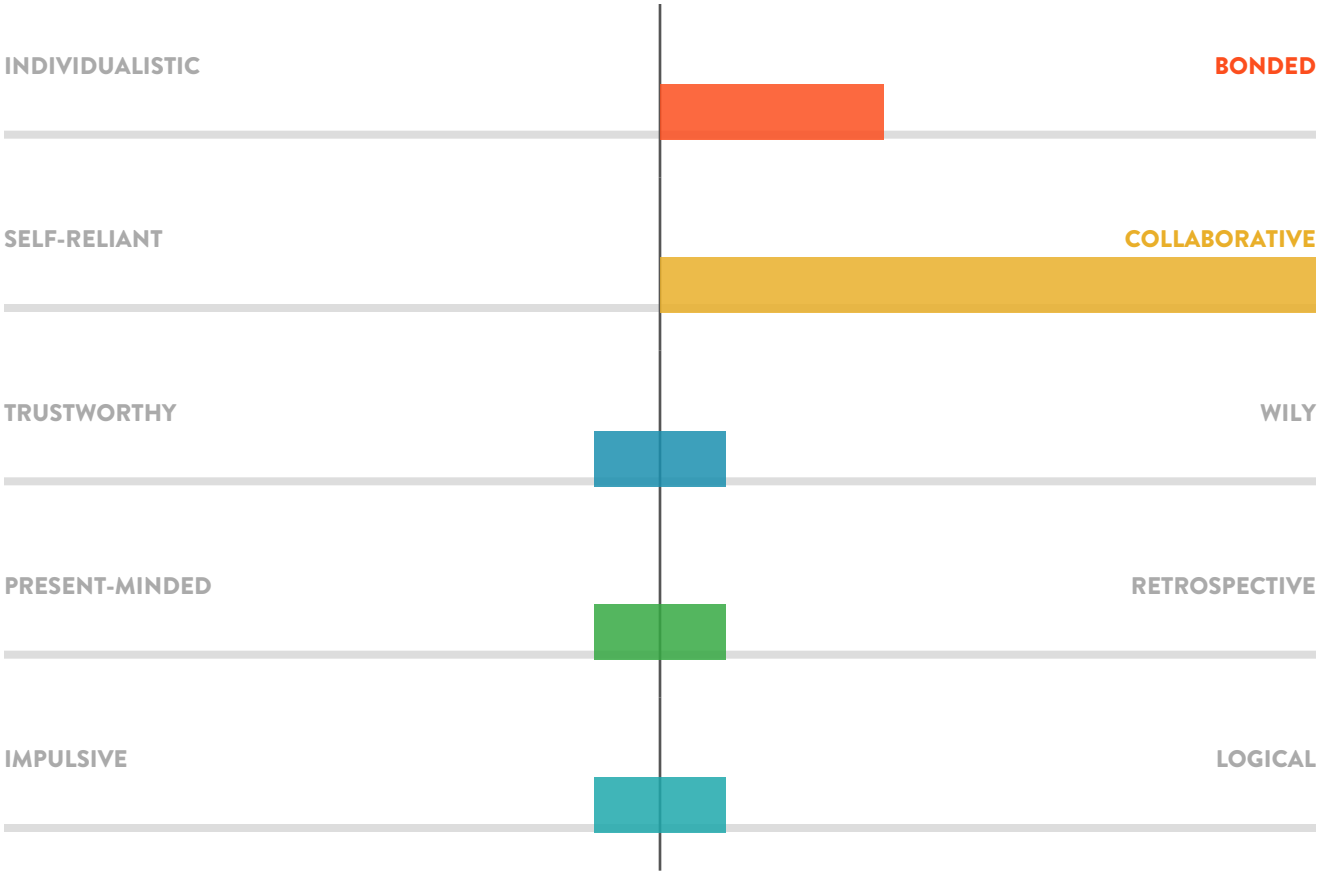
There has recently been a revolution in how we think about intelligence. The Dognition Profile is based on this cutting-edge field called cognitive science. Cognition is the study of how the mind works and draws on many scientific disciplines, from psychology to computer science to neuroscience.

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 Lucy'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

Lucy'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, Lucy 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 Lucy 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.

Lucy 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 Lucy 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 Lucy spent gazing soulfully into your eyes, you probably often find her staring at you for no reason. You might wonder if Lucy 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 Lucy 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.

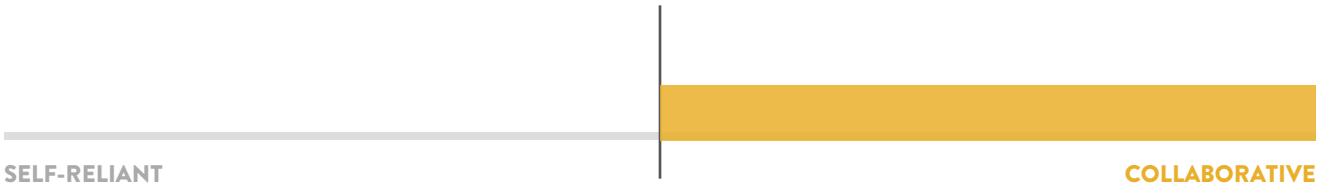
COMMUNICATION

Lucy's performance was highly collaborative. You probably notice that Lucy 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 Lucy pays close attention to your gestures and what you are trying to communicate.

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

Lucy probably does not see you point with your foot very often, so this game was a way of seeing how flexibly Lucy 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 Lucy 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 Lucy and let her know not to take the treat. You then showed Lucy 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, Lucy 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, Lucy's decision did not change no matter which attentional state you presented; she waited roughly the same amount of time in each trial.

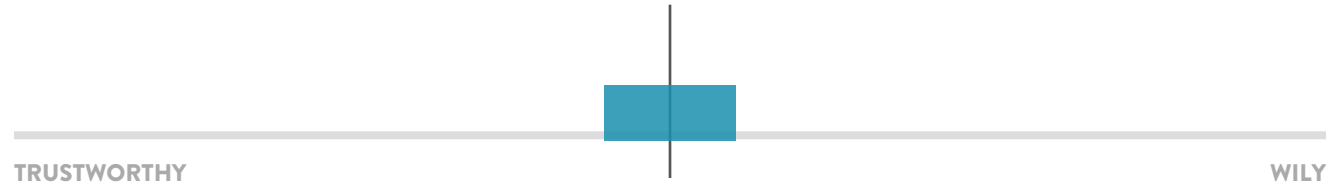
This doesn't mean that Lucy can't be trusted, it just shows us that there are other internal factors influencing Lucy's decision.

You can be a proud parent here - Lucy is an extremely obedient dog. When you put the treat in front of her, it did not matter if you were looking or not; Lucy waited patiently until you released her before she took the treat.

You might wonder what effect training has on this dimension. Cognition is not a product of nature or nurture. It is a combination of both. Just because dogs have been trained not to take a treat when their owners tell them not to, does not mean those dogs will never take a treat, especially when the odds are in their favor. In fact, many well-trained dogs are not above sneaking a delicious morsel off the coffee table if they see their owners are not paying attention.

In fact, from Lucy's performance during the Communication dimension, we know that she is excellent at reading your gestures. Lucy is a rare dog who not only obeys your command, she also wants to please you so much that she will resist temptation - whether you are paying attention or not.

FIG.3

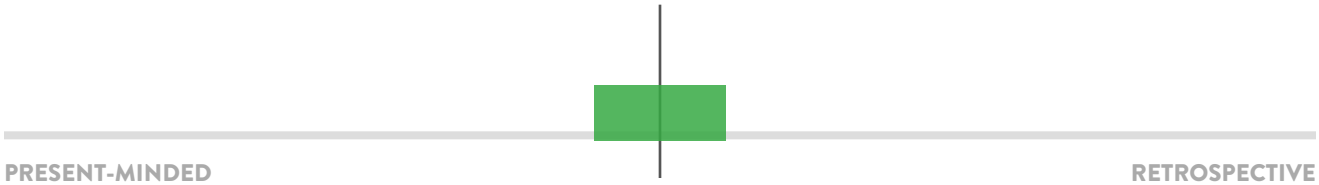


MEMORY

In these games, it looks like Lucy does not rely as heavily on her working memory as other dogs do. Working memory is a kind of short-term memory that allows Lucy to immediately retain and process information.

This does not mean Lucy has a bad memory in general. The games did not test long-term memory, which is Lucy's ability to remember places, people, or important events over days, months and even years! Rather, it means that in these games, Lucy was more present-minded, using other information like social cues or her sense of smell when 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

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

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

MEMORY VERSUS SMELL

Although Lucy did occasionally go to where the treat was hidden, rather than where you showed her you hid the treat, it is unlikely Lucy could smell the food. If Lucy 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

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 her ancestors, Lucy had to remember the location of the target for different amounts of time. Although the modern world has many distractions, it looks like Lucy still did pretty well, using her 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.

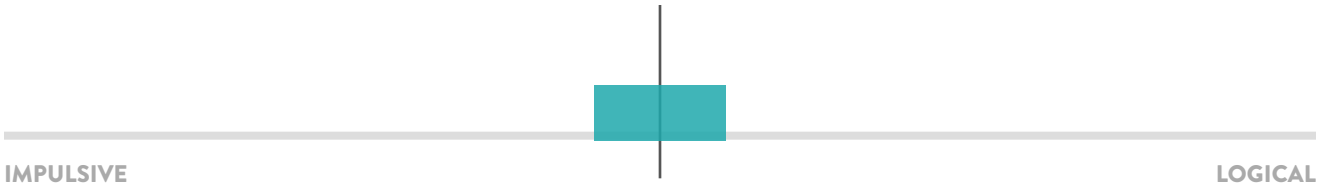
By no means did Lucy do badly on this game; in fact, she developed quite a clever strategy. She developed a right or left side bias, meaning when she didn't know which side was correct, she went to one side every time. This is pretty clever, because 50% of the time she was correct.

REASONING

Lucy 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.

Lucy 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 Lucy with a problem and provided some, but not all of the information needed to solve it. When you showed Lucy 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 Lucy was also attracted to the empty cup, for the simple reason that you touched it. It looks like Lucy 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.

Lucy 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.

PHYSICAL REASONING GAME

Lucy 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, Lucy had to infer that you hid a treat (since Lucy 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 Lucy figured out the answer as often as she did.

Lucy 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 Lucy'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 Lucy very easily. Download and email or print Lucy'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 Lucy 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 Lucy 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 Lucy thinks and sees the world.

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

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