Understanding Paw Preference

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Purpose and Hypothesis

The purpose of my experiment is to see what the preferred paw is between a number of dogs. If I do one test with three trials on 4 dogs that test paw preference, then I think most of the dogs will be left- handed because I think most of their owners are right-handed, and when learning a skill, or doing anything, they will mirror the owner.

Why does that dog do everything with his left paw? Are dogs mostly right-handed like people? According to research, dogs tend to have an even split of left and right pawed. There are even many ambilateral dogs as well! What causes them to use a certain paw? Just like humans, being right-handed means the left hemisphere of the brain is stronger and vice versa (London, 2014). Even great apes have shown a preferred hand. Most monkeys tend to be right-handed. This would mean that right-pawed dogs would be smarter based on the left hemisphere of the brain's characteristics. However, based on their owner's actions, the dog might use their other paw more often. When doing a trick, like shaking the paw, the dog might mirror the owner's hand and could get used to it's opposite paw (Gibeault, 2017)

What else can cause paw preference? Researchers have found that gender may affect it. Male dogs tend to be lefties, and females are normally right-handed. The paw preference also affects behavior. Left-handed dogs can be more aggressive or stressed than others. Ambilateral dogs are less aggressive around strangers. However, ambilateral dogs are known to have strange emotional breakdowns, which could be caused by PTSD. Normally, PTSD is caused by police work, being a fighting dog, or being raised in a puppy mill. Trainers even use paw preference as a way to test sound sensitivity (Berns, 2020).

Even though people believe they know what happens in their dog's brain, they have no idea what they're talking about. When dogs became more popular as household pets, their careers in the lab were practically over. It's weird to think that these animals, whose closest relatives are wolves, are some people's closest companions, and we don't know what happens in their head. However, in the past few years, multiple research centers have popped up with dogs back as the main subjects, and even as partners. As mankind evolved, dog brains have been altered to be better companions to humans (Berns, 2020).

In humans, analysis and languages are normally linked with the left hemisphere. Orientation, awareness, and musical intelligence are associated with the right hemisphere. Italian researchers found evidence of lateralization brain action in dogs. If a dog sees something they want to access, their tail will move to the right. This would mean that if there was something intimidating them, their tail would move to the left. Laterality can also be connected with hair growth and senses. When inspecting something that could possibly be daunting, most dogs use their left ears and eyes, which demonstrates right brain activity. However, they have not figured out which nostril is more commonly used. The bias between left and right sensory dominance is completely different for the motor laterality (Lloyd and Squires, 2018).

When people think about others' handedness, they only think about the hand. However, no one ever notices behavior differences. Left handed people are prone to more behavioral issues, which is similar to the dogs that are left handed. Many of the psychological problems can be learning disabilities, depression, and addiction. Even if the person doesn't suffer from these extreme conditions, left handed people normally have some sort of strange emotional reaction to small problems. They sometimes have more difficulty dealing with stressful situations (Coren, 2019).

In past tests, some dogs have shown paw preference for certain tests. Instead of staying consistent, the paw changed for each test. The researchers doing this test do not support saying each dog has one dominant paw they use for everything. However, some of the dogs were consistent with their paw preference. During the tape test, which is where tape is put on the dog's nose, most of the dogs were more determined to get the tape off, and many used both paws. Deborah Wells, who conducted these tests, also proved that lefties are more negative or

pessimistic. Because of most dogs showing different paws in different tests, the researchers have more questions about which dominant paw would be better to employ. (Hecht, 2018)

Depending on if you love cats or dogs better, you will probably be overjoyed to hear your favorite is smarter. However, comparing the smarts of different animals is illogical. The smarts also depend on their values. What a dog values could be different from a bird or cat. Dogs can be compared to wolves, but after trying to open a can, the wolves had a 100% success rate compared to a small number of dogs. These tests have proved that dogs are not great when it comes to solving puzzles. (Tennenhouse, 2018)

The phrase brain lateralization means the two hemispheres of the brain are not exactly the same. Each hemisphere has its own special functions.In people, the most obvious function is your language abilities. It has been estimated that 70 to 95 percent of people have left brain speech specialization, so five to 30 percent have a different speech pattern. The different pattern would be right hemisphere speech specialization or having very little speech specialization. Most people have their language abilities in half of the brain, but not all. The only tests are mostly used on people with brain injuries and diseases because they are too invasive to use on healthy people. (Handedness and Brain Lateralization, N.D.)

Most people believe handedness is the opposite of your brain lateralization, but some have corresponding handedness and dominant brain hemispheres. Actually, many left-handers are found to be left brainers too. The hand and hemisphere being opposite sides is called mirror correlation. For over 100 years, researchers have been trying to figure out what causes this. There are many scientists that are still trying to figure it out today. (Handedness and Brain Lateralization, N.D.)

In conclusion, dogs' handedness is pretty different from humans. Their brains work the same as ours, most of the time. Most humans are right-handed and very little are ambidextrous or left handed. Dogs are a pretty even mix of all three. However, humans and dogs are alike because handedness affects behavior for both. Lastly, try this experiment with a dog or a cat soon.

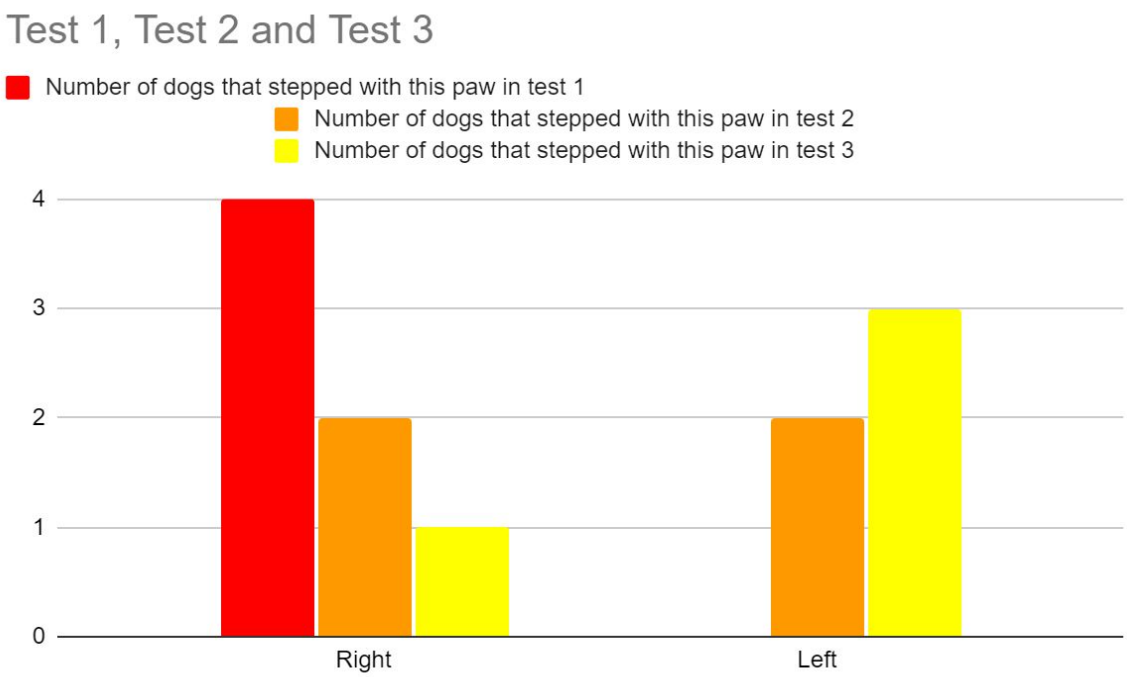
Materials

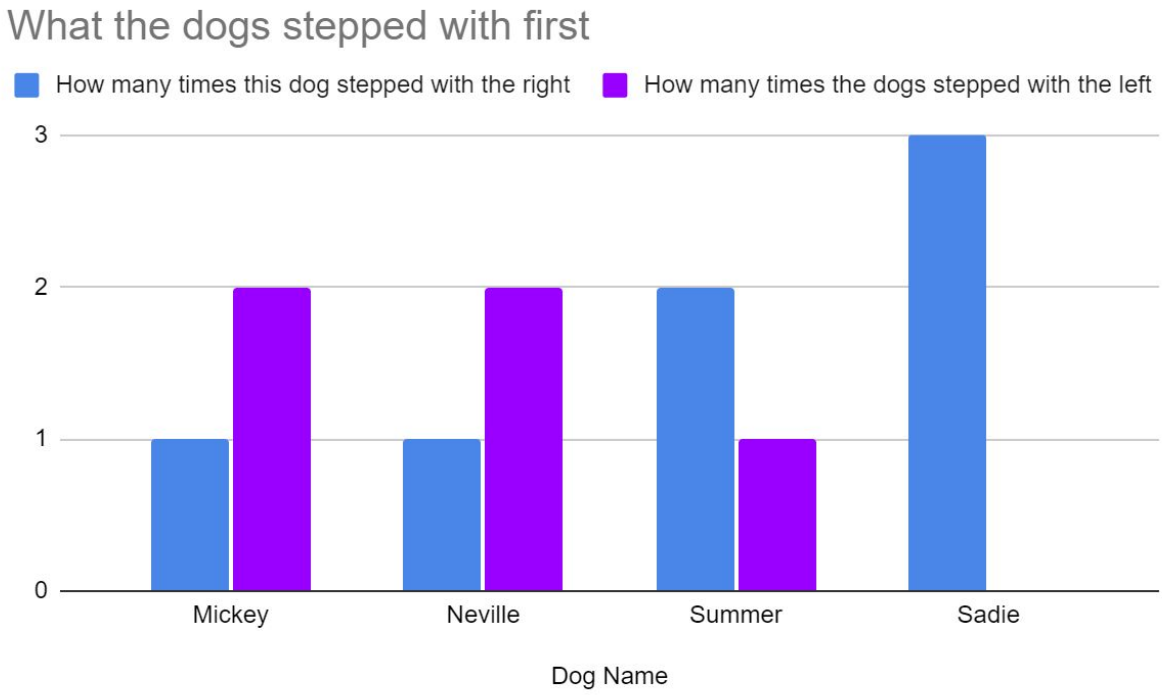
- 4 dogs
- Treats
- Possibly a leash

Procedure

1. Make the dog sit down, normally done with a treat.
2. Call the dog over, make sure you notice which paw they stepped with first,
3. Repeat this test two more times.
4. Calculate the dominant paw from your results.

Graphs


Test 1, Test 2 and Test 3
Number of dogs that stepped with this paw in test 1
Number of dogs that stepped with this paw in test 2
Number of dogs that stepped with this paw in test 3
4
3
2
1
0
Right
Left


What the dogs stepped with first
How many times this dog stepped with the right
How many times the dogs stepped with the left
3
2
1
0
Mickey
Neville
Summer
Sadie
Dog Name

Results

After I ran the tests, I found out that both male dogs were left handed, and both female dogs ended up to be right-handed. After counting the exact number of left and right steps, there were more right than left. Only one dog started with the same paw every time, and every other one had a mix of left and right. My results even worked with my paper, which said male dogs are normally left and females are normally right pawed, which is what happened.

Conclusion

My hypothesis was not fully correct, because I had an even split. For both male dogs, they might have been right because of mirroring, but there is no actual proof. However, my results did match up with a fact included in my paper, which stated that females are normally right-handed and boys are normally left-handed. In conclusion, I was not fully correct because of my even split.

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