

Dognition Data Analysis

DS 311-01 Technologies in Data Analytics Spring 2022

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Executive Summary

Dognition (<https://www.dognition.com>) is a subscription-based-product firm that teaches dog owners how to connect with their dog on a deeper scale by providing users with an unparalleled view on their dog's personality and skills. Clients are asked to choose a membership type and to follow thorough instructions and videos on how to complete 20 games with their dog. This is also known as the Dognition Assessment. These games were designed by scientists, trainers, and behavioral specialists. When the evaluation is complete, clients will be sent a 10-15 page report that details their dog's unique personality dimension. The Profile Report provides users with personalized insight into their dog's cognitive techniques for interacting with the world, as well as detailed analyses of how your dog did in each game compared to other dogs.

One of the key aims of Dognition is to collect as much data as possible from a variety of dog types. As a result, they've requested the Maybe_SQL Team to assist them in determining what business adjustments they may make to enhance the amount of tests people completed on their website.

Our findings suggest that Dognition should pay more attention to the characteristics of their dog users in order to increase the number of tests completed. After many trials, we have found that there are six characteristics that completed more assessments than their opposing counterparts. These include: Personality Dimension, Age, Weight, Breed Type, Previous Training and whether or not they have been neutered. We have also discovered that members who use Membership Type 1 completed the most games in the Dognition Assessment.

Dognition will need to find out how to modify their tests so that they can be finished more easily by the other dog traits, whether that means fewer or easier exams. They will also need to find out how to build a more sustainable company and audience because many users

abandon their subscriptions before obtaining their results, as well as how to maintain those who have enrolled for a longer period of time after receiving their results.

Exploratory Data Analysis

This report will discuss seven of the exploratory data analysis questions that we asked in order to assist Dognition in increasing the number of Total Tests Completed. We were able to build scatterplots, bar charts, pie charts, and line graphs to provide as evidence with our responses using Python techniques in Jupyter Notebook and Tableau.

The first topic we looked at was if there were any significant changes in Dognition Personality Dimension based on the overall number of tests taken. The personality dimension 'Ace' had the most completed tests. (Refer to Appendix A) This personality type is noted for being problem solvers and attached to their owner, although they only account for 10% of all dogs. The personality dimension with the fewest tests completed is known as 'Einstein.' They, too, are considered as problem solvers with a good memory, and they account for only 3% of all dogs. Although both dimensions are problem solvers, only one completes all of the exams. This might be because 'Einstein' dogs become bored rapidly and opt not to continue with the testing. Their owners may try to get their dogs to participate in the games, but the dogs may be indifferent. Following 'Ace,' the other personality characteristics that completed the most total tests shared one attribute. They are either attached to their owner or socialized. Because of their devotion to their owners and their need for attention, these dogs may have finished more games. Some of Dognition's games may be modified to be more cognitively interesting for dogs such as 'Einsteins.'

The second item we looked at was whether age influenced the overall number of tests taken. The canines who received the most evaluations were born between 2004 and 2013. (See Appendix B.) Dogs born before or during that time period had fewer tests done. Dogs aged 8 to 17 outperformed their elder and younger rivals. This might be due to their minds being better developed for task-oriented tasks such as the Dognition Assessment. Some dogs may be either young or too elderly to focus or be interested in playing 20 games. The games may need to be tweaked to accommodate shorter attention spans.

The third and fourth item we investigated was the relationship between weight, breed type and total number of tests completed. (See Appendix C.) The scatterplot developed shows that dogs weighing more than 20 lbs. completed fewer tests than canines weighing less. This might be related to the dogs' health and energy levels. Larger dogs carry more weight and may find it harder to continue with the activities since they tire more readily. The tests may be excessively demanding for overweight dogs or too challenging for bigger canines in general. Game designers must investigate why these larger canines are not finishing as many tests. Compared to any other breed group or type, the "Sporting Breed" has completed the most tests. Retrievers, pointers, and spaniels are examples of these dogs. This might be owing to their athletic physique and higher levels of continuous energy. (See Appendix D.) Because active dogs have been passing more exams, Dognition should look at activities that lazier dogs might like.

The link between total tests completed and whether the dog had previously been trained or neutered was the next issue we investigated. (See Appendices E and F.) Both previously trained and neutered dogs outperformed their opponents in terms of evaluation completion. This might be owing to their previous experiences. Training and neutering your dog have both been shown to make dogs calmer and happier in the long term. Because of their reduced aggressive

inclinations, these canines will pass more exams. The makers of the dognition game should investigate dog triggers and how to properly use them in the testing.

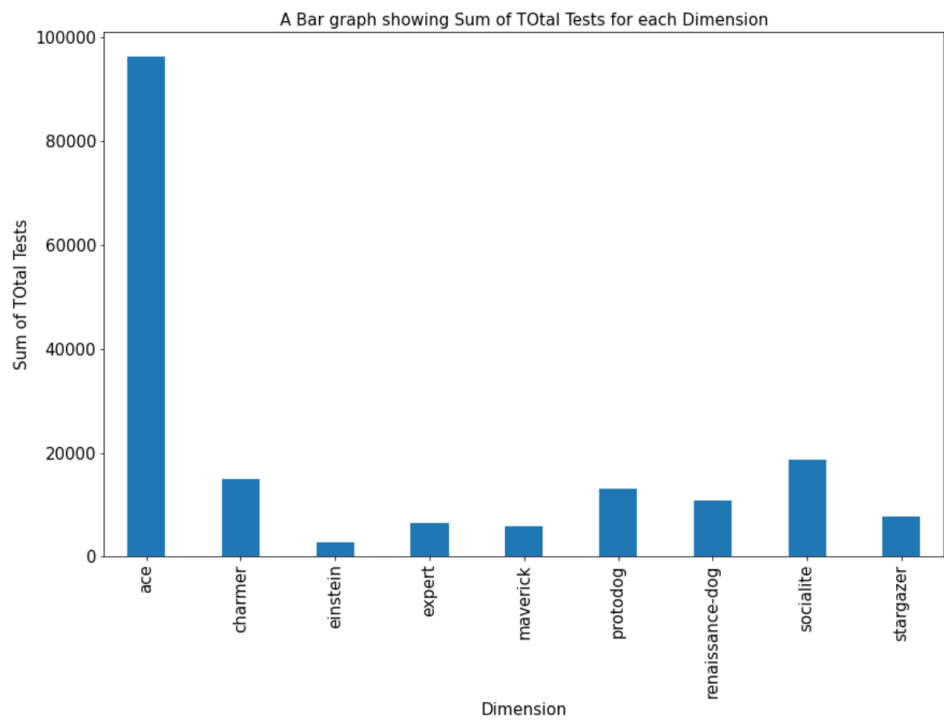
The final items covered in this study will shift from dog traits to membership sorts. According to the line chart, Membership Type 1 has completed the most tests. (See Appendix G.) The Dognition Assessment, which is the first 20 games, is included in Membership Type 1. They may have the most completed tests because, with 20 games available, owners may be eager to receive their dog's personality assessment back as soon as possible. Users may be solely interested in the one-time findings and have no desire to learn more after obtaining them. Even while the other membership kinds give more continuous games, they do not finish as many overall assessments. The yearly membership includes the Dognition Assessment as well as 12 months of subscription service (one new test and activity is "unlocked" each month, starting the month following the purchase). Monthly memberships include the Dognition Assessment as well as the subscription service. The "Free Start" subscription allows you to play the first four games for free. Subscriptions are available via a "free start" program or through the Dognition MOOC. These users get the first four games for free and may then upgrade to get the remainder. Finally, the subscription is a new option that allows you to play all 20 games for free before upgrading to a monthly membership.

These factors are important because they allow us to narrow down who is completing the most tests and either target the groups that are performing better to increase the key performance indicator (KPI) or target and market to the groups that are not performing as well to find ways to increase the KPI there. It's easy to see why athletic, problem-solving dogs that are connected to their owners pass more examinations. It does not make sense, however, for every other trait to be failing tests at the same rate. To boost Total Tests Completed, game developers must change their

games. According to the research, the games are designed for smaller, more energetic dogs. They also need to market their service and emphasize that the users who subscribe and stay subscribed care more about their dogs than an average pet owner. Users abandon the assessment before even receiving their results. There are clear difficulties of completing tests due to reasons that may include the dogs inability or loss of interest in the games.

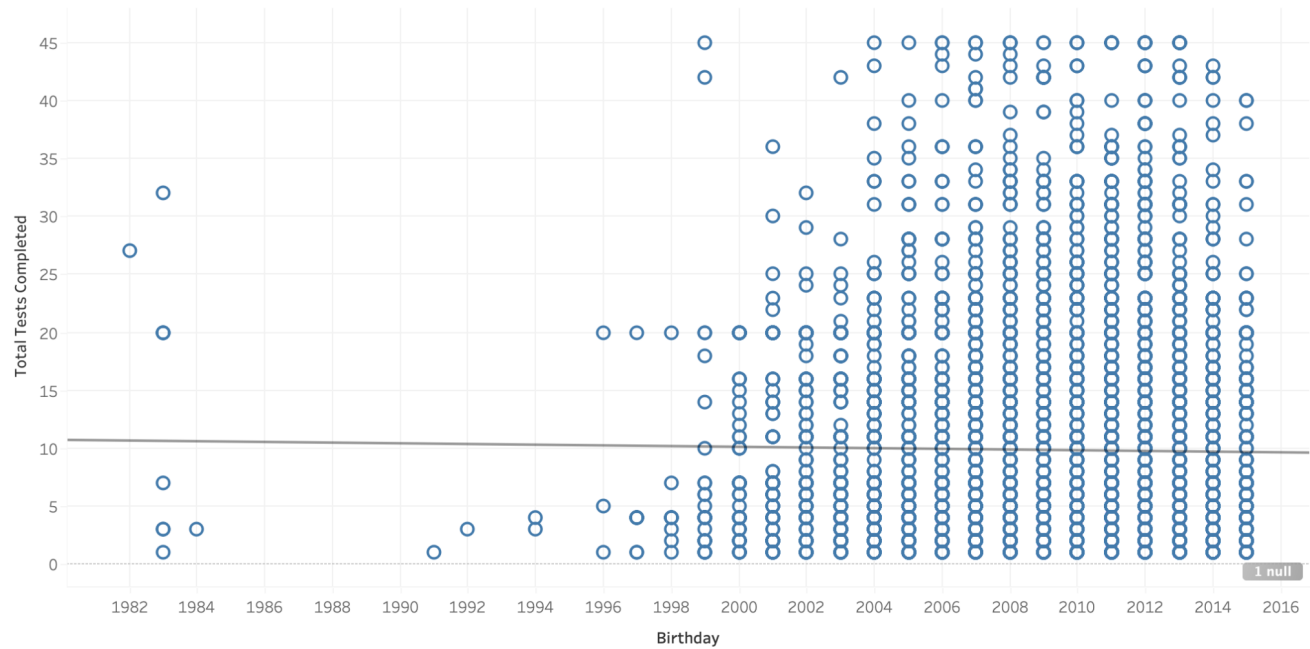
Technical Appendix

Appendix A

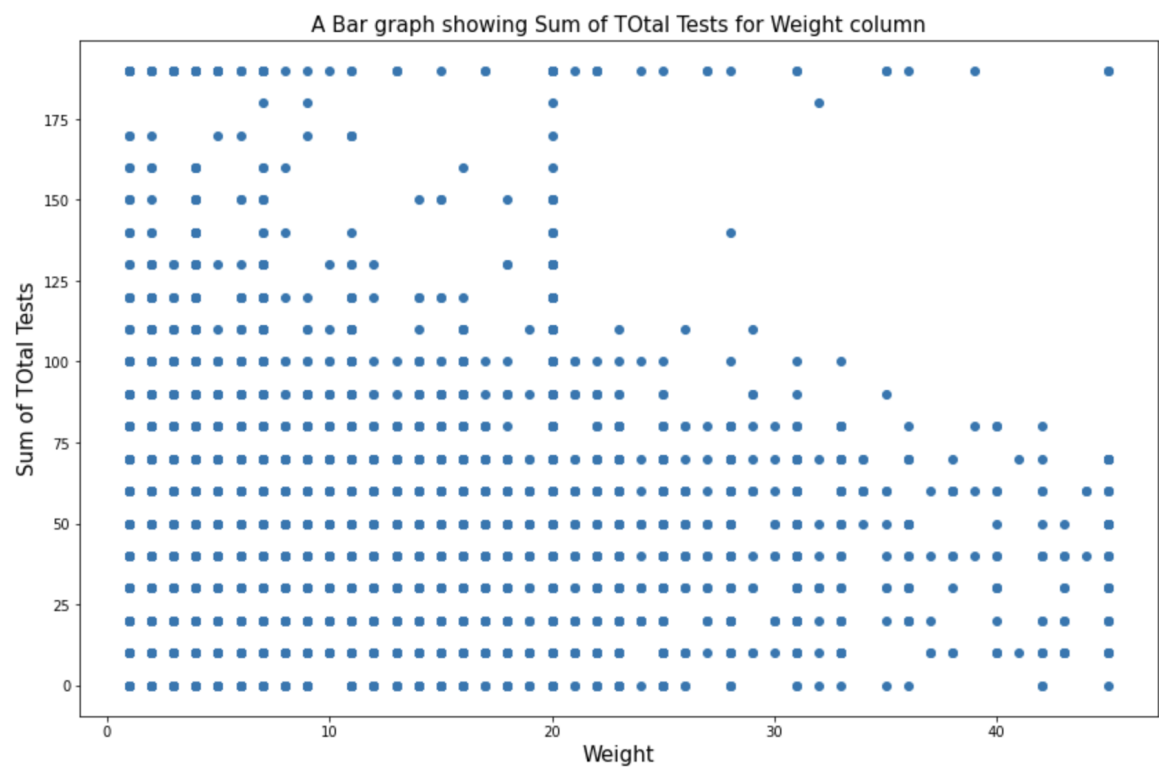


Appendix B

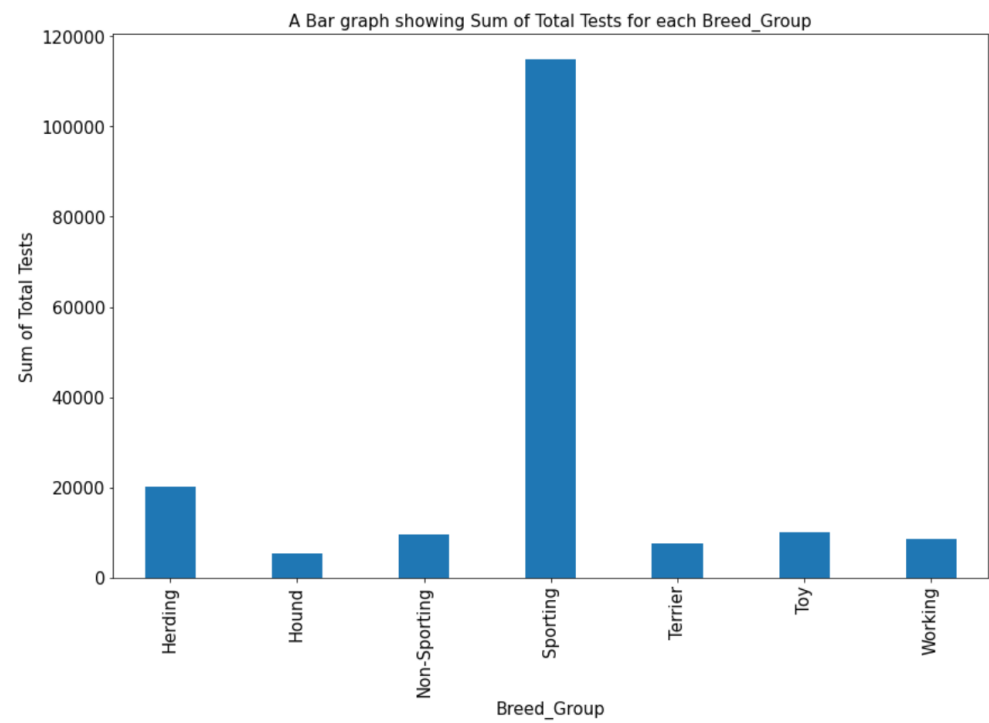
Birth Year vs Total Tests Completed



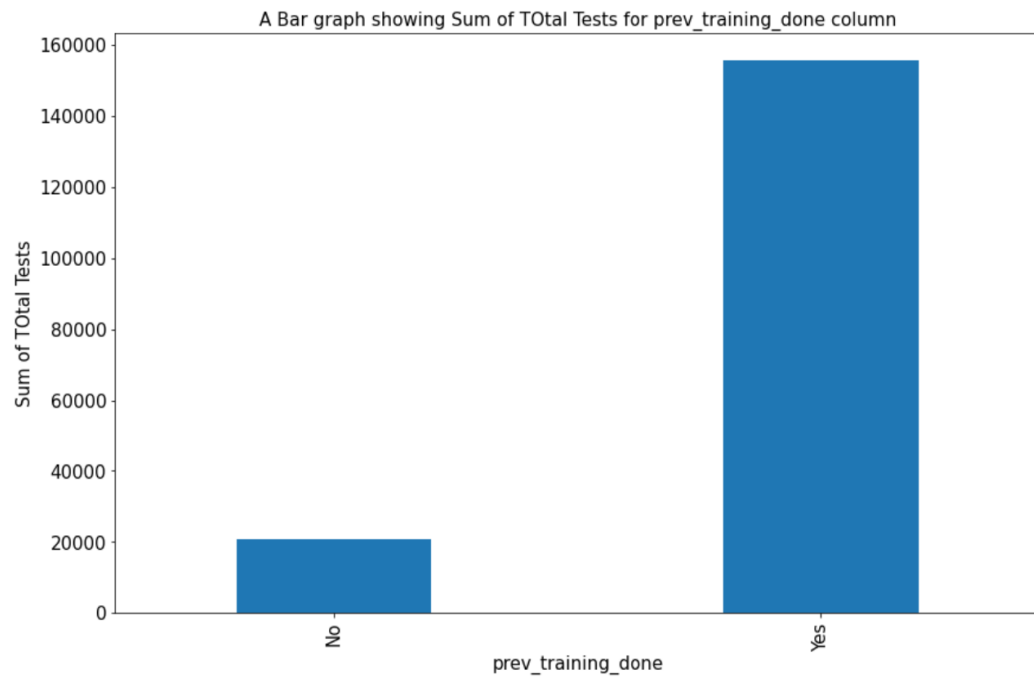
Appendix C



Appendix D

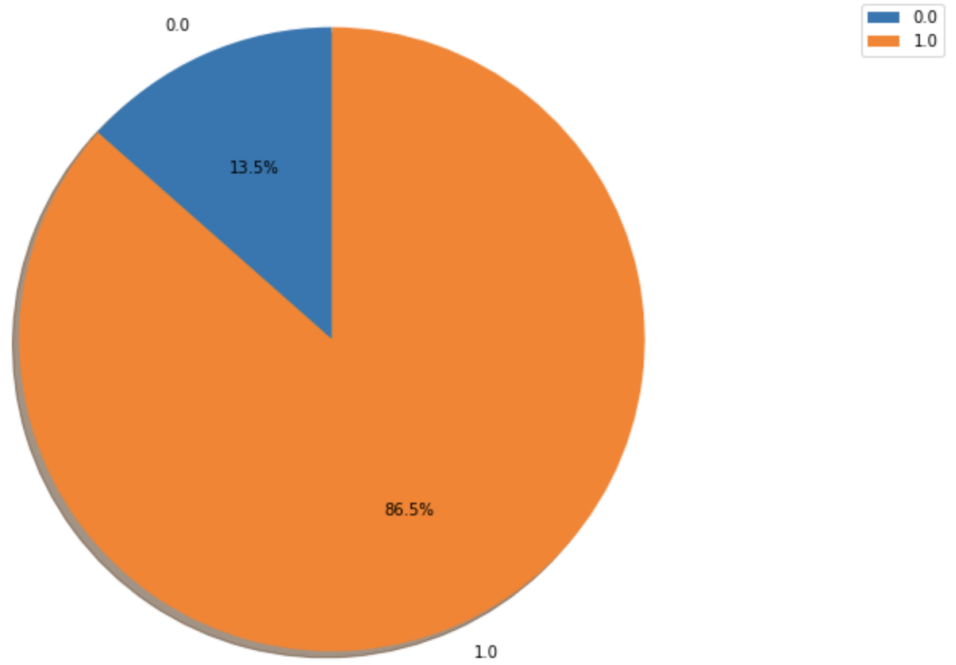


Appendix E

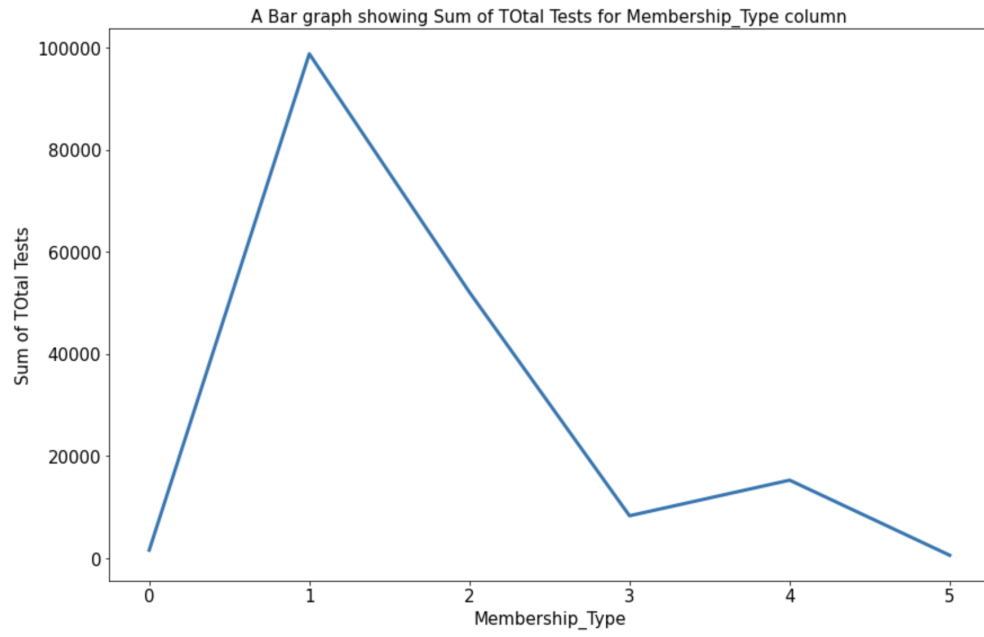


Appendix F

Pie chart for sum of tests completed Fixed Dog column



Appendix G



GitHub Repository & Coding Files

GitHub Repository URL:

https://github.com/maybesql/Dognition_Project

Business Question #1 (Python/Jupyter Notebook):

file:///Users/alizaeluy/Downloads/I.%20How%20do%20the%20features%20of%20the%20dogs%20correlated%20to%20the%20number%20of%20tests%20completed_%20.html

Self-Set High Level Questions (Python/Jupyter Notebook):

file:///Users/alizaeluy/Downloads/High%20Level%20Question%20-%20ALuy.html

Self-Set High Level Questions (Tableau Public):

https://public.tableau.com/views/TableauGraphs-SelfSetHighLevel/BirthYearvsTotalTestsCompleted?:language=en-US&:display_count=n&:origin=viz_share_link