

# My Final Project Outline

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## Abstract

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## Introduction

The main purpose of this data analysis was to see if there were any correlation between the animal being exposed to predators (or naive to predators) and the anti-predatorial behavior of those animals. This in turn can help conservationist understand why translocation of some species might be unsuccessful and guide them in devising a better plan to successfully reintroduce endanger species that have been isolated from habitats with predators.

## Methods

*#Import necessary modules*

**import** pandas as pd

**import** matplotlib.pyplot as plt

**import** re

*#Create a function to use inside of the main data analysis function*

**def** fileguard(**file**):

    csv = re.compile(r'.\*\.csv') *#Defines the pattern to search for*

**file** = csv.search(**file**) *#Searches for the pattern given the input*

**return** bool(**file**)

**def** dataanalysis(filename='', stat='', key=''):

    filename = **str**(**input**('What .csv file would you like to analyze?'))

*#Asks what csv file you would like to analyze and takes the csv file and reads it, and*

    assert fileguard(filename) == True, "This file type cannot be used, please use a .csv file"

```

data = pd.read_csv(filename)
stat = str(input('What statistic do you want to find from the data?(i.e. Max, Min,
assert stat.upper() == 'MAX' or stat.upper() == 'MIN' or stat.upper() == 'AVG' or s
key = str(input('What do you want to find the {} of?(i.e. Slow approach, Vigilance,
assert key == 'Foraging' or key == 'Vigilance' or key == 'Slow approach', "Please cl
#Seperates the data based on treatment type
catdata = data.loc[data['TREATMENT'] == 'Cat']
controldata = data.loc[data['TREATMENT'] == 'Control']
#If statements to check what statistic the user wants to find out
#Prints out the the behavior score depending on the statistics and rounds it to 3 s
#Plots behavior score for each subject based on their treatment type using matplotlib
if stat.upper() == 'MAX': #Max function
    print('This is the maximum behavior score for bettongs exposed to cats:',round(
    print('This is the maximum behavior score for bettongs not exposed to cats:',rou
    plt.scatter(range(len(catdata)), catdata[key], label='Cat Exposed')
    plt.scatter(range(len(controldata)), controldata[key], label='Control')
    plt.legend(loc='upper right') #Creates a legend on the top right with two labels
    plt.ylabel('Behavior Score') #Label the axis of the graph
    plt.xlabel('Subject #')
elif stat.upper() == 'MIN': #Min function
    print('This is the minimum behavior score for bettongs exposed to cats:',round(
    print('This is the minimum behavior score for bettongs not exposed to cats:',rou
    plt.scatter(range(len(catdata)), catdata[key], label='Cat Exposed')
    plt.scatter(range(len(controldata)), controldata[key], label='Control')
    plt.legend(loc='upper right')
    plt.ylabel('Behavior Score')
    plt.xlabel('Subject #')
elif stat.upper() == 'AVG': #Average function
    print('This is the average behavior score for bettongs exposed to cats:',round(
    print('This is the average behavior score for bettongs not exposed to cats:',rou
    plt.scatter(range(len(catdata)), catdata[key], label='Cat Exposed')
    plt.scatter(range(len(controldata)), controldata[key], label='Control')
    plt.legend(loc='upper right')
    plt.ylabel('Behavior Score')
    plt.xlabel('Subject #')
elif stat.upper() == 'STD': #Standard deviation function
    print('This is the standard deviation for behavior score for bettongs exposed to
    print('This is the standard deviation for behavior scores for bettongs not expo
    plt.scatter(range(len(catdata)), catdata[key], label='Cat Exposed')
    plt.scatter(range(len(controldata)), controldata[key], label='Control')
    plt.legend(loc='upper right')
    plt.ylabel('Behavior Score')
    plt.xlabel('Subject #')

```

## Results

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## Discussion

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## References Cited

West, Rebecca; Letnic, Mike; Blumstein, Daniel T.; Moseby, Katherine E. (2017), Predator exposure improves anti-predator responses in a threatened mammal, *Journal of Applied Ecology*, Article-journal, <https://doi.org/10.1111/1365-2664.12947>