Data analysis of dangerous dog attack*

Analyzing the circumstance of dog attack and compare data to find out the most dangerous breed

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Nowadays, almost every family choose to have a pet, mostly dogs. Dogs have their innate nature to protect themselves or their owner from the danger they meet, sometimes they bark at it, sometimes they make an attack on it. Dogs require training from human to prevent them from attacking or barking at people, but some breed of dogs have stronger aggressive desire, in some situations, these breed of dogs probably attack people after training. In this report, data of Registry of Dogs Subject to and Issued a Dangerous Dog Order from Open Data Toronto is used, this data is refreshed monthly to today and all died dogs are removed from the data. There appears some specific breed of dogs are more likely to attack people and causing worse attck circumstance.

1 Introduction

Since a lot of people are owning dogs nowadays and dogs have possibility to be triggered to attack people with a lot of different reasons, like barriers, resources, 'trigger stacking'(Academy 2020), there are a lot of people reporting they are getting attack by dogs every year. There are 2726 service requests for potentially dog attack in '2023'(Draaisma 2023).

2 Data

2.1 Overview

The dataset ' "About registry of Dogs Subject to and Issued a Dangerous Dog Order" '(Toronto 2023)has been used in this paper to analyze what breed of dogs are tend to be more aggressive and what breed of dogs is making worse attack circumstances. 'Programming language

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*Code and data are available at: https://github.com/NevaeH-9/dangerous-dog-attack.git.

R'(R Core Team 2023) is been used in this paper to clean and analyze the dataset. Packages that could installed in R: 'tidyverse'(Wickham et al. 2019), 'ggplot2'(Wickham 2016), 'dplyr'(Wickham et al. 2023), 'here'(Müller 2020) and 'opendatatoronto'(Gelfand 2022)are used to download the dataset to R and making test to the dataset.

2.2 Results

Loading data with the programming language 'R'(R Core Team 2023) and package 'here'(Müller 2020), graphs are generate by using the package 'tidyverse'(Wickham et al. 2019) and 'ggplot2'(Wickham 2016). Codes are adapted from 'Tellingstorieswithdata' (Alexander 2023)
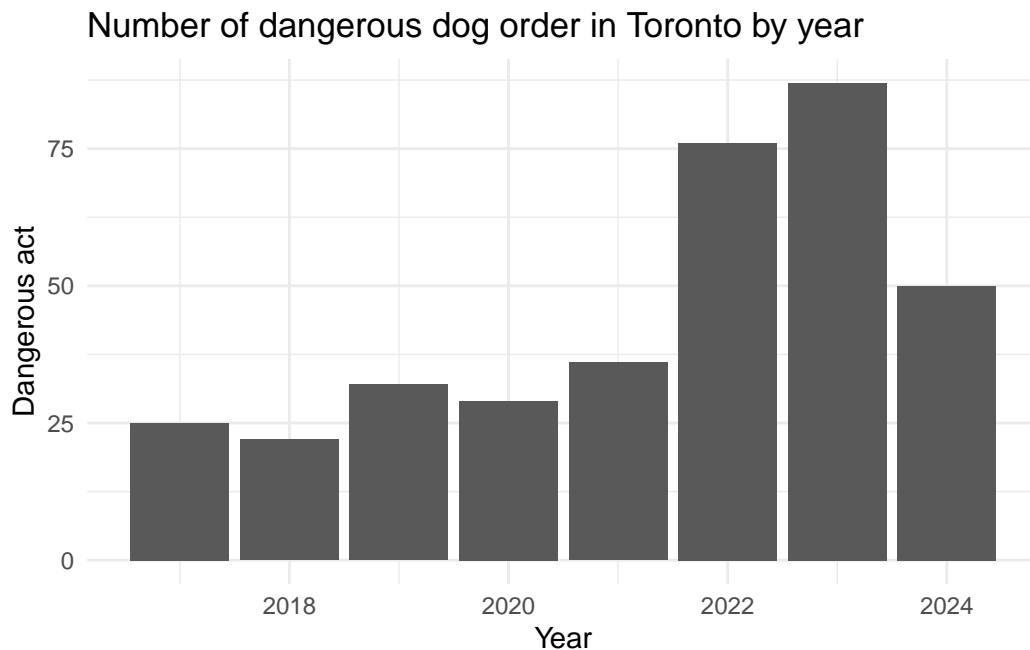

Figure 1: Number of dogs that have been issued as a dangerous dog in Toronto

More dogs are issued as dangerous dog between year 2022 to 2024(Figure 1)

The figure shows that the circumstances of bite by dogs (Figure 2)

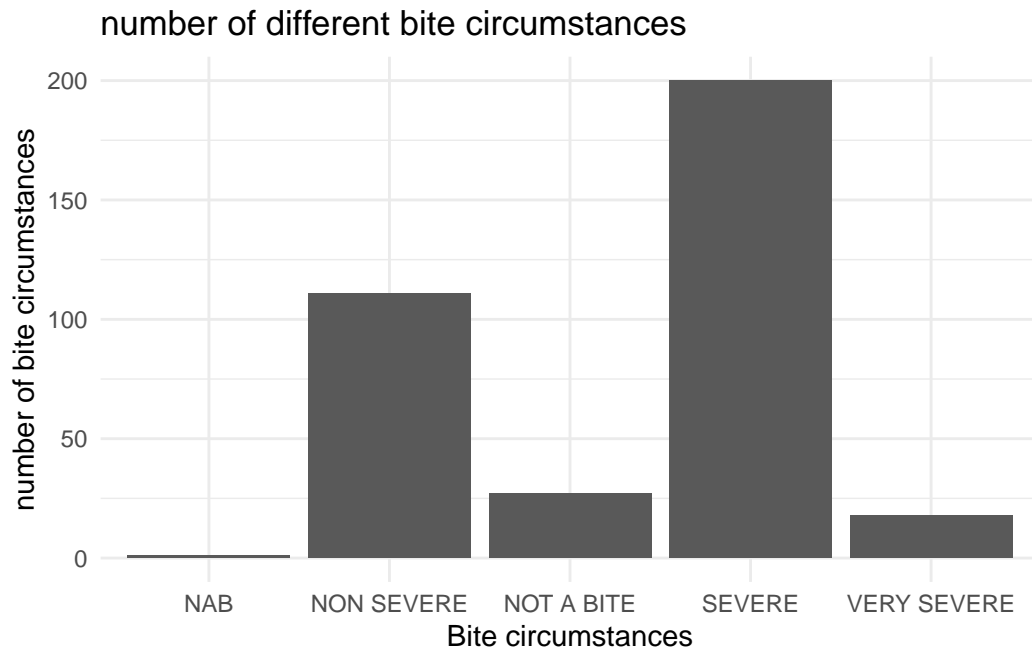If the breed of dog contains the gene of BULLDOG ro SHEPHERD, they are tend to be more aggressive.@fig-3

number of different bite circumstances

Figure 2: Number of different attack circumstance

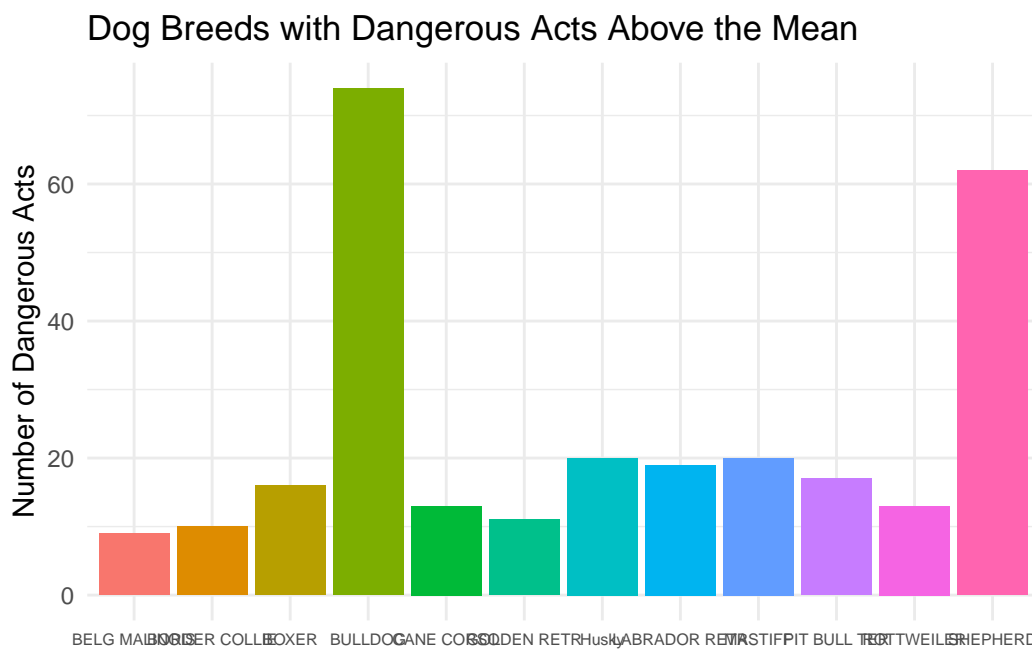## Dog Breeds with Dangerous Acts Above the Mean

Figure 3: Breed of dogs that has dangerous act above the mean of dangerous dog order
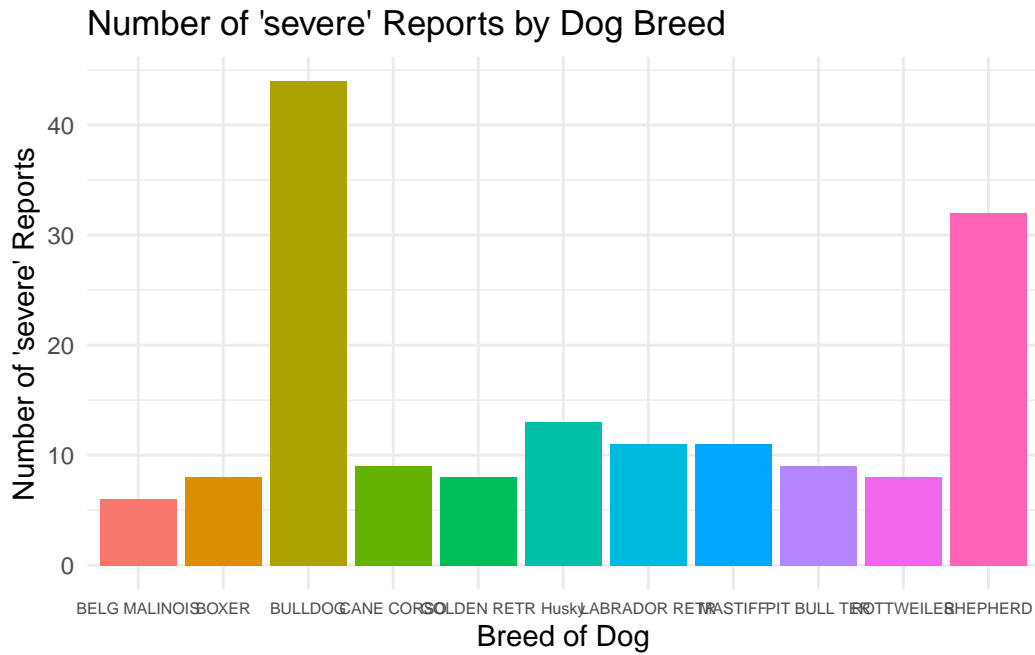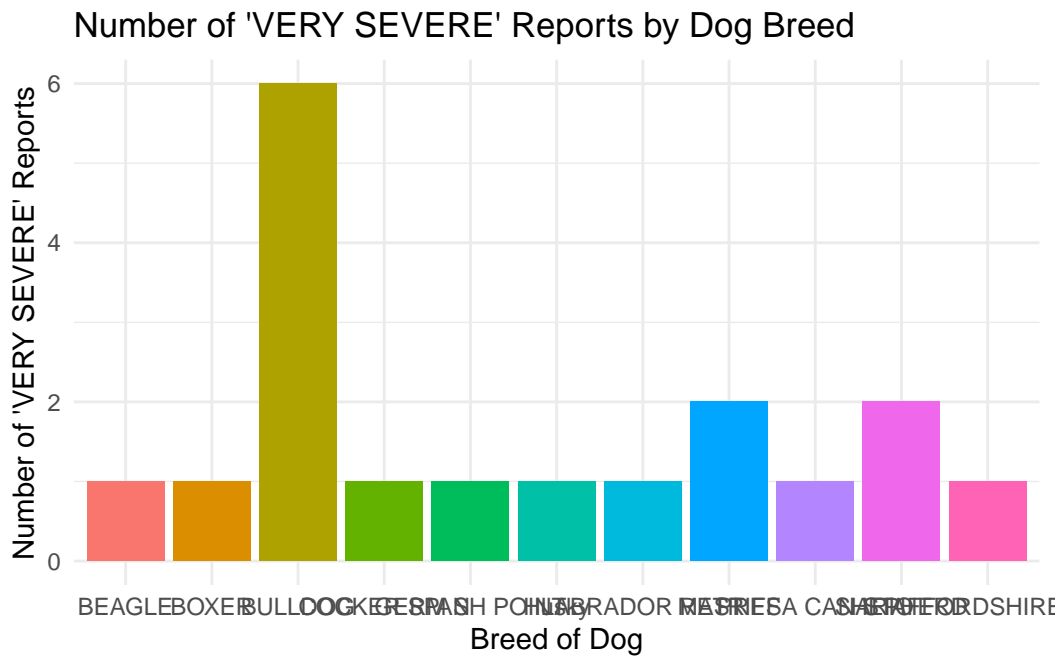
Figure 4: Number of severe each breed of dog caused

Figure 5: Number of very severe each breed of dog caused

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