Linnæus University
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Master's thesis

The American Bully

- a review of the dog breed in Sweden

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Abstract

The American bully is a relatively new breed of dog, originating in United States of America and has in recent years increased in popularity in Sweden. It is an extension of the American Pitbull terrier, and is often described by breeders and owners as a gentle and friendly companion dog. The purpose of this study was to evaluate the breed and its description by reviewing legal cases and advertisements. I also reviewed information from the Swedish Board of Agriculture regarding registrations of the breed to examine how common it is in Sweden. The American Bully breed has increased with around 1000 dogs per year, and in 2023 there were 5538 dogs registered in as dogs of American Bully breed. Dogs of American Bully breed change owners over eight times more often than dogs in general in Sweden, making the breed overrepresented when it comes to ownership changes. The breed is the second most common dog breed to change ownership in the dog registry, with only mixed breed having more ownership changes. Changed circumstances in the family was the most commonly reason given in advertisements for rehoming of an American Bully dog. Breeders of American Bully describe their dogs with regard of their appearance and bloodlines instead of mentality and behaviour, and market the breed as an excellent family dog. The results of this study show that dogs of American Bully breed have caused injuries to both adults and children by attacking and biting them seemingly unprovoked. My conclusion of the American Bully breed is that it is a powerful and muscular breed of dog that is wrongly marketed as a lazy companion dog. More studies are needed with regard to the breeds health and behaviour. A breeding program from the American Bully clubs could be a possible way to correct the current problems regarding health and aggressive behaviour in the breed.

Key words

American Bully, ownership changes, legal cases, dog advertisements, dog-bites, dog attacks.

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1 Introduction

Humans and dogs (*Canis lupus familiaris)* share a long and intertwined history, going back from the domestication of dogs over 15 000 years ago (Udell &Wynne, 2008) to now being called 'Man's best friend' (Mills et al., 2016b). This close relationship has resulted in over 100 different breeds of dog, with breed standards and clubs to register them in (Parker et al., 2004).

1.1 The American Bully

The American bully is a relatively new breed of dog, originating in United states of America in the 80-s and 90-s (UKC, 2024; Levine & Poray-Wybranowska, 2016). The breed is an extension of the American Pit Bull Terrier, crossed with other breeds such as the American Bulldog, English Bulldog, and Olde English Bulldogge (UKC, 2024). The breed has increased in popularity all over the world (Sarenbo & Striwing, 2024; Levine & Poray-Wybranowska, 2016), often being described by breeders and owners as a gentle and friendly companion that makes an excellent family dog (UKC, 2024; Levine & Poray-Wybranowska, 2016).

Dogs of American bully breed, most often the XL size, have caused incidents with severe injury or even death in countries around the world. The breed was on the 31 December 2023 banned in England and Wales due to several recent attacks with injuries and fatal outcomes (Dunn, 2023). England and Wales are not the only countries that have banned certain breeds of dogs that are considered as dangerous. Both Norway and Denmark have banned several breeds of dogs that are considered as dangerous for society, many of them being different bull terrier breeds (Hundeloven, §1a and §1b; Hundeforskriften).

In recent years dog attacks with severe injuries have also occurred in Sweden, many of them gaining attention in media (Sarenbo & Striwing, 2024). This has led to the Swedish government tasking the Swedish Agency for Public Management to evaluate the County administration boards and the Police Agency's work according to the Act (2007:1150) on the supervision of dogs and cats and certain parts of the Animal Welfare Act (2018:1192) (Statskontoret, 2024). A motion (Motion 2023/24:90) to the Swedish Parliament has also been submitted to investigate a ban on the breeding and import of fighting dogs and other particularly dangerous dogs.

1.2 Purpose and questions

The purpose of the study is to provide an overall review of the American Bully breed and its characteristics, by answering the following questions:

- What is the breed's purpose and characteristics?
- Does the breed appear in documents from Swedish courts, and in if so, how it is described?
- How are dogs of American Bully breed described in advertisements?
- What does the demographic development of the breed population in Sweden look like?
- Do dogs of American Bully breed change owners more often than other breeds of dogs?

To answer these questions, I will use scientific peer-reviewed articles to review the breeds its health, appearance, behaviour, and mentality. I will compile statistics to investigate the breeds population, and I will review how the breed is described by owners and breeders in advertisements of American Bully dogs online. I will also review court cases. By answering the above questions, I can then discuss the development and characteristics of the American Bully breed in Sweden.

2 Materials and methods

2.1 Article search and selections

The search platforms One Search, Web of Science and Google Scholar was used to find information and scientific articles. Search phrases such as “American Bully Breed”, “American Bully XL” and “XL Bully breed” was used to find articles to start with. As the study progressed, searches were narrowed to, such as “American Bully Health”, “Bully XL attacks”, “Dog bites”, “Dog attacks”, “Breed legislation” and “Dangerous dogs”. I also accessed other countries governments websites to access their legislation.

2.2 Information from the Swedish Board of Agriculture’s register of dogs

The Swedish Board of Agriculture provided information from their registry of dogs, henceforth called the dog registry, from 2018-2023. Some of the information was readily available on their website, such as total numbers of registered dogs, registered dogs of American Bully breed, and the ten most popular dog breeds in each municipality. I personally emailed to the Swedish Board of Agriculture to obtain more information such as changes in ownerships of dogs per year, the top ten breeds of dogs that had most changes in ownership per year, and the amount of ownership changes of American Bully dog per year. The information was then compiled using Microsoft 365 Excel for data processing, calculations, and the generation of descriptive statistics.

2.2.1 Calculations

To calculate the difference of dogs added to the registry since the previous year, I first calculated the difference in number of dogs between the year and the previous year:

Year 2 – Year 1 = Difference in number of dogs in the registry.

Then I took the difference and calculated the percentage:

(Difference x 100) – 100 = the difference in %

2.2.2 Ownership changes

The dog registry also keeps statistics of changes in ownership. What constitutes as an ownership change is when a dog that is registered to an owner in the registry gets reregistered to another person. Important to note is that the data shows the number of ownership changes made each year, not number of dogs with ownership changes each year. A dog can change owners several times in the same year, so the number

of ownership changes in a year is not equal to the number of individual dogs that changed owners.

To get the percentage of ownership changes per year that were of American Bully breed I took the number of ownership changes that were of American Bully during a year (ABC_x) and divided it with the total number of ownership changes during the same year ($ABTC_x$):

$ABC_x / ABTC_x$ = % of ownership changes that were of American Bully per year.

I also compared ownership changes with the average of all dogs in Sweden with no regard to breed of dog by taking total number of ownership changes per year (TCy_x) and subtracting ownership changes of American Bully breed the same year (ABC_x) and then dividing that with total amount of registered dogs (TD_x) subtracted of American Bully breed (AB_x):

$(TC_x - ABC_x) / (TD_x - AB_x)$ = % of dogs of other breeds that changed owners per year.

I used the program R Commander, a statistical analysis program, to perform a Pearson's Chi-squared test with Yates' continuity correction to test the hypothesis; Dogs of American Bully breed does not change owners more often than other breeds of dogs.

To see if dogs of American Bully breed changed owners more often than two popular breeds in Sweden, the Labrador Retriever and the German Shepherd, I divided the number of ownership changes that were of American Bully during a year (ABC_x) with the total number of registered American Bully dogs during the same year (AB_x), and then divided that with total number of ownership changes for a specific dog breed (DBC_x) divided with total number of dogs registered of the breed during the same year (TDB_x):

$(ABC_x / AB_x) / (DBC_x / TDB_x)$ = difference in frequency of ownership changes between the American Bully breed and another breed of dog.

2.3 Verdicts and preliminary investigation protocols

Court documents, such as verdicts and preliminary investigation protocols, are public documents in Sweden and can be requested and handed out from courts. In this study I reviewed a total of eleven verdicts and their respective preliminary investigation protocol with the aim of locating cases where American Bully dogs had injured people in order to see patterns and common circumstances. The verdict numbers were suggested by my supervisor, who retrieved the verdict numbers from the information service JPDjurnet by using the search term "causing bodily harm". Verdicts from 2023 and 2024 where the American Bully was mentioned as the dog that caused the injury were chosen. The verdicts and preliminary investigation protocols were then requested from each respective court. All documents were sent through secure emails and then downloaded. Some documents had information that was under confidentiality, and thus not disclosed. Two preliminary investigation protocol was not disclosed at all due to confidentiality. For some reason, one of the preliminary investigation protocols was not sent. At first, one verdict and one

preliminary investigation protocol was read in full, and a table was created in Microsoft excel with categories of data that would be extracted from the documents. Each verdict and preliminary investigation protocol was then read in full and the information from the documents was recorded according to table 1.

Table 1. The table shows the different categories of information that were recorded from each verdict and preliminary investigation report, and a description of the categories.

Variable	Description
Date of the incident	When the incident occurred
Date of the verdict	When the verdict was issued
Case number	The verdicts case number
Court	Which court rendered the verdict
County	The county in which the court is located
Prosecution	What the accusation was
Judging	The outcome of the verdict
Owner of dog	If the defendant was the owner of the dog
Number of dogs	The number of dogs that were involved in the prosecution
Breed	The breed of the dogs that were involved in the prosecution
Age at time of incident	The age of the dogs at the time of the incident
Rehomed dog	If the dog was adopted/ a rehomed dog
Description of injury	A short description of the injury sustained
Circumstances during the attack	A short description of the circumstances that lead to the attack, such as if the dog was on a leash, loose, or if the dog tore away from its owner
Other attacks	If the dogs had been involved in other attacks, either before or after the incident in the prosecution
Other information	Information that was of interest, such as how the dog was described by the jury, dog owner or other participant in the incident

11 verdicts and eight preliminary investigation reports were reviewed in this study. Dogs of American Bully breeds or mixes were involved in nine of the verdicts or preliminary investigation reports. The other two verdicts had not specified the breed of dog; therefore, this study presents statistics from the nine verdicts and preliminary investigation reports that had specified the breed of dog.

2.4 Review of advertisements on the trading website Blocket.se

Blocket.se is a large website in Sweden used for buying and selling things and animals, and is commonly used for advertising sales and rehoming of dogs. Advertisements for co-hosting, when a person takes care of another person's dog for a while or indefinite time, are also advertised. Blocket.se would only provide statistics of advertisements that are posted on their website to journalists. Therefore, I reviewed the advertisements myself to provide data of advertisements published for sales of American Bully dogs.

The gathering of data was performed on 28 April 2024. At Blocket.se you can search in different categories and apply filters to your search. The search was performed in the category “Leisure and hobbies” / ”Animals” / “Dogs”. For the location option “All of Sweden” was used. No other filters were applied to the search. The used search phrase was “American Bully”. I read three advertisements of random order to see what type of information was displayed in the different advertisements. A list of categories was created of what type of information would be recorded from each advert. See Appendix 1 for the list of the categories, a description of what each category meant and what types of answers were noted in each category.

161 advertisements were found in the search ‘American Bully’ on Blocket.se. Of these, nine advertisements were duplicates of other advertisements, and five advertisements were removed by the advertiser before they could be reviewed. 27 advertisements were of American Bully mixes, and were excluded from the study. This meant that 120 advertisements were reviewed.

120 advertisements were reviewed one by one, and the data was recorded using Microsoft 365 Excel. After all of the advertisements were reviewed, the location listed in the advertisements were recategorized so that they were categorized by county. This was done so it would be easier to compare the data from the advertisements with the recorded data from the dog registry and the court documents, and also to keep the advertiser more anonymous rather than displaying the more precise location. Microsoft 365 Excel was then used to compile figures and tables to easily present the information.

3 Results

In the following section I will report my results, starting with an overview of the American Bully breed with regard of its founder breeds, appearance, health, breeding, behaviour, and mentality. After the overview I will then give a brief review of the breeds status in Sweden, before going in on statistics that was compiled from information gathered from the dog registry. I will then report the information that was gathered from the eleven verdicts and preliminary investigation protocols, before reporting on the information gathered from 120 advertisements of American Bully dogs.

3.1 Overview of the American Bully breed

3.1.1 Origin and founder breeds

The American Bully breed was first recognized as its own breed by the United Kennel Club, henceforth UKC, in 2013 (UKC, 2024). The National Kennel Club, NKC, also recognizes the American Bully as a breed, and defined the different sizes of the breed in 2017 (NKC, 2017). The breed is also recognised by the American Dog Breed Association (ADBA), along with several bully clubs, such as American Bully Kennel Club (ABKC), European Bully Kennel Club (EBKC) and International Bully Registry (Eurobreeder.com). It is in these clubs that breeders of American Bully dogs register their dogs to get their pedigree, also called a slip. Some of the largest kennel clubs, such as the American Kennel Club (AKC), the

Kennel Club (KC), and the Fédération Cynologique Internationale (FCI), do not recognize the American Bully as purebred.

The American Bully was created by crossing the American Pit Bull Terrier with other bulldog breeds such as the American Bulldog, English Bulldog, and Olde English Bulldogge (UKC, 2024). According to the ADBA show confirmation standard, the breed originated from crossing the American Pitbull Terrier with the American Staffordshire Terrier (ADBA, 2016). This is supported by findings from the Department of Animal Genetics and Breeding at the University of Copenhagen which DNA tests dog breeds to determine their origin, and that stated in an interview with the Danish magazine BT that they have found DNA of the American Staffordshire Terrier in dogs of American Bully breed (Fruergaard, 2023).

These founding breeds have derived from a type of herding dog, called a catch dog, which had the job of stopping livestock by biting and bringing the livestock to the ground (Lord et al., 2016). Herding dogs, also known as “chase and bite” dogs, cause fear-flocking and flight behaviour (Lord et al., 2016). The catch dogs later became bull baiting dogs, and also used for dogfighting in the 18th and 19th centuries (Lockwood & Rindy, 1997; AKC, 2023). People later started referring to these breeds as ‘bully’, and the name stuck (Waldorf Gewirtz. 2024).

The ‘bully’ breeds have since evolved and are now small or large, but breeds share the same characteristics with solidly built, wide bodies, and short coats (Waldorf Gewirtz. 2024). Some of the ‘bully’ breeds look more similar than others, many of them having large square heads, short muzzles, short triangular ears, and powerful jaws (Waldorf Gewirtz. 2024). These ‘bully’ breeds vary in status of health, but are often brachycephalic (Wykes, 1991).

One of the most dominant founder breeds of the American Bully is the American Pit Bull Terrier, henceforth called APBT. The APBT was bred to create a dog that had the gameness of the Terrier with the strength and athleticism of the Bulldog (UKC, 2017). According to the ABCK breed standard (2023), the APBT was designed to be the ultimate gladiator. The APBT dogs were then brought to the United States of America, where farmers used the dogs as catch dogs, hunting dogs and companion dogs (UKC, 2017). The breed was first recognized by the UKC in 1988, and is also recognised in ABKC and ADBA. Today the breed is used as a companion dog, and competitor in many performance and conformation events (ABKC, 2023). The APBT is a highly intelligent and powerful breed of dog, with confidence, enthusiasm, and willingness to please (ABKC, 2023). These qualities make the APBT an excellent family companion with a noted love of children, according to several breed standards (UKC, 2017; ABKC, 2023). It is considered by the ABKC (2023) as an extremely friendly dog, even with strangers. However, the breed does exhibit some level of dog aggression (AKBC, 2023).

A founder breed that is similar to the APBT is the American Staffordshire Terrier, henceforth called AST. The AST was recognized as a breed by the AKC in 1936 (Flaim, 2023). Some sources say that the AST and the APBT are the same breed (Breeders Cup Association, 2018) while others say they are two separate breeds that come from the same origin(UKC, 2017). The AKC share this view, saying on their website that all American Staffordshire Terriers technically can be called an

American Pit Bull Terrier, but not all American Pit Bull Terriers can be called an American Staffordshire Terrier (Flaim, 2023). The AKC (2024) describe the AST as an energetic and strong-willed dog, making it a necessity to practise early socialization and attending a puppy training class. Even with proper training, dogs of AST breed could develop behaviours that are hard to resolve, such as chewing and digging (AKC, 2024). The problem of dog aggression can develop even in well-socialized ASTs, and thereby dogs of AST breed should never be left alone with other dogs (AKC, 2024).

The American Bulldog, the English Bulldog and the Olde English Bulldogge share the same origin as the AST and APBT, but are vastly different in appearance and performance. The American Bulldog is a large-breed dog that has great strength, agility, and endurance along with an alert, outgoing, and friendly attitude (AKC, 2024b). It was bred to be a "farm utility dog" , used for farm work as well as a guard dog and a part of the family (NKC, 2019). However, aloofness with strangers is acceptable to the NKC (2019).

The English Bulldog was bred for the same purpose as the other bulldog breeds, but has now evolved into a companion dog that is affectionate and dependable animal while still having great courage & excellent guarding abilities (NKC, 2022). Unlike the American Bulldog, the English bulldog has a compact muzzle, small muscular body, and short tail (NKC, 2022). The breed has several health problems, including breeding problems such as dystocia. Dystocia is a common complication of the English bulldog breed, where most females are not able to have a natural parturition and many litters are delivered by caesarean section (Horňáková et al. 2023). A study by Dobak et al. (2018) found that English bulldogs have a generally reduced pelvic size, as well as a shorter pelvis and narrower pelvic outlet when compared to the non-brachycephalic breeds used in their study.

The Olde English Bulldogge shares a similar temperament to the English Bulldog, being friendly but fearless to anyone who threatens his master or property (NKC, 2024). Unfriendliness to strangers isn't a defect, although it's unusual according to NKC (2024).

3.1.2 Appearance

The appearance of an American Bully can vary depending on its bloodline and genetics, but there are characteristics in the breed standard, set by the UKC (2024) that should not be faulted. The breed comes in three sizes: pocket, standard/classic and XL, set by the NKC (2017). According to the UKC breed standard, the breed is recognised by its strong build with a prominent muscle tone and thick set structure. It is a smooth coated dog that possesses great strength for its size.

The ears of the American Bully are set high, and may be natural or cropped, without preference, according to the UKC breed standard (2024). The UKC breed standard explains in great detail proportions, attributes and measures that are desirable. It also describes eliminating faults, which are faults serious enough that it eliminates the dog from obtaining any awards in a conformation event. There are also disqualifying faults, which are faults that are so serious that a dog with a

disqualification must not be considered for placement in a bench show/conformation event and must be reported to UKC. Examples of disqualifying faults are merle colour, blue eyes, unilateral or bilateral deafness, viciousness, or extreme shyness.

3.1.3 Health

The American Bully breed, like most breeds of dogs, have certain diseases that are more common within the breed. Like most large breed dogs, they can suffer from hip and elbow joint dysplasia (Sarenbo, 2016). The American Bully also has occurrences of skin diseases, allergies, and brachycephalic syndrome within the breed. Skin problems are common in dogs of Pit Bull breed (Bowden et al., 2018; da Silva et al. 2017). In a survey of skin diseases in dogs by Scott & Paradis (1990), they found breed predispositions for several canine dermatoses, including idiopathic pruritus for Pit Bull Terriers. Idiopathic pruritus is a term usually applied to describe dogs which have clinical signs suggestive of allergy, but where the reason for the clinical signs is unknown (Scott & Paradis, 1990).

Another skin disease that can affect the American Bully is a genetically induced ichthyosis, which causes scaling of the skin (Briand et al., 2019). This has been described in American Bulldogs, and can be genetically tested for before breeding of dogs (Briand et al., 2019). In the report by Briand et al. (2019), they hypothesize that the variant frequency that causes the disease is still quite low or restricted to a subpopulation or lineage of American Bully, which means that American Bully breeders have a unique opportunity to get rid of the deleterious allele by genetically testing dogs before breeding to prevent the allele from spreading within the breeding stock. As of 2019, there were no treatments that allow a complete persistent regression of clinical signs of the disease (Briand et al., 2019).

According to the UKC (2024) breed standard, the muzzle of American Bully should be broad and blocky, or slightly square and its length shorter than the length of the skull. The breed standard also says that muzzles that are so short and blunt that they interfere with normal breathing are eliminating faults (UKC, 2024). Despite this, American Bully are typically brachycephalic (Pereira et al., 2023), perhaps because of the genetic predisposition from bulldog breeds, that also typically are brachycephalic (Koch et al., 2003). Abnormalities in brachycephalic dogs restrict their breathing and can have life-threatening effects (Koch et al., 2003). Brachycephalic dogs are also typically susceptible to obstructive dystocia, due to the large heads of the puppies and the small pelvic of the female dog (Horňáková et al., 2023). A caesarean section is often performed, both on an elective basis and in the emergency setting, as a management of dystocia (Adams et al., 2022).

3.1.4 Behaviour and mentality

The bulldog breeds were created for a job, a purpose that they had to fulfil. Unlike its ancestors, the American Bully breed is first and foremost a companion dog according to the UKC breed standard (2024). It is described as an active and muscular although still agile breed with a gentle and friendly demeanour despite its powerful appearance, combining a kind and loyal temperament with tremendous power and stamina (UKC, 2024). The breed standard (UKC, 2024) also says that American Bully dogs are an excellent family dog.

3.2 Breed status in Sweden

The American Bully breed is growing in popularity in Sweden (Sarenbo & Striwing, 2024). There is an established American Bully breed club in Sweden, called the Swedish Bully Kennel Club (Sarenbo, 2016), where members of the club register their dogs in the foreign registries such as ABKC. The American Bully is not recognized as pedigree in the Swedish Kennel Club, SKK.

3.3 Statistics from the Swedish Board of Agriculture

According to section 2 and 3 of the Act (2007:1150) on supervision of dogs and cats, anyone who owns a dog must ID-tag their animal so that it can be identified. The marking must be permanent, and the owner must register his ownership in a registry provided from the Swedish Board of Agriculture.

At the end of 2018, the number of dogs registered in Sweden was 917 854, while at the end of 2023, there were 1 122 480 dogs in the dog registry. The total number of dogs in Sweden has thereby increased by over 100 000 during a 5-year period. The counties who have the most number of registered dogs also have the three largest cities in Sweden. The number of added dogs to the registry varied from year to year, as seen in figure 1.

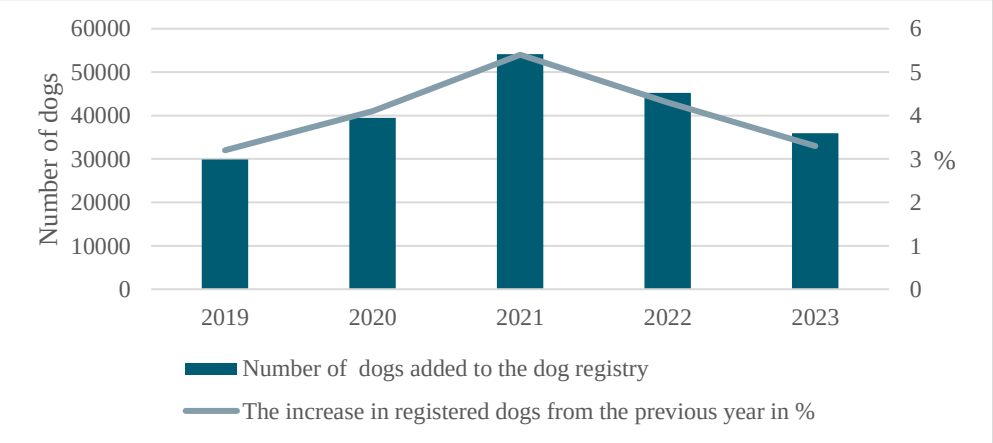

Figure 1. Number of dogs added to the dog registry during 2019 to 2023. The number of new registered dogs increased the most in 2021. The columns show the number of dogs added to the dog registry, and the line shows the percentage of increase in dogs since the previous year.

3.3.1 Dogs of American Bully breed

According to the dog registry, the number of dogs registered as “American Bully” has increased year by year in Sweden, from just over 1000 dogs in 2018 to just over 5500 dogs in 2023, shown in figure 2.

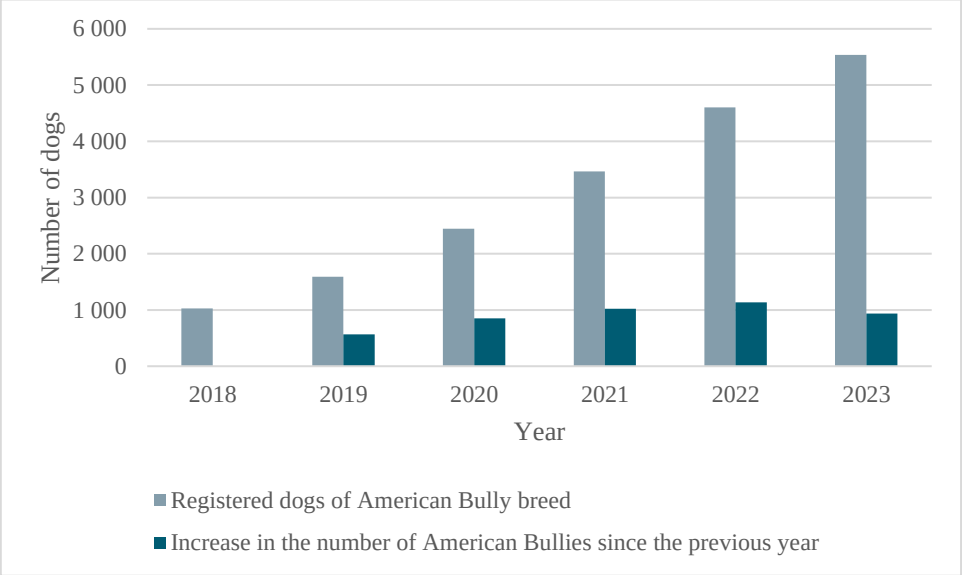

Figure 2. Number of dogs registered as American Bully breed in the dog registry in Sweden.

3.3.2 Ownership changes

In 2023, almost 20 000 changes of ownership were made in the dog registry. The top ten dog breeds that had the most changes of ownership in the dog registry 2018-2023 are shown in appendix 2. American Bully was the breed with the second most ownership changes during 2022 and 2023, with only 'mixed breed' having more ownership changes. Almost 4 percent of the total amount of ownership changes made in 2023 were of dogs registered as American Bully breed, as shown in figure 3.

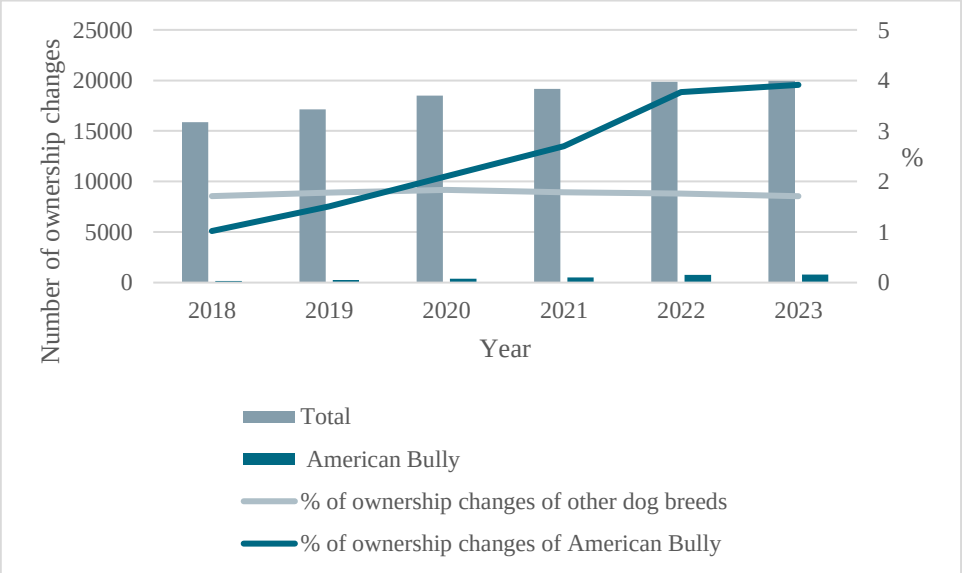

Figure 3. Number of ownership changes in the dog registry each year from 2018 to 2023.

14,1 % of all registered dogs of American Bully breed changed owners during 2023. This is 8,2 times more than the mean of all other breeds that was 1,7 %. When comparing ownership changes between American Bully dogs to the breeds Labrador Retriever and German Sheperd in 2023, dogs of American Bully breed changed

owners 9,6 times more than Labrador Retrievers, and 7,4 times more often than German Shepherds.

A chi-square test showed that there is a significant association between ownership changes and whether the breed was American Bully, ($X^2_1 = 4863.4$, $p < .001$). That is, American Bullies were significantly more likely to change owners than dogs in general. The expected number of American Bully dogs changing owner was 99 in this test of independence, but the observed number was 781. This means that the actual number of ownership changes of American Bully dogs during 2023 were 8 times higher than the expected value based all breeds.

The dog registry includes information about the dogs breed, age, the dogs owners name and where the dog owners live. From this information you can see which top 10 dog breeds are the most popular in each municipality, and how many dogs of each registered breed are registered in the municipality. The American Bully breed was one of the top 10 breeds in 4 different municipalities in 2023, which shows that while the breed is rare in Sweden it can be popular in some local areas.

3.4 Legal cases and jurisprudence

All prosecutions involved dogs causing bite injuries of varying degrees to the victims. There were three different types of victims in the nine reviewed legal attacks. Two legal cases involved attacks on children, and three legal cases involved attacks on adults where the dog attacked the victim’s dog, resulting in the owner getting injured while protecting their dog. Four legal cases involved attacks on adults.

In six of the legal cases, the attacks involved a single dog. Two of the legal cases involved two dogs, and in one of the legal cases there were 12 dogs involved in the attack. The legal case involving 12 dogs concerned two incidents that occurred on two different dates. However, since the incidents were handled in the same prosecution, they are reported as one legal case in this study.

The age of the dogs when the incidents occurred ranged from three months to six years, shown in figure 4.

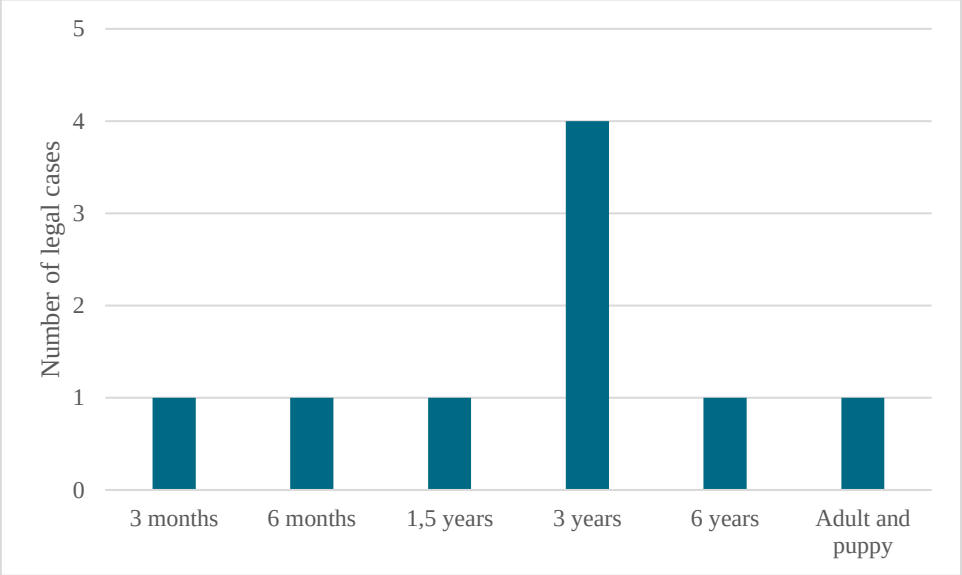

Figure 4. The ages of the dogs involved in the nine legal cases during the time of the incidents.

Of the nine legal cases, three involved dogs that had been rehomed, meaning that they had a previous owner. In four legal cases the owners had their dog since it was a puppy, and in two legal cases there was no information about the dog being rehomed or not.

The circumstances of the attacks in the legal cases were different, but had some similarities, displayed in figure 5. In two of the legal cases the dog was kept on leashes of a retractable type, called a 'Flexi-leash'. In one of the legal cases where the dogs were kept in a fenced in area, the dogs escaped by jumping over the fence. In the second legal case the dogs crawled under the fence. In the legal case where the dog tore away from its owner, the dog was loose in a fenced in area, but the owner tried to hold the dog and stop it from attacking. The dog tore free, and then jumped the fence to attack.

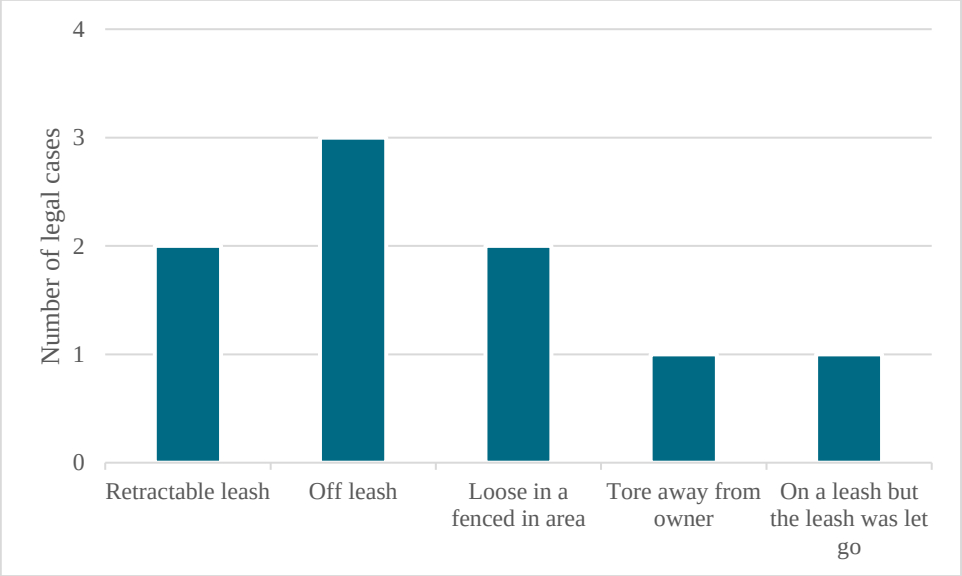

Figure 5. Circumstances of the attacks in the nine legal cases.

In five out of nine cases the dogs had attacked on other occasions (55 %), either before or after the incident referred to in the legal cases, displayed in figure 6.

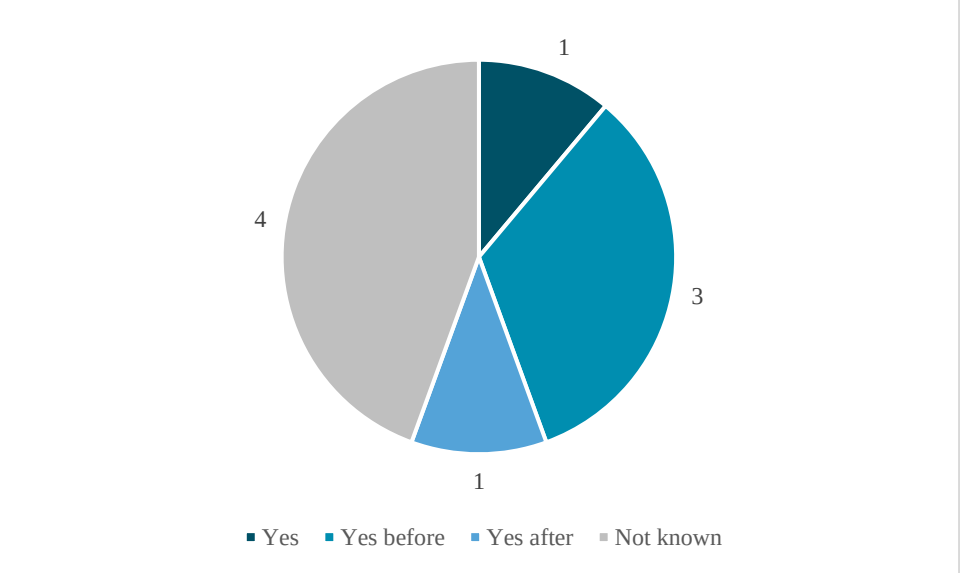

Figure 6. Number of cases were the dogs involved in the cases had attacked on other occasions.

3.4.1 Description in court documents

The victims of the dogs, the ones that were attacked and injured, described the dogs as fighting dogs, that the dog was aggressive, that the defendant tried to get their dog off the victim, but the dog would not stop or listen. Many of the victims describe that the dogs attacked several times, and that they were terrified and screamed for help.

The defendants described their dogs in positive matters, saying that their dog only wanted to guard or protect the family or the defendant, or defend their territory. Others stated that their dogs love children. One defendant said that their dog had a strong hunting desire. Some defendants also said that people have a lot of prejudice against dogs of American Bully breed, and an undeserved reputation of being bad dogs. One of the defendants described their American bully as scared of new people and unreliable and that the dog cannot be trusted. The defendant said in hearing that when an American Bully bites, they lock their jaws and that the bite is large, because an American Bully cannot control how they bite. The defendant's dog was involved in several incidents (only one addressed in the verdict) and had also been used for breeding. One police officer was involved in one of the incidents, and described the dog's environment as a pure misery with faeces on the floor and a smell so strong that it was hard to stay in the room,

The courts view of the incidents, and descriptions of the dogs, are that they are large and powerful dogs. In most of the verdicts, the courts wrote that the risk of the dogs attacking dogs or people were high, and that attack could had been prevented. The

courts state that owners of these types of dogs need to be alert, well-educated and cautious of their dogs at all times if it is clear that their dog have a problem with people, dogs, or other animals to prevent serious injuries.

3.5 Advertisements and descriptions of dogs for sale

The advertisements were categorised in three categories: puppy, adolescent, and adult. Dogs of age up to four months were categorised as puppies, dogs of age four months to 24 months were categorised as adolescent dogs, and dogs over two years of age were categorised as adult dogs. Of 120 advertisements were 50 advertisements for puppies, 36 for adolescent dogs and 34 for adult dogs.

Some advertisements were for a single dog, and others for litters of puppies or several dogs. The total number of dogs of American Bully breed for sale on April 28 2024 was 251. Out of those were 174 categorized as puppies. The prices ranged between 6 000 – 35 000 SEK for a puppy, 1 000 – 35 000 SEK for an adolescent dog and 1 000 – 30 000 for an adult dog. However, one adult dog that was advertised for 1 000 SEK said in the advert that the dog actually was for free. The counties with the most advertisements were Stockholm County, followed by Skåne County, and Västra Götaland County.

3.5.1 American Bully dogs for sale

Most of the adverts were for American Bully dogs of XL size, shown in figure 7.

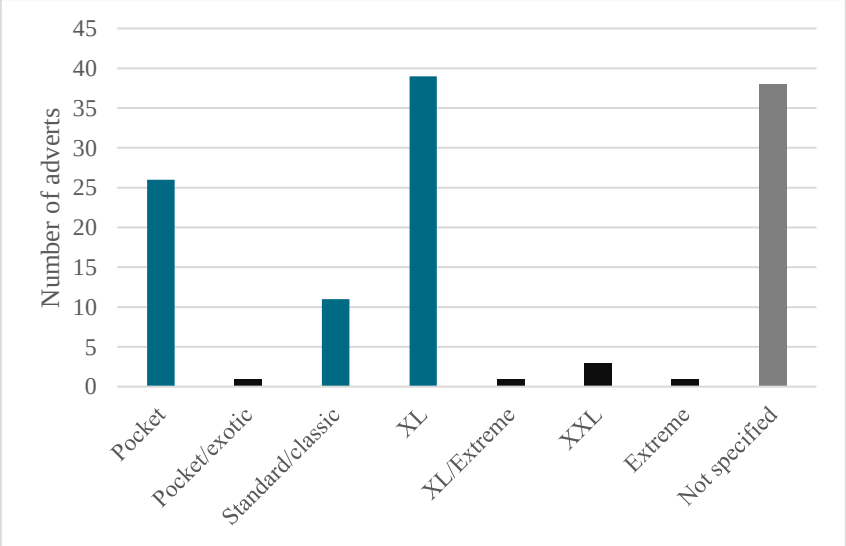

Figure 7. The number of advertisements of American Bully breed categorized by size of the dog. The blue stacks represent the three sizes according to the breed standard. The black stacks represent sizes that are not included in the breed standard.

The colours of the dogs varied from one or two colours, to three coloured and even merle patterned dogs. 16 of the 120 (13%) advertisements for dogs of American Bully breed were published by a user with a kennel name, or had a kennel name included in the advertisement's description. Of these 16 advertisements, seven of them wrote that the dogs had a pedigree, also called a slip, that the dogs were ID-tagged and wrote about the mentality of the dogs and/or breed. 11 advertisements

published from users with kennel names did not have any demands or wishes regarding who could, or should, buy their dogs.

104 advertisements were published without any mention of a kennel name or business. Out of these, 53 advertisements were of American Bully dogs with pedigrees or slips. 15 of the 53 advertisements didn't write any information about the dogs or breeds mentality. 19 advertisements of American Bully dogs had statements like"world famous parent animals", "bloodlines" or show awards in the advert descriptions. There were no advertisements that mentioned any activities or dog sports other than appearance shows.

3.5.2 Rehoming of dogs

Of the 120 advertisements concerning American bullies, 48 (40%) were about rehoming of the dogs. 16 of these included information that the dog had a pedigree or slip. There were most advertisements of rehoming an American bully of XL size, shown in figure 8.

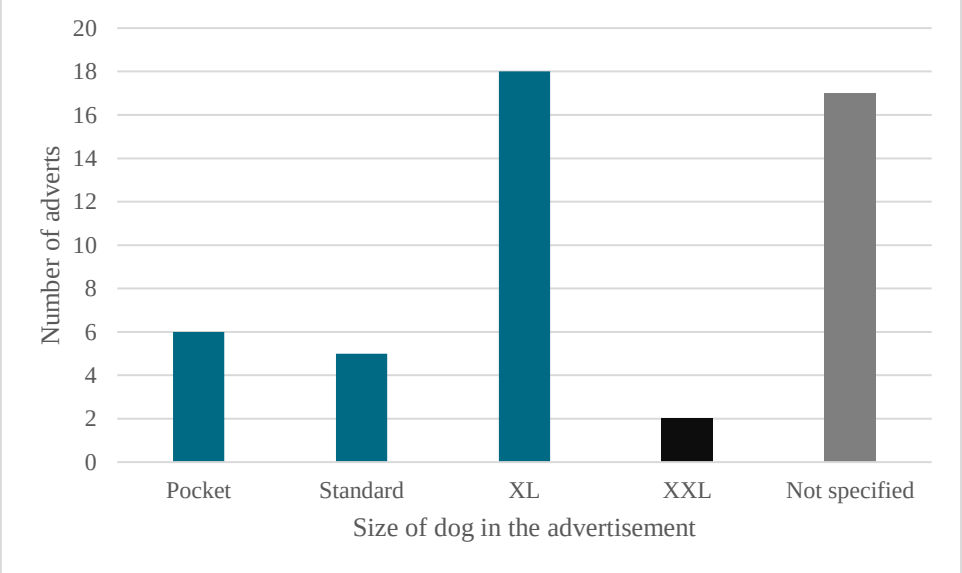

Figure 8. The number of advertisements for rehoming of American Bully dogs of different sizes. The blue stacks represent the three sizes according to the breed standard. The black stack represents that the size is not included in the breed standard.

There were several reasons given for rehoming of a dog, displayed in figure 9. Of the 48 advertisements of rehoming of dogs, the most common reason for rehoming was because of changed circumstances in the family, such asseparation or change of work.

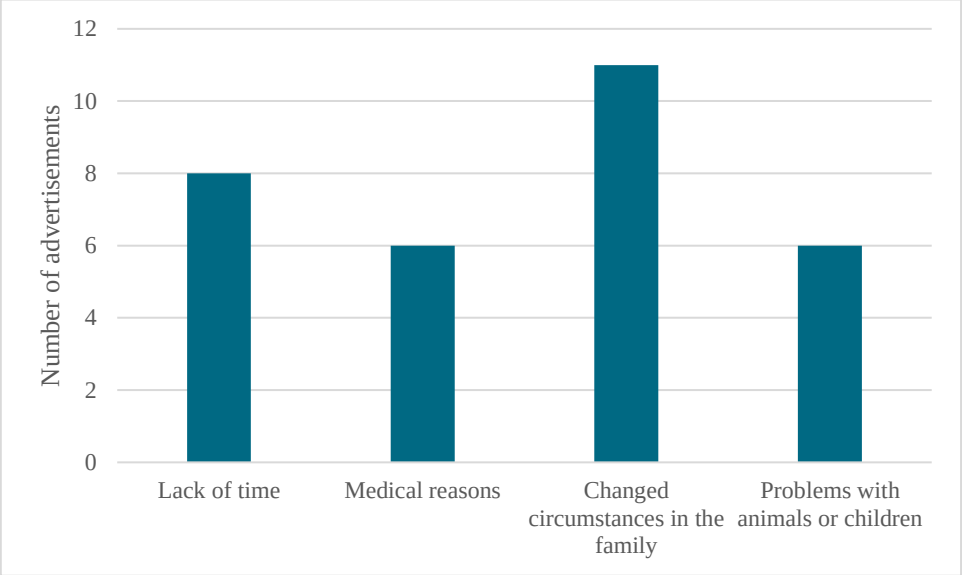

Figure 9. Number of advertisers that gave certain reasons for rehoming their dog.

3.5.3 Description in the advertisements

In each advertisement the seller had the opportunity to write some information about their dog, describing their appearance, behaviour, and mentality. Of 120 advertisements of American Bully dogs, 83 sellers wrote about the dogs' mentality in the description, as shown in table 2. The Other* category was used to make the statistic as correct as possible without having to make a choice of whether the dog should be classed as a 'yes, good with dogs' or 'no, not good with dogs'. The Other* category included information about certain circumstances, for example, that a dog could get along with only male dogs and not female dogs. Important to note is that one advertisement could have information of more than one category.

Table 2. Number of advertisements that had different types of information in the advertisement's description.

Type of information in the advertisement	Yes	No	No information	Other*
Wrote about mentality	83	37	x	x
Dog used to children / good with children	55	9	56	x
Dog used to dogs / good with dogs	47	7	61	5
Seller had a wish for a type of buyer	72	48	x	x

Seven advertisements gave information about the dog in the advertisement having issues with aggression, reactivity, lunges, guarding instincts, or growling. All of these advertisements were for rehoming of dogs.

Most advertisers that did not have any demands on potential buyers of their dogs wrote in detail about the look of the dog, either their colours, the body build or other feature of appearance. Some advertisements hade statements such as "the perfect pedigree" and "these puppies will sell fast so be quick to contact us". One advert was for a dog with cropped ears (Which is illegal in Sweden), and there was no information in the advert about the dog being imported from another country.

While some advertisers did not have any requests, demands, or wishes for potential buyers of their dogs, some advertisers did. 10 advertisements stated that they would

not sell to buyers under a certain age. Other demands that some advertisers stated were knowledge of the breed, experience of dogs, no criminal record, or no record at the county administrative boards. Most advertisers wrote that they wanted their dogs to go to "loving homes", "perfect homes" and/or "serious buyers". Some advertisers wrote that they would prefer to sell to families with children, and that they would be prioritized.

4 Discussion

4.1 Breed standard, appearance, and health

From the articles and breed standards in this paper, it can be said that the American Bully breed was founded by crossing breeds of working dogs that share the same drive and to some extent features of appearance. Several breed standards of the founding breeds express that their breed has difficulties with dog aggression, aloofness or unfriendly behaviour around strangers and guarding qualities. The founding breeds all share the same origin of being used as bait and fight dogs, where they were bred to fight other dogs, and dogs who did not meet the requirements were disposed of right away (Flaim, 2023). The selection for breeding fighting dogs were made based on the willingness of the dog to attack other dogs, and its ability to not attack people (Flaim, 2023). Another selection made in the dogfighting lineages was to suppress, or eliminate, communication of aggressive motivation or intent, which made it easier to surprise its victim and to make the dogs attack more unexpected (Lockwood, 2016). Since then, the breeding of these dogs has shifted from working purposes to companion dogs and show breeds according to the breed standards (O'Neill et al., 2022). Clubs and breeders focus on the breeding standards as a template in breeding, which can lead to extreme features that affect both the physical and the mental welfare of the dogs (O'Neill et al., 2022). The English Bulldog is an example of that, having such extreme features that it affects the dog's welfare, with one study concluding that the overall health of the English Bulldog is much lower than other breeds of dogs (O'Neill et al., 2022).

The breeding of American Bully dogs could lead to more extreme phenotypic features if the breeding is not controlled in some way to ensure the health of the dogs. Features that seem to be breed towards are wider skulls and chests, shorter muzzles and a more muscular build. These are features are similar to other brachycephalic breeds, that typically have short muzzles, wide skulls and tight pelvises (Estevam et al., 2022). These types of extreme characteristics can lead to severe problems regarding health and breeding, with many brachycephalic dogs only being able to reproduce through artificial insemination and caesarean sections (Estevam et al., 2022). According to the Reproduction center dog and cat (2023; referred in Sarenbo & Striwing, 2024, p.g. 166), the Fertility Institute at Swedish University of Agricultural Sciences do not inseminate dogs of American Bully breed due to its unrecognized state in Sweden and also because of international studies about the breed having difficulties with natural breeding.

An appearance feature that can be controlled through breeding is the merle coat colour. According to the UKC (2024) breed standard, any colour, colour pattern, or combination of colours is acceptable in the breed except for merle. Despite this there were several advertisements for American Bully breeds with merle patterns and colouring, being marketed as exclusive colour. The merle colour is thought to

be inherited in an autosomal, incomplete dominant way (Langevin et al., 2018). The merle colour pattern can be described as coat colour where eumelanic regions are incompletely and irregularly diluted resulting in typical intensely pigmented patches (Langevin et al., 2018). Merle coloured coats in dogs are not only visually interesting, but it also exerts an important biological role, in terms of hearing and vision impairments (Langevin et al., 2018). Dogs with merle colour have an increased risk of several negative health consequences such as hearing abnormalities, degenerative eye diseases such as high in ocular pressure and microphthalmus, skeletal abnormalities, cardiovascular and reproductive system disorders, and high mortality (Turnova et al., 2014). This makes selection in breeding important when selecting suitable mating partners and production of healthy offspring, which often requiring merle allele testing (Langevin et al., 2018).

While some appearances are genetic, some features of appearances can be cosmetically altered. The American Bully is one breed that is often seen with cropped ears. Cropped ears are when the ears of the dog are surgically altered by removing the earflaps, cutting through the cartilage, skin, blood vessels and very sensitive nerve endings (Packová & Takáčová, 2020). It was previously said that the cropping of the ears was practised to prevent damages during fighting or hunting, but there is no evidence to support those claims (Mills et al., 2016). Later the practice has instead become a defining feature of many dog breeds (Mills et al., 2016b) including bulldog breeds and American Bully. Cropping of the ears are banned in many countries, including Sweden, due to the painful procedure and lack of clinical purpose (Packová & Takáčová, 2020; Mills et al., 2016b). Studies have shown that cropping of a dog's ears are perceived as more aggressive, more dominant, less playful, and less attractive than dogs that have 'natural' ears (Mills et al., 2016b). The cropping of the ears is not only painful for the dog, but it also robs the dog of its means of communication with other dogs and their owners by not having ears to express their emotional state, social status, or willingness to fight (Packová & Takáčová, 2020).

While the previous sections have been about the physical welfare of the American Bully breed, it is equally important to discuss the mental welfare aspects of the breed. Dogs were previously bred for farming, hunting, and guarding in rural areas, and are now, to a great extent, kept as pets in noisy urban areas with high population densities of both people and dogs (Braastad & Bakken, 2002). The American Bully breed is sold as a companion dog, described as a couch potato and a family dog. It is a dog breed with great strength, willpower, and drive. It is an intelligent breed of dog that as with any breed needs mental stimulation. Its physical features also require a great need for movement. Lack of welfare, inconsistent, or unpredictable reinforcements may lead to development of behavioural disorders (Braastad & Bakken, 2002). Some problems related to aggression, fear and separation all have high degrees of heritability (Braastad & Bakken, 2002). This makes it possible through selective breeding to alter the level of dogs that display these behaviours (Braastad & Bakken, 2002). Other factors that determine the dog's predisposition towards developing behavioural problems are prenatal experiences and influences during the socialization period as well as the juvenile stage (Braastad & Bakken, 2002).

4.2 Demographic in Sweden

The results of the demographic measurements in this study show that the American Bully breed is rising in popularity in Sweden. From the location demographics the breed seems to be more popular in Stockholm, Skåne and Västra Götalands County. This pattern was also found in the demographic analysis of the reviewed advertisements. These counties have the three largest cities in Sweden, with a high count of inhabitants. During the Covid-19 pandemic many people decided, for various reasons, that it would be a good time to buy a dog (Morgan et al. 2020), including citizens in Sweden. While Sweden did not have a lockdown like many other countries in Europe, many companies introduced the possibility of working from home. This meant that many people had the time and opportunity of taking care of a puppy, and in many cases also more leisure time due to regulations of isolation and other restrictions. Breeders and 'non-breeders' produced puppies to meet the high demand for dogs, some even importing dogs from other countries to use for breeding or selling for large sums of money to meet the high demand for dogs (Pieracci et al., 2021; Ho et al. 2021). This can be connected to the result of total amounts of dogs in Sweden, with a high rise in dogs during 2020 and 2021 as seen in figure 1.

When looking at ownership changes in the dog registry, the American Bully breed had the second most changes of ownership in 2022 and 2023, only 'mixed breed' had more changes in ownership. While the population in Sweden is not large, dogs of American Bully breed changed owner eight times more often than the average of total number of dogs, and ten times more often than Labrador Retrievers, which was the most popular dog breed in Sweden 2023. According to the result of the X^2 test, only 99 dogs of American Bully breed was expected to change owners in 2023. The question is why this breed is overrepresented in this matter? Maybe there is a 'pandemic dog' effect to take in consideration, where the owner did not think about the long-term responsibility of owning a dog, and the knowledge required to care for a dog, including costs, time, and effort in keeping a dog happy and healthy (Morgan et al. 2020; Ho et al. 2021). Another possible explanation could be that the breed is being marketed as a low energy dog, and owners later finding out that their dog needs more physical and mental stimulation than they were expecting or willing to provide. Sarenbo & Striwing (2024) reported that dogs belonging to the group of hunting breeds change owners far less than dogs that belong to fight-, guard-, companion- and sled dog groups. Perhaps owners of hunting dog breeds are more educated in what type of dog they desire, and have a clear purpose for the dog to fulfil.

While some people try to rehome dogs themselves, as demonstrated in the advertisement section of this study, others turn to dog-associations for help, most often giving the dog to the association that then rehome it. One of the largest dog-associations in Sweden is Hundstallet, which helps individuals, County Administrative Boards, and the Police authority with rehabilitating and rehoming dogs. Dogs from County Administrative Boards and the Police authority are most often seized due to welfare concerns. Through personal correspondence[1] Hundstallet said that they do not keep any statistic over the breed of dogs that they take care of, and that they see some concern regarding identification of American Bully dogs,

[1] Email correspondence with Hundstallet, 26 March 2024.

since the vast majority of these dogs are without some sort of a pedigree. They agree that mixes of "bulldog breeds" are rising in popularity in Sweden, and that they unfortunately see a number of cases where these types of dogs are mistreated. They continue by saying that those cases have a lack of animal welfare, and an unregulated breeding with all that it means in the form of unfortunate mixtures, substandard breeding environment, no evaluation of the breeding either health-wise or mentally and then less calculated sales to people who lack responsibility and supervision.

4.3 Legal cases

The results confirm that despite being a rare bread, the American Bully appear in several court documents, such as verdicts and their preliminary investigation rapports. The information of the dogs breed was either written in the verdict without any context, or was classified as a dog of American Bully breed by the defendant in the preliminary investigation rapport. This could be a possible error in this study, but there is little reason for the defendants so say that their dog was of American Bully breed if it in fact was not.

The reviewed cases may all have involved an American Bully as the attacking dog, but there were several differences between the legal cases regarding the victims and circumstances of the attack. Three dogs had attacked prior to the incident that was a part of the prosecution. Agestam (2022) did a study of dogs seized by authorities in Sweden, which showed that dogs of American Staffordshire Terrier breed were overrepresented when it came to number of dogs seized in comparison to total number of dogs in Sweden. She found that they were twice as many seized dogs of AST breed than of German Shepherd breed, even though at the same time there were more than three times as many German Shepherds in Sweden (Agestam, 2022).

Two of the reviewed legal cases involved children getting injured by the dogs. In one of the legal cases two dogs were involved, one adult dog and one puppy, both of American Bully breed who bit and thus injured a child. The dogs were on leashes, but were able to attack when the owner slipped and fell. The owner said that they had control of the situation, but it was an accident that caused the dogs to attack. The dogs in this case attacked a child simply because their owner slipped, making the leash extend so that the dogs could reach the victim. The dogs' first response was not to simply greet the victim, or sniff on the ground, but to bite the victim in the leg and hand. The other reviewed legal case involving a child was of an American Bully that was kept loose in a public area. The dog ran up to the child and bit the child in the arm. The child sustained injuries that required medical care. This legal case is similar to a case that Sarenbo and Striwing (2024) wrote about, which involved an American Bully that ran loose and attacked a nine-year-old boy, biting the boy repeatedly and shaking him, which resulted in injuries that required medical care.

The way the involved dogs were described in the court documents varied, mostly depending on who was describing the dog. While the victims talked about the aggressiveness of the dogs and that they did not let go or stop attacking, the defendants talked about their dogs being sharp and unpredictable. Most defendants expressed that they knew about their dogs behaviour, one defendant even saying that their dog could not be trusted around strangers. Several courts stated in the

verdicts that owners of these type of dog have to be alert on their surroundings and act preventative to ensure that animals or people are kept from harm.

4.4 Advertisements

The advertisements reviewed demonstrate that there are several active Swedish breeders of American Bully dogs, and that there also were a number of dogs that were advertised for rehoming. The results show that there were most advertisements for dogs of XL size, both regarding dogs for sale and rehoming of dogs. The description of the breed was different depending on who was the advertiser. Breeders of American Bully dogs wrote about bloodlines, appearance, and the extreme features of their dogs. The reviewed advertisements that included kennel names left little information about the dogs other than their pedigree and their parental figures. This is consistent with what Levine & Poray-Wybranowska (2016) found in their study on the American Bully. They went in depth to investigate the marketing strategies used to make the extreme features of the American Bully appeal to the ordinary American dog buyer. They found that the breeders who offered minimal information on the dogs for sale gave the assumption that interested buyers already are versed enough in the American Bully world to know the parental dogs in question. The breeders do not only sell a puppy, but they also sell an entry to an exclusive club, the family of American Bullies (Levine & Poray-Wybranowska, 2016).

While the defendants seemed to talk positively about their dogs protective nature, saying that the dog only wanted to protect them or their property, not one of the reviewed advertisements talked about the dogs being aggressive or protective as a way of advertisement. A Swedish television show called ‘Kalla Fakta’ recently went undercover, posing as potential buyers for puppies of bulldog breeds (Holmgren, 2024). In the show, many breeders talked positively about the parental dogs guarding instincts, saying that their dog would “guard me with their lives” and “would not hesitate to protect me”. The breeders also said that when people in society see or meet their dogs, they get scared and don’t come near them. Overall, the breeders used the fighting and aggressive appearance and mentality as a selling point.

Based on what breeders said to the undercover reporters when potential buyers expressed an interest in protective dogs, it could be seen as a marketing strategy to not disclose the protective nature of the breed in advertisements, and thereby avoiding scaring off potential buyers who are not looking for dogs with a guarding nature. In that way the breed appeal both to people looking for a family dog, and for people wanting a dog for status, protection, and power. The latter are drawn to the dog’s exaggerated muscular body and fierce appearance (Levine & Poray-Wybranowska, 2016). As if the dog’s natural appearance was not enough, American Bully ears are often cropped to make the dog look even more threatening and aggressive (Mills et al., 2016b). Although the procedure is banned in Sweden, dogs could be imported with cropped ears from countries where the cropping is legal, or owners could perform the illegal procedure privately to get the desired appearance.

The families looking for a companion dog could be drawn to the cute puppies with squishy faces and excess skin, plus the breeder’s description of the breed being “couch potatoes”, “perfect companion dogs” and “a family friendly dog”. This narrative of the breed being a family friendly dog goes against what recent studies

have shown, and the types of incidents that have happened between American Bully dogs and children. Perhaps the newness of the breed is also to the breeder's advantage, with the potential buyers not knowing much of the breed, and thereby relying on what information the breeders provide. The amount of information that breeders left in their advertisements were only of appearance and of minor behavioural type. None of the advertisements had information about any type of training or dog sport performed by their dogs.

The most frequent reason given in the advertisements for rehoming an American Bully was changed circumstances in the family. This category included changes in family relationships and also change of work, which then lead to change in the family relationship and thereby making it hard to keep the dog. 14,5 % of adverts for rehoming an American Bully included information about their dog having problems with aggression, insecurities and also fears. These types of behaviours could be because of the dog's genetics, or because of unexperienced dog owners. What is not clear from the advertisements is whether the owners had tried to correct the behaviour, or if simply rehoming the dog to a willing person was an easy way out of not having to deal with the problem.

A study from Ho et al. (2021) showed that there could be problems with the training and socialization of 'pandemic dogs', partly because most owners worked from home and did not leave their dog alone at any times, thereby not training them to be alone, and also because many did not meet friends or family due to the risk of spreading the virus. Dogs that do not get sufficient social contact with other dogs, people, or both could be at risk for responding to future interactions with fear, aggression, or both (Lockwood, 2016). Behavioural problems like separation anxiety may be overwhelming to inexperienced pet owners who bought their first during the pandemic (Morgan et al. 2020) and could cause them to rehome their dog.

4.5 Limitations and future studies

There were some limitations in this study, one was the small number of scientificof articles aboutAmerican Bully dogs. This could be due to the 'newness' of the dog, or that the unrecognized state of the breed in many countries makes it unappealing to do research on.

A possible source of error in this study is the statistical information received from the Swedish Board of Agriculture's register of dogs. This is due to that any dog owner can register their dog as whatever breed they would like, meaning that the statistical data that I received and analysed may not be an accurate representation of the true status of all individuals. If a dog owner submits a breed that does not occur in the dog registry, then the dog will be registered as a mixed breed of dog (Sarenbo & Striwing, 2024).

It would be interesting to examine American Bully breed is overrepresented in other areas besides ownership changes, such as legal cases and advertisements. Future studies are needed to better understand this new breed of dog.

5 Conclusions

The American Bully is a powerful breed of dog that is marketed as a pure companion dog even though it has great needs of mental and physical stimulation. The breed is increasing in popularity in Sweden, especially in the counties with large cities. The results of this study show that the breed is overrepresented when it comes to frequency of changing owners, with the observed value in 2023 being more than eight times higher than the expected value. Despite being a rare breed of dog, the breed is the second on most common to change owners in 2023. During that year, dogs of American Bully changed owners ten times more often than dogs of the most popular breed in Sweden, the Labrador Retriever. Of the total number of American Bully dogs registered in 2023, more than 14 % changed owners during the year. Why dogs of American Bully breed are changing owners more frequently than other breeds of dogs is unknown, but a possible explanation could be the way that the breed is marketed. The results of this study show that breeders are prone to describe the dog's appearance and blood lines more than the dog's mentality and needs. Many owners breed their dogs with seemingly only regards to their appearance and without any regard of the dog's health and genetics. The reviewed legal cases in this study have shown that dogs of American Bully breed can cause great deal of harm to both adults and children in many different environments and during different circumstances, which can be used as an argument to change the narrative of the breed being marketed as a lazy family dog. Instead, it should be marketed as a dog with great needs for physical and mental stimulation to ensure the welfare of the dogs, and to prevent injuries to animals and people. American Bully clubs could create a breeding program as a possible way of correcting the current problems with health and aggressive behaviour in the breed. More studies are needed to evaluate the breeds health and behaviour.

6 Ethics

I have followed the requirements for honesty, openness, orderliness, consideration, and fairness according to Gustafsson et al. (2005) report of good research ethics. All documents in this study regarding personal details have been managed with care. No documents have been printed out or shared with others to protect the integrity of the people in the documents. I have also kept from publishing certain information from advertisements and court documents with regard of keeping the integrity of the dog owners and defendants.

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Appendix

Appendix 1. List of the categories used for reviewing advertisements on Blocket.se. The list also has a description of each category and what types of answers that were noted in each category.

Variable	Description	Answer
Type of advert	If the advert was for puppies, adolescent dogs or adult dogs	Puppy, adolescent, adult
Breed of dog	What breed of dog was in the advert	American Bully, mixed breed
Gender of dog	What gender the dog had in the advert	Male, female, both, no information
Size of dog	What size of dog was in the advert	Pocket, Standard/Classic, XL, XL/Extreme, XXL, Extreme, Pocket/Exotic, not specified
Colour of the dog	What colour the dog had in the advert	If there was no information about the colour in the advertisement's description, I looked at the advertisements pictured and wrote down the colours that I could see. One colour, two colours, three colours, several colours, merle. Some advertisements did not have any photographs or description of the dog's colour.
Number of dogs	How many dogs was in the advert	I noted the number of dogs that were in the advert. In some advertisements it said that there were 9 puppies in the litter, and only three was available for sale. Then I noted three.
Kennel name in the advert	If the advertiser had a kennel name, or wrote about a kennel name in the advert	Yes/no
Pedigree in the advert	If the advert contained information about if the dog had a pedigree/slip	Yes/no
ID-tagged	If the advert contained	Yes/no

	information about if the dog was ID-tagged	
Mentioned mentality	If the advert contained information about the mentality of the dog or the breed of the dog	Yes/no
Requests of buyers	If the sellers had any requests on who should/could buy their dog	Noted down a summary if they had any requests, or no information
Used to children/Good with children	If the advert contained information about the dog being used to children or good with children	Yes, no, no information
Used to dogs/Good with dogs	If the advert contained information about the dog being used to dogs or good with dogs	Yes, no, no information, certain dogs (males, females, neutered dogs)
Rehoming of dog	If the advert was for rehoming of a dog, or if the dog owners were looking for a co-host to their dog	Yes, no, co-host, no information
Information about the advert	If the advert had information about why they were rehoming their dog, why they were looking for a second host for their dog, if their dog had any issues or problems	Noted down a summary of what was said in the description of the advert. No information
Cost	What cost the dog was advertised for	The advertised cost
County	What county the location was located in	County

Appendix 2

Lists of the top ten breeds that had the most ownership changes in the dog registry from 2018 to 2023.

	2018	***Number of ownership changes***
1	Mixed breed	5990
2	German shepherd	567
3	French Bulldog	516
4	American Staffordshire Terrier	391
5	Chihuahua, long haired	381
6	Chihuahua, short haired	367
7	Labrador Retriever	361
8	Jack Russel Terrier	328
9	No registered breed	282
10	Siberian Husky	239

	2019	
1	Mixed breed	6250
2	French Bulldog	669
3	German shepherd	541
4	American Staffordshire Terrier	418
5	Chihuahua, long haired	414
6	Labrador Retriever	412
7	Chihuahua, short haired	340
8	Jack Russel Terrier	314
9	No registered breed	304
10	Pomeranian	290

	2020	
1	Mixed breed	6345
2	German shepherd	685
3	French Bulldog	644
4	Labrador Retriever	468
5	Chihuahua, long haired	450
6	American Staffordshire Terrier	438
7	Chihuahua, short haired	415
8	Pomeranian	400
9	**American Bully**	**389**
10	No registered breed	312

	2021	Number of ownership changes
1	Mixed breed	6308
2	German shepherd	708
3	French Bulldog	660
4	Pomeranian	521
5	Labrador Retriever	518
6	**American Bully**	**517**
7	No registered breed	500
8	Chihuahua, long haired	377
9	American Staffordshire Terrier	369
10	Siberian Husky	315

	2022	
1	Mixed breed	6440
2	**American Bully**	**748**
3	German shepherd	733
4	French Bulldog	557
5	Labrador Retriever	554
6	Pomeranian	455
7	Chihuahua, long haired	396
8	Siberian Husky	370
9	American Staffordshire Terrier	363
10	No registered breed	322

	2023	
1	Mixed breed	6373
2	**American Bully**	**781**
3	German shepherd	642
4	Labrador Retriever	582
5	French Bulldog	550
6	Pomeranian	528
7	No registered breed	383
8	Chihuahua, long haired	379
9	American Staffordshire Terrier	318
10	Golden Retriever	315