The effect of adopter's gender on shelter dog selection preferences

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Abstract

A retrospective analysis of dog adoption records was performed with the aim to determine the differences in preferences of male and female adopters in the Czech Republic. From January 1, 2010 to December 31, 2016, 955 dogs were adopted out of a selected shelter. Significantly ($P = 0.03$) more dogs were adopted by women than by men (52.6% vs 47.4%, respectively). No preference ($P = 0.06$) for adopting a dog of the same or opposite sex as the adopter's was found. Women adopted more ($P = 0.02$) small dogs and men more ($P = 0.004$) large dogs, while the adoption rate of medium dogs did not differ ($P = 0.16$) between men and women. Significantly more ($P = 0.05$) older dogs were adopted by women than by men. With the exception of brown dogs (adopted more often by women) and black dogs with dark markings (adopted more often by men), dogs with different coat colors were adopted equally by men and women. No difference was found between the ratio of crossbred and purebred dogs adopted by men and women. This study fills gaps in scientific knowledge on adopters' preferences. Women are more willing to adopt dogs including those that may require special care (older dogs). However, women are less likely to adopt large dogs. The lower number of male adopters may be the reason why large dogs are often reported to be difficult to rehome. To remedy this, shelter operators should explore ways how to address men if they have large dogs available for adoption.

Canine, adoption, sex, age, size, colour

Numerous studies have focused on different factors affecting potential adopters when they consider which shelter dog to adopt. Factors affecting the adoption of shelter dogs are usually divided into animal-related factors and shelter-related factors. Animal-related factors include physical appearance (size, coat colour, breed) and behaviour of the dog entering the shelter. Shelter-related factors include the shelter environment, staff (experience, communication skills), and management. Adopter-related factors have been much less studied so far. However, whether a relationship develops between the dog and the adopter depends on both of them and their compatibility. Multiple factors can interfere with the bond between dogs and humans. Sometimes a dog may just not meet the adopter's expectations (Mondelli et al. 2004). Considering the fact that adopters held particularly high expectations for dogs, higher than for cats (Kidd et al. 1992; O'Connor et al. 2016), understanding dog adopters' expectations is crucial. Studies investigating what people want from an "ideal dog" revealed significant differences between men and women as well as between respondents in different countries (King et al. 2009; Diverio et al. 2016). While Australian men preferred female dogs and women preferred male dogs (King et al. 2009), completely opposite preferences were found among Italian respondents to the same survey: men preferred male dogs and women preferred female dogs (Diverio et al. 2016). Insight into adopters' preferences and expectations is important for shelter workers assisting potential adopters to choose a dog from a shelter. Their ability to direct people to the dog that is a good match for them is crucial not only from the short-term perspective, for reasons such as getting the dog adopted so that it leaves the shelter, but also from the

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long-term perspective, i.e. to reduce the number of dogs that are returned to the shelter when a bond between them and their new adopters fails to develop. The risk of not bonding seems to be even higher in male adopters. Men were reported to reject a significantly higher percentage of pets than women did (Kidd et al. 1992).

The aim of this study was to assess the differences in preferences of male and female adopters who adopted dogs from the Czech animal shelter.

Materials and Methods

A retrospective analysis of dog adoption records was performed in a dog shelter located in the Czech Republic. In the monitored period (January 1, 2010 to December 31, 2016), a total of 955 dogs were adopted out of the selected shelter. The adopter was recorded for 951 (99.6%) dogs and only those were included in further analysis. Analyzed records for each dog included data on sex, size, approximate or known age, coat colour and purebred status. The adopter's gender was also taken into account. Male and female categories were used to determine the dog's sex. Three size categories were used by shelter staff to indicate the size of each dog: small, medium and large. Based on estimated or known ages, the dogs were divided into four age categories: puppies (younger than 4 months), young adult dogs (aged 4 months up to 5 years), older adult dogs (dogs aged 5 years up to 10 years), and geriatric dogs (aged 10 years and more).

Shelter dogs were described by primary coat colour in recorded data and often with a secondary coat colour. Colours used for descriptive purposes were not standardized and 55 different colours were included in the records. These 55 colours were categorized into nine categories:
1. white (white, white cream, white with black dots);
2. yellow (yellow, yeallow-white, white-yellow, pale yellow, yellowish cream, sandy, yellow with white spots, gold, fawn);
3. grey (grey, grey-white, grey-yellow, grey cream, wolf grey, dark grey, light grey, grey-beige, silver, blue);
4. red;
5. brown (brown, brown brindle, brown-grey, grey-brown, dark brown, light brown, brown with white spots, brown-white, yellow-brown);
6. black;
7. black with dark markings (black and tan, black with brown spots, black and grey, black-brown, brown-black, grey-black, dark);
8. black with light markings (black with white spots, black with a white head, black with a white chest, black with white paws, black-white, white-black, black-yellow, black-beige, beige-black, black-silver);
9. other (tricolor, apricot, brindle, white-brown, white-red).

Breed was recorded for dogs with characteristics that made its breed recognizable – these dogs were categorized as purebred. Dogs that were not recognized as any particular breed were recorded as mixed-breed (crossbred).

The gender of adopter (man, woman) was determined by the name of the person who signed the adoption contract for an individual dog.

The results were analyzed using the statistical package Unistat 5.6. (Unistat Ltd., London, England). Six independent variables were constructed from the shelters' original information regarding adopted dogs: sex (2 levels: male, female), size (3 levels: small, medium, large), age (4 levels: puppies, young adults, older adults, geriatric dogs), coat color (9 levels: white, yellow, grey, red, brown, black, black with dark markings, black with light markings, other), purebred status (2 levels: purebred, crossbred) of the dog, and gender of the adopter (2 levels: man, woman). Firstly, actual and relative counts (frequencies) of dogs and their adopters in all categories according to the monitored independent variables were calculated and differences among these categories were tested. Frequencies were compared on the basis of a chi-square analysis of k × m and 2 × 2 contingency tables (Zar 1999). A P value ≤ 0.05 was considered significant.

Results

Significantly ($P = 0.03$) more dogs adopted from the shelter under study were adopted by women (500; 52.6%) compared to men (451; 47.4%). No preference ($P = 0.06$) for adopting a dog of the same or opposite sex as the adopter's was found in either men or women. Male and female dogs were adopted equally by men and women (Fig. 1).

The size category was recorded for 926 (97.4%) of the adopted dogs. Relative numbers of dogs of different size categories adopted by men and women are presented in Fig. 2. Significantly more ($P = 0.02$) small dogs were adopted by women (199; 40.9%) than by men (146; 33.3%) whereas significantly ($P = 0.004$) more large dogs were adopted by men (103; 23.4%) than by women (77; 15.8%). No difference ($P = 0.16$) was found
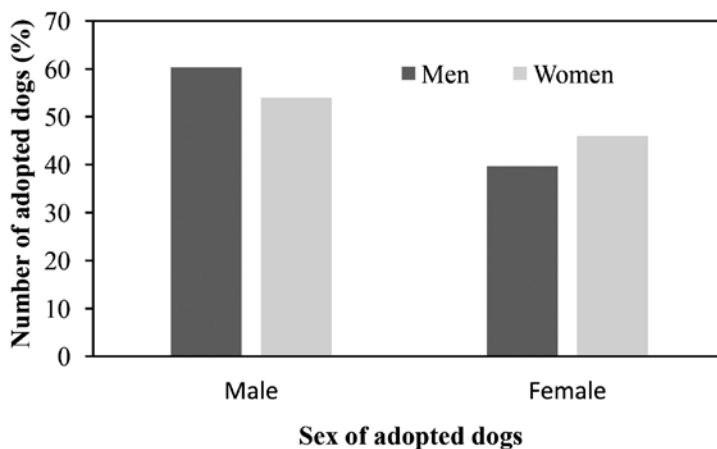
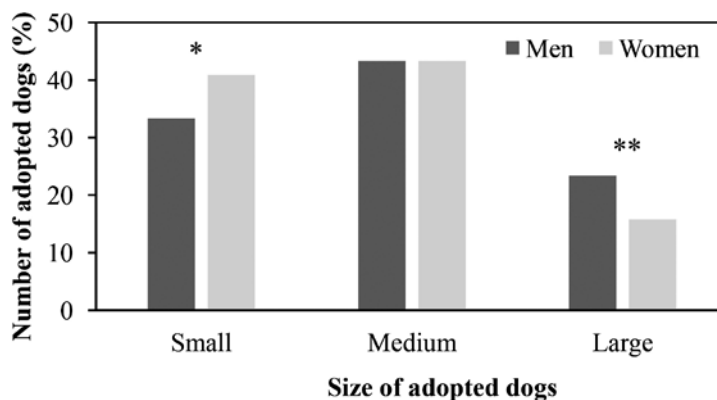Fig. 1. Relative numbers of male and female dogs adopted by men and women.

Fig. 2. Relative numbers of dogs in different size categories adopted by men and women.
* number of small dogs adopted by men and women differed significantly ($P = 0.02$)
** number of large dogs adopted by men and women differed significantly ($P = 0.004$)

between the number of medium sized dogs adopted by men (190; 43.3%) and women (211; 43.3%).

Estimated or known age was recorded for 892 (93.8%) of the adopted dogs. Among them, puppies and young adult dogs made up 89.4%. Relative numbers of dogs of different age categories adopted by men and women are shown in Fig. 3. No difference was found between the number of puppies ($P = 0.88$) adopted by men (159; 37.4%) and women (178; 38.1%) as well as between the number of young adult dogs ($P = 0.10$) adopted by men (232; 54.6%) and women (228; 48.8%). Significantly more ($P = 0.05$) older adult dogs were adopted by women (53; 11.3%) than by men (31; 7.3%). Only 11 adopted dogs were aged 10 or more years (geriatric dogs). Eight of them were adopted by women and three of them by men. The difference was not significant ($P = 0.10$).

Coat colour was recorded for 938 (98.6%) of the adopted dogs. The most frequent coat color was black (188). The least frequent coat color was red (29). The numbers of

dogs adopted by men and women within the coat color categories used in this study are given in Fig. 4. No differences in preferences between men and women were found with the exception of brown dogs and black dogs with dark markings. Significantly more ($P = 0.04$) brown dogs were adopted by women (73; 14.9%) than by men (46; 10.3%). Significantly more ($P = 0.001$) black dogs with dark markings were adopted by men (101; 22.6%) than by women (67; 13.6%).

Purebred/crossbred status was recorded for 944 (99.3%) of the adopted dogs. Most dogs (718; 76.1%) were not recognized as any particular breed and thus recorded as crossbreds. No difference ($P = 0.60$) was found between the ratio of crossbred and purebred dogs adopted by men (76.9% vs. 23.1%) and women (75.2% vs. 24.8%) as shown in Fig. 5.

Discussion

In 2003, Marston and Bennett (2003) pointed out the fact that there has been surprisingly little study of the characteristics of dog adopters. They underlined the need to describe adopters in both physical and psychological sense in future research since such information would be invaluable in attempting to match an owner and a dog. Fifteen years later the deficiencies in our knowledge in this area persist. In shelter studies, demographic data on adopters are often included only to present information on respondents to surveys analyzing characteristics of adopted dogs and not the adopters themselves. Such data, however, do not represent an objective characteristic of people who adopt animals but only those who were willing to engage in a particular survey. Additionally, it is not certain whether the respondents provide genuine data. It is extremely difficult to obtain factual data on adopters, as beyond the conversation between potential adopters and shelter staff there are usually no hard data acquired, verified, written down
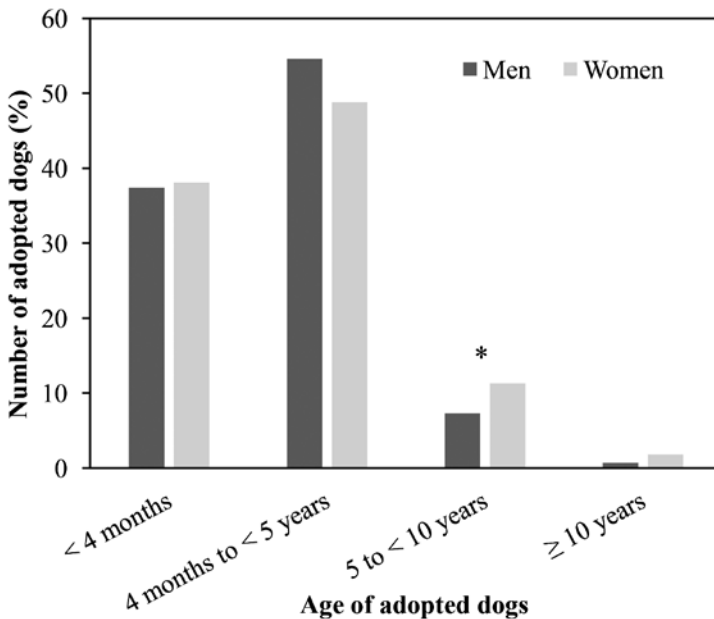

Fig. 3. Relative numbers of dogs in different age categories adopted by men and women.
* number of dogs aged 5 up to 10 years adopted by men and women differed significantly ($P = 0.05$)
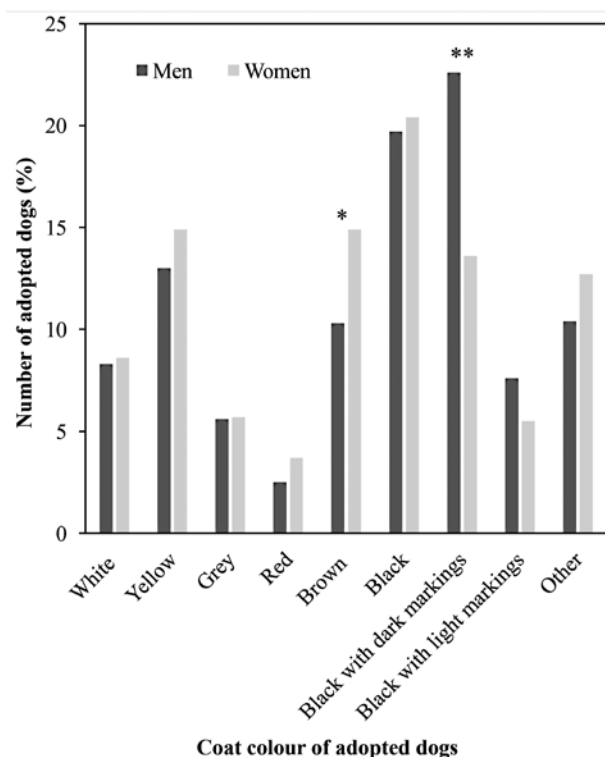
Fig. 4. Relative numbers of dogs of different coat colour adopted by men and women.
* number of brown dogs adopted by men and women differed significantly ($P = 0.04$)
** number of black dogs with dark markings adopted by men and women differed significantly ($P = 0.001$)
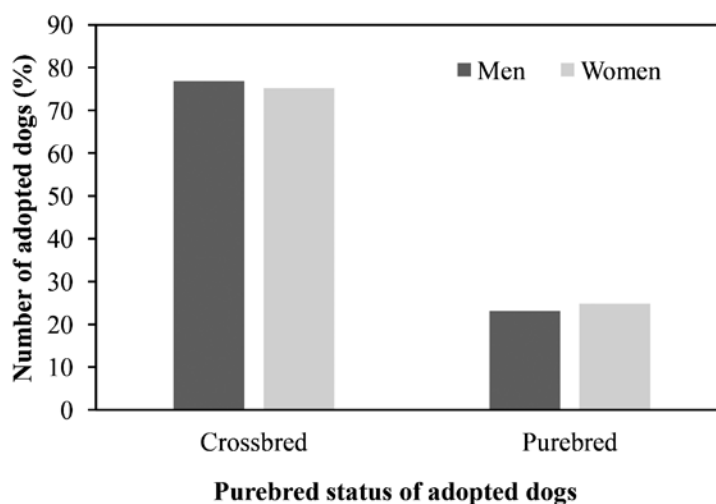

Fig. 5. Relative numbers of crossbred and purebred dogs adopted by men and women.

or archived in shelter records during the adoption process. In shelters where adopters are asked to provide their ID and sign an adoption contract, the gender of the adopter can be retrieved from the archives as one of the few characteristics that are available for analysis. The shelter under our study followed such policy and thanks to gender-marked suffixes stipulated by Czech grammar rules, the gender of a person could be recognized straight away from the adopter's name regardless of the context.

Previous studies have clearly shown that men and women differ in their expectations and what they consider important in an "ideal dog" (Kidd et al. 1992; King et al. 2009; Diverio et al. 2016). Furthermore, they differ also in their willingness to adopt a shelter animal. In a Taiwanese survey, more women expressed willingness to consider adopting dogs or cats from public shelters than men (Lam and Wu 2011). The finding is consistent with our results. During the 7-year period, more women (52.6% vs 47.4% men) adopted a dog from the monitored shelter. Nevertheless, the difference between men and women was not as significant as was found among cat adopters in the Czech Republic: Kubesova et al. (2017) reported three quarters (76.2%) of shelter cats being adopted by women. The predominance of women among dog and cat adopters was found also by Normando et al. (2006) in Italy and Zito et al. (2015) in Australia. Correspondingly, in studies reviewing gender differences in human - animal interactions, women showed a higher level of positive behavior and attitude toward animals (Herzog 2007). They also expressed more concern for the welfare of individual animals and were more sympathetic than men toward animal welfare (Kellert and Berry 1987). Interestingly, such a setting is mutually beneficial: Cline (2010) found gender differences in the relationship between dog ownership and well-being, with women being more likely to benefit from dog ownership. Similarly, Zasloff and Kidd (1994) suggested that having a pet can help to diminish feelings of loneliness, particularly for women living alone, and compensate for the absence of human companionship.

In contrast to several other studies (Kidd et al. 1992; King et al. 2009; Diverio et al. 2016) presenting different preferences of men and women considering the sex of their dog, no significant difference was found in our study. Both male and female dogs were equally adopted by adopters of both genders. Moreover, shelter studies from across the world show that sex-dependent characteristics may be perceived differently by adopters in different communities. Consistently with the results of a survey looking into the Italian concept of an ideal dog published by Diverio et al. (2016), Normando et al. (2006) found a significant difference between female and male adopters with regard to the sex of adopted dogs, finding that men adopted significantly more male dogs than female dogs from an Italian shelter. Diesel et al. (2007) reported female dogs to be preferred over male dogs in UK shelters, whereas male dogs were adopted in preference to female dogs in Brasil (Soto et al. 2005). However, Brown et al. (2013) found no difference between the sexes of dogs adopted from US shelters. Considering the overall number of dogs adopted from the shelter monitored in our study, more male dogs were adopted but it was solely due to them being more numerous than females in the shelter. The differences across studies may result either from varying preferences of people of different nationalities or just from the fact that it is now common practice in many shelters to spay/neuter dogs before adoption, thus making the dog's sex a less important feature for adopters.

On the contrary, the dog's size is an ultimate characteristic with practical implications (e.g. housing space, maintenance costs, and physical strength). The effect of size on the dog's adoption potential is consistent across studies with small dogs being adopted more readily than larger dogs (Posage et al. 1998; Marston et al. 2005; Brown et al. 2013; Siettou et al. 2014; Zak et al. 2015). However, the authors did not consider

the adopter's gender. As shown in our study, women preferred small dogs whereas large dogs were more often adopted by men. Given the fact that the majority of people adopting dogs from shelters are women, larger dogs may and do get more difficult to rehome. Our results suggest that shelter operators should be looking for ways how to attract more men in order to increase the adoption rates of large dogs.

Preference of puppies and young dogs over older dogs was uniformly reported (Patronek et al. 1995; Hart et al. 1998; Lepper et al. 2002; Prato-Previde et al. 2003; Brown et al. 2013; Zak et al. 2015). In our study, dogs aged less than 5 years made up almost 90% of adopted dogs and were equally adopted by both men and women. However, older dogs were predominantly adopted by women. Older dogs may require extra care due to the increased risk of health issues and their adopters need to be willing to provide such care. Older dogs may not meet the "healthy and long-lived" attributes of an ideal dog as identified by the Italian as well as Australian public (King et al. 2009; Diverio et al. 2016). However, whereas most respondents in the Italian study indicated that their ideal dog would be acquired as a puppy, women were more inclined to adopt an adult dog and confirmed their willingness to invest more time and effort with their pet (Diverio et al. 2016).

In the monitored shelter, dogs of a wide variety of coat colours and patterns were involved in our study. Using nine coat colour categories based on the predominant shade perceived by adopters, we attempted to discover gender differences in their preferences but no clear pattern was found. With the exception of brown dogs (adopted more often by women) and black dogs with dark markings (adopted more often by men) dogs with different coat colours were adopted by men and women equally. In both surveys describing ideal dogs, most people (64.7% of Australian respondents and 76.1% of Italian respondents) indicated that the coat colour was unimportant (King et al. 2009; Diverio et al. 2016). No effect of coat colour on the choice criteria in adopting a shelter dog was reported by Brown et al. (2013), although the authors admitted it was unexpected. In most studies, the coat colour of shelter dogs has been reported to influence adoption success (Posage et al. 1998; Lepper et al. 2002; Diesel et al. 2007; Goleman et al. 2014; Voslarova et al. 2019), although there is no consistency in the preferred and unfavoured coat colours across the studies. Brown et al. (2013) suggested that the coat colour may have only a local effect that does not generalize to all shelters. Diverio et al. (2016) concluded that when an adopter chooses a dog, a visually attractive dog may draw their attention more than an ordinary looking dog. Therefore, despite the fact that the coat colour of an ideal dog is reported to be unimportant, it might affect the adopter's choice in practice. However, coat colour as a single feature does not seem to be a strong predictor of the dog's adoption potential either generally or gender-dependently. The results of multiple studies including ours do not corroborate the notion of a "black dog syndrome" as a phenomenon in which black dogs are overlooked for adoption in favour of lighter-coloured animals.

Unlike the coat colour, the purebred/crossbred status was one of the characteristics considered important in an ideal dog. Almost half (40.6%) of the Australian respondents indicated that their ideal dog would be purebred, with more men than women preferring purebred dogs (King et al. 2009). Similarly, 69.2% of the Italian male respondents preferred purebred dogs whereas 56.6% of the Italian female respondents preferred crossbred dogs (Diverio et al. 2016). No difference was found between the ratio of crossbred and purebred dogs adopted by men and women in our study. Supposedly, those who wish to acquire a particular breed of dog will more likely contact a breeder. Purebred dogs are scarce in dog shelters (Voslarova et al. 2015). In the monitored shelter, only 23.9% of dogs were recognized as a particular breed and none of them had a pedigree as a proof of

origin. Willingness to adopt or even preference of crossbred dogs may be another reason why women prevail among the adopters of shelter dogs.

In conclusion, this study fills gaps in scientific knowledge on adopters' preferences. Our results confirmed the predominance of women among the adopters of shelter dogs. Women were not only more inclined to adopt dogs, they were even more willing to adopt dogs that may require special care, i.e. older dogs. On the other hand, women were less likely to adopt large dogs. A lack of men among adopters may be the reason why large dogs are often reported to be difficult to rehome. To remedy this, shelter operators should explore ways to address men if they have large dogs available for adoption.

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