The effects of video footage versus photographs on perception of dog behavioral traits
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ABSTRACT

Photographs are frequently used to promote adoption of dogs on rescue shelter websites. Whilst physical traits are well illustrated via photographs, conveying a dog's behavioral traits is more problematic. Traits such as sociability, obedience and friendliness are likely to be better displayed via video footage. This study explored the effects of video versus photographs on perception of dog behavioral traits. Four dogs from a Gloucestershire Rescue Shelter (two desirable breeds; two from a stigmatized breed) were individually photographed and a 30 second video of each was recorded. Two questionnaires were produced containing either a video or photograph of each dog. Each questionnaire presented all four dogs but via different media. Participants rated their agreement with 12 statements relating to their perception of the dog seen. Dogs viewed via video were considered to be more trainable, intelligent, friendly and gentle, and less dominant, aggressive and unsociable. This was observed in desired and stigmatized breeds. Perceived behavioral traits can impact on likelihood of adoption. These findings suggest that greater use of video footage by rehoming shelters could help promote adoption of dogs.

KEYWORDS: photograph, video, dog adoption, behavioral traits, rehoming

INTRODUCTION

Every day in the United Kingdom approximately 307 stray dogs are taken into rescue shelters (Dogs Trust, 2014). Shelters are stressful environments due to their associated social and spatial restrictions (Beerda, Schilder, Van Hooff, De Vries, & Mol, 1999; Hiby, Rooney, & Bradshaw, 2006; Taylor & Mills, 2007). Space in rescue shelters is also at a premium, which

can lead to euthanasia due to insufficient kennel capacity (Clevenger & Kass, 2003; Moulton, Wright, & Rindy, 1991; Wenstrup & Dowidchuk, 1999). There is therefore a key focus in rescue shelters on promoting adoption of their dogs. Shelters use techniques such as training and socialization programmes in order to reduce unwanted behaviors and enhance desirable behaviors (e.g., Luescher & Medlock, 2009; Normando et al., 2006; Normando, Corain, Salvadoretti, Meers, & Valsecchi, 2009).

Physical traits, such as breed, appearance and paedomorphic traits like large eyes or upturned commissure impact on people's preference for dogs (Hecht & Horowitz 2015; Lepper, Kass, & Hart, 2002; Weiss, Miller, Mohan-Gibbons, & Vela, 2012). These physical traits can influence the probability of adoption (e.g., Lepper et al., 2002; Weiss et al., 2012). However perception of a dog's behavioral traits is also highly important in determining whether rehoming occurs (e.g., Protopopova & Wynne, 2014; Weiss et al., 2012; Wells & Hepper, 1992). Behavioral traits such as a dog's sociability, obedience and friendliness can all impact on the likelihood of adoption (Marston & Bennett, 2003; Weiss et al., 2012; Wells & Hepper, 2000).

Photographs are frequently used as the primary medium to promote the adoption of dogs on rescue shelter websites (e.g., Blue Cross, 2015a; Dogs Trust, 2015a; RSPCA, 2015). Whilst physical traits can be illustrated well via a photograph, conveying a dog's behavioral traits via this medium is more problematic. Photographs are not well suited to display behavioral traits that are important to potential adopters such as interacting friendlily with visitors and being obedient (Marston & Bennett, 2003; Weiss et al., 2012; Wells & Hepper, 2000).

Whilst the use of video is increasing on rescue shelter websites (e.g., Blue Cross, 2015a; Dogs Trust 2015a), many shelters still use photographs as their main method to encourage adoption of their animals. The use of video may have a greater impact on adopters than

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photographs by enabling desirable behaviors to be viewed, as well as conveying a more positive view of the behavioral traits of the dog. Videos may therefore be more effective at promoting the adoption of shelter dogs. This study explored the effects of video footage and photographs on viewers' perception of dog behavioral traits. Given the potential for video footage to better display desirable canine behavior it is hypothesized that viewing dogs via video as opposed to photographs will improve participants' perception of the dogs' behavioral traits.

METHODS

Participant Recruitment

Data for this study was analyzed from seven hundred and thirty five British participants (363 participants for questionnaire 1; 372 participants for questionnaire 2). The online questionnaires were shared on local community groups and pages associated with public interest in dogs, animals, animal behavior and animal welfare on the social media website Facebook™. The two different questionnaires were shared on distinct pages and groups in order to attempt to ensure that individuals only saw and completed one version of the questionnaire. Participants were required to be over the age of 18 in order to complete the questionnaire. This ensured that only the viewpoints of adults of age to adopt an animal from a shelter were collected. No identifying personal data were collected, and participants were reassured that all responses were voluntary, data remained anonymous, and all information collected was held securely. Participants provided informed consent. The study was approved by the institutional Research Ethics Committee.

Production of dog photographs and videos:

Four dogs from Teckels Animal Sanctuary (Gloucestershire, UK) were used in this study to generate photographs and videos. These dogs were an 11 year old male Staffordshire Bull Terrier (dog 1), a 3 year old female Staffordshire Bull Terrier (dog 2), a 5 year old female Cavalier King Charles Spaniel-Chihuahua cross (dog 3) and a 5 year old female toy Poodle (dog 4). The Staffordshire Bull Terriers were chosen as examples of a "less desirable breed" and the Cavalier King Charles Spaniel-Chihuahua cross and toy Poodle were chosen as "more desirable breeds." The Staffordshire Bull Terrier is a stigmatized breed commonly found in rescue shelters and which are often difficult to rehome (RSPCA, 2008; Wells & Hepper, 1992). The Dangerous Dogs Act (1991) identifies dogs of the Pit Bull Terrier type as warranting special attention. Whilst Staffordshire Bull Terriers are not a listed dangerous breed they are often misidentified as being of the Pit Bull Terrier type (Hoffman, Harrison, Wolff, & Westgarth, 2014; Sandys-Winsch, 2011). In addition to their legal status as a dangerous dog, Pit Bull Terrier types, and dogs misidentified as Pit Bull Terrier types, are often represented in the media as being vicious, aggressive and unpredictable (Cohen & Richardson, 2002; Hallsworth, 2011; Podberscek, 1994). This stigma contributes towards the number of Staffordshire Bull Terriers in rescue shelters and the difficulty in rehoming these dogs. Cavalier King Charles Spaniels, Chihuahuas and toy Poodles are popular breeds in the UK (The Kennel Club, 2014) for which rehoming is generally less problematic (RSPCA, 2008; Wells & Hepper, 1992).

A 30 second video per dog was produced using clips of each dog during a walk. In each video, the dog was filmed walking on the same route, engaging in human social interaction and displaying basic lead walking. The video was 30 seconds in length in order to maintain viewer engagement. An example of a sample video can be seen here: https://www.youtube.com/watch?v=EOwwdvnbjSE. A photograph of each dog was also taken (Figure 1). Consistency between photographs was maintained by taking each

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photograph in similar surroundings and ensuring that the dog was facing the camera. Videos were recorded and photographs taken using a Sony Cybershot Video Camera. Videos were produced using the video editing software Windows Movie Maker™. Each video was uploaded to the video sharing website YouTube™.

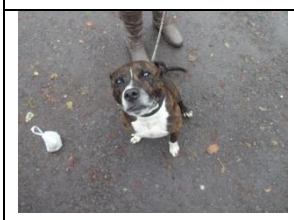
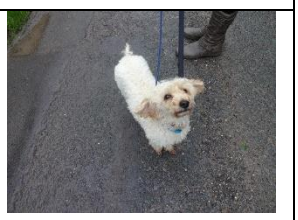
Dog 1: Staffordshire Bull Terrier	Dog 2: Staffordshire Bull Terrier	Dog 3: Cavalier King Charles Spaniel-Chihuahua cross	Dog 4: Toy Poodle
			

Figure 1: Photographs of the dogs used within the questionnaire (Dog 1: Staffordshire Bull Terrier; Dog 2: Staffordshire Bull Terrier; Dog 3: Cavalier King Charles Spaniel-Chihuahua cross; Dog 4: Toy Poodle)

Questionnaire Design:

In order to compare differences in perception of dog behavioral traits via video and photograph, two different questionnaires were produced. Questionnaire 1 contained the photographs of dog 1 and 3, and links to the videos of dog 2 and 4 and vice versa for questionnaire 2. After each photograph or video participants were asked to consider 12 statements relating to their perception of the behavioral traits of the dog. Agreement with

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statements was rated on a 5-point Likert-type scale ranging from "strongly disagree" to "strongly agree." Multiple descriptive traits were selected related to desired (Trainable; Intelligent; Friendly; Gentle; Playful; Obedient) and undesired (Dominant; Aggressive; Assertive; Unsociable; Hyperactive and Fearful) canine behavioral traits (as defined by King, Marston, & Bennett, 2009; Landsberg, Hunthausen, & Ackerman, 2012; Protopopova & Wynne, 2014; Serpell, 1996) (Table 1).

Table 1: Statements pertaining to behavioral traits of the dog viewed

Desired canine traits	Undesired canine traits
The dog appears trainable	The dog appears dominant
The dog appears intelligent	The dog appears aggressive
The dog appears friendly	The dog appears assertive
The dog appears gentle	The dog appears unsociable
The dog appears playful	The dog appears hyperactive
The dog appears obedient	The dog appears fearful

Statistical Analyses:

The effects of viewing videos or photographs of dogs on perception of the dog's behavioral traits was analyzed using the Mann Whitney U test. Analysis of individual statements relating to behavioral traits of the dogs was performed. Single statement analysis occurred as these are individual traits that are considered important in an 'ideal dog' or impact on likelihood of adoption (King et al., 2009; Marston & Bennett, 2003; Serpell, 1996; Weiss et al., 2012; Wells & Hepper, 2000). This was investigated both in terms of the individual dogs and when

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considering photographs versus videos for all dogs. All analyses were carried out in SPSS (version 20.0, SPSS Inc., 2011).

RESULTS

There was a significant difference in the perception of the dogs' behavioral traits when comparing videos to photographs of the dogs. This was seen for each individual dog and when all dogs were considered.

Desired Canine Traits:

When the videos of the dogs were viewed there was higher agreement with statements indicating that the dogs appeared trainable, intelligent, friendly and gentle. Dogs were also perceived as more playful in the video compared to the photograph for all dogs, bar the toy Poodle (dog 4), where no significant difference was found between the photograph and the video. The dogs were considered to appear to be more obedient when viewed in videos in all cases bar one of the Staffordshire Bull Terriers (dog 1) which was perceived as more obedient in the photograph, and the Cavalier King Charles Spaniel-Chihuahua cross (dog 3) where no significant difference was found between the photograph and the video (Table 2).

Table 2: Analysis of impact of viewing photographs or videos of the dogs upon perception of desired canine behavioral traits

Statement	Dog	Mean Rank	*U*	*Z*	*r*	*p*

The dog appears trainable	Dog 1: Staffordshire bull terrier	Photo: 321.01 Video: 408.15	50545.0	-6.379	-.236	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 278.88 Video: 448.76	34910.0	-11.985	-.445	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 298.43 Video: 426.80	42578.0	-9.369	-.348	<.0005
	Dog 4: Toy Poodle	Photo: 267.99 Video: 461.68	30725.0	-13.384	-.497	<.0005
	All dogs	Photo: 1162.51 Video: 1744.49	632792.5	-20.686	-.384	<.0005
The dog appears intelligent	Dog 1: Staffordshire bull terrier	Photo: 322.90 Video: 399.93	51406.5	-5.557	-.207	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 291.48 Video: 430.29	39812.5	-9.817	-.366	<.0005
	Dog 3: Cavalier King Charles	Photo: 318.96 Video: 406.83	49925.5	-6.231	-.231	<.0005

	spaniel-Chihuahua cross					
	Dog 4: Toy Poodle	Photo: 295.96 Video: 433.31	40943.0	-9.484	-.352	<.0005
	All dogs	Photo: 1226.23 Video: 1669.00	727174.5	-15.580	-.290	<.0005
The dog appears friendly	Dog 1: Staffordshire bull terrier	Photo: 265.75 Video: 457.66	30784.5	-13.242	-.492	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 242.33 Video: 482.67	21898.0	-16.380	-.609	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 253.80 Video: 471.61	26601.0	-15.101	-.560	<.0005
	Dog 4: Toy Poodle	Photo: 309.38 Video: 417.97	46014.0	-7.485	-.278	<.0005
	All dogs	Photo: 1070.07	500762.5	-26.011	-.483	<.0005

		Video: 1829.36				
The dog appears gentle	Dog 1: Staffordshire bull terrier	Photo: 300.18 Video: 421.14	43319.5	-8.300	-.309	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 261.10 Video: 467.46	28295.5	-14.031	-.521	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 258.46 Video: 463.15	28466.0	-13.948	-.518	<.0005
	Dog 4: Toy Poodle	Photo: 268.22 Video: 459.42	30910.0	-13.206	-.491	<.0005
	All dogs	Photo: 1086.03 Video: 1809.22	524221.5	-24.750	-.460	<.0005
The dog appears playful	Dog 1: Staffordshire bull terrier	Photo: 247.90 Video: 471.38	24815.0	-15.255	-.568	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 218.20 Video: 512.04	12552.0	-19.791	-.735	<.0005

	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 232.65 Video: 486.83	19276.5	-17.313	-.644	<.0005
	Dog 4: Toy Poodle	Photo: 353.75 Video: 368.51	62300.0	-1.046	-.039	.296
	All dogs	Photo: 1048.60 Video: 1843.13	470485.0	-27.032	-.503	<.0005
The dog appears obedient	Dog 1: Staffordshire bull terrier	Photo: 391.00 Video: 333.87	55000.5	-4.002	-.149	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 322.07 Video: 406.08	50627.5	-6.039	-.224	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 367.40 Video: 360.69	64836.5	-.473	-.018	.636
	Dog 4: Toy Poodle	Photo: 256.36 Video: 476.36	26330.0	-15.074	-.558	<.0005

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	All dogs	Photo: 1330.53 Video: 1575.38	877057.0	-8.563	-.159	<.0005

Undesired Canine Traits:

When the videos of the dogs were viewed there was lower agreement with statements indicating that the dogs appeared dominant, aggressive and unsociable. Dogs were considered as less assertive in videos in all cases bar one of the Staffordshire Bull Terriers (dog 1) which was perceived as more assertive in the video, and the Cavalier King Charles Spaniel-Chihuahua cross (dog 3) where no significant difference was found between the photograph and the video. Mixed findings were seen regarding hyperactivity with the dogs being perceived as less hyperactive when seen in videos in all cases bar the Staffordshire Bull Terrier (dog 1) and Cavalier King Charles Spaniel-Chihuahua cross (dog 3). For both these dogs they were thought to be more hyperactive in the videos. Dogs were considered to appear less fearful when viewed in videos in all cases bar the Toy Poodle (dog 4) where no significant difference was found between the photograph and the video (Table 3).

Table 3: Analysis of impact of viewing photographs or videos of the dogs upon perception of undesired canine behavioral traits

Statement	Dog	Mean Rank	*U*	*Z*	*r*	*p*

The dog appears dominant	Dog 1: Staffordshire bull terrier	Photo: 382.57 Video: 344.85	59030.5	-2.554	-.095	.011
	Dog 2: Staffordshire bull terrier	Photo: 451.84 Video: 272.69	33363.0	-12.038	-.447	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 407.74 Video: 321.80	50430.0	-5.815	-.216	<.0005
	Dog 4: Toy Poodle	Photo: 447.29 Video: 276.89	34947.5	-11.678	-.433	<.0005
	All dogs	Photo: 1687.80 Video: 1218.04	713710.0	-15.915	-.295	<.0005
The dog appears aggressive	Dog 1: Staffordshire bull terrier	Photo: 438.02 Video: 287.07	37907.5	-10.805	-.402	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 458.93 Video: 263.92	30221.0	-13.428	-.499	<.0005
	Dog 3: Cavalier King Charles	Photo: 447.55 Video: 280.22	35224.5	-11.553	-.429	<.0005

	spaniel-Chihuahua cross					
	Dog 4: Toy Poodle	Photo: 450.21 Video: 273.88	33870.5	-12.123	-.450	<.0005
	All dogs	Photo: 1791.64 Video: 1105.83	551827.5	-23.783	-.442	<.0005
The dog appears assertive	Dog 1: Staffordshire bull terrier	Photo: 337.82 Video: 385.72	56679.0	-3.183	-.118	.001
	Dog 2: Staffordshire bull terrier	Photo: 415.01 Video: 312.59	47599.0	-6.783	-.251	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 374.27 Video: 351.88	61643.0	-1.486	-.055	.137
	Dog 4: Toy Poodle	Photo: 444.94 Video: 283.86	37208.0	-10.751	-.398	<.0005
	All dogs	Photo: 1566.74 Video: 1339.64	890611.0	-7.534	-.140	<.0005

The dog appears unsociable	Dog 1: Staffordshire bull terrier	Photo: 440.88 Video: 284.29	36888.0	-10.885	-.405	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 462.88 Video: 257.85	28148.5	-14.034	-.522	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 441.86 Video: 284.88	37103.5	-10.830	-.402	<.0005
	Dog 4: Toy Poodle	Photo: 406.55 Video: 314.41	48505.5	-6.245	-.232	<.0005
	All dogs	Photo: 1748.84 Video: 1140.90	604778.0	-20.765	-.386	<.0005
The dog appears hyperactive	Dog 1: Staffordshire bull terrier	Photo: 343.08 Video: 379.42	58590.0	-2.482	-.092	.013
	Dog 2: Staffordshire bull terrier	Photo: 395.27 Video: 331.03	54218.5	-4.361	-.162	<.0005
	Dog 3: Cavalier King Charles	Photo: 345.93 Video: 380.60	59580.5	-2.337	-.087	.019

	spaniel-Chihuahua cross					
	Dog 4: Toy Poodle	Photo: 448.88 Video: 271.94	33348.0	-12.098	-.450	<.0005
	All dogs	Photo: 1532.27 Video: 1365.67	928416.5	-5.655	-.105	<.0005
The dog appears fearful	Dog 1: Staffordshire bull terrier	Photo: 444.04 Video: 287.88	37964.5	-10.445	-.387	<.0005
	Dog 2: Staffordshire bull terrier	Photo: 443.88 Video: 277.28	35085.5	-11.505	-.428	<.0005
	Dog 3: Cavalier King Charles spaniel-Chihuahua cross	Photo: 411.73 Video: 312.91	47310.0	-6.864	-.255	<.0005
	Dog 4: Toy Poodle	Photo: 351.97 Video: 376.40	61613.5	-1.617	-.060	.106
	All dogs	Photo: 1652.67 Video: 1248.60	758298.0	-13.604	-.253	<.0005

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DISCUSSION

Our findings indicate that viewing dogs in videos as opposed to photographs tended to improve participants' perception of the dog's behavioral traits. Dogs viewed via video were considered to be more trainable, intelligent, friendly and gentle, and less dominant, aggressive and unsociable than when viewed via photograph. The perceived behavioral traits of a dog are important factors when adopting an animal (e.g., Protopopova & Wynne, 2014; Weiss et al., 2012; Wells & Hepper, 1992). Traits such as sociability, obedience and friendliness can all impact on likelihood of adoption (Marston & Bennett, 2003; Weiss et al., 2012; Wells & Hepper, 2000). Furthermore, being obedient, calm and friendly, and not being aggressive, hyperactive or fearful have been described as traits of an 'ideal' dog (King et al., 2009; Serpell, 1996). These traits, which are important in a potential companion animal, are perceived as being more evident in dogs viewed via video than photograph. The more positive portrayal of dogs via video could be suggested to indicate that this form of media is likely to be most beneficial when advertising dogs for adoption.

It is important to note that the positive effect of viewing dogs in videos was evident in both the dogs of the more desirable breeds, the Cavalier King Charles Spaniel-Chihuahua cross and the toy Poodle, and dogs of the less desirable and frequently stigmatized breed, the Staffordshire Bull Terrier. For the majority of the traits discussed, the Staffordshire Bull Terriers were perceived more positively in the video than the photograph. For example, Staffordshire Bull Terriers often have a reputation as being an aggressive and dangerous breed (e.g., Blue Cross, 2015b; Dogs Trust, 2015b; RSPCA, 2008). It is positive to note that despite this common breed stereotype, both the Staffordshire Bull Terriers were considered to be less aggressive when viewed in the video. Since this breed's reputation for aggression

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often hinders rehoming efforts, this further indicates the benefits of utilizing this form of media when promoting dog adoption.

Whilst in general dogs were perceived more positively in video, there were some differences noted for individual dogs. There was no difference in the apparent playfulness or fearfulness between the photograph and video conditions for the toy Poodle (dog 4), with these traits being moderately high in both conditions. This may be due to existing public preconceptions about Poodles who have a common reputation as being lively and playful (The Kennel Club, 2015a; UKPedigree, 2012a) however are also frequently viewed as being nervous and highly-strung (e.g., Pedigree, 2015a; Welton, 2015). Similar explanations can be applied for the lack of differences seen in assertiveness and obedience for the Cavalier King Charles Spaniel-Chihuahua cross (dog 3) between the photograph and video. For both traits these were scored moderately highly. Chihuahuas have a reputation for being assertive with this breed being described by The Kennel Club (2015b) and UKPedigree (2012b) as feisty and cheeky, whilst Cavalier King Charles Spaniels have a certain reputation for obedience (Cavalier Club, 2015; Pedigree, 2015b). Whilst this dog was a crossbreed, the reputations of its composite breeds may have impacted on the score for these traits regardless of the form of media used.

Furthermore, there were some instances where dogs were perceived more negatively in the video than the photograph. The Cavalier King Charles Spaniel-Chihuahua cross (dog 3) was perceived as being more hyperactive in the video, whilst one of the Staffordshire Bull Terriers (dog 1) was considered less obedient, more assertive and more hyperactive in the video. This does indicate one potential concern with the use of video such that they have the potential to display undesirable behaviors which are obscured by the use of photographs. Videos showing dogs displaying negative behaviors can impact on the perceived adoptability of individual dogs, as well as the breed as a whole (Wright, Smith, Daniel, & Adkins, 2007). This finding highlights the importance of utilizing videos which display dogs positively.

However it is also important to consider accurate representation of the dogs. Even if an animal possesses traits which may be considered undesirable, awareness of potential adopters that the dog may be over-active or assertive allows consideration both of the dog's suitability for them and also of the potential need for training programmes. Many dogs are returned to shelters due to behaviors such as aggression, hyperactivity and disobedience (Mondelli et al., 2004; New et al., 1999; Salman et al., 2000). Knowledge that a dog displays these behaviors prior to adoption, alongside assistance by shelters in recommending or implementing behavioral training programmes, may help to reduce relinquishment.

The behavior of the dog within the video is not the only factor that may impact upon the perception of their behavioral traits though. It is also important to consider how the dogs are presented within videos and photographs. The two Staffordshire Bull Terriers (dog 1 and 2) differed in the restraint types used. One of the Staffordshire Bull Terriers (dog 1), which was viewed as less obedient, more assertive and more hyperactive in the video than the photograph, was wearing a collar and walked on a single chain leash, whilst the other Staffordshire Bull Terrier (dog 2) was walked on a body harness and double leashed with nylon leashes. These variables may have impacted on the perception of the dog, such that for example the chain leash may have caused viewers to assume that this was needed due to the dog being assertive or disobedient. Within this study the same restraint types were evident in both the photograph and video footage of each individual dog. This provides some degree of control for this in terms of the aims of this study. However from a broader perspective when considering the use of video as a potential adoption tool, this highlights that considering the components of the video footage, as well as the behaviors that the dogs perform, may be important in order to display dogs positively.

Whilst this study provides evidence to suggest that videos are more beneficial than photographs in positively advertising dogs, it is important to consider that the differences

may not be as simple as videos being better than photographs but rather reflect the components of the video and the display of behaviors that these videos facilitate. Further research is also needed to determine whether use of videos actually improves dog adoption rates. This could be done for instance by comparing the number of days spent within a shelter for dogs advertised using a photograph or a video. This will help consolidate these findings by demonstrating their direct application in the rescue shelter context. In addition, although this study indicates that the use of video can cause viewers to have a more positive perception of a dog's behavioral traits, further research is warranted to investigate whether this improved perception accurately mirrors the dog's true behavioral traits. Perception of a dog's behavioral traits via photograph and video could be compared with personality assessment by kennel staff familiar with the animal either by questionnaire (e.g., Hsu & Serpell, 2003; Jones, 2009; Ley, Bennett & Coleman, 2009) or using standardized behavioral tests such as Svartberg & Forkman, (2002). This would facilitate exploration of which media, if any, most accurately portrays the dog's behavioral traits.

There are several limitations of the study that should be mentioned. We did not determine participants' previous experience and knowledge either of dogs or of the dog breeds featured which may have impacted on their assessment of the behavioral traits of the dogs in both forms of media. Experience with dogs of specific stigmatized breeds can lead to more positive perceptions of the breed (e.g., Twining, Arluke, & Patronek, 2000). Similarly lack of experience with dogs can lead to belief in stereotypes about specific breed behavior (Clarke, Cooper & Mills, 2013). We also did not determine participants' willingness to adopt the dogs or their perception of the dogs' proposed adoptability. Whilst this information would have had limited practical application, since indicating on a questionnaire willingness to adopt a dog differs greatly from the practical commitment and considerations of actually adopting that animal, this information would still have been of potential relevance. In

addition, whilst there were benefits to the online survey approach used such as allowing responses to be gained from across the United Kingdom, there are also disadvantages such as the danger of self-selection bias which can impact on the ability to generalize findings (Wright, 2005). The survey was also promoted on groups and pages associated with interest in dogs, animals, animal behavior and welfare. Whilst their interest in the topic may have encouraged engagement, and arguably may be a demographic who would adopt from rescue shelters, this may have resulted in a sample who were greater informed on dog breed matters than the general populace. It is also unclear whether these participants actually reflect the attitudes of individuals who adopt from rescue shelters. In order to resolve this issue in further research, sampling a narrower target population would be beneficial. This could be done for example by targeting adopters and potential adopters in rescue shelters.

CONCLUSION

In summary, our results indicate that viewing dogs in videos as opposed to photographs tends to result in more positive perceptions of the dogs' behavioral traits. This was observed in both desired dog breeds, such as the toy Poodle, for which rehoming is generally not problematic and more stigmatized breeds, such as the Staffordshire Bull Terrier, which tend to be harder to rehome. Whilst further study would be beneficial to determine whether the use of videos to improve viewers' perception of dog behavioral traits actually improves dog adoption rates, as well as investigating whether the perceived behavioral traits accurately mirror the dog's true behavioral traits, the findings are suggestive that greater use of video by rehoming shelters to advertise their animals may provide an effective method for promoting adoption.

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