

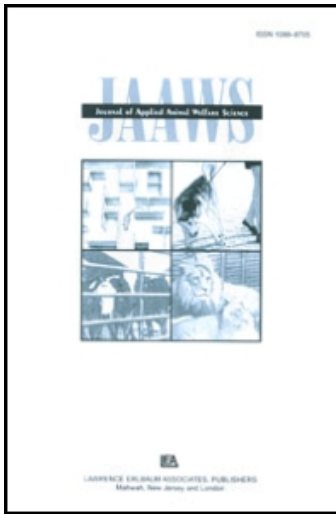
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Dog Breed Stereotype and Exposure to Negative Behavior: Effects on Perceptions of Adoptability

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The purpose of the study was to determine if brief exposure to a dog behaving badly or in a friendly manner affects subsequent perceptions of the target dog's and other dogs' adoptability. Participants viewed a videotape of an adoptable German shepherd behaving either aggressively or prosocially and were then asked to rate the characteristics and adoptability of the same and different dogs. The results showed that people who saw the aggressive behavioral schema perceived only the target dog and a dog of the same breed to be significantly less adoptable than dogs of other breeds ($p < .01$). Results of a principal components analysis showed participants perceived the adoptability of dogs to be related to "sociability": Adoptable dogs were more approachable, friendly, intelligent, and less dangerous and aggressive ($p < .01$). Brief exposure to a misbehaving dog prior to making a decision to adopt may unfairly penalize other dogs perceived to be similar to the misbehaving dog.

Recent research on shelter-dog adoptions has focused on identifying the factors that contribute to unsuccessful and successful placements. Some studies have focused on identifying the risk factors associated with relinquishment (Mondelli et al., 2004; New et. al., 2000; Patronek, Glickman, Beck, McCabe, & Ecker, 1996; Salman et al., 1998; Scarlett, Salman, New, & Kass, 1999; Shore, 2005) and ways to identify behaviorally risky dogs (Hennessy et al., 2001; Segurson, Serpell, & Hart, 2005). Other studies have identified the factors that contribute to successful adoptions or to a reduction in relinquishments after adoption

(Coppola, Grandin, & Enns, 2006; Marston, Bennett, & Coleman, 2005; Posage, Bartlett, & Thomas, 1998). Relatively absent in the shelter-dog adoption literature, however, is the extent to which people's perceptions of different dogs' characteristics and behaviors contribute to their decision to adopt one dog over another or one breed of dog over another (Posage et al., 1998). Dog characteristics used to identify one nonhuman animal from another include physical attributes such as size, coat color, breed, sex, and reproductive status (intact or gonadectomized). Behavioral characteristics include a number of different, measurable dimensions including "aggression" and "demand for affection." Although breed-specific perceptions of behavior have been described by veterinarians and other dog-care professionals (Bradshaw & Geodwin, 1999; Hart & Hart, 1985; Hart & Miller, 1985), the same kind of information has not been reported for potential adopters. Do people enter the shelter with preconceptions about the adoptability of dogs who are physically and behaviorally different?

We assumed that the judgments people make about which dog to adopt from a shelter begin with preconceived notions about the kind of dog who would make an appropriate or an inappropriate companion animal. Initially, adoptability may be based on breed preferences (e.g., yellow lab, not boxer) and other physical characteristics (size, sex). If size were held constant, would people judge a sample of different breeds to be equally adoptable? More important, would people's initial exposure to a target dog's behavior (behaving badly or prosocially) influence their subsequent perceptions of the adoptability of only the target dog, of dogs of the same breed, or of any dog regardless of breed?

It may be that the same cognitive-emotional processes involved in making judgments about the traits of a specific person are invoked when an individual makes judgments about the traits of a shelter dog. When people (actors) judge other people (targets), actors have a tendency to move rather quickly from observations of a target's general physical appearance and behaviors to inferences about personality traits—judgments about what the target individual is like (Mae, Carlston, & Skowronski, 1999; Van Overwalle, Drenth, & Marsman, 1999). The process takes place rather spontaneously and automatically. As one observes a target's personal (dispositional) demeanor and behaviors, the characteristics attributed to the target in turn serve as the bases for predicting the target's future behavior (Newman, 1996). When the original, dispositional judgment is evaluative (either positive or negative), subsequent judgments of the target may be prejudicially biased—without the actor's awareness (Winter & Uleman, 1984). If the positive or negative traits are generalized to a category of individuals, a category-based stereotype results (Corneille & Judd, 1999). Once formed, stereotypes activate implicit perceptions and expectations about the characteristics and behaviors of any individual perceived to be a member of the target's group, regardless of the specific target's actual traits and behaviors.

We wondered if potential adopters have a tendency to make dispositional attributions about dogs, too, based on initial, scant information. Similar to the forma-

tion of other category-based stereotypes, stereotypes based on dogs' physical characteristics may be formed as a result of evaluative judgments of a single dog's appearance, behaviors, and gestures (displayed signals). If so, an initial positive evaluation of an individual dog (a friendly golden retriever) could lead to perceptions of positive category-specific traits (all big dogs are friendly), and the resulting stereotypes could influence an actor's subsequent perceptions of large dogs and their adoptability.

Although stereotypes can serve an adaptive function in people's lives, there are times when exceptions to stereotypes are noted (Bardach & Park, 1996). If someone is presented with information that contradicts a present stereotype, it may be processed differently from stereotype-consistent information and thought of as an exception to the rule, rather than the norm (Bardach & Park, 1996; Stangor & McMillan, 1992). The resulting schema (exception) may affect the way one processes future information and lead to the formation of a subgroup of the stereotyped category—German shepherds, rather than all large dogs (Richards & Hewstone, 2001). Subgrouping is more likely to occur if the discordant schema is experienced in the immediate context (the shelter) within which the exception is experienced (Hamil, Wilson, & Nisbett, 1980).

In this study we assessed actors' perceptions of target dogs' traits and adoptability as a function of breed and a manipulated factor—behavioral schema, friendly or aggressive. Schematic information relating to the behavior of a specific target dog, a German shepherd, was presented immediately prior to viewing dogs of similar and different breeds. We hypothesized an interaction between schematic behavior and breed, such that the negative behavioral schema would reduce the subsequent adoptability ratings of the target German shepherd dog and a second German shepherd (same subcategory) but not the adoptability of other breeds.

METHOD

Participants

Ninety-nine participants (62 women and 37 men), recruited from introductory psychology classes at Mercer University, received course credit in exchange for their anonymous participation. There were 58 participants in the schema-aggressive condition and 41 participants in the schema-friendly condition.

Materials

Videotaped dog: Construction of behavioral schemas. Initially, three videotaped segments—30-sec each—of the same dog, a variegated German shepherd, and five photographs of dogs representing four different breeds were pre-

pared for use in the study. The fifth photograph was the German shepherd who appeared in the videotapes. The videotapes showed the German shepherd behaving in a friendly manner, a neutral manner (sitting calmly), and an aggressive manner. Each videotaped segment represented a level of the between-subjects variable “behavioral schema.”

To determine if the videotaped segments accurately portrayed the three behavioral schemas, a group of 29 psychology majors—enrolled in a research methods class—independently scored the three video segments on the dimensions “friendliness” and “aggressiveness.” The two ratings of each of the three schematic videotapes were recorded on a 7-point scale that ranged from 1 (*not at all*) to 7 (*extremely*). Two one-way analyses of variance (ANOVAs) were conducted to determine if the German shepherd pictured in the three videotapes was perceived to be behaviorally different on the dependent measures of friendliness and aggressiveness. Alpha was set at .05 for all tests.

For the friendly measure, a statistically significant difference was found, $F(2, 56) = 19.10, p < .001$. Pairwise comparisons revealed that all three video segments represented schemas that were statistically different from one another, in the predicted direction: The German shepherd representing the aggressive schema was rated relatively low on friendliness ($M = 3.45, SD = 1.50$), the neutral schema was rated friendlier ($M = 4.66, SD = 1.37$), and the friendly schema was rated most friendly ($M = 5.66, SD = 1.26$).

Results of the ANOVA conducted on the aggressiveness measure also revealed a significant difference, $F(2, 56) = 144.21, p < .001$. Pairwise comparisons revealed a significant difference between the aggressive and neutral video segments and between the aggressive and friendly segments in the predicted direction. However, raters did not perceive a difference in aggressiveness between the friendly segment ($M = 1.62, SD = 0.98$) and the neutral segment ($M = 1.79, SD = 1.11$); both the latter video streams were perceived to be equally nonaggressive and significantly less aggressive than the shepherd portraying the aggressive schema ($M = 5.21, SD = 1.15$). Because the German shepherd segments representing the friendly and neutral schemas were perceived to not differ on aggressiveness, the neutral video was not used in this study. Instead, we used the two video segments that accurately represented the two dichotomous behavioral schemas: the German shepherd exhibiting friendly behavior (rated high on friendliness, low on aggression) and the same German shepherd exhibiting aggressive behavior (rated low on friendliness, high on aggression).

Photographs of dogs. Eleven dog pictures representing different breeds were initially selected as stimulus photographs based on our best attempts to match them on similarity of appearance. The dogs appeared to be about the same size, occupied approximately the same percentage of photographic space, and

sat in a relaxed manner facing the camera. The 11 dogs were independently rated by eight undergraduate psychology majors on a favorableness scale that ranged from 1 (*not at all favorable*) to 7 (*extremely favorable*); the scores were analyzed within a one-way ANOVA. Results showed the dogs were perceived to differ on favorableness, $F(10, 70) = 3.85, p = .001$. However, multiple pairwise comparisons revealed that not all dogs were statistically different from one another ($p > .05$). The five dog photographs we selected as stimuli did not differ on favorableness, and their means approximated the scale midpoint. The dog photographs included four different breeds, including a pointer ($M = 4.63, SD = 0.93$), a black German shepherd ($M = 4.63, SD = 1.41$), a bloodhound ($M = 4.63, SD = 1.06$), and a collie ($M = 5.00, SD = 0.93$; American Kennel Club, 2003). A still frame of the variegated German shepherd (GSV) from the friendly videotape was used as the fifth photograph.

The questionnaire. The questionnaire consisted of five pages, with each page displaying only one dog photograph and six traits (dimensions) on which the dog was rated. Each dog photo was centered at the top of a rating sheet with the dog's breed written above the picture. The picture of the GSV was always placed last in the data pack after the other four stimulus dogs were viewed. The order of the presentation of the dogs, with the exception of the GSV, was counterbalanced.

Design

A 2 (behavioral schema) \times 5 (dog breed), mixed factorial design was used to determine the effects of schematic information on perceptions of dogs' characteristics and adoptability. The between-subject variable was behavioral schema (friendly and aggressive); the within-subject variable was dog breed (German shepherd, collie, bloodhound, pointer, and GSV). Participants' perceptions of each dog were measured on six dimensions: (a) approachability, (b) aggressiveness, (c) dangerousness, (d) intelligence, (e) friendliness, and (f) adoptability. Each item was rated on an 8-point Likert scale that ranged from 1 (*not at all*) to 8 (*extremely*).

Procedure

Participants were randomly assigned to either the aggressive or friendly dog behavioral schema. Participants were told they were going to see a short videotape of a typical dog who could be seen in a shelter for adoption and that we wanted them to provide their own rating of the adoptability of several

dogs after viewing the tape. Participants viewed and considered each dog individually and were told not to turn back to a previous dog's rating once they had gone on to the next dog. Participants were then debriefed and thanked for their participation.

RESULTS

The purpose of this study was to determine if viewing a dog behaving in a friendly or aggressive manner would affect the perceived traits and adoptability of dogs of the same or different breeds. For all analyses, alpha was set at .05. To determine if there was a relationship among any of the five traits and adoptability, a principle components analysis (PCA) with oblique (oblimin) rotation was performed on the scores (SPSS 15.0). A one-factor solution was extracted that accounted for approximately 67% of the variance in the six item scores; all items had salient loadings ($> .30$), and no other component was extracted. The single factor consisted primarily of items intended to assess the positive characteristics of dogs and was labeled "sociability." Inspection of the Pearson correlation matrix (Table 1) shows that a dog high in sociability was perceived to be high on approachability, friendliness, intelligence, and adoptability—and low on aggressiveness and dangerousness.

A two-way mixed model ANOVA was conducted to determine if the perceived adoptability scores differed as a function of behavioral schema, breed, or their interaction. There was a significant interaction effect for Behavioral Schema \times Breed, $F(4, 388) = 8.71, p < .01$. Five subsequent independent groups' t tests with Bonferroni correction were conducted (one for each dog photograph) to determine which dogs' adoptability scores differed as a function of behavioral schema. As expected, the GSV showed the greatest schema-dependent difference in adoptability ratings, $t(97) = 5.01, p < .01, \eta^2 = .21$: Schema-aggressive viewers found the GSV to be less adoptable ($M = 3.74$, confidence interval [CI] = 3.28–4.20) than did schema-friendly viewers ($M = 5.54$, CI = 5.00–6.08). More important, there was also a significant difference in the predicted direction for the black German shepherd, $t(97) = 3.69, p < .01, \eta^2 = .10$: Schema-aggressive viewers perceived the second German shepherd to be less adoptable ($M = 5.45$, CI = 5.09–5.81) than the schema-friendly viewers did ($M = 6.49$, CI = 6.06–6.92), but the effect was not as strong. None of the other three breed adoptability ratings were significantly affected by the schema manipulation (Figure 1). The ANOVA also revealed two significant main effects, one for breed, $F(4, 388) = 44.20, p < .01, \eta^2 = .31$, and the other for behavioral schema, $F(1, 97) = 10.80, p < .01, \eta^2 = .10$. Both main effects were qualified by the more important Behavioral Schema \times Breed interaction.

TABLE 1
Correlation Matrix of Perceived Dog Traits and Adoptability

	<i>Adoptability</i>	<i>Approachability</i>	<i>Friendliness</i>	<i>Intelligence</i>	<i>Dangerousness</i>	<i>Aggressiveness</i>
<i>Adoptability</i>	—					
<i>Approachability</i>		.80*				
<i>Friendliness</i>			.74*			
<i>Intelligence</i>				.56*		
<i>Dangerousness</i>					-.64*	
<i>Aggressiveness</i>						-.64*
						-.56*
						-.30*
						.85*
						—

Note. $N = 99$.

* $p < .01$.

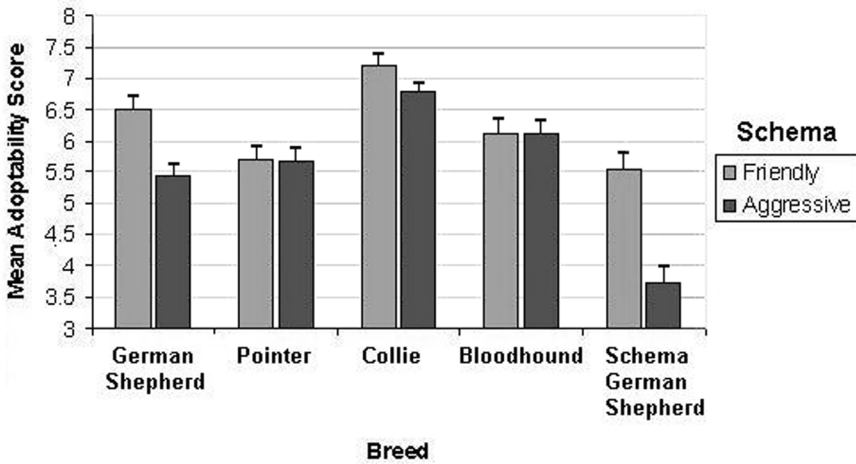


FIGURE 1 The mean adoptability scores (+ 1 SEM) for five dogs rated by participants who initially saw either a friendly or aggressive German shepherd. Inspection of the significant Behavioral Schema \times Breed interaction shows that those participants who viewed the aggressive, variegated German shepherd (GSV) subsequently rated both the GSV and a black German shepherd as significantly less adoptable ($p < .01$).

DISCUSSION

The results of the ANOVA performed on the adoptability ratings provide support for the hypothesized interaction between schematic behaviors and breed. The behavioral schema affected participants' perceptions of both the target German shepherd (GSV) and the black German shepherd but not the adoptability of less similar dogs. Further, the adoptability of both German shepherds seemed to be more polarized by the negative schema (aggressiveness) than by the positive schema (friendliness; see Figure 1), although only the aggressive GSV dog was perceived to be relatively unadoptable. It was the only dog whose mean adoptability (3.74) fell below the 4.5 midpoint of the adoptability scale.

These results appear to be consistent with other findings showing that people's evaluative judgments about individuals are susceptible to significant change by brief exposure to biasing information (Hamil et al., 1980) and are influenced more heavily by negative than by positive information (Ito, Larsen, Smith, & Cacioppo, 1998). It is perhaps not surprising that the processes people use in making quick judgments from scant information about subcategories of people (e.g., race or gender; Ito et al., 1998) may extend to organizing perceptions about subcategories of dogs (breeds).

An alternative interpretation of the Schematic Behavior \times Breed interaction, however, is that actors already had a negative stereotype of German shepherds and

that exposure to the aggressive German shepherd merely activated the preexisting stereotype. Further, despite the initial neutral favorability ratings of the stimulus photographs, one wonders whether exposure to an aggressive collie, for example, would have penalized subsequent adoptability ratings of the collie to the same extent as the GSV. Perhaps activating an existing positive stereotype (all collies are Lassie) would dampen the effects of the negative behavioral schema or increase the effects of the positive schema.

There are other limitations regarding the interpretation of Schema \times Breed effect that our study does not address. If reliable, how narrow or broad is the generalized effect of positive and negative schemas on breed evaluations? What is the duration of effect? For those people who actually adopt a pet, what is the average amount of time for the adoption decision to be made from the time the adopter enters the shelter facility? Does the average adopter put more thought into selecting an actual dog than our actors did, and are thoughtful adopters more resistant to stereotype-inconsistent information (Richards & Hewstone, 2001)? The preliminary nature of these results needs to be emphasized before generalizations to other breeds and certainly to real world shelter adoptions are considered.

With respect to the rating of dog characteristics by potential adopters, Gosling, Kwan, and John (2003) have demonstrated that personality traits in dogs can be reliably measured. Our sociability factor consisted of adoptability ratings that significantly correlated with five additional traits (Table 1). Taken together, the intercorrelations seem to indicate that people perceived the adoptability of dogs holistically, with the common underlying thread related to the dogs' positive social attributes.

One goal of this study was to broaden the scope of inquiry regarding shelter placements of dogs to include the potential adopter. We have attempted to shed some light on the person-perception characteristics that may contribute to the adoption process and hope these results serve as a heuristic for future research.

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