

# Black Cat Bias: Prevalence and Predictors

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## Abstract

There is anecdotal and empirical evidence for black cat bias, the phenomenon where cats (*Felis silvestris catus*) with black coats are viewed more negatively, adopted less often, and euthanized more often than lighter colored cats. Despite the anecdotal claims, there is scarce empirical evidence for black cat bias. Using evaluations of cat photos, the researchers examined differences in people's attitudes toward black and non-black cats of various colorations on measures of perceived aggression, perceived friendliness, and willingness to adopt. The researchers also explored whether participants' levels of religiosity, superstitious beliefs, and prejudicial racial attitudes were related to black cat bias. Finally, the researchers explored whether black cat bias was related to difficulties people had in reading the emotions of black cats compared to non-black cats. This study provided evidence of black cat bias in the sample. People exhibiting higher degrees of black cat bias had higher levels of superstition, but not religiosity or racial prejudice. Additionally, people who had difficulty reading the emotions of black cats tended to exhibit a stronger bias against adopting black cats.

## Keywords

Companion animal, cat adoption, black cat bias

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## Introduction

In many cultures, the color black holds negative connotations and symbolic representations such as death, grief, evil, and the unknown (Adams & Osgood, 1973; Allan, 2009; Kaya & Epps, 2004; Sherman & Clore, 2009). Psychologically, the color black plays a role in many prejudicial attitudes and superstitious belief systems. For example, crossing paths with a black cat is thought to bring bad luck, and black cats are traditionally portrayed as the sinister companions of witches. Meier, Robinson, and Clore (2004) found that brightly colored stimuli are automatically categorized as good and dark stimuli are automatically categorized as bad. There are also negative associations extending to dark skin tone (i.e., colorism), with darker skinned people being viewed more negatively and prejudicially (Alter, Stern, Granot, & Balcells, 2016). This negative attitude toward blackness may also extend to attitudes about non-human animals. There is compelling anecdotal and empirical evidence that black dogs (*Canis lupus familiaris*) and cats (*Felis silvestris catus*) are viewed more negatively and adopted less readily than their lighter colored counterparts (Brown & Morgan, 2015; Leonard, 2011; Lum, Nau, & McClellan, 2013; Reeger, 2011; Woodward, Milliken, & Humy, 2012; Workman, 2016). It should be noted that coat color does not appear to be related to variations in cat aggressiveness (Stelow, Bain, & Kass, 2016). Additionally, much of the recent work on color bias for dogs has indicated that any bias may be due to negative perceptions about particular dog breeds rather than color (Svoboda & Hoffman, 2015; Woodward et al., 2012).

When selecting a cat for adoption, people typically report that the most important criteria are the cat's friendliness and playfulness (Sinn, 2016; Southland, Dowling-Guyer, & McCobb, 2019). Lum et al. (2013) discovered that black cats are evaluated as less friendly and less playful than lighter colored cats. There is also evidence that black cats are less readily adopted than non-black cats (Kogan, Schoenfeld-Tacher, Hellyer, 2013; Workman & Hoffman, 2015). If there is a bias against black cats, there is still the unanswered question of *why* they are viewed negatively. One possibility is that many people are indoctrinated into religious cultures that associate the color black with evil, leading them to view black cats as being more sinister than lighter colored cats. It could also be that black cats' long association with superstitions of bad luck renders them more unnerving (Sherman & Clore, 2009). Another possibility is that culturally pervasive, racially prejudicial attitudes toward dark-skinned people, and African-Americans specifically, have been generalized to other black entities such as cats (Alter et al., 2016). It might also be that biases against black cats are related to the perception of facial cues. There is evidence that humans use facial cues of cats to read social and emotional signals (Bennett, Gourkow, & Mills, 2017; Leyhausen, 1979). Perhaps the dark coat color of black cats renders their facial expressions more difficult to detect. This difficulty

in reading facial cues of cats with dark coats could leave people feeling less sympathetic toward black cats.

Exploring black cat bias (BCB) is an important line of research. Animal shelters across the country are brimming with cats in need of adoption. A comprehensive investigation of how people make companion animal adoption decisions is critical, as any biases against particular types of animals could adversely affect their prospects for adoption. The purpose of this study was to explore whether a BCB exists and, if it does exist, to explore the underlying roles played by religiosity, superstition, prejudicial attitudes, and the ability to read cat facial expressions in that bias. We had several hypotheses about BCB. First, we predicted that there would be a BCB, where people would see black cats as less friendly, more aggressive, and less adoptable than non-black cats. Second, we predicted that people who were more religious, superstitious, and racially prejudiced would report more of a BCB. Third, we predicted that people who felt less able to read the emotions of black cats would also have a bias against adopting black cats.

## Method

### *Participants*

The 101 participants in this study (17 men and 84 women) were recruited via social media and word of mouth from the general population by several college students using convenience sampling methods. Incentives were not offered to participants. The average age of participants was 34.98 years old ( $SD = 12.42$ ); 75.2% of participants identified as White/Caucasian and 24.8% identified as a minority (13% Hispanic/Hispanic-American, 4% Black/African-American, 4% Asian/Asian-American, 2% Native American, 1% Caribbean, 1% Pacific Islander). Participants' religious affiliations were 68.3% Christian, 24.7% agnostic, atheist, or not religious, 1% Jewish, 1% Muslim, and 5% other.

### *Materials and procedure*

During recruitment, we provided the URL link to our online study hosted through Psychdata. Participants accessed the survey at their own convenience. The participants were told the purpose of the study was to investigate personality factors associated with companion animal adoption. Before starting the survey, participants electronically signed an informed consent form. They then provided demographic information, including age, sex, and religious affiliation.

Next, participants completed a cat rating task. Participants viewed pictures of cats that were up for adoption in animal shelters in the Dallas-Fort Worth area. Pictures were gathered from shelter websites. Pictures were carefully selected so that all of the cats had a neutral facial expression and pose. None of the cats

were pictured playing, sleeping, behaving aggressively, or interacting with other animals or humans. Only pictures of adult cats (one year or older) were used. Participants viewed a series of 20 randomized cat pictures. Ten pictures were of black cats and 10 were of non-black cats of various colorations (i.e., white, gray, orange, and mixtures thereof). Seven of the black cats were entirely black, and three had a very small patch of white fur on the chest. For each picture, the participant rated the cat on four different measures: friendliness, aggressiveness, willingness to adopt, and how well they believed they could read the cat's emotions. These four variables were measured on a 1–5 Likert scale ranging from strongly disagree to strongly agree.

In order to measure religiosity, participants completed the Santa Clara Strength of Religious Faith Questionnaire (Plante & Boccacini, 1997). This 10-item questionnaire assessed the strength of religious faith with items such as “My faith is an important part of who I am as a person.” All items were scored on a 1–4 Likert scale ranging from strongly disagree to strongly agree. The internal reliability was measured with Cronbach's alpha (.95).

Participants then completed a measure of superstitious beliefs, the three-item superstition subscale of the Revised Paranormal Belief Scale (Tobacyk, 2004). The scale assessed superstitious beliefs using items such as, “If you break a mirror, you will have bad luck,” that were scored on a 1–6 Likert scale ranging from strongly disagree to strongly agree. The Cronbach's alpha was .89.

Lastly, participants' prejudicial racial attitudes were measured with the six-item Modern Racism Scale (McConahay, 1986). This scale assessed prejudicial attitudes with items such as, “Over the past few years blacks have gotten more economically than they deserve,” that were scored on a 1–5 Likert scale ranging from strongly disagree to strongly agree. The Cronbach's alpha was .81. The participants were then debriefed and told the true purpose and hypotheses of the study.

## Results

Ratings of friendliness, aggressiveness, willingness to adopt, and ability to read emotions were summed for black and non-black cats. This resulted in a score ranging from 10–50 for each variable. The means are presented in Table 1. To assess our first hypothesis about whether a BCB existed in our sample, we conducted within-group t-tests to determine if participants viewed black and non-black cats differently on the measures of friendliness, aggressiveness, and adoptability. We found significant differences in the predicted directions for friendliness ( $t(100) = 3.95, p < .001$ ) and aggressiveness ( $t(100) = 3.27, p < .001$ ), where black cats were seen as less friendly and more aggressive than their non-black counterparts. We did not find any significant difference between black and non-black cats in adoptability ( $t(100) = 0.27, p = .395$ ). While not one of our initial hypotheses, we also explored whether participant race played a role

**Table 1.** Descriptive statistics for cat measures.

	<i>M</i>	<i>SD</i>
1. Black cat friendliness	35.46	7.28
2. Non-black cat friendliness	37.10	7.11
3. Black cat aggressiveness	20.86	8.09
4. Non-black cat aggressiveness	19.31	6.95
5. Black cat adopt	32.20	12.20
6. Non-black cat adopt	32.38	11.84
7. Black cat emotion	32.95	9.15
8. Non-black cat emotion	33.32	9.40

**Table 2.** Correlations for black cat bias and personality variables.

	1	2	3	4	5	6	7
1. Friendly		-.71***	.66***	.42***	.00	.02	.19*
2. Aggressive			.48***	.39***	.05	.08	.26**
3. Adoptability				.47***	.09	.01	.22*
4. Emotion					-.01	-.05	.20*
5. Religiosity						.34**	-.06
6. Prejudice							.09
7. Superstition							

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

in BCB. The results of factorial analyses of variance showed that White and non-White minority participants did not differ in their BCBs for friendliness, aggressiveness, or adoptability (all  $p$  values greater than .61).

We then tested our second hypothesis that religiosity, superstition, and racially prejudicial attitudes would predict BCB. First, we computed a BCB score for perceived friendliness, aggressiveness, and adoptability. This was done by subtracting black cat ratings from non-black cat ratings for each variable. We reverse coded aggression scores so that for all variables, a positive score represented an unfavorable bias against black cats. We then computed correlations with religiosity, superstition, and racially prejudicial attitudes. We found that superstition, but not religiosity or racial prejudice, significantly predicted unfavorable biases against black cats (see Table 2).

Finally, we tested our third hypothesis that people who feel less able to read the emotions of black cats would also have a stronger bias against adopting black cats. We computed a correlation between BCB in emotion reading and BCB in adoption and found that they were significantly correlated, where the more BCB there was for emotion reading, the more BCB there was in adoption

( $r(99) = .47, p < .001$ ). To further examine this hypothesis, we also computed a partial correlation between BCB in emotion reading and BCB in adoption, controlling for BCB in perceived aggression and friendliness and also interest in adopting non-black cats or the ability to read non-black cat emotions. Even when controlling for these additional variables, the BCB in emotion reading was significantly correlated with the BCB in adoption ( $r(95) = .46, p < .001$ ).

## Discussion

This study explored whether a BCB exists and if it is associated with a potential adopter's religiosity, superstition, prejudicial attitudes, and ability to read cat facial expressions. Our first hypothesis, that there was a BCB, was partially supported; participants rated black cats as less friendly and more aggressive than their non-black counterparts. We did not find a BCB in the willingness to adopt cats.

Our second hypothesis, that religiosity, superstition, and racial prejudice would predict BCB, was also partially supported. While we did find that superstition predicted BCB, we found no evidence that religiosity or racial prejudice did.

Finally, we did find support for our third hypothesis that participants who feel less able to read the emotions of black cats would also have a bias against adopting black cats. This was true even when controlling for a number of other relevant variables.

There are a few limitations to the generalizability of this study. First, participants rated pictures of cats rather than interacting with actual cats in a shelter. Due to the enhanced ability to judge the personality of cats in person rather than in a picture, results may differ if participants are able to actually interact with cats. Second, this study recruited participants regardless of whether they were actually interested in adopting a cat. Participants' responses could have been biased by their desire, or lack thereof, to adopt a cat. Future research would benefit from conducting a study in an animal shelter where participants are actually interested in adopting a cat and are able to interact with the cats in person.

The current study was also limited in that it only examined attitudes toward adult cats. This is important, as many cats that are up for adoption are still kittens. The baby schema, the evolutionary mechanism that draws the attention and compassion of human caretakers to human infants (Glocker, Langleben, Ruparel, Loughhead, Gur, & Sachser, 2009) also extends to infant animals (Chersini, Hall, & Wynne, 2018; Golle, Lisibach, Mast, & Lobmaier, 2013). There is some evidence that kittens are adopted more readily than adult cats (Weiss, Miller, Mohan-Gibbons, & Vela, 2012; Workman & Hoffman, 2015). We should also point out that we used a convenience sample for this study, so the results may not generalize well to a larger population. Future research could

look for effects of age on adoption bias by including kittens (less than one year old) as well as senior cats (seven years or older).

Overall, this study showed that while people may not generally hold a BCB when it comes to considering adopting a cat, they do seem to view black cats as having less affectionate demeanors than their non-black conspecifics. When people do hold a BCB, it seems to be at least partially rooted in superstitious belief systems and in difficulties reading the facial expressions of black cats. This study expanded on a growing body of anecdotal and empirical evidence of biases held against dark-colored cats, as well as dogs. Subsequent observational and experimental studies will make clear whether there actually is a substantial black dog bias or BCB in the real world of companion animal adoptions, but this study does highlight some traits that may predispose people to hold such biases.


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