# Exploring the Bond

## Effects of winning the Westminster Kennel Club Dog Show on breed popularity

Harold A. Herzog, PhD, and Steven M. Elias, PhD

**Objective**—To determine whether winning best in show at the annual Westminster Kennel Club Dog Show was associated with a subsequent increase in breed popularity.

**Design**—Analysis of archival data.

**Study population**—Breed-specific numbers of individual purebred puppies registered with the American Kennel Club between 1946 and 2002.

**Procedure**—For breeds that had won the Westminster Show, the slope of the curve for number of new registrations per year for the 5 years prior to winning was compared with the slope of the curve for the 5 years after winning. In addition, the annual percentage change in number of new registrations for the breed that won each year was compared with the annual percentage change in number of new registrations for the nonwinning breed most similar in popularity to the winning breed.

**Results**—For breeds that had won the Westminster Show, the slope of the curve for number of new registrations per year for the 5 years prior to winning was not significantly different from the slope of the curve for the 5 years after winning. Annual percentage change in number of new registrations for the breed that won each year was not significantly different from annual percentage change in number of new registrations for matched nonwinning breeds.

**Conclusions**—Results do not support the view that being named best in show at the annual Westminster Show results in a surge in popularity of winning breeds. (*J Am Vet Med Assoc* 2004;225:365–367)

Public preferences for dog breeds can undergo extraordinarily rapid changes. Rottweilers are a good example. The breed was ranked 27th in breed popularity by the American Kennel Club (AKC) in 1982, with approximately 9,000 new puppies registered with the AKC that year. Within 11 years, Rottweilers had become the second most popular breed in the United States, with more than 105,000 new registrations annually. In recent years, interest in Rottweilers has again decreased, with approximately 18,000 new registrations in 2003.

Although these changes in breed preferences of Americans can profoundly affect the demographic profile of purebred dogs seen by veterinarians, little is known about the cultural dynamics that cause these shifts in the popularity of dog breeds. In a few instances, booms in new registrations of certain breeds have been linked to media exposure. The best-known example is the explosion in Dalmatian registrations following the 1985 release of the remake of the Disney classic *101 Dalmatians*. New Dalmatian registrations began to increase immediately following the release of the film and peaked 8 years later; during this time, annual registrations increased 7-fold, from 6,880 to 42,816. The popularity of the breed, however, was short-lived, and the number of new registrations decreased to 1,112 in 2003.

Sometimes, however, media exposure that might be expected to instigate interest in a breed does not appear to have any effect on number of annual registrations. Take the multimillion-dollar Taco Bell advertising campaign featuring Gidget, a Chihuahua, which ran from 1997 to 2000. These high-visibility advertisements did not produce a dramatic increase in new registrations of the breed; indeed, the number of new Chihuahua registrations fell 34% between 1998 and 2002.

One possible source of increased public interest in a breed is the annual Westminster Kennel Club Dog Show, the oldest and largest competition for purebred dogs in the United States.[1] In addition to its obvious interest to members of the dog fancy, the Westminster Show is seen by millions of television viewers each year. Informal conversations we have had with dog breeders, veterinarians, and anthrozoologists suggest that many dog lovers believe that being named best in show at the annual Westminster Show typically leads to a boost in a breed's popularity. To our knowledge, however, this belief has not been tested objectively.

The purpose of the study reported here was to determine whether winning best in show at the annual Westminster Show was associated with a subsequent increase in breed popularity. To do this, we examined numbers of puppies registered with the AKC between 1946 and 2002 to determine whether winning the Westminster Show was associated with a higher-than-

average growth in number of annual registrations among winning breeds. Specifically, we analyzed whether the slope of the curve for number of annual registrations over time increased significantly after a breed won the Westminster Show. We also compared changes in number of annual registrations for breeds that had won with changes in number of annual registrations for breeds that had not won.

## Methods

The AKC provided us with the number of new individual puppy registrations for each breed of purebred dogs recognized by the AKC for all years from 1946 (106 breeds) through 2002 (150 breeds). While not all purebred puppies are registered by their owners with the AKC, this database represents an unusually large (48,280,840 dogs) index of the relative popularity of dog breeds in the United States.

Statistical analyses—We examined the effects of winning the Westminster Show on changes in breed popularity in 2 ways. First, for breeds that had won, we compared the slope of the curve for number of new registrations per year prior to winning the Westminster Show with the slope of the curve after winning. The slope of the curve prior to a breed's winning the Westminster Show was calculated on the basis of number of new registrations for the 4 years prior to the year the breed won and the year the breed won. The slope of the curve after a breed won the Westminster Show was calculated on the basis of number of new registrations for the year the breed won and the 4 following years.

Second, we compared the annual percentage change in number of new registrations for the breed that won each year with the annual percentage change in number of new registrations for the nonwinning breed most similar in popularity to the winning breed. For example, in 1965, a Scottish Terrier was named best of show. That year, 5,457 Scottish Terriers were registered with the AKC. The breed with number of new registrations in 1965 most similar to the number of new registrations for Scottish Terriers was the Weimaraner, of which 5,412 were registered with the AKC in 1965. The annual percentage change for each breed was calculated by dividing the difference in annual registrations in adjacent years by the number of registrations in the earlier year. For example, if 10,000 dogs of a particular breed were registered with the AKC in 1976 and 11,000 were registered in 1977, the annual percentage change in new registrations for this breed would be 10%. We assumed that any increase in breed popularity associated with winning the Westminster Show could take several years to emerge, as it would take some time for supply to catch up to the increase in demand for puppies of a winning breed. Thus, we compared annual percentage change in new registrations for winning breeds and matched control breeds for each of the 5 post-win years.

Poodles were excluded from the data analysis. Poodles won the Westminster Show in 1956, 1958, 1959, 1961, 1991, and 2002. For show purposes, Poodles are split into 3 varieties, with Miniature Poodles and Standard Poodles competing in the nonsporting group and Toy Poodles competing in the toy group. The AKC, however, combines the 3 varieties into a single breed in its registration database. Therefore, we could not determine which of the 3 varieties was responsible for yearly fluctuations in numbers of Poodles registered with the AKC.

## Results

Within-breed slope analysis—In the first analysis, we examined the effects of winning the Westminster Show on breed popularity by comparing the slopes of the curves for number of new registrations per year before and after a breed won best in show from 1951 through 1997. The popularity of a dog breed can rise or fall rapidly, and there was considerable variability in the slope of the curve before (range, –7,003 to 3,510 dogs/y) and after (range, –3,465 to 5,002 dogs/y) breeds won the Westminster Show. Mean slope prior to winning the Westminster Show was 25.6 dogs/y, and mean slope after winning the show was 281.3 dogs/y. A paired $t$ test indicated that this difference was not significant ($P = 0.20$). The effect size measure indicated that winning the Westminster Show accounted for < 1% of the variance between pre- and post-win slopes of the curves for number of new registrations per year.

Percentage change in number of new registrations—Paired $t$ tests were used to compare the annual percentage change in number of new registrations for winning breeds with annual percentage change for matched control breeds. In none of the 5 years following Westminster Show wins was there a significant difference between percentage changes in new registrations for winning and nonwinning breeds (Table 1).

Overall breed popularity—In every year from 1946 through 2002, the 10 most popular breeds accounted for between 85% and 90% of all new puppies registered with the AKC. From 1946 through 2002, however, mean ranking of breeds that won the Westminster Show, in terms of number of new AKC registrations, was 44th, and in only 7 of these years did the winning breed rank among the top 10 breeds in terms of popularity. Thus, breeds that win the Westminster Show often do not reflect the preferences of the American public for canine pets.

Table 1—Comparison of the percentage change in number of puppies registered with the American Kennel Club annually for breeds that won the Westminster Kennel Club Dog Show and matched control breeds.

| No. of years after winning | Group | Percentage change | | |
|---|---|---|---|---|
| | | Mean | SD | P value |
| 1 | | | | 0.33 |
| | Winning breeds | 4.0 | 13.3 | |
| | Control breeds | 1.6 | 10.2 | |
| 2 | | | | 0.48 |
| | Winning breeds | 5.0 | 12.5 | |
| | Control breeds | 3.1 | 14.8 | |
| 3 | | | | 0.91 |
| | Winning breeds | 3.0 | 14.2 | |
| | Control breeds | 2.7 | 14.2 | |
| 4 | | | | 0.34 |
| | Winning breeds | 4.0 | 12.0 | |
| | Control breeds | 1.4 | 14.0 | |
| 5 | | | | 0.93 |
| | Winning breeds | 0.9 | 12.9 | |
| | Control breeds | 0.6 | 12.3 | |

The annual percentage change for each breed was calculated by dividing the difference in annual registrations in adjacent years by the number of registrations in the earlier year. For each year, the control breed was the nonwinning breed with number of new registrations during that year most similar to the number of new registrations for the winning breed.

## Discussion

From a theoretical perspective, changes in the public preferences for dog breeds represent a particularly interesting example of culture-gene interactions. In this instance, shifts in the cultural preferences of 1 species (humans) affect genetic variation in another species (dogs). Borrowing from the neutral theory of molecular evolution, several researchers have found that imitation-based cultural processes analogous to genetic drift explain fluctuations in the distributions of many types of cultural variants. These include changes in prehistoric pottery styles, baby names, Web site hits, and journal citations by scientific authors.[2,3] These processes are also related to changes in dog breed preferences. A previous study,[4] for instance, which used the same data set as used in the present study, found that changes in the distribution of new AKC registrations during the past 5 decades mathematically fit the neutral model of random genetic drift. But, while chance factors seem responsible for some shifts in breed popularity, media exposure, particularly movies, can also have a pronounced effect, as illustrated by the increase in popularity of Dalmatians following release of the movie *101 Dalmatians*. Clearly, the factors that promote increases and decreases in the public's attraction to a breed are worthy of more study.

That said, results of the present study do not provide any support for the hypothesis that winning the Westminster Show has an effect on popularity of individual dog breeds. While the number of purebred puppies registered with the AKC has decreased substantially during the past decade, more people than ever are watching the Westminster Kennel Club Dog Show on television. A record 5.3 million television viewers tuned in to the broadcast in 2003.[5] Thus, the implications of the emergence of the Westminster Show as a popular-culture phenomenon are unclear. Although currently not the case, high-profile dog shows may in the future have a significant influence on the distribution of types of purebred dogs.

## References

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