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Preferences of Dog Owners in Chennai Corporation

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Abstract

A survey was carried out to study part-worth estimate of attributes of pet dogs from 60 pet dog owners in Corporation of Chennai, Tamil Nadu. Multistage random sampling procedure was adopted and relevant data were collected through personal interview with the help of pre-tested interview schedule.The result revealed that the most relevant factor for pet dog owners in Chennai Corporation was the size of the dog with a relative importance of 42.93 per cent, followed by coat type (36.90 per cent) and the purpose of rearing pet dog (20.17 per cent).The Kendal correlation coefficient of 0.786 ($p \leq 0.01$) indicated a high level of correlation between the observed and estimated preferences and confirmed the high level of significance of the obtained results.

Key words: Preference, Dog owners, Corporation of Chennai.

From time immemorial, dogs had been associated with man and he used dogs for hunting food animals, and also guarding his belongings mainly livestock (Shibu and George,2012) and pet dogs present in almost every human society worldwide (Serpell 2003). Nowadays, dogs are kept as companion animals and have become an integral part of family (Vijayakumar *et al.,* 2006). The breeding and management of dogs depend upon the socioeconomic status of dog owners. Sawaimul *et al.*, (2009), Shibu and George found that 59 per cent of the owners had favourable attitude towards rearing of dogs. Urban population were more interested in dog keeping as compared to rural population (Vijay Kumar *et. al.,* 2004).Vijay Kumar *et.al.* and Cole *et al.* (2004) described the importance of selection and genetic diversity in dog rearing. This study may be useful for pet practitioner, pet animal researchers, pet shop owners and breeders etc. Hence, present study has been carried out to assess the preferences of dog owners in Corporation of Chennai, Tamil Nadu.

Materials and Methods

A study was carried out in Corporation of Chennai, Tamil Nadu. The data were collected using well structured and pre-tested interview schedule through sample survey. The interview schedule had the provision to assess the size of the dog (small, medium, large), coat type (soft/ straight, curly) and purpose of rearing pet dog (companion, watchdog). In addition, the interview schedule had the features to assess, awareness and preferences for various attributes of pet dogs. In addition, orthogonal plan cards depicting combination of different levels of attributes were presented to the pet owners for ranking. It was also ensured that the data made available by the respondents were relevant, comprehensive and reasonably correct and precise. The study area divided as three zones (North, south and Central Chennai) from each zone 20respondents were identified randomly and surveyed by multistage (Wards, Constituent assembly and zones) random sampling. The data collected by Madras Veterinary College Hospital and Private Pet clinics with the help of veterinarians.

Conjoint analysis was used to for modelling the preferences of the respondents. Coefficients called utilities (or part-worths) were estimated for the various attribute levels making upon the alternatives of interest by decomposing the measured overall preferences for product profiles into these part-worth utilities according to some a priori defined combination rule which specifies how subjects are assumed

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to integrate those separate part-worth utilities to arrive at an overall preference or choice. The profile utility is an overall utility or 'worth' of a profile calculated by combining all utilities of attributes levels defined in that profile, according to the assumed combination rule (Dijkstra *et al.,* 1998).

The respondents *i*'s predicated conjoint utility for a profile *j* is specified as follows:

$$U_{ij} = \sum_{k=1}^{K} \sum_{i=1}^{L\,k} \beta_{ikl}\, x_{ijkl} + \varepsilon_{ij} \quad i = 1, .., I \text{ and } j = 1, .., J$$

Where k is the number of attributes, L_k is the number of levels of attribute k, and β_{ikl} is respondents i *'s* utility with respect to level l of the attribute k. x_{ijkl} is such a {0,1} variable that equals 1 if profile j has attribute k at level l, otherwise it equals0. ε_{ij} is a stochastic error term. The key attributes with their level used in this study were Size of the dog (Small, Medium and Large), Coat type (Soft/straight and Curly) and purpose of rearing (Watch dog and Companion).With the selected attributes and factor levels, 12 different profiles (3 × 2× 2 = 12) were generated. Rather than asking respondents to rank all 12 profiles, a fractional factorial experiment design was used. A component of statistical package SPSS 15.0 (Orthoplan) was used to reduce the possible number of profiles to a manageable level, while still showing the preferences to be inferred an orthogonal main effects design, thus ensuring the absence of multi collinearity between the attributes. By using the design, the 12 possible profiles were reduced to 8 including 2 holdouts. The profile generated had 2 control profiles (holdout tasks) which will not be used by the conjoint procedure for estimating the utilities. Instead the conjoint procedure calculates correlations between the observed and predicted rank orders for these profiles, as a check of the validity of the utilities. The orthogonal design for the pet dog owners' preferences were small curly companion, Large curly watchdog, Large soft/straight companion, Small soft/straight watchdog, Large soft/straight watch dog, Medium curly companion, Small Soft/Straight Companion and Small curly watchdog. Following Hair *et al.,* (1995), dog owners visiting pet retail outlets were presented with 8 hypothetical pet dog preferences combinations and were asked to rank each using an interval ranking scale from 0 to 8.

Results and Discussion

The most important attributes selected for the study of pet dogs are the purpose of rearing, coat type and size of the dog. The internal validity of model was estimated by Kendall correlation coefficient as suggested by Green and Srinivа-

Table I. Estimated Part-worth of attributes of pet dogs

Sl. No.	Utilities for ranking				
	Attributes	**Importance score in (per cent)**	**Attribute levels**	**Utility Estimate**	**SE**
1.	Size of the dog	42.93	Small	-0.689	0.381
			Medium	-0.164	0.447
			Large	0.853	0.447
2.	Coat type	36.90	Soft/Straight	0.783	0.286
			Curly	-0.783	0.286
3.	Purpose of rearing pet dog	20.17	Watch dog	-0.075	0.286
			Companion	0.075	0.286
			Constant	4.672	0.301
		Correlations		**Value**	**P-value**
		Pearson's R		0.897	.001
		Kendall's tau		0.786	.003
		Kendall's tau for Holdouts		1.000	

san (1978). The Kendal correlation coefficient of 0.786 ($p \leq 0.01$) indicated a high level of correlation between the observed and estimated preferences and confirmed the high level of significance of the obtained results. The relative importance of attributes of pet dogs was evaluated and the part-worth estimates of these attributes are presented in Table I. The most relevant factor for the respondents were the size of the dog with a relative importance of 42.93 per cent, followed by coat type (36.90 per cent) and the purpose of rearing pet dog (20.17 per cent).

The conjoint analysis and consequent part-worth estimates of attributes of pet dogs showed an importance score of 42.93 per cent for the size of the dog. Among the different sizes, large size had the highest utility value of 0.853, whereas medium and small size of the dogs had least negative utility values of -0.164, - 0.689 respectively. The results also indicated that the pet owners' preferred large size of the dog, which could be attributed to its proximity, affordability and good companionship towards the pet owners. Also they make good watchdogs or even guard dogs to protect people and belongings from dangers, these may be the reason for preferring large size of the dogs.

In order to assess the relative importance of coat type attribute, two levels were considered, *viz.,* soft/straight and curly type of the coat. The relative important score of the coat type (36.90 per cent) showed that the respondents mainly preferred to have soft/straight type coat of the dogs with utility value of 0.783, while showing a negative utility estimate value of -0.753 for the curly type of the dogs.

The relative importance score for the purpose of rearing attribute was worked out to be 20.17 per cent. Among the purpose of rearing pet dogs evaluated, companion type showed the highest utility value of 0.075 and watch dog (-0.075). The reasons could be that the companion as a relief against psycho-somatic disorders and happiness. Conjoint analysis revealed that the large size with soft/straight coat and companion type of the dogs were highly preferred, while least preferred was small size with curly coat and watch dog type of the breed.

Summary

Most of the respondents preferred large size of the dogs followed by medium and small size of the dogs. In the coat type, soft/straight type was mostly preferred, compared to curly coat. Overall, companion type of the breed mostly preferred compared to watchdogs. By comparing all type of coat and purpose of rearing with different size of the pet dogs, large sized and soft/straight coat with companion type of the dogs was mostly preferred. The most relevant factor for pet dog owners was the size of the dog level, followed by coat type and purpose of rearing.

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