

Association Between CATA And Hedonic Data: A Study On The Visual Characteristics Of Dry Dog Food By Consumers In The U.S.

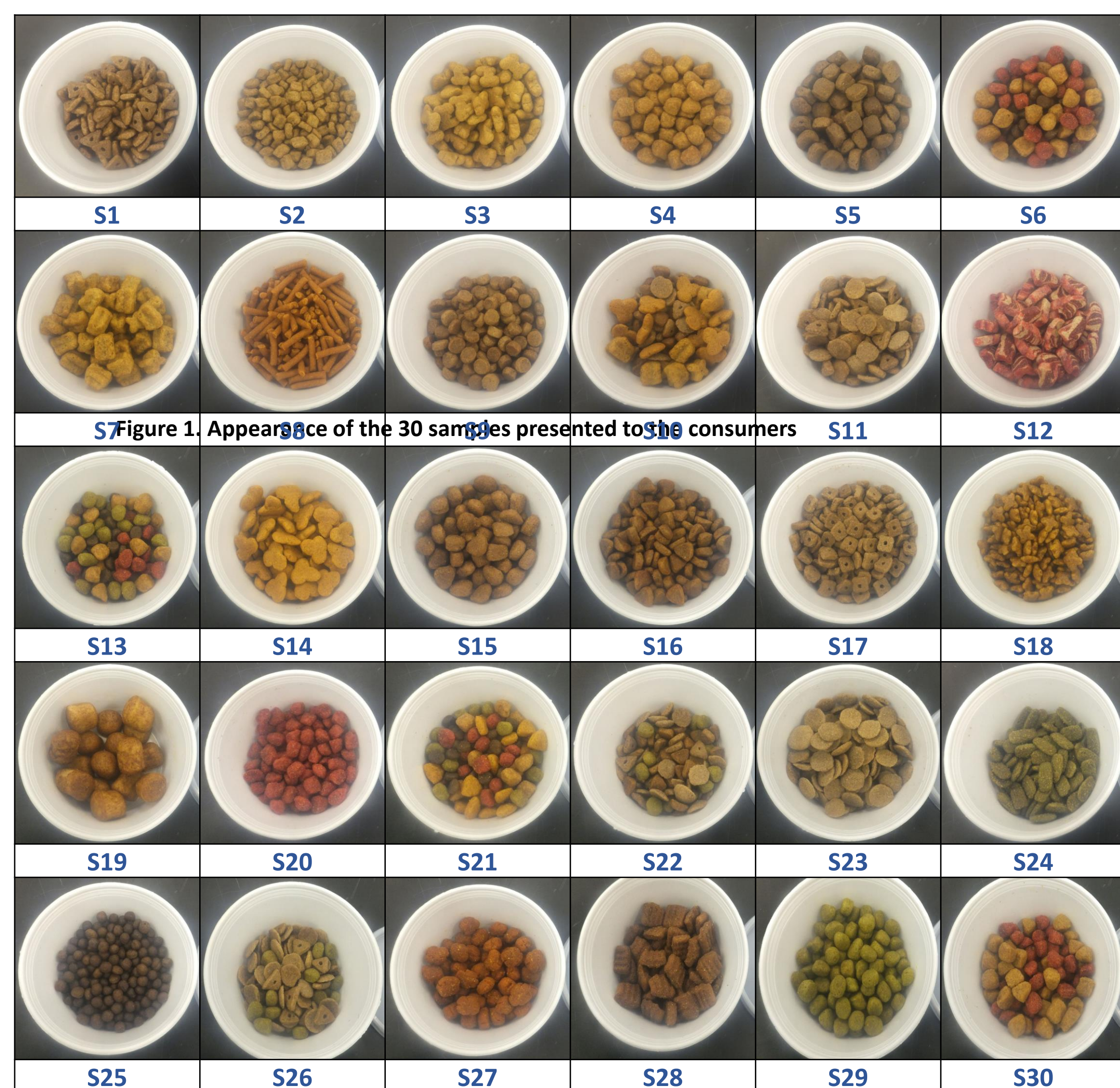
Introduction

- In the pet food industry, the pet owner's visual perception of the product plays an important role at influencing consumer acceptance to pet foods¹.
- Previous research has shown that the appearance is more important than the aroma in driving the consumers' liking of dry dog food products¹.
- Pet Food companies strive to catch the customers' attention by developing products with innovative visual characteristics.
- Further study is needed to understand what kind of visual characteristics are liked most by consumers and which beliefs consumers associate with them.

Objective

- The objective of this study was to explore the association between hedonic attributes and descriptors/beliefs consumers associate with the visual characteristics of dry dog food products.

Materials and Methods



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- 122 screened dog owners in the U.S.
- 30 samples of kibbles/inclusions from commercially available dry dog foods with a wide variety of visual differences.
- Hedonic data:
 - Consumers rated the overall liking, size liking, shape liking and color liking of the samples using a 9-point hedonic scale.
- Check-all-that-apply (CATA) data:
 - Consumers were presented with a list of 13 positive and negative descriptors/beliefs associated with the visual aspect of dry dog foods and asked to select all those that apply to each of the samples.
- Principal Coordinates Analysis of the correlation coefficients between CATA and hedonic data was used to study the association between hedonic attributes and descriptors (XLSTAT Version 2015.3.01, Addinsoft, New York, NY).

Positive attributes	Negative attributes
Has all the nutrients that my dog(s) need	Looks like "fake" food
Has natural ingredients/raw materials	Has artificial color(s)
My dog will like it	Consumption may cause choking hazard
Has variety of ingredients/raw materials	Has too much variety of shapes
Good for dog's health	My dog will not eat it
	Has too much variety of colors
	I don't like the shape of this sample
	Color is too pale

Table 1. List of descriptors/beliefs used for the check-all-that-apply question

Results

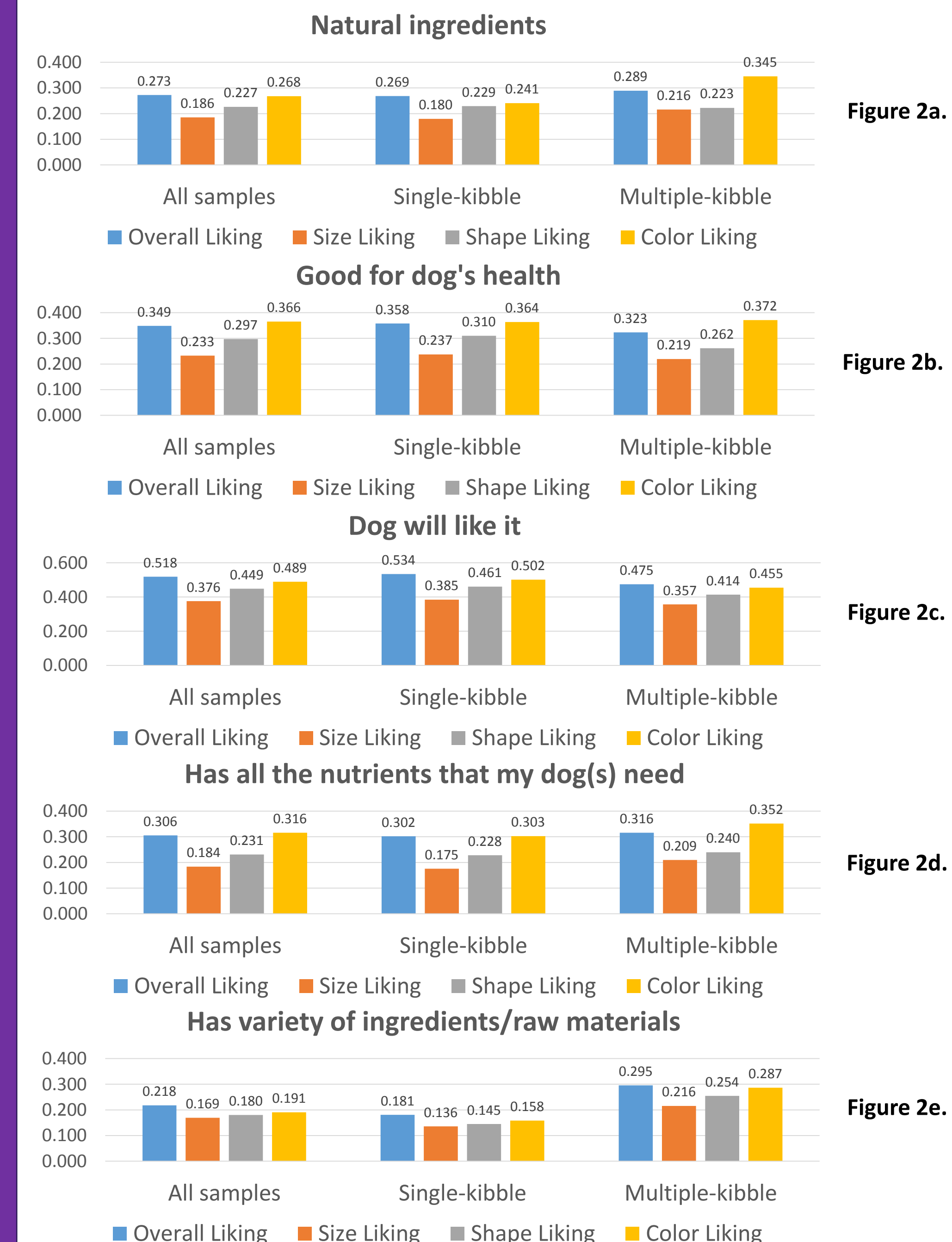


Figure 2. Bar graphs illustrating the correlation coefficients between positive terms from the CATA question and hedonic data. 2a) Has natural ingredients/raw materials 2b) Good for dog's health. 2c) My dog will like it. 2d) Has all the nutrients that my dog(s) need. 2e) Has variety of ingredients/raw materials. A significance level $\alpha=0.05$ was used.

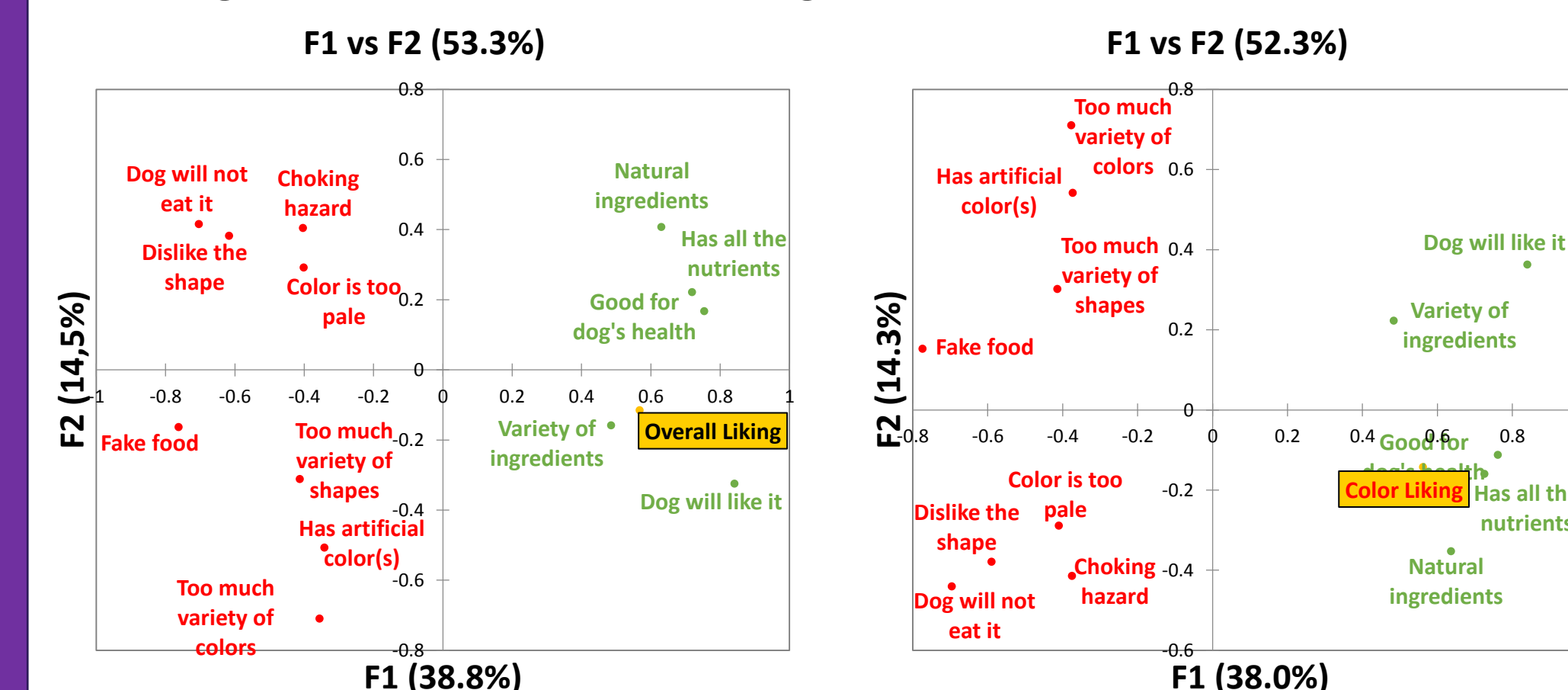


Figure 3. Principal Coordinates Analysis maps between all 13 terms from the CATA question and hedonic data (Overall Liking and Color Liking) for all 30 samples. Only the results from the first two dimensions (F1 and F2) are shown. A significance level $\alpha=0.05$ was used.

Results

- The results indicate that the Overall Liking and Color Liking attributes showed the strongest association with positive terms for all sets of samples
- Shape Liking and Size Liking showed the lowest association with positive descriptors/beliefs
- The results indicate that the term "My dog will like it" presented the highest correlation with the hedonic attributes for all sets of samples.

Conclusions

- The liking by consumers seems to be most influenced by the degree of liking of the color
- Color of the product should be specially considered by Dry dog Food manufacturers in order to meet consumer's expectations.
- "My dog will like it" was found to be the belief that most predominantly drove the liking of the samples by dog owners.
- Further research needed to understand which visual characteristics in dry dog foods elicit the belief in dog owners that "their dog will like it"
- These results illustrate an approach to study the consumers' perception of dry dog food visual characteristics by linking CATA and hedonic data.

Impact

- These findings can help dry dog food manufacturers meet consumers' needs, with increasing benefits to the pet food and commodity industries.

Acknowledgements

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References

¹Di Donfrancesco, B., Koppel, K., Swaney-Stueve, M., Chambers, E. (2014). Consumer Acceptance of Dry Dog Food Variations. *Animals*, 4, p. 313-330.