

Understanding what drives pet owners’ liking of dog foods

BACKGROUND

Pet food companies offer many varieties of dog food that vary in shape and size of kibble, unique ingredients and nutritional components, and functionality. Pet food marketing and packaging is positioned to appeal to the purchaser, the pet owner. However, once home, the pet owner’s exposure is limited to the aromatic and visual properties of the food. For this study, the researchers wanted to understand what characteristics of dog food were most appealing to consumers, without the influence of brand or packaging, and to understand if there were certain characteristics of dog food that signaled a more expensive product.

Eight dog food samples were purchased from local pet stores, grocery stores, and discount stores. Samples differed in price, brand, type of kibble, and inclusion of specialty ingredients.

Descriptive sensory analysis was conducted by a trained panel, who evaluated the aromatics and appearance attributes of each sample using flavor profiling. A Central Location Test (CLT) was conducted to evaluate consumer acceptance of the samples. One hundred pet owners were recruited from the Kansas City area based on their responsibility for purchasing the dog food (a minimum of 50% of the time). Pet owners were given samples in brown paper bags



labeled with 3-digit random codes. Approximately two pounds of sample were portioned into a brown paper bag lined with a plastic bag. Pet owners poured the product into glass pet bowls

and rated overall liking, aroma, and appearance liking of the products on a scale where 1=dislike extremely and 9=like extremely during a 1-hour session. The participants also predicted purchase intent, their dog’s liking, and the cost of the samples (5=very expensive to 1 = not at all expensive).

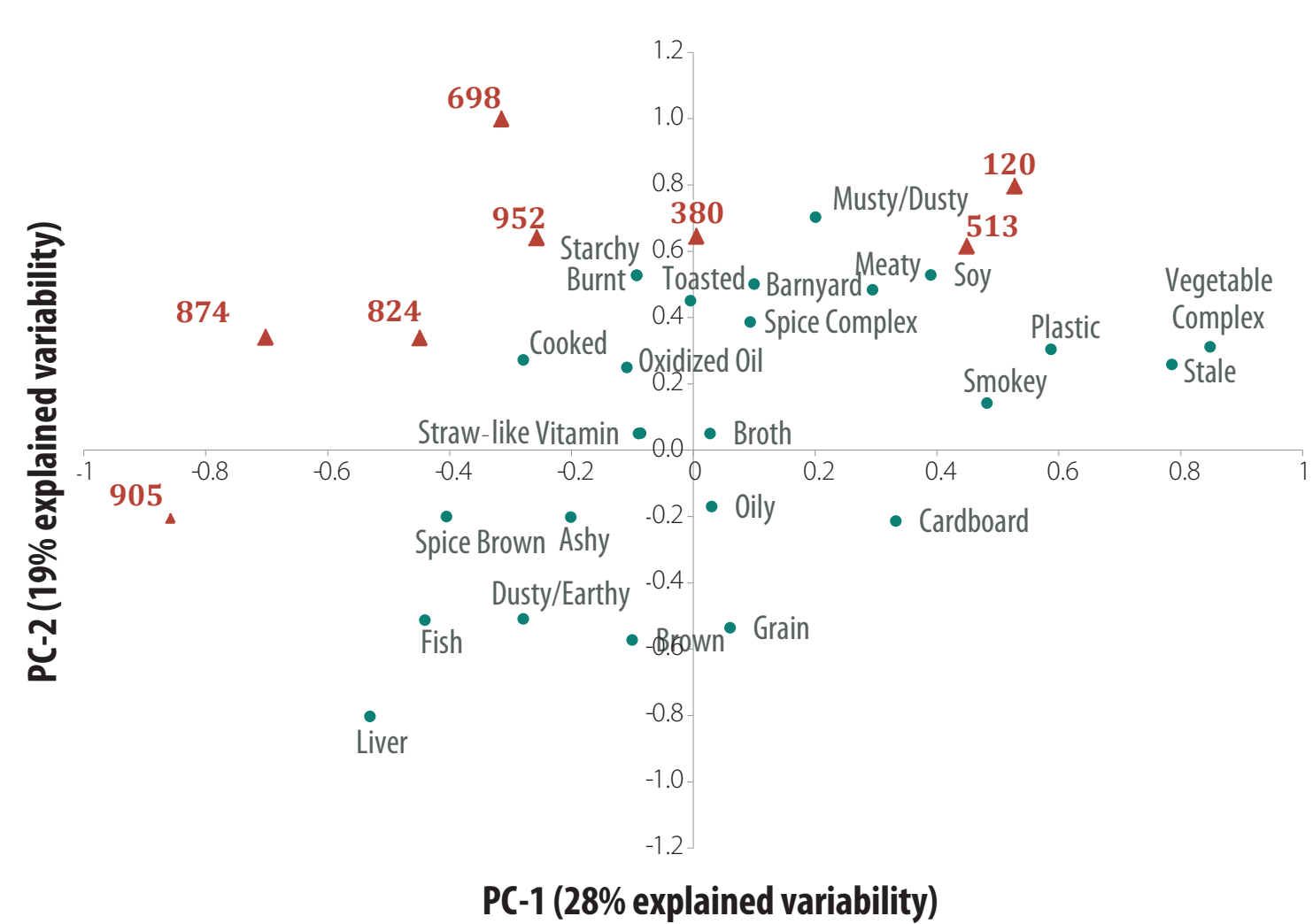
Consumer data was analyzed using analysis of variance and principal component analysis (PCA). Internal preference mapping was conducted to statistically compare consumer liking scores with descriptive data.

KEY POINTS

- **The descriptive data indicated differences** among samples in their aromatic compositions. To examine the overall pattern among the samples, a PCA was conducted for aroma attributes. The first two principal components explain only 47% of the variation in the aroma and appearance attributes (Figure 1). These percentages suggest that the sample set selected was diverse and represented a wide range of product characteristics found in the marketplace. The main differentiating aroma attributes among samples were fishy, toasted, oxidized oil and meaty. The main differentiating appearance attributes among samples were brown color intensity, kibble shape, kibble surface roughness and oiliness.

Figure 1: Internal preference mapping

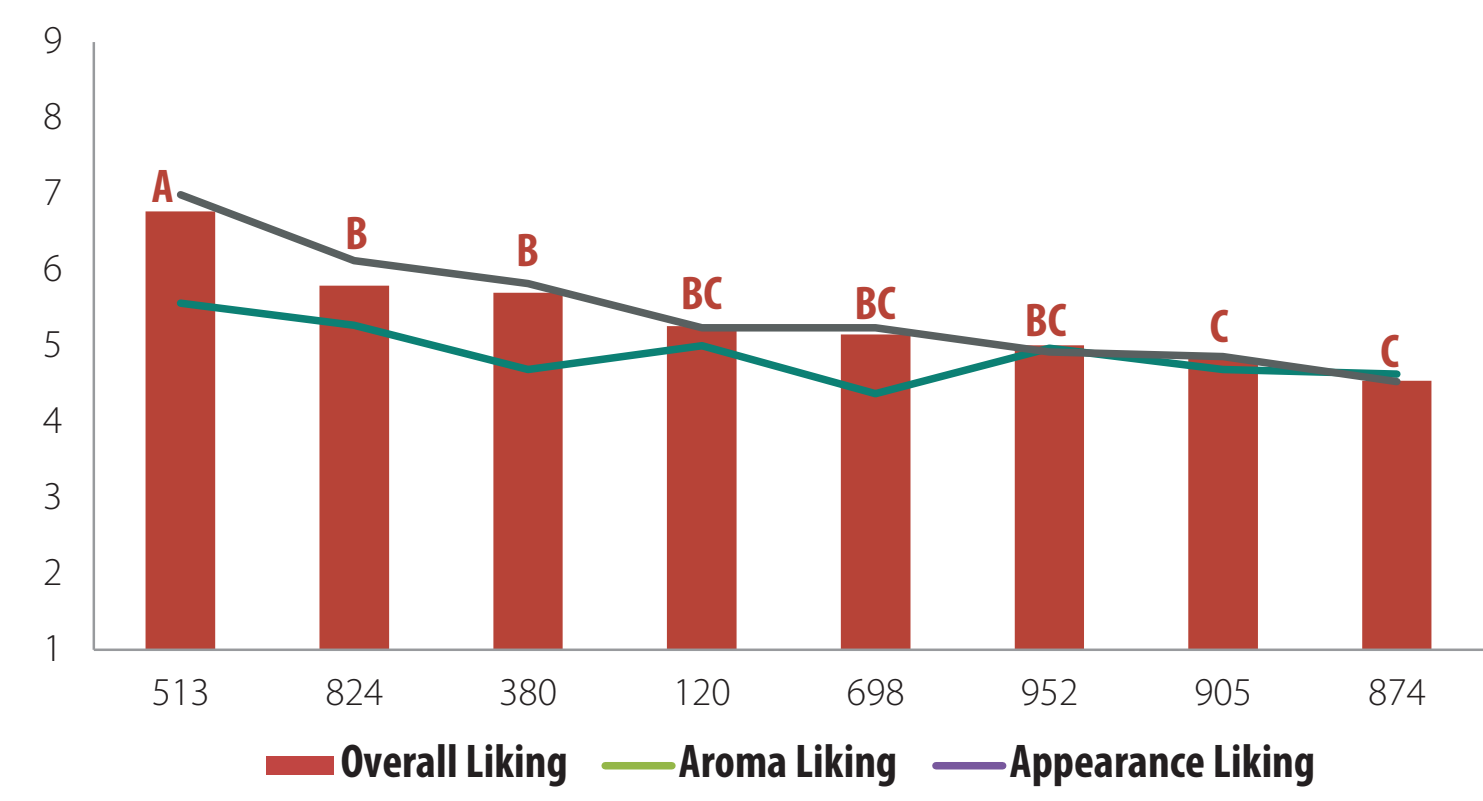
Mapped according to overall liking with descriptive aroma data, the first two principal components explain only 47% of the variation in the aroma and appearance attributes.



- **There were differences among the** products according to average acceptance scores. Sample 513 was liked significantly more than the other samples for overall liking, scoring almost 1 point higher than the second most liked sample. The liking scores of this sample were higher in appearance liking and dog liking, while for other attributes such as aroma, size, shape and uniformity, the scores were closer to the other products (Figure 2).

Figure 2: Mean consumer liking scores

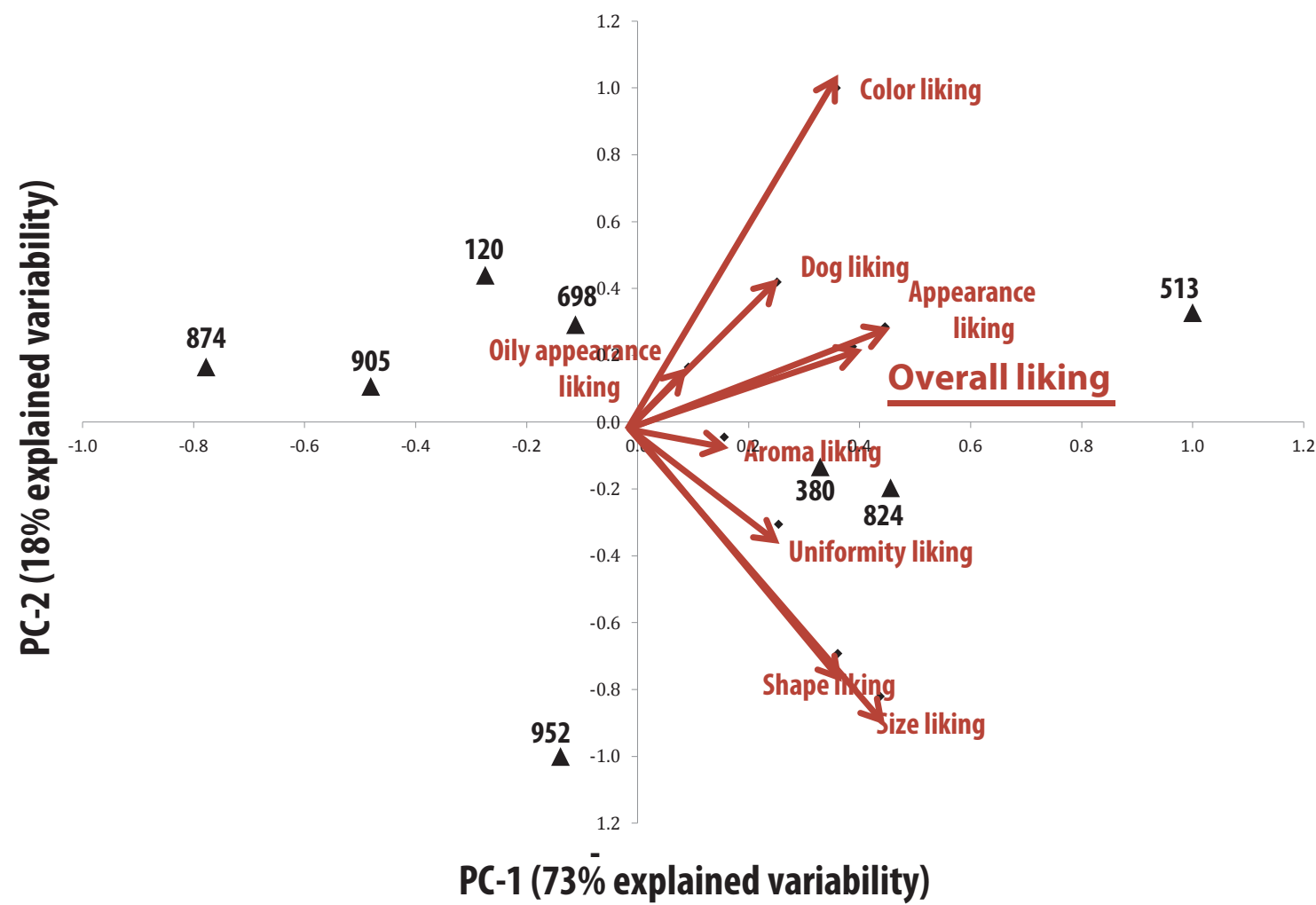
Scores for overall liking, aroma liking and appearance liking. Columns with different letters indicate a significant difference in overall liking (p=0.05).



- **Overall liking was highly correlated** with appearance liking, indicating that the appearance of the sample was influencing pet owners’ overall liking. From the liking map, appearance liking was similar to color liking (Figure 3). The kibble size, shape and uniformity of the product did not seem to influence overall liking as much as the formerly mentioned attributes.

Figure 3: Liking map of samples fitted with consumer liking

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- **Pet owners’ comments reflected their** focus on the product appearance. When asked to describe their likes and dislikes for each sample, the number of comments related to overall appearance was more than double the amount of comments made relating to aroma, the actual color of the product or (visual) texture.
- **The samples had different aroma** characteristics. Some of the products had a fishy aroma, while others were stronger in burnt aroma. Interestingly, these different profiles did not greatly influence aroma liking (as noted in Figure 2). While products significantly differed in aroma liking, the range of aroma liking scores was narrow. Mean product aroma scores ranged between “dislike slightly” and “like slightly.”
- **Pet owners’ speculation of sample** cost did not align with the actual price. The samples ranged in cost between US\$1.04 and US\$3.50 per pound. Pet owners rated the samples that included different shapes and sizes of kibble as more expensive than the products with uniform kibble. In truth, these were actually some of the less expensive samples in the study.

SUMMARY

Without branding or packaging, pet owners’ liking for dog food is most closely associated with how much they like the appearance of the product, in particular the color. It seemed that if the pet owner liked the appearance and color of the product, they believed their dog would also like the sample.

For the pet food industry, this study demonstrates that the aroma of the pet food does not greatly influence the pet owner’s liking of the product. Whether the samples were strong in fishy, burnt or cereal aromatics, the pet owner’s liking did not greatly change, nor did the owners’ speculation of how much their pet would like it.

It is recommended that the aroma attribute liking scores from this study be used as a reference for future research. For example, if research is conducted on new products and mean aroma liking scores are below “dislike slightly” (a “4” on the 9-point hedonic scale), the researcher should be concerned that the product may be more aromatically offensive than what is currently available in the marketplace and may be outside of pet owners’ acceptance range.

When brand is excluded, pet owners associate cost with products that have a variety of different shapes and sizes of kibble. The typical brown colored uniformed shape kibble was seen as less expensive than the product containing multiple kibble types.

In a real-life situation, the pet owner will have additional information available to them during a purchase. Future research in which the pet owner is provided brand and ingredient information to see their influence on sample liking and cost is recommended. It is speculated that liking scores and cost estimations will change with this new information.