



Consumers' texture vocabulary: Results from a free listing study in three Spanish-speaking countries

Gabriela Antmann^a, Gastón Ares^{a,*}, Paula Varela^b, Ana Salvador^b, Beatriz Coste^c, Susana M. Fiszman^b

^aSección Evaluación Sensorial, Departamento de Ciencia y Tecnología de Alimentos, Facultad de Química, Universidad de la República, Flores 2124, C.P. 11800 Montevideo, Uruguay

^bInstituto de Agroquímica y Tecnología de Alimentos (CSIC), Apartado de correos 73, 46100 Burjassot, Valencia, Spain

^cÁrea de Calidad de Productos Pecuarios y Estudios del Consumidor, Facultad de Agronomía, Universidad de Buenos Aires (UBA), Av. San Martín 4453, C.P. 1417 Buenos Aires, Argentina

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ABSTRACT

Considering the great impact of texture on consumers' liking of several products, it is important for food companies to understand how consumers describe the texture of food products. The aim of the present study was to get an insight on consumers' texture vocabulary in three different Spanish-speaking countries: Argentina, Spain and Uruguay. A free listing task was carried out in each country with 107–120 consumers. Participants were asked to list all the texture characteristics of food products they knew about. Between 80 and 112 terms were elicited by consumers, comprising mainly words related to texture characteristics of food products. By simultaneously considering frequency of mention and average order of elicited terms, the most familiar texture terms in each country were identified, being the most frequently used texture terms similar. Results from the present work would contribute to a greater knowledge of the vocabulary used by consumers to describe the texture of food products and show the existence of cross-cultural differences in word usage within a same language.

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1. Introduction

For decades, consumers have been considered only capable of hedonic judgments (Meilgaard, Civille, & Carr, 1999; Stone & Sidel, 1985). However, in order to design, promote and market food products that meet consumer sensory expectations, food companies need information about how consumers perceive the sensory characteristics of the products (ten Kleij & Musters, 2003). In the last years several methodologies for gathering information about consumers' perception of the sensory characteristics of food products have been developed (Adams, Williams, Lancaster, & Foley, 2007; Ares, Barreiro, Giménez, & Gámbaro, 2010; Faye et al., 2006; Narain, Paterson, & Reid, 2004; Pagès, 2005; Perrin et al., 2008; Popper, Rosenstock, Schraidt, & Kroll, 2004; Risvik, McEwan, & Rodbotten, 1997; ten Kleij & Musters, 2003). In this context, understanding how consumers describe the sensory characteristics of food products is highly valuable for food companies.

Texture is a complex sensory property that involves several widely different parameters (Szczeniak, 2002). Considering the great impact of texture on consumers' liking of several food products (Bourne, 2002; Szczeniak, 2002; Szczeniak & Kahn, 1971)

and its complexity, it is crucial to get an insight on consumers' texture vocabulary.

Several consumer studies were carried by Szczeniak decades ago, revealing that texture is a discernible characteristic of food products and that consumers' awareness of this sensory property is similar to that of flavour (Szczeniak, 1990; Szczeniak & Kahn, 1971; Szczeniak & Kleyn, 1963). Furthermore, several studies have been carried out to identify consumers' texture vocabulary in different languages. Studies carried out by Yoshikawa, Nishimaru, Tashiro, and Andyoshida (1970), Szczeniak and Kleyn (1963) and Rohm (1990) in Japan, USA and Austria respectively, concluded that the most frequently used terms in the three languages were similar; being Japanese the language with the richer textural vocabulary. Furthermore, Lawless, Vanne, and Tuorila (1997) compared sensory texture terms in Finnish and English and used principal component analysis to reduce the number of terms and concluded that texture dimensions are consistent between these two cultures. However, since these studies were carried out decades ago, they should be repeated to identify changes in consumer vocabulary; particularly taking into account consumers' changes in lifestyle, food consumption patterns and consumers' greater sophistication and awareness of food quality.

Understanding consumers' texture vocabulary could contribute to the elimination of differences between descriptions of products

* Corresponding author. Tel.: +598 2 9245735; fax: +598 2 9241906.

E-mail address: gares@fq.edu.uy (G. Ares).

obtained from consumers and trained panels (Carr, Craig-Petsinger, & Hadlich, 2001), and could allow the selection of terms commonly used by consumers to apply them in other consumer tests like intensity or just-about-right scales or check-all-that-apply questions.

According to Dubois and Giboreau (2006) an inventory of the linguistic resources used in different languages and different senses is needed. Spanish is the second most important language in terms of native speakers in the world, with over 350 million native speakers. The large number of consumers who have Spanish as a first language makes the understanding of consumers' vocabulary in that language necessary. Lists of texture words in Spanish have been published by Baduí (1988), Anzaldúa-Morales (1989) and Pedrero and Pangborn (1989), but the listed terms are not based on consumers' texture vocabulary. Therefore, texture vocabulary among Spanish-speaking consumers has not been sufficiently studied and neither the hierarchy or frequency of word usage nor the cultural differences between different Spanish-speaking countries have been extensively analysed. Cross-cultural differences in consumer perception of texture terms have been reported by Varela, Salvador, Gámbaro, and Fiszman (2008). According to these authors the terms *crujiente* (crispy) and *crocante* (crunchy) have different meanings and evoke different perceptions for Spanish and Uruguayan consumers.

In this context, the aim of the present study was to get an insight on consumers' texture vocabulary in three Spanish-speaking countries: Argentina, Spain and Uruguay.

2. Materials and methods

2.1. Participants

The study was conducted in the cities of Buenos Aires (Argentina), Montevideo (Uruguay) and Valencia (Spain). Buenos Aires and Montevideo correspond to national capital cities and Valencia corresponds to a regional capital city. Participants were recruited in each city using a convenient intentional and reasoned sampling with predetermined quotas (Guerrero et al., 2010). Convenience consumers' samples are usually used in qualitative studies when the aim of the research is to get a gross estimation of results related to a research subject and involves recruiting available participants who meet specific criteria (Kinnear & Taylor, 1993). In the present work, instead of randomly recruiting participants, specific quotas were defined to avoid differences in the participants' age and gender distribution between the three countries, to include in similar proportion male and female participants, as well as participants younger and older than 35 years. The age limit was selected considering that people younger than 35 years old comprise the 35–44% of the adult population in the three considered countries (Instituto Nacional de Estadística y Censos, 2001; Instituto Nacional de Estadística, 2001, 2004).

One-hundred and ten participants were recruited in Buenos Aires, one-hundred and twenty participants in Montevideo, whereas one-hundred and seven participants were recruited in Valencia. All participants were randomly recruited at shopping areas, universities campuses and public places. To minimize the influence of food awareness in the results, the percentage of participants recruited in food-related institutions in the three countries was lower than 10%.

The first criterion for selecting participants was their interest in participating in the study. At recruitment stage, no information about the specific aim of the study was provided. Secondly, age and gender quotas were considered to select consumers. Participants' age should range between 18 and 80 years old. Besides, in each city a minimum of 20 males and females should be more than

Table 1

Gender and age distribution of the consumer samples in each city.

Participants	Buenos Aires (Argentina)	Valencia (Spain)	Montevideo (Uruguay)
Total of participants	110	107	120
<i>Females</i>			
18–34 years old	29%	30%	25%
More than 35 years old	27%	23%	24%
<i>Males</i>			
18–34 years old	24%	24%	25%
More than 35 years old	20%	23%	26%

35 years old and a minimum of 20 males and females should be 34 years old or less. Table 1 shows the gender and age distribution of the recruited participants in Buenos Aires, Montevideo and Valencia. No significant differences were found in the gender and age distribution of the consumer samples recruited from Buenos Aires, Montevideo and Valencia ($\chi^2 = 1.7$, $p = 0.89$).

2.2. Free listing task

Free listing is a simple qualitative technique widely used in anthropology (Russell Bernard, 2005) and introduced to food consumer science by Hough and Ferraris (2009). It consists of asking participants to "list all the X they know about", where X could be anything from fruits to brands or animals (Russell Bernard, 2005). According to several authors, the items with the higher number of mentions are the ones most relevant for consumers (Henley, 1969).

In the present study participants were asked to list all the texture characteristics of food products they knew about. They were given a sheet of paper with written instructions and were asked to complete the task in less than 15 min.

2.3. Data analysis

All the words elicited by participants were considered for the analysis. First, the number of terms elicited by each participant was counted. The average number of elicited terms was determined for consumers in each country, as well as the total number of elicited terms. Chi-square was performed to study differences in the total number of terms elicited in Argentina, Spain and Uruguay, whereas analysis of variance was carried out to investigate significant differences in the average number of elicited terms between consumers of the three countries. A 5% significance level was considered.

Then, the elicited associations were qualitatively analysed for each country. A search for recurrent terms was performed, grouping different word classes for the same term (i.e. adjectives and nouns).

Categories mentioned by more than 5% of the participants were considered and their frequencies were determined by counting the number of participants that used those words in each country. Chi-square was performed to study differences in the associations of Argentinean, Spanish and Uruguayan consumers. This analysis was performed in the country \times term matrix, considering the number of participants who mentioned each term in each country. In the considered matrix, rows corresponded to countries and columns to categories; with the crossing of a certain category and participant corresponding to the number of participants who elicited that term in that country. A 5% significance level was considered.

Then, the rank of each elicited term was determined for each consumer. Cluster analysis of categories and participants was carried out to evaluate if participants grouped texture terms into

natural clusters. Only terms mentioned by more than 10% of the participants were considered in this analysis (Hough & Ferraris, 2009). Hierarchical cluster analysis was performed on the participants \times categories matrix, as suggested by Hough and Ferraris (2009). In that matrix rows corresponded to participants and columns to categories; with the crossing of a certain category and participant corresponding to the rank in which the participant elicited that term. Manhattan distances and average aggregation method were considered.

All data analyses were performed using XL-Stat 2009 (Addinsoft, NY, USA).

3. Results and discussion

In the three countries, participants were able to complete the free listing task, suggesting that they had a clear representation of food texture, in agreement with previous studies that reported universal texture awareness (Drake, 1989; Lawless et al., 1997; Rohm, 1990; Szczesniak and Kahn, 1971; Szczesniak & Kleyn, 1963; Yoshikawa et al., 1970).

As shown in Table 2, the maximum, minimum and average number of words elicited per consumer in Argentina, Spain and Uruguay was similar. The relatively large number of words elicited in the three countries indicates that consumers had a clear representation of several texture characteristics of food products and use various terms to describe the texture of food products.

According to the analysis of variance, no significant differences ($F = 0.56$, $p = 0.57$) were found in the average number of words elicited by consumers in the three countries. Besides, no significant differences ($\chi^2 = 2.9$, $p = 0.24$) were found in the total number of words elicited in Argentina, Spain and Uruguay (166, 153 and 184, respectively). These results indicate that consumers from the three Spanish-speaking countries considered had similar texture awareness.

The great majority of the elicited words were related to food texture, suggesting that consumers had a good understanding of the concept. However, there were a few mentions of other non-texture characteristics. Some consumers elicited flavour characteristics, such as sweet (2 mentions in Spain and Uruguay) and salty (2 mentions in Uruguay). There were other mentions to appearance characteristics (shiny – 1 mention in Argentina and Uruguay and colour – 1 mention in Argentina), hedonics (tasty – 2 mentions in Uruguay and 1 mention in Argentina and yummy – 1 mention in Uruguay). A similar behaviour was reported by Nuessli Guth and Wagner (2009) when studying consumers' taste vocabulary. These authors reported that, apart from mentioning taste terms, consumers elicited some words related to other senses.

In the three countries, for each texture word consumers elicited different word classes, i.e. they elicited nouns and both feminine and masculine adjectives. For example, in Argentina for *Dureza* (Hardness) three different words were elicited: *Duro* (masculine adjective, i.e. *Hard*), *Dura* (feminine adjective, i.e. *Hard*) and *Dureza* (noun, i.e. *Hardness*). This same behaviour was observed in Spain

and Uruguay for almost all the elicited terms, being always the adjectives, and in particular the masculine adjectives, the most frequently mentioned. This is an interesting result that could be considered when selecting attribute names that will be evaluated by consumers, since it could be better to consider adjectives as descriptors in sensory or consumer studies. For example, it could be more natural for consumers or trained assessors to ask them to rate how hard a specific food is than to ask them to evaluate its hardness. The fact that consumers elicited masculine adjectives more frequently is relevant for Spanish language, since adjectives have a gender, which does not happen in English, language in which most scientific publications are written.

Regarding the fact that consumers elicited masculine adjectives more frequently, it would be interesting to perform further studies on the subject and to evaluate if this issue is related to the fact that consumers associate the words with specific food products, especially in the case of feminine adjectives that need a feminine noun to make sense.

In order to quantitatively analyse results from the free listing task, all word classes for the same texture term were considered as one to determine frequencies of mention, being the masculine adjective selected to name the term. No significant differences ($\chi^2 = 5.5$, $p = 0.06$) were found in the number of texture terms elicited in the three countries (c.f. Table 2). The number of texture terms elicited in the three countries is similar to that reported by Szczesniak and Kleyn (1963) for American consumers (78 terms) and Rohm (1990) for Austrian consumers (104 terms), suggesting consensus in the number of texture terms in Occidental cultures despite speaking in different languages. On the other hand, the number of terms elicited in the three Spanish-speaking countries considered was lower to that reported by Yoshikawa et al. (1970) for Japanese consumers (406 words), who use different words to describe subtle texture differences, mainly because in Japan there are a lot of different cooking techniques that lead to a high food texture diversity.

It should also be pointed out that the total number of texture attributes mentioned in the present study was similar to that reported almost 50 years ago for American consumers, suggesting that the richness of consumers' texture vocabulary in Occidental cultures might have not increased in spite of some changes in lifestyle, consumption patterns and increasing globalization (e.g. influence of eastern cuisine). This last hypothesis, however, is difficult to prove, as lifestyle and cultural external influences could well have changed the most frequently used terms, rather than the total number, but due to the absence of any previous study for Spanish consumers, the comparison is not feasible.

Apart from identifying the terminology used in each country to describe the texture of food products, it is also important to determine which were the terms most frequently used by consumers. According to Guerrero et al. (2010), frequency of elicitation is related to the importance of a concept in consumers' mind; in this case it could be related to the relevance of each texture term for consumers. In Argentina a total of 27 words were mentioned by more than 5% of the respondents, whereas the number of words mentioned by more than this percentage of consumers was 29 in Spain and 31 in Uruguay. The terms mentioned by more than 5% of the consumers in at least one of the studied countries, as well as their frequency of mention, are presented in Table 3.

Cremoso (Creamy) was the most frequently mentioned texture term in the three countries, being mentioned by more than 50% of the participants. This indicates the importance of creaminess as a texture characteristic and could be attributed to the relationship of creaminess to consumers' liking of several food products (Elmore, Heymann, Johnson, & Hewett, 1999; Richardson-Harman et al., 2000; Tournier, Martin, Guichard, Issanchou, & Sulmont-Rosse, 2007).

Table 2

Total number of words elicited in the free listing task, in the three countries.

Country	Total number of words elicited	Number of elicited terms*	Number of words elicited per consumer		
			Average	Minimum	Maximum
Argentina	166	103	5.6	1	16
Spain	153	80	6.0	2	21
Uruguay	184	112	5.9	2	18

* In the present study consumers elicited different word classes (nouns, masculine and feminine adjectives) for each texture word. Therefore, the number of elicited term considers all word classes related to a texture word as a single term.

Table 3

Frequency of mention of texture terms mentioned by more than 5% of the participants of at least one country.

Texture term	Frequency of mention (%)		
	Argentina (n = 110)	Spain (n = 107)	Uruguay (n = 120)
Cremoso (Creamy)	51	57	59
Suave (Smooth)	43	31	59
Duro (Hard)	35	57	32
Áspero (Rough)	34	23	39
Blando (Soft)	24	46	20
Fibroso (Stringy)	24	19	20
Crujiente (Crispy)	13	39	10
Líquido (Liquid)	12	26	18
Rugoso (Rugous)	25	15	9
Crocante (Crunchy)	20	3	20
Untuoso (Unctuous)	23	10	6
Arenoso (Gritty)	9	11	18
Pastoso (Pasty)	5	20	8
Grumoso (Lumpy)	4	14	14
Gelatinoso (Gelatinous)	4	18	9
Seco (Dry)	10	8	12
Granuloso (Grainy)	9	14	3
Jugoso (Juicy)	7	10	8
Liso (Even)	6	7	12
Tierno (Tender)	12	8	4
Gomoso (Gummy)	7	12	4
Viscoso (Viscous)	3	14	5
Esponjoso (Spongy)	8	5	8
Granulado (Granulated)	5	2	11
Consistente (Consistent)	4	3	8
Elástico (Springy)	6	5	4
Pegajoso (Sticky)	2	5	8
Espeso (Thick)	1	7	6
Sólido (Solid)	4	4	6
Grasoso (Greasy)	5	1	8
Firme (Firm)	7	1	4
Húmedo (Moist)	7	0	5
Harinoso (Mealy)	7	5	0
Astringente (Astringent)	4	2	5
Frágil (Fragile)	4	6	1
Chicloso (Chewy)	0	2	8
Ligero (Thin)	2	7	0
Adhesivo (Adhesive)	2	5	2
Poroso (Porous)	5	1	2
Homogéneo (Homogeneous)	1	2	5
Aflanado (Egg-custard like)*	0	0	6

* This expression is typical of Uruguay and refers to a firm texture similar to that of an egg-custard.

Considering results from the three countries, apart from *Cremoso* (*Creamy*) the most frequently mentioned texture terms were: *Suave* (*Smooth*), *Duro* (*Hard*), *Áspero* (*Rough*), *Blando* (*Soft*), *Fibroso* (*Stringy*), *Crujiente* (*Crispy*), *Líquido* (*Liquid*), *Rugoso* (*Rugous*), and *Crocante* (*Crunchy*). These terms are in agreement with those reported by Szczesniak and Kleyn (1963), Rohm (1990) and Yoshikawa et al. (1970), suggesting that the main texture dimensions are consistent across cultures, as suggested by Lawless et al. (1997). The most frequently mentioned terms could be considered as those that are more relevant for consumers and those that are more commonly used by them to describe the texture characteristics of food products. These terms should be considered when evaluating texture characteristics of food products with consumers, by using intensity or check-all-that-apply questions.

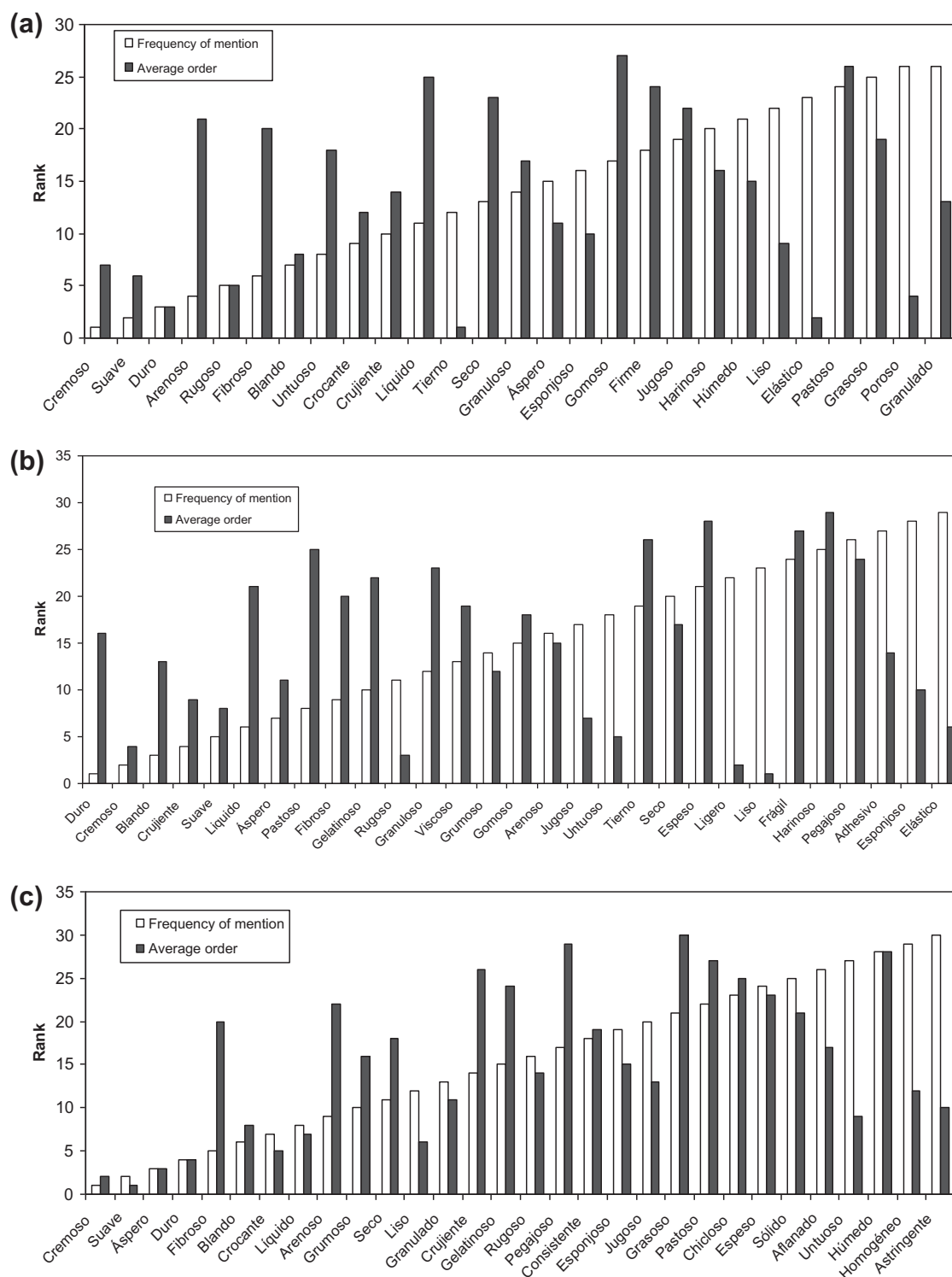
Despite the fact that results were similar for Argentinean, Spanish and Uruguayan participants, some differences were also identified. According to chi-square test, significant differences were found between the countries in the number of participants who mentioned the texture terms ($\chi^2 = 269$, $p < 0.0001$), suggesting the existence of cross-cultural differences in consumers' texture vocabulary, even within the same language. The influence of cul-

tural background on consumers' vocabulary was not surprising. However, it is interesting to notice that differences between Argentinean and Uruguayan consumers' responses were found, even when cultural differences between these two countries are very small.

As shown in Table 3, the term *Crujiente* (*Crispy*) was mentioned by 39% of Spanish participants, whereas it was only mentioned by 13% and 10% of Argentinean and Uruguayan consumers. Meanwhile, the term *Crocante* (*Crunchy*) was mentioned by 20% of Argentinean and Uruguayan participants but only by 3% of Spanish consumers. This is in agreement with results published by Varela et al. (2008), who reported that most Spanish consumers are not familiar with the term *Crocante*, whereas Uruguayan consumers seem to indistinctively use the terms *Crujiente* and *Crocante*. Furthermore, Spanish consumers mentioned more frequently the terms *Líquido* (*Liquid*), *Blando* (*Soft*), *Duro* (*Hard*), *Ligero* (*Thin*), *Pastoso* (*Pasty*), and *Gelatinoso* (*Gelatinous*) than Argentinean and Uruguayan consumers. Differences were also found between Argentina and Uruguay, two neighbour countries in South-America. Uruguayan consumers mentioned more frequently the terms *Cremoso* (*Creamy*), *Suave* (*Soft*) and *Arenoso* (*Gritty*) and less frequently the terms *Rugoso* (*Rugous*) and *Untuoso* (*Unctuous*) than Argentinean consumers. These results show that consumers in different countries might show different familiarity with the elicited texture terms and stress the importance of understanding the vocabulary used by consumers to describe the sensory characteristics of food products, in different languages but also in different cultures.

The order in which each term was mentioned could also provide information about the relative importance of the considered term for consumers (Henley, 1969). The average order in which each term was mentioned was determined in each country. Fig. 1 shows the rank of terms according to their frequency of mention and the average order in which they were elicited for the three countries, for those terms mentioned by more than 5% of the participants. Considering frequency of mention, a term ranked one was the one that was mentioned the most, while a term ranked one according to order of mention was the one with the lowest average order score. As shown in Fig. 1, the terms *Tierno* (*Tender*), *Elástico* (*Springy*), *Duro* (*Hard*), and *Poroso* (*Porous*) showed the lowest average order in Argentina; whereas in Spain the terms with the lowest average score were *Liso* (*Even*), *Ligero* (*Thin*), *Rugoso* (*Rugous*), *Cremoso* (*Creamy*), and *Untuoso* (*Unctuous*); and in Uruguay *Suave* (*Smooth*), *Cremoso* (*Creamy*), *Áspero* (*Rough*) and *Duro* (*Hard*). As previously mentioned, the terms which showed the lowest average order of mention were different in the three countries, confirming the influence of cultural background, e.g. food habits and cooking techniques, on consumers' texture vocabulary.

Despite the fact that Hough and Ferraris (2009) and Picard, Dacremont, Valentin, and Giboreau (2003) reported that a strong relationship exists between average order and frequency of mention in free listing tasks, this was not found in the present study. Average order and frequency of mention were not significantly correlated to each other. The correlation between these two parameters explained less than 10% of the variability for the three countries. In the present study, some terms were mentioned by just a small proportion of the consumers but got a low average order score, due to the fact that average order was calculated considering only data from consumers who elicited the term. On the contrary, some other terms were mentioned by a high proportion of participants but got a high average order. In the three countries there were some terms that were mentioned by a high proportion of consumers and that showed a low average order score. These terms might correspond to those more salient and relevant in the consumers' mind. Therefore, the consideration of average order



Only terms mentioned by more than 5% of the participants are considered.

Fig. 1. Rank of terms according to the frequency in which they were mentioned and the average order in which they were elicited in: (a) Argentina, (b) Spain and (c) Uruguay.

of mention might make sense for those terms mentioned by a high proportion of participants.

Thus, in the present study both frequency and order of mention provided information about the relevance of each term for consumers when describing the texture of food products. The most frequently mentioned terms that also showed a low average order might be the most relevant for consumers and those that are more

commonly used in their everyday life to describe the texture characteristics of food products. Therefore, the consideration of both frequency of mention and average order might be recommended when analysing results from free listing tasks. Considering simultaneously these two variables the most relevant terms might be those with high frequency of mention and low average order, i.e. terms with low rank according to both frequency of mention and

average order in Fig. 1. Therefore, taking into account both values and looking at Fig. 1, the most relevant texture terms in the three Spanish-speaking countries considered seem to be the following:

Cremoso (Creamy), Suave (Smooth), Duro (Hard), Rugoso (Rugous), Blando (Soft), Crocante (Crunchy), Crujiente (Crispy) and Tierno (Tender) in Argentina; *Cremoso (Creamy), Crujiente (Crispy), Suave*

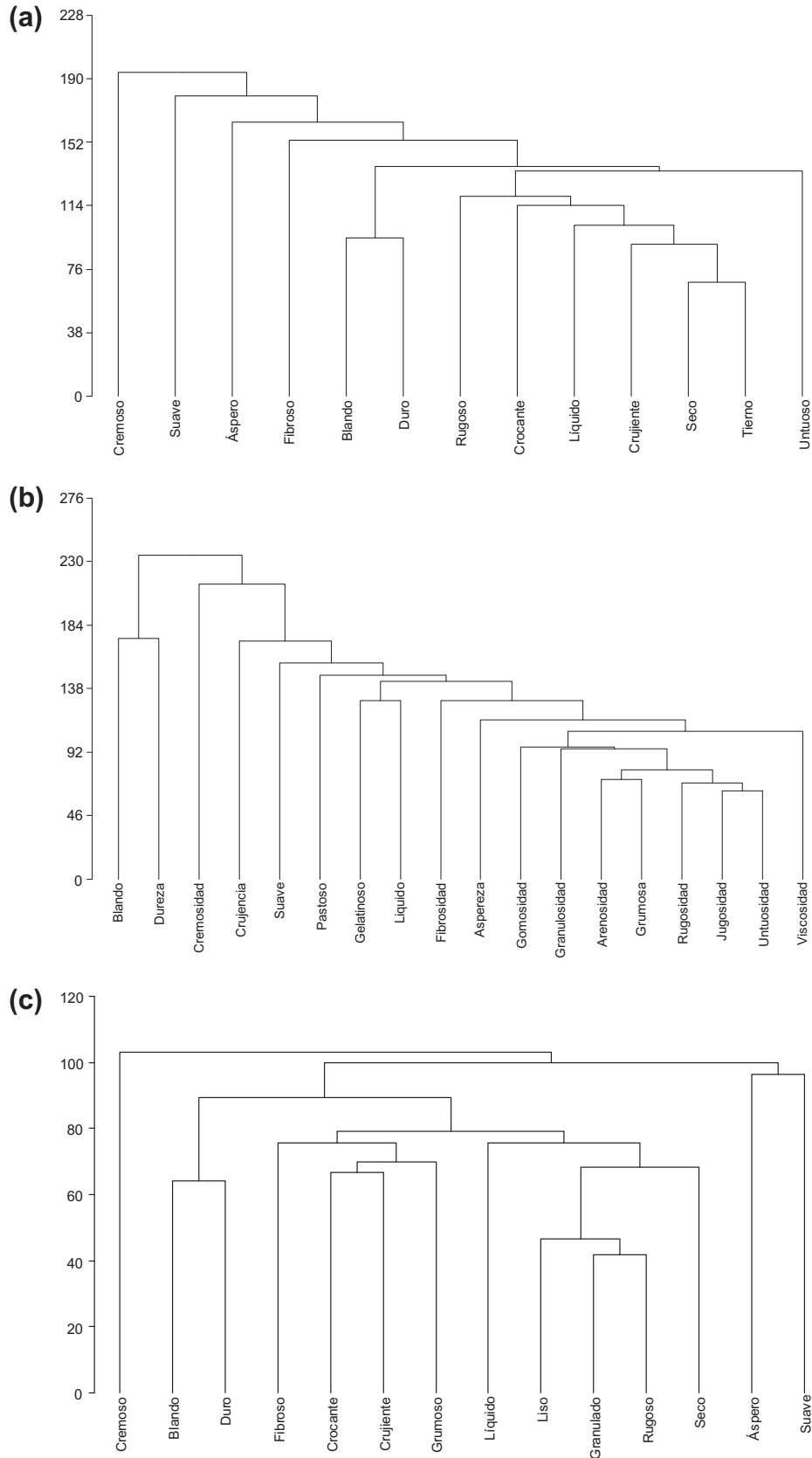


Fig. 2. Cluster analysis of terms listed by more than 10% of participants in: (a) Argentina, (b) Spain and (c) Uruguay.

(Smooth), *Áspero* (Rough), *Duro* (Hard), *Blando* (Soft) and *Rugoso* (Rugous) in Spain; *Cre moso* (Creamy), *Suave* (Smooth), *Áspero* (Rough), *Duro* (Hard), *Blando* (Soft), *Crocante* (Crunchy) and *Líquido* (Liquid) in Uruguay. Further studies should be carried out to check that this criterion was able to adequately identify the most relevant texture terms.

Cluster analysis of terms mentioned by more than 10% of participants in each country was performed and results are shown in Fig. 2. Dendrograms did not show any natural grouping, suggesting that differences in rank between terms were not related to the similarity between texture terms. In general, terms were not sorted in major texture groups. This result is not in agreement with Hough and Ferraris (2009) who reported that cluster analysis for consumers' rankings for fruits gave a natural measure of the distance between them in consumers' mind and allowed the identification of groups of fruits based on their characteristics. In the present work, considering results of cluster analysis it could be concluded that consumers elicited terms according to their familiarity and the importance they gave to them in their everyday life, instead of eliciting the terms according to the sensory characteristics to which they are related. Differences between results of the present study and those reported by Hough and Ferraris (2009) could be due to the fact that in the latter study a specific food category was considered, rather than a sensory property which comprised several different dimensions. Further research is necessary to understand differences in average order and frequency of mention of terms elicited in free listing studies.

4. Conclusions

Free listing allowed the identification of consumers' texture vocabulary in three Spanish-speaking countries, showing high awareness of this term. Even though some differences existed between consumer samples from the three countries, the most frequently used texture terms were similar. In order to confirm the differences in consumers' texture vocabulary between the three Spanish-speaking countries further studies should be carried out to overcome the limitations of the present work derived from the fact that small convenient consumer samples were considered.

Considering results from cluster analysis it could be concluded that consumers mainly elicited texture terms according to their relevance in their everyday life. By simultaneously considering frequency of mention and average order, the most familiar texture terms in each country could be identified.

Results from the present work contribute to a greater knowledge of the vocabulary used by consumers to describe the texture of food products in Spanish. The terms identified as most relevant for consumers could be used during consumer studies in which intensity or CATA questions are considered for evaluating texture characteristics. Besides, texture terms could also be used to communicate appropriately the sensory characteristics of a food product to consumers.

Further research should be carried out in each of the three countries to investigate the meaning that consumers give to the identified texture terms, which products they relate them to and in what context they use them.

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