

A set of 254 Snodgrass–Vanderwart pictures standardized for Spanish: Norms for name agreement, image agreement, familiarity, and visual complexity

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The Snodgrass and Vanderwart (1980) picture set was standardized for a Spanish sample ($N = 261$). The present article shows the main results, but more explicitly, it shows the differences between English and Spanish data. This evidence justifies the statement that normative data of cognitive stimuli cannot be taken into another language directly, because object names that are very common in one language may not be so in another, or objects that have a specific name in one language may have a generic name in another, and so on. Finally, because of the potential usefulness of the data for bilingualism studies, the Spanish data are presented jointly with the English data.

Often, cognitive research requires that the material to be processed be selected according to very specific, experimenter-defined characteristics. One way in which that selection can be effectively achieved is through the use of normative databases. Norms for verbal material have been in use for many years (see Bradshaw, 1984, and Brown, 1976, for reviews of early work) and continue to be used (see, e.g., Benjafield & Muckenheimer, 1989; Erickson, Gaffney, & Heath, 1987; Ferraro & Kellas, 1990; Gibson & Watkins, 1988; Graff & Williams, 1987; Wilson, 1988).

Fewer normative data, however, have been collected for pictorial stimuli. Until the last decade it was difficult to establish comparisons among studies in which pictorial stimuli were used due to the fact that different pictures or drawings were utilized in each study. This lack of stimulus homogeneity often resulted in a real difficulty for comparing and interpreting results. A turning point was the publication of Snodgrass and Vanderwart's (1980) well-known paper, which provided a thorough report of normative data for a set of 260 line drawings. Snodgrass and Vanderwart attended to dimensions such as name, familiarity, visual complexity, and agreement between mental images and pictures.

This standardized set of drawings was soon used in experiments in which processing differences between words

and pictures were investigated, both in semantic and episodic memory tasks. The topic of word–picture differences is central in modern cognitive research and has led psychologists to the discovery of important facts and to the elaboration of sophisticated theories. For example, it has been found that naming time is shorter for words than for pictures, although categorization is faster for pictures than for words (Potter & Faulconer, 1975; Snodgrass & McCullough, 1986; Vanderwart, 1984). Another important problem concerning word–picture differences is the picture superiority effect in memory tasks. The discovery of this phenomenon stimulated the development of theoretical accounts of intervening memory structures and processes, such as the dual coding hypothesis (Paivio, 1971, 1983) and the sensory–semantic model (Nelson, Reed, & Walling, 1976). Both approaches have shown considerable merit in the attempt to account for recall and recognition data (Mäntylä, 1986; see Bajo & Cañas, 1988a, 1988b, for reviews). However, several discrepancies—like those arising from the utilization of different materials—need to be resolved. The use of standardized materials can contribute to the reduction of the disparities among experimental procedures and, in that way, provide a firmer basis for the comparison of both results and theoretical accounts.

Another area in which the use of standardized pictorial materials has proven to be important is perceptual identification and recognition. Examples of progress in this area are found in work on recognition thresholds (Kroll & Potter, 1984; Snodgrass, 1984; Snodgrass & Corwin, 1988; Snodgrass & Poster, 1992) and on recognition of object and non-object drawings (Mou, Anderson, Vaughan, & Rouse, 1989). Finally, drawings have been used increasingly in experiments aimed at the study of implicit memory. Recent work with pictures has demonstrated that the effects found with verbal materials are readily replicable when drawings are used. Snodgrass and Vanderwart's

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(1980) original set of standardized drawings has been modified to build series with eight levels of increasing fragmentation (Snodgrass, Smith, Feenan, & Corwin, 1987). The series have been used in experiments in which prior exposure can prime both word and picture fragments (Feenan & Snodgrass, 1990; Hirshman, Snodgrass, Mindes, & Feenan, 1990; Snodgrass & Feenan, 1990; Snodgrass & Surprenant, 1989). This line of research has recently been extended by the construction of a series of gradually degraded verbal material consisting of eight levels of increasing fragmentation of the names of the Snodgrass and Vanderwart pictures (Snodgrass & Poster, 1992).

This review is far from exhaustive, but it clearly supports the view that the standardization of pictorial stimuli, such as the set of Snodgrass and Vanderwart (1980) drawings, has had an unquestionably positive effect on research devoted to the study of picture processing. At the same time, further work is needed to expand the original work on picture standardization to other contexts because of norm generalization difficulties. One case in which that work is necessary is the collection of normative data in different linguistic and sociocultural contexts. Objects that are common in a given culture might be less common in another culture; pictures that evoke a very specific and concrete name in English might evoke a more general term in another language; or images that show a high level of name agreement for English speakers might show higher variability in a different community of speakers. Because of these and related problems, a serious effort should be devoted to the empirical validation of all kinds of normative data with appropriate population samples. The research reported in this paper is part of an effort to collect adequate normative data for pictorial stimuli in the Spanish-speaking population.

Several studies have focused on the task of obtaining normative data for verbal stimuli in Spanish. The first quantitative report was made available by Juilland and Chang-Rodriguez (1964), who developed a frequency index for Spanish words. In more recent years, other researchers have presented additional normative data for verbal material (see Dasí, 1986, for a listing and review of available norms). Special mention has to be made to the work of Algarabel and his colleagues at the Universidad de Valencia (Algarabel, Ruiz, & Sanmartin, 1988; Algarabel, Sanmartin, García, & Espert, 1986; Pascual, Gotor, Miralles, & Algarabel, 1979). They have made a very systematic attempt to collect norms for words, attending to several dimensions (category membership, free association, number of syllables, etc.). Furthermore, they have assembled the data in a single, 16,000-word computerized database, the University of Valencia's Word Pool (UVWP), that allows for easy consultation (Algarabel et al., 1988).

No comparable approach has been applied to pictorial stimuli. In order to provide researchers with normative data on pictures that are appropriate for Spanish-speaking subjects, a study was conducted in which the stimuli were 254 line drawings from the set first used by Snodgrass and Vanderwart (1980). Closely following their procedure, norms for name agreement, familiarity, visual complex-

ity, image agreement, picture-name agreement, and image variability were collected.

METHOD

Subjects

A total of 261 students from introductory courses in psychology from the Universidad de Salamanca participated in the study. Different subjects participated in each of the six tasks. There were 62 in the name agreement task, 55 in the image agreement task, 51 in the familiarity task, 59 in the complexity task, and 19 and 15 in the subsidiary tasks of picture-name agreement and image variability agreement, respectively. All the subjects were native Spanish speakers and participated voluntarily as a course activity. Each session was run in small groups of up to 5 people.

Materials

The stimuli were a set of 254 pictures from Snodgrass and Vanderwart (1980). A digitized version of the drawings was used to present them on a Macintosh SE/30 computer screen. Three of the tasks required auditory presentation of names. These auditory stimuli were digitized, stored in the computer, and presented through a loudspeaker. A custom-made program controlled presentation of visual and auditory stimuli in all the tasks.

Procedure

The procedure closely followed the steps described by Snodgrass and Vanderwart (1980), both in terms of the tasks performed and in the way the tasks were done. The only difference was that in our study all the stimulus presentation processes were controlled by a micro-computer. Drawings were randomly presented in the center of the screen inside a 95 × 130 mm frame over a white background. Sounds were amplified to a perfectly audible level. Subjects sat in a quiet room in front of the computer screen at a distance of approximately 1.5 m.

The six different tasks were run in a similar way. At the beginning of every session in each task, subjects were read the instructions and encouraged to answer carefully and consistently. They were given individual answer sheets and instructed to respond to every drawing. The total amount of time was between 40 min for the quicker task and 1 h for the slower one, with one or two 3-min breaks depending on the length of the session. Each picture was presented for a period of 4 sec, and there was a 4-sec interstimulus delay during which subjects had to rate the stimulus according to the instructions for each task.

In the name agreement task, subjects had to identify the drawing with the first name that came to mind and write the name on the answer sheet. If that was not possible, they had to indicate whether the reason was "don't know object" (DKO), "don't know name" (DKN), or "tip of the tongue" (TOT).

In the familiarity task, subjects had to rate the degree to which the object represented in the drawing was familiar to them, basing their rating on the frequency with which they came across the object in everyday life. Their answer to each item was a whole number from a 5-point rating scale (1 = *a very unfamiliar object*, 5 = *a very familiar object*).

The visual complexity task required the subjects to rate the complexity of each drawing, rather than the complexity of the object it represented. They also had to provide ratings from a 5-point scale (1 = *drawing very simple*, 5 = *drawing very complex*).

In the image agreement task, subjects were asked to estimate how similar each picture was to a mental image of an object they had previously been asked to form. First, while the screen remained black, they heard the name of the object through the loudspeaker, and had 3 sec to form a mental image of it. After that, a picture of the object was presented on the screen. From that moment they had 4 sec to rate the degree of agreement between their mental image and the picture (1 = *low agreement*, 5 = *high agreement*). If they could form no image, they were instructed to write the letters *NI*,

and if the formed image corresponded to a different object, they had to write the letters *DO*. The name used with each picture was the most common name given to the object in the name agreement task. Nine of the drawings were excluded from this and the next two tasks because they failed to reach a 30% level of agreement in the name agreement task. The level of agreement was low for several different reasons, such as the use of a category label instead of the concrete object name, confusion with similar-looking objects, object not known, and so on.

In the picture–name agreement task, subjects listened to the name and saw the picture at the same time. After each picture–name presentation, subjects had 4 sec to rate, on a 5-point scale, how closely the picture matched the way they expected the named object to look. In the last task, image variability, subjects listened to the name alone and then they had to indicate, using a 5-point scale (1 = *few images*, 5 = *many images*), whether the name evoked few or many different images.

RESULTS AND DISCUSSION

A summary of the rating data obtained from our samples of Spanish-speaking subjects is presented in Appendix A. Blank responses were not taken into account in the computation of the ratings. To allow for easy reference and data comparison, entries are listed according to the identifying numbers originally assigned to each drawing by Snodgrass and Vanderwart (1980). For each picture, the following information is presented: (1) most frequent name given in Spanish; (2) most frequent name in English; (3) two measures of name agreement, the statistic *H* and the percentage of subjects producing the most common name; and (4) the means and standard deviations for image agreement, familiarity, visual complexity, picture–name agreement, and image variability. Along with the ratings obtained with Spanish-speaking subjects, Appendix A also presents the data obtained by Snodgrass and Vanderwart with their English-speaking subjects. This grouping and presentation of the data allows for easy comparison of ratings given by the two samples to the same drawing in each task. Appendix B lists the alternate names given to each drawing, with an indication of their frequency.

Table 1 presents summary statistics for the following indices: *H* (reflecting name agreement), percentage, image agreement, familiarity, and complexity. The table con-

tains the summary for both the Spanish-speaking samples and the English-speaking samples reported by Snodgrass and Vanderwart (1980). Although *H* and percentage are two measures of name agreement, following Snodgrass and Vanderwart’s arguments,¹ we will use *H* as the measure of name agreement. Separate *t* tests were conducted to compare the ratings given in each of these dimensions by Spanish speakers and English speakers in response to the 254 drawings that were common to both studies. There were small but significant differences for familiarity and complexity. In the English-speaking sample the pictures were judged more familiar than those in the Spanish one [*t*(253) = 4.32]. The reason seems quite obvious: Pictures were selected in the American context (things like a baseball bat, a football helmet, or a kettle are more familiar to English speakers in America than to Spanish speakers in Spain). With regard to complexity, the Spanish sample judged the pictures as slightly more simple than did the English-speaking one [*t*(253) = 6.60]. Perhaps the different size of the pictures reproduced by the slide projector or by the computer can account for the difference. There is a larger significant difference when the *H* value is considered [*t*(253) = 7.97]. The English-speaking sample had bigger *H* values than did the Spanish one. Because *H* is an index of name agreement, it seems that the sample in our group showed less variability in the number of names applied to objects than did the English-speaking sample. Although the comparisons are rather global, the differences found are evidence that normative data for this kind of stimuli should be collected for different populations, because the responses that stimuli evoke in different tasks can vary across cultures and/or languages.

Given this result, we performed a qualitative comparison of those Spanish–English pairs whose difference was exaggerated (we selected those scores 2 standard deviations above or below the mean). Following this criterion we found 39 pairs for which the Spanish word surpassed the English one in such a difference, but only 8 pairs for which the English word exceeded the Spanish one in such a difference. The analysis of all these pairs helped us to find some reasons for the discrepancy. One is that there is a larger proportion of compound common words in

Table 1
Summary Statistics for All Variables: Spanish and U.S.A. Samples

	<i>H</i> *		%		Image Agreement		Familiarity		Complexity		Picture–Name Agreement Variability	
	U.S.A.	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.	Spain	U.S.A.	Spain	(Spain)	(Spain)
<i>M</i>	0.56	0.27†	86.59	82.30	3.69	3.71	3.29	3.12†	2.96	2.67†	4.06	2.61
<i>SD</i>	0.53	0.41	14.34	21.68	0.58	0.60	0.96	1.11	0.89	0.93	0.49	0.59
Median	0.42	0.12			3.72	3.84	3.32	3.06	2.93	2.52	4.11	2.6
Mode		0				4.11		1.53		2.05	4.47	2.53
Range	2.55	2.19	67	91.9	2.68	3.03	3.72	3.67	3.78	3.68	2.74	3.13
Min	0	0	33	8	2.05	1.74	1.18	1.27	1	1.05	2.26	1.05
Max	2.55	2.19	100	100	4.73	4.77	4.9	4.94	4.78	4.73	5	4.13
Q1	0.12	0.04			3.27	3.29	2.49	2.16	2.28	1.98	3.74	2.16
Q3	0.87	0.28			4.15	4.16	4.09	4.08	3.59	3.39	4.42	3.13
Skew	1.5	2.39	–1.38	–1.42	0.96	–0.71	0.93	0.01	1.02	0.28	–0.57	–0.06
Kurtosis		5.79	1.49	1.06		0.01		–1.32		–0.89	0.19	–0.49
Valid cases	260	254	260	254	260	245	260	254	260	254	245	245

*Increasing *H* values indicate decreasing name agreement. †Significant *t* test differences at *p* < .01.

English than in Spanish: In 14 of the 39 pairs, the English word was a compound (e.g., *avión-airplane*, *sartén-frying pan*, *collar-necklace*, *pincel-paintbrush*, *bolsa-pocketbook*, *patín-roller skate*, *maleta-suitcase*, *regadera-watering can*). Another reason is that the number of alternative names was always superior for the member with less agreement (8/8 for the pairs superior in English and 31/39 for the pairs superior in Spanish). We also thought about two other possible reasons: (1) the possibility that a higher *H* in one of the languages was due to the existence of a very frequent synonym (e.g., *barril/tonel-barrel*, *cuenco/tazón-bowl*, *clavo/punta-nail*, etc.) and (2) the use of generic words instead of specific ones (e.g., *shirt* instead of *blouse*, *pan* instead of *frying pan*, *skate* instead of *roller skate*, *glass* instead of *wineglass*, etc.).

In conclusion, a detailed consultation of the ratings obtained for each drawing with a particular sample is the optimal strategy for selecting stimuli to be used with subjects from that population.

Correlations Among the Measures

Three correlational analyses were performed on the data. The first one correlated the data provided by Snodgrass and Vanderwart (1980) with the data obtained in the present study for *H*, image agreement, familiarity, and visual complexity. As shown in Table 2, there were fairly high and significant correlations for all the variables. Correlations were higher for complexity and familiarity than for name agreement (*H* and %) and image agreement. This is probably because complexity and familiarity were judgments that were produced directly about the picture or the object it represented, but not about the word used to name it. On the other hand, name agreement and image agreement were directly dependent on words and the particular structure of language. This pattern of correlations is similar to that found for a Japanese sample (Matsukawa, 1983), for whom the lower correlations were also *H* values, percentage, and image agreement, demonstrating that naming pictures is not equally direct in all languages (Table 2).

The second correlational analysis involved the data obtained in the present study. Each measured variable

Table 2
Significant Correlations Among the Measured Variables in the Spanish and U.S.A. Samples (for Snodgrass and Vanderwart Pictures)

Variable	U.S.A. Sample*				
	NA (<i>H</i>)	%	IA	Fam	Comp
Spanish sample					
Name agreement (<i>H</i>)	.268				
Name agreement (%)		.427			
Image agreement			.557		
Familiarity				.739	
Visual complexity					.740
Japanese sample†					
	.258	.185	.409	.858	.941

Note—NA, name agreement; IA, image agreement; Fam, familiarity; Comp, visual complexity. All listed correlation coefficients for the current study and the Snodgrass and Vanderwart (1980) study are significant at *p* < .01. *Results from Snodgrass and Vanderwart (1980). †Results from Matsukawa (1983).

was correlated with the rest. Table 3 shows the significant correlations, which overall are not too different from the ones obtained by Snodgrass and Vanderwart (1980). Moreover, they are also similar to the ones obtained with children (Berman, Friedman, Hamberger, & Snodgrass, 1989), Japanese (Matsukawa, 1983), and Dutch (van Schagen, Tamsma, Bruggemann, Jackson, & Michon, 1983) samples.

The third correlational analysis involved a comparison between the variables measured in the present study and the 11 variables for which the UVWP (Algarabel et al., 1988) contains data. Table 4 shows the significant correlations obtained for the data from drawings that had their most frequently given name included in the word database. There is a high correlation (.52) between familiarity of the object depicted in the drawing and familiarity of the word. Also high were the correlations of image variability with two word variables: number of attributes (.43) and meaningfulness (.46).

Factor Analysis

According to Snodgrass and Vanderwart (1980), the interrelations among name agreement, familiarity, visual complexity, and image agreement were quite low, sug-

Table 3
Significant Correlations Among the Measured Variables in a Spanish Sample, for Snodgrass and Vanderwart (1980) Pictures, and Between Them and the Juilland and Chang-Rodriguez (1964) Frequencies

Variable	NA (<i>H</i>)	%	IA	Fam	Comp	Freq	PicName	I-Var
Name agreement (<i>H</i>)	1.000							
Name agreement (%)	-.740	1.000						
Image agreement		.218	1.000					
Familiarity			-.155	1.000				
Visual complexity			-.136	-.459	1.000			
Frequency				.214		1.000		
Picture-name agreement			.723	-.206			1.000	
Image variability	-.276	.30	-.286	.327			-.349	1.000

Note—All listed correlation coefficients for the current study are significant at *p* < .01. NA, name agreement; IA, image agreement; Fam, familiarity; Comp, visual complexity; Freq, frequency; Pic-Name, picture-name agreement; I-Var, image variability.

Table 4
Significant Correlations Among Picture Variables and (UVWP)
Variables for the Concepts Available in the UVWP

Word Norms	Picture Norms					
	NA (H)	IA	Fam	Comp	PicName	I-Var
Letter meanings*			.173	-.128		.269
Letter frequency†			.214			.183
Letters*						-.214
Imagery			.262			
Meaningfulness						.437
Attribute		-.231		.251		.462
Concreteness			.217			-.194
Categorizability			.229	.218	.193	
Familiarity		-.206	.526		-.259	.192
Pleasantness			.180			.269
Syllables*						-.158

Note—All listed correlation coefficients for the current results are significant at $p < .05$. All valid cases equal 85, except in * (211 valid cases) and † (89 valid cases). NA, name agreement; IA, image agreement; Fam, familiarity; Comp, visual complexity; PicName, picture–name agreement; I-var, image variability.

gesting that the four measures represented largely independent attributes of the pictures. They also assumed that picture–name agreement and image variability were two variations of the image agreement task, and so the ratings in those two tasks related to the same attribute of pictures. To examine these assumptions and to obtain further data on the structure of attributes, we conducted a principal components factor analysis and a varimax rotation.

The analysis showed that only four factors explained altogether 88% of the variance. Table 5 shows that Factor 1 loads on image agreement and picture–name agreement. This fact is congruent with the assumption that both variables refer to the same underlying attribute of pictures. However, Factor 2 loads positively on complexity and negatively on familiarity, implying that visually complex pictures tend to be unfamiliar, or, in other words, familiar objects are usually simple. Factor 3 shows that image variability is independent of image agreement. It seems that variability of images is closer to the richness of the concept (familiarity might be implied) than to the vividness of the image the concept activates. Finally, Factor 4 loads on name agreement, a result that reflects the independence of this attribute.

CONCLUSION

The main goal of the present research was to collect normative data for pictorial stimuli that could be used in research with Spanish-speaking samples. As a result, de-

Table 5
Factor Analysis (Varimax Rotation)

Variable	1	2	3	4
Name agreement (H)	-.083	.035	-.152	.981
Image agreement	.915	-.061	-.135	-.094
Familiarity	-.128	-.757	.419	.001
Visual complexity	-.065	.915	.121	.044
Picture–name agreement	.919	.089	-.138	-.010
Image variability	-.214	-.066	.917	-.175

scriptive ratings for a number of picture attributes of the drawings previously presented by Snodgrass and Vanderwart (1980) with English-speaking subjects are now available for Spanish-speaking subjects. With these data, pictures can be selected in a more accurate way because their indices are specific for Spanish-speaking subjects. The different comparisons between the English and Spanish ratings (and also Japanese; see Table 2) show that, despite the pictures being judged to be of similar complexity and familiarity, name agreement and image agreement are specific to the particular language.

Two alternative explanations can be offered to explain the differences found between our study and the original one: The differences might be due to either language or cultural context. If differences in name agreement and image agreement were due exclusively to cultural context, the familiarity correlations would not be so high; correlations of .74 in our sample and .86 in the Japanese sample suggest that the cultural contexts are comparable and very similar (i.e., objects that are familiar in one context are familiar in the other). However, even if this argument were correct, the question remains open. Perhaps if another experiment were conducted with Spanish-speaking people living in the United States, the problem could be solved. The finding of high correlations between such a sample and our sample for name agreement and image agreement would indicate that the present differences are due to language. Higher correlations between such a sample and the Snodgrass and Vanderwart (1980) sample, by contrast, would indicate that the present differences were due to culture.

In the absence of relevant data, the question of language versus culture remains open and clearly in need of further investigation. In the interim, attention should be paid to the issue of generalization of the results obtained with Spanish speakers from Spain to other groups of Spanish speakers. Although Spanish speakers share a basic corpus of lexical and grammatical knowledge, it might be the case that different groups of Spanish speakers would show different patterns of results because of dialectal and cultural influences.

REFERENCES

ALGARABEL, S., RUIZ, J. C., & SANMARTIN, J. (1988). The University of Valencia's computerized word pool. *Behavior Research Methods, Instruments, & Computers*, *20*, 398-403.

ALGARABEL, S., SANMARTIN, J., GARCÍA, J., & ESPERT, R. (1986). *Normas de asociación libre para investigación experimental*. Unpublished manuscript, Universidad de Valencia, Departamento de Psicología Experimental.

BAJO, M. T., & CAÑAS, J. J. (1988a). Dibujos y palabras: Diferencias en procesamiento. *Psicológica*, *9*, 209-224.

BAJO, M. T., & CAÑAS, J. J. (1988b). Dibujos y palabras: Diferencias en estructuras. *Psicológica*, *9*, 225-240.

BENJAFIELD, J., & MUCKENHEIM, R. (1989). Dates of entry and measures of imagery, concreteness, goodness, and familiarity for 1,046 words sampled from the *Oxford English Dictionary*. *Behavior Research Methods, Instruments, & Computers*, *21*, 31-52.

BERMAN, S., FRIEDMAN, D., HAMBERGER, M., & SNODGRASS, J. G. (1989). Developmental picture norms: Relationships between name

- agreement, familiarity, and visual complexity for child and adult ratings of two sets of line drawings. *Behavior Research Methods, Instruments, & Computers*, **21**, 371-382.
- BRADSHAW, J. L. (1984). A guide to norms, ratings and lists. *Memory & Cognition*, **12**, 202-206.
- BROWN, A. S. (1976). Catalog of scaled verbal material. *Memory & Cognition*, **4**, 1-45.
- DASÍ, C. (1986). Guía de índices y datos normativos sobre material verbal. *Psicológica*, **7**, 99-102.
- ERICKSON, J. R., GAFFNEY, C. R., & HEATH, W. P. (1987). Difficulty and familiarity norms for 192 single-solution word fragments. *Behavior Research Methods, Instruments, & Computers*, **19**, 370-376.
- FEENAN, K., & SNODGRASS, J. G. (1990). The effect of context on discrimination and bias in recognition memory for pictures and words. *Memory & Cognition*, **18**, 515-527.
- FERRARO, F. R., & KELLAS, G. (1990). Normative data for number of word meanings. *Behavior Research Methods, Instruments, & Computers*, **22**, 491-498.
- GIBSON, J. M., & WATKINS, M. J. (1988). A pool of 1,086 words with unique two-letter fragments. *Behavior Research Methods, Instruments, & Computers*, **22**, 390-397.
- GRAFF, P., & WILLIAMS, D. (1987). Completion norms for 40 three-letter word stems. *Behavior Research Methods, Instruments, & Computers*, **19**, 422-445.
- HIRSHMAN, E., SNODGRASS, J. G., MINDES, J., & FEENAN, K. (1990). Conceptual priming in fragment completion. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, **16**, 634-647.
- JULLAND, A., & CHANG-RODRIGUEZ, E. (1964). *Frequency dictionary of Spanish words*. London: Mouton.
- KROLL, J. F., & POTTER, M. C. (1984). Recognizing words, pictures, and concepts: A comparison of lexical, object, and reality decisions. *Journal of Verbal Learning & Verbal Behavior*, **23**, 39-66.
- MÄNTYLÄ, T. (1986). Optimizing cue effectiveness: Recall of 500 and 600 incidentally learned words. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, **12**, 66-71.
- MATSUKAWA, J. (1983). *A study of characteristics of pictorial material* (Memoirs of the Faculty of Law and Literature). Shimane University, Shimane-ken, Japan.
- MOU, L.-C., ANDERSON, N. S., VAUGHAN, W. S., JR., & ROUSE, R. O., JR. (1989). Recognition memory for nonobject drawings. *Bulletin of the Psychonomic Society*, **27**, 399-401.
- NELSON, D. L., REED, V. S., & WALLING, J. R. (1976). Pictorial superiority effect. *Journal of Experimental Psychology: Human Learning & Memory*, **2**, 523-528.
- PAIVIO, A. (1971). *Imagery and verbal processes*. New York: Holt, Rinehart & Winston.
- PAIVIO, A. (1983). The empirical case for dual coding. In J. C. Yuille (Ed.), *Imagery, memory and cognition: Essays in honor of Allan Paivio* (pp. 307-332). Hillsdale, NJ: Erlbaum.
- PASCUAL, J., GOTOR, A., MIRALLES, J. L., & ALGARABEL, S. (1979). *Normas categoriales para el estudio de la memoria humana* (Actas del Congreso Nacional de Psicología). Valencia, Spain.
- POTTER, M. C., & FAULCONER, B. A. (1975). Time to understand pictures and words. *Nature*, **253**, 437-438.
- SNODGRASS, J. G. (1984). Concepts and their surface representations. *Journal of Verbal Learning & Verbal Behavior*, **23**, 3-22.
- SNODGRASS, J. G., & CORWIN, J. (1988). Perceptual identification thresholds for 150 fragmented pictures from the Snodgrass and Vanderwart picture set. *Perceptual & Motor Skills*, **67**, 3-36.
- SNODGRASS, J. G., & FEENAN, K. (1990). Priming effects in picture fragment completion: Support for the perceptual closure hypothesis. *Journal of Experimental Psychology: General*, **119**, 276-298.
- SNODGRASS, J. G., & MCCULLOUGH, B. (1986). The role of visual similarity in picture categorization. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, **12**, 147-154.
- SNODGRASS, J. G., & POSTER, M. (1992). Visual-word recognition thresholds for screen-fragmented names of the Snodgrass and Vanderwart pictures. *Behavior Research Methods, Instruments, & Computers*, **24**, 1-15.
- SNODGRASS, J. G., SMITH, B., FEENAN, K., & CORWIN, J. (1987). Fragmenting pictures on the Apple Macintosh computer for experimental and clinical applications. *Behavior Research Methods, Instruments, & Computers*, **19**, 270-274.
- SNODGRASS, J. G., & SURPRENANT, A. (1989). Effect of retention interval on implicit and explicit memory for pictures. *Bulletin of the Psychonomic Society*, **27**, 395-398.
- SNODGRASS, J. G., & VANDERWART, M. (1980). A standardized set of 260 pictures: Norms for name agreement, image agreement, familiarity, and visual complexity. *Journal of Experimental Psychology: Human Learning & Memory*, **6**, 174-215.
- VANDERWART, M. (1984). Priming by pictures in lexical decision. *Journal of Verbal Learning & Verbal Behavior*, **23**, 67-83.
- VAN SCHAGEN, I., TAMSMA, N., BRUGGEMANN, F., JACKSON, L. L., & MICHON, J. A. (1983). Namen en normen voor plaatjes. *Nederlands Tijdschrift voor de Psychologie*, **38**, 236-241.
- WILSON, M. (1988). MRC psycholinguistic database: Machine-usable dictionary, version 2.00. *Behavior Research Methods, Instruments, & Computers*, **20**, 6-10.

NOTE

1. "The *H* value captures more information about the distribution of names across subjects than does the percentage agreement measure. For example, if two concepts both are given their dominant name by 60% of the subjects, but one is given a single other name and the second is given four other names, both concepts will have equal percentage agreement scores, but the first will have a lower *H* value" (Snodgrass & Vanderwart, 1980, p. 184).

APPENDIX A

The following information is shown below: the identifying number of each picture (from the original set); its most common Spanish name; its English name from Snodgrass and Vanderwart's (1980) set; two measures of name agreement, *H* and percentage agreement; the means and standard deviations for ratings of image agreement, familiarity, complexity, picture–name agreement, and variability. Where available, data from the English sample are presented.

	Spanish	English	Name Agreement				Image Agreement				Familiarity				Visual Complexity				Pic-Name Agreement (Spanish)		Variability (Spanish)	
			Spanish		English		Spanish		English		Spanish		English		Spanish		English		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
			<i>H</i>	%	<i>H</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
1	Acordeón	Accordion	0.16	90	0.18	88	3.65	1.1	3.40	1.04	1.55	0.76	2.15	1.20	4.25	0.84	4.68	0.61	3.68	1.38	2	1
2	Avión	Airplane	0.00	100	1.77	60	3.96	0.79	3.23	1.12	2.43	1.19	3.78	0.99	3.15	1.05	3.50	0.10	3.89	1.33	3.13	1.46
3	Cocodrilo	Alligator	0.13	89	0.54	88	4.11	0.92	3.98	0.85	1.27	0.75	1.65	0.82	3.8	0.96	4.08	0.88	4.42	0.96	1.8	0.94
4	Ancla	Anchor	0.03	97	0.17	93	4.18	0.72	4.32	0.85	1.43	0.9	1.60	0.83	2.07	0.85	2.58	0.70	4.58	0.61	2.33	1.18
5	Hormiga	Ant	0.18	65	0.64	81	3	1.33	2.92	1.24	2.2	1.25	2.62	1.11	3.69	0.81	3.92	0.82	3.63	1.42	2.6	1.18
6	Manzana	Apple	0.02	98	0.16	98	4.4	0.78	4.05	0.87	4.33	0.82	3.98	1.08	1.54	0.77	1.82	0.67	4.42	0.77	2.07	0.88
7	Brazo	Arm	0.07	95	0.53	90	4.11	0.92	3.95	0.89	4.67	0.97	4.75	0.58	2.2	0.69	2.15	0.61	3.89	1.56	2.53	1.13
8	Flecha	Arrow	0.14	92	0.16	98	1.74	1	2.27	1.29	3.04	1.18	3.38	1.23	1.08	0.47	1.05	0.31	3.53	1.39	2.53	0.99
9	Alcachofa	Artichoke	0.30	89	1.54	52	3.96	1.15	3.44	1.47	2.44	1.2	2.29	1.45	3.12	0.93	3.72	0.77	4.32	1	1.67	1.11
10	Cenicero	Ashtray	0.02	98	0.00	100	3	1.1	3.20	1.05	3.75	1.4	3.56	1.37	2.03	0.87	2.25	0.89	4.16	1.3	2.6	1.5
11	Esparrago	Asparagus	0.58	73	1.27	69	3.02	1.34	3.50	1.26	2.63	1.35	2.68	1.38	2.69	0.97	3.32	0.79	3.53	1.61	2.33	1.05
12	Hacha	Axe	0.04	98	0.53	90	4.11	0.74	4.50	0.63	1.86	0.98	2.28	1.10	1.68	0.68	2.48	0.74	4.47	0.9	2.33	1.35
13	Cochecito	Baby carriage	1.82	32	1.00	52	3.07	1.32	3.65	1.01	2.61	1.25	2.72	1.14	3.27	0.96	3.42	0.10	3.37	1.57	2.67	1.29
14	Pelota	Ball	0.23	68	0.44	93	2.85	1.15	2.84	1.19	2.82	1.15	3.20	1.21	1.92	0.82	2.28	0.81	3.53	1.5	3.53	1.06
15	Globo	Balloon	0.00	100	0.00	100	4.54	0.9	4.33	1.18	2.3	1.09	2.58	1.02	1.14	0.57	1.55	0.59	3.84	1.46	3.53	0.64
16	Plátano	Banana	0.00	100	0.00	100	4.36	0.82	4.42	0.70	3.84	1.14	3.65	1.04	1.34	0.63	1.32	0.47	4.16	1.21	2.6	1.24
17	Casa	Barn	2.00	29	1.31	69			3.22	1.11	2.82	1.56	2.38	1.06	3.22	0.91	3.30	0.98				
18	Barril	Barrel	1.01	58	0.00	100	4.77	0.51	4.31	1.14	2.16	1.19	2.02	1.13	2.83	0.95	3.32	0.93	4.89	0.32	1.93	0.59
19	Bate	Baseball	1.06	48	1.00	52	4.2	1.02	4.58	0.70	1.52	0.79	3.68	1.15	1.2	0.41	1.20	0.40	4.32	1	1.6	0.83
20	Cesta	Basket	0.16	97	0.60	90	2.77	0.99	2.62	1.23	2.29	0.99	2.18	0.97	3.71	1.07	4.30	0.84	3.58	1.3	3.2	0.94
21	Oso	Bear	0.04	98	0.53	88	3.63	1.16	3.62	1.09	1.51	0.83	1.98	1.01	3.53	0.88	3.68	0.90	3.95	1.27	2.13	1.13
22	Cama	Bed	0.04	98	0.00	100	3.49	1.03	3.65	0.99	4.78	0.64	4.72	0.77	2.69	0.93	2.85	0.79	3.79	1.4	3.6	1.06
23	Abeja	Bee	0.19	60	1.65	60	3.45	1.17	2.78	1.17	2.49	1.17	2.68	1.19	4.46	0.77	4.75	0.49	3.95	1.31	2.6	0.99
24	Cucaracha	Beetle	0.21	27	2.18	50			2.05	1.13	1.98	1.07	1.88	1.00	3.61	0.87	3.65	0.82				
25	Cinturón	Belt	0.13	87	0.00	100	3.98	0.83	2.92	0.94	4.43	1.06	2.20	0.93	1.64	0.76	2.62	0.66	3.89	1.29	2.93	1.1
26	Campana	Bell	0.04	98	0.16	98	3.89	1.13	4.05	1.01	2.47	1.14	4.12	1.05	2.31	0.91	2.00	0.59	4.42	0.84	3.2	0.86
27	Bicicleta	Bicycle	0.18	89	0.53	88	3.91	0.95	3.40	1.09	3.61	1.17	3.78	1.04	3.88	0.97	3.85	0.11	4.05	1.13	3.07	1.03
28	Pájaro	Bird	0.82	81	0.69	88	3.75	1.08	3.33	1.14	3.45	1.3	3.62	1.16	3.25	0.86	3.25	0.73	3.89	1.41	4	1
29	Camisa	Blouse	0.26	44	1.89	43	3.38	1.11	2.80	1.09	4.37	0.98	4.18	0.97	2.85	0.76	3.10	0.66	4.53	0.77	3.33	1.59
30	Libro	Book	0.00	100	0.00	100	3.95	0.95	4.33	1.00	4.84	0.61	4.75	0.54	1.98	0.68	2.10	0.66	4.53	0.96	3.6	1.24
31	Bota	Boot	0.06	95	0.69	88	3.29	1.11	2.28	0.96	4.08	1.15	3.38	1.24	2.22	0.79	2.45	0.70	3.68	1.34	3.13	1.06
32	Botella	Bottle	0.00	100	0.28	95	3.93	1.05	2.85	1.22	3.88	1.07	3.72	1.05	1.29	0.64	1.68	0.79	3.95	1.27	3.6	0.99
33	Lazo	Bow	0.04	98	1.25	74	3.89	1.17	2.67	1.25	2.67	1.31	2.25	1.18	2.39	0.89	2.75	0.86	3.95	1.13	2.47	0.83
34	Cuenco	Bowl	1.55	34	0.17	95	4.35	0.8	3.79	0.89	3.88	1.09	4.18	0.92	1.41	0.65	1.82	0.80	4.16	1.21	2.27	1.33
35	Caja	Box	0.00	100	0.80	88	3.37	1.23	2.90	1.18	3.49	1.17	2.88	1.31	1.19	0.51	1.38	0.76	3.37	1.07	3.67	1.4
36	Pan de molde	Bread	0.17	42	0.84	83	3.67	1.2	4.02	1.06	4.22	1.22	4.40	0.83	1.58	0.79	1.95	0.67	3.89	1.2	1.6	0.83
37	Escoba	Broom	0.05	97	0.00	100	3.82	1.42	4.35	0.73	3.69	1.27	3.42	1.14	2.29	0.83	2.42	0.80	3.79	1.47	2.6	0.99
38	Cepillo	Brush	0.18	89	0.88	83	3.21	1.63	3.20	1.27	3.98	1.33	3.80	1.08	2.51	0.8	2.82	0.74	3.58	1.43	3.07	1.03
39	Autobus	Bus	0.12	89	0.00	100	3.62	1.08	4.08	1.01	4.22	0.9	4.50	0.74	4.07	1.08	3.95	0.10	4.11	1.15	2.87	1.36
40	Mariposa	Butterfly	0.00	100	0.00	100	4.07	0.92	3.92	0.85	2.69	1.19	2.92	1.17	3.53	0.97	4.25	0.77	4.32	0.82	3.4	1.18
41	Botón	Button	0.02	98	0.16	98	4.48	0.93	4.48	0.92	4.1	0.96	3.85	1.26	1.46	0.65	2.02	0.73	4.58	0.61	2.67	1.23

APPENDIX A (Continued)

	Spanish	English	Name Agreement				Image Agreement				Familiarity				Visual Complexity				Pic-Name Agreement (Spanish)		Variability (Spanish)		
			Spanish		English		Spanish		English		Spanish		English		Spanish		English		M	SD	M	SD	
			<i>H</i>	%	<i>H</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					
42	Tarta	Cake	0.22	77	0.84	83	3.51	1.18	3.45	1.12	2.08	1.1	4.02	1.06	2.25	0.86	2.88	0.68	4.05	1.18	3.13	1.06	
43	Camello	Camel	0.47	79	0.00	95	3.67	1.33	3.92	0.99	1.45	0.88	2.08	1.06	3.29	0.95	3.75	0.73	4.11	1.15	2.67	1.5	
44	Vela	Candle	0.00	100	0.00	100	4.08	0.97	3.85	0.76	4.84	0.54	3.08	1.15	1.53	0.75	2.48	0.90	4.58	0.84	2.8	1.32	
45		Cannon	unavailable																				
46	Gorra	Cap	0.30	90	0.59	86	3.04	0.97	2.68	1.32	2.64	1.32	3.12	1.12	1.76	0.77	2.18	0.74	3.11	1.52	3.27	0.8	
47	Coche	Car	0.06	95	1.08	81	2.87	1.28	3.10	1.22	4.43	0.92	4.70	0.60	3.85	1.1	4.05	0.95	3.58	1.57	4.13	1.13	
48	Zanahoria	Carrot	0.02	98	0.00	100	4.53	0.57	4.50	0.67	3.33	1.21	3.55	0.97	2.36	0.94	2.95	0.77	4.63	0.5	2.07	1.16	
49	Gato	Cat	0.00	100	0.00	100	3.65	1.07	3.78	0.91	3.06	1.36	4.22	0.88	2.71	0.85	3.25	0.94	4.16	0.9	2.93	0.96	
50	Gusano	Caterpillar	0.26	42	0.96	79	2.65	1.42	2.38	1.23	1.9	0.96	1.72	0.81	3.42	1.04	3.58	0.10	3.16	1.34	2.47	1.06	
51	Acelgas	Celery	1.27	8	0.83	76			3.75	1.14	2.73	1.2	3.40	1.11	3.58	1	4.25	0.86					
52	Cadena	Chain	0.06	95	0.16	98	4.18	1.09	4.46	0.84	2.33	1.19	2.82	1.00	2.31	1.05	2.55	0.97	3.89	1.1	3.47	0.99	
53	Silla	Chair	0.00	100	0.00	100	4.47	0.96	3.22	1.28	2.1	1.12	4.58	0.86	2.25	0.84	2.05	0.70	4.89	0.32	1.8	0.77	
54	Chereza	Cherry	0.09	90	0.52	83	4.33	0.94	4.52	0.81	3.06	1.12	3.38	1.18	1.31	0.56	1.60	0.62	4.16	1.07	2.13	0.92	
55	Gallina	Chicken	0.08	95	1.35	67	4	0.82	3.62	1.28	2.45	1.29	2.42	1.09	3.41	0.83	3.48	0.90	4.58	0.84	2.6	0.91	
56	Destornillador	Chisel	0.97	15	2.33	33			3.15	1.22	2.25	1.22	2.46	1.24	2.03	0.74	3.12	0.75					
57	Iglesia	Church	0.00	100	0.44	93	2.62	1.24	2.98	1.31	3.49	1.39	3.38	1.34	3.68	1.11	3.28	0.11	3.58	1.39	3.53	1.06	
58	Puro	Cigar	0.02	98	0.00	100	3.22	1.26	2.75	0.92	4.67	0.74	2.35	1.26	2.85	1.08	3.58	0.97	2.26	1.41	2.73	1.16	
59	Cigarro	Cigarette	0.16	84	0.16	98	4.58	0.74	4.65	0.61	3.59	1.53	3.65	1.41	1.64	0.83	2.25	0.77	4.37	1.26	2.87	1.51	
60	Reloj	Clock	0.10	95	0.16	98	4.11	1.33	2.20	0.90	3.82	1.01	4.38	0.99	1.63	1.03	2.68	0.88	4.68	0.48	2.93	0.88	
61	Pinza	Clothespin	0.16	82	0.83	81	4.09	0.82	3.72	1.36	3.98	0.95	2.80	1.47	2.15	0.87	2.82	0.92	4.42	0.84	1.8	1.01	
62	Nube	Cloud	1.21	55	0.17	95	3.33	1.07	2.85	1.30	3.66	1.47	3.82	1.19	1.95	1.02	2.12	0.87	3.32	1.42	2.8	1.21	
63	Payaso	Clown	0.04	98	0.28	95	3.11	1.04	3.25	0.89	2.33	1.18	2.60	1.16	4.22	0.89	4.50	0.81	4.21	1.18	2.67	0.9	
64	Abrigo	Coat	1.00	69	0.95	79	3.19	1.08	2.59	1.32	4.18	1.07	3.88	1.19	2.54	0.84	2.55	0.67	3.95	1.51	2.87	1.13	
65	Peine	Comb	0.00	100	0.44	93	4.29	0.98	3.78	0.85	4.51	0.81	4.52	0.87	2.14	0.92	2.38	0.83	4.37	0.96	2.13	0.83	
66	Maiz	Corn	0.21	53	0.88	81	4.11	0.99	4.08	0.85	2.43	1.2	3.50	1.05	3.47	1.06	3.58	0.86	4.11	1.24	2.07	0.96	
67	Sofa	Couch	0.28	63	0.92	67	4.15	1.03	3.05	1.05	4.45	0.73	4.40	0.74	1.24	0.54	2.28	0.84	5	0	2.8	0.94	
68	Vaca	Cow	0.00	100	0.44	93	4.15	0.93	3.92	0.90	3.63	1.17	2.42	1.20	2.97	1.02	3.85	0.96	4.37	0.76	2.73	1.22	
69	Corona	Crown	0.00	100	0.00	100	3.31	1.08	2.85	0.79	1.49	0.92	1.52	0.81	4.34	0.78	4.25	0.77	3.47	1.43	2.93	0.88	
70	Taza	Cup	0.09	94	0.44	93	3.24	1.2	3.65	1.35	3.75	1.04	4.40	0.83	2.42	0.89	1.78	0.52	3.68	1.2	3.27	1.53	
71	Ciervo	Deer	0.56	79	1.44	76	4.24	0.85	3.72	1.05	1.51	0.88	2.22	1.21	3.61	0.87	3.55	0.77	4.47	0.61	1.93	0.8	
72	Escritorio	Desk	0.14	45	0.32	95	2.3	1.14	3.18	1.39	4.8	0.49	4.32	0.90	2.58	1	3.05	0.84	3.74	1.05	2.13	0.74	
73	Perro	Dog	0.00	100	0.00	100	3.4	1.1	3.05	1.26	4	1.22	4.60	0.70	2.88	0.91	3.38	0.73	4.26	1.05	3.4	1.35	
74	Muñeca	Doll	0.33	65	1.42	71	2.37	1.21	2.28	1.07	2.78	1.35	2.92	1.14	3.85	0.98	4.12	0.93	3.11	1.59	3.4	0.83	
75	Burro	Donkey	0.18	81	0.87	86	4.08	0.87	3.48	1.00	1.88	0.97	1.88	0.87	3.51	0.95	3.35	0.69	4.16	1.21	2.33	1.11	
76	Puerta	Door	0.14	92	0.16	98	3.4	1.38	3.80	0.87	2.75	1.29	4.68	0.79	2.05	0.88	3.22	0.69	4.11	0.99	3.33	1.23	
77	Pomo	Doorknob	1.92	19	0.38	90			3.90	1.00	4.3	1.07	4.25	0.92	2.24	0.88	2.68	0.61					
78	Vestido	Dress	0.11	92	0.00	100	2.52	1.06	2.30	1.08	3.76	1.35	3.62	1.46	2.14	0.8	2.65	0.65	2.84	1.38	3.6	0.99	
79	Cómoda	Dresser	2.20	21	2.55	36			3.22	0.96	4.12	1.01	4.52	0.77	2.64	0.89	2.95	0.89					
80	Tambor	Drum	0.05	97	0.00	98	3.78	1.05	3.71	1.05	4.04	1.06	2.60	1.16	2.22	0.87	2.88	0.75	4.68	0.58	2.4	1.18	
81	Pato	Duck	0.04	98	0.28	95	3.98	0.95	3.85	0.94	2.41	1.22	2.75	1.11	3.17	0.72	3.32	0.82	4.79	0.54	2.87	0.92	
82	Águila	Eagle	0.12	82	1.14	76	3.4	1.23	3.49	1.26	1.82	1.03	2.42	1.30	4.1	0.8	4.18	0.74	4.26	1.19	2.4	1.24	
83	Oreja	Ear	0.12	94	0.28	95	4.42	0.74	4.26	0.93	4.59	0.98	4.50	0.70	2.71	0.97	2.68	0.82	4.37	1.12	2.2	0.94	
84	Elefante	Elephant	0.00	100	0.00	100	4.16	0.83	3.85	0.99	1.43	0.78	2.35	1.04	4.15	0.93	4.12	0.78	4.84	0.37	1.8	0.86	
85	Sobre	Envelope	0.14	92	0.16	98	3.93	1.07	4.70	0.64	4.75	0.69	4.12	0.93	2.19	0.8	1.42	0.59	4.05	1.39	2.73	1.1	
86	Ojo	Eye	0.00	100	0.16	98	4.05	0.97	4.15	0.88	4.84	0.54	4.88	0.40	3	1.08	3.48	1.10	4.47	0.84	3.27	1.16	
87	Valla	Fence	0.13	66	0.94	74	3.53	1.15	3.80	1.44	2.76	1.31	3.02	1.06	4.08	0.77	2.55	1.00	3.58	1.22	2.53	1.06	

APPENDIX A (Continued)

Spanish	English	Name Agreement				Image Agreement				Familiarity				Visual Complexity				Pic-Name Agreement (Spanish)		Variability (Spanish)		
		Spanish		English		Spanish		English		Spanish		English		Spanish		English		M	SD	M	SD	
		<i>H</i>	%	<i>H</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
88	Dedo	Finger	0.18	77	1.37	71	3.65	1.17	4.60	0.66	4.75	0.8	4.78	0.79	2.39	0.97	2.30	0.95	4.42	1.26	2.67	1.45
89	Pez	Fish	0.11	92	0.00	100	3.62	0.95	3.58	1.05	3.27	1.27	3.28	1.22	3.34	0.9	3.75	1.02	4.32	1.06	3.53	1.13
90	Bandera	Flag	0.13	90	0.32	95	3.56	1.24	3.22	1.19	2.12	1.13	2.90	1.28	1.42	0.59	1.88	0.46	3.74	1.45	3.27	1.16
91	Flor	Flower	0.00	100	0.48	93	3.08	1.12	3.25	1.01	3.71	1.04	3.88	1.19	2.71	0.91	3.25	0.94	4.11	1.33	3.67	1.4
92	Flauta	Flute	0.98	44	0.61	88	2.27	1.25	3.41	1.30	2.03	1	2.45	1.22	2.58	0.81	4.15	0.85	2.79	1.23	2.53	0.99
93	Mosca	Fly	0.06	95	1.15	76	3.58	1.24	3.22	1.33	2.98	1.41	3.02	1.06	4	0.93	4.10	0.92	3.58	1.43	2.47	1.06
94	Pie	Foot	0.00	100	0.28	95	4.16	1.01	4.42	0.86	4.71	0.88	4.78	0.69	2.17	0.97	2.18	0.89	4.26	0.87	2.33	1.23
95	Balón de rugby	Football	0.12	42	0.00	100	4.33	0.72	4.18	0.92	1.65	1.04	3.55	1.24	2.25	0.8	2.28	0.71	4.84	0.5	1.2	0.41
96	Casco	Football helmet	0.16	66	0.95	62	2.56	1.32	4.38	0.76	2.13	1.33	3.15	1.24	2.86	0.82	2.98	0.69	3.53	1.39	2.87	1.06
97	Tenedor	Fork	0.00	100	0.00	100	3.64	1.08	4.15	0.85	4.35	1.05	4.78	0.47	3.37	0.87	2.62	0.94	3.74	1.63	3.13	1.46
98	Zorro	Fox	0.07	97	1.27	74	4.15	0.97	3.49	1.20	1.67	0.97	1.95	0.84	3.49	0.86	4.02	0.85	4.42	0.77	2.33	0.9
99	Trombón	French horn	0.17	24	1.67	57	3.13	1.37	3.73	1.36	1.74	1.19	2.00	1.05	2.9	1.01	4.30	0.87	3.37	1.12	1.73	0.88
100	Rana	Frog	0.21	86	0.00	100	4.15	0.84	3.60	1.02	2.57	1.39	2.48	1.05	2.15	0.93	3.42	1.05	4.37	0.68	2.13	0.83
101	Sartén	Frying pan	0.09	94	1.18	60	3.55	0.98	3.92	0.93	4.33	0.89	4.15	0.96	3.12	1.12	2.05	0.67	4.05	1.27	2.27	0.88
102	Cubo de basura	Garbage bin	1.21	65	0.76	88	3.48	1.21	4.52	0.74	3.76	1.11	4.08	1.10	2.93	0.87	2.58	0.74	4.21	1.08	1.73	0.96
103	Jirafa	Giraffe	0.00	100	0.32	95	4.45	0.94	4.48	0.81	1.53	0.99	1.80	0.95	4.42	0.77	4.65	0.73	4.74	0.56	1.87	1.19
104	Vaso	Glass	0.00	100	0.16	98	3.92	1.25	4.40	1.00	2.35	1.13	4.78	0.52	1.95	0.86	1.82	0.74	4	1.05	3	1.13
105	Gafas	Glasses	0.00	100	1.07	64	3.62	1.11	3.81	0.94	3.51	1.74	4.00	1.30	2.2	0.74	2.85	0.85	4.05	1.22	2.8	1.08
106	Guante	Glove	0.11	92	0.16	98	3.62	1.01	3.65	1.20	3.94	1.24	3.38	1.06	2.44	0.93	3.02	0.76	3.79	1.13	2.73	1.03
107	Cabra	Goat	0.42	81	0.77	86	3.91	1.03	3.46	1.26	1.65	0.89	1.92	1.06	3.14	0.88	3.18	0.77	3.95	1.39	2.87	0.99
108	Gorila	Gorilla	0.29	55	0.79	76	3.82	1.06	3.58	1.07	1.59	1.06	2.05	1.18	3.69	0.93	3.62	0.86	4.37	0.9	2.47	1.06
109	Uvas	Grapes	0.30	45	0.38	90	4.08	1.26	4.31	0.79	2.31	1.14	3.65	1.04	2.14	0.96	3.00	0.92	4.58	0.61	1.93	0.7
110	Saltamontes	Grasshopper	0.55	82	1.47	71	3.75	1.02	3.55	1.30	3.59	1.12	2.42	1.07	2.24	0.9	4.40	0.80	3.95	1.27	2.27	0.8
111	Guitarra	Guitar	0.00	100	0.16	98	4.67	0.55	4.20	1.21	3.14	1.36	3.58	1.09	2.78	0.95	4.00	0.92	4.16	1.38	3.07	1.22
112	Pistola	Gun	0.19	87	1.09	74	4.02	0.93	3.85	1.05	1.51	1.01	2.68	1.19	3.17	0.87	3.52	0.81	4.16	1.17	3.2	1.32
113	Pelo	Hair	0.83	71	0.64	90	2.02	1.18	2.71	1.18	4.31	1.14	4.59	0.74	2.53	0.9	2.88	0.78	3.26	1.37	3.6	1.24
114	Martillo	Hammer	0.03	97	0.00	100	3.04	1.14	4.10	1.02	2.65	1.32	3.48	1.16	2.36	0.91	2.60	0.70	3.58	1.43	2.27	1.03
115	Mano	Hand	0.00	100	0.44	93	4.16	0.79	4.30	0.90	4.88	0.43	4.82	0.67	2.78	0.98	2.98	0.91	4.32	1	2.53	1.19
116	Percha	Hanger	0.00	100	0.74	86	3.89	1.19	4.73	0.55	4.35	0.96	4.52	0.67	1.17	0.59	1.20	0.56	4.53	0.51	2.33	0.9
117	Arpa	Harp	0.09	87	0.00	93	4.28	0.74	4.28	1.06	1.63	1.04	1.88	1.08	4.08	0.88	4.05	0.81	4.74	0.45	1.87	1.25
118	Sombrero	Hat	0.10	95	0.16	98	4.05	1.33	3.65	1.22	4.67	0.65	3.18	1.00	1.2	0.61	2.35	0.79	4.32	1.16	2.53	1.68
119	Corazón	Heart	0.00	100	0.00	100	4.28	1.31	4.49	0.98	4.14	0.98	3.72	1.16	1.05	0.22	1.00	0.00	3.74	1.19	3.13	1.19
120	Helicóptero	Helicopter	0.04	98	0.32	95	3.95	0.91	3.42	0.97	1.67	0.91	2.55	1.12	3.81	0.94	3.80	0.95	4.32	1.16	2.27	1.33
121	Caballo	Horse	0.00	100	0.00	100	4.16	0.92	4.20	0.81	2.57	1.3	3.55	1.14	3.63	0.93	3.82	0.70	4.47	0.7	2.87	1.19
122	Casa	House	0.13	87	0.32	95	2.84	1.13	2.65	1.11	4.36	1.06	4.38	1.04	3.36	1.03	3.90	0.94	3.42	1.5	3.53	1.55
123	Plancha	Iron	0.00	100	0.32	95	3.09	1.06	4.08	0.78	3.61	1.13	3.65	1.08	3.15	0.89	3.25	0.89	3.74	1.24	2.13	0.92
124	Tabla de planchar	Ironing board	0.17	53	0.56	83	3.52	1.21	4.40	0.77	2.63	1.37	3.50	1.07	2.25	0.71	2.05	0.63	4.11	0.74	3.33	1.45
125	Chaqueta	Jacket	1.39	53	0.95	81	2.28	1.25	2.22	0.91	4.49	0.7	4.00	1.14	3.03	0.95	3.25	0.80	3.11	1.33	3.13	0.92
126	Canguro	Kangaroo	0.05	97	0.00	100	4.4	0.81	4.30	0.75	1.31	0.76	1.92	1.15	3.86	0.86	3.98	0.88	4.84	0.37	2	0.76
127	Tetera	Kettle	0.18	71	1.66	40	4.02	1.32	3.31	1.11	4.8	0.4	3.80	1.17	2.2	0.94	2.40	0.74	4.79	0.54	1.8	0.77
128	Llave	Key	0.00	100	0.00	100	2.96	1.26	4.58	0.74	4.65	0.91	4.85	0.42	2.19	0.86	1.92	0.76	3.84	1.3	3.4	1.35
129	Cometa	Kite	0.00	100	0.00	100	4.4	0.66	4.10	1.00	1.92	1.02	2.48	1.14	2.44	0.88	2.85	0.69	4.37	0.76	3	1.07
130	Cuchillo	Knife	0.13	94	0.60	90	3.04	1.15	3.25	1.32	4.69	0.68	4.45	0.84	1.49	0.65	1.92	0.68	3.95	1.31	2.73	0.96
131	Escalera	Ladder	0.10	95	0.16	98	2.84	1.57	3.75	1.14	3.04	1.09	3.35	1.15	2.08	0.93	2.32	0.61	3.32	1.25	2.8	0.86
132	Lámpara	Lamp	0.00	100	0.44	93	2.27	1.3	3.26	0.90	3.92	0.98	4.20	0.95	1.69	0.77	1.85	0.61	3.42	1.02	3.27	1.28
133	Hoja	Leaf	0.09	94	0.53	90	3.6	1.31	3.88	1.12	3.96	1.15	4.30	0.75	2.42	1	2.52	0.77	4	1	3.8	1.08

APPENDIX A (Continued)

	Spanish	English	Name Agreement				Image Agreement				Familiarity				Visual Complexity				Pic-Name Agreement (Spanish)		Variability (Spanish)	
			Spanish		English		Spanish		English		Spanish		English		Spanish		English		M	SD	M	SD
			<i>H</i>	%	<i>H</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
134	Pierna	Leg	0.38	90	1.11	81	3.54	1.54	3.64	1.05	4.65	0.8	4.65	0.82	2.15	0.74	2.55	0.84	2.84	1.3	2.53	1.13
135	Limón	Lemon	0.00	100	0.00	100	4.58	0.92	4.35	0.94	3.71	0.94	3.25	1.22	1.37	0.64	1.85	0.69	4.84	0.5	1.73	1.03
136	Leopardo	Leopard	1.17	34	1.07	76	3.87	1.07	3.68	1.03	1.39	0.83	1.92	0.93	4.25	0.88	4.28	0.81	4.42	0.77	1.8	0.94
137	Lechuga	Lettuce	1.38	45	1.14	74	2.64	1.27	3.05	1.20	3.39	1.22	3.42	1.24	3.36	1.16	3.48	0.92	3.26	1.33	2.4	0.83
138	Bombilla	Light bulb	0.00	100	0.68	86	4.65	0.62	4.42	0.83	4.43	0.85	4.18	0.80	2.31	0.95	2.75	0.94	4.47	1.02	2.2	1.01
139	Interruptor	Light switch	0.95	66	0.92	67	3	1.39	4.62	0.62	4.56	0.84	4.58	0.63	2.14	0.88	2.52	0.77	3.68	1.45	2.33	1.05
140	León	Lion	0.00	100	0.37	93	3.95	1.03	3.88	1.03	1.53	1.01	2.00	1.07	3.8	0.94	4.30	0.87	4.37	0.76	2.2	0.94
141	Labios	Lips	0.16	84	0.44	93	4.25	0.84	4.10	0.94	4.76	0.59	4.50	0.81	1.36	0.64	1.85	0.88	3.89	1.2	2.87	1.19
142	Cangrejo	Lobster	0.19	37	0.38	90	2.45	1.39	3.62	1.35	2.18	1.26	2.58	1.24	3.85	0.93	4.48	0.81	3.37	1.01	2.73	1.28
143	Candado	Lock	0.19	84	0.53	88	4.56	0.69	3.51	1.40	2.78	1.25	3.18	1.18	2	0.81	2.22	0.69	4.42	1.17	2.27	0.7
144	Manopla	Mitten	0.32	66	0.96	76	4.08	1.17	3.82	0.96	3.39	1.42	3.10	1.22	2.03	0.83	2.35	0.69	4.26	1.28	1.4	0.63
145	Mono	Monkey	0.13	90	0.32	95	3.21	1.08	3.12	1.05	1.57	0.9	2.58	0.97	3.71	0.87	3.90	0.70	3.68	1.45	3.2	1.01
146	Luna	Moon	0.00	100	1.68	62	4.11	1.13	3.15	1.58	4.2	0.96	3.98	1.01	1.14	0.47	1.02	0.16	3.68	1.2	3.27	1.16
147	Moto	Motorcycle	0.18	89	0.32	95	3.2	1.28	3.64	1.05	3.37	1.34	3.25	1.09	4.56	0.73	4.78	0.47	3.47	1.26	3.2	1.08
148	Montaña	Mountain	0.17	69	0.60	90	3.65	1.02	3.52	1.12	3.12	1.32	2.70	1.19	2.61	1.13	2.80	1.05	3.63	1.07	3.33	1.23
149	Ratón	Mouse	0.26	79	0.75	79	4.35	0.73	4.22	0.91	2.86	1.28	2.45	1.02	2.9	0.99	3.28	0.87	4.26	1.28	3.2	1.32
150	Seta	Mushroom	0.18	95	0.00	98	3.87	0.86	3.78	1.11	1.53	0.95	2.88	1.23	3.71	1.03	3.12	0.71	4.05	1.13	2.87	1.36
151	Clavo	Nail	1.21	45	0.16	98	4.24	1.05	4.73	0.62	2.55	1.21	3.28	1.20	1.22	0.49	1.80	0.68	4.58	0.61	2.53	1.06
152	Lima	Nail-file	0.83	74	1.04	67	3.15	1.1	3.56	1.26	2.84	1.28	3.15	1.39	1.98	0.92	3.18	1.00	4	0.94	2.6	1.3
153	Collar	Necklace	0.11	90	1.88	60	4.41	0.84	3.32	1.49	3.12	1.23	2.70	1.31	1.59	0.81	1.78	0.88	3.58	1.26	3	0.93
154	Aguja	Needle	0.32	92	0.86	81	4.7	0.5	4.42	1.14	3.08	1.34	3.40	1.14	1.22	0.62	1.55	0.74	4.74	0.73	2.8	1.08
155	Nariz	Nose	0.00	100	0.16	98	4.09	0.93	3.62	1.18	4.69	0.84	4.52	0.87	1.73	0.85	1.60	0.92	4.37	1.16	2.67	0.9
156	Tuerca	Nut	0.21	69	0.97	64	4.48	0.75	3.62	1.65	1.75	0.98	2.55	1.28	3.64	0.96	2.30	0.56	4.95	0.23	2.33	1.11
157	Cebolla	Onion	0.06	95	0.00	95	4.24	1.01	3.90	0.80	3.29	0.99	3.32	1.31	2.36	0.91	2.85	0.96	4.21	1.03	2.47	1.3
158	Naranja	Orange	0.49	84	0.53	81	4.33	0.98	4.00	1.07	3.82	1.21	3.34	1.26	1.58	0.72	2.12	0.71	3.74	1.24	2.13	1.06
159	Avestruz	Ostrich	0.49	71	0.35	86	4.2	0.92	3.32	1.03	1.41	0.83	1.52	0.67	3.39	0.93	3.70	0.81	4.53	0.61	1.73	0.88
160	Buho	Owl	0.19	87	0.00	100	3.62	0.97	4.10	0.92	1.82	1.11	2.22	1.06	3.9	1.03	4.22	0.72	4.63	0.76	2.67	1.18
161	Pincel	Paintbrush	0.07	97	1.06	74	3.25	1.04	2.92	1.59	2.55	1.06	2.78	1.24	1.81	0.84	2.58	0.95	3.63	1.38	2	0.65
162	Pantalón	Pants	0.21	84	0.53	88	3.33	1.16	3.60	0.92	4.88	0.33	4.55	0.86	1.98	0.82	2.22	0.70	3.68	1.49	3.33	1.11
163	Pavo real	Peacock	0.07	92	1.19	74	4.05	0.97	3.28	1.28	1.73	0.85	2.90	1.02	4.47	0.92	2.55	0.81	4.47	0.84	2.07	1.03
164	Melocotón	Peach	0.68	76	0.81	79	3.98	0.85	3.64	0.97	3.65	1.14	2.05	1.05	1.49	0.65	4.75	0.43	4.32	0.89	2.07	1.1
165	Cacahuete	Peanut	0.32	87	0.37	93	4.49	0.74	4.30	0.98	2.84	1.05	3.00	1.02	2	0.89	2.82	0.95	4.47	0.77	1.4	0.63
166	Pera	Pear	0.00	100	0.00	100	4.67	0.51	4.62	0.62	4.02	1.05	3.55	1.14	1.19	0.43	1.15	0.36	4.53	0.7	2.27	1.1
167	Boligrafo	Pen	0.22	74	0.32	95	3.25	1.24	3.22	1.04	4.94	0.31	4.78	0.72	2.17	0.91	3.15	0.94	3.89	1.45	2.87	1.46
168	Lápiz	Pencil	0.16	84	0.00	100	4.2	0.73	4.40	0.80	4.9	0.3	4.42	1.00	1.68	0.8	2.32	0.91	4.47	0.77	2.47	0.99
169	Pingüino	Penguin	0.00	100	0.38	90	4.42	0.9	3.22	1.15	1.39	0.75	1.70	0.93	2.58	0.88	2.82	0.70	4.37	0.9	2.8	1.21
170	Pimiento	Pepper	0.14	82	1.07	67	3.22	1.13	3.64	1.28	3.06	1.29	2.92	1.29	2.05	0.78	2.48	0.95	4	1.41	2.33	1.23
171	Piano	Piano	0.10	95	0.70	81	4.43	0.91	4.02	1.06	2.16	1.16	3.42	1.48	4.69	0.7	4.58	0.77	4.74	0.56	2.87	1.19
172	Cerdo	Pig	0.07	92	0.60	90	4.04	1.02	3.62	1.04	2.27	1.17	2.18	0.97	3.17	0.87	3.00	0.81	4.68	0.58	2.67	0.82
173	Piña	Pineapple	0.00	100	0.00	100	4.35	1.03	4.60	0.62	2.69	1.09	2.95	1.30	3.95	1.07	4.35	1.01	4.21	0.92	2.6	0.91
174	Pipa	Pipe	0.04	98	0.16	98	4.3	0.86	4.26	1.00	1.61	0.94	2.90	1.14	1.71	0.7	1.88	0.71	4.11	0.99	3.07	1.16
175	Jarra	Pitcher	0.11	89	0.54	88	3.73	1.08	3.62	0.84	3.98	1.22	3.50	0.92	1.81	0.63	1.85	0.57	4.21	0.85	2.93	1.22
176	Alicates	Pliers	1.20	32	0.38	88	3.67	1.13	4.22	1.15	2.39	1.17	3.38	1.13	2.2	0.71	2.20	0.60	4.05	1.31	1.67	1.11
177	Enchufe	Plug	0.11	84	0.29	88	3.3	1.42	4.08	1.02	4.22	1.05	4.18	0.77	2.07	0.89	2.25	0.70	3.32	1.29	2.4	1.06
178	Bolso	Pocketbook	0.07	95	1.72	57	2.93	1.12	3.05	0.92	3.86	1.23	3.95	1.28	2.61	0.97	2.70	0.78	3.53	1.35	3.33	1.11
179	Cazo	Pot	0.20	74	0.86	81	3.39	1.4	3.56	0.98	4.06	1.07	4.22	0.96	1.85	0.81	2.22	0.69	3.84	1.3	2.6	1.06

APPENDIX A (Continued)

	Spanish	English	Name Agreement				Image Agreement				Familiarity				Visual Complexity				Pic-Name Agreement (Spanish)		Variability (Spanish)	
			Spanish		English		Spanish		English		Spanish		English		Spanish		English		M	SD	M	SD
			<i>H</i>	%	<i>H</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
180	Patata	Potato	0.11	95	0.34	90	4.3	0.9	3.97	1.14	4.15	1.06	3.46	1.17	1.36	0.66	2.20	1.10	3.89	1.05	2.33	0.72
181	Calabaza	Pumpkin	0.25	87	0.00	98	4.24	0.92	4.18	1.18	2.26	1.24	3.08	1.35	2.12	0.79	2.60	0.70	4.53	0.7	2.47	0.92
182	Conejo	Rabbit	0.00	100	0.00	100	4.13	0.9	4.20	0.81	2.31	1.29	2.95	1.07	3.31	1.02	3.28	0.84	4.79	0.71	2.87	1.13
183	Mapache	Raccoon	1.08	32	0.58	79	3.1	1.37	3.08	1.08	1.27	0.7	2.20	1.23	4.25	0.82	4.40	0.83	4.26	0.87	1.4	0.63
184	Tocadiscos	Record player	0.49	82	1.73	50	4.38	0.93	3.35	1.22	3.86	1.02	4.40	0.86	2.05	0.84	3.32	0.93	5	0	2.6	1.12
185	Frigorifico	Refrigerator	0.35	53	0.44	93	4.13	0.82	3.85	1.13	4.41	0.94	4.68	0.65	2.07	0.83	2.20	0.60	4.11	0.88	2	1.07
186	Rinoceronte	Rhinoceros	0.20	94	0.56	83	3.95	1.34	3.84	0.93	4.73	0.8	1.52	0.89	3	0.81	4.15	0.85	3.16	1.5	3.33	1.29
187	Anillo	Ring	0.29	90	0.16	98	3.27	1.39	3.08	0.96	3.63	1.38	3.48	1.28	1.64	0.8	2.55	0.80	3.37	1.26	3.07	1.1
188	Mecedora	Rocking chair	0.96	71	0.53	90	3.65	1.23	4.12	0.95	2.45	1.27	3.25	1.30	3.78	0.93	3.58	0.92	4.26	1.05	2.13	0.83
189	Patín	Roller skate	0.09	92	1.00	52	3.75	1.33	3.48	1.36	2.2	1.06	2.25	1.11	3.95	0.75	4.08	0.93	3.95	1.35	2.07	0.8
190	Rodillo	Rolling pin	0.83	40	0.94	71	4.43	0.84	4.44	0.96	1.27	0.67	2.22	1.08	4.02	0.92	1.52	0.50	4.58	0.61	1.53	0.83
191	Gallo	Rooster	0.53	81	1.21	76	4.36	0.85	4.08	0.90	2.45	1.22	2.22	1.08	3.76	0.9	4.12	0.90	4.58	0.61	2.6	1.06
192	Regla	Ruler	0.14	97	0.16	98	4.02	1.1	3.98	1.04	2.31	1.24	3.58	0.95	2.61	0.87	1.85	0.94	4.21	1.08	2.53	1.19
193	Barco	Sailboat	0.30	39	0.37	93	2.35	1.14	3.25	0.99	2.1	1.19	2.92	1.17	3.73	0.87	3.58	0.92	3.05	1.18	3.33	1.4
194	Salero	Saltshaker	0.18	95	0.96	83	3.42	1.55	4.00	1.12	2.1	1.17	4.18	0.92	2.51	0.99	3.00	0.92	3.21	1.58	3.27	1.1
195	Sandwich	Sandwich	0.52	84	0.00	100	2.7	1.4	3.55	0.97	3.27	1.22	4.45	0.97	1.66	0.86	3.42	0.86	2.74	1.33	2	1.07
196	Sierra	Saw	0.18	79	0.16	98	4.24	0.79	4.55	0.77	2.27	1.25	2.92	1.19	2.46	0.84	2.25	0.62	4.11	0.99	3.13	1.19
197	Tijeras	Scissors	0.12	94	0.16	98	4.06	0.94	4.40	0.83	1.43	0.88	3.98	0.99	4.53	0.84	2.15	0.65	4.05	1.13	2.07	0.88
198	Tornillo	Screw	0.58	82	0.33	93	4.4	0.89	3.67	0.89	3.65	1.26	3.20	1.00	1.66	0.73	3.25	0.99	4.68	0.48	2.53	1.25
199	Destornillador	Screwdriver	0.29	82	0.00	98	4.15	0.93	4.30	0.64	2.27	1.22	3.42	1.14	2.12	0.91	2.35	0.73	4.37	1.01	1.93	1.03
200	Caballito de mar	Sea horse	0.82	55	0.34	88	4.11	0.95	3.58	1.22	1.33	0.77	1.50	0.89	4.17	0.91	4.50	0.71	4.47	0.9	1.33	0.49
201	Foca	Seal	0.13	89	0.61	88	3.5	1.06	3.18	1.06	1.35	0.74	1.62	0.73	2.86	0.8	2.90	0.74	3.95	1.35	2.2	1.15
202	Oveja	Sheep	0.30	90	0.95	67	3.56	1.08	3.00	1.11	2.28	1.21	1.85	0.82	3.46	0.9	3.80	0.75	3.68	1.42	2.53	1.19
203	Camisa	Shirt	0.07	97	0.00	100	3.74	1.18	3.86	0.98	4.69	0.73	4.56	0.70	2.85	0.89	3.08	0.79	3.37	1.21	3.2	1.37
204	Zapato	Shoe	0.00	100	0.28	95	3.2	1.25	3.02	1.26	4.75	0.8	4.62	0.70	3.17	0.87	3.38	0.86	3.53	1.54	3.27	1.39
205	Falda	Skirt	0.05	97	0.16	98	2.91	1.17	3.28	1.10	3.75	1.44	3.64	1.53	1.36	0.64	1.40	0.58	3.26	1.73	3	1
206	Mofeta	Skunk	0.72	61	0.16	98	3.44	1.25	3.40	1.09	1.27	0.78	2.30	1.17	4.41	1.08	4.72	0.74	4.32	0.89	1.87	1.06
207	Trineo	Sled	0.59	57	0.00	98	3.2	1.31	4.49	0.81	3.75	1.13	2.80	1.03	4.73	0.52	3.05	0.84	4	1.2	3.13	0.99
208	Caracol	Snail	0.02	98	0.51	86	4.27	0.76	3.33	1.18	2.14	1.08	1.85	1.06	2.66	0.84	3.40	0.80	4.21	1.03	2.27	1.28
209	Serpiente	Snake	0.16	84	0.16	98	3.6	1.08	3.54	1.01	3.82	1.18	1.90	1.04	1.81	0.8	4.52	0.81	3.84	1.3	1.8	0.86
210	Muñeco de nieve	Snowman	0.06	95	0.00	100	3.64	1.01	4.00	0.95	2.16	1.14	3.15	1.04	2.05	0.9	2.52	0.59	3.84	1.12	1.93	0.8
211	Calcetín	Sock	0.00	100	0.00	100	3.98	0.93	3.72	1.00	4.51	0.86	4.52	0.84	1.61	0.67	1.62	0.62	4.21	1.13	3.13	1.36
212	Araña	Spider	0.07	94	0.61	88	3.24	1.25	2.95	1.16	2.27	1.22	2.28	1.10	3.19	1.17	3.68	0.85	3.79	1.32	3.27	0.88
213		Spinning wheel	unavailable																			
214	Hilo	Spool of thread	1.86	29	1.54	55			3.80	1.44	3.25	1.16	3.12	1.14	3.73	1	3.18	0.97				
215	Cuchara	Spoon	0.16	90	0.16	98	4.18	0.9	4.10	1.11	4.67	0.77	4.50	0.89	1.86	0.86	2.02	0.82	4.58	0.84	1.8	0.68
216	Ardilla	Squirrel	0.02	98	0.17	93	4.42	0.69	4.42	0.89	1.53	0.7	3.82	0.89	3.29	0.89	3.75	0.97	4.53	0.7	2.2	1.32
217	Estrella	Star	0.00	100	0.00	100	4.4	0.97	4.41	1.10	3.02	1.35	3.35	1.33	1.19	0.51	1.05	0.22	4	1.33	3.67	0.98
218	Taburete	Stool	1.04	68	0.16	98	4.05	1.13	4.12	1.08	3.25	1.35	3.08	1.13	1.85	0.78	2.32	0.72	4.53	0.7	1	0
219	Cocina	Stove	0.12	73	1.12	76	2.73	1.22	4.10	1.00	4.02	1.19	4.65	0.65	3.83	0.85	4.02	0.94	2.95	1.39	2.47	0.99
220	Fresa	Strawberry	0.00	100	0.17	90	3.93	1.03	3.98	1.04	3.37	1.18	3.20	1.29	2.47	1.02	3.38	0.91	3.74	1.37	2.67	1.11
221	Maleta	Suitcase	0.05	97	1.01	79	3.21	1.01	2.98	1.17	4.08	1.04	3.65	0.91	3.19	0.84	3.60	0.86	4.05	0.97	3.13	1.06
222	Sol	Sun	0.04	98	0.00	100	3.22	1.24	4.22	1.08	4.65	0.74	4.90	0.30	2.32	0.94	1.20	0.46	3.68	1.42	2.4	0.99
223	Cisne	Swan	0.33	90	0.64	88	4.34	0.9	3.69	0.72	1.96	0.98	1.97	0.83	3.07	0.91	3.05	0.80	4.79	0.42	1.93	0.88
224	Jersey	Sweater	0.05	97	0.98	83	3.66	0.98	2.78	1.11	4.94	0.24	4.48	0.74	2.73	0.96	2.90	0.77	3.84	1.17	3.13	1.6
225	Columpio	Swing	0.05	97	0.17	95	3.48	1.41	4.15	0.92	2.48	1.2	3.02	1.24	1.58	0.72	2.72	0.97	4.05	1.18	1.73	0.8

APPENDIX A (Continued)

	Spanish	English	Name Agreement				Image Agreement				Familiarity				Visual Complexity				Pic-Name Agreement (Spanish)		Variability (Spanish)	
			Spanish		English		Spanish		English		Spanish		English		Spanish		English		M	SD	M	SD
			<i>H</i>	%	<i>H</i>	%	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
226	Mesa	Table	0.04	98	0.32	95	4.27	1.03	3.42	1.36	4.78	0.67	4.35	0.88	1.41	0.67	1.72	0.77	4.42	0.9	3.27	1.33
227	Teléfono	Telephone	0.00	100	0.59	86	4.11	0.96	4.28	1.16	4.67	0.79	4.80	0.51	1.59	0.65	3.52	0.97	4.21	1.18	2.87	1.06
228	Televisión	Television	0.28	45	1.46	52	3.6	1.24	4.00	0.82	4.65	0.77	4.82	0.38	3.44	0.97	3.22	0.96	4.47	0.7	3.2	1.08
229	Raqueta	Tennis racket	0.00	100	0.62	86	4.27	0.78	4.62	0.58	2.02	1.24	3.62	1.30	3.19	0.97	3.25	0.94	4.58	0.77	2.73	1.1
230	Dedal	Thimble	0.11	95	0.63	83	4.34	0.85	4.26	0.93	2.55	1.32	2.48	1.12	2.22	0.89	3.35	0.82	4.47	0.84	1.53	1.25
231	Dedo	Thumb	1.31	44	0.16	98	3.44	1.33	4.48	0.63	4.61	1.06	4.72	0.74	1.97	0.85	2.38	0.97	3.95	1.47	2.2	1.32
232	Corbata	Tie	0.00	100	0.89	69	4.19	1.03	4.05	0.94	2.55	1.25	3.80	1.03	2.32	0.73	2.90	0.80	4.53	0.61	2.53	1.25
233	Tigre	Tiger	0.40	90	0.33	93	3.06	1.28	3.82	1.14	3.24	1.39	2.10	0.92	2.46	0.88	4.62	0.80	3.84	1.38	2.33	1.11
234	Tostador	Toaster	1.23	44	0.00	100	3.95	1.1	3.92	0.79	2.27	1.08	4.08	0.90	2.68	1.11	2.78	0.85	4.21	0.71	2	0.76
235	Pie	Toe	0.21	36	1.57	55	3.55	1.49	4.18	0.83	4.73	0.7	4.48	0.81	1.95	0.75	1.98	0.82	4.53	0.61	2.8	1.01
236	Tomate	Tomato	0.04	98	0.80	88	3.82	1.2	4.05	1.12	4.04	1.02	3.78	1.06	3.58	1.02	1.98	0.57	3.42	1.54	2.53	0.99
237	Cepillo de dientes	Toothbrush	0.19	87	0.16	98	3.05	1.76	4.40	0.74	4.78	0.64	4.62	0.73	1.92	0.7	2.42	0.77	3.21	1.4	2.87	0.99
238	Peonza	Top	0.10	81	0.68	86	4.11	0.88	3.46	1.05	1.96	1.04	1.88	0.98	2.49	1.02	2.65	0.82	4.47	0.9	1.73	1.1
239		Traffic light	unavailable																			
240	Tren	Train	0.07	95	0.74	86	3.42	1.38	3.20	1.38	3.06	1.33	4.15	0.88	3.05	1.02	4.32	0.88	4.11	1.2	1.93	0.8
241	Arbol	Tree	0.05	97	0.00	100	3.89	1.18	3.52	1.00	4.06	1.08	4.68	0.61	3.95	1.11	3.70	0.81	4.26	0.87	3.8	1.01
242	Camión	Truck	0.04	98	0.53	90	3.15	1.19	2.80	1.10	3.43	1.28	4.02	0.91	2.59	1.08	2.75	0.86	4.11	1.2	2.6	1.3
243	Trompeta	Trumpet	0.13	94	1.10	79			2.89	1.42	1.53	0.9	2.60	1.26	4.19	1.03	3.58	0.92				
244		Turtle	unavailable																			
245	Paraguas	Umbrella	0.02	98	0.00	100	4.04	1.1	3.92	0.90	3.47	1.12	3.95	0.92	2.85	0.87	3.00	1.05	4.42	1.07	2.47	1.06
246	Jarrón	Vase	0.07	94	0.32	95	2.69	1.13	2.72	1.02	2.94	1.19	2.78	1.26	2.93	1.03	3.15	0.66	4	0.94	2.8	1.21
247	Chaleco	Vest	0.06	95	0.16	98	3.8	1.01	3.70	1.10	3.76	1.12	3.48	1.05	2.46	0.73	2.60	0.74	4.37	0.6	2.4	0.91
248	Violín	Violin	0.51	84	0.72	86	4.42	0.83	4.18	1.05	1.82	1.13	2.68	1.21	4.37	0.69	4.10	0.86	4.74	0.56	2.13	1.25
249	Carrito	Wagon	0.19	19	0.92	79			3.56	1.63	1.59	1	2.50	1.22	3.34	0.98	3.35	0.91				
250	Reloj	Watch	0.13	86	0.45	90	2.33	1.35	3.18	1.07	4.41	0.94	4.58	0.73	2.12	0.72	3.40	1.04	3.84	1.3	3.2	1.32
251	Regadera	Watering can	0.04	98	2.03	55	4.13	0.98	4.08	0.98	2.08	1.21	2.72	1.50	3.31	1.04	2.78	0.79	4.47	0.84	3.2	0.94
252	Sandía	Watermelon	0.16	53	0.55	86	3.31	1.37	2.85	1.31	2	1.11	3.05	1.09	4.39	0.83	2.28	0.92	4.11	1.29	2.13	0.92
253		Well	unavailable																			
254	Rueda	Wheel	0.11	92	0.33	93	3.84	1.57	3.48	1.36	2.16	1.21	2.22	1.04	1.46	0.65	2.42	0.83	4.42	0.69	1.93	1.03
255	Silbato	Whistle	0.21	74	0.00	100	4.43	0.93	4.55	0.67	2.02	1.21	2.45	0.92	1.78	0.72	2.55	0.84	4.26	1.15	2.53	1.06
256	Molino	Windmill	0.09	94	0.16	98	3.39	1.11	3.35	1.08	1.65	1.05	1.80	1.00	4.66	0.73	4.62	0.76	3.95	1.39	2.27	1.03
257	Ventana	Window	0.04	98	0.32	95	2.15	1.07	3.25	0.83	4.41	0.83	4.40	0.86	2.92	1.09	3.18	0.86	3.37	1.38	2.53	1.13
258	Copa	Wineglass	0.04	98	1.43	50	3.72	1.07	3.31	1.35	4.1	1.04	4.02	1.11	1.71	0.79	1.85	0.48	4.26	1.15	3.33	1.18
259	Llave inglesa	Wrench	1.06	52	0.89	76	3.13	1.23	2.51	1.18	2.24	1.23	2.72	1.28	1.63	0.74	2.02	0.79	3.74	1.33	1.4	0.63
260		Zebra	unavailable																			

APPENDIX B

Shown here are all the concepts for which one or more naming, imaging, or identification failures occurred, a different object was imaged, or more than one name was given. Failures in the naming task are listed as DKN (don't know name), DKO (don't know object), and TOT (tip of the tongue). Identification failures in the familiarity rating task are listed as DKO (FAM). Imaging failures in the image agreement task are listed as NI (no image), and imaging a different object as DO (different object). All nondominant names given for each concept are listed and accompanied by their frequencies.

			DKN	DKO	TOT	DKO (FAM)	NI	DO	Nondominant Names
1	Acordeón	Accordion	0	0	5	0	1	0	Saxofón 1
2	Avión	Airplane	0	0	0	0	0	0	-
3	Cocodrilo	Alligator	0	0	1	0	0	0	Caimán 2, lagarto 4
4	Ancla	Anchor	0	0	2	0	0	0	-
5	Hormiga	Ant	11	1	1	0	0	0	Araña 2, insecto 3, mosquito 4
6	Manzana	Apple	0	0	1	0	0	0	-
7	Brazo	Arm	0	0	0	0	0	0	Codo 2, mano 1
8	Flecha	Arrow	0	0	0	0	2	15	Señal 5
9	Alcachofa	Artichoke	0	1	3	1	6	0	Coliflor 1, piña 1, repollo 1
10	Cenicero	Ashtray	1	0	0	0	0	1	-
11	Esparrago	Asparagus	6	5	0	2	1	0	Astilla 1, cofia 1, puerro 1, rama 3
12	Hacha	Axe	0	0	0	0	1	0	Macheta 1
13	Cochecito	Baby Carriage	1	0	1	0	1	8	Carricoche 12, carrito 7, carrito de bebe 1, carrito de niño 2, carro de niño 4, coche 2, coche con capota 1, coche de bebe 1, coche de niño 1, silla 1, silla de niño 2, silleta 1
14	Pelota	Ball	0	0	0	2	0	0	Balón 19, bola 1
15	Globo	Balloon	0	0	0	1	0	7	-
16	Plátano	Banana	0	0	0	0	0	0	-
17	Casa	Barn	3	2	1	2			Almacén 1, cabaña 2, casa de campo 1, caseta 1, casita 1, cobertizo 2, edificio 1, establo 2, fábrica 8, garaje 1, granero 10, granja 6, molino 1, pajar 1
18	Barril	Barrel	0	0	5	0	1	2	Bidón 1, cuba 2, cubeta 1, cubo 2, tonel 15
19	Bate	Baseball	3	0	3	1	2	9	Bastón 1, bate de beisbol 20, palo 1, palo de beisbol 3, porra 1
20	Cesta	Basket	0	0	0	0	0	1	Bolsa 1, cesta de campo 1
21	Oso	Bear	0	0	0	0	4	5	Oso polar 1
22	Cama	Bed	0	0	0	0	0	0	Cama de matrimonio 1
23	Abeja	Bee	1	0	1	0	0	0	Avispa 8, insecto 3, mosca 10, moscón 1, mosquito 1
24	Cucaracha	Beetle	12	4	0	0			Bicho 1, escarabajo 13, grillo 4, insecto 10, mosca 1
25	Cinturón	Belt	0	0	0	0	0	0	Cinto 3, collar 1, correa 4
26	Campana	Bell	0	0	0	0	0	0	Campanilla 1
27	Bicicleta	Bicycle	0	0	0	0	0	0	Bici 7
28	Pájaro	Bird	0	0	0	0	0	0	Canario 3, gorrión 3, pajarillo 2, pajarito 2, pollito 1, pollo 1
29	Camisa	Blouse	0	0	1	0	0	0	Americana 3, blusa 11, cazadora 2, chaqueta 18
30	Libro	Book	0	0	0	0	0	0	-
31	Bota	Boot	0	0	0	0	0	3	Bota de agua 1, botín 1, boto 1
32	Botella	Bottle	0	0	0	0	0	0	-
33	Lazo	Bow	0	0	0	0	7	3	Lazada 1
34	Cuenco	Bowl	2	1	6	0	1	0	Bol 5, ensaladera 1, hondilla 1, plato 1, recipiente 1, taza 5, tazón 14, vasija 4
35	Caja	Box	0	0	0	2	0	1	-
36	Pan de molde	Bread	0	0	0	0	0	1	Pan 26, pan integral 1, pan tostado 1, rebanada de pan 1, tostada de pan 2

APPENDIX B (Continued)

			DKO					Nondominant Names		
			DKN	DKO	TOT	(FAM)	NI	DO		
37	Escoba	Broom	0	0	0	0	0	0	Cepillo de barrer 1, escombra 1	
38	Cepillo	Brush	0	0	0	0	1	15	Cepillo del pelo 7	
39	Autobus	Bus	0	0	0	0	0	0	Autocar 3, bus 3, omnibus 1	
40	Mariposa	Butterfly	0	0	0	0	0	0	-	
41	Botón	Button	1	0	0	0	0	1	-	
42	Tarta	Cake	0	0	0	1	0	0	Pastel 10, queso 4	
43	Camello	Camel	2	0	2	0	0	1	Dromedario 9	
44	Vela	Candle	0	0	0	0	0	3	-	
45		Cannon	unavailable							
46	Gorra	Cap	0	0	2	1	0	1	Gorro 3, sombrero 1	
47	Coche	Car	0	0	0	0	0	0	Cochazo 1, limusina 1, vehículo 1	
48	Zanahoria	Carrot	0	0	1	0	0	0	-	
49	Gato	Cat	0	0	0	0	1	0	-	
50	Oruga	Caterpillar	0	0	1	0	0	0	Ciempies 8, gusano de seda 1, gusano 23	
51	Acelgas	Celery	16	11	10	3			Apio 3, berengena 1, berza 1, coliflor 1, espinacas 1, hortaliza 1, nabo 1, puerro 2, puerros 3, remolacha 1, verdura 5	
52	Cadena	Chain	0	0	2	0	0	4	cadenas 1	
53	Silla	Chair	0	0	0	0	0	0	-	
54	Cereza	Cherry	0	1	0	0	0	0	Ciruela 2, guinda 1, manzana 2	
55	Gallina	Chicken	0	0	1	0	0	0	Gallo 2	
56	Destornillador	Chisel	18	10	12	7			Cortagira 1, escafina 1, espátula 4, herramienta 1, lima 4, puncel 1, punzón 1	
57	Iglesia	Church	0	0	0	0	0	0	-	
58	Puro	Cigar	0	0	1	0	0	0	-	
59	Cigarro	Cigarette	0	0	0	0	0	0	Cigarrillo 9, tabaco 1	
60	Reloj	Clock	0	0	0	0	0	1	Reloj de pared 2, reloj de mesa 1	
61	Pinza	Clothespin	0	0	0	0	0	0	Alfiler 1, pinza de ropa 6, pinzas 4	
62	Nube	Cloud	1	10	1	22	0	0	Algodón 3, col 2, coliflor 3, esponja 3, espuma 1, mapa 1, pella 1, soto 1, tafeta 1	
63	Payaso	Clown	0	0	0	0	0	1	Cara de payaso 1	
64	Abrigo	Coat	0	0	0	0	0	1	Bata 9, batín 1, camisa 1, chaquetón 2, gabardina 6	
65	Peine	Comb	0	0	0	0	0	0	-	
66	Maiz	Corn	0	0	3	0	0	0	Mazorca 17, mazorca de maiz 7, piña de maiz 1, trigo 1	
67	Sofa	Couch	0	0	0	0	0	0	Sillón 19, tresillo 4	
68	Vaca	Cow	0	0	0	0	0	0	-	
69	Corona	Crown	0	0	0	0	0	3	-	
70	Taza	Cup	0	0	0	0	1	0	Tazón 3, vaso 1	
71	Ciervo	Deer	1	0	5	0	1	0	Alce 1, arce 1, reno 4, venado 1	
72	Escritorio	Desk	0	1	2	0	0	2	Cómoda 1, consola 1, mesa con cajones 1, mesa de escribir 1, mesa de estudio 5, mesa de oficina 1, mesa de trabajo 1, mesa 15, mesa escritorio 3, mueble 1, pupitre 1	
73	Perro	Dog	0	0	0	0	0	0	-	
74	Muñeca	Doll	0	0	0	0	0	3	Niña 22	
75	Burro	Donkey	0	0	0	0	2	0	Asno 11, poni 1	
76	Puerta	Door	0	0	0	0	0	3	Ventana 5	
77	Pomo	Doorknob	5	2	10	1			Agarradero 1, bolo de la puerta 1, llavero 1, manecilla 1, mango 1, manija 1, manilla 7, manillar 3, manillera 1, manivela 2, pestillo 1, picaporte 8, pomo de la puerta 2, pómulo 1, timbre 1, tirador 1	

APPENDIX B (Continued)

			DKN	DKO	TOT	DKO (FAM)	NI	DO	Nondominant Names
78	Vestido	Dress	0	0	0	0	0	1	Ropa 1, traje 4
79	Cómoda	Dresser	1	0	7	0			Armario 8, cajón 1, cajonero 1, cajones 2, comodín 5, consola 1, coqueta 3, estante 1, mesa 2, mesilla 5, mesita 2, mueble 5, taquillón 2, tocador 3
80	Tambor	Drum	0	0	1	0	0	0	Tamboril 1
81	Pato	Duck	0	0	0	0	0	0	Oca 1
82	Águila	Eagle	0	0	0	0	0	0	Águila real 1, buitres 3, halcón 3, loro 1, pájaro 3
83	Oreja	Ear	0	0	0	0	0	0	Oído 4
84	Elefante	Elephant	0	0	0	0	0	0	-
85	Sobre	Envelope	0	0	0	0	0	0	Carta 5
86	Ojo	Eye	0	0	0	0	0	0	-
87	Valla	Fence	1	0	3	0	0	0	Barrera 1, cerca 4, vallada 1, vallas 1, verja 9, verjas 1
88	Dedo	Finger	0	0	0	0	0	0	Dedo índice 5, dedo señalando 1, índice 8
89	Pez	Fish	0	0	0	0	0	0	Pescado 3, trucha 2
90	Bandera	Flag	1	0	1	0	1	0	Banderín 4
91	Flor	Flower	0	0	0	0	0	2	-
92	Flauta	Flute	4	17	3	19	0	4	Aguja 1, aguja de punto 1, banderilla 1, caña 1, flauta travesera 1, flautín 3, termómetro 3
93	Mosca	Fly	0	0	1	0	0	0	Bicho 1, mosquito 1
94	Pie	Foot	0	0	0	0	0	0	-
95	Balón de rugby	Football	0	1	0	0	0	0	Balón 16, balón de beisbol 9, balón de fútbol 1, beisbol 1, bolas de beisbol 1, pelota 2, pelota de beisbol 1, pelota de rugby 3, rugby 1
96	Casco	Football helmet	1	3	1	5	0	3	Acargadera 1, casco de beisbol 1, casco de hockey 1, casco de rugby 10, gorro 1, gorro de rugby 1, metro 1
97	Tenedor	Fork	0	0	0	0	0	0	-
98	Zorro	Fox	0	0	0	0	0	0	Lobo 2
99	Trombón	French horn	13	5	8	9	0	1	Saxofón 5, trompa 2, trompeta 11, trompetín 1, trompón 1, viola 1
100	Rana	Frog	0	0	0	0	0	2	Sapo 9
101	Sartén	Frying pan	0	0	0	0	0	0	Cazo 3, cazuela 1
102	Cubo de basura	Garbage bin	1	0	2	0	0	1	Basura 5, basurera 1, basurero 3, contenedor 2, cubo 5, papelera 1, tascón 1, tubo 1
103	Jirafa	Giraffe	0	0	0	0	0	0	-
104	Vaso	Glass	0	0	0	0	0	3	-
105	Gafas	Glasses	0	0	0	0	0	0	-
106	Guante	Glove	0	0	0	0	0	0	Mano 3, manopla 2
107	Cabra	Goat	2	1	5	0	1	0	Chivo 1, oveja 2, rebeco 1
108	Gorila	Gorilla	0	0	0	0	0	0	Chimpancé 4, mono 13, orangután 11
109	Uvas	Grapes	0	0	0	0	0	4	Racimo 3, racimo de uvas 17, uva 14
110	Saltamontes	Grasshopper	3	1	2	2	1	1	Cigarra 1, grillo 3, insecto 1, mosquito 2
111	Guitarra	Guitar	0	0	0	0	0	0	-
112	Pistola	Gun	0	0	0	0	0	0	Revolver 8
113	Pelo	Hair	0	4	0	9	0	2	Cabello 9, casco 1, peinado 1, peluca 1, sombrero 2
114	Martillo	Hammer	1	0	1	0	0	0	-
115	Mano	Hand	0	0	0	0	0	0	-
116	Percha	Hanger	0	0	0	0	0	2	-
117	Arpa	Harp	2	0	5	0	1	1	Lira 1
118	Sombrero	Hat	0	0	0	0	0	0	Gorro 3

APPENDIX B (Continued)

			DKN	DKO	TOT	DKO (FAM)	NI	DO	Nondominant Names
119	Corazón	Heart	0	0	0	0	0	2	-
120	Helicóptero	Helicopter	0	0	0	0	0	0	Avión 1
121	Caballo	Horse	0	0	0	0	0	0	-
122	Casa	House	0	0	0	1	0	0	Cabaña 3, casa de campo 3, casita 1, chalet 1
123	Plancha	Iron	0	0	0	2	0	0	-
124	Tabla de planchar	Ironing board	0	0	3	0	0	1	Mesa 1, mesa de planchar 17, planchador 1, planchar 1, tabla 5, tablero de plancha 1
125	Chaqueta	Jacket	1	0	1	0	1	0	Abrigo 1, americana 1, bata 1, blusa 1, camisa 16, cazadora 2, chaquetón 1, gabán 1, gabardina 1, ropa 1, traje 1
126	Canguro	Kangaroo	0	0	1	0	0	0	Pingüino 1
127	Tetera	Kettle	0	0	0	0	0	1	Aceitera 1, cafetera 16, cazo de leche 1
128	Llave	Key	0	0	0	0	0	0	-
129	Cometa	Kite	0	0	0	0	1	1	-
130	Cuchillo	Knife	2	0	1	0	0	0	Puerro 1
131	Escalera	Ladder	0	0	1	0	0	6	Escalera de mano 2
132	Lámpara	Lamp	0	0	0	0	0	7	-
133	Hoja	Leaf	0	0	0	0	1	7	Hoja de árbol 2, hoja de parra 2
134	Pierna	Leg	0	0	0	0	0	1	Pie 4, rodilla 2
135	Limón	Lemon	0	0	0	0	0	0	-
136	Leopardo	Leopard	0	0	1	0	2	0	Guepardo 1, jaguar 1, pantera 4, puma 3, tigre 21
137	Lechuga	Lettuce	3	4	2	7	1	1	Berza, 2, col 10, coliflor 7, esponja 1, hortaliza 1, pelo 1, repollo 2, verdura 1
138	Bombilla	Light bulb	0	0	0	0	0	0	-
139	Interruptor	Light switch	1	2	4	1	0	1	Encendedor 1, enchufe 3, llave de luz 5, luz 2, timbre 3
140	León	Lion	0	0	0	0	0	0	-
141	Labios	Lips	0	0	0	0	0	0	Boca 9, labio 1
142	Cangrejo	Lobster	0	0	8	1	1	1	Cigala 5, crustaceo 3, escorpión 4, gamba 2, langosta 14, langostino 2, marisco 1
143	Candado	Lock	0	0	6	0	0	0	Cerradura 1, cerrojo 3
144	Manopla	Mitten	0	0	0	0	1	2	Guante 21
145	Mono	Monkey	0	0	0	0	0	2	Chimpancé 4, mandril 2
146	Luna	Moon	0	0	0	0	0	0	-
147	Moto	Motorcycle	0	0	0	0	0	0	Motocicleta 7
148	Montaña	Mountain	0	0	0	0	0	0	Cima 1, cumbre 1, monte 4, pico 6, pico de montaña 7
149	Ratón	Mouse	0	0	0	0	0	1	Rata 13
150	Seta	Mushroom	0	0	1	0	0	0	Champiñón 1, hongo 1
151	Clavo	Nail	3	0	0	0	0	0	Bastón 1, clarinete 1, punta 18, punza 1, tornillo 10
152	Lima	Nail-file	0	1	3	1	1	1	Boligrafo 1, cuchillo 4, lija 2, lima de uñas 3, navaja 2
153	Collar	Necklace	0	0	1	0	1	0	Anillo 1, collar de perlas 4
154	Aguja	Needle	0	0	1	1	0	0	Aguja de coser 1, alfiler 2, pluma 1
155	Nariz	Nose	0	0	0	0	0	0	-
156	Tuerca	Nut	3	0	3	0	0	1	Rosca 1, tornillo 12
157	Cebolla	Onion	1	0	0	0	1	0	Acelga 1, ajo 1
158	Naranja	Orange	3	0	1	6	0	0	Fruta 3, granada 1, limón 1, pomelo 1
159	Avestruz	Ostrich	4	1	9	0	1	0	Abutarda 1, ganso 1, pavo 2
160	Buho	Owl	0	0	0	0	0	0	Lechuga 8
161	Pincel	Paintbrush	0	0	0	0	0	0	Pluma 2
162	Pantalón	Pants	0	0	1	0	0	0	Pantalones 9

APPENDIX B (Continued)

			DKN	DKO	TOT	DKO (FAM)	NI	DO	Nondominant Names
163	Pavo real	Peacock	0	0	3	0	0	0	Pájaro 1, pavo 1
164	Melocotón	Peach	3	1	2	3	0	0	Albaricoque 1, ciruela 1, manzana 1, naranja 5, pelota de rugby 1
165	Cacahuete	Peanut	0	5	0	2	0	0	Avellana 1, maní 1, pepino 1
166	Pera	Pear	0	0	0	0	0	0	-
167	Boligrafo	Pen	0	0	0	0	0	0	Boli 14, pluma 2
168	Lápiz	Pencil	0	0	0	0	0	0	Lapicero 9, lápiz con goma 1
169	Pingüino	Penguin	0	0	0	0	0	0	-
170	Pimiento	Pepper	3	2	4	4	1	0	Tomate 2
171	Piano	Piano	0	0	0	0	1	1	Piano de cola 3
172	Cerdo	Pig	0	0	0	0	0	0	Chon 1, cochino 1, gorrino 1, marrano 1, rinoceronte 1
173	Piña	Pineapple	0	0	0	0	1	5	-
174	Pipa	Pipe	0	0	0	0	0	8	Pipa de fumar 1
175	Jarra	Pitcher	0	0	0	0	0	0	Jarrón 5, tinaja 1, vasija 1
176	Alicates	Pliers	5	0	7	0	1	2	Alicate 16, herramienta 2, tenaza 1, tenazas 11
177	Enchufe	Plug	0	1	6	0	0	11	Cable 1, interruptor 2
178	Bolso	Pocketbook	0	0	0	0	0	0	Bolsa 1, cartera 2
179	Cazo	Pot	1	0	6	0	0	4	Cacerola 5, cazuela 4
180	Patata	Potato	1	0	1	4	1	0	Galleta 1
181	Calabaza	Pumpkin	2	1	3	1	0	0	Naranja 1, sandía 1
182	Conejo	Rabbit	0	0	0	0	0	0	-
183	Mapache	Raccoon	9	4	13	0	5	2	Animal 1, castor 2, lince 1, mofeta 3, yena 1, zorro 8
184	Tocadiscos	Record player	1	0	5	0	0	0	Giradiscos 1, magnetofón 1, mega 1, pinchadiscos 1, radiocassette 1
185	Frigorífico	Refrigerator	0	0	0	0	0	0	Nevera 30
186	Rinoceronte	Rhinoceros	2	0	0	0	0	0	Hipopótamo 1, jabalí 1
187	Anillo	Ring	1	1	1	3	0	0	Aro 1, pendiente 1, sortija 1
188	Mecedora	Rocking chair	0	0	1	0	1	2	Butaca 2, hamaca 6, silla 7, sillón 1, tumbona 1
189	Patín	Roller skate	0	0	0	0	0	3	Monopatín 1, patines 1, patinete 3
190	Rodillo	Rolling pin	9	1	18	0	0	2	Amasador 5, masa 1, mazo 1, mazo de amasar 1, tormo 1
191	Gallo	Rooster	0	0	1	0	0	0	Gallina 10, pollo 1
192	Regla	Ruler	0	0	0	0	0	0	Metro 2
193	Barco	Sailboat	0	0	0	0	1	2	Barca 2, barco de vela 17, velero 19
194	Salero	Saltshaker	0	1	0	0	0	0	Frasco 1, tornillo 1
195	Sandwich	Sandwich	0	1	0	0	0	1	Bocadillo 6, bocata 3
196	Sierra	Saw	0	0	2	0	0	0	Serrucho 10, sierra de mano 1
197	Tijeras	Scissors	0	0	0	0	0	1	Tijera 4
198	Tornillo	Screw	1	0	0	0	0	0	Clavo 7, punta 2, tuerca 1
199	Destornillador	Screwdriver	4	0	5	0	0	0	Tornavas 1, tornillo 1
200	Caballito de mar	Sea horse	3	0	4	0	1	0	Caballo de mar 19, camaleón 1, caracol de mar 1
201	Foca	Seal	1	0	0	0	1	0	Marmota 1, morsa 5
202	Oveja	Sheep	2	0	0	1	1	0	Carnero 3, cordero 1
203	Camisa	Shirt	0	0	0	0	1	0	Blusa 2
204	Zapato	Shoe	0	0	0	0	0	0	-
205	Falda	Skirt	0	0	0	0	0	0	Faldón 1, mandil 1
206	Mofeta	Skunk	5	0	11	0	4	1	Animal 1, ardilla 3, castor 1, zorrillo 3
207	Trineo	Sled	3	10	10	0	0	1	Camilla 1, esquí 1, patín 1, patinete 1
208	Caracol	Snail	0	0	1	0	0	0	-
209	Serpiente	Snake	0	0	0	0	0	0	Culebra 9, víbora 1

APPENDIX B (Continued)

			DKN	DKO	TOT	DKO (FAM)	NI	DO	Nondominant Names
210	Muñeco de nieve	Snowman	0	0	1	0	0	0	Espantapájaros 1, hombre de nieve 1
211	Calcetín	Sock	0	0	0	0	0	0	-
212	Araña	Spider	1	0	0	0	0	0	Arácnido 1, cucaracha 1, insecto 1
213		Spinning wheel	unavailable						
214	Hilo	Spool of thread	1	0	1	0			Bobina 9, bobina de hilo 13, caña de hilo 1, carrete 8, carro de hilo 1, cuerda 2, enrallado 1, ovillo 2, ovillo de hilo 3, rollo de hilo 1
215	Cuchara	Spoon	0	0	0	0	0	0	Cucharilla 6
216	Ardilla	Squirrel	1	0	0	0	0	0	-
217	Estrella	Star	0	0	0	0	0	0	-
218	Taburete	Stool	0	0	2	0	0	0	Banco 1, banqueta 6, butaca 2, silla 6, tajo 3
219	Cocina	Stove	0	0	1	0	0	4	Cocina electrica 1, cocinilla 5, estufa 1, fogón 1, hornillo 1, horno 6, lavadora 1
220	Fresa	Strawberry	0	0	0	0	1	0	-
221	Maleta	Suitcase	0	0	0	0	1	1	Cartera 1, maletín 1
222	Sol	Sun	0	0	0	0	0	0	Bola 1
223	Cisne	Swan	0	0	2	0	2	0	Ganso 1, oca 1, pato 2
224	Jersey	Sweater	0	0	0	0	0	2	Camisa 1, sueter 1
225	Columpio	Swing	0	0	0	3	1	2	Balancín 1, sillita 1
226	Mesa	Table	0	0	0	0	0	0	Mesilla 1
227	Teléfono	Telephone	0	0	0	0	0	0	-
228	Televisión	Television	0	0	0	0	0	0	Tele 3, televisor 24, TV 7
229	Raqueta	Tennis racket	0	0	0	0	0	0	-
230	Dedal	Thimble	1	0	1	0	2	0	Tapón 1
231	Dedo	Thumb	1	0	0	0	0	0	Dedo gordo 4, dedo de la mano 2, dedo pulgar 6, mano 1, pulgar 21
232	Corbata	Tie	0	0	0	0	1	0	-
233	Tigre	Tiger	0	0	0	0	0	1	Leopardo 4, lince 1, pantera 1
234	Tostador	Toaster	0	4	4	0	0	0	Balanza 1, brasador 1, caja fuerte 1, carro 1, sandwichera 1, tostadera 4, tostadora 18
235	Pie	Toe	0	0	0	0	0	0	Dedo 5, dedo gordo 3, dedo del pie 16, dedos 2, dedos de los pies 11, pulgar 1, uña 2
236	Tomate	Tomato	0	0	0	0	0	0	Fruta 1
237	Cepillo de dientes	Toothbrush	0	0	0	0	1	15	Cepillo 1
238	Peonza	Top	1	0	3	0	0	0	Pepión 2, perigonza 1, petanca 1, trombón 1, trompo 3
239		Traffic light	unavailable						
240	Tren	Train	0	0	0	0	0	0	Locomotora 2, tren rápido 1
241	Arbol	Tree	0	0	0	0	0	0	Encina 1, roble 1
242	Camión	Truck	0	0	0	0	0	0	Trailer 1
243	Trompeta	Trumpet	1	0	2	0			Flauta 1
244		Turtle	unavailable						
245	Paraguas	Umbrella	1	0	0	0	0	0	-
246	Jarrón	Vase	0	0	1	1	0	1	Florero 1, jarra 1, jarrón chino 1
247	Chaleco	Vest	0	0	2	0	0	0	Chaqueta 1
248	Violín	Violin	0	0	0	0	0	0	Contrabajo 1, guitarra 1, violonchelo 6
249	Carrito	Wagon	11	6	6	0			Carreta 4, carretilla 7, carretillo 4, carricoche 1, carro 6, cochecito 2, patín 3
250	Reloj	Watch	0	0	0	0	1	3	Reloj de mano 1, reloj de muñeca 1, reloj de pulsera 7

APPENDIX B (Continued)

			DKN	DKO	TOT	DKO (FAM)	NI	DO	Nondominant Names
251	Regadera	Watering can	0	0	0	0	0	2	Regador 1
252	Sandía	Watermelon	0	0	0	1	0	0	Cata de sandía 1, limón 1, melón 6, raja de melón 6, raja de sandía 12, rodaja de sandía 1, tajada de sandía 1, trozo de sandía 1
253		Well	unavailable						
254	Rueda	Wheel	0	0	0	0	0	6	Rueda de carro 4, rueda de madera 1
255	Silbato	Whistle	0	0	1	0	1	1	Pito 14, queso 1
256	Molino	Windmill	0	0	0	0	1	0	Aspas 1, molino de viento 3
257	Ventana	Window	0	0	0	0	0	1	Puerta 1
258	Copa	Wineglass	0	0	0	0	0	1	Vaso 1
259	Llave inglesa	Wrench	4	1	9	0	2	5	Alicates 1, herramienta 2, llave 9, llave de herramienta 1, llave mecánica 1, llave tuerca 1, tuerca 1
260		Zebra	unavailable						

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