

Name Agreement Norms for a Set of 260 Pictures in Kannada for Children

Wasim Ahmed, MASLP, Anusha N Murthy, Aditi Gargeshwari, and Nikitha M

=====
Language in India www.languageinindia.com ISSN 1930-2940 Vol. 13:4 April 2013
=====

Abstract

The utility of picture naming is beyond dispute, yet, it has become evident to us that cross linguistic comparisons using this technique are limited by the absence of comparable naming norms across the languages. As there are many different ways to depict an object in a picture, each one can elicit a different response. Also, the degree to which each picture possesses the characteristics that affect the process under investigation is unknown. To be able to compare studies that used picture naming, it is important to have norms of the pictorial stimuli that are used in these studies.

The most frequently used picture set in norming studies is the one developed by Snodgrass and Vanderwart (1980). These authors standardized 260 pictures on following variables: name agreement, image agreement, familiarity, age of acquisition (AoA) and visual complexity. These variables are known to have very high theoretical importance in studies of picture naming.

A total of 100 subjects within the age range of 5-16 years participated in the study. All were native Kannada speakers and approximately equal number of males and females served in task. Stimuli consisted of 260 pictures, developed by Snodgrass and Vanderwart (1980). All were instructed to identify each picture with the first name that came to their mind which may consist of more than one word. The collected data was suitably tabulated and was subjected to descriptive statistical treatment along with information statistic 'H' and with percentage agreement scores for each picture.

Results of this study provided a positive indication that these pictures can be utilized to fulfill various experimental needs pertaining to Kannada speaking children, though standardization based upon rest of the variables namely image agreement, visual complexity,

Language in India www.languageinindia.com ISSN 1930-2940 13:4 April 2013
Wasim Ahmed, MASLP, Anusha N Murthy, Aditi Gargeshwari, and Nikitha M
Name Agreement Norms for a Set of 260 Pictures in Kannada for Children

concept familiarity and age of acquisition are necessary and will facilitate the experimenters to select pictures efficiently to suit their needs.

Key Words: Standardized Picture Set, Kannada, Children, Line Drawings.

Introduction

Name agreement refers to the degree to which participants agree on the name of the picture. Name agreement is measured by assessing the number of different names given to a particular picture across participants. Pictures that elicit many different names have lower name agreement than do those that elicit a single name. Name agreement is also a robust predictor of naming difficulty. Pictures with a single dominant response are named more quickly and accurately than those with multiple responses (Barry et al., 1997; Lachman, Shaffer, &Henrikus, 1974; Paivio, et al., 1989; Snodgrass &Yuditsky, 1996; Vitkovitch& Tyrrell, 1995). More importantly, name agreement affects naming latencies independently of the effects of correlated attributes such as word frequency and rated age of acquisition (Lachman et al., 1974; Vitkovitch & Tyrrell, 1995).

There exists overwhelming evidence in the literature to show the extent to which these pictures have been utilized in various languages with an appreciable impact factor. Ever since the days of Cattell (1886), picture naming has been a widely used technique in various domains of psychological research. It has been used to investigate a number of components of language production such as lexical access and phonological encoding (e.g., Levelt, Schriefers, Vorberg, Meyer, Pechmann, & Havinga, 1991; Santiago, MacKay, Palma, & Rho, 2000; Starreveld, 2000). Picture naming has also been used in fMRI studies (e.g., Hernandez, Martinez, &Kohnert, 2000; Rutten, Ramsey, van Rijen, & van Veelen, 2002; Spitzer et al., 1998; Damasio, Grabowski, Tranel, Ponto, Hichwa, & Damasio, et al., 2001; Hernandez, Dapretto, Mazziotta, & Bookheimer, 2001), event-related brain potentials or ERP studies (Schmitt, Münte, & Kutas, 2000; van Turenout, Hagoort, & Brown, 1997, 1998, 1999; Wicha, Bates, Moreno, &Kutas, 2000; Hauk, Rockstroh, &Eulitz, 2001; Schiller, Bles, & Jansma, 2003; Schmitt, Schiltz, Zaake, Kutas, &Munte, 2001) and studies of bilingualism (e.g., Costa, Miozzo, &Caramazza, 1999; Francis & Sáenz, 2007; Gollan, Montoya, Notestine, & Morris, 2005).

Need for the Study

Taking these factors into account and in the absence of such a picture stimuli corpus for children in Kannada language, a strong necessity to develop a standardized picture set was identified. For this purpose, the overwhelmingly used Snodgrass and Vanderwart (1980) picture set was selected, which would be standardized based on the major variables affecting the picture naming performance in Kannada. This paper presents the first phase of the standardization process.

Aim of the Study

To standardize a set of pictures based on the name agreement variable for children.

Method

A total of 100 subjects within the age range of 5-16 years participated in the study. All were native Kannada speakers and approximately equal number of males and females served in task. Stimuli consisted of 260 pictures, developed by Snodgrass and Vanderwart (1980). Subjects above 9 years of age were given a questionnaire containing not more than 12 drawings in each page and were instructed to write the names within the space provided. Whereas, subjects below 8 years of age were presented with flash cards depicting individual drawings and oral responses were recorded by the authors. All were instructed to identify each picture with the first name that came to their mind which may consist of more than one word. For the picture of an object that was unknown to them, subjects performing oral task mentioned it verbally whereas the ones filling up the questionnaire wrote the symbol (✖) i.e., don't know object [DKO]. Similarly, if the object was known but the name was unknown, they were to respond (✓) i.e., don't know name [DKN]. If they knew the name but it was momentarily irretrievable, they were to respond (O) i.e., tip-of-the-tongue [TOT].

The collected data was suitably tabulated and was subjected to descriptive statistical treatment along with information statistic 'H' and with percentage agreement scores for each picture. Information statistic H is same as U, the measure of codability of stimulus (Snodgrass and Yuditsky, 1996). Greater importance was given to H statistics because it

captures more information than just percentage agreement scores (Snodgrass & Vanderwart, 1980). The three categories of naming failures DKO (don't know object), DKN (don't know name) and TOT (tip-of-the tongue) were eliminated when computing H but not when computing percentage agreement scores.

Results and Discussion

The name agreement was computed using the liberal criteria suggested by Snodgrass and Yuditsky (1996). For the name agreement task, both H value and the percentage agreement scores were calculated. However, more importance was given to H statistics because it captures greater information than just percentage agreement scores (Snodgrass & Vanderwart, 1980). For example, consider two pictures having equal percentage agreement scores – say 60% - for their respective dominant names and suppose they have varying numbers of non-dominant names, i.e., the first one has four alternative names and the second has only one, then, the second concept will have a lower H value, indicating a higher name agreement (which is the actual case) compared to the first concept, even when both have equal percentage agreement scores.

While calculating H values, the three categories of naming failures (don't know object – DKO, don't know name – DKN, & tip-of-the-tongue – TOT) were eliminated. But, while calculating the percentage agreement scores, these naming failures were also included. Hence, a picture with H value of 0.0 can have percentage agreement score less than 100 because the picture may have produced naming failures in some participants. Therefore, while selecting pictures, it is wise to consider both the H value as well as the percentage agreement to select the best suitable pictures as per the demands of the designed study.

If a picture elicited the same name from every subject, then the concept of that picture will have an H value of 0.0, indicating a perfect name agreement. A picture of a concept that elicited exactly two different names with equal frequency would have an H value of 1.00. Therefore, in simple terms, increasing H value indicates decreasing name agreement (Snodgrass & Vanderwart, 1980; Pompéia et al., 2001).

The normative data has been provided in the appendix which maintains the same order as originally given by Snodgrass and Vanderwart (1980) and even the serial numbers

provided by the authors have been kept unaltered for cross reference. All the appendices consist of the actual response in Kannada script and the corresponding International Phonetic Alphabet (IPA) transcripts using a web link: <http://people.w3.org/rishida/scripts/pickers/ipa/> of each picture along with two measures of name agreement: the information statistic H and the percentage name agreement (i.e., the percentage of subjects giving the most common name).

Appendix A provides information about the ‘dominant name’ or high name agreement responses (name most frequently provided by the subjects) which have low H value and high percentage scores. Appendix B and C provide information regarding those pictures that received misnomers. Appendix B describes the pictures which received locally substituted names as dominant responses, whereas, Appendix C tabulates the pictures that received ambiguous names as the dominant response. Appendix D consists of information on pictures with low naming responses i.e., those pictures that generated numerous alternate names or DKO or DKN or TOT responses. Appendix E encompasses the list of pictures which obtained two equally dominant correct responses.

Table 1: Summary statistics for name agreement [H]:

		H
Mean		0.099
Median		0.073
SD		0.063
Skewness		1.76
Range		0.301
Minimum		0.046
Maximum		0.347
Percentiles	25th	0.05
	75th	0.12

As it is evident from table 1 the distribution of H values had a low mean (0.099) and was positively skewed (1.76), indicating that concepts have a high name agreement overall. Out of the 260 pictures, 197 concepts had high name agreement indicating that these pictures can be utilized for clinical and research purposes concerning Kannada speaking children between the age range of 5 – 16 years. Among these 197 pictures some also had a dominant alternate name (Appendix E) and hence it is suggested that either of them can be considered as a correct response.

The concepts were grouped based on the percentile scores for H values. All the pictures which had H value less than the 75th percentile (0.12) were accepted as having high name agreement. Lower name agreement was observed for 63 of the concepts where each of the concepts had H value greater than the 75th percentile and low percentage scores. Most of these concepts received misnomers which were further classified as:

- (a) Ambiguous Pictures [Appendix C]: 4 (anchor misinterpreted as plough), 9 (artichoke as flower), 10 (ashtray as stove), 11 (asparagus as stick), 13 (baby carriage as cycle), 18 (barrel as tabla), 45 (cannon as bullock cart), 58 (cigar as pencil), 61 (clothes pin as nail cutter), 77 (door knob as wheel), 92 (flute as stick), 97 (fork as spoon), 106 (glove as hand), 110 (grasshopper as mosquito), 117 (harp as gate), 135 (lemon as orange), 142 (lobster as scorpion), 152 (nail file as knife), 163 (peach as tomato), 166 (pear as papaya), 178 (pocket book as bag), 194 (salt shaker as bottle), 206 (skunk as squirrel), 219 (stove as washing machine), 229 (tennis racket as bat), 230 (thimble as tumbler), 231 (thumb as finger), 248 (violin as guitar), 249 (wagon as basket).
- (b) Twenty pictures were named with a common local substitute [Appendix B]: 1 (accordion was named as harmonium), 33 (bow as tape), 124 (ironing board as table), 137 (lettuce as cauliflower), 144 (mitten as gloves), 159 (ostrich as stork), 177 (plug as switch), 179 (pot as cup), 183 (raccoon as cat), 184 (record player as compact disc), 192 (ruler as scale), 207 (sled as skate board), 210 (snowman as doll), 221 (suitcase as bag), 240 (truck as lorry), 246 (vase as pot), 247 (vest as shirt), 251 (water-can as jug), 256 (windmill as fan), 259 (wrench as spanner).

For fourteen of the pictures it was decided to accept two dominant names [Appendix E], as both names were synonymous and referred exactly to the same concept. In these

pictures either of the dominant names can be accepted as a correct response. These pictures were: 35 (box), 37 (broom), 44 (candle), 53 (chair), 64 (coat), 78 (dress), 80 (drum), 101 (pan), 107 (goat), 108 (gorilla), 132 (lamp), 158 (orange), 173 (pineapple), 195 (sandwich).

Even though the participants had to provide the names for the concepts in Kannada, a few concepts received the English version of the concept as the dominant responses, for example pictures 36 (bread), 39 (bus), 38 (brush), and 47 (car). These were accepted as the dominant responses as they were consistently provided by majority of the participants.

Conclusions

Results of this study provided a positive indication that these pictures can be utilized to fulfill various experimental needs pertaining to Kannada speaking children, though standardization based upon rest of the variables namely image agreement, visual complexity, concept familiarity and age of acquisition are necessary and will facilitate the experimenters to select pictures efficiently to suit their needs. Furthermore, it is advised to the experimenters who desire to use this picture set to avoid the list of pictures mentioned in Appendix C which have a greater potential to generate ambiguous responses and may hamper the experimental results. Also, it may be noted that care must be taken while selecting the pictures mentioned in Appendix B and Appendix D.

APPENDIX A

Pictures with High Name Agreement scores

Pic No	Actual Name	Dominant response	IPA transcript	H	Percentage
2	Airplane	ವಿಮಾನ	vima:na	0.07	60
3	Alligator	ಮೊಸಳೆ	mosa e	0.06	78
5	Ant	ಇರುವೆ	iruve	0.05	89
6	Apple	ಸೇಬು	se:bu	0.05	95

7	Arm	ಕೈ	kaĩ	0.05	92
12	Axe	ಕೊಡಲಿ	koḍali	0.07	62
14	Ball	ಬೆಂಡು	ʃɛndu	0.06	70
15	Balloon	ಬಲೂನ್	balu:n	0.07	63
16	Banana	ಬಾಳೆಹಣ್ಣು	ba:lɛhɱɳu	0.05	90
17	Barn	ಮನೆ	mane	0.05	97
19	Baseball bat	ಬ್ಯಾಟ್	bæt	0.12	29
20	Basket	ಬುಟ್ಟಿ	buṭṭi	0.08	46
21	Bear	ಕರಡಿ	karaḍi	0.06	77
22	Bed	ಮಂಚ	mɱntʃa	0.06	74
24	Beetle	ಜಿರಳೆ	dʒirale	0.1	38
25	Bell	ಘಂಟೆ	gɱntɛ	0.05	97
26	Belt	ಬೆಲ್ಟ್	bɛlt	0.06	65
27	Bicycle	ಸೈಕಲ್	saĩkɱl	0.05	97
28	Bird	ಪಕ್ಷಿ	pɱkʃi	0.09	43
29	Blouse	ಅಂಗಿ	aŋi	0.08	49
30	Book	ಪುಸ್ತಕ	puṣṭaka	0.06	73
31	Boot	ಶೂಜ್	ʃu:z	0.06	64
32	Bottle	ಬಾಟಲ್	baṭɱl	0.09	40
34	Bowl	ಬಟ್ಟಲು	bɱṭɱalu	0.06	70
35	Box	ಬಾಕ್ಸ್	bɱks	0.12	29

36	Bread	ಬ್ರೆಡ್	bred	0.06	71
38	Brush	ಬ್ರಶ್	brʌʃ	0.11	32
39	Bus	ಬಸ್	bʌs	0.05	97
40	Butterfly	ಬಟರ್‌ಫ್ಲೈ	ˈbʌt̩ərflaɪ	0.05	93
41	Button	ಗುಂಡಿ	ɡʊndi	0.07	54
42	Cake	ಕೇಕ್	ke:k	0.06	76
43	Camel	ಒಂಟೆ	ɒnt̩e	0.05	91
44	Candle	ಕ್ಯಾಂಡಲ್	kændəl	0.12	29
45	Cannon	ಎತ್ತಿನಗಾಡಿ	ɛˈt̩ɪnagaːdi	0.12	29
46	Cap	ಟೋಪಿ	tɒːpi	0.06	78
47	Car	ಕಾರ್	kaːr	0.05	100
48	Carrot	ಕ್ಯಾರೆಟ್	kæret̩	0.06	66
49	Cat	ಬೆಕ್ಕು	beːku	0.05	83
52	Chain	ಚೇನ್	tʃeɪn	0.07	57
53	Chair	ಕುರ್ಚಿ	kɔːtʃi	0.08	50
55	Chicken	ಕೋಳಿ	koːli	0.05	96
57	Church	ಮನೆ	mane	0.08	46
60	Clock	ಗಡಿಯಾರ	ɡadɪjaːra	0.05	88
61	Cloud	ಮೋಡ	moːdɑ	0.11	31
63	Clown	ಜೋಕರ್	dʒoːklaɪ	0.06	71
64	Coat	ಕೋಟ್	koːt̩	0.12	28

65	Comb	ಬಾಚಣಿಗಿ	ba:ʃaŋige	0.05	90
66	Corn	ಜೋಳ	dʒo:lɑ	0.05	80
67	Couch	ಸೋಫಾ	so:fa	0.07	57
68	Cow	ಹಸು	hasu	0.05	91
69	Crown	ಕಿರೀಟ	kiri:tɑ	0.08	45
70	Cup	ಲೋಟ	lo:tɑ	0.08	46
71	Deer	ಜಿಂಕೆ	dʒinke	0.05	86
72	Desk	ಟೇಬಲ್	te:bɑ	0.1	37
73	Dog	ನಾಯಿ	na:ji	0.05	98
74	Doll	ಗೊಂಬೆ	gombe	0.09	43
75	Donkey	ಕತ್ತೆ	kʌtʰe	0.06	68
76	Door	ಬಾಗಿಲು	ba:gilu	0.05	88
79	Dresser	ಟೇಬಲ್	te:bɑ	0.12	28
81	Duck	ಬಾತುಕೋಳಿ	ba:tʉko:lʃi	0.06	76
82	Eagle	ಹದ್ದು	hʌdʱu	0.07	61
83	Ear	ಕಿವಿ	kivi	0.05	96
84	Elephant	ಆನೆ	a:ne	0.05	96
86	Eye	ಕಣ್ಣು	kʌŋʱu	0.05	97
87	Fence	ಗೇಟು	ge:tʉ	0.11	32
88	Finger	ಬೆರಳು	beraʉ	0.05	84
89	Fish	ಮೀನು	mi:nu	0.05	97

90	Flag	ಬಾವುಟ	ba:vuʈa	0.06	71
91	Flower	ಹೂವು	hu:vu	0.05	87
93	Fly	ನೊಣ	noṇa	0.07	55
94	Foot	ಕಾಲು	ka:lu	0.06	75
97	Fork	ಚಮಚ	ʃʌmaʃʃa	0.06	65
98	Fox	ನರಿ	nari	0.05	83
99	French horn	ಪೀಪಿ	pi:pi	0.09	42
100	Frog	ಕಪ್ಪೆ	kʌp̃e	0.05	95
103	Giraffe	ಜಿರಾಫೆ	dʒira:f	0.05	83
104	Glass	ಲೋಟ	lo:ʈa	0.06	73
105	Glasses	ಕನ್ನಡಕ	kʌñaɖʌka	0.05	86
107	Goat	ಆಡು	a:ɖu	0.1	37
109	Grapes	ದ್ರಾಕ್ಷಿ	ɖra:kʃi	0.05	90
111	Guitar	ಗಿಟಾರು	gɪʈa:r	0.07	53
112	Gun	ಗನ್	gʌn	0.06	77
113	Hair	ಕೂದಲು	ku:ɖʌlu	0.09	41
114	Hammer	ಸುತ್ತಿಗೆ	sʊʈʃige	0.1	36
115	Hand	ಕೈ	kai	0.09	42
116	Hanger	ಹ್ಯಾಂಗರ್	hæŋʌr	0.11	31
118	Hat	ಟೋಪಿ	ʈo:pi	0.06	78
119	Heart	ಹೃದಯ	hruɖʌja	0.07	62

120	Helicopter	ಹೆಲಿಕಾಪ್ಟರ್	heliko:ptʌr	0.09	41
121	Horse	ಕುದುರೆ	kuɖure	0.05	91
122	House	ಮನೆ	mane	0.05	91
123	Iron	ಐರಂಬಾಕ್ಸ್	aɪrʌnbʌks	0.1	38
124	Ironing board	ಛೇಬಲ್	tʃebʌl	0.09	40
125	Jacket	ಅಂಗಿ	aŋgi	0.09	41
126	Kangaroo	ಕ್ಯಾಂಗರು	kæŋaru:	0.07	58
128	Key	ಕೀ	ki:	0.07	58
129	Kite	ಗಾಳಿಪಟ	ga:lɪpaʈa	0.08	49
130	Knife	ಚಾಕು	tʃa:ku	0.08	45
131	Ladder	ಏಣಿ	e:ŋi	0.05	90
133	Leaf	ಎಲೆ	ele	0.05	88
134	Leg	ಕಾಲು	ka:lu	0.05	85
136	Leopard	ಚಿರತೆ	tʃɪrʌte	0.06	76
138	Light bulb	ಬಲ್ಬ್	bʌlb	0.07	63
140	Lion	ಸಿಂಹ	simha	0.05	88
141	Lips	ತುಟಿ	tuʈi	0.05	89
143	Lock	ಬೀಗ	bi:ga	0.05	81
145	Monkey	ಕೋತಿ	ko:ti	0.05	82
146	Moon	ಚಂದ್ರ	tʃʌndʒrʌ	0.05	87
147	Motor cycle	ಸ್ಕೂಟರ್	sku:tʌr	0.08	51

148	Mountain	ಬೆಟ್ಟ	beʈa	0.05	81
149	Mouse	ಇಲಿ	ili	0.05	98
150	Mushroom	ಅಣಬೆ	aṇabe	0.09	40
151	Nail	ಮೊಳೆ	moʎe	0.06	72
152	Nail file	ಚಾಕು	ʃa:ku	0.05	88
153	Necklace	ಸರ	sara	0.05	94
154	Needle	ಸೂಜಿ	su:ɟʒi	0.06	67
155	Nose	ಮೂಗು	mu:gu	0.05	92
156	Nut	ನಟ್	nʌʈ	0.09	43
157	Onion	ಈರುಳ್ಳಿ	i:ruʃi	0.05	89
160	Owl	ಕಿತ್ತಲೆಹಣ್ಣು	kiʈʈalehʌṅṅu	0.06	66
161	Paint brush	ಬ್ರಷ್	brʌʃ	0.1	37
162	Pants	ಪ್ಯಾಂಟ್	pænt	0.05	87
164	Peacock	ನವಿಲು	navilu	0.05	94
165	Peanut	ಕಡಲೆಕಾಯಿ	kaɖaleka:ji	0.1	34
167	Pen	ಪೆನ್	pen	0.05	93
168	Pencil	ಪೆನ್ಸಿಲ್	pensil	0.05	92
169	Penguin	ಪೆನ್ಸಿನ್	penguin	0.11	32
170	Pepper	ದಪ್ಪಮೆಣಸಿನಕಾಯಿ	dʌpʌmeṇʌsinaka:ji	0.07	55
172	Pig	ಹಂದಿ	hanɖi	0.06	71
173	Pine apple	ಅನಾನಸ್ಸು	ana:nas	0.1	34

175	Pitcher	ಜಗ್	dʒʌg	0.06	68
176	Pliers	ಕಟಿಂಗ್ಲಿಯರ್	kaʃɪŋplɪjə	0.09	40
178	Pocket book	ಬ್ಯಾಗ್	bæɡ	0.06	72
180	Potato	ಆಲೂಗೆಡ್ಡೆ	a:lugeɖe	0.1	35
181	Pumpkin	ಕುಂಬಳಕಾಯಿ	kumbaʃaka:ji	0.06	72
182	Rabbit	ಮೊಲ	mola	0.05	91
183	Raccoon	ಬೆಕ್ಕು	beku	0.12	28
185	Refrigerator	ಫ್ರಿಡ್ಜ್	frɪdʒ	0.06	65
187	Ring	ಉಂಗುರ	uŋura	0.06	78
188	Rocking chair	ಕುರ್ಚಿ	kurʃi	0.08	48
191	Rooster	ಕೋಳಿ	ko:lɪ	0.07	61
192	Ruler	ಸ್ಕೇಲ್	skæl	0.05	80
193	Sail boat	ದೋಣಿ	do:ɳi	0.1	35
196	Saw	ಗರಗಸ	garag ^h asa	0.05	83
197	Scissors	ಕತ್ತಿ	kaʃri	0.05	96
198	Screw	ಮೊಳೆ	moʃe	0.1	34
199	Screw driver	ಸ್ಕ್ರೂ ಡ್ರೈವರ್	skrudraivə	0.09	41
202	Sheep	ಕುರಿ	kuri	0.06	75
203	Shirt	ಅಂಗಿ	aŋgi	0.08	52
204	Shoes	ಶೂಜ್	ʃu:z	0.06	76
205	Skirt	ಲಂಗ	laŋa	0.06	65

206	Skunk	ಅಳಿಲು	aʃilu	0.07	55
208	Snail	ಸ್ನೇಲ್	sne:l	0.12	29
209	Snake	ಹಾವು	ha:vu	0.05	96
210	Snow man	ಗೊಂಬೆ	gombe	0.11	32
211	Sock	ಸಾಕ್ಸ್	soks	0.06	70
212	Spider	ಜೇಡ	dʒe:ɖa	0.11	30
213	Spinning wheel	ಚರಕ	ʃaraka	0.08	48
214	Spool of thread	ಧಾರ	dʰa:ra	0.07	53
215	Spoon	ಚಮಚ	ʃamaʃa	0.05	86
216	Squirrel	ಅಳಿಲು	aʃilu	0.06	64
217	Star	ನಕ್ಷತ್ರ	nakʃat̪ra	0.06	64
218	Stool	ಕುರ್ಚಿ	kurʃi	0.07	56
220	Strawberry	ಸ್ಟ್ರಾಬೆರಿ	stroberi	0.08	50
221	Suitcase	ಬ್ಯಾಗ್	bæg	0.09	39
222	Sun	ಸೂರ್ಯ	su:rja	0.05	87
223	Swan	ಬಾತುಕೋಳಿ	ba:ʈuko:ʃi	0.07	61
224	Sweater	ಸೈಟರ್	sveʈar	0.07	59
225	Swing	ಜೋಗಾಲಿ	dʒo:ga:li	0.11	30
226	Table	ಟೇಬಲ್	tæbʌl	0.06	67
227	Telephone	ಫೋನ್	fo:n	0.09	42

228	Television	ಟೀಲಿವಿ	[ti:vi]	0.05	88
229	Tennis racket	ಟೆನಿಸ್ ರ್ಯಾಕೆಟ್	[bæt]	0.09	40
230	Thimble	ಟಿಂಬಲ್	[lo:tʌ]	0.11	31
231	Thumb	ಬೆರಳು	[beraʌ]	0.08	49
232	Tie	ಟೈ	[tai]	0.05	80
233	Tiger	ಹುಲಿ	[huli]	0.05	83
235	Toe	ಬೆರಳು	[beraʌ]	0.09	43
236	Tomato	ಟಾಮಟೊ	[tamætɔ]	0.05	93
237	Tooth brush	ಟೂತ್ ಬ್ರಷ್	[brʌʃ]	0.06	71
238	Top	ಬುಗುರಿ	[bugori]	0.05	90
239	Traffic light	ಟ್ರಾಫಿಕ್ ಲೈಟ್	[træfik lait]	0.11	30
240	Train	ರೈಲು	[railu]	0.07	60
241	Tree	ಮರ	[mara]	0.05	97
242	Truck	ಲಾರಿ	[lɔri]	0.07	61
243	Trumpet	ಪೀಪಿ	[pi:pi]	0.08	51
244	Turtle	ಆಮೆ	[a:me]	0.05	88
245	Umbrella	ಛತ್ರ	[ʃatri]	0.05	90
248	Violin	ಗಿಟಾರ್	[giʌ:r]	0.09	44
250	Watch	ವಾಚ್	[wa:ʃ]	0.05	81
252	Watermelon	ಕಲ್ಲಂಗಡಿ	[kʌʌŋadɪ]	0.07	63
253	Well	ಬಾವಿ	[ba:vi]	0.05	89

254	Wheel	ಚಕ್ರ	ʃakra	0.05	84
255	Whistle	ಶಿಲ್ಪಿ	ʃilpi	0.07	61
257	Window	ಕಿಟಕಿ	kiʈaki	0.08	49
258	Wine glass	ಲೋಟ	lo:ʈa	0.08	45
260	Zebra	ಜೇಬ್ರ	ze:bra	0.06	76

APPENDIX B

Pictures with misnomers (Local Substitutes)

Pic No	Actual Name	Local substitution	IPA transcript	H	Percentage
1	Accordion	ಹಾರ್ಮೋನಿಯಂ	ha:rho:nijʌm	0.2	13
33	Bow	ಟೇಪ್	te:p	0.24	9
124	Ironing board	ಟೇಬಲ್	tebʌ	0.09	40
137	Lettuce	ಹೂಕೋಸು	hu:ko:su	0.14	22
144	Mitten	ಗ್ಲವ್ಸ್	glʌvz	0.26	8
159	Ostrich	ಕೊಕ್ಕರೆ	kokare	0.18	15
177	Plug	ಪ್ಲಗ್	sviʃ	0.14	21
179	Pot	ಬಟ್ಟಲು	bʌʈʌlu	0.24	9
183	Raccoon	ಬೆಕ್ಕು	beʃu	0.12	28
184	Record player	ಸೀಡಿ	si:di	0.2	13
192	Ruler	ಸ್ಕೇಲ್	skæ	0.05	80

207	Sled	ಸ್ಕೇಟೋರ್ಡ್	skæt[bɔrd]	0.2	13
210	Snow man	ಗೊಂಬೆ	gombe	0.11	32
221	Suitcase	ಬ್ಯಾಗ್	bæg	0.09	39
242	Truck	ಲಾರಿ	lɔri	0.07	61
246	Vase	ಪಾಟ್	pɔt	0.17	17
247	Vest	ಅಂಗಿ	anj	0.15	19
251	Water can	ಜಗ್	dʒʌg	0.26	8
256	Windmill	ಫ್ಯಾನ್	fæn	0.18	15
259	Wrench	ಸ್ಪ್ಯಾನರ್	spænɹ	0.13	24

APPENDIX C

Pictures with misnomers (Ambiguous responses)

Pic No	Actual Name	Ambiguous Response	IPA transcript	H	Percentage
4	Anchor	ನೇಗಿಲು	ne:gilu	0.24	9
9	Artichoke	ಹೂ	hu:	0.14	21
10	Ashtray	ಗ್ಯಾಸ್	gæs	0.17	16
11	Asparagus	ಕಡ್ಡಿ	kʌdʒi	0.28	7
13	Baby carriage	ಸೈಕಲ್	saikʌl	0.3	6
18	Barrel	ತಬಲ	tʌbala	0.22	11
45	Cannon	ಎತ್ತಿನಗಾಡಿ	ɛtʌnaga:dʒi	0.12	21

58	Cigar	ಪೆನ್ಸಿಲ್	pensil	0.22	11
61	Clothespin	ನೈಲ್ಕಾಟರ್	nailkaṭar	0.19	14
77	Doorknob	ಬಂಡಿ	bʌndi	0.35	4
92	Flute	ಕಡ್ಡಿ	kʌḍi	0.17	16
97	Fork	ಚಮಚ	ʃamaʃa	0.06	65
106	Glove	ಕೈ	kai	0.13	25
110	Grass hopper	ಸೊಳ್ಳೆ	so[e]	0.23	10
117	Harp	ಗೇಟು	ge:tu	0.17	17
135	Lemon	ಕಿತ್ತಲೆಹಣ್ಣು	kiṭṭale hʌḷi	0.13	24
142	Lobster	ಬೇಟು	ʃe:tu	0.17	23
152	Nail file	ಚಾಕು	ʃa:ku	0.05	88
163	Peach	ಟೊಮೊಟೊ	tomæto	0.14	21
166	Pear	ಪರಂಗಿಹಣ್ಣು	paraṅihʌḷi	0.19	14
178	Pocket book	ಬ್ಯಾಗ್	bæg	0.06	72
194	Salt shaker	ಬಾಟಲ್	boṭʌl	0.17	17
206	Skunk	ಅಳಿಲು	aʃilu	0.07	55
219	Stove	ವಾಷಿಂಗ್ಟನ್	waʃiŋmaʃin	0.13	26
229	Tennis racket	ಬ್ಯಾಟ್	bæt	0.09	40
230	Thimble	ಲೋಟ	lo:ṭa	0.11	31
231	Thumb	ಬೆರಳು	beraʌ	0.08	49
248	Violin	ಗಿಟಾರ್	giṭa:r	0.09	44

249	Wagon	ಬುಟ್ಟಿ	bʊ[ɪ̃]	0.26	8
-----	-------	--------	--------	------	---

APPENDIX D

Pictures with Low Name Agreement scores

Pic no.	Actual name	Low name agreement	IPA transcript	H	Percentage
8	Arrow	ಆರೋಮಾರ್ಕ್	æroma:rk	0.14	22
51	Celery	ಸೊಪ್ಪು	soɸu	0.21	12
54	Cherry	ಸೇಬು	se:bu	0.16	12
59	Cigarette	ಸಿಗರೆಟ್	sigareɾ	0.13	26
139	Light switch	ಸ್ವಿಚ್ಚ್	sviɾɕ	0.13	26
171	Piano	ಪಿಯಾನೊ	pija:no	0.23	10
186	Rhinoceros	ಘೆಂಡಾಮೃಗ	gʰe:nda:mruga	0.14	23
189	Roller skates	ಸ್ಕೇಟಿಂಗ್	ske:ɾiŋ	0.17	16
190	Rolling pin	ಲಟ್ಟಣಿಗೆ	lʌ[ʌŋige	0.14	23
200	Sea horse	ಸೀಹಾರ್ಸ್	si: hɔrs	0.14	23
201	Seal	ಸೀಲ್	si:l	0.17	16

APPENDIX E

Pictures with two dominant correct responses

Pic No	Actual Name	Dominant Alternate Names	IPA transcript	Percentage
35	Box	ಬಾಕ್ಸ್, ಡಬ್ಬಿ	bɔks , dʌbi	29,25
37	Broom	ಪೊರಕೆ, ಬರಲು	porake , baralu	12,10
44	Candle	ಕ್ಯಾಂಡಲ್, ದೀಪ	kændʌl , d̪i:pa	29,26
53	Chair	ಕುರ್ಚಿ, ಚೇರ್	kɔrʃi , tʃe:r	50,45
64	Coat	ಕೋಟ್, ಅಂಗಿ	ko:t , aŋi	28,24
78	Dress	ಬಟ್ಟೆ, ಫ್ರಾಕ್	bʌt̪e , frɔk	26,26
80	Drum	ತಮಟೆ, ಡ್ರಮ್	t̪amaɽe , d̪rʌm	9,8
101	Frying pan	ತವ, ಪ್ಯಾನ್	t̪ava , pæn	8, 7
107	Goat	ಆಡು, ಮೇಕೆ	a:du , me:ke	37, 30
108	Gorilla	ಗೊರಿಲ್ಲ, ಚಿಂಪ್ಯಾನ್ಜಿ	goriɻa , tʃimpænzɪ:	23, 22
132	Lamp	ಲೈಟ್, ದೀಪ	laiɽ , d̪i:pa	19, 16
158	Orange	ಕಿತ್ತಲೆಹಣ್ಣು, ಮೊಸಂಬಿ	kiɽt̪alehʌŋɻu , mosambi	18, 17
173	Pine apple	ಅನಾನಸ್ಸು, ಪೈನ್‌ಆಪಲ್	ana:nas , paɪnæpʌl	34, 30
195	Sandwich	ಬ್ರೆಡ್, ಸ್ಯಾಂಡ್ವಿಚ್	bræɽd , sændviʃ	22, 22

References

Snodgrass, J. G., & Vanderwart, M. (1980). A standardized set of 260 pictures: Norms for name agreement, familiarity and visual complexity. *Journal of Experimental Psychology: Human Learning & Memory*, 6, 174-215.

Language in India www.languageinindia.com ISSN 1930-2940 13:4 April 2013
Wasim Ahmed, MASLP, Anusha N Murthy, Aditi Gargeshwari, and Nikitha M
Name Agreement Norms for a Set of 260 Pictures in Kannada for Children

- Snodgrass, J. G., & Yuditsky, T. (1996). Naming times for the Snodgrass and Vanderwart pictures. *Behavior Research Methods, Instruments, & Computers*, 28, 516-536.
- Alario, F. X., Ferrand, L., Laganaro, M., New, B., Frauenfelder, U. H., & Segui, J. (2004). Predictors of picture naming speed. *Behavior Research Methods, Instruments, & Computers*, 36(1), 140-155.
- Barry, C., Morrison, C. M., & Ellis, A. W. (1997). Naming the Snodgrass and Vanderwart pictures: Effects of age of acquisition, frequency, and name agreement. *Quarterly Journal of Experimental Psychology*, 50A, 560-585.
- Cattell, J. M. (1886). The time it takes to see and name objects. *Mind*, 11, 63-65.
- Costa, A., Miozzo, M., & Caramazza, A. (1999). Lexical selection in bilinguals: Do words in bilingual's lexicon compete for selection? *Journal of Memory and Language*, 41, 381-391.
- Damasio, H., Grabowski, T. J., Tranel, D., Ponto, L. L. B., Hichwa, R. D., & Damasio, A. R. (2001). Neural correlates of naming actions and of naming spatial relations. *NeuroImage*, 13, 1053-1064.
- Dunn, L. M., & Dunn, L. M. (1981). Peabody picture vocabulary test revised. Circle Pines, MN: American Guidance Service.
- Francis, W. S., & Sáenz, S. P. (2007). Repetition priming endurance in picture naming and translation: Contributions of component processes. *Memory & Cognition*, 35(3), 481-493.
- Gollan, T. H., Montoya, R. I., Notestine, C. F., Morris, S. K. (2005). Bilingualism affects picture naming but not picture classification. *Memory & Cognition*, 33(7), 1220-1234.

- Hauk, O., Rockstroh, B., & Eulitz, C. (2001). Grapheme monitoring in picture naming: An electrophysiological study of language production. *Brain Topography, 14*, 3–13.
- Hernandez, A. E., Dapretto, M., Mazziotta, J., & Bookheimer, S. (2001). Language switching and language representation in Spanish–English bilinguals: An fMRI study. *NeuroImage, 14*, 510-520.
- Hernandez, A. E., Martinez, A., & Kohnert, K. (2000). In search of the language switch: An fMRI study of picture naming in Spanish-English bilinguals. *Brain and Language, 73*, 421–431.
- Kaplan, E., Goodglass, H., & Weintraub, S. (1983). *The Boston Naming Test*. Philadelphia: Lea and Febiger.
- Lachman, R., Shaffer, J. P., & Hennrikus, D. (1974). Language and cognition: Effects of stimulus codability, name-word frequency, and age of acquisition on lexical reaction time. *Journal of Verbal Learning & Verbal Behavior, 13*, 613-625.
- Levelt, W. J. M., Schriefers, H., Vorberg, D., Meyer, A. S., Pechmann, T., & Havinga, J. (1991). The time course of lexical access in speech production: A study of picture naming. *Psychological Review, 98*, 122–142.
- Paivio, A., Clark, J. M., Digdon, N., & Bons, T. (1989). Referential processing: Reciprocity and correlates of naming and imaging. *Memory & Cognition, 17*, 163-174.
- Pompéia, S., Miranda, M. C., & Bueno, O. F. A. (2001). A set of 400 pictures standardized for Portuguese Norms for name agreement, familiarity, and visual complexity for children and adults. *ArqNeuropsiquitar, 59*(2-B), 330-337.
- Rutten, G. J. M., Ramsey, N. F., van Rijen, P. C., & van Veelen, C. W. M. (2002). Reproducibility of fMRI-determined language lateralization in individual subjects. *Brain and Language, 80*, 421–437.

- Santiago, J., MacKay, D. G., Palma, A., & Rho, C. (2000). Sequential activation processes in producing words and syllables: Evidence from picture naming. *Language and Cognitive Processes, 15*, 1–44.
- Schiller, N. O., Bles, M., & Jansma, B. M. (2003). Tracking the time course of phonological encoding in speech production: An event-related brain potential study. *Cognitive Brain Research, 17*, 819–831.
- Schmitt, B. M., Münte, T. F., & Kutas, M. (2000). Electrophysiological estimates of the time course of semantic and phonological encoding during picture naming. *Psychophysiology, 3*, 473–484.
- Schmitt, B. M., Schiltz, K., Zaake, W., Kutas, M., & Münte, F. (2001). An electrophysiological analysis of the time course of conceptual and syntactic encoding during tacit picture naming. *Journal of Cognitive Neuroscience, 13*, 510–522.
- Spitzer, M., Kirschka, U., Guckel, F., Belleman, M. E., Kammer, T., Seyyedi, S., et al. (1998). Functional magnetic resonance imaging of category-specific cortical activation: Evidence for semantic maps. *Cognitive Brain Research, 6*, 309–319.
- Starreveld, P. A. (2000). On the interpretation of onsets of auditory context effects in word production. *Journal of Memory and Language, 42*, 497–525.
- Van Turenout, M., Hagoort, P., & Brown, C. (1997). Electrophysiological evidence on the time course of semantic and phonological processes in speech production. *Journal of Experimental Psychology: Learning, Memory, & Cognition, 23*, 787–806.
- Van Turenout, M., Hagoort, P., & Brown, C. (1998). Brain activity during speaking: From syntax to phonology in 40 milliseconds. *Science, 280*, 572–574.

Van Turenout, M., Hagoort, P., & Brown, C. (1999). The time course of grammatical and phonological processing during speaking: Evidence from event-related brain potentials. *Journal of Psycholinguistic Research*, 28, 649-676.

Vitkovitch, M., & Tyrrell, L. (1995). Sources of disagreement in object naming. *Quarterly Journal of Experimental Psychology*, 48A, 822-848.

Wicha, N. Y. Y., Bates, E., Moreno, E., & Kutas, M. (2000). Grammatical gender modulates semantic integration of a picture in a Spanish sentence. *Psychophysiology*, 37(Suppl. 1).S104.

=====

Wasim Ahmed, MASLP
Lecturer
wasim.9@gmail.com

Anusha N Murthy
III B.Sc. (Speech and Hearing)
anushhhh8@gmail.com

Aditi Gargeshwari
III B.Sc. Speech and Hearing
ad.muggle@gmail.com

Nikitha M
III B.Sc. Speech and Hearing
nikitham25@gmail.com

JSS Institute of Speech and Hearing
Ooty Road
Mysore - 570025
Karnataka
India