Contextual Diversity Not Word Frequency Determines Word Naming and Lexical Decision Times

James S. Adelman, Gordon D. A. Brown, and José F. Quesada
University of Warwick

In press, *Psychological Science*

Correlation Matrices

Table 1: Raw correlations amongst response times, covariates and predictors for studies using monosyllables only.

	1.	2.	3.	4.	5.	6.	7.
1. log K-F WF	—						
2. log K-F CD	.980***	—					
3. log TASA WF	.897***	.896***	—				
4. log TASA CD	.904***	.914***	.993***	—			
5. log BNC WF	.923***	.924***	.915***	.919***	—		
6. log BNC CD	.859***	.889***	.875***	.892***	.958***	—	
7. Orthographic *N*	.107***	.098***	.143***	.133***	.118***	.103***	—
8. Length	-.106***	-.081***	-.141***	-.121***	-.119***	-.064***	-.654***
9. Consistency Ratio	-.151***	-.148***	-.139***	-.138***	-.148***	-.121***	-.001
10. Young LD RT	-.533***	-.553***	-.622***	-.627***	-.575***	-.620***	-.096***
11. Older LD RT	-.485***	-.501***	-.574***	-.576***	-.532***	-.575***	-.078***
12. Young Naming RT	-.278***	-.276***	-.325***	-.321***	-.298***	-.296***	-.371***
13. Older Naming RT	-.358***	-.361***	-.418***	-.414***	-.386***	-.395***	-.300***

	8.	9.	10.	11.	12.
9. Consistency Ratio	-.029	—			
10. Young LD RT	.067***	.026	—		
11. Older LD RT	.069***	.030	.651***	—	
12. Young Naming RT	.377***	-.039*	.310***	.315***	—
13. Older Naming RT	.326***	-.036†	.412***	.486***	.649***

K-F refers to Kučera and Francis (1967). TASA refers to Landauer, Foltz, and Laham (1998) 12th grade. BNC refers to British National Corpus Consortium (2000). † $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2: Raw correlations amongst response times, covariates and predictors for Elexicon project data.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. log K-F WF	—									
2. log K-F CD	.989	—								
3. log TASA WF	.623	.622	—							
4. log TASA CD	.625	.627	.994	—						
5. log BNC WF	.626	.627	.815	.823	—					
6. log BNC CD	.572	.582	.785	.800	.976	—				
7. Orthographic N	.193	.187	.339	.335	.248	.234	—			
8. Length (letters)	-.254	-.249	-.377	-.368	-.253	-.231	-.557	—		
9. Length (syllables)	-.145	-.143	-.355	-.352	-.198	-.189	-.496	.824	—	
10. Naming RT	-.297	-.300	-.550	-.552	-.475	-.482	-.377	.540	.541	—
11. LD RT	-.369	-.372	-.627	-.628	-.571	-.574	-.347	.548	.529	.726

K-F refers to Kučera and Francis (1967). TASA refers to Landauer et al. (1998) 12th grade. BNC refers to British National Corpus Consortium (2000). All correlations are significant at $p < .001$.

Table 3: Raw correlations amongst response times, covariates and predictors for Elexicon project data, for dataset with semantic variables.

	1.	2.	3.	4.	5.	6.	7.
1. log K-F WF	—						
2. log K-F CD	0.982***	—					
3. log TASA WF	0.845***	0.842***	—				
4. log TASA CD	0.862***	0.867***	0.993***	—			
5. log BNC WF	0.906***	0.911***	0.856***	0.868***	—		
6. log BNC CD	0.882***	0.902***	0.835***	0.856***	0.970***	—	
7. Length (letters)	-0.094***	-0.090***	-0.305***	-0.286***	-0.140***	-0.126***	—
8. Length (syllables)	-0.101***	-0.100***	-0.319***	-0.306***	-0.144***	-0.138***	0.858***
9. Orthographic *N*	0.114***	0.103***	0.245***	0.231***	0.130***	0.124***	-0.624***
10. Imagery	0.077**	0.041†	0.351***	0.325***	0.118***	0.111***	-0.393***
11. Concreteness	-0.090***	-0.140***	0.186***	0.144***	-0.057*	-0.107***	-0.425***
12. Ambiguity	0.241***	0.248***	0.260***	0.262***	0.253***	0.264***	-0.213***
13. LD RT	-0.538***	-0.540***	-0.682***	-0.679***	-0.593***	-0.605***	0.545***
14. Naming RT	-0.414***	-0.417***	-0.568***	-0.566***	-0.464***	-0.478***	0.561***

	8.	9.	10.	11.	12.	13.
9. Orthographic *N*	-0.553***	—				
10. Imagery	0.276***	-0.409***	—			
11. Concreteness	0.293***	-0.434***	0.807***	—		
12. Ambiguity	0.226***	-0.239***	0.017	0.067**	—	
13. LD RT	-0.341***	0.540***	-0.391***	-0.235***	-0.263***	—
14. Naming RT	-0.401***	0.548***	-0.402***	-0.270***	-0.217***	0.719***

K-F refers to Kučera and Francis (1967). TASA refers to Landauer et al. (1998) 12th grade. BNC refers to British National Corpus Consortium (2000). † $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

References

British National Corpus Consortium. (2000). *British National Corpus World Edition* [CD-ROM]. Oxford: Humanities Computing Unit, University of Oxford.

Kučera, H., & Francis, W. N. (1967). *Computational analysis of present-day American English.* Providence, RI: Brown University Press.

Landauer, T. K., Foltz, P. W., & Laham, D. (1998). An introduction to latent semantic analysis. *Discourse Processes*, *25*, 259–284.