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METHODS & DESIGNS

The Toronto Word Pool: Norms for imagery, concreteness, orthographic variables, and grammatical usage for 1,080 words

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Imagery and concreteness norms and percentage noun usage were obtained on the 1,080 verbal items from the Toronto Word Pool. Imagery was defined as the rated ease with which a word aroused a mental image, and concreteness was defined in relation to level of abstraction. The degree to which a word was functionally a noun was estimated in a sentence generation task. The mean and standard deviation of the imagery and concreteness ratings for each item are reported together with letter and printed frequency counts for the words and indications of sex differences in the ratings. Additional data in the norms include a grammatical function code derived from dictionary definitions, a percent noun judgment, indexes of statistical approximation to English, and an orthographic neighbor ratio. Validity estimates for the imagery and concreteness ratings are derived from comparisons with scale values drawn from the Paivio, Yuille, and Madigan (1968) noun pool and the Toglia and Battig (1978) norms.

The Toronto Word Pool (TWP) is a collection of 1,080 common English words originally selected from the Thorndike-Lorge (1944) word counts (see Murdock, 1968, 1974). This pool has been used for some time in a number of laboratories in verbal learning, memory, and psycholinguistics studies, although normative data on the items have never been collected.

In experiments that require random selection of a number of lists in order to exclude list-specific effects or to assure sufficient sampling of materials, it is particularly useful to have normative data available. Thus, information on item frequency allows lists to be matched or balanced on this variable. Similarly, if a moderate range of a variable such as imagery is also desired, then frequency and imagery values can be used together to restrict item selection. Further, if such norms are available in machine-readable form, they can be used in computer-controlled experiments (Friendly & Franklin, 1979) to select a unique list for each subject or as predictors of performance measures in multivariate studies (e.g., Rubin, 1980).

The Paivio, Yuille, and Madigan (1968) noun pool contains item values on imagery, concreteness, and meaningfulness scales, together with Thorndike-Lorge (1944) frequency counts. It is among the most widely used word pools for unrelated words in memory and learning studies.

The TWP differs from the Paivio et al. (1968) pool in a number of respects. First, while the Paivio et al. word list is restricted to nouns, the TWP contains nouns, verbs, adjectives, adverbs, and prepositions. The Gilhooly and Logie (1980) word list is also restricted to nouns. The TWP is, therefore, perhaps more representative of the language as a whole and may be more

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useful in studies requiring words in various grammatical categories.

Second, all words in the TWP have a Thorndike-Lorge (1944) G count of 20+ per million and are no more than two syllables or eight letters in length. The Paivio et al. (1968) pool, on the other hand, contains words up to 14 letters and five syllables long and G counts of less than 20. In fact, of the 925 words in the Paivio et al. pool, only 188 (20%) fit the restrictions of the Toronto pool. In experiments in our laboratory (Friendly & Franklin, 1980) using the Paivio et al. pool, it has been necessary to exclude the very long and rare words, leaving a reduced pool of 400-500 words. The TWP therefore, is also more representative of the population of words describable as "common, familiar English words," which are used in most studies of memory for words.

Since there have been no normative data available for the TWP, it has been difficult to use this pool in some research. The present study was designed to remedy this deficit.

Attributes that are typically used to select stimuli include the number of letters and word frequency. In addition, since there is such extensive evidence of visual encoding at some level in both short-term and long-term storage (e.g., Cooper & Shepard, 1973; Paivio, 1971, 1975; Parks & Kroll, 1975; Posner, 1969), it is also useful to control for the differential capacity of verbal items to arouse mental images of things or events. The imagery attribute seems to correlate highly with the tangibility of the item's referent (i.e., concreteness) (Paivio et al., 1968), and both variables correlate with the ease with which the subjects can retrieve the items (Christian, Bickley, Tarka, & Clayton, 1978). Therefore, as an initial step, ratings were obtained for each of the 1,080 words on the attributes of imagery and concreteness.

IMAGERY AND CONCRETENESS RATINGS

Method

Materials. The 1,080 items from the TWP were randomly assigned to four lists, each containing 270 words. In addition, five words were chosen at random from each list and were repeated within the list to obtain a measure of internal reliability. These word lists were then used to make up four booklets, each containing 275 words, which together represented one complete listing of the word pool.

Each booklet had 20 words/page. The words were printed in capitals and positioned to the left of the page. Two sets of the four booklets were produced. One set presented each item followed by a 7-point scale running from "abstract" to "concrete," and one set presented each item followed by a 7-point scale running from "low imagery" to "high imagery." Finally, the pages were randomized within each booklet, so that each subject received a different page order.

Subjects. A total of 400 volunteers (160 male and 240 female) from undergraduate psychology courses participated in the study between the beginning of the fall term of 1977 and the end of the fall term of 1978.

A total of 80 males and 120 females completed booklets in each condition. Since four booklets comprised the complete word pool (1,080 items), this represented 50 complete ratings in each condition. Although more females than males entered the sample, the same sex distribution was obtained for each booklet and each scale, so that allocation of booklets was balanced.

Procedure. Each subject was given one booklet containing 275 words. Booklets were distributed during lecture periods but were completed at the subject's convenience at home. General instructions were given on the nature of the rating task and the importance of the reliable normative data for experiments using verbal material. Each booklet was also accompanied by written instructions specific to the imagery or concreteness condition.

Imagery instructions. The printed instructions for each booklet were based on those used by Paivio et al. (1968): "Words differ in their capacity to arouse mental images of things or events. Some words arouse a sensory experience such as a mental picture or sound very quickly and easily, whereas others may do so with difficulty after a long delay or not at all. The purpose of this experiment is to rate a list of words as to the ease with which they arouse mental images.

"Your rating will be made on a seven-point scale, where *one* (1) is the low imagery end of the scale and *seven* (7) is the high imagery end of the scale. Make your rating by putting a circle around the number from 1 to 7 that best indicates your judgment of the ease with which a word arouses mental images. The words that arouse images quickly and easily should be rated 7, words that arouse images with the greatest difficulty or not at all should be rated 1; words that are intermediate in ease or difficulty of imagery, should be rated appropriately between the two extremes. *Feel free to use the entire range of numbers between 1 and 7*; at the same time don't be concerned about how often you use a particular number *as long as it is your true judgment*. Work fairly quickly but please do not be careless in your ratings."

The subjects were then shown four examples ("automobile," "democracy," "writer," and "vapour"), two of which had been completed, and two of which they were asked to complete.

Concreteness instructions. As with the imagery instructions, the printed instructions issued with each booklet in the concreteness rating condition were essentially those used by Paivio et al. (1968):

"Words differ in their level of abstraction. Some words refer to tangible objects, materials or persons which can be easily perceived with the senses, such words can be thought of as concrete words. Other words refer to abstract concepts which are not easily objectified or perceived. The purpose of this experiment is to rate a list of words as to their level of abstraction."

The remainder of the concreteness instructions were identical to the imagery instructions, apart from the description of the rating scale, which ran from abstract (1) to concrete (7).

Results and Discussion

The 1,080 words are presented in alphabetical order in the appendix, together with the means and standard deviations of the imagery and concreteness scores for each item.[1] Frequency counts from the Kučera and Francis (1967) tables and the number of letters in each word are also listed. The last two measures have proved to be useful additions to the word pool file for the selection of stimuli during computer-controlled experiments. It should be noted that the distribution of frequency counts is highly skewed in the positive direction, so that it would be simpler in many cases to select

items based on the logarithm of the frequency value. However, we have followed established practice in presenting the raw frequency values in the table. Several additional variables in the appendix are described in the next section of the paper.[2]

In an initial analysis, the median rating for each item was calculated in addition to the mean as a check for skewed distributions of item ratings. Since the ratings were made on a 1-7 scale, it was expected that items whose means were at the low end of the scale would tend to be positively skewed and that items rated at the high end of the scale would have negatively skewed distributions. The results showed that there were a sufficient number of items with skewed distributions of ratings to cause concern, since the mean ratings of such items would tend to be displaced toward the middle of the scale relative to the medians. However, since the practice of publishing mean ratings in such normative studies is well established, the item means are presented supplemented by an indication of skewness.

The latter estimate was obtained by calculating the difference between the mean and median rating for each item and using an arbitrary threshold of .5 scale units, marking items for which the absolute value of the difference exceeded the threshold with a "+" or "–" sign (depending on whether the sign of the difference was positive or negative). The range of absolute difference for items so marked was .5-.9. Researchers who wish to use median scale values could use ±.7 as an approximate correction for those items marked with plus or minus signs (using the sign listed).

Imagery and concreteness. The mean rating for imagery was 4.19, with a standard deviation of 1.4, and the mean for concreteness was 4.34, with a standard deviation of 1.4. There was no significant difference between the overall means or medians for males and females in either condition. Means, standard deviations, and correlations among the variables are shown in Table 1.

The frequency histogram of the scaled attributes shown in Figures 1a and 1b indicates that the imagery ratings are slightly negatively skewed, with only 5% of the items being rated within the range of 1-2. This

Table 1
Correlations, Means, and Standard Deviations

Variable	Imagery	Concreteness	Letters	Log K-F*	FOA	SOA	ONR	% Noun
Imagery	1.000							
Concreteness	.836	1.000						
Letters	–.027	–.046	1.000					
Log K-F*	–.182	–.143	–.142	1.000				
FOA	–.002	.045	–.898	.163	1.000			
SOA	–.045	.002	–.765	.210	.809	1.000		
ONR	–.105	–.092	.252	.272	–.260	–.305	1.000	
% Noun	.567	.660	–.002	.022	.039	.005	–.056	1.000
Mean	4.191	4.336	6.270	1.479	–33.467	–29.196	.799	46.717
SD	1.414	1.385	1.010	.602	4.852	4.683	.298	45.004

*Note–N = 1,080 in all cases except ONR (N = 1,078) and % noun (N = 964). *Log Kučera-Francis (1967) frequency.*

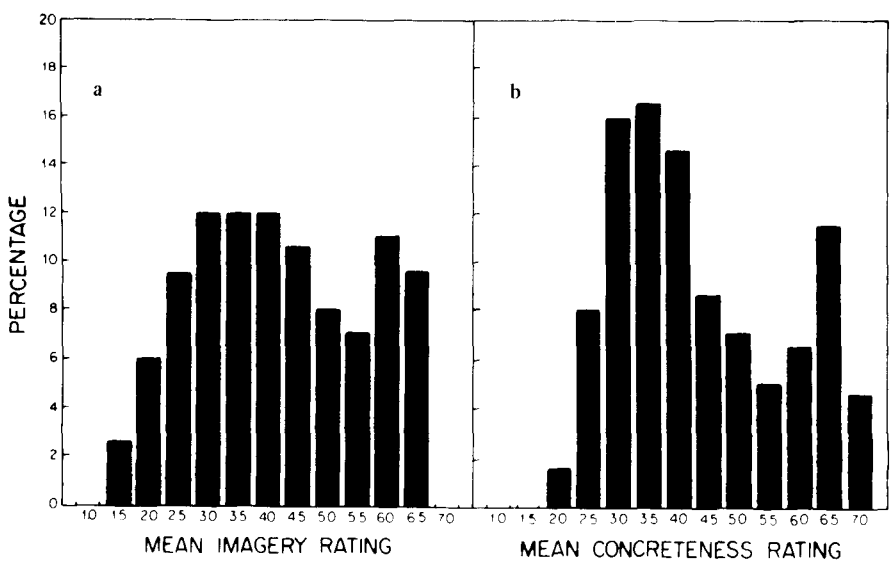

Figure 1. Percentage frequency histogram of mean ratings. Panel a–imagery; Panel b–concreteness.

compares closely with Paivio et al. (1968). The concreteness ratings, however, show a high proportion of cases in the middle range, whereas Paivio et al. noted a bipolar distribution. It may be that the presence of nonnouns in the TWP affected the concreteness ratings more than the imagery ratings. However, within the TWP, imagery correlated with concreteness .84, many of the items being rated similarly on both scales.

Reliability. Reliability was judged by the correlations within subject for the five repeated items in each booklet. Adopting a criterion set prior to the analysis, if subjects showed a correlation of less than .20, then data were considered unreliable and excluded from the analysis. Thus, in the imagery condition, a total of 24 subjects (15 females and 9 males) were dropped from the final aggregation, and in the concreteness condition, a total of 24 subjects (13 female and 11 male) were dropped. The overall correlations for imagery and concreteness for the remaining subjects are shown in Table 2. Despite the large variability of a correlation based on five paired observations, the average of many such correlations is a stable indication of immediate test-retest reliability for a randomly selected judge. The average value ($r = .82$) for an individual's data can be regarded as quite satisfactory.

A further reliability estimate can be derived from correlations within the sample. If the average rating given to an item by odd-numbered subjects is correlated with the average rating given that item by even-numbered subjects, this correlation represents the reliability for a randomly chosen half-sample. The reliability was .984 for imagery and .978 for concreteness. These reliability estimates apply to the mean ratings that appear in the table.

Validity. The present word norms can be readily compared with two other normative scaling studies, those by Paivio et al. (1968) and by Toglia and Battig (1978). The comparison provides useful validity information on the corresponding data sets. A total of 170 items appeared in both the TWP and the Paivio et al. word list. There was also an overlap of 237 words between the Toronto norms and the Colorado norms of Toglia and Battig. Of these items, 68 were also in the Paivio et al. norms. Correlations were computed among the mean ratings on imagery and concreteness for the words that overlapped with the Toronto list. These correlations are shown in Table 3. The correlations between the Colorado and Paivio et al. norms are those reported by Toglia and Battig (1978) for the full overlap of 383 items between these two sets, rather than the common subset of 68.

Table 2
Mean Correlations for Ratings on Repeated Items

Scale	Males	Females	Total Sample
Imagery	.89	.80	.83
Concreteness	.77	.82	.80
Mean	.83	.81	.82

It can be seen that the correlations among the imagery ratings are all above .90, as are the correlations among concreteness ratings. The highest correlations in each case are those between the Toronto mean ratings and the Paivio et al. (1968) mean ratings. Thus, the overall validity of the present norms seems quite satisfactory. Imagery and concreteness appear to form fairly stable attributes of word meaning, since there is such high agreement in mean ratings over time and geographical samples.

There are some small but significant differences among the means and standard deviations of the mean item ratings in the overlapping sets, as shown in Table 3. The mean Paivio et al. (1968) imagery rating is higher than the means of the other two sets ($ps < .05$); the Colorado concreteness norms have a lower mean than the remaining two sets ($ps < .05$). In addition, the standard deviation of the means is smaller in the Colorado sample than in the Toronto and Paivio et al. norms. These differences may be due to the different sets of items that happen to overlap among the three norms.

Sex differences. The original report by Paivio et al. (1968) reports no sex differences in item ratings. However, Toglia and Battig noted marked differences in mean ratings for the two sexes on the pleasantness scale, such that "females tended to give more extreme pleasant and/or unpleasant ratings than did males"

Table 3
Correlations Among Mean Ratings in Three Word Pools

	Imagery			Concreteness					
	Toronto	Colorado	Paivio	Toronto	Colorado	Paivio	Mean	SD	N
				Imagery					
Toronto	1.000						4.89	1.38	339
Colorado	.916	1.000					4.83	1.08	237
Paivio	.928	.912*	1.000				5.33	1.25	169
				Concreteness					
Toronto	.847	.838	.844	1.000			5.01	1.47	339
Colorado	.832	.892	.911	.912	1.000		4.56	1.29	237
Paivio	.789	.853	.848	.930	.918*	1.000	5.29	1.82	169

**Values taken from Toglia & Battig (1978).*

(1978, p. 7). As a check on possible sex differences across other scales, these investigators analyzed male/female means for one other scale, that of categorizability (how readily a superordinate came to mind). This analysis yielded nonsignificant differences in mean ratings for the two sexes, "indicating that the sizable sex differences in Pleasantness ratings probably do not extend to other dimensions" (Toglia & Battig, 1978, p. 7). To examine whether our data might show differences between the sexes on the imagery or concreteness scales, the following analyses were carried out.

First, item means were calculated for males and females separately for each of the 1,080 words on both scales. For imagery, the means of the item means were 4.22 and 4.17 for males and females, respectively, which did not differ reliably [$t(2158) = .719$]. For concreteness, the male/female means were 4.31 and 4.35, which also failed to reach significance ($t = .624$).

Although there was no tendency for males or females to give higher ratings overall on either scale, there was a substantial number of items for which the mean ratings of males and females differed by .5 or more. The number of such items is 414 for imagery and 238 for concreteness. Since a mean difference of .5 or more has a probability of about .20 under the null hypothesis, a simple binomial test shows that the number of items with this mean difference is highly significant for imagery ($z = 15.02$, $p < .001$) and just significant for concreteness ($z = 1.64$, $p = .05$). The words for which the male mean was at least .5 greater than the female mean are indicated in the appendix with an "M." Similarly, those items for which the female mean was at least .5 greater than the male mean are indicated with an "F."

To investigate the possibility that females may give more extreme ratings on imagery and concreteness (which Toglia & Battig, 1978, suggested but did not test), we analyzed the degree to which male and female means deviated from the midpoint of the scale. For both sexes, the absolute deviations from the midpoint, $|x - 4.5|$, were calculated. Across all items, these deviation scores were highly significant for the imagery scale [$t(2158) = 4.64$, $p < .0001$] and were also significantly different for concreteness ($t = 2.09$, $p < .03$). In both cases, it was clear that females tended to give more extreme ratings. These results suggest that sex differences of this sort may be much more widespread than has previously been suspected.[3] In spite of these systematic differences in extremity of means, the means for the male and female subsamples correlate very highly with each other. The correlation between means for imagery was .937, and the correlation for concreteness was .947.

GRAMMATICAL FUNCTIONS AND ORTHOGRAPHIC VARIABLES

In order to increase the usefulness of the TWP for a wider variety of experiments using unrelated lists, four more variables were added to this collection. Since the TWP is not restricted to noun items, we have attempted to provide information on the grammatical function of words in the pool. This was done in terms of both dictionary definitions and subjects' judgments in a sentence generation task. In addition, we have provided structural variables that depend on relations internal to a string of letters (Manelis, 1974) that may be useful in tachistoscopic recognition, item recognition, and lexical decision studies.

Method

Dictionary code. The dictionary code in the appendix indicates all grammatical categories contained in the dictionary definition of each word in the TWP, in the order of historical precedence. The code is based on entries in *Webster's Seventh New Collegiate Dictionary* (1967). Since no item had definitions in more than four grammatical categories, a four-digit code was used to list all definitions. In the code, "1" in any position means the item had a dictionary definition as a noun; similarly, a "2" means a verb, "3" means an adjective, "4" means an adverb, and "5" was used to cover all other grammatical categories (but in practice was chiefly a preposition). Thus an entry "2130" indicates an item defined as a verb, noun, and an adjective in that order of historical precedence.

An additional published source of data on grammatical function is West's (1953) semantic count, based on the frequency of occurrence of the various meanings and uses of words in a corpus of 5 million words that are listed by grammatical category. The percent usage in each grammatical category was tallied for each TWP item that was listed. Only 606 of the TWP items appear in West's tables. Due to space limitations, these data are not listed separately in the appendix but were used instead to supplement the data from the judgment task described below.

Judgment task. While some researchers have investigated the effects of grammatical category generally on memory and learning (Stanners, 1969), most list learning studies that make use of grammatical category have focused on noun items vs. nonnoun items. For example, Murdock (1974) notes that using nonnouns as stimuli can result in steeper slopes in a recognition task (see also Hicks & Young, 1973; Hockley, Note 1). Accordingly, a subset of 500 nouns selected from the 1,080 words in the TWP and designated the "noun pool," have been used wherever the use of nonnouns seemed undesirable. The status of an item as noun or nonnoun can affect experimental outcomes, but this is probably dependent upon word usage more than dictionary definitions. It was decided, therefore, to collect data on the degree to which items typically functioned as a noun for those items in this noun pool that also included nonnoun definitions. This task used a sentence generation procedure initially developed in a pilot study by Rita Anderson.[4]

Materials. The items from the Toronto noun pool were sorted into unambiguous nouns and nouns containing a nonnoun component, using the dictionary code. A total of 284 words containing both noun and nonnoun definitions were randomly assigned to four lists of 71 items each, together with five unambiguous nouns and five unambiguous verbs as reliability checks. The words were printed in capitals, 27 words/page.

Subjects. The task was administered to an introductory psychology class. A total of 120 students provided 30 complete sets of data, since one set of four books made up one complete listing of the 284 items.

Procedure. The four booklets were distributed at random following a lecture period and were completed in class. Each subject completed one booklet. General instructions were given orally on the nature of the task and the importance of collect-

ing normative data. These included examples using an unambiguous noun and a verb (not in the booklets). In addition, each booklet was also accompanied by written instructions outlining the task. Subjects were asked to study each item and then to mentally generate a sentence containing that item. The task was to indicate what part of speech the item had taken in their sentence. Only the percentage usage as a noun is reported here.

Orthographic variables. The lexical variables discussed above depend on the properties of words as wholes. In contrast, the approximations to English are structural; that is, the values obtained for any string of letters do not depend on whether or not that string is a word. Two of the measures presented in this section are calculated on a letter-by-letter basis and are therefore most appropriate for models and experiments that assume people process words in a similar fashion, or to control stimulus selection on this basis. These measures parallel those described by Rubin (in press) for the Paivio et al. (1968) noun pool.

The shorter or more common the spelling of a word, the easier it should be to process in a host of psychological tasks (e.g., Engel, 1974; Miller, Bruner, & Postman, 1954; Rice & Robinson, 1975). As high-frequency words tend to be shorter (Miller, Newman, & Friedman, 1958) and have more common spelling patterns than low-frequency words (Landauer & Streeter, 1973), spelling patterns need to be measured if frequency effects are to be isolated or if spelling patterns need to be controlled independently. By using the concept of order of approximation to English, words can be scaled on how likely it is that they would occur in the process of randomly sampling letters. This method was chosen over several other measures of letter statistics (Massaro, Venezky, & Taylor, 1979; Travers & Olivier, 1978) because of its tie to information theory.

In a first-order approximation (FOA), the probability of generating any string of letters is based on the frequencies of occurrence of individual letters in the language. For example, the word "boy" would have a probability of being created equal to the probability of drawing a space, then a b, then an o, then a y, then another space, where the 27 characters (including the space) are sampled with probabilities equal to their probability of occurrence in English words. For the second-order approximation (SOA), the probabilities of drawing bigrams, (space,b), (b,o), (o,y), (y,space), would be multiplied. The letter probabilities used in the calculations are from unpublished tables by Olivier (Note 2). These tables were formed by counting the probabilities of letters and bigrams in the first 5 million letters in the corpus on which the Kučera and Francis (1967) word count was made. The information measures of FOA and SOA are the logarithms to the base 2 of the product of these probabilities.

The orthographic neighbor ratio (ONR) was taken from Landauer and Streeter (1973). It is the ratio of the frequency of the word in Kučera and Francis (1967) count divided by the sum of the frequencies of all its orthographic neighbors. A neighbor is defined as any word that can be formed by changing up to one letter of the original word. Thus, for example, the neighbors of "boar" (and their Kučera-Francis frequencies) are "bear" (57), "boat" (72), "boaz" (2), "roar" (13), and "boar" (1) itself, so that "boar" has an ONR = 1/145 = .007. The maximum value of ONR is 1.0, which indicates a word with no neighbors other than itself. A low-frequency word with high-frequency neighbors (like "boar") will have a low ONR. ONR should be used only when word length is held constant, since there are fewer possible neighbors for longer words. When length is held constant, as in the Landauer and Streeter (1973) article, ONR provides an index of confusibility or substitutibility in searching lexical memory based on spelling patterns alone.

Results and Discussion

Grammatical function. The percentage noun column in the appendix details the results for each item. Unmarked entries indicate the percentage of subjects who used this item as a noun in the judgment task. Items in the table that are marked with a "D" were considered unambiguous with respect to noun/nonnoun status on the basis of the dictionary code and were not included in the sentence generation task. For these items, the entry is 100% if the dictionary definition included only noun definitions (code 1000); the entry is 0% if the dictionary definition included no noun definitions. For items marked with a "W," the percentage noun usage from West's (1953) semantic count has been entered. Items with no entry had no data available in these sources.

For the items used in this study, usage as a noun ranged from 100% (6% of the items) to 0% (4% of the items). The distribution was approximately uniform, with a mean of 55.8% and a standard deviation of 32.79.

The booklets contained five unambiguous nouns (e.g., cat) and five unambiguous verbs (e.g., sing) to check the subjects' understanding of the instructions and provide a reliability estimate. Analysis showed that all unambiguous items were judged 100% nouns or 100% nonnouns by all subjects in all booklets, except for one subject who used "cat" as a verb but was correct in usage of the other unambiguous items. This was regarded as a random error in labeling. The reliability check shows that subjects understood the instructions and were able to label nouns and nonnouns correctly.

Orthographic variables. Both orders of approximation to English variables have unimodal, approximately symmetric distributions. Since all values of FOA and SOA are negative by definition, the leading "–" sign has been suppressed in printing the entries for these variables in the appendix. Therefore, in using the tabled values, one should note that small values correspond to items that are most predictable on the basis of first- and second-order letter probabilities.

For the ONR variable, six items in the pool had zero Kučera-Francis (1967) frequencies and also had no orthographic neighbors, which resulted in ONR being undefined (0/0). For these items, the ONR value in the appendix is missing ("."). As can be seen in the table, a great many of the items have ONR values of 1.00, as a result of having no orthographic neighbors in the Kučera-Francis frequency count. The distribution of ONR is therefore highly J-shaped, with a huge peak at 1.0 and approximately uniform distribution over the range .0 to .9.

Relations among the measures. The correlations among the %-noun data and the orthographic variables, and between these variables and those discussed in the first section are shown in Table 1. There are high correlations between %-noun and both imagery and concreteness. This is to be expected, since both of these variables reflect the availability of a concrete referent for an item. The orthographic variables FOA, SOA, and ONR are all uncorrelated with imagery and con-

creteness ratings, indicating that, for the total word pool, predictability of words as letter strings or from orthographic neighbors is independent of these rated variables. However, the FOA, SOA, and ONR variables are all strongly influenced by word length, and as noted above, should be used with word length held constant.

In summary, the TWP is a collection of common, familiar words in various grammatical categories that may be useful for selecting word lists in a variety of learning and memory studies. The eight quantitative variables presented in this paper by no means exhaust the possible item measures one might wish to manipulate or control, but they reflect a collection of normative indexes that we have found most useful for selecting stimulus lists for a wide variety of experimental paradigms.

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NOTES

1. Thirteen items in the TWP have different primary spellings in American vs. British usage. These are all words ending in "or" or "er" (e.g., "color" and "center" vs. "colour" and "centre"). Since the data were collected at a Canadian university, British spellings were used in collecting the imagery and concreteness ratings, as was done by Paivio et al. (1968). In order to be most generally useful, we have listed the American spellings in the main body of the appendix, and we have included the British spellings in a separate block at the end of the table. The imagery and concreteness values are identical; however, the frequency and orthographic variables are appropriate for each spelling.

2. Machine-readable copies of the norms in the appendix are available from the authors. Versions on nine-track tape

(EBCDIC) for IBM-type mainframes or 8 in. single-density floppy diskette (ASCII) for CP/M-based microcomputers can be obtained at cost ($25) from the first author.

3. We judged that presenting separate male and female means as well as those for the total sample was not sufficiently important to justify the increased space required in the tabled norms. Researchers who wish to obtain the mean ratings broken down by sex are invited to communicate with the authors.

4. We wish to thank Rita Anderson for suggesting this method and sharing her pilot data with us.

Appendix
Toronto Word Pool: Norms for Imagery, Concreteness, and Other Variables

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
1	ABIDE	2.0	1.1		2.8	1.3		5	7	27.6	24.5	0.09	2000	0	D
2	ABLE	2.7	1.7	-	3.0	1.7	F	4	216	23.4	18.4	0.96	3000	0	D
3	ABOARD	3.6	2.2	F	4.2	1.8		6	25	32.4	30.8	0.93	3000	0	D
4	ABOUT	1.4	0.7	M	1.9	1.4		5	1815	28.5	23.0	1.00	4000	0	D
5	ABOVE	4.0	2.0	M	4.0	1.8	M	5	296	29.4	22.2	0.99	5000	0	D
6	ABSENCE	3.0	1.7	-	3.7	1.8		7	53	35.3	32.3	1.00	1000	100	D
7	ABSENT	3.6	1.8	M	4.4	1.9	M	6	28	30.5	28.9	0.88	3000	0	D
8	ABSORB	4.6	1.7		3.6	1.6		6	13	34.0	38.2	1.00	2000	0	D
9	ABUSE	4.5	1.8	F	3.4	1.3		5	18	28.2	22.1	0.86	2100	32	
10	ACCEPT	3.3	1.8	F	3.4	1.3		6	72	32.3	32.5	0.89	2000	0	D
11	ACCORD	1.8	1.2		2.6	1.4	M	6	9	32.7	27.6	1.00	2100	55	
12	ACCOUNT	2.6	1.9	-	4.0	1.8	F	7	117	36.7	30.2	1.00	1200	55	
13	ACCUSE	4.2	1.9	F	3.5	1.5		6	10	32.4	28.7	1.00	2000	0	D
14	ACHIEVE	3.3	2.0	M	3.5	1.5		7	51	36.2	28.7	1.00	2000	0	D
15	ACID	4.4	2.0	M	6.1	1.3		4	13	23.2	19.9	0.43	1000	100	D
16	ACQUAINT	2.1	1.3		3.6	1.6	M	8	3	45.5	37.1	1.00	2000	0	D
17	ACRE	4.6	2.0	F	5.7	1.7	+F	4	9	21.8	18.6	0.69	1000	100	D
18	ACTIVE	4.5	2.0		4.1	1.6		6	88	32.1	24.0	1.00	3000	0	D
19	ADMIRE	3.7	1.9	M	3.0	1.4		6	10	31.1	30.3	1.00	2000	0	D
20	ADMIT	2.7	1.5		3.6	1.7	M	5	37	27.3	27.1	1.00	2000	0	D
21	ADOPT	3.2	1.5		3.9	1.4		5	13	27.5	27.5	0.59	2000	0	D
22	ADVANCE	3.6	2.0		3.5	1.4		7	60	37.3	33.0	1.00	2130	16	
23	ADVICE	3.3	1.9	M	3.5	1.9	F	6	10	33.4	28.8	0.84	1000	100	D
24	ADVISE	2.7	1.7		3.1	1.6	F	6	51	32.3	28.6	0.16	2000	0	D
25	AFFAIR	5.3	1.8	+	3.7	1.7	F	6	33	32.6	33.4	1.00	1000	100	D
26	AFFORD	2.5	1.4	M	3.0	1.6		6	40	33.6	28.9	1.00	2000	0	D
27	AFTER	2.1	1.5	-	2.8	1.7		5	1070	25.9	26.6	0.99	4530	0	D
28	AGAIN	2.1	1.5		3.3	2.1	-	5	578	27.0	24.1	1.00	4000	0	D
29	AGAINST	2.8	1.6	M	3.4	1.7	M	7	626	34.9	31.5	1.00	5000	0	D
30	AGENT	4.4	2.1		5.2	1.7	F	5	44	26.0	22.8	1.00	1000	100	D
31	AGO	1.7	1.5	M	2.0	1.4		3	246	18.9	18.4	0.50	3000	0	D
32	ALAS	1.6	1.4		2.0	1.4	M	4	10	21.9	17.0	0.56	5000	0	D
33	ALIVE	4.7	2.0		4.2	1.9	M	5	57	28.0	19.3	0.59	3000	0	D
34	ALLOW	2.0	1.2		3.1	1.8		5	72	28.8	23.9	0.95	2000	0	D
35	ALMOST	1.9	1.4		2.2	1.3		6	432	31.3	29.7	1.00	4000	0	D
36	ALONE	4.5	2.1		3.5	2.0		5	195	25.2	20.4	0.35	3000	0	D
37	ALTER	3.6	2.3	-F	4.3	2.0		5	15	25.1	23.1	0.01	2000	0	D
38	ALTHOUGH	1.3	0.9		2.1	1.3		8	319	42.1	34.4	1.00	5000	0	D
39	ALWAYS	1.9	1.4		3.1	1.8		6	458	34.2	30.8	1.00	4000	0	D
40	AMAZE	3.8	1.8	F	2.9	1.3		5	3	32.0	25.3	1.00	2100	.	
41	AMID	2.4	1.6	-M	2.8	1.6		4	14	23.5	19.8	0.45	5000	0	D
42	AMONG	2.6	1.6		2.9	1.8	F	5	370	28.6	21.3	0.51	5000	0	D
43	AMOUNT	2.8	1.7	M	3.8	1.5		6	172	31.8	25.8	1.00	2100	76	
44	AMPLE	2.2	1.4		2.7	1.5	F	5	16	28.5	22.1	0.55	3000	0	D
45	AMUSE	4.0	1.9	F	3.2	1.3		5	3	27.5	23.1	0.14	2000	0	D
46	ANCHOR	6.5	0.9		6.3	1.1		6	15	31.1	24.2	1.00	1200	.	
47	ANCIENT	5.3	1.5	F	3.7	1.8		7	69	33.4	30.1	1.00	3000	0	D
48	ANGEL	5.9	1.5	+F	4.0	2.1		5	18	27.2	21.3	0.27	1000	100	D
49	ANGER	4.8	1.9	M	4.4	1.8	F	5	48	26.6	19.2	0.69	1200	36	
50	ANGLE	4.7	2.0		4.9	1.9		5	51	27.2	20.8	0.67	1200	88	
51	ANGRY	5.2	1.9		3.3	1.7		5	45	29.5	20.2	1.00	3000	0	D
52	ANSWER	3.3	2.0	-	4.5	1.6		6	152	30.9	28.3	1.00	1200	39	
53	APART	3.2	1.6		3.6	1.6		5	57	26.7	24.5	1.00	4300	0	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Let-ters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
54	APPEAL	2.7	1.8	-M	3.1	1.8		6	62	32.8	28.5	0.34	1200	23	
55	APPEAR	3.1	1.9		3.6	1.7		6	118	32.2	28.2	0.66	2000	0	D
56	APPLE	6.7	1.1		6.9	0.5		5	9	28.8	23.2	0.11	1000	100	D
57	APPLY	2.5	1.5	M	3.5	1.6		5	56	31.7	23.0	0.77	2000	0	D
58	APPROACH	3.6	1.7		3.6	1.4		8	123	42.6	39.2	1.00	2100	3	
59	APPROVE	2.9	1.9		3.4	1.5		7	14	39.1	29.5	1.00	2000	0	D
60	ARGUE	4.4	1.8	M	4.5	1.5		5	29	28.0	26.4	1.00	2000	3	
61	ARISE	3.8	1.9	M	4.0	1.6		5	28	24.8	20.2	0.57	2000	0	D
62	ARMOR	5.5	1.8		5.6	1.8	M	5	4	27.1	22.9	0.50	1000	100	D
63	AROUND	4.0	1.9		3.8	1.6		6	561	31.8	22.4	0.75	4530	0	D
64	AROUSE	4.6	1.8		3.6	1.7		6	5	30.2	23.4	1.00	2000	0	D
65	ARRAY	3.0	1.9	F	2.9	1.5		5	11	27.6	24.4	1.00	2100	74	
66	ARREST	4.9	1.9	M	4.7	1.7		6	19	28.7	25.9	1.00	2100	3	
67	ARRIVE	3.8	1.9		4.1	1.6		6	24	31.7	25.9	0.96	2000	0	D
68	ARROW	6.4	1.2	F	6.8	0.5		5	14	27.6	26.6	1.00	1000	100	D
69	ARTIST	6.0	1.3		5.4	1.9	+F	6	57	28.9	24.8	1.00	1000	100	D
70	ASCEND	3.6	1.9		3.4	1.8		6	1	30.7	24.7	0.50	2000	0	D
71	ASHAMED	4.2	1.8	F	2.7	1.5		7	16	35.4	28.3	1.00	3000	0	D
72	ASHORE	4.6	1.9		4.0	1.8	F	6	6	29.2	24.0	1.00	4000	0	D
73	ASIDE	2.1	1.4		3.4	1.7		5	67	25.4	22.1	0.89	4000	0	D
74	ASLEEP	5.4	1.7		4.6	1.9		6	29	30.4	34.6	1.00	3000	0	D
75	ASPECT	1.7	1.1		2.5	1.3		6	47	31.2	27.7	1.00	1000	100	D
76	ASSAULT	5.0	1.8		4.3	1.5		7	15	35.3	36.4	1.00	1200	23	
77	ASSIGN	2.4	1.4		3.6	1.6		6	18	31.5	29.7	1.00	2000	0	D
78	ASSIST	2.9	1.5	M	3.9	1.7		6	26	29.3	25.6	1.00	2100	.	
79	ASSUME	2.1	1.5	M	2.4	1.3		6	63	31.7	26.6	0.63	2000	0	D
80	ASSURE	2.5	1.6		2.9	1.4		6	37	30.4	24.7	0.37	2000	0	D
81	ATTACH	3.5	1.9		3.9	1.5		6	14	30.0	29.4	0.12	2000	3	
82	ATTACK	5.4	1.4		4.6	1.5		6	105	33.2	29.9	0.88	2100	56	W
83	ATTAIN	2.4	1.6		2.9	1.5		6	20	28.4	27.7	1.00	2000	0	D
84	ATTEMPT	2.8	1.6		3.2	1.4		7	95	34.8	34.2	1.00	2100	13	
85	ATTEND	3.1	1.6		4.0	1.6		6	54	28.7	24.8	1.00	2000	0	D
86	ATTRACT	4.1	1.7		3.2	1.3	M	7	19	33.5	32.9	1.00	2000	0	D
87	AUTHOR	4.6	1.8		5.9	1.3	F	6	46	31.0	25.8	1.00	1000	100	D
88	AUTUMN	6.3	1.2		5.4	1.6	F	6	22	33.3	35.8	1.00	1000	100	D
89	AVOID	3.1	1.9	-	3.6	1.7	M	5	58	28.9	28.1	1.00	2000	0	D
90	AWAIT	1.9	1.4	M	2.7	1.4	M	5	9	26.7	25.6	1.00	2000	0	D
91	AWAKE	4.7	2.0	+	3.8	1.9		5	20	29.9	25.0	0.18	2300	0	D
92	AWARE	3.1	1.7		2.7	1.3		5	84	26.5	22.2	0.56	3000	0	D
93	AWAY	2.4	1.7	-	2.7	1.7		4	456	25.1	21.1	0.98	4000	0	D
94	AWFUL	3.6	1.9		2.5	1.6		5	17	31.1	34.9	1.00	3000	0	D
95	AWHILE	1.5	0.9		2.6	1.5	M	6	4	31.8	27.1	1.00	4000	0	D
96	BABY	6.6	1.1		6.6	1.1		4	62	27.8	20.1	0.89	1000	100	D
97	BACKWARD	4.2	1.9		3.7	1.5		8	22	47.4	39.9	0.92	4000	0	D
98	BALANCE	4.5	1.6	M	4.1	1.7		7	90	36.7	28.4	1.00	1200	29	
99	BANNER	5.8	1.3		5.8	1.3		6	8	31.0	28.4	0.05	1000	100	D
100	BARGAIN	4.2	1.7	F	3.9	1.5		7	7	37.6	32.9	1.00	1200	68	
101	BARREL	5.6	1.8	+	6.8	0.4	-	6	24	32.0	29.5	0.60	1000	100	D
102	BASIN	5.3	1.9		6.5	1.1		5	7	27.6	21.8	0.02	1000	100	D
103	BASIS	1.9	1.2		3.3	1.9	-F	5	184	27.7	22.2	0.47	1000	100	D
104	BASKET	6.0	1.4	+	6.7	0.7		6	17	34.1	30.5	0.77	1000	100	D
105	BATTLE	6.1	1.3		5.3	1.3	F	6	87	30.8	30.2	0.33	1200	68	
106	BEATEN	4.1	1.9	M	4.2	1.6		6	15	29.6	24.6	1.00	3000	0	D
107	BEAUTY	5.4	1.8	+	3.1	2.1	F	6	71	33.9	28.8	1.00	1000	100	D
108	BEAVER	6.4	1.1		6.9	0.3		6	3	33.0	24.6	0.20	1000	100	D
109	BECAME	1.8	1.6	-	2.5	1.5		6	246	32.6	25.5	0.41	2000	0	D
110	BECAUSE	1.6	1.1		2.3	1.5		7	883	36.8	31.0	1.00	5000	0	D
111	BECOME	2.0	1.5	-	2.5	1.5		6	361	32.7	23.9	0.59	2000	0	D
112	BEDROOM	6.4	1.1		6.7	0.6		7	52	37.4	33.8	1.00	1000	100	D
113	BEFORE	1.8	1.0		3.1	1.8	M	6	1016	31.9	24.5	1.00	4000	0	D
114	BEGAN	2.1	1.4		3.0	1.8	M	5	312	28.6	24.1	0.69	2000	0	D
115	BEGGAR	6.1	1.3		5.8	1.4		6	2	34.8	31.8	1.00	1200	79	W
116	BEGIN	2.9	1.8		3.7	2.0	-M	5	84	28.8	23.7	0.19	2000	0	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
117	BEHAVE	3.1	2.0	-	3.2	1.5		6	13	33.3	28.7	1.00	2000	0	D
118	BEHIND	4.5	1.7	F	4.1	1.7	M	6	258	32.3	26.7	1.00	5100	.	
119	BEHOLD	2.0	1.4	M	2.6	1.5	M	6	4	33.0	31.5	0.57	2000	0	D
120	BEING	2.5	1.9	-	3.0	2.0	-F	5	712	28.8	21.9	0.82	1000	100	D
121	BELIEF	2.6	1.8		2.5	1.7		6	64	32.5	29.4	0.48	1000	100	D
122	BELONG	2.6	1.8	-	3.2	1.7		6	37	33.6	24.6	1.00	2000	0	D
123	BELOW	3.5	2.0		3.7	1.8		5	145	29.6	25.4	1.00	4000	0	D
124	BENEATH	4.3	1.8		3.8	1.7		7	57	34.1	27.9	1.00	4000	0	D
125	BERRY	5.5	1.9	+F	6.6	0.7		5	9	29.4	23.3	0.13	1000	100	D
126	BESIDE	3.9	1.7		4.1	1.7		6	78	31.1	25.3	0.95	4000	0	D
127	BESTOW	2.1	1.4		3.2	1.3		6	2	32.6	26.7	1.00	2000	0	D
128	BETRAY	2.8	1.8	M	3.3	1.5		6	4	32.7	28.1	1.00	2000	0	D
129	BETTER	2.2	1.3		2.7	1.4		6	414	29.6	28.4	0.64	3000	0	D
130	BEYOND	3.8	1.8	M	3.4	1.7		6	175	33.8	25.5	1.00	4000	0	D
131	BITTER	4.7	1.8	F	3.5	1.3		6	53	30.4	28.8	0.10	3000	0	D
132	BLANKET	6.1	1.5	+	6.7	0.6		7	30	38.9	32.2	1.00	1200	94	
133	BLESSING	3.2	2.0		3.1	1.5		8	10	42.0	31.3	1.00	1000	100	D
134	BLOSSOM	6.3	1.1	F	5.5	1.8		7	7	38.2	34.6	1.00	1200	46	
135	BODY	6.4	1.0		6.2	1.1	F	4	276	26.5	22.7	0.96	1000	100	D
136	BORROW	3.6	1.9		4.2	1.8		6	9	34.0	30.8	0.36	2000	0	D
137	BOTHER	2.6	1.7		2.4	1.2		6	22	31.1	22.7	0.09	2000	0	D
138	BOTTOM	5.2	1.9	F	5.3	1.7	+	6	88	32.3	31.0	1.00	1000	100	D
139	BOUNDARY	4.8	1.7		5.0	1.5	M	8	16	44.3	33.0	1.00	1000	100	D
140	BRIEFLY	2.9	1.7		3.0	1.4		7	38	39.7	35.5	1.00	4000	0	D
141	BUBBLE	6.1	1.5	F	6.2	1.2		6	12	37.6	29.8	0.86	1200	88	
142	BUILDING	6.3	1.2		6.8	0.4		8	160	44.9	33.8	1.00	1000	100	D
143	BULLET	6.0	1.5	+M	6.9	0.3		6	28	33.6	26.6	0.37	1000	100	D
144	BUREAU	4.8	2.2	+F	5.7	1.7	+	6	43	33.8	31.3	1.00	1000	100	D
145	BUSHEL	5.4	1.9	+	6.4	1.2		6	1	33.7	26.3	0.08	1000	100	D
146	BUSINESS	4.4	2.0	M	5.1	1.6		8	392	40.8	31.8	1.00	1000	100	D
147	BUSY	4.3	1.6		4.0	1.6		4	58	27.2	20.9	0.67	3000	0	D
148	BUTCHER	6.0	1.3		6.7	0.9	-	7	8	37.9	30.6	1.00	1000	100	D
149	BUTTER	6.3	1.5		6.6	0.7		6	27	31.8	27.7	0.05	1000	100	D
150	BUTTON	6.3	1.3	F	6.8	0.8	-	6	10	32.3	27.0	0.26	1200	77	
151	CABIN	6.5	1.0		6.5	1.1		5	23	28.6	23.5	0.88	1000	100	D
152	CABLE	5.0	2.2	+	6.4	1.2		5	7	28.7	22.5	0.03	1200	76	
153	CALMLY	4.0	2.0		3.2	1.4		6	11	35.7	33.9	1.00	4000	0	D
154	CAMPAIGN	4.2	1.9		4.6	1.9	F	8	81	43.7	39.1	1.00	1200	.	
155	CANAL	5.4	1.8	M	6.4	1.0		5	3	27.1	22.9	0.60	1000	97	
156	CANDLE	6.6	1.0		6.9	0.3		6	18	31.4	26.1	0.25	1200	97	
157	CANDY	6.3	1.0		6.7	0.6		5	16	29.4	21.8	0.29	1200	97	
158	CANNON	6.5	1.2		6.4	1.0		6	7	30.4	27.6	0.02	1000	100	D
159	CANNOT	2.4	1.8	-	2.8	1.9	F	6	258	30.1	29.9	0.97	2000	0	D
160	CANOE	6.4	1.2		6.8	1.0		5	7	25.5	25.8	0.58	1000	87	
161	CANVAS	5.1	1.9	F	6.2	1.2	F	6	19	33.3	27.9	1.00	1000	100	D
162	CAPTAIN	6.0	1.2		6.7	0.6		7	85	35.8	33.8	1.00	1200	100	
163	CAPTIVE	4.8	1.9	+F	4.5	1.5	F	7	5	38.0	31.1	1.00	1000	100	D
164	CARBON	4.5	2.0		5.9	1.5	+	6	30	32.9	28.8	0.94	1000	100	D
165	CAREER	4.4	2.1	M	4.8	1.7	F	6	67	29.3	25.7	0.79	1000	100	D
166	CARPET	6.1	1.3		6.9	0.3		6	13	31.3	30.5	1.00	1200	97	
167	CARRIAGE	6.2	1.1	F	6.3	1.1		8	11	40.0	37.8	0.10	1000	100	D
168	CARRY	4.7	1.9		4.8	1.4		5	88	28.9	24.7	0.50	2000	0	D
169	CASTLE	6.7	0.6		6.7	0.5		6	7	30.3	27.1	0.07	1200	100	
170	CATTLE	6.4	1.3		6.9	0.5		6	97	29.8	29.5	0.49	1000	100	D
171	CELLAR	5.7	1.8	+	6.5	0.8		6	26	31.5	26.4	0.60	1000	100	D
172	CENTER	4.6	1.9		4.4	1.6		6	224	28.9	24.7	1.00	1200	94	
173	CHAIRMAN	4.7	2.0	M	5.7	1.5		8	67	40.6	34.6	0.88	1000	100	D
174	CHAMBER	4.9	1.8		5.9	1.5	+F	7	46	38.2	29.6	0.96	1230	.	
175	CHANNEL	5.1	1.9		5.4	1.4		7	16	35.1	32.5	0.94	1200	94	
176	CHAPEL	5.9	1.5		6.7	0.7		6	20	32.8	28.1	1.00	1000	100	D
177	CHAPTER	4.5	1.9	F	5.5	1.7		7	74	35.9	31.7	0.64	1000	100	D
178	CHARMING	4.4	1.7		3.1	1.5	F	8	24	42.7	31.3	0.62	3000	0	D
179	CHEERFUL	5.4	1.5		3.8	1.6		8	10	41.7	37.7	1.00	3000	0	D
180	CHERRY	6.3	1.2		6.8	0.6		6	6	32.8	25.3	0.35	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
181	CHIEFLY	1.8	1.1		2.7	1.4	M	7	22	38.9	33.5	1.00	4000	0	D
182	CHIMNEY	6.2	1.3		6.7	0.9		7	7	37.9	36.6	1.00	1000	100	D
183	CHOSEN	2.6	1.5		3.5	1.7	M	6	71	30.4	27.0	1.00	3000	0	D
184	CIRCLE	6.1	1.2		6.4	1.0		6	60	32.0	30.9	1.00	1200	94	
185	CIRCUIT	3.8	2.0	M	4.7	1.9		7	23	37.1	37.2	1.00	1200	.	
186	CITY	6.4	1.2		6.3	1.0		4	393	24.2	20.1	0.95	1000	100	D
187	CIVIL	2.1	1.4	M	3.1	1.6		5	91	30.1	25.2	0.80	3000	0	D
188	CLEARLY	3.3	2.0	M	2.9	1.4		7	128	37.7	32.2	0.98	4000	0	D
189	CLEVER	3.3	2.0		3.2	1.7	M	6	17	32.9	26.0	0.52	3000	0	D
190	CLIMATE	5.2	1.7		5.0	1.5		7	26	35.7	29.7	1.00	1000	100	D
191	CLOSELY	3.9	1.9		3.0	1.5		7	66	37.7	32.5	1.00	4000	0	D
192	CLOSET	5.8	1.5	F	6.5	0.9		6	16	30.3	31.1	0.08	1320	97	
193	CLOTHING	6.2	1.3		6.4	1.0		8	20	41.5	31.4	1.00	1000	100	D
194	CLUSTER	4.3	1.7		4.5	1.6		7	13	36.1	31.3	0.93	1200	68	
195	COFFEE	6.4	1.1		6.7	0.6		6	78	32.2	27.2	0.99	1000	100	D
196	COLLAR	6.0	1.6	+	6.3	1.1		6	17	32.2	25.9	0.19	1200	100	
197	COLLECT	3.4	1.8		4.3	1.8		7	16	36.3	30.3	0.94	1240	.	
198	COLLEGE	6.0	1.2	F	6.1	1.0		7	267	36.6	31.0	0.95	1000	100	D
199	COLONEL	4.5	2.1	F	6.4	1.3	-	7	37	35.4	31.3	1.00	1000	100	D
200	COLOR	5.2	1.9	F	5.5	1.5		5	141	27.4	22.9	0.99	1200	94	
201	COLUMN	4.9	1.9		5.6	1.3		6	71	34.3	34.3	1.00	1000	100	D
202	COMBINE	3.6	1.7	M	3.8	1.4		7	17	37.5	29.8	0.94	2100	6	
203	COMFORT	4.6	1.5		3.0	1.5		7	43	37.5	35.3	0.98	1200	42	
204	COMING	3.7	1.5		3.9	1.7		6	174	34.0	23.4	0.92	3000	0	D
205	COMMAND	4.2	1.7	M	4.4	1.6	F	7	72	38.4	27.0	0.91	2130	21	
206	COMMENCE	3.0	1.8	M	3.9	1.8		8	3	41.3	32.7	0.05	2000	0	D
207	COMMENT	2.6	1.6		3.7	1.6	F	7	42	36.5	29.3	0.86	1200	39	
208	COMMERCE	2.8	2.0	-M	4.1	1.7		8	58	41.5	33.8	0.95	1200	84	
209	COMPARE	2.5	1.6		3.4	1.7		7	28	37.2	27.2	1.00	2100	.	
210	COMPASS	5.8	1.6	+	6.6	0.9		7	13	38.0	29.4	1.00	2130	97	
211	COMPEL	2.1	1.3		2.8	1.4	M	6	4	33.9	27.1	1.00	2000	0	D
212	COMPLAIN	4.6	2.0		3.8	1.3		8	11	42.6	32.7	1.00	2000	0	D
213	COMPLETE	2.7	1.5		3.9	2.1	M	8	181	40.8	33.2	1.00	3200	0	D
214	COMPOUND	2.7	1.8	-	3.3	1.9	M	8	11	44.3	30.2	1.00	2310	63	
215	COMRADE	4.2	2.0		5.2	1.7	F	7	4	36.3	32.2	1.00	1000	100	D
216	CONCEAL	3.9	1.7		3.8	1.6		7	7	35.7	29.2	1.00	2000	0	D
217	CONCEIVE	2.9	1.9	-	2.6	1.6	F	8	14	41.1	32.8	1.00	2000	0	D
218	CONCERN	3.2	1.9	F	2.6	1.4		7	98	35.3	29.4	0.72	2100	45	
219	CONCERT	5.9	1.4		6.3	1.1		7	39	34.9	28.6	0.17	2100	91	
220	CONCLUDE	2.9	2.2	-	3.7	1.8		8	16	42.2	35.8	1.00	2000	0	D
221	CONDEMN	3.5	1.8		3.5	1.4		7	4	36.3	33.0	1.00	2000	0	D
222	CONDENSE	3.5	1.7		3.6	1.7	M	8	1	38.2	29.7	1.00	2000	0	D
223	CONFESS	3.8	1.9		3.7	1.5		7	11	35.7	32.0	0.92	2000	0	D
224	CONFINE	3.0	2.1	-	3.8	1.7		7	2	35.4	29.6	0.40	1200	.	
225	CONFIRM	2.5	1.7		3.8	1.8		7	16	37.9	35.8	0.62	2000	0	D
226	CONFLICT	4.0	2.0		3.5	1.4	M	8	52	41.9	37.0	1.00	1200	48	
227	CONFUSE	3.5	1.8	F	3.0	1.4		7	5	37.0	31.8	1.00	2000	0	D
228	CONGRESS	3.6	1.9	M	5.0	1.6		8	152	40.3	29.8	1.00	1000	100	D
229	CONNECT	3.3	1.8		4.0	1.7		7	3	34.7	32.6	1.00	2000	0	D
230	CONQUER	4.7	1.7		3.8	1.5		7	4	41.5	32.4	1.00	2000	0	D
231	CONQUEST	4.6	1.9		4.7	1.7		8	9	45.1	35.9	1.00	1000	100	D
232	CONSENT	2.8	1.7		3.6	1.5		7	17	33.6	28.0	0.23	2100	28	
233	CONSIST	1.9	0.9		3.1	1.7		7	17	34.5	28.0	1.00	2100	.	
234	CONSTANT	2.5	1.6		3.1	1.6	M	8	71	38.0	31.0	1.00	3100	.	
235	CONSULT	2.9	1.5		4.0	1.6		7	11	36.6	31.9	1.00	2100	.	
236	CONSUME	3.7	1.8		4.6	1.6	M	7	2	36.9	29.0	1.00	2000	0	D
237	CONTAIN	3.5	1.8		3.9	1.6	M	7	45	34.1	28.1	1.00	2000	0	D
238	CONTENT	2.7	1.7	F	3.6	1.8		7	53	33.1	27.0	0.38	3210	13	W
239	CONTENTS	3.2	2.0		4.6	1.9	F	8	16	37.3	31.1	0.52	1000	100	D
240	CONTEST	3.9	1.9		4.8	1.7		7	26	33.2	26.9	0.23	2100	74	
241	CONTRACT	4.6	2.1	+	5.0	1.8		8	60	39.2	33.4	0.45	1320	87	
242	CONTRAST	3.0	1.8		3.3	1.9		8	74	38.2	31.9	0.55	1200	26	
243	CONTROL	3.0	2.0		3.3	1.7	M	7	223	35.2	30.4	1.00	2100	10	
244	CONVERT	2.8	1.8	M	3.3	1.6	F	7	12	36.5	29.7	0.22	2100	.	

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Let-ters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
245	CONVEY	1.9	1.0	M	3.0	1.6		6	13	34.7	27.1	0.76	2000	0	D
246	CONVINCE	2.5	1.8	-M	3.4	1.6		8	4	41.9	32.4	1.00	2000	0	D
247	COPY	4.2	2.1		5.0	1.4		4	38	26.3	23.3	0.47	1200	79	W
248	CORNER	5.8	1.7	+	6.1	1.3		6	115	30.2	26.6	0.98	1230	94	
249	CORRECT	2.9	1.6		3.4	1.8		7	52	35.1	31.1	1.00	2300	0	D
250	COSTLY	3.2	1.7		4.2	1.8		6	16	33.2	27.8	0.26	3000	0	D
251	COSTUME	5.7	1.6	F	6.0	1.3	F	7	10	36.5	31.1	1.00	1230	97	
252	COTTAGE	6.3	1.3		6.9	0.3		7	19	34.9	34.0	1.00	1300	.	
253	COTTON	6.2	1.2		6.7	0.6		6	38	29.8	27.5	0.90	1200	100	W
254	COUNTRY	5.8	1.4		5.1	1.7		7	324	38.0	29.1	1.00	1300	100	W
255	COUNTY	4.0	2.0		5.4	1.5		6	155	33.7	25.0	0.91	1000	100	D
256	COUPLE	6.3	1.2		5.9	1.4		6	122	33.8	24.7	1.00	2130	85	
257	COURAGE	3.8	1.9	M	3.1	1.6		7	32	37.2	28.8	1.00	1000	100	D
258	COUSIN	5.8	1.6	+F	6.3	1.0		6	51	32.1	23.3	1.00	1000	100	D
259	COVER	4.7	1.7	F	5.1	1.7		5	88	28.7	20.8	0.72	2100	55	
260	CRADLE	6.0	1.4	F	6.4	1.0		6	7	31.6	31.0	1.00	1200	.	
261	CRAZY	4.7	1.9		2.8	1.5		5	34	34.9	30.5	0.94	3000	0	D
262	CREATE	3.3	1.8	F	3.0	1.5		6	54	28.7	25.9	0.96	2000	0	D
263	CREATURE	4.4	2.0		5.0	1.7		8	15	38.5	33.0	1.00	1200	91	W
264	CREDIT	2.7	1.9	-M	3.3	1.6		6	64	30.6	26.2	1.00	1200	82	
265	CRUEL	3.9	1.9		3.5	1.6	M	5	15	28.2	29.7	1.00	3000	0	D
266	CRYSTAL	5.8	1.6		6.1	1.1		7	23	37.4	34.3	1.00	1000	100	D
267	CULTURE	4.4	1.7		3.4	1.9		7	58	37.4	32.7	0.94	1200	100	
268	CUNNING	2.9	1.8	-	2.8	1.5		7	5	38.1	32.8	0.04	3100	.	
269	CURRENT	3.1	2.0	M	3.8	1.8	F	7	104	35.4	31.7	0.99	3100	62	W
270	CUSTOM	2.7	1.6		3.2	1.6		6	14	33.2	28.0	1.00	1300	97	W
271	DANGER	4.9	2.0	+	3.8	2.0		6	70	31.6	26.0	0.65	1000	100	D
272	DARKNESS	6.4	1.3		4.6	1.8		8	43	41.6	38.8	1.00	1000	100	D
273	DARLING	4.1	2.3		3.3	1.6		7	17	37.2	31.9	0.94	1300	.	
274	DAUGHTER	5.7	1.6	+	6.5	0.8		8	72	41.2	41.1	0.77	1300	100	W
275	DAYLIGHT	6.5	0.8		6.2	1.0		8	15	43.2	44.2	1.00	1200	100	W
276	DEADLY	4.6	1.8	M	3.8	1.5	F	6	19	33.2	30.2	0.83	3400	0	D
277	DEALER	4.2	2.1	M	5.7	1.4		6	25	29.6	25.9	0.81	1000	100	D
278	DEBATE	4.4	1.9		4.6	1.9	F	6	32	30.5	31.0	1.00	1200	45	
279	DECAY	4.7	1.8		4.5	1.9		5	14	28.6	24.1	0.38	2100	32	
280	DECEIVE	2.7	1.6		3.2	1.3		7	1	36.0	31.9	0.01	2000	0	D
281	DECIDE	2.5	1.7	M	3.4	1.6	M	6	40	30.8	28.5	0.47	2000	0	D
282	DECLARE	2.5	1.6		3.4	1.6	M	7	8	34.9	30.4	1.00	2000	0	D
283	DECLINE	3.0	1.8		2.9	1.3		7	31	34.8	30.4	1.00	2100	13	
284	DECREASE	3.1	1.8	M	3.5	1.6	M	8	15	37.5	35.0	1.00	2100	13	
285	DEFEND	4.3	1.7	M	3.5	1.2		6	21	31.3	27.8	0.32	2000	0	D
286	DEGREE	3.0	1.9	-M	3.4	2.1	M	6	125	30.1	29.8	0.98	1000	100	D
287	DELAY	2.7	1.5		3.9	1.8	M	5	21	28.3	24.3	0.57	1200	32	
288	DELIGHT	5.0	1.7	M	3.5	1.6		7	29	36.4	34.4	1.00	1200	30	
289	DENY	3.6	2.1		3.3	1.7		4	47	23.5	20.5	0.82	2000	0	D
290	DEPART	4.0	1.7	M	4.6	1.8		6	7	31.1	29.8	0.88	2000	0	D
291	DERIVE	1.7	1.3		2.8	1.3		6	13	31.8	24.0	1.00	2000	0	D
292	DESCEND	3.9	1.8		3.7	1.7		7	4	35.1	29.5	0.27	2000	0	D
293	DESCRIBE	2.3	1.6		3.5	1.6	M	8	41	40.6	38.0	1.00	2000	0	D
294	DESERVE	2.3	1.1		2.7	1.3		7	12	35.2	29.2	0.24	2000	0	D
295	DESIGN	4.2	2.0	F	4.1	1.7	F	6	114	31.6	30.1	0.98	2100	32	
296	DESIRE	3.2	1.9		3.3	1.7		6	79	29.1	26.3	1.00	2100	18	
297	DESPAIR	4.3	1.9		2.8	1.4		7	21	35.6	34.5	1.00	2100	52	
298	DESPISE	3.9	2.1	F	3.3	1.4		7	7	34.9	31.5	0.06	2000	0	D
299	DESTROY	4.3	2.0	M	4.1	1.9		7	48	35.6	33.4	1.00	2000	0	D
300	DETAIL	2.9	1.9	-	4.1	1.8		6	72	29.8	31.7	0.77	1200	87	
301	DEVICE	3.2	1.9		4.6	1.7		6	55	32.8	26.5	0.87	1000	100	D
302	DEVIL	5.8	1.6		3.9	2.2	F	5	25	29.1	25.4	0.89	1200	97	
303	DEVOTE	2.7	1.8	M	3.0	1.4		6	15	31.2	29.8	0.79	2000	0	D
304	DIAMOND	6.6	0.9		6.6	0.8		7	8	36.6	30.7	1.00	1200	97	
305	DIET	3.7	2.1	M	4.6	1.4	M	4	21	21.0	23.1	0.11	1200	84	
306	DIFFER	2.5	1.2		3.1	1.3		6	18	33.0	29.9	0.95	2000	0	D
307	DIGEST	3.7	2.0		3.8	1.7		6	3	31.2	27.6	0.75	1200	.	
308	DINNER	6.1	1.2		6.3	0.8		6	91	29.8	28.5	0.85	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
309	DIRECT	2.7	1.8	-M	3.5	1.6	M	6	129	30.6	28.7	1.00	2300	0	D
310	DIRTY	5.4	1.6		4.3	1.8		5	36	28.2	26.5	0.92	3200	0	D
311	DISCUSS	4.1	1.9	F	3.7	1.4		7	28	37.4	33.3	1.00	2000	0	D
312	DISEASE	4.8	1.9	+	5.1	1.4		7	53	32.9	30.0	1.00	1000	100	D
313	DISGRACE	3.4	1.9		2.7	1.4		8	3	41.0	42.2	1.00	2100	.	
314	DISGUISE	4.3	1.6	M	4.5	1.6		8	5	41.3	44.2	1.00	2100	32	
315	DISGUST	4.3	1.9	F	3.3	1.6		7	1	37.6	39.4	1.00	1200	32	
316	DISLIKE	3.6	1.7	F	3.1	1.5		7	14	38.1	34.7	1.00	2100	.	
317	DISMAY	3.9	1.7	M	2.8	1.2		6	5	33.9	29.2	0.38	2100	.	
318	DISMISS	2.5	1.6		3.9	1.5		7	5	36.3	32.9	1.00	2000	0	D
319	DISPLAY	4.0	1.9	M	4.9	1.5		7	41	39.1	31.9	1.00	2100	36	
320	DISPOSE	3.3	1.7	M	3.6	1.5		7	5	35.6	32.3	1.00	2100	3	
321	DISPUTE	4.2	1.9	M	3.7	1.6		7	34	36.6	32.1	1.00	2100	24	
322	DISSOLVE	4.4	2.0		3.7	1.9	M	8	6	41.5	37.2	1.00	2100	3	
323	DISTANCE	4.7	1.7		4.1	1.8		8	108	38.5	32.5	1.00	1200	77	
324	DISTINCT	3.2	1.9		3.5	1.6		8	42	39.0	32.2	1.00	3000	0	D
325	DISTRESS	3.6	1.9		3.1	1.7		8	15	37.9	33.1	0.75	1200	48	
326	DISTRICT	3.3	1.6		4.3	1.6		8	135	39.2	34.6	0.99	1200	97	
327	DISTURB	4.1	1.8		3.7	1.4		7	10	38.0	39.4	1.00	2000	0	D
328	DIVINE	3.1	1.9	-	1.8	1.2		6	34	32.4	25.6	0.64	3120	37	
329	DOLLAR	6.6	1.0		6.6	1.0	F	6	46	32.0	28.9	0.73	1000	100	D
330	DOORWAY	5.8	1.9	+	6.7	0.7		7	15	38.4	37.9	1.00	1000	100	D
331	DOUBLE	4.6	2.1		4.7	1.9	M	6	56	34.0	28.0	0.92	3142	55	
332	DRAGON	6.2	1.5		5.9	2.0	+F	6	1	32.3	31.0	1.00	1000	100	D
333	DREADFUL	3.0	1.8		2.3	1.2		8	10	42.5	46.5	1.00	3100	.	
334	DRIVEN	3.6	2.0		3.4	1.3		6	44	32.6	27.9	0.44	3000	0	D
335	DUTY	3.3	2.0		3.2	1.6	F	4	61	25.4	22.0	0.86	1000	100	D
336	EAGER	4.2	1.7		2.8	1.3		5	27	25.8	25.8	0.87	3000	0	D
337	EAGLE	6.3	1.0		6.9	0.3		5	5	26.4	27.4	0.83	1000	100	D
338	EARLY	2.9	1.7	M	3.4	1.6	M	5	366	27.6	25.8	1.00	4300	0	D
339	EARNEST	2.5	1.3		2.4	1.3		7	18	31.8	33.4	1.00	1300	43	W
340	EASTERN	3.0	1.9		3.4	1.9	M	7	32	31.8	32.4	0.78	3000	0	D
341	EASY	2.9	1.7	F	2.5	1.2	F	4	125	22.6	23.5	0.36	3400	0	D
342	ECHO	4.7	2.1		4.6	2.0		4	10	22.1	22.5	1.00	1200	74	
343	EFFECT	2.4	1.3		3.0	1.4	M	6	213	31.9	33.3	0.86	1200	52	
344	EFFORT	3.6	1.7		2.9	1.4		6	145	31.7	31.1	1.00	1000	100	D
345	EITHER	2.0	1.5	-	2.9	1.8		6	284	28.1	25.5	0.96	3540	0	D
346	ELBOW	6.0	1.9	+	6.8	1.0		5	10	29.6	33.4	1.00	1200	94	
347	ELDER	5.2	1.9		5.1	1.6	F	5	15	25.7	24.8	0.13	1300	77	
348	ELECT	3.9	1.8		4.1	1.8		5	8	25.4	26.0	0.36	3120	2	W
349	EMBRACE	6.0	1.4	+F	4.4	1.6		7	13	36.9	34.8	1.00	2100	9	
350	EMERGE	3.6	1.8		3.6	1.4		6	18	30.7	28.8	1.00	2000	0	D
351	EMPIRE	4.4	1.8		5.0	1.4		6	22	31.3	29.9	0.92	1300	100	W
352	EMPTY	4.7	2.0		4.7	1.9		5	64	29.6	28.3	1.00	3210	.	
353	ENDLESS	4.6	2.0	+	2.3	1.6		7	20	33.9	32.9	1.00	3000	0	D
354	ENDURE	3.0	1.8	M	3.1	1.4	M	6	8	30.4	25.7	0.50	2000	0	D
355	ENFORCE	3.0	2.0	-M	3.4	1.8		7	9	34.9	34.5	1.00	2000	0	D
356	ENGAGE	3.2	1.9		3.8	1.2		6	14	31.6	28.4	0.93	2000	0	D
357	ENGINE	6.4	0.9		6.6	0.7		6	50	29.8	25.6	1.00	1000	100	D
358	ENJOY	4.9	1.7		3.2	1.3		5	44	32.1	31.3	1.00	2000	0	D
359	ENOUGH	2.5	1.8	-	2.8	1.6	F	6	430	32.4	30.2	1.00	3410	.	
360	ENTER	3.7	1.9	M	4.0	1.8	M	5	78	23.7	23.0	0.93	2000	0	D
361	ENTIRE	3.3	1.9	F	3.8	1.9		6	149	27.7	26.2	1.00	3100	.	
362	ENVY	3.5	1.7		2.8	1.7		4	7	25.5	27.3	0.88	1200	10	
363	EQUIP	2.9	1.7		4.4	1.6		5	1	33.8	32.0	1.00	2000	0	D
364	ERECT	5.4	1.7		4.8	1.6		5	13	24.8	23.6	0.59	3200	0	D
365	ERRAND	3.9	1.9	F	4.5	1.4		6	7	29.9	26.6	1.00	1000	100	D
366	ERROR	2.9	1.7		3.8	1.5		5	36	25.2	25.6	0.97	1000	100	D
367	ESTATE	5.8	1.4		6.0	1.2		6	51	27.1	26.5	1.00	1000	100	D
368	EVEN	2.9	1.8		3.0	1.9		4	1171	22.6	19.7	0.76	1342	.	
369	EVENING	5.8	1.3		5.2	1.4	M	7	133	36.7	29.3	1.00	1000	100	D
370	EVENT	3.3	1.7	-M	4.7	1.6		5	81	26.3	23.2	1.00	1000	100	D
371	EVER	1.8	1.4		2.4	1.7		4	345	22.8	19.6	0.13	4000	0	D
372	EVERY	2.0	1.6	-F	3.2	1.9		5	491	28.9	22.8	1.00	3000	0	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Let-ters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
373	EXCEPT	1.9	1.4		2.9	1.9	M	6	181	35.6	34.0	1.00	2500	0	D
374	EXCESS	3.6	1.9	F	3.2	1.6		6	42	34.4	29.5	0.98	1300	100	W
375	EXCHANGE	3.3	1.9		4.2	1.5	M	8	70	44.5	32.9	1.00	1200	16	
376	EXCITE	4.5	1.7		3.5	1.4		6	3	33.8	29.5	0.43	2000	0	D
377	EXCLAIM	3.7	1.7		4.1	1.9		7	1	41.1	38.3	1.00	2000	0	D
378	EXHAUST	4.6	1.8	M	4.0	1.6		7	7	39.3	37.7	1.00	2100	45	
379	EXIST	2.7	1.7	M	3.3	1.9	F	5	59	29.4	25.4	1.00	2000	0	D
380	EXPLAIN	2.8	1.5	M	3.3	1.5	F	7	64	40.3	31.6	1.00	2000	0	D
381	EXPORT	3.5	1.9		3.9	1.9	M	6	10	35.3	28.6	0.25	2130	13	
382	EXPOSE	4.1	2.0	F	3.2	1.2		6	8	34.8	28.8	1.00	2100	3	
383	EXPRESS	3.1	1.9	-	3.1	1.5		7	42	39.3	30.0	1.00	3412	23	
384	EXTENT	2.0	1.3		2.8	1.8		6	110	32.3	28.9	0.75	1000	100	D
385	EXTRA	2.8	1.7		3.7	1.6		5	50	29.4	29.0	1.00	3140	8	W
386	EXTREME	3.1	2.0	-	2.6	1.5		7	62	37.6	32.7	0.98	3100	20	W
387	FABRIC	5.5	1.6		6.4	0.9	-F	6	15	34.5	32.9	1.00	1000	100	D
388	FACTOR	2.2	1.2	M	3.7	1.7	F	6	71	31.9	27.7	1.00	1200	81	
389	FAILURE	2.7	1.7		3.1	1.6		7	89	36.6	32.2	1.00	1000	100	D
390	FAIRLY	2.1	1.2		2.7	1.5		6	58	34.0	31.3	1.00	4000	0	D
391	FAITHFUL	3.8	2.1		2.5	1.3	F	8	12	43.0	43.4	1.00	3100	.	
392	FALLEN	4.4	2.1	F	3.8	1.6		6	34	31.8	25.6	1.00	3000	0	D
393	FAMOUS	3.8	1.9	M	3.3	1.6		6	89	33.9	27.1	1.00	3000	0	D
394	FANCY	4.3	2.1		3.1	1.7		5	16	30.1	25.5	0.67	1230	26	
395	FAREWELL	4.0	1.8		3.9	1.9		8	14	41.3	36.6	1.00	2130	.	
396	FARMER	6.2	1.3		6.6	0.8		6	23	32.0	27.3	0.13	1000	100	D
397	FATAL	4.0	2.2	-	4.3	2.1	M	5	19	27.1	24.3	0.90	3000	0	D
398	FATHER	2.4	1.3		3.2	1.6	M	6	183	30.4	22.1	0.31	1200	.	
399	FAVOR	2.7	1.7		3.2	1.6		5	78	29.8	26.3	0.99	1200	39	
400	FEATHER	6.2	1.4		6.5	1.2		7	6	33.7	26.1	0.06	1200	81	W
401	FEATURE	3.4	1.6		3.8	1.8	F	7	37	34.7	30.1	1.00	1200	52	
402	FEEBLE	4.4	1.9		3.5	1.6		6	8	31.8	32.7	0.80	3000	0	D
403	FEELING	3.8	2.1		2.1	1.3		7	172	36.3	30.8	0.83	1300	100	W
404	FEVER	5.0	1.7		4.7	1.6		5	19	28.5	22.6	0.02	1000	100	D
405	FIERCELY	4.5	2.0	F	3.2	1.4		8	4	41.9	35.8	1.00	4000	0	D
406	FIGURE	5.5	1.6		5.3	1.4	F	6	209	33.8	27.1	1.00	1200	68	
407	FINAL	3.3	2.0		4.1	1.9		5	156	27.6	23.1	0.99	3100	.	
408	FINGER	6.3	1.3		6.9	0.3		6	40	32.4	23.6	0.62	1200	87	
409	FINISH	3.5	2.1	M	4.4	1.9		6	39	31.6	28.1	1.00	2100	7	
410	FIRMLY	3.4	1.6		3.2	1.5		6	49	35.7	34.4	1.00	4000	0	D
411	FLATTER	3.9	1.8		3.8	1.7		7	1	34.5	33.4	0.13	2000	0	D
412	FLAVOR	3.5	2.1		4.6	1.9		6	16	34.7	31.2	1.00	1200	94	
413	FLOURISH	3.4	1.9	F	3.3	1.5		8	5	42.1	37.1	1.00	2100	10	
414	FOLLY	2.1	1.5	-	2.6	1.4		5	10	30.6	21.4	0.08	1000	100	D
415	FOOLISH	3.8	1.7		3.2	3.3		7	16	36.3	33.7	1.00	3000	0	D
416	FOOTBALL	6.7	0.8		6.9	0.4		8	36	42.4	43.8	0.97	1000	100	D
417	FOREHEAD	6.3	1.4		6.9	0.3		8	16	39.0	35.1	1.00	1000	100	D
418	FOREIGN	4.1	1.9	M	3.8	1.7	M	7	158	36.4	33.5	1.00	3000	0	D
419	FOREST	6.6	1.0		6.7	0.6	-	6	66	30.2	23.4	0.99	1200	100	W
420	FORGET	2.6	1.5		3.5	1.8		6	54	32.0	29.1	0.70	2000	0	D
421	FORGIVE	3.7	1.9		3.1	1.4		7	24	39.2	30.3	0.92	2000	0	D
422	FORMAL	5.0	1.7		4.0	1.7		6	48	33.4	26.5	0.25	3200	0	D
423	FORMER	2.0	1.4	M	3.2	1.9	M	6	131	32.1	25.5	0.56	3100	.	
424	FORTUNE	3.9	1.9		3.5	1.6		7	25	35.6	30.9	1.00	1200	90	
425	FORWARD	3.7	1.8	M	4.2	1.7		7	115	38.3	33.8	1.00	3412	10	
426	FOUNTAIN	6.4	1.0		6.6	0.9		8	18	40.0	32.5	0.35	1000	100	D
427	FRANKLY	1.8	1.2		2.9	1.5		7	13	41.7	34.2	1.00	4000	0	D
428	FREELY	3.3	1.8		2.3	1.3		6	22	32.6	27.1	1.00	4000	0	D
429	FreqUENT	2.6	1.8	-M	3.8	1.7		8	34	44.9	34.9	1.00	3200	0	D
430	FRIENDLY	5.2	1.3	F	3.1	1.5		8	61	42.4	36.3	1.00	3400	0	D
431	FRIGHTEN	5.0	1.7		3.3	1.4		8	11	40.6	37.1	1.00	2000	0	D
432	FRONTIER	5.2	1.8		4.9	1.8		8	30	38.4	33.2	1.00	1000	100	D
433	FROZEN	5.5	1.5		4.6	2.1		6	27	36.7	31.9	1.00	3000	0	D
434	FUNCTION	2.3	1.6		3.6	1.8		8	113	41.4	34.2	0.94	1200	.	
435	FUNERAL	5.9	1.3	F	6.4	1.2		7	33	36.7	31.1	1.00	3100	.	
436	FUNNY	5.2	1.7		3.4	1.8	F	5	41	30.6	28.5	0.64	3100	.	

Item No.	Word	Imagery Mean		Imagery SD		Concreteness Mean		Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
437	FURNISH	3.4	1.7	M		4.4	1.5			7	29	37.3	36.0	1.00	2000	0	D
438	FURTHER	2.3	1.3	M		2.8	1.6			7	218	36.3	27.3	0.87	4320	0	D
439	FURY	4.6	2.0			3.3	1.7			4	19	26.7	20.3	0.19	1000	100	D
440	FUTURE	3.5	2.2			2.5	1.8	-		6	227	33.0	27.1	1.00	3100	61	W
441	GALLANT	4.1	1.8			3.0	1.4			7	5	36.4	29.9	1.00	1300	.	
442	GALLOP	5.8	1.4	F		5.0	1.4	M		6	4	34.6	32.0	0.33	1200	13	
443	GARDEN	6.5	0.6			6.5	0.8			6	60	31.6	29.1	0.92	1230	97	
444	GARMENT	5.4	1.8	+		6.6	0.7			7	6	35.9	32.1	1.00	1230	.	
445	GENIUS	4.9	1.9	F		3.8	1.8	F		6	23	32.1	33.0	1.00	1200	.	
446	GENTLE	4.8	2.0			3.2	1.6			6	27	30.3	28.6	0.47	3120	36	
447	GENTLY	4.3	1.8			3.2	1.3			6	31	33.1	28.4	0.53	4000	0	D
448	GESTURE	5.1	1.7	F		4.5	1.8			7	32	35.3	29.6	1.00	1200	52	
449	GIVEN	2.4	1.6			3.4	1.7			5	377	29.3	23.6	0.76	3000	0	D
450	GLITTER	5.8	1.4	F		4.8	1.4			7	5	34.9	34.4	0.83	2100	29	
451	GODDESS	4.6	2.3	+F		4.0	2.3			7	3	36.6	36.9	0.60	1000	100	D
452	GOING	2.8	1.7	-		3.6	1.7			5	399	29.1	26.1	0.71	1300	.	
453	GOLDEN	5.7	1.4			4.7	1.7			6	42	32.3	29.5	0.82	3000	0	D
454	GOODBYE	4.8	2.0			3.6	1.8			7	6	39.8	43.4	1.00	1000	100	D
455	GRACIOUS	3.7	1.7			3.1	1.5			8	9	42.2	35.3	1.00	3000	0	D
456	GRATEFUL	3.0	1.9	-M		3.4	1.6			8	25	42.3	39.2	0.71	3000	0	D
457	GRAVELY	2.1	1.7	-		2.8	1.3	M		7	7	40.4	30.6	0.64	4000	0	D
458	GREATLY	2.1	1.3			2.3	1.2			7	62	37.3	32.0	1.00	4000	0	D
459	GUILTY	3.9	1.9			3.0	1.6	-		6	29	35.3	34.6	1.00	3000	0	D
460	HABIT	3.1	2.1	-		3.9	1.8			5	23	27.5	24.8	0.92	1200	92	W
461	HAMMER	6.5	1.2			6.8	0.5	-		6	9	32.2	27.2	0.64	1200	70	
462	HANDLE	4.3	2.1			5.8	1.6			6	53	30.7	26.0	0.75	1200	18	
463	HANDSOME	5.9	1.2	F		3.5	1.6			8	40	39.6	32.2	1.00	3000	0	D
464	HAPPEN	2.4	1.7	-M		2.7	1.5			6	63	32.6	27.6	1.00	2000	0	D
465	HAPPY	5.7	1.3	F		2.9	1.6			5	98	31.4	28.4	0.88	3000	0	D
466	HARBOR	6.2	1.4			6.4	1.2			6	37	32.4	29.5	1.00	1200	74	
467	HARDLY	1.5	0.8			2.3	1.3			6	106	33.8	29.1	1.00	4000	0	D
468	HARNESS	5.5	1.6			6.2	1.3			7	10	33.5	31.3	1.00	1200	65	
469	HARVEST	5.7	1.3			5.8	1.1			7	12	35.8	29.2	0.52	1200	58	
470	HASTEN	2.9	1.9	M		3.0	1.7			6	3	28.8	24.7	0.43	2000	0	D
471	HATRED	4.5	2.1	F		3.0	1.7			6	20	29.7	24.0	0.95	1000	100	D
472	HEALTHY	5.3	1.6			3.9	1.5			7	33	36.0	30.6	0.73	3000	0	D
473	HEAVEN	5.0	2.0	+		2.5	1.9	-F		6	43	31.0	24.0	0.90	1000	100	D
474	HEAVY	4.6	1.9	M		4.2	1.7			5	110	29.8	26.4	0.96	3410	.	
475	HELMET	5.9	1.5	+		6.8	0.4			6	1	30.3	29.7	0.50	1000	100	D
476	HELPLESS	4.1	1.9			2.8	1.5			8	21	40.1	35.9	1.00	3000	0	D
477	HERALD	2.7	1.9	-		4.4	2.0			6	11	30.9	22.8	0.61	1200	67	
478	HERO	5.5	1.4	F		4.7	2.0	F		4	52	21.1	17.4	0.06	1000	100	D
479	HERSELF	2.9	1.9	-M		4.6	1.9	F		7	125	35.2	31.0	1.00	5000	0	D
480	HIDDEN	3.9	1.9			3.3	1.6			6	20	30.9	29.6	0.77	2000	0	D
481	HIGHLY	2.5	1.7			2.8	1.4	M		6	94	35.2	31.0	1.00	4000	0	D
482	HIGHWAY	6.4	1.1			5.7	0.6	+		7	40	40.3	36.5	1.00	1000	100	D
483	HIMSELF	2.9	2.2	-		5.3	1.9	F		7	603	37.2	35.7	1.00	5000	0	D
484	HITHER	1.7	1.2			2.1	1.5			6	2	29.4	21.0	0.00	3400	0	D
485	HOLLOW	4.9	1.7			4.3	2.1	M		6	12	33.4	30.2	0.11	3000	0	D
486	HONEST	3.3	2.0	-M		3.4	1.9			6	47	28.8	25.4	1.00	3400	0	D
487	HONEY	6.5	0.8			6.8	0.6			5	25	27.1	23.8	0.08	1230	.	
488	HONOR	3.3	2.0			2.7	1.6			5	66	25.9	22.6	0.93	1200	42	
489	HORROR	5.0	1.8			3.3	1.4	F		6	17	30.4	28.3	1.00	1000	100	D
490	HOSTILE	4.1	1.8			3.4	1.7			7	19	33.7	30.2	1.00	3000	0	D
491	HOTEL	6.5	1.1			6.8	0.6			5	126	25.4	25.8	0.80	1000	100	D
492	HUMAN	5.8	1.8	+		5.6	1.7	+		5	299	28.6	24.8	1.00	3100	.	
493	HUMBLE	4.0	1.7			2.6	1.4			6	18	35.1	30.2	0.55	3200	0	D
494	HUNGRY	4.4	2.1	M		5.0	1.7			6	23	35.6	28.5	1.00	3000	0	D
495	HUNTER	6.1	1.5	+		6.3	1.2			6	18	30.4	28.0	0.42	1000	100	D
496	HURRY	4.7	1.7			3.5	1.5			5	36	29.8	27.7	0.47	2100	.	
497	HUSBAND	5.9	1.7	+		6.1	1.3	F		7	131	38.5	35.5	1.00	1200	97	
498	IDEAL	2.6	1.8	-		2.1	1.5	M		5	61	26.1	24.2	0.30	3100	66	W
499	IDLE	3.4	1.7			3.1	1.5			4	13	22.2	22.3	0.45	3000	0	D
500	ILLNESS	4.5	1.5			5.0	1.7			7	20	34.6	36.5	1.00	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
501	IMAGE	3.9	2.4		3.7	2.1	M	5	119	27.8	23.6	1.00	1200	94	
502	IMMENSE	4.7	2.2	+	3.5	1.5	F	7	14	35.0	30.8	1.00	3000	0	D
503	IMPORT	3.3	2.0		4.6	1.7		6	17	32.5	27.6	0.81	2100	36	
504	IMPOSE	2.3	1.5		2.9	1.5		6	9	32.0	27.8	1.00	2000	0	D
505	IMPRESS	2.7	1.7		3.2	1.5		7	4	36.5	29.0	1.00	2100	3	
506	IMPROVE	2.6	1.7		3.4	1.7		7	39	39.0	28.9	1.00	2000	0	D
507	IMPULSE	2.8	1.8		3.0	1.8	F	7	20	38.4	33.2	1.00	1300	.	
508	INCLINE	3.1	2.0		3.6	1.5	M	7	4	34.7	27.8	1.00	2100	27	
509	INCLUDE	2.4	1.6	M	3.9	1.5		7	113	37.0	32.4	1.00	2000	0	D
510	INCOME	3.4	1.8		5.1	1.5		6	109	31.2	23.0	1.00	1000	100	D
511	INDEED	1.4	0.7		1.9	1.1		6	162	29.7	23.7	1.00	4000	0	D
512	INDUCE	2.6	1.6		3.2	1.5		6	9	32.2	24.9	1.00	2000	0	D
513	INFANT	6.5	0.8		6.7	0.8		6	11	30.6	27.6	0.92	1300	.	
514	INFORM	2.7	1.6		3.7	1.7		6	7	32.7	29.6	0.88	2000	0	D
515	INNER	2.8	2.0	-	3.6	1.6		5	55	24.8	23.8	0.95	3000	0	D
516	INQUIRE	2.8	1.6	M	3.9	1.7	F	7	6	40.3	32.7	0.26	2000	0	D
517	INSECT	6.3	1.3		6.7	0.7		6	14	29.6	26.5	0.41	1000	100	D
518	INSIDE	3.9	1.9		4.3	1.8		6	174	29.7	25.5	1.00	1540	27	W
519	INSPIRE	2.4	1.7	M	2.7	1.4		7	3	34.8	30.8	1.00	2000	0	D
520	INSTANT	3.0	2.1	-	3.0	1.6		7	38	32.8	27.7	1.00	1300	87	W
521	INSTEAD	1.5	1.0		2.5	1.6		7	173	33.2	28.7	1.00	4000	0	D
522	INSTINCT	2.9	1.8		2.6	1.6	M	8	14	38.1	30.7	1.00	1300	.	
523	INSTRUCT	3.9	1.9		3.8	1.7		8	3	39.8	36.1	1.00	2000	0	D
524	INSULT	4.3	2.1	M	4.0	1.9		6	7	31.4	28.5	1.00	2100	19	
525	INTEND	2.3	1.6		2.5	1.4		6	15	29.2	21.9	0.52	2000	0	D
526	INTEREST	3.2	1.9		3.3	1.7		8	330	35.6	28.6	1.00	1200	58	
527	INVADE	4.0	1.8		4.4	1.5	M	6	5	32.2	28.3	1.00	2000	0	D
528	INVENT	3.8	2.0		3.5	1.6		6	7	31.1	25.5	0.28	2000	0	D
529	INVEST	3.4	1.9		4.0	1.5	M	6	3	31.2	25.4	0.12	2000	0	D
530	INVITE	3.4	1.9		4.0	1.6		6	11	31.1	26.2	0.79	2100	.	
531	INVOLVE	2.8	1.7		3.0	1.3		7	31	39.1	34.6	1.00	2000	0	D
532	IRON	6.1	1.4		6.7	0.7		4	43	21.4	19.1	0.96	1320	84	
533	ISLAND	6.6	0.7		6.6	0.8		6	167	31.1	25.9	0.98	1200	100	W
534	Item	3.2	2.0	-	5.5	1.4		4	54	21.6	21.0	0.65	4120	.	
535	ITSELF	1.6	1.2		3.3	2.0	M	6	304	30.8	30.5	1.00	5000	0	D
536	JACKET	6.3	1.3		6.6	0.9		6	33	38.4	31.5	0.80	1200	97	
537	JEALOUS	4.5	1.7		3.1	1.6		7	4	40.4	31.3	0.50	3000	0	D
538	JERSEY	5.0	2.1	+	5.9	1.6	+	6	25	35.8	29.6	0.96	1000	100	D
539	JEWEL	6.0	1.1		6.4	0.9	M	5	1	32.1	29.1	0.50	1200	100	
540	JOLLY	5.6	1.4		3.7	1.6	F	5	4	34.5	23.6	0.11	3420	0	D
541	JOURNAL	4.8	2.0		6.4	0.9		7	42	41.3	34.3	1.00	1000	100	D
542	JOURNEY	4.9	1.8		5.0	1.6		7	28	41.9	34.3	1.00	1200	73	
543	JUDGMENT	3.0	1.7	-M	2.9	1.3		8	60	47.7	43.5	1.00	1000	100	D
544	JUNIOR	3.5	1.8		4.2	1.4		6	75	36.5	28.3	1.00	1300	.	
545	JUSTICE	3.8	2.0	M	3.1	1.8	F	7	114	40.6	28.8	0.99	1000	100	D
546	KEEPER	3.3	2.0		5.3	1.6	F	6	3	32.7	31.4	0.07	1000	100	D
547	KINDLY	3.7	1.7		3.0	1.3		6	8	36.8	28.8	1.00	3400	0	D
548	KINDNESS	4.4	1.4		3.1	1.3		8	5	41.5	38.8	1.00	1000	100	D
549	KINGDOM	4.8	1.8		4.8	1.7	F	7	26	41.3	41.0	1.00	1000	100	D
550	KITCHEN	6.3	1.2		6.8	0.5		7	90	37.6	33.7	0.99	1000	100	D
551	KITTEN	6.4	1.1		7.0	0.2		6	5	31.5	30.9	0.63	1200	.	
552	KNOWING	2.2	1.5		2.6	1.3		7	50	41.0	32.4	0.93	1300	.	
553	LABOR	4.6	1.9		4.6	1.5		5	149	28.4	25.3	0.99	1230	42	
554	LADY	6.4	1.1		6.0	1.5		4	80	25.0	22.8	0.66	1000	100	D
555	LANGUAGE	3.9	1.9		4.9	1.9		8	109	42.6	36.6	1.00	1000	100	D
556	LARGELY	3.2	1.7		3.1	1.5		7	68	38.4	32.4	1.00	4000	0	D
557	LATELY	2.0	1.2		2.9	1.6	M	6	12	31.9	26.3	1.00	4000	0	D
558	LATTER	2.1	1.6	-M	3.4	1.9		6	114	28.8	28.6	0.20	3000	0	D
559	LAUGHTER	6.1	1.1	F	5.4	1.6		8	22	41.1	39.9	0.23	1000	100	D
560	LAWYER	5.9	1.4		6.7	0.7		6	43	33.6	37.7	0.98	1000	100	D
561	LAYER	3.8	1.8		4.6	1.4		5	12	27.6	26.1	0.03	1200	69	
562	LAZY	5.0	1.6	M	3.9	1.6	F	4	9	30.3	26.6	0.09	3200	0	D
563	LEADER	5.2	1.5		5.2	1.6	F	6	74	29.6	27.6	0.61	1000	100	D
564	LEARNING	3.9	1.9	M	3.6	1.9	F	8	60	39.6	35.3	0.90	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
565	LEATHER	5.7	1.6		6.8	0.5		7	24	32.9	25.9	0.24	1200	100	W
566	LECTURE	6.0	1.4	F	5.5	1.8		7	16	35.2	31.0	1.00	1200	64	
567	LEGAL	3.4	1.8	M	3.6	1.6		5	72	28.0	27.5	0.97	3100	.	
568	LEGEND	3.8	1.9		3.9	1.6		6	26	31.5	27.5	1.00	1000	100	D
569	LEMON	6.5	1.1		6.8	0.6		5	18	26.8	23.6	0.64	1300	.	
570	LETTER	6.2	1.3		6.2	1.3		6	145	28.2	30.3	0.21	1200	99	W
571	LEVEL	3.5	2.0	M	4.0	1.8		5	213	28.3	24.6	0.91	1230	69	
572	LIGHTLY	3.4	1.5		2.7	1.3		7	31	39.2	35.7	0.58	4000	0	D
573	LIKELY	1.8	1.1		2.1	1.1		6	151	35.9	28.9	0.85	3400	0	D
574	LIKEWISE	1.3	0.8		2.6	1.3	M	8	18	42.5	37.4	1.00	4000	0	D
575	LILY	5.9	1.5	F	6.7	0.9	-	4	1	25.0	19.3	0.06	1300	.	
576	LIMIT	2.5	1.8	-	2.7	1.5		5	48	27.3	24.5	1.00	1200	55	
577	LINEN	6.1	1.4	F	6.6	0.7		5	6	25.4	22.0	0.03	3100	.	
578	LINGER	3.8	1.8		3.2	1.3		6	7	31.6	24.1	0.03	2000	0	D
579	LION	6.7	0.5		7.0	0.1		4	17	22.0	19.1	0.47	1000	100	D
580	LIQUID	5.4	1.5		6.1	1.4		6	48	38.5	31.3	1.00	3100	55	W
581	LIQUOR	6.5	1.0		6.7	0.6		6	43	37.8	34.1	1.00	1200	.	
582	LISTEN	3.3	1.9	M	4.2	1.9		6	51	29.2	25.6	0.50	2100	.	
583	LITTLE	5.0	2.1	+	4.9	1.9	F	6	831	29.5	30.9	1.00	3410	8	W
584	LIVELY	4.0	1.7	M	3.8	1.6		6	26	35.2	25.6	0.11	3000	0	D
585	LOCATE	2.3	1.7	-M	3.8	1.7		6	16	30.0	28.3	0.84	2000	0	D
586	LONELY	4.1	2.1		2.9	1.9		6	25	32.3	26.7	0.36	3000	0	D
587	LOUDLY	3.5	2.1		4.4	1.6		6	17	35.4	31.2	0.89	4000	0	D
588	LOVELY	4.7	1.8		2.7	1.6		6	44	35.1	26.8	0.46	3100	.	
589	LOVER	6.2	1.1	F	4.8	1.9	F	5	19	28.4	23.3	0.05	3100	100	W
590	LOWER	4.0	1.9	F	3.8	1.7		5	123	27.5	24.4	0.24	2300	0	D
591	LOYAL	3.4	2.0	F	2.7	1.6		5	18	28.9	32.4	0.05	3000	0	D
592	LUCKY	4.0	1.7		2.5	1.4		5	21	34.5	29.0	0.88	3000	0	D
593	LUMBER	6.1	1.4	+	6.8	0.5		6	35	34.8	30.0	0.07	2100	81	
594	LUNCHEON	5.4	1.5		6.0	1.1		8	23	40.6	37.0	1.00	1000	100	D
595	LUSTER	3.7	2.0		3.4	1.6		6	2	30.9	27.6	0.07	1200	.	
596	LYING	4.3	2.2	F	3.4	1.8	F	5	36	30.2	24.2	0.45	3000	0	D
597	MACHINE	6.0	1.3		6.6	0.9		7	103	35.7	27.1	1.00	1200	100	
598	MADAM	5.6	1.8	+F	5.7	1.4		5	2	29.0	27.3	1.00	1000	100	D
599	MAIDEN	5.4	1.8		5.7	1.7	+	6	2	30.9	27.5	0.10	1300	.	
600	MAINLY	1.7	1.0		2.6	1.5		6	31	33.7	27.5	0.94	4000	0	D
601	MAINTAIN	2.1	1.2		3.7	1.6		8	60	38.4	33.0	1.00	2000	0	D
602	MAJOR	3.6	2.3	M	3.9	1.9		5	247	32.4	26.7	0.85	1200	.	
603	MAKER	2.8	2.1	-	3.9	1.9	F	5	12	29.7	23.1	0.05	1000	100	D
604	MANAGE	2.6	1.5	M	3.2	1.4		6	20	31.8	26.8	1.00	2100	.	
605	MANNER	2.5	1.8	-	2.9	1.3	F	6	124	30.3	27.6	0.85	1000	100	D
606	MANY	4.4	1.5		3.3	1.6		4	1030	24.8	18.9	0.91	3510	.	
607	MARBLE	5.9	1.9	+F	6.4	1.0		6	21	33.3	28.3	1.00	1200	84	
608	MARKET	5.6	1.5		6.1	1.1	F	6	155	33.4	28.3	0.63	1200	73	W
609	MARRIAGE	5.6	1.6		4.2	1.9		8	95	40.3	37.7	0.90	1000	100	D
610	MARVEL	3.0	1.8		2.3	1.1		6	6	33.9	27.9	0.75	1200	26	
611	MASTER	4.1	2.1		5.2	1.9	+	6	72	30.0	24.6	0.17	1200	68	
612	MATTER	2.7	1.9	-M	3.9	2.0	M	6	308	29.5	27.0	0.61	1200	82	
613	MAYBE	1.8	1.2		1.6	0.8		5	134	30.3	26.3	1.00	4000	0	D
614	MAYOR	5.4	1.7		6.6	0.8		5	38	29.0	24.2	0.13	1000	100	
615	MEADOW	6.1	1.3		5.9	1.6	+	6	17	32.8	31.0	1.00	1000	100	D
616	MeanING	2.1	1.2		2.8	1.8	F	7	127	36.0	27.5	0.88	1000	100	D
617	MeanTIME	1.7	1.1		2.3	1.5		8	12	38.5	30.8	0.86	1400	100	W
618	MEASURE	4.0	1.8		4.4	1.7		7	91	35.0	28.3	0.99	1200	19	
619	MEETING	4.6	2.0		5.0	1.6		7	159	35.0	29.7	0.88	1000	100	D
620	MEMBER	3.1	1.8		5.2	1.5		6	137	33.3	26.6	1.00	1000	100	D
621	MENACE	3.9	1.9		3.3	1.5		6	9	30.4	26.2	1.00	1200	48	
622	MENTAL	3.1	2.0		2.8	1.5		6	43	30.5	26.1	0.61	3000	0	D
623	MENTION	2.6	1.5	M	3.3	1.6		7	50	33.8	27.1	1.00	1200	7	
624	MERCHANT	5.1	1.8	F	6.2	1.0		8	20	39.6	31.7	1.00	1300	93	W
625	MERCY	3.0	1.9	-M	3.1	1.9	M	5	20	29.6	25.7	0.65	1000	100	D
626	MERELY	1.6	0.9		2.3	1.6	M	6	135	32.5	23.1	1.00	4000	0	D
627	MERIT	2.7	1.7		3.1	1.6	F	5	29	25.9	21.0	1.00	1200	58	
628	MESSAGE	4.7	1.8		4.8	1.6	F	7	64	35.4	32.3	0.97	1200	84	

Item No.	Word	Imagery Mean	Imagery SD	Concreteness Mean	Concreteness SD	Let-ters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
629	METAL	5.6	1.6	6.6	0.6	5	61	26.4	24.7	0.90	1200	97	W
630	METHOD	2.3	1.4	4.0	1.7	6	142	31.1	26.3	1.00	1000	100	D
631	MIDDLE	4.4	1.9	4.6	1.7	6	118	32.8	33.2	0.95	3100	.	
632	MIGHTY	4.6	1.8	3.3	1.3	6	29	35.0	30.7	0.72	3000	0	D
633	MILLION	5.6	1.8 +	5.0	2.1 +	7	204	36.5	29.0	0.77	1000	100	D
634	MINGLE	3.8	1.7	3.3	1.4	6	2	32.9	25.2	0.01	2000	0	D
635	MINUTE	4.5	2.1 M	4.7	2.1 M	6	53	31.2	27.2	1.00	1300	100	W
636	MIRROR	6.4	1.0	6.7	0.7	6	27	31.5	30.2	1.00	1200	90	
637	MISCHIEF	3.9	1.9 F	3.6	1.6	8	5	41.6	37.9	1.00	1000	100	D
638	MISSING	3.2	1.7	3.6	1.6	7	33	37.2	28.6	0.72	3000	0	D
639	MISSION	3.3	1.9	3.9	1.6 M	7	78	35.1	29.9	0.94	1230	.	
640	MISTAKE	3.4	1.8 M	4.0	1.9	7	34	37.4	30.5	1.00	2100	61	
641	MISTRESS	5.2	1.7	5.7	1.2	8	5	38.5	32.6	0.25	1000	100	D
642	MIXTURE	3.7	1.6	4.2	1.6	7	30	40.6	34.0	0.91	1000	100	D
643	MODEL	4.9	1.9	5.5	1.5	5	77	27.7	26.2	0.66	1200	83	
644	MODERN	3.3	1.8 F	3.2	1.6	6	198	31.2	29.2	1.00	3100	.	
645	MODEST	3.0	1.7	2.4	1.3	6	29	30.8	27.5	0.97	3000	0	D
646	MOISTURE	5.3	1.5	5.5	1.1 M	8	10	39.6	35.2	1.00	1000	100	D
647	MOMENT	2.2	1.5	3.0	1.9	6	246	31.2	25.4	1.00	1000	100	D
648	MONARCH	5.1	1.8	5.9	1.2	7	3	36.6	33.1	1.00	1000	100	D
649	MONEY	6.4	1.1	6.3	1.2	5	265	28.1	23.6	0.87	1000	100	D
650	MONKEY	6.5	1.0	6.9	0.3	6	9	35.8	28.9	0.90	1200	97	
651	MONSTER	6.0	1.5	5.3	2.0 +	7	6	34.1	28.5	1.00	1000	100	D
652	MORAL	2.6	1.8 -F	2.5	1.7 F	5	142	27.7	22.8	0.92	3100	.	
653	MORTAL	3.1	2.1 -	3.4	2.2	6	10	31.4	28.1	0.42	3410	.	
654	MOSTLY	2.0	1.5	2.5	1.5	6	44	33.5	29.0	0.73	4000	0	D
655	MOTHER	6.4	1.1	6.6	0.8	6	216	30.4	22.9	0.90	1320	100	
656	MOTION	4.4	2.1	4.0	1.8	6	55	30.4	26.2	0.53	1200	100	W
657	MOTIVE	2.6	1.8	2.6	1.5	6	22	32.5	25.5	0.92	1320	.	
658	MOTOR	5.8	1.4	6.5	0.9	5	56	26.6	23.6	0.90	1320	90	
659	MOUNTAIN	6.6	0.8	6.7	1.0	8	33	39.9	33.3	0.65	1000	100	D
660	MOVIE	6.1	1.3	6.4	1.2 M	5	29	28.8	24.6	0.97	1000	100	D
661	MURDER	5.8	1.6 +F	5.7	1.4	6	75	32.9	27.9	1.00	1200	26	
662	MUSCLE	6.0	1.1	6.5	1.0	6	42	33.7	29.5	1.00	1200	97	
663	MUSIC	6.1	1.3	5.3	1.7 F	5	216	29.6	27.1	1.00	1000	100	D
664	MUTTER	3.8	2.0	4.3	1.6	6	1	31.1	29.3	0.00	2000	0	D
665	NAKED	6.5	0.8	5.4	1.9 +M	5	32	28.9	25.5	0.24	3000	0	D
666	NARROW	5.0	1.8	4.0	1.6 M	6	63	31.7	33.8	0.83	3120	39	
667	NATION	4.2	1.8	4.9	1.9	6	139	28.9	27.0	0.74	1000	100	D
668	NATIVE	4.2	2.1	5.0	1.7	6	46	31.0	26.2	1.00	3100	42	W
669	NAVY	5.9	1.3	6.4	0.9	4	37	26.1	26.8	0.88	1000	100	D
670	NEARLY	1.9	1.2	2.4	1.5	6	141	31.6	29.6	0.64	4000	0	D
671	NEEDLE	6.4	1.2	6.6	0.8	6	15	28.8	31.8	1.00	1200	90	
672	NEGLECT	2.8	1.4	3.2	1.2	7	12	35.5	37.4	1.00	2100	13	
673	NEITHER	1.7	1.3 M	2.9	1.8 M	7	141	32.2	29.3	1.00	5340	0	D
674	NEPHEW	5.0	1.9 +F	6.4	1.2	6	9	32.2	34.4	1.00	1000	100	D
675	NERVOUS	4.6	1.6	3.9	1.7	7	24	37.3	33.4	1.00	3000	0	D
676	NOBLE	3.4	1.8	3.1	1.6 M	5	23	27.6	26.2	0.88	3100	17	W
677	NORMAL	2.4	1.3	2.1	1.4 M	6	136	31.8	29.3	0.68	3100	.	
678	NORTHERN	4.5	1.9	4.8	1.7	8	47	37.3	33.0	0.98	3100	.	
679	NOTHING	3.5	2.4 F	3.0	2.2 -	7	412	35.5	28.4	1.00	5410	68	W
680	NOTICE	2.9	1.8	4.3	1.5	6	59	29.4	28.2	0.95	1200	23	
681	NOTION	2.1	1.4	2.4	1.6	6	40	28.9	28.2	0.17	1000	100	D
682	NOVEL	5.7	1.4	6.0	1.5 +	5	59	28.2	26.1	0.84	3100	.	
683	NUMBER	5.9	1.9 +	5.6	2.1 +	6	472	34.1	31.6	0.93	1200	87	
684	OBJECT	3.6	2.2 F	5.1	2.0 +F	6	65	37.1	32.4	0.96	1200	76	
685	OBLIGE	2.3	1.3	2.5	1.3	6	1	33.5	28.4	1.00	2000	0	D
686	OBTAIN	2.7	1.8 M	3.4	1.4	6	42	31.1	33.3	1.00	2000	0	D
687	OCCUR	1.7	1.1	3.5	1.8	5	43	29.3	28.1	1.00	2000	0	D
688	OCEAN	6.7	0.8	6.5	1.1	5	34	25.5	23.7	1.00	1000	100	D
689	ODOR	5.1	1.8 F	5.0	1.7	4	14	22.3	21.8	0.78	1000	100	D
690	OFFENSE	3.0	1.8 M	3.9	1.9	7	8	35.2	29.9	1.00	1000	100	D
691	OFFER	2.9	1.7	3.3	1.5	5	80	28.0	22.7	1.00	2100	13	
692	OFTEN	2.2	1.6 -	3.1	1.5	5	368	25.8	23.3	1.00	4000	0	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Let-ters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
693	OLIVE	6.1	1.2		6.8	0.7		5	5	28.1	21.4	0.08	1300	.	
694	ONION	6.5	1.1	F	6.7	1.0		5	15	25.2	21.5	0.08	1000	100	D
695	ONLY	2.5	1.9	-	2.4	1.9	-	4	1747	24.2	19.7	0.99	3450	0	D
696	OPEN	4.8	1.6		4.5	1.8	F	4	319	22.3	19.6	0.88	3210	.	
697	OPERA	6.1	1.3		6.0	1.2		5	47	26.4	24.5	1.00	1000	100	D
698	OPPOSE	3.0	1.7		3.4	1.6		6	15	32.2	28.7	1.00	2000	0	D
699	ORANGE	6.6	1.0		6.1	1.6	+	6	23	30.6	22.6	1.00	1300	86	W
700	ORCHARD	6.4	1.1		6.4	1.1		7	3	36.3	30.4	1.00	1000	100	D
701	ORGAN	5.9	1.5	+F	6.6	1.0		5	12	27.3	23.9	1.00	1000	100	D
702	OTHER	2.0	1.5	-M	2.5	1.7	M	5	1702	24.8	18.8	1.00	3154	.	
703	OUTLINE	3.9	2.0	F	4.6	1.7		7	12	34.5	29.7	1.00	1200	52	
704	OUTSIDE	5.0	1.6	F	4.4	1.6	M	7	210	34.7	30.8	1.00	1300	10	W
705	OVEN	6.0	1.8	+	6.9	0.5		4	7	23.3	17.9	0.00	1000	100	D
706	OVER	4.0	2.1		3.9	1.7		4	1236	23.5	17.8	0.78	4532	0	D
707	OWNER	4.4	2.1		6.0	1.0		5	33	26.8	24.7	0.49	1000	100	D
708	OYSTER	5.8	1.5		6.8	0.5		6	6	30.6	30.0	0.86	1000	100	D
709	PACKAGE	5.8	1.6		6.5	1.3		7	20	40.9	34.6	1.00	1200	81	
710	PAINTER	6.0	1.4		6.7	0.6		7	21	34.2	28.8	0.31	1000	100	D
711	PAINTING	6.4	1.0		6.0	1.5	+	8	59	40.8	30.2	0.57	1000	100	D
712	PALACE	6.3	1.0		6.2	1.4		6	38	32.1	25.6	0.95	1000	100	D
713	PAPER	6.1	1.6	+	6.9	0.3		5	157	28.3	23.8	0.93	1230	100	
714	PARCEL	6.3	1.1		6.5	0.8		6	1	32.5	29.8	0.50	1420	94	
715	PARDON	2.8	1.6		3.3	1.7		6	8	32.2	27.8	0.80	1200	16	
716	PARENT	6.3	1.2		6.2	1.0	F	6	15	30.2	24.4	0.30	1000	100	D
717	PARLOR	5.5	1.6		6.0	1.3		6	18	32.3	28.8	0.90	1000	100	D
718	PARTLY	1.9	1.3		2.7	1.4		6	49	33.9	28.6	0.96	4000	0	D
719	PARTNER	5.4	1.5		5.7	1.1		7	32	34.5	37.2	1.00	1200	100	
720	PARTY	6.4	0.8		5.7	1.4		5	216	29.0	24.1	0.61	1000	100	D
721	PASSAGE	4.3	1.9	F	4.8	1.8	F	7	49	36.4	33.2	0.96	1200	82	W
722	PASSION	5.1	1.8		3.0	1.6		7	28	35.3	30.0	1.00	1000	100	D
723	PASTURE	6.2	1.2		6.0	1.4		7	14	35.8	28.6	0.52	1200	100	
724	PATENT	2.3	1.9	-M	4.7	2.0		6	35	29.6	25.2	0.51	3120	81	
725	PATIENCE	3.4	1.8	F	2.6	1.6		8	22	38.4	33.2	1.00	1000	100	D
726	PATIENT	4.3	2.1		4.9	2.0		7	86	33.6	29.8	1.00	3100	68	W
727	PATTERN	4.8	1.8	F	5.0	1.5	F	7	113	33.9	32.7	0.93	1200	79	
728	PAYMENT	4.2	1.7		4.9	1.6		7	53	37.6	32.8	1.00	1000	100	D
729	PEACEFUL	4.8	1.7		3.2	1.3		8	26	42.7	38.8	1.00	3000	0	D
730	PENNY	6.5	1.2		6.8	0.5		5	25	28.5	26.4	0.54	1000	100	D
731	PEPPER	6.3	1.4		6.8	0.6		6	13	33.5	28.1	1.00	1200	94	
732	PERCEIVE	3.3	1.9	F	2.7	1.6		8	13	41.2	35.3	1.00	2000	0	D
733	PERFECT	3.3	2.1	M	3.2	2.1		7	58	36.4	34.9	1.00	3210	46	
734	PERFORM	3.4	1.5		4.0	1.6		7	29	38.0	34.4	1.00	2000	0	D
735	PERFUME	6.0	1.4	+	6.3	1.1		7	10	38.5	33.7	1.00	1200	100	
736	PERHAPS	1.6	1.0		2.4	1.4	M	7	307	37.0	36.7	1.00	4100	.	
737	PERISH	3.6	1.8	F	3.9	1.7	M	6	2	31.2	27.0	0.15	2000	0	D
738	PERMIT	3.1	1.9		4.2	1.6		6	77	31.8	26.8	1.00	2100	10	
739	PERSON	6.1	1.7	+	6.5	1.1		6	175	30.7	25.5	0.99	1000	100	D
740	PERSUADE	3.6	1.6		3.3	1.3		8	17	40.3	35.2	1.00	2000	0	D
741	PICTURE	6.2	1.1		6.5	1.1	F	7	162	36.9	30.5	1.00	1200	91	
742	PIGEON	6.4	1.2		6.9	0.5		6	3	32.3	31.5	1.00	1000	100	D
743	PILLOW	6.5	1.1	F	6.6	0.7		6	8	34.8	30.6	0.47	1200	100	
744	PILOT	6.1	1.4		6.7	0.7		5	44	27.5	26.3	0.96	1230	87	
745	PISTOL	6.1	1.3		6.8	0.6		6	27	31.7	28.1	0.79	1000	100	D
746	PITCHER	6.5	1.1		6.5	1.0		7	21	36.0	31.8	0.58	1000	100	D
747	PLAINLY	2.3	1.6		2.8	1.5		7	18	38.9	31.6	1.00	4000	0	D
748	PLANET	6.1	1.2		6.1	1.3		6	21	30.8	27.3	0.41	1000	100	D
749	PLATFORM	5.5	1.7	+	5.9	1.5		8	72	42.9	41.1	1.00	1000	100	D
750	PLAYER	5.3	1.6		5.8	1.1		6	51	33.4	28.6	0.27	1000	100	D
751	PLEASURE	5.0	1.7		3.3	1.8		8	62	40.2	32.2	1.00	1200	68	
752	POCKET	6.2	1.2		6.5	0.8		6	46	34.8	29.8	0.68	1230	97	
753	POEM	5.0	1.7	F	5.1	1.7	F	4	48	23.8	26.0	0.33	1000	100	D
754	POINTED	5.4	1.7		4.7	1.5		7	74	35.0	29.8	0.48	3000	0	D
755	POLICE	6.5	0.9		6.6	0.7		6	155	32.3	25.8	0.40	1200	91	
756	PONY	6.3	1.3	F	6.8	0.5		4	10	25.1	19.3	0.10	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
757	PORTION	3.6	1.8		4.2	1.7		7	62	35.0	28.7	1.00	1200	.	
758	POSSESS	2.5	1.7	-M	3.5	1.9		7	16	34.9	32.0	1.00	2000	0	D
759	POWDER	5.7	1.4		6.2	1.3		6	28	33.5	31.7	0.97	1000	100	D
760	PRACTICE	3.4	2.0	M	4.3	1.6		8	94	40.6	32.4	1.00	2100	16	
761	PRAIRIE	5.8	1.5		6.2	1.2		7	21	34.8	32.8	1.00	1000	100	D
762	PRAYER	4.5	2.1	F	5.0	1.8	F	6	28	32.8	28.1	0.30	1000	100	D
763	PRECIOUS	4.0	2.0		2.6	1.4	F	8	29	41.4	32.1	0.25	3400	0	D
764	PREFER	2.6	1.7		3.0	1.5		6	27	31.7	27.5	1.00	2000	0	D
765	PRESENT	4.7	2.1	F	4.1	1.6	F	7	377	33.7	27.5	0.82	1200	42	
766	PRESERVE	3.5	2.0		3.8	1.6		8	35	40.4	30.8	1.00	2100	.	
767	PRESSURE	3.5	2.1	M	4.3	1.6		8	185	39.9	31.0	1.00	1200	100	W
768	PRETTY	5.6	1.5	M	3.8	1.7	F	6	107	32.0	29.2	1.00	3421	.	
769	PREVENT	3.0	1.8	M	3.3	1.4		7	83	36.4	27.2	0.18	2000	0	D
770	PRINCESS	6.0	1.3		6.0	1.1		8	10	40.2	31.6	1.00	1300	.	
771	PRISON	6.3	1.0		6.7	0.5		6	42	31.5	25.1	0.81	1200	94	
772	PRIVATE	3.7	2.0	M	3.0	1.4		7	191	37.0	29.4	0.99	3100	.	
773	PROBLEM	3.6	1.9		3.5	1.7	F	7	313	39.2	33.6	1.00	1300	100	W
774	PROCEED	2.9	1.9		3.5	1.6		7	18	35.9	31.6	1.00	2000	0	D
775	PROCLAIM	3.2	1.8		3.1	1.6	M	8	13	42.8	39.8	1.00	2000	0	D
776	PROCURE	2.1	1.4	M	3.1	1.3		7	4	37.5	30.4	1.00	2000	0	D
777	PRODUCT	3.7	2.1		5.5	1.5		7	87	38.6	33.9	0.51	1200	100	W
778	PROGRAM	3.8	2.3		5.2	1.6		7	394	38.9	35.1	1.00	1200	97	
779	PROJECT	3.6	2.2	-	4.9	1.7	F	7	93	41.0	36.4	0.73	1200	81	
780	PROMPTLY	3.1	1.8	-	3.6	1.4		8	28	45.4	36.7	1.00	4000	0	D
781	PROPER	3.1	1.8	F	2.5	1.3		6	95	32.6	26.3	0.96	3140	5	W
782	PROSPECT	2.6	1.5	M	3.1	1.6	M	8	25	41.5	36.8	1.00	1200	74	
783	PROTECT	4.6	1.8	M	3.7	1.5		7	34	35.1	31.6	0.23	2000	0	D
784	PROTEST	4.2	1.7		4.3	1.6		7	23	34.1	29.7	0.40	1200	10	
785	PROUDLY	3.8	1.9	M	3.1	1.5		7	9	40.7	32.6	1.00	3000	0	D
786	PROVIDE	2.5	1.5		3.7	1.5		7	216	38.4	30.2	1.00	2000	0	D
787	PROVINCE	4.5	2.0		5.3	1.7		8	15	42.7	31.8	1.00	1000	100	D
788	PUBLIC	3.9	2.0	F	4.7	1.7		6	438	36.9	31.5	1.00	3100	28	W
789	PUBLISH	3.1	1.7		5.0	1.5		7	3	40.4	34.0	1.00	2000	0	D
790	PUNISH	3.9	1.9	M	4.0	1.5	+	6	3	33.3	30.5	1.00	2000	0	D
791	PUPIL	5.8	1.6	+	6.2	1.4		5	20	31.2	27.6	1.00	1000	100	D
792	PURCHASE	4.4	1.8		4.9	1.6		8	47	41.8	34.6	1.00	2100	10	
793	PURELY	2.5	1.6		2.4	1.3	M	6	30	35.0	25.5	0.39	4000	0	D
794	PURPLE	6.3	1.3	F	5.7	1.7	+	6	13	34.7	29.5	1.00	3120	.	
795	PURSUE	3.9	1.8		3.7	1.6		6	20	33.6	29.7	1.00	2000	0	D
796	PURSUIT	4.1	1.6	M	3.4	1.3	M	7	16	38.1	33.9	1.00	1000	100	D
797	PUZZLE	5.5	1.5	F	5.5	1.7		6	10	45.2	35.8	0.48	2100	84	
798	QUARREL	5.6	1.4		4.5	1.5		7	20	41.3	35.3	1.00	1200	33	
799	QUARTER	5.6	1.8	+	5.9	1.5	+	7	34	40.1	32.6	0.79	1230	94	
800	QUESTION	3.8	2.2		4.9	1.9		8	257	43.9	34.0	1.00	1200	70	
801	QUICKLY	4.7	1.8		3.4	1.5		7	89	48.6	35.0	1.00	4000	0	D
802	QUIET	4.8	1.9		4.2	1.7		5	76	31.6	28.7	0.80	1342	26	
803	QUIVER	5.1	1.7	F	4.5	1.6	-	6	0	39.1	27.6	0.00	1200	3	
804	RABBIT	6.6	1.0		7.0	0.2		6	11	33.6	33.7	1.00	1200	100	W
805	RAILWAY	6.5	1.0	F	6.5	0.8		7	12	38.3	37.3	1.00	1000	100	D
806	RAPID	4.5	1.7		3.6	1.7		5	43	28.1	27.1	0.91	3100	.	
807	RARELY	2.4	1.4		2.8	1.4		6	41	31.8	25.5	0.57	4000	0	D
808	RATTLE	5.6	1.7	+F	5.5	1.5	F	6	5	28.8	31.0	0.03	2100	32	
809	READING	5.2	1.8		4.8	1.4	F	7	140	35.6	29.1	0.57	1000	100	D
810	READY	2.8	1.7		3.0	1.4		5	143	27.7	25.8	0.87	3210	.	
811	REALLY	1.7	1.5	M	2.1	1.4	-	6	275	32.4	24.6	0.99	4000	0	D
812	REASON	2.5	1.8	-M	2.3	1.6		6	241	28.8	26.6	0.70	1200	73	
813	RECALL	2.6	1.7	M	3.4	1.6	M	6	39	31.5	26.8	1.00	2100	7	
814	RECEIPT	4.9	1.9	M	6.0	1.2		7	4	34.7	38.1	1.00	1200	84	
815	RECENT	2.4	1.4		3.6	1.7		6	179	28.9	26.5	0.85	3000	0	D
816	RECKLESS	3.7	1.9	M	3.5	1.6	M	8	9	42.0	37.5	1.00	3000	0	D
817	RECKON	1.9	1.2		2.6	1.4	M	6	7	33.6	30.3	0.88	2000	0	D
818	RECORD	5.7	1.8	+M	6.2	1.3		6	137	31.1	26.5	0.99	2100	71	
819	REFER	2.0	1.5	-M	3.1	1.6		5	27	25.8	25.5	0.93	2000	0	D
820	REFLECT	4.1	1.7		3.0	1.6		7	25	35.4	35.4	1.00	2000	0	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
821	REFORM	2.6	1.6		3.2	1.7		6	30	32.1	30.5	1.00	2100	19	
822	REFUGE	3.7	1.8		4.2	1.9		6	7	33.0	30.4	0.29	1200	61	
823	REFUSE	3.7	1.8		3.3	1.4		6	16	31.3	29.2	0.67	2100	9	
824	REGARD	2.1	1.3		2.8	1.4		6	89	31.8	30.4	0.83	1200	26	
825	REGRET	2.5	1.7		3.1	1.4		6	9	29.9	30.1	1.00	2100	7	
826	REJOICE	4.3	1.8		3.4	1.6	F	7	1	38.7	38.4	1.00	2000	0	D
827	RELEASE	3.2	1.9	M	3.8	1.7		7	37	32.1	30.1	1.00	2100	10	
828	RELIEF	3.5	1.7		2.9	1.4		6	66	30.5	30.5	0.46	1000	100	D
829	REMAIN	3.1	1.4		3.5	1.6		6	93	30.2	26.6	0.89	2100	8	W
830	REMARK	2.6	1.5		4.1	1.7		6	31	34.0	29.1	1.00	2100	46	
831	REMIND	3.0	1.6		3.1	1.5		6	15	31.3	24.2	1.00	2000	0	D
832	REMOTE	4.2	2.2	M	3.2	1.4		6	32	29.1	27.9	0.36	3000	0	D
833	REMOVE	4.2	2.0	M	4.3	1.8		6	58	32.3	26.3	0.64	2100	.	
834	RENDER	2.0	1.4		2.6	1.5	M	6	11	29.2	24.1	0.15	2100	.	
835	RENEW	2.3	1.6	M	3.9	1.6	M	5	4	26.0	27.1	1.00	2000	0	D
836	REPAIR	3.5	1.7	M	5.2	1.5	F	6	20	30.7	31.6	0.87	2100	3	
837	REPEAT	3.4	2.0		4.4	1.5		6	26	29.4	28.4	0.72	2100	.	
838	REPLACE	3.2	1.8		3.9	1.7	F	7	30	35.8	31.8	1.00	2000	0	D
839	REPLY	2.7	1.5	M	4.2	1.6		5	42	29.5	23.6	0.86	2100	16	
840	REPORT	4.4	2.0		5.3	1.2		6	174	30.4	28.9	0.91	1200	48	
841	REQUEST	3.1	1.6		3.6	1.5		7	49	39.3	31.6	0.91	1200	7	
842	REQUIRE	2.2	1.2		2.9	1.6	M	7	86	39.8	31.8	1.00	2000	0	D
843	RESEARCH	4.0	1.9		4.7	1.5	F	8	171	38.0	36.6	1.00	1200	52	
844	RESERVE	2.7	1.8	-M	3.4	1.6		7	37	34.5	28.8	0.76	2100	13	
845	RESIGN	2.6	1.5		3.8	1.7		6	2	30.9	29.7	0.02	2000	0	D
846	RESIST	4.3	1.9	M	3.5	1.4		6	22	28.7	25.6	1.00	2100	.	
847	RESOLVE	2.1	1.4	M	3.0	1.6		7	13	35.8	32.2	0.93	2100	7	
848	RESORT	5.2	1.6		5.1	1.7		6	12	28.8	27.5	0.06	1200	71	
849	RESOURCE	2.8	1.7		4.5	1.6		8	9	39.1	34.5	1.00	1000	100	D
850	RESTLESS	4.6	1.7		3.3	1.3		8	13	37.0	35.0	1.00	3000	0	D
851	RETREAT	4.0	1.8	F	3.8	1.6		7	14	31.5	31.5	1.00	1200	23	
852	REVEAL	3.2	1.8	F	3.4	1.4		6	30	31.6	26.7	0.81	2100	.	
853	REVENGE	3.5	1.9		3.8	1.7	F	7	7	36.1	27.3	0.17	2100	48	
854	REVERSE	3.9	1.9	M	4.5	1.7		7	18	34.5	28.3	0.95	3210	23	
855	REVIEW	2.9	1.8		3.8	1.4		6	56	32.9	32.9	1.00	1200	16	
856	RIBBON	5.8	1.6	F	6.5	1.0		6	12	34.1	32.8	0.86	1200	96	W
857	RICHES	5.1	1.7		4.2	2.1	F	6	2	30.6	23.7	0.22	1000	100	D
858	RIDER	5.3	1.8		6.2	1.0		5	16	25.9	24.1	0.08	1000	100	D
859	RIFLE	6.0	1.4	+	6.7	1.1		5	63	27.2	26.6	1.00	2100	87	
860	RIVAL	3.9	1.6	F	4.2	1.7		5	12	29.1	25.6	1.00	1320	77	
861	RIVER	6.6	0.8		6.6	0.7		5	165	27.8	22.3	0.81	1000	100	D
862	ROBBER	5.8	1.6		6.0	1.2	+	6	2	33.5	32.0	0.07	1000	100	D
863	ROBIN	6.6	0.8		6.7	0.8		5	2	27.8	25.9	0.50	1000	100	
864	ROCKY	5.5	1.5	F	5.5	1.5		5	10	32.4	28.5	0.28	3000	0	D
865	RUBBER	5.8	1.6		6.4	1.0		6	15	35.0	33.1	0.43	1000	100	D
866	RUNNING	6.2	1.1		5.1	1.5		7	123	37.1	34.8	0.94	3400	0	D
867	RURAL	5.3	1.7		4.8	1.6	M	5	54	27.9	25.9	0.96	3000	0	D
868	SACRED	4.0	2.1	M	2.9	1.9	F	6	38	30.9	27.7	1.00	3000	0	D
869	SADDLE	6.1	1.3	+	6.5	0.9		6	25	31.3	34.1	0.96	1200	84	
870	SADLY	4.1	1.6	F	2.8	1.3		5	12	29.2	27.2	0.19	4000	0	D
871	SAFETY	3.0	1.9	M	3.7	1.6		6	47	32.0	34.0	0.78	1200	.	
872	SAILOR	6.3	1.2	F	6.6	0.9		6	5	30.3	29.9	0.71	1000	100	D
873	SALAD	6.3	1.3		6.5	0.8	-	5	9	26.9	23.8	1.00	1000	100	D
874	SALUTE	5.2	1.8		5.5	1.3		6	3	30.5	28.1	1.00	2100	13	
875	SANDWICH	6.7	0.8		6.7	0.7		8	10	42.1	38.2	1.00	1200	97	
876	SAVING	3.1	1.7		4.1	1.8		6	21	34.2	26.3	0.05	5000	0	D
877	SCARCELY	2.2	1.5		2.9	1.3		8	24	42.2	36.1	1.00	4000	0	D
878	SCATTER	4.3	1.8		3.7	1.7	M	7	2	33.4	32.5	0.40	2100	90	W
879	SCHOLAR	5.5	1.6		6.3	1.0		7	15	36.1	32.3	1.00	1000	100	D
880	SCIENCE	4.1	2.0	M	3.8	2.0		7	131	34.4	33.1	1.00	1000	100	D
881	SEASON	5.3	1.7		5.3	1.6		6	105	28.7	26.4	0.30	1200	97	
882	SECTION	2.8	1.8		4.6	1.8	F	7	189	33.6	29.4	0.99	1200	88	
883	SECURE	3.2	1.7		3.1	1.7		6	30	30.8	26.1	1.00	3200	0	D
884	SENATE	4.2	2.0	F	5.4	1.5		6	62	27.5	25.6	0.97	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
885	SENTENCE	4.8	2.1	+F	5.2	1.9	+F	8	34	36.2	31.8	1.00	1200	100	
886	SEPARATE	3.9	1.9	M	3.8	1.8	M	8	79	37.5	33.8	1.00	2300	0	D
887	SERIES	3.2	2.0		4.0	1.6		6	130	28.3	25.7	0.78	1000	100	D
888	SERVANT	5.2	1.6		6.0	1.3	F	7	19	35.4	30.8	1.00	1000	100	D
889	SERVICE	3.2	2.0		4.1	1.3	F	7	315	36.3	29.9	0.99	1320	65	
890	SETTLE	3.4	1.7		3.4	1.4		6	23	28.1	31.8	0.82	1200	.	
891	SEVERAL	3.7	1.7	F	4.2	1.4	M	7	377	35.8	28.6	1.00	3500	0	D
892	SEVERE	3.3	2.0		3.0	1.5		6	39	30.2	22.8	0.93	3000	0	D
893	SHAKEN	4.5	1.8	F	3.3	1.4		6	11	32.7	27.3	0.55	2000	0	D
894	SHALLOW	4.5	1.8		4.3	1.7	F	7	14	37.5	32.1	0.58	3210	.	
895	SHELTER	5.8	1.2	F	5.9	1.1		7	70	33.2	31.2	1.00	1200	74	
896	SHEPHERD	5.8	1.5		6.5	1.0		8	3	40.0	33.9	1.00	1200	97	
897	SHERIFF	6.3	1.2		6.8	0.7		7	20	36.7	29.9	1.00	1000	100	D
898	SHIPPING	3.8	1.9		4.5	1.7	M	8	19	43.7	36.1	0.27	1000	100	D
899	SHIVER	5.6	1.5	M	5.2	1.6		6	4	32.3	25.1	1.00	1200	3	
900	SHORTLY	2.2	1.4		3.0	1.5		7	34	36.8	32.8	1.00	4000	0	D
901	SHOWER	6.2	1.2		5.6	1.3	+M	6	15	31.4	27.5	0.09	1200	70	
902	SICKNESS	4.7	2.0	M	4.7	1.6		8	6	41.9	35.5	1.00	1000	100	D
903	SIGNAL	5.7	1.9	+F	6.9	0.4		6	63	32.1	31.4	1.00	1230	39	
904	SILENCE	4.6	1.8		3.5	1.6		7	52	34.0	29.5	1.00	1200	73	
905	SILVER	4.0	1.9		4.0	1.7		6	29	32.6	27.9	1.00	1320	71	
906	SIMPLE	3.9	1.9		3.7	1.9		6	161	32.9	26.5	0.41	3100	.	
907	SINCERE	2.9	1.9		3.0	1.5		7	15	33.4	26.1	1.00	3000	0	D
908	SINGER	4.2	1.9		3.3	1.4		6	10	30.9	23.4	0.15	1000	100	D
909	SINGLE	6.4	1.3		6.5	0.9		6	172	31.5	25.0	0.96	3120	73	
910	SISTER	1.6	1.3		2.5	1.5	M	6	38	28.7	24.8	0.51	1000	100	D
911	SLEEPING	6.4	0.9		6.2	1.0		8	39	40.7	38.9	0.75	2000	0	D
912	SLENDER	4.4	1.8		4.9	1.8		7	19	34.0	30.3	1.00	3000	0	D
913	SLIPPER	4.8	1.7		5.3	1.6		7	3	37.4	35.2	0.07	3100	.	
914	SLOWLY	5.0	2.1	+	3.9	2.1		6	115	35.2	33.4	1.00	4000	0	D
915	SLUMBER	6.5	1.1		5.9	1.4		7	3	39.0	35.4	0.43	2100	36	
916	SOBER	2.6	1.9	-	2.7	1.4		5	19	27.1	24.4	0.95	3200	0	D
917	SOCIAL	4.1	1.8		3.3	1.5	F	6	380	31.3	31.8	1.00	3100	.	
918	SOFTLY	6.1	1.2		6.4	1.0		6	31	33.7	29.8	1.00	4000	0	D
919	SOLDIER	4.4	2.3	-F	4.6	2.0	F	7	39	34.7	33.1	1.00	1200	100	
920	SOMETIME	6.0	1.7	+	6.6	0.9		8	11	38.6	33.8	1.00	4300	0	D
921	SORROW	4.8	1.7		3.6	1.5		6	9	31.9	31.4	0.45	1200	96	W
922	SOUTHERN	3.9	1.9		4.0	1.8	M	8	137	38.6	30.5	1.00	3000	0	D
923	SPARKLE	5.8	1.3		4.6	1.7		7	4	39.1	34.6	1.00	2100	26	
924	SPARROW	5.9	1.6	+F	6.8	0.8	-	7	0	37.6	35.9	.	1000	100	D
925	SPEAKER	4.9	1.7	M	6.1	1.1		7	49	37.5	32.2	0.96	1000	100	D
926	SPIDER	6.8	0.4		7.0	0.1		6	2	31.7	29.0	1.00	1000	100	D
927	SPIRIT	4.0	2.0		2.3	1.8	-	6	182	31.2	29.9	1.00	1200	89	W
928	SPLENDID	3.0	2.1	-	3.0	1.6	M	8	20	41.3	33.2	1.00	3000	0	D
929	SPRINKLE	5.3	1.7		4.6	1.4		8	7	43.3	37.4	1.00	2100	3	
930	SQUIRREL	6.3	1.4		6.9	0.6		8	1	45.6	41.8	1.00	1200	97	
931	STABLE	5.2	1.9		4.8	2.0		6	30	31.3	26.5	0.94	1230	.	
932	STAGGER	4.9	1.7		4.0	1.7		7	2	36.4	33.8	0.67	2130	.	
933	STANDARD	2.1	1.4	M	3.0	1.6		8	110	39.1	33.4	0.99	1300	84	W
934	STANDING	5.2	1.7	F	4.8	1.8	M	8	101	40.0	29.1	1.00	3100	.	
935	STANZA	3.6	2.3		5.4	1.5		6	0	35.2	33.9	.	1000	100	D
936	STATION	5.7	1.5		6.0	1.4		7	105	32.7	27.9	1.00	1200	100	
937	STATUS	3.1	2.0	M	3.1	1.8		6	97	30.3	26.3	0.13	1000	100	D
938	STEAMER	5.0	2.1	+	6.4	0.9		7	1	33.3	29.5	0.14	1000	100	D
939	STOCKING	5.9	1.5	F	6.5	1.3		8	1	43.9	33.1	0.07	1000	100	D
940	STOLEN	3.7	1.8		4.1	1.8		6	18	29.2	25.5	1.00	3000	0	D
941	STOMACH	5.8	1.5	+	6.6	0.7		7	37	36.2	29.9	0.97	1200	97	
942	STORMY	6.2	1.1	F	4.6	1.4		6	8	32.9	27.7	0.57	3000	0	D
943	STORY	5.1	1.7	F	5.4	1.4		5	153	27.4	21.1	0.59	1200	86	W
944	STRIKING	4.5	1.8		4.0	1.6		8	39	43.0	34.8	0.85	3000	0	D
945	STRONGLY	3.1	1.9	-	3.1	1.6		8	37	42.3	32.5	1.00	4000	0	D
946	STRUGGLE	4.9	1.7		3.2	1.4		8	62	42.9	40.7	0.97	2100	12	
947	STUDENT	6.4	1.0		6.0	1.4	F	7	131	34.5	31.7	1.00	1000	100	D
948	STUDY	4.9	1.6		4.2	1.8		5	246	29.6	27.0	0.99	1200	16	

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
949	STUMBLE	5.3	1.7		4.9	1.5		7	1	38.5	31.9	0.33	2000	0	D
950	STUPID	4.8	1.6		3.5	1.7	F	6	24	33.3	29.5	1.00	3100	.	
951	SUBJECT	2.8	1.9	-	4.4	1.8		7	161	42.8	35.9	1.00	1320	88	
952	SUBMIT	2.9	1.8		3.4	1.4	M	6	18	34.3	33.8	0.60	4000	0	D
953	SUCCESS	4.3	1.9	M	3.7	1.9		7	93	36.9	33.3	1.00	1000	100	D
954	SUDDEN	3.6	1.8	-	3.1	1.6		6	38	32.0	31.3	0.95	3100	18	W
955	SUFFER	4.4	2.0		3.1	1.7		6	33	33.7	32.0	0.66	2000	0	D
956	SUGAR	6.4	1.2		6.7	0.6		5	34	28.9	25.4	1.00	1200	100	W
957	SUGGEST	2.8	1.7		3.2	1.5	M	7	54	37.9	33.8	1.00	2000	0	D
958	SULPHUR	4.1	2.3	M	6.5	1.1		7	3	39.8	38.8	1.00	1200	.	
959	SUMMER	6.1	1.4	+	5.9	1.1		6	134	33.4	28.3	0.89	1200	100	W
960	SUMMON	3.0	1.7	F	4.0	1.6		6	3	33.9	28.6	1.00	2000	0	D
961	SUNSET	6.7	0.6		6.0	1.4		6	14	30.0	29.2	1.00	1000	100	D
962	SUPPER	6.2	1.2		6.3	1.2		6	37	34.0	27.8	1.00	1000	100	D
963	SUPPLY	3.5	1.7		4.1	1.7	M	6	102	37.5	27.3	0.97	2100	23	
964	SUPPORT	3.8	1.5		3.3	1.5		7	180	38.4	32.7	1.00	2100	23	
965	SUPPOSE	1.9	1.3		2.6	1.5		7	97	37.9	32.9	1.00	2000	0	D
966	SUPREME	3.1	2.0		2.4	1.6		7	51	37.0	29.5	1.00	3000	0	D
967	SURELY	1.7	1.0		2.4	1.4		6	47	33.3	24.9	0.59	4000	0	D
968	SURFACE	4.7	2.0		5.4	1.3		7	200	37.1	34.8	1.00	1200	91	
969	SURROUND	3.9	1.9	M	3.9	1.7		8	5	41.8	33.7	1.00	2100	12	
970	SURVEY	3.8	2.1		4.5	1.7	F	6	37	35.3	28.6	1.00	2100	55	
971	SURVIVE	4.1	1.9		4.0	1.7		7	33	40.1	30.6	1.00	2000	0	D
972	SUSPECT	3.3	1.9	M	3.8	1.8	M	7	30	37.0	32.8	1.00	3120	45	
973	SUSTAIN	2.1	1.6	-	2.8	1.5		7	14	34.7	30.3	1.00	2000	0	D
974	SWALLOW	5.4	1.6	M	5.6	1.5		7	10	39.1	35.2	0.42	1200	23	
975	SWIFTLY	3.9	1.6	M	4.0	1.6		7	15	39.8	38.6	1.00	4000	0	D
976	SYSTEM	2.8	1.7	M	4.0	1.6	F	6	416	32.1	32.6	1.00	1000	100	D
977	TABLE	6.3	1.4		6.8	0.5		5	198	27.1	22.4	0.93	1200	97	
978	TAKEN	2.5	1.4		3.5	1.5		5	281	27.7	23.1	0.73	3000	0	D
979	TALENT	4.2	1.8		3.7	1.5	F	6	40	28.6	24.4	1.00	1000	100	D
980	TEACHER	6.2	1.2		6.4	1.1		7	80	33.3	26.5	0.88	1000	100	D
981	TEMPER	4.7	1.4		3.8	1.6		6	12	31.0	25.5	0.80	2100	74	
982	TEMPLE	6.0	1.3	F	5.9	1.4	+	6	38	31.6	25.3	1.00	1000	100	D
983	THEATER	6.4	1.1		6.5	1.1		7	52	31.7	23.7	1.00	1000	100	D
984	THEORY	2.5	1.5		3.0	1.9	-	6	129	31.0	24.2	1.00	1000	100	D
985	THEREBY	1.2	0.6		1.9	1.2		7	33	36.6	26.4	0.63	4000	0	D
986	THINKING	4.2	2.0		2.8	1.9	-	8	145	43.2	28.9	0.97	3000	0	D
987	THUNDER	5.8	1.8	+	5.6	1.8	+	7	14	35.4	27.1	1.00	1200	72	W
988	TICKET	6.0	1.5	F	6.6	0.7		6	16	32.7	26.0	0.55	1200	100	
989	TIGER	6.6	0.8		7.0	0.2		5	7	26.3	21.5	0.47	1000	100	D
990	TIMBER	5.8	1.6		6.5	0.9		6	19	32.2	25.3	0.90	1200	.	
991	TINY	5.2	1.7	M	4.1	1.8	F	4	50	23.0	17.2	0.79	3000	0	D
992	TODAY	3.9	2.0		5.2	2.0	+	5	284	27.8	25.0	1.00	3100	15	W
993	TORTURE	4.6	2.0	M	4.6	1.7		7	3	33.8	28.0	1.00	1200	32	
994	TOTAL	3.7	2.0		4.4	1.7	M	5	211	25.2	23.4	0.96	3142	71	
995	TRAFFIC	6.1	1.3		5.8	1.5		7	68	37.6	37.0	1.00	1200	.	
996	TRAINING	3.5	2.0	M	4.1	1.5		8	156	39.2	31.9	0.93	1000	100	D
997	TRAITOR	4.2	1.9	F	4.8	1.7	F	7	2	33.0	30.3	0.08	1000	100	D
998	TRANSFER	3.3	1.9		4.0	1.7		8	38	38.5	38.3	1.00	2100	23	
999	TRAVEL	5.7	1.4		5.0	1.4		6	61	32.0	27.3	0.86	2100	23	
1000	TREASURE	5.9	1.4		5.1	1.5	F	8	4	37.5	31.3	0.09	1200	74	
1001	TRIBUTE	2.9	1.5		3.8	1.4		7	24	35.9	31.3	0.65	1000	100	D
1002	TRIFLE	3.0	2.1	-F	3.5	1.9		6	9	30.9	28.9	0.64	1200	45	
1003	TRIUMPH	4.8	2.0		3.6	1.7		7	22	38.5	39.9	1.00	1200	52	
1004	TROUBLE	3.5	1.9	M	3.0	1.5		7	134	37.0	29.3	0.99	2100	50	
1005	TRULY	2.4	1.7	-	1.8	1.0		5	57	29.6	23.3	1.00	4000	0	D
1006	TUMBLE	5.2	1.4		4.5	1.5		6	3	34.3	27.8	0.10	2100	.	
1007	TUNNEL	6.3	1.1		6.4	1.1		6	10	30.6	31.5	0.91	1200	90	
1008	TURKEY	6.6	1.2		6.8	0.5		6	9	35.6	28.5	1.00	1000	100	D
1009	TWILIGHT	5.3	1.6	F	4.8	1.7		8	4	42.0	38.5	1.00	1000	100	D
1010	TWINKLE	5.3	1.5		3.8	1.6		7	3	38.8	34.4	1.00	2100	.	
1011	UGLY	5.6	1.6		3.0	1.9	-	4	21	27.6	22.8	1.00	3000	0	D
1012	UNCLE	5.9	1.5	F	6.3	1.1	F	5	57	28.0	25.4	1.00	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Letters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
1013	UNDER	4.4	2.1	+	4.1	1.8		5	707	27.2	22.7	1.00	4530	0	D
1014	UNION	3.5	2.2	M	4.0	1.7		5	182	26.7	24.7	0.92	1300	98	W
1015	UNIT	3.0	2.0		4.6	1.8	F	4	103	22.4	21.9	0.91	1000	100	D
1016	UNITE	4.2	1.8	M	3.7	1.6		5	10	25.6	24.6	0.06	2100	.	
1017	UNKNOWN	2.0	1.7	-M	2.9	2.0	-	7	47	40.5	38.9	1.00	3100	.	
1018	UNLIKE	2.0	1.1		3.4	1.6	M	6	42	34.5	32.7	1.00	5300	0	D
1019	UNTIL	1.7	1.2		2.4	1.3		5	461	27.3	25.2	1.00	5000	0	D
1020	UNTO	1.4	1.0		2.3	1.4	M	4	16	22.3	21.6	0.01	5000	0	D
1021	UPON	2.4	1.9	-	2.7	1.8		4	495	24.5	20.9	1.00	5400	0	D
1022	UPPER	3.3	1.9	-F	4.1	1.9		5	72	29.8	25.5	0.97	3100	.	
1023	UPRIGHT	3.9	1.7		4.1	1.9		7	14	38.9	35.8	1.00	3100	.	
1024	UPSET	3.7	1.7		3.2	1.7		5	14	27.6	29.9	1.00	2100	13	
1025	UPWARD	4.0	1.9		4.0	1.8		6	27	35.6	36.6	1.00	4300	0	D
1026	USEFUL	2.9	1.5		3.0	1.2		6	58	34.1	32.6	1.00	3000	0	D
1027	UTMOST	1.6	1.3		2.4	1.5		6	7	31.7	33.8	1.00	3000	0	D
1028	VALLEY	6.3	0.9		6.5	1.0		6	73	35.0	29.2	0.87	1000	100	D
1029	VALUE	2.3	1.4		2.4	1.2		5	200	29.5	27.9	0.87	1200	74	
1030	VANISH	3.7	1.9	M	3.5	1.8		6	5	32.7	31.1	0.29	2000	0	D
1031	VAPOR	5.0	2.0	+	4.6	2.0	M	5	12	30.0	27.1	0.92	1200	.	
1032	VELVET	6.2	1.1	F	6.3	1.1		6	4	34.0	30.7	1.00	1300	.	
1033	VENTURE	3.4	1.7	M	3.6	1.1		7	19	36.1	29.0	0.90	2100	19	
1034	VESSEL	5.3	1.7	M	6.1	1.3		6	16	31.8	29.1	1.00	1000	100	D
1035	VICTIM	5.5	1.8	+	5.4	1.7		6	27	34.5	30.1	1.00	1000	100	D
1036	VILLAGE	6.3	1.0		6.2	1.0		7	72	38.9	32.7	0.96	1000	100	D
1037	VIRTUE	3.1	1.9	F	2.1	1.2		6	30	32.7	33.2	1.00	1000	100	D
1038	VISIT	3.4	1.9		4.4	1.9		5	109	27.9	24.3	1.00	2100	16	
1039	VITAL	3.5	1.8		3.2	1.5		5	56	28.5	25.4	0.98	3000	0	D
1040	VOYAGE	5.1	1.5	F	5.2	1.3		6	17	35.3	38.7	1.00	1200	55	
1041	WAGON	6.2	1.2		6.7	0.8		5	55	29.1	23.1	1.00	1200	.	
1042	WANDER	4.1	1.8		3.5	1.7		6	8	31.7	22.1	0.10	2000	0	D
1043	WANTING	3.1	1.9	M	2.8	1.7		7	16	36.9	24.5	0.11	3500	0	D
1044	WATER	6.5	1.3		6.6	0.7		5	442	26.3	20.3	0.52	1200	97	
1045	WEAKNESS	3.1	1.6	M	3.4	1.8		8	46	41.7	36.9	1.00	1000	100	D
1046	WEALTHY	5.2	1.7		3.8	1.6		7	12	37.6	31.9	0.27	3000	0	D
1047	WEAPON	6.0	1.1		6.2	1.1		6	42	32.3	26.8	1.00	1200	100	W
1048	WEARY	4.4	1.7		3.4	1.4		5	17	28.8	22.4	0.71	3200	0	D
1049	WEDDING	6.5	1.0		5.8	1.4	+	7	32	38.5	29.8	0.84	1000	100	D
1050	WELCOME	4.2	1.9	M	3.4	1.6	F	7	50	37.3	33.5	1.00	2310	23	
1051	WELFARE	3.2	1.7		4.0	1.4		7	53	36.4	31.6	1.00	1300	.	
1052	WESTERN	4.8	1.8	M	4.0	1.7		7	137	33.9	29.5	1.00	3100	.	
1053	WHISPER	5.6	1.6	+	4.7	1.6		7	12	37.3	28.4	0.92	2100	16	
1054	WHISTLE	6.2	1.0	F	6.4	0.9		7	4	35.7	29.0	1.00	1200	29	
1055	WICKED	4.0	1.8		3.3	1.5		6	9	36.3	23.8	0.07	3000	0	D
1056	WIDOW	5.4	1.6		6.3	1.1		5	26	30.2	26.7	1.00	1200	100	W
1057	WILLING	3.2	1.7	-	2.9	1.4		7	69	39.0	26.3	0.45	3000	0	D
1058	WILLOW	6.1	1.2		5.9	1.6	+	6	9	35.0	28.4	0.50	1200	81	
1059	WINDOW	6.6	1.1		6.6	0.8		6	119	34.3	26.6	0.99	1000	100	D
1060	WINTER	6.6	1.0		6.1	1.2		6	83	30.5	22.8	0.85	1230	97	
1061	WISDOM	4.2	2.1	F	3.2	1.8	F	6	44	33.9	33.9	1.00	1000	100	D
1062	WITHIN	2.7	2.0	-M	2.9	1.8	M	6	359	31.5	20.8	1.00	4513	.	
1063	WITHOUT	2.6	1.8	M	2.7	1.7		7	583	36.6	26.3	1.00	5310	.	
1064	WITNESS	4.4	1.8		5.1	1.8	+	7	28	34.6	35.5	0.76	1200	70	
1065	WOMEN	6.6	0.9		6.5	0.9		5	195	28.0	21.4	0.46	1300	100	W
1066	WONDER	3.2	1.9		2.3	1.1		6	67	31.7	23.1	0.83	1320	10	
1067	WOODEN	5.6	1.6		6.3	1.0		6	50	31.4	28.9	0.83	3000	0	D
1068	WORKER	5.4	1.8	+	6.2	1.0		6	30	34.6	26.0	0.18	1000	100	D
1069	WORKING	5.3	1.6	M	4.6	1.6		7	151	41.2	28.8	0.97	3100	21	W
1070	WORRY	4.8	1.7		2.9	1.4		5	55	29.8	24.4	0.52	2100	9	
1071	WORSHIP	4.7	1.6		2.8	1.6	F	7	36	38.0	35.4	1.00	1200	56	W
1072	WORTHY	2.8	1.5		2.5	1.4		6	28	33.8	26.6	1.00	3000	0	D
1073	WRETCHED	3.3	1.9		3.0	1.7		8	7	40.4	36.7	0.78	3000	0	D
1074	WRINKLE	6.0	1.3		5.2	1.4		7	2	39.3	35.6	1.00	1200	.	
1075	WRITER	4.8	1.9	+F	6.2	1.1		6	73	30.7	27.8	0.59	1000	100	D
1076	WRITING	5.5	1.6		5.3	1.2	F	7	117	37.3	29.2	0.51	1000	100	D

Item No.	Word	Imagery Mean	Imagery SD		Concreteness Mean	Concreteness SD		Let-ters	K-F Freq	FOA	SOA	ONR	Dict Code	% Noun	
1077	YELLOW	6.4	1.1		5.3	2.0	+	6	55	34.3	33.6	0.45	3210	61	
1078	YONDER	3.4	1.9	F	2.6	1.5		6	1	31.8	26.8	0.01	4350	0	D
1079	YOURSELF	4.8	2.2	+	5.1	2.1	+F	8	67	43.0	39.8	1.00	5000	0	D
1080	YOUTHFUL	5.2	1.7	+M	3.8	1.8		8	12	45.0	44.2	0.80	3000	0	D
	Canadian & British Spellings														
62	ARMOUR	5.5	1.8		5.6	1.8	M	6	2	32.6	26.1	1.00	1000	100	D
172	CENTRE	4.6	1.9		4.4	1.6		6	2	28.9	24.6	0.50	1200	94	
200	COLOUR	5.2	1.9	F	5.5	1.5		6	.	32.9	26.2	.	1200	94	
399	FAVOUR	2.7	1.7		3.2	1.6		6	2	35.3	29.6	1.00	1200	39	
412	FLAVOUR	3.5	2.1		4.6	1.9		7	.	40.2	34.4	.	1200	94	
466	HARBOUR	6.2	1.4		6.4	1.2		7	.	37.8	32.7	0.00	1200	74	
488	HONOUR	3.3	2.0		2.7	1.6		6	2	31.4	25.9	1.00	1200	42	
553	LABOUR	4.6	1.9		4.6	1.5		6	4	33.9	28.5	1.00	1230	42	
595	LUSTRE	3.7	2.0		3.4	1.6		6	2	30.9	27.6	1.00	1200	.	
689	ODOUR	5.1	1.8	F	5.0	1.7		5	.	27.8	25.1	.	1000	100	D
717	PARLOUR	5.5	1.6		6.0	1.3		7	.	37.8	32.0	.	1000	100	D
983	THEATRE	6.4	1.1		6.5	1.1		7	29	31.7	23.7	1.00	1000	100	D
1031	VAPOUR	5.0	2.0	+	4.6	2.0	M	6	.	35.5	30.3	.	1200	.	

Note–Imagery and concreteness: "+" or "–" indicates skewed distributions of ratings; "M" or "F" indicates sex difference in mean ratings (see text). FOA and SOA: All values are negative, so the minus sign has been deleted. % noun: "D" = determined from dictionary code; "W" = from West (1953).

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