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The Standardization of the Loyola Language Study on Children in the Third Through Eighth Grades in the Chicago Metropolitan Area

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THE STANDARDIZATION OF THE LOYOLA LANGUAGE STUDY

ON CHILDREN IN THE THIRD THROUGH EIGHTH GRADES

IN THE CHICAGO METROPOLITAN AREA

by

Donald J. Rumann

A Dissertation Submitted to the Faculty of the Graduate School

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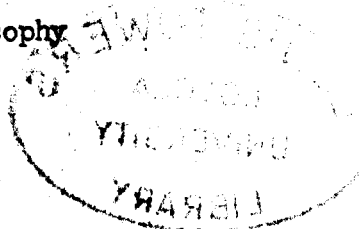
LIFE

The author, Donald J. Rumann, was born in Chicago, Illinois on May 5, 1930. He graduated from Holy Ghost High School, East Troy, Wisconsin, in June, 1948. After receiving his Bachelor of Arts degree at St. Procopius College, Lisle, Illinois in June, 1954, he served with the United States Marine Corps for three years. He worked at the Loyola Center for Guidance and Psychological Service while attending Loyola University. After obtaining his Master's degree from Loyola University in 1960, the author has worked as a school psychologist. In August, 1964 the author completed his internship in child clinical psychology at Presbyterian-Saint Luke's Hospital, Chicago, Illinois. The author is presently on active duty with the United States Navy as a clinical psychologist.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

One of the major differences between man and animal is man's ability to communicate with others by means of commonly accepted and understood verbal symbols. The value and importance of this ability has been recognized by all. It is one of the important underlying foundations for man's progress and advancement. This concept or idea that man can communicate with others in mutually understood or common terms is the basis for the techniques generally used in psychotherapy. Although the act of verbalizing, according to Wolberg (1954) has value for the emotionally ill person, irrespective of any advice or help he might receive, the measure of progress for the patient and the value of the therapist is for him to reach a level of communication which is understood by all or in other words, reality oriented.

For years both psychiatrists and psychologists have worked with association techniques as means of evaluating problem areas or complexes within individuals (Landis and Bolles, 1956). People have been presented with words in either written or verbal form and directed to give the first response that comes to their minds. This method, commonly called the free association technique, has generally been studied and evaluated in terms of the individual's reaction time, physical response, and spoken or written response. This last point, the person's verbal response, is in this author's opinion, the most important. The ability of the individual to respond with a generally accepted association or response gives the best measure of the person's ego

strength. Bizarre, idiosyncratic, and highly personal responses as well as failure to respond indicate an inability to respond to verbal cues in the normal way. The farther away from the normal or typical response a response is, the more isolated or unique the person is. Therefore, while the free association technique serves a valid and useful role, it seems that a test specifically designed and standardized for revealing a person's ability to respond with what most people think, is a more efficient and important diagnostic tool. One such controlled association test is the Loyola Language Study, a modified form of the Kent-Rosanoff Association Test. The rationale of this particular test is that normals will yield responses more in common with each other than the mentally ill (Snider, 1954). By means of standardized norms it judges a person's control over his thinking and his awareness of what others think and feel.

The original work of Johnson and Snider on the Loyola Language Study has been the object of numerous other experiments and studies. But like a good part of psychology, most work has been with adults. Aside from this writer's earlier work (Rumann, 1960), no one has attempted to study the results or responses of children. The major objective of this dissertation, then, is to present norms for this test on an elementary school age population from third through eighth grade. Incidentally, but not unintentionally, it is also aimed at presenting a basis for future evaluations and studies of the possible developmental associations from school age through adulthood on this particular test instrument. From the information and data presented here it is hoped that further investigations can and will be undertaken by still others.

CHAPTER II

REVIEW OF RELATED LITERATURE

The use of free association tests has had a long and varied career. The free association technique has been used by and connected with many of the pioneers of both psychiatry and psychology. It antedated the present flood of projective tests by more than half a century. It was first systematically described by Galton (1879). Wundt subsequently introduced it into the psychological laboratory, where it was adapted to many uses.

The clinical use of word association tests was stimulated largely by the psychoanalytic movement, although other psychiatrists, such as Kraepelin had previously investigated such techniques. The first to formalize its use as a test procedure was Carl Jung. Jung selected one hundred stimulus words to represent common "emotional complexes." The responses were analyzed with reference to reaction time and content, the latter being grouped according to the general character of the association, such as contrast, supraordinate, sound association, and the like. Overt expressions of emotional tension were also noted. The test was administered twice, one right after the other. The individual was instructed to try to recall the original responses. Changes in response words and other features of the person's retest behavior were considered to be diagnostically important. Jung felt that his association method distinguished emotional processes and not just certain

intellectual types (Jung, 1910).

Although Jung reportedly states that it is sometimes possible to read the most intimate complexes from the results of the experiment without any previous knowledge of the subject, he did little to quantify the scoring of his test, and so prevented others from understanding how he arrived at his conclusions or how they might duplicate or attain his results.

One other conspicuous role played by Jung and his writings of the free association technique was his early attempt to identify three clinically observable types of abnormal behavior on the basis of test protocols. He listed: 1) an objective type with undisturbed reaction, 2) a complex type with many disturbances in the experiment occasioned by the constellation of a complex, and 3) a definition type whose reaction always gives rise to an explanation of the content of the stimulus word. This last group was broken down still further into what appeared to be 1) a definition type in which the intellectual significance of the stimulus word was rendered prominent, and 2) a predictive type in which the emotional significance of the word to the subject was the main theme.

A different and more objective word association test was developed at about the same time Jung first published his experiences with, and thoughts on, the free association test. Designed principally as a psychiatric screening instrument, the Kent-Rosanoff Free Association Test (1910) utilized completely objective scoring and statistical norms. The stimulus words consisted of one hundred common, neutral words chosen because they tend to evoke similar associations from people in general. A set of frequency tables

was prepared, one for each stimulus word, showing the number of times each response was given in a standardization sample of one thousand normal adults.

In scoring the test, the median frequency value of the responses which the subject gave to the stimulus words was used as an "index of commonality." Any responses not found in the normative tables were designated as idiosyncratic. Comparisons of two hundred forty-seven psychotic adults with the one thousand normals suggested that the psychotics give more idiosyncratic responses and obtain a lower index of communality than the normals. The test fell into disuse with the realization that the frequency of different responses was influenced and altered by many other factors. As originally conceived and carried out, the task of developing new and more adequate norms was impossible, unless the test was standardized and used within a narrowly delimited population.

In 1914, Samuel Kohs (1914) published his findings and conclusions on free association techniques as a means of understanding mental processes. He delineated and defined many of the factors, previously unaccounted for by Kent and Rosanoff in their list and work, which can and do influence associations, such as age, sex, intelligence, emotion, attention, practise, and the like. In a further attempt to clarify his data, Kohs went on to classify the results into qualitative, quantitative, and physiological reactions. There were thirty qualitative factors listed and studied, among them were such things as the content of the response itself, the manner in which given, perseveration, symbolism, and so on. The quantitative factor was the reaction time; i. e., the time interval between the giving of the stimulus word and the pronouncing of the response. The physiological reactions were those detected

and noticed either by the examiner visually or through the use of special

measuring instruments.

An early, if not the first large scale standardization of a word asso-

ciation test on children was attempted by Woodrow and Lowell (1916) when they

attempted to construct frequency tables for one hundred stimulus words using

one thousand Minneapolis school children aged nine to twelve years, as their

subjects. They found that the children's responses differed significantly

from adults with respect to frequency of various associations in quality,

form and quantity. Table 1 taken from Woodworth (1938) exemplifies some of

the differences which existed between Woodrow and Lowell's data on children

and those on adults. Woodrow and Lowell conceptualized these differences in

TABLE I

A COMPARISON OF CHILDREN AND OF ADULTS
ON A WORD ASSOCIATION TEST

Stimulus	Response	1000 Children	1000 Men
table	eat	358	63
table	chair	4	274
man	work	8	17
man	woman	138	561
soldier	sailor	0	102
soft	pillow	138	42
soft	hard	27	548

terms that are primarily semantic. Children supposedly give more contiguity

responses and more whole-part responses while adults give more coordinate, contrast, and similarity responses. They also felt that children's responses in associations are often phrase completions, i. e., words which frequently follow the stimulus. The associative responses of adults belong to the same part of speech as the stimulus word more often than those of children.

Jung's earlier work was a source of further research and study for Hull and Lugoff (1921). In an effort to obtain more objective proof for or a-gainst Jung's method of complex indicators, these authors studied the free associations of fifty men and fifty women from various middle and upper class socio-economic groups of Chicago, Duluth, and Madison, using a slight modifi-cation of the Jung list. They devised a statistical formula (similar to Pearson's product moment coefficient of correlation) to get the coefficients of association. They found that the following four indicators of Jung were actually and significantly associated with complexes. These were 1) reaction time, 2) repetition, 3) assimilation, and 4) defective reproduction.

Elonen and Woodrow (1928) continuing Woodrow's earlier interest and findings in the free associations of children administered a word association test consisting of ninety words from the Kent-Rosanoff test and ten words from the Woodrow-Lowell list to one hundred sixty-two children in the sixth grade. The scores, obtained from using the Woodrow and Lowell frequency tables, were correlated with a combined teacher-principal rating of normality of behavior for each child. The authors obtained a R = .57 for pathological responses and teacher-principal ratings. Independent scoring of pathological responses resulted in an R = .94, which led the authors to feel that the list

and scores were reasonably good at picking out pathology.

In an effort to study the effect of environment on the responses of pre-school children to a free association test, Sundberg (1931) took thirty boys and thirty girls between the ages of two and one half and five years and divided them into two groups matched on the terms of sex, age, IQ and occupational status of their parents. The children were tested under two conditions, one in a room with toys, the other in a room without toys. An ABBA method of testing was used to control any practise effects. As the author felt, the room with toys gave associations with higher agreement and consistency than the one without toys. It was also found that the correlation increased with age. From this data it would appear that for young children the environment plays an important role in determining what they think and ultimately do.

Another early study on free association tests was that done by McGehee (1938) on elementary school children between the ages of seven and ten years. Using fifty subjects of each sex at the various age levels, he administered a free association test. The results were evaluated and studied in terms of the preferred response, i. e., a response which occurred more than six times to any single stimulus word at any age level. These preferred responses were analyzed in terms of 1) community of ideas as indicated by preferred responses; 2) percentage of normal responses; 3) occurrence of phrase and clause responses; 4) failure to respond; 5) percentage of individual responses. The test data indicated that boys give a higher percent of preferred responses than girls. When sex differences were disregarded, there was an increase with age in the number of preferred responses. Finally, boys tended

to give more multiple responses.

The free association technique as an important and useful clinical diag-
nostic tool was given a big boost by the work of Rapaport, Gill and Schafer
(1946) at the Menninger Clinic. They developed a list of sixty words selec-
ted for their psychoanalytic significance. With this list the authors at-
tempted to aid in detecting impairment of thought processes and to suggest
areas of significant internal conflicts.

Norms based on the responses obtained from a sample of one hundred
fifty-one subjects, including psychotics, neurotics, and normals, were worked
out and the most popular responses to each stimulus word listed. The test
was scored with reference to reaction time, changes in response during the
reproduction time, and popularity of responses. The responses were also
examined with regard to a detailed list of associative disturbances, such as
failure to respond, giving multiple word definitions, self-references, neo-
logisms and others. From their analysis of the data they concluded that the
number of popular responses tends to decrease as the severity of the illness
increases. Increased reaction time, associative disturbances, and impaired
reproductions increased the more ill the subject was. Unfortunately the
small sample used in establishing their norms made their conclusions at best
only tentative.

In spite of the numerous problems encountered in developing satisfactory
norms for association tests, Goodenough (1942) felt that some form of free
association offered one of the most promising approaches yet available for
the study of personality. Dorken (1956) used a subtest of the Verdum Projec-
tive Battery, the Conformity Index, on two hundred ninety subjects ranging

in age from ten years to seventy-nine years to study the frequency of common associations. A distinct rise and decline of common association was found to exist with the age, but not the sex of the subjects. A comparison of his data with that of earlier investigators impressed Dorken with the progressive increase in the percentage of common responses from 1910 through 1956. He attributed the increase to the more rapid psycho-social development and to the increase in group communications found today.

Opitz and Horn (1956) reported in a German journal devoted to Child Psychology and Psychiatry on the modification of a word association test for children. The test, first published by Wilde in 1950, was designed to give a picture of the personality dynamics, wishes, tensions, and the direction in which the child was headed. Standardization data was based on a sample of four hundred fifty children and adolescents tested over a thirty-five year period.

While interest in and research on word association tests have existed since they were first used by Galton, this present decade appears to have seen the birth of an intensive effort in this area, perhaps motivated by a desire to prove or disprove once and for all that they are valid and play an important role in psychology. Some of the most outstanding researchers in this area are Jenkins and Palermo.

Jenkins (1959) studied the effect of the instruction to give "popular" responses on the word association test. Two groups of college students who served as subjects were given the Kent-Rosanoff Test under standard and "popular response set (try to make the response most college students would

make)" conditions. Test periods were separated by one month for one group and five minutes for the other. All tests were scored by giving one point for each response shown as the most common in the Minnesota norms. The test results indicated that the "popular set" markedly increases the number of top frequency responses. Intercorrelations of the test conditions (r. = .67) suggest status on one test does not contribute to the score on the second. An item review of the results showed an increase for eighty-nine words. The author concluded from this work that the direction to give popular response does influence the test results. More common responses will occur in "popular response set" conditions than in standard or free association ones.

In another study, Russell and Jenkins (1960) collected norms for the Kent-Rosanoff list using Schellenberg's method. With six hundred male and four hundred female University of Minnesota students as subjects they studied the test data in the light of four major ideas about free associations. They concluded that 1) there is only a partial confirmation that there is a general tendency for the popular responses to increase with time; 2) words used as responses to stimuli tend to change slowly but systematically over time with the highest ranking response having the highest stability; 3) abstract responses to stimuli have tended to decrease in popularity, and 4) the above listed changes that have occurred can be attributed to changes in test taking attitudes and to changes in the meaning of particular stimuli over a period of time.

In the area of child word association responses and behavior, Jenkins and Palermo have made several studies. In terms of frequency of response to

a word association test, the Kent-Rosanoff list, Palermo and Jenkins (1962)
find that there is no evidence to substantiate the hypothesis that children
respond with fewer superordinate responses than adults. On the basis of
their sample (five hundred fourth graders and one hundred adults) they con-
cluded that while superordinate responses may be more abstract for adults
than some types of responses for children, they are not given more frequently
as associates by adults than children. In a later somewhat similar study
Palermo and Jenkins (1963) deal specifically with the frequency of super-
ordinate responses and find that these do increase up to the sixth grade, but
then decline steadily after that point to a low level among college students.
They question whether the dimension of concrete to abstract adequately de-
scribes the full range of the developmental sequence. They fail to offer any
real alternate explanation for the changes toward more superordinate responses
which do occur up to the sixth grade level.

One of the most recent works by Palermo and Jenkins (1964) has been an
attempt to develop a set of norms for a word association test. In the intro-
duction the authors imply that because of the complexities of the adult mind,
an understanding of the technique is to be found only through more intensive
and planned studies of children and adolescents. They administered two
hundred words, one hundred words from the Kent-Rosanoff list and one hundred
others, to 250 males and 250 females from the fourth through the twelveth
grades in the Minneapolis area. The fourth grade was used as a base since
they felt that children below this level, particularly in the lower socio-
economic neighborhood schools would not be able to complete the task as

presented in written form. The authors intend to use these norms as a basis for more research.

Other investigators besides the people in Minnesota have shown interest in the word association technique. Carroll, Kjeldergaard, and Carton (1962) did a study aimed at devising a classification scheme for the Kent-Rosanoff list behaviorally by instructing the subjects to respond with an opposite to any stimulus word which seemed amenable to opposition. The resulting scoring system was then used in the analysis of published norms and of new association data gathered in the usual manner. Their results showed that a large component of what was referred to as communality of response to the Kent-Rosanoff list is based on the response to a relatively small subset of stimuli which can be identified behaviorally and which are called opposite evoking stimuli (OES). The authors feel that a score based on the number of opposites given to the OES is more reliable than one based on the primary response to the seventy-two non-OES or on the communality score. There appear to be patterns of individual differences between responses to opposite evoking stimuli and non-opposite evoking stimuli.

Ervin (1961) gave children in kindergarten (N = 23), first (N = 10), third (N = 52), and sixth grades (N = 99) a free and two choice associative test. She found that there was a significant increase with age in the proportion of paradigmatic responses, i. e., responses in the same class as the stimulus word, with an earlier increase in words occurring more often in the final positions in the sentence than in the medial positions. Clang associations diminished in frequency with age. This was interpreted as supporting

a theory of associations based on training by forward contiguity in speech.

Entwistle and Forsyth (1963) collected word associations to stimuli of various form-classes using fifth grade children, matched on intelligence, sex, and social status, as subjects. The test was administered under two conditions; individual oral (IO) and group written (GW). In forty-three of the forty-eight possible comparisons, communality was greater under individual oral conditions. The authors feel that the excess communality under IO conditions represents an interaction between status and administration. It resembled the interaction between the need for social approval and instructional sets found in adults.

Rosenzwieg and Menahem (1962) report on a study they did in which they evaluated the role of age, sex, and level of instruction in word associations. They concluded from their research that responses to words by similar parts of speech increase with school grade and with educational level, but show no sex differences either among children or adults.

Mermelstein (1964) investigated whether certain indefinite numerative adjectives such as bigger, more, etc., have a meaning that is significantly different from the meaning they have for adults. Comparing the results obtained on one hundred fifty children and seventy-five college students he found that significant differences existed between the meanings these words have for adults and children. Children tend to attach more extreme values to individual words when no restrictions are imposed. The author concluded that authors of texts and teachers should avoid indefinite numerative adjectives whenever possible.

In addition to these studies on free association techniques there are the many studies and work that have developed and resulted from the work of Snider (1954) and continued by Herr (1957) on the Loyola Language Study.

The Loyola Language Study is a form of controlled association test. It differs from others in the fact that the subject is required to act different-ly than he would in a free association test. He is asked to give the word he thinks most people would respond with, when confronted by the present stimu-lus. The notion that the first thing that comes to mind should be given is not even suggested. There is no time limit to the test. It can be adminis-tered individually or in groups of twenty to thirty normals.

Since the Loyola Language study was first conceived and begun by Snider and Johnson in 1950 at the Boston State Hospital, it has been further stand-ardized and refined. Studying the role of such factors as age, sex, and education on the Loyola Language Study, Stanek (1956) administered the test to four hundred males and four hundred females of the Chicago metropolitan area. The subjects ranged in age from nineteen to fifty-four years and in educational levels from sixth grade through college and beyond. The test data indicated that age bears an inverse relationship to the Loyola Language Study test score; the younger adult being more able to attain communality of thought than the older adult. Females obtained a higher score than males. Finally, education bears a constant relationship to test scores. The better educated a person is, the more likely for him to give a greater number of common re-sponses.

In an effort to expand the usefulness of the Loyola Language Study and

to further refine and check scoring techniques, Guppy (1959) restandardized the test on a group of four hundred men and four hundred women in Seattle, Washington. He found that when standard scores are computed for the responses, the Chicago and Seattle groups are essentially the same. Any obtained differences in the standard scores can reasonably be attributed to chance variations in the stratified samples on which the two standardizations of the Loyola Language Study were based.

In an article on the Loyola Language Study by Herr (1957) the test was shown to be able to distinguish significantly between normal and schizophrenics using three different methods of scoring response communalities. Herr performed an item analysis of the words to determine which ones contributed most in distinguishing the groups. For each sex and each of two geographical regions (Chicago and Boston), twenty-five words were identified. This shortened test increased the overall screening efficiency of the test.

The validity of this shortened form of the test was tested in three ways. 1) An index of screening efficiency was computed for the total scores by subtracting the proportion of normals incorrectly identified from the proportion of patients correctly identified. They ranged from .64 to .71 for male and female subjects respectively. 2) Phi coefficients for each of the twenty-five words were computed and converted into product-moment coefficients, on the assumption of continuity between normals and patients on communality of thought. The median coefficients ranged from .45 to .68. 3) The ratings of psychologists on fifty Boston female patients were correlated with the scores on the shortened test. The product-moment coefficient of correlation between the two was .48, which is significant beyond the .01 level of

confidence.

Reliability for the Loyola Language Study was estimated using the Spearman-Brown formula, or split-half method and ranged from .88 to .94 with a median of .92. The test-retest method for the eighty words was .49 and for the shortened form, .55. The correlation between the various scoring methods ranged from .93 to .96.

Even (1958), Trainor (1957) and Rumann (1960) have studied differences between free and controlled associations on the Loyola Language Study at the college, high school, and elementary levels respectively. Each author reached the same general conclusions: there are definite and significant differences at all three age levels between the two types of administration of this test.

In a work done by Becker (1962) on the ability of the Loyola Language Study to measure the awareness of social norms or the typical response of a large group, it was found that the test failed to be significantly valid in this work. While the Loyola Language Study did appear to measure a real similarity to the group in word association, there was probably some other factor skill operating in the test, since the ability to score high involves more than just being similar to the group. Becker concludes that it appears that responses on the Loyola Language Study are a mixture of free and controlled associations occurring in different proportions in each subject.

While the Loyola Language Study has been the object of numerous studies, ranging from such broad and diverse topics and areas as schizophrenia (Del Vecchio, 1957) to an investigation of the influence of occupations on the

test (Dinello, 1958), from a multiple choice version of the test (Braun, 1963) to its use with religious (Logsdon, 1961), it has not been brought down to the level of or used on elementary school age children. Aside from this writer's earlier work (Rumann, 1960) no one has attempted to develop norms with children, so that it could be used by the child-clinical psychologist. The purpose of this study, then, is to change this situation and to present norms for children. In addition, a study of this nature at this level offers an opportunity to consider some of the qualitative and behavioral features of children's responses on this test.

CHAPTER III

PROCEDURE

The Loyola Language Study was administered to children in the third through eighth grades in the Chicago metropolitan area. In addition to using children in the city itself, subjects were obtained from the suburbs of Tinley Park, Worth and Des Plaines, Illinois. The schools within the city and the suburbs were selected so as to minimize the effect of any possible local neighborhood or geographical biases and idiosyncracies from unduly distorting or altering the data. Subjects from both public and parochial schools were included in the sampling.

In gathering the data, the school personnel were asked to give as subjects those classes which they felt were representative or typical for the grade level and the locale. This request was prompted by a desire to avoid getting either exceptionally good, above-average classes or their opposite in excessive numbers. Since some of the schools included in the study use a "track system," this request was necessary in order to obtain the average group for the school. Classes used were selected on the basis of their containing a typical representation of the child population in the Chicago metropolitan area.

The subjects were tested in two sessions. During the first session they were given the first thirty-eight words to answer. In the second

session, the following day, the children completed answering the remaining
forty-two words. While there were no time limits to the test as such, the
two sessions were kept to a maximum of forty-five minutes each. Children who
finished before this, and most did, turned in the booklets and did class work
the remainder of the time. The following directions, as printed on the first
page of the test booklet, were read aloud to the class before beginning the
test proper.

"When people see or hear a word, they often think of another word. If
you say the word, Stem, most people would think of flower. Some, but not
the greatest number, might think of Pipe, Grass, Stop, and so forth.

"This study wants to find out what word you think the greatest number
of people would be most likely to think of when they see or hear each of the
words on the next two pages.

"Please write next to each of the words the one word which you think
the greatest number of people would be most likely to think of when they see
or hear the word in the list. Take as much time as you need to think about
the word which seems to you to 'go along' with each printed word. Then
choose the one word which you think the greatest number of people would be
most likely to think of when they see or hear the given word. Write the one
word which you choose beside the printed word. Do not skip any word.

"Remember, you are not asked to write down just any word that comes to
your mind. You should write down the one word which you think the greatest
number of people would be most likely to think of."

A copy of the test and directions can be found in Appendix II.

The test was supervised by the test administrator and the classroom teacher, to prevent copying by the subjects. The subjects were not permitted to ask questions once the test was started. The class was told before the test began that they should use phonetic spellings if they were not certain of the correct spelling of their answer.

No help was given during the test because the examiner wished to see how well the subjects at each grade level could do on their own and what the unassisted group norms would be.

Third grade was used as a base in this study at the advice and suggestion of the school personnel. It was the general opinion of the school staffs that children below the third grade could not handle the test in the group written form. Their recommendations were in approximate agreement with the findings and experience of Palermo and Jenkins (1964) who found they could not go below a fourth grade level on their test without obtaining too many incomplete records. The lower socio-economic group included in their study contained too many culturally and educationally deprived children who would not have been equipped in the reading and writing skills necessary to accomplish the task on a group level. A check of Rinsland's work (1945) indicated that the words contained in the test were within the basic vocabulary of elementary school children.

All of the children used in this sampling were tested during the month of January, in order to keep the reading and academic skills equal for all and to obtain an approximate mid-grade skill level. Possible seasonal environmental effects were held constant in this way also.

In conformity with the standardization directions of other examiners (Guppy, 1959) for tallying response frequencies the following rules were followed:

1) If the stimulus word was repeated, the response was counted or considered the same as if the subject had left the space unanswered;

2) Plural nouns were considered the same as the singular form of the word, except where a different spelling in the root or stem of the word was concerned, e. g., foot and feet were not considered to be the same;

3) Verb tenses and voice changes were considered to be essentially different from one another;

4) Responses that could be looked on either as nouns or verbs, e. g., walks, drinks were considered to be nouns;

5) Multiple word responses were considered to be unscorable, with these exceptions,

a) Commonly accepted or used abbreveation or combinations, as U. S. or corn-beef.

b) When the first word was a repetition of the stimulus and the second was different, the second was counted as the response.

c) When the doubled response consisted of two alternatives, separated by a comma, the second word was counted. This was done on the assumption that it represented the last thinking of the subject as to what he considered to be the one word that most people would be likely to think of when they see or hear the word.

d) When the doubled response consisted of two alternatives, one of

which was in parenthesis, the second alternate was counted.

e) When the article, definite or indefinite preceded the response, it was ignored and the word was considered to be a noun.

f) When the two responses were clearly not alternates and not separated by a comma, and when neither was in parenthesis, neither response was counted.

6) When the subject's handwriting could not be read, the response was considered as unscorable.

In developing the norms only booklets were used which had all eighty items scorable according to the scoring directions set down. It was felt that a minimum of one hundred boys and one hundred girls at each grade level would be necessary for a representative sample of the grade level. Because there were many booklets that did not meet the scoring standards, at least if the test was to be kept at a group level without any individual questioning, it was necessary to test more than one hundred boys and one hundred girls at each grade level.

In the development of norms, the familiar method of Z scaling was used so as to give a spread of values from low to high for each possible response to each of the eighty stimuli. According to the formula for Z scores, $Z = \frac{X - M}{\sigma}$; X is the square root of the frequency minus the mean divided by σ. In order to complete this formula it was necessary to compute σ using the method contained in McNemar's text (1955). It states that $\sigma = \frac{i}{N}\sqrt{N \, \Sigma fd^2 - (\Sigma fd)^2}$. For our work the interval was considered to equal one and N to equal 600. The d scale was obtained by multiplying each X (the square root of the frequency) by two and rounding off downward to the nearest whole number. This

formula permitted the author to deal with relatively small numbers in computations. In order to eliminate decimals, each score, after being divided by the standard deviation was multiplied by ten. Finally, a constant of minus twenty (-20) was added to each of the Z scores. This resulted in all positive numbers. The lowest final score represents the response which has the greatest raw score frequency. This method was chosen also because among other things, it gives weight to extremes and it is more stable from the sampling viewpoint.

In addition to establishing norms for this sample population, some comments are offered about the quality and nature of the responses as well as booklets that had to be rejected in the final scoring.

CHAPTER IV

ANALYSIS AND DISCUSSION

The primary goal of this project, as it was conceived and proposed, was to develop norms for elementary school children from third grade through eighth grade, on the Loyola Language Study. These norms are contained in Appendix I. In this section (Appendix I) are to be found the total number of responses, the type of responses, and the Z scores for each of the responses to the eighty test words. To limit a study of this nature solely to a development of norms would be a great waste of important data and information. While the overall Z scores afford us with the vaulable and necessary norms for future studies and comparisons, they really do not indicate what occurred both between and within the various grade levels. Looking at the end result, the Z score, is like looking at any finished product. While the end goal is important, in psychology which has been defined as the study of human behavior, it is often just as important to study the composition of the end result. With this idea in mind we would now like to present some of the other points of value from this study on children's controlled associations.

One of the first points to be considered is the problem of booklets rejected because they did not meet the scoring standards as originally set up. In order to obtain a sample of one hundred boys and one hundred girls it was

necessary to test one hundred twenty-five boys and one hundred thirty-three girls at the third grade level, one hundred thirty-three boys and one hundred twenty-four girls at the fourth grade level, one hundred thirty-six boys and one hundred thirty-three girls at the fifth grade level, one hundred twelve boys and one hundred twenty-seven girls at the sixth grade, one hundred fifteen boys and one hundred twelve girls at the seventh grade, and one hundred twelve boys and one hundred ten girls at the eighth grade. This indicates a greater likelihood of encountering unacceptable booklets below the sixth grade level than above. There is no consistent reduction in the number of unacceptable records, but only a trend toward better test performance at the higher levels. Again, just considering the total number of booklets rejected misses an important point, namely the possible presence of a trend to omissions or such occurring on certain words. While omissions could and did occur in general on almost any words, there were a greater number of omissions on the possibly more abstract and/or emotionally charged words of trouble (N = 53), wish (N = 35), and justice (N = 27). To omit an answer to one of these words would not seem to be as indicative of a problem, as to omit an answer to such a word as carpet, a word that showed not only a high degree of agreement on one response (rug, N = 420, N = 424), but was given some answer by everyone tested. At this point it seems necessary to state that some type of inquiry following the test administration is very important. The reasons for a child's failure to respond can result from a number of very different and unconnected reasons, such as, an inability to read the stimulus word, a fear of misspelling the response, or an area of personal concern activated by the stimulus word. The final interpretation of the personality

dynamics may rest as much in knowing not only what the individual did on the
test in his overall performance, as in his failure to respond at all or to
respond with some highly individual and/or personal response. More research
in the area of incomplete record books seems both desirable and necessary.
The failure to respond to certain words in this study may be the result of
the sample used. As near as can be judged from a perusal of the literature
only one author (McGehee, 1938) seems to have mentioned anything about
omissions. He limited himself, though, to listing the percent of failure to
respond. He did not carry it any further.

Another area that warrants some discussion is that of the singleton or
individual responses. Table II presents the singletons divided into three
groups; third through fifth grades, sixth through eighth, and the total group
singletons. These are further divided between sexes. An examination of this
table shows that for most words there is a gradual decrease in the number of
singleton responses. The boys show a reversal of this trend on the following
words: afraid, joy, river, trouble, street and child. The girls show an
increase in singletons with age or grade level on seven words: butterfly,
anger, afraid, dark, joy, window and trouble. The words, afraid, joy, and
trouble are evidently associated with more different experiences and ideas
for both older boys and girls than for younger boys and girls. One possible
explanation for this might be that as a child grows older, more and varied
experiences become associated with these words of feeling or emotion. It
becomes more difficult to hit on the one word that is most commonly associated
with the stimulus word. These three words could serve as rather important

diagnostic clues of the individual's experiences and/or feelings, since
as they grow older, children appear to divorce their feelings or experiences
from the stimulus word and so they give more personal responses.

TABLE II

SINGLETON RESPONSES ON THE LLS
FOR BOYS AND GIRLS

Stimulus	Grades 3 to 5		Grades 6 to 8		Total Group	
	B	G	B	G	B	G
soldier	37	22	26	31	17	18
hungry	20	11	11	9	14	13
butterfly	22	18	17	22	16	16
long	76	54	42	50	46	37
head	31	39	29	27	25	27
anger	51	31	32	38	33	33
afraid	29	26	32	31	27	21
fruit	29	23	20	21	25	13
dark	28	21	19	23	23	18
red	37	41	27	29	20	15
loud	32	36	28	26	30	30
bath	19	19	12	19	16	13
eating	35	42	35	36	26	26
joy	28	23	29	25	19	19
rough	57	47	39	36	47	35

TABLE II—CONTINUED

Stimulus	Grades 3 to 5		Grades 6 to 8		Total Group	
	B	G	B	G	B	G
heavy	37	42	27	40	25	25
high	45	47	33	36	38	18
white	39	47	29	39	33	29
command	61	55	35	44	40	42
sour	58	47	33	17	43	29
king	43	48	40	35	25	32
deep	41	42	22	30	23	22
sleep	33	32	24	19	24	14
black	33	43	25	25	21	28
hammer	27	28	20	17	17	20
table	41	34	31	19	29	20
thirsty	27	22	15	13	18	20
quiet	62	50	33	38	47	38
hard	46	53	33	32	38	34
blue	56	29	33	29	27	17
sweet	44	42	29	27	25	25
stomach	63	51	33	25	40	28
working	65	62	44	40	47	42
comfort	64	82	41	42	44	43
soft	38	36	25	29	38	20

TABLE II—CONTINUED

Stimulus	Grades 3 to 5		Grades 6 to 8		Total Group	
	B	G	B	G	B	G
short	52	48	34	32	40	28
beautiful	51	46	35	38	34	37
cold	25	24	18	18	14	16
whiskey	42	35	23	21	40	24
yellow	55	64	29	47	34	38
window	31	29	23	39	18	21
scissors	41	41	17	21	42	36
foot	34	34	14	12	18	20
doctor	43	44	29	33	37	24
wish	52	40	41	24	40	26
house	57	58	35	36	27	36
justice	39	59	32	36	31	44
river	27	34	37	26	29	20
sickness	47	33	31	26	25	21
mountain	39	37	38	36	29	25
stove	31	24	13	19	19	13
girl	33	26	27	15	25	17
salt	43	38	21	18	23	22
man	44	40	34	25	29	26
cheese	42	35	21	27	23	20

TABLE II—CONTINUED

Stimulus	Grades 3 to 5		Grades 6 to 8		Total Group	
	B	G	B	G	B	G
baby	46	44	49	31	26	25
moon	36	34	31	28	23	22
spider	57	50	31	25	41	39
bread	42	36	27	32	16	26
whistle	65	57	40	43	35	37
carpet	40	37	22	23	30	29
needle	24	17	13	12	19	8
hand	47	53	39	25	33	29
thief	32	43	27	20	26	34
dream	50	27	29	33	36	25
trouble	77	66	84	73	76	59
religion	62	56	28	26	51	41
street	36	39	49	34	26	18
health	70	55	46	44	43	45
ocean	24	29	23	23	12	19
bed	44	38	31	26	17	19
child	33	52	37	29	17	34
tobacco	37	37	13	16	30	31
woman	33	37	29	26	30	21

TABLE II—CONTINUED

Stimulus	Grades 3 to 5		Grades 6 to 8		Total Group	
	B	G	B	G	B	G
cabbage	38	37	16	22	22	19
citizen	42	45	33	33	29	23
earth	40	35	29	27	23	21
lion	68	55	41	50	31	37
butter	49	29	24	23	34	27
music	54	62	51	56	44	53

A review of Table II indicates the range in the number of singletons to be found. They go from a low of twelve for the boys (stimulus: ocean) and eight for the girls (stimulus: needle) to a high of seventy-six for the boys and fifty-nine for the girls (stimulus: trouble). Individual singleton responses, then, are more common to some words than to others. As with omissions, an individual, unique response could mean more individualistic thinking if it occurred on one of these low singleton response words than on higher ones. The type of individual response in both these cases would warrant further analysis and consideration in understanding the individual personality.

On the basis of sex differences, the boys show a higher number of singletons on twice as many words as the girls (boys, 49; girls, 24). Depending on how one might wish to interpret this information, it can be pro or con for

either sex. The lower number of singletons for the girls can indicate a greater awareness on their part as to the thoughts and possibly feelings of their peers. This ability to find someone else who has the same idea to a stimulus and to obtain a greater degree of conformity in thinking may be a part of the total feminine make-up and personality. This may be some confirmation for what is popularly referred to as "female intuition."

The greater number of individual responses among boys could suggest more original or negativistic thinking on their part. It seems to show both greater social freedom and self-centered thinking. On the basis of their higher number of singleton responses it might be said that the boys will tend to engage in more varied and individual behavior because they are not as aware of what or how others feel or think. A comparison of the two age groups indicates that the older boys are more in agreement with the older girls. The greater number of singletons are to be found in the children below sixth grade level. In a number of cases the older boys have reversed the situation and show greater homogeneous thinking than the girls. By sixth grade, the boys have become more settled and are on the way to adopt the "organization man" behavior and thinking.

In line with the changes toward more abstract responses with increasing age we also notice significant differences between adult and children's responses at the low frequency end of the distribution -- notably the singletons.

Youth tend to give concrete rather than abstract responses; for example, to the word 'afraid' they say 'frighten' and 'shiver', whereas adults say
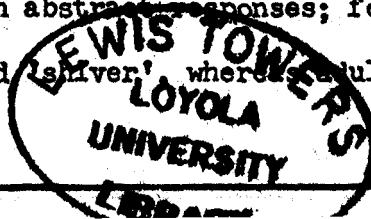
'courage', 'coward', 'danger'. For 'butterfly', youth say 'animal', 'collection', and adults say 'nature', 'spring'. For the stimulus 'red', youth say 'apple', 'orange', and adults say 'anger', 'black', 'danger'. Youth also stress the active and egocentric notions more than do adults; for example, for 'anger' youth say 'mean', 'furious' and adults say 'emotion', 'fury', 'ire'. These differences tend to show up both in the free association tests and in the controlled LLS form of the test, making it clear that separate norms will have to be prepared for the adults as compared to the younger generation.

From what has been said and from Table II it is also clear that there are really two types of individual responses. There is the one that is unique for the particular grade level and the other that is unique for the total population. As should be apparent, the latter is the more individual, unique way of reacting. Depending on the nature and type of response involved and with what stimulus word it occurs, one could have either a more disturbed individual or a more imaginative, possibly creative person.

One area that seems worthy of further research and study is that of the individual response. A certain combination or amount of unique thinking as revealed through singleton responses may be as indicative of good mental health as a high communality of thought is considered indicative of healthy adjustment.

Omissions and singleton responses are not the only areas that are of value in understanding and evaluating behavior. The words with the greatest, or a large percentage of conformity or agreement are also important. They

can be broken down into three different major groups; 1) words with a large number on one single response at each grade level, 2) words with a gradual increase in one single response, and 3) words with a gradual decrease in one single response. The interpretations that are possible are different in each case. The first reveals a rather stable, almost universally agreeable condition, the second suggest a gradual growth, the third, the opposite. A third grader who obtains a number of responses more commonly found in the group of "growth" words may possess more maturity, or higher potential than some of his peers. In the opposite direction an eighth grader with many words that decrease with age or grade, might be socially, academically, or intellectually retarded. Here again, it seems that more research and experimentation is needed. A certain number or combination of these various words may reveal this to be true or only an artifact of the particular population used in this project.

Various authors have proposed different ideas as to how the responses become associated with the stimuli. Carroll, Kjeldergaard, and Carton (1962) had felt that much of the communality shown in word association tests was a product of choosing the opposite in meaning most frequently. According to Osgood (1953) the tendency to free associate direct opposites increases with age. Children favor similar, contextual responses. An analysis of the adjectives that could be answered by opposites, plus the nouns, 'white', 'king', 'man', and 'woman', show a gradual increase with age in a response of the opposite kind. The exceptions were 'loud', which evoked the response of 'noise' as its largest single response, and 'beautiful', which had 'pretty'

as its most common response. 'pretty' showed a decrease with age, but the opposite of 'beautiful' did not make a comparable increase.

Also according to Osgood (1953) all semantically determined responses are similar in some way to the stimulus word; similar in meaning (needle: pin, sharp), similar in context (needle: thread, sew) or similar in the sense of hierarchal relations (needle: steel, instrument). Of one thousand responses on the Kent-Rosanoff list, approximately nine hundred fifty are semantically determined associations in this sense. A review of the responses contained in Appendix I supports to a degree that, similarity with the stimulus word in one of the above listed ways, is involved in the vast majority of responses.

According to Osgood's explanation, the opposite or contrast responses are attributed not to semantic mediation but rather to overlearning of purely verbal habits in culture. The "light - dark" association is the product of overlearning. Proof of this is said to be the increase with age in the opposite responses to certain words. While the data on the opposite evoking words as reported above supports this statement of Osgood, I am not certain that I agree with the theory offered in explanation. There are many other words associated with these words that elicit opposite responses. Is light associated with dark more often than with sun? More proof is needed through some type of longitudinal study to answer this question and to show whether or not it is a case of overlearning the opposite to certain words.

A careful analysis of the various responses to the words contained in the test raises some interesting questions and points of view. It is economically impossible within the scope of this project to consider all of them.

I would, however, like to single out a few that struck me as unusual. The word, 'tobacco' is associated with 'pipe' by the girls more than by the boys. Girls, though, will probably never smoke pipes, at least not if our society continues with the same customs. While the word 'pipe' belongs to the same class or group as cigarette, its preponderance in terms of occurrence might have relevance for certain personality theories. Likewise, does the word 'tobacco', following the word 'child', activate such a feeling of castration anxiety that the girls overcompensate by responding with a larger verbal phallic symbol than just 'cigarette' in more cases? More careful, detailed studies into the types of responses are necessary. These studies will require further individual questioning also. The effect of the words on each other needs more attention and study.

Children's experiences with people or things at the various age levels are often vividly revealed in their associations. The word 'doctor' elicited the response 'shot' considerably more in the third to fifth grade level (N boys/girls = 24/35) than at the older age level (N boys/girls = 8/9). It seems that going to a doctor ultimately results in a shot more often for a younger child than for an older one. The word 'anger' was linked with such emotions as glad (N = 5) for the girls and happy (N = 9) for the boys. Are these merely opposite responses or indications of how these subjects feel when angry? Their occurrence at the lower ages and gradual decrease seem to argue against overlearning. The answer can only be learned by more individual questioning.

One final area that merits discussion and consideration as a project for

further study is the poossible use of the Loyola Language Study as a screening technique for children - with central nervous system dysfunctioning, particularly in the area of verba l concepts. Thinking in this area was stimulated by one subject in the sampole, who was about one or two words behind in responding. If the responses could have been shifted up, this child's reactions would have been more "naormal" than they were. Because there was no individual inquiry period followin.g, it could not be determined exactly why or how this had happened. A high c :orrelation on the verbal scales of either or both the Illinois Test Psych.aolinguistic Ability and the Wechsler Intelligence Scale for Children with the p-eerformance in terms of high agreement scores on the Loyola Language Study c- ould make this test a very useful instrument for classroom screening purposes :.

CHAPTER V

SUMMARY AND CONCLUSIONS

"In terms of its central relevance to general psychological theory and its potential applicability to complex social problems, no other area of experimental psychology so greatly demands attention as language behavior ... and in the past has received so little" (Osgood, p. 727, 1953). In an effort to accept this challenge and to shed further light on verbal associations and behavior, this dissertation has devoted itself to the study and evaluation of a particular word association test, the Loyola Language Study, and to the establishment of norms for elementary school age children on it.

The Loyola Language Study, a controlled word association test was administered to children in the third through the eighth grades in public and parochial schools in the city of Chicago and suburbs of Des Plaines, Worth, and Tinley Park. The children were tested in their classrooms, as groups. There was no individual administration or follow-up. All children were tested in the middle of the school year to keep class skills approximately equal. Using the technique of assigning Z scores, as developed by earlier examiners, norms were established on a sample population of one hundred boys and one hundred girls at each grade level.

In addition to developing norms, an effort was made to show what happened progressively within and between the various grade levels. Failure and singleton responses were discussed in terms of how frequently they occurred

and their pattern and importance. Omissions and singletons in general decreased with age for both sexes. Omissions and singletons were more likely to occur with certain words. Further research in the study of singleton responses was suggested as their number and presence could be as important in understanding personality dynamics as studying the words or behavior on words with high agreement value.

Words with large agreement were shown to belong to three classes; 1) words with high agreement consistently at each grade level, 2) words with high agreement at lower levels but decreasing with age or higher grade level, 3) words with initially rather low agreement scores at the lower level but increasing with age. In order to understand better the individual's personality, more attention needs to be focused on who gives what high agreement-value word. Different and possibly more accurate interpretations of personality and ability can occur on the Loyola Language Study if some of these differences in the composition of the high agreement words are considered rather than just the overall score.

The influence of various experiences with people or things was shown to be revealed by the responses that are given to the test. The possibility of using the Loyola Language Study as a screening device in the classroom for children with language problems was suggested. Finally, the value and need to follow-up this test, as any projective technique, with an individual inquiry period was repeatedly stressed. Just as the Rorschach technique involves questioning after the initial free association period, so the Loyola Language Study demands some type of follow-up to remove any questions that can and do arise.

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APPENDIX I

NORMS FOR BOYS AND GIRLS

GRADES THREE TO EIGHT

44

NORMS FOR THE LLS FOR BOYS AND GIRLS

soldier

	B	G		B	G		B	G
army	11	11	guard		34	military	38	33
battle	38	34	gun	32	29	navy	38	34
boy	38	33	head	38		officer	38	
brave		35	infantry	38		rifle	38	
captain		35	lieutenant		35	sailor	35	33
enemy		35	man	29	27	service	37	34
fight	36	32	march	35	30	tank	38	
fighter	34	34	marching		34	toy		35
fighting	36	33	marine	38	35	uniform	36	31
general	38	35	men	37	33	war	21	20
G. I.	38							

hungry

	B	G		B	G		B	G
appetite	39	36	food	10	10	starvation	35	39
country	37	39	full	34	37	starve	27	28
eat	25	24	hunger	37		starved	25	28
eating	33	38	lunch	37		starving	28	29
famished	37		people	37	37	stomach	37	38
fed		39	poor	35	36	thirsty	31	37
feed		37						

butterfly

	B	G		B	G		B	G
animal	29	26	collection	37		moth	23	23
ant	36		color	32	28	net	33	30
beautiful	28	26	colorful	35	30	pretty	27	22
beauty	37	32	flower	28	29	soft	37	
bee		32	fly	23	21	spring	36	30
bird	27	27	flying	33	32	summer	35	30
bug	27	26	high	37		wing	28	24
butter	35	31	insect	4	8	worm	37	
caterpillar	26	24	monarch	32	30	yellow	37	32
cocoon	34	29						

NORMS FOR THE LLS FOR BOYS AND GIRLS

long

	B	G		B	G		B	G
big	25	25	live	30	32	steep	31	
board	30		longer	31		stem		33
day	30	33	mile	28	32	stick		33
deep	31		narrow	30	29	story		33
distance	27	32	pencil	31		straight	30	32
distant		33	period	31		street		33
dress		32	pole	30	32	stretch	28	31
extension	31		river		33	string	28	32
far	21	26	road	30	32	tall	25	26
forever		33	rope	29	32	thin	30	32
grass		33	ruler	30	32	time	29	31
hair	31	31	short	8	9	track	31	
high		33	shot	31		trip	31	
hour	31	33	skinny		33	wait	31	32
huge	30	33	slacks		33	walk		33
inch		33	slender	31		way		33
journey		32	slim	31		wide	28	30
large	28	29	small	29	31	year	31	33
length	25	25	snake		33			

head

	B	G		B	G		B	G
ache	25	25	feet	24	23	neck	21	23
ahead	25		first	24		nose	25	
arm	24	24	foot	23	22	people		25
ball	25		front	24	25	person	23	23
before		25	hair	19	18	president	25	
beginning	25	25	hand	24	24	round	22	22
body	17	17	lead		25	shoulder	22	22
boss	25	25	leader	22	23	skull	22	24
brain	16	18	leg		25	smart	25	25
ear	24		lettuce	25	25	tail	24	
end	25		long	25		think	23	21
eye	22	22	man	25		toe	23	24
face	18	17	mind	24	24	top	22	23
fear		25	mouth	25	25			

NORMS FOR THE LIS FOR BOYS AND GIRLS

anger

	B	G		B	G		B	G
angry	34	33	happiness		36	meanness	35	36
argument	35		happy	33	36	nice	34	
bad	35	35	hate	32	35	person		36
cross	35	35	hatred	34	35	rage	33	34
destruction	35		heaven	35	36	sad	35	36
discourage		36	holler		36	sadness		36
disturb	35		jealousy	35		scared	35	36
fear	34	35	joy	35		scream		36
fight	33	33	kind	35	36	shout	35	36
fighting	35		mad	13	12	temper	31	31
furious	35	36	madness	32	32	upset	35	
glad		35	man	35		yell	35	36
God	35		mean	31	32			

afraid

	B	G		B	G		B	G
alarm		36	fright	35	34	scared	12	12
alone		36	frighten	29	28	scream		36
brave	32	35	frightened	28	25	shiver	36	
bravery	36		ghost	36	36	shy	36	35
chicken	33	36	happy		35	spooky		36
child		35	high		36	strange	36	
courage		36	horror		36	terror	36	
coward	35	36	lost		36	timid	35	
cry		36	monster	35		tremble		36
danger	35	35	mouse		36	trouble		36
dark	33	33	nervous		36	unafraid		36
fear	29	30	panic	36		very	36	
feared	35		run	34		war		36
fearful		36	scare	34	35	worried	36	
fire		36						

fruit

	B	G		B	G		B	G
apple	10	9	good	32	32	pear	32	34
banana	32	29	grape	35	33	plant	34	
bowl	35	33	hungry		34	salad	35	
cake	35		juice	34	33	snack		34
citrus	33	31	juicy	34	33	stand		34
delicious	35	34	orange	27	25	sweet	34	34
dessert		33	orchard		32	tree	29	30
eat	28	29	peach	33	32	vegetable	25	23
food	25	26						

NORMS FOR THE LLS FOR BOYS AND GIRLS

dark

	B	G		B	G		B	G
afraid		46	dreary		49	scarey		49
alley	46		evening		48	see	46	
black	17	19	fright	47		shadow	46	
blackness		48	gloomy	43	48	skin		49
brown	47		hair	47		sky	46	48
closet		49	light	18	17	sleep		49
color	44	49	moon	47		spooky	46	
darkness	46		night	15	14	star		49
dim		48	room	45	48	white	46	49

red

	B	G		B	G		B	G
apple	26	25	dark	35	33	orange	34	33
ball	35	34	dress	34	34	pink		34
black	33	33	fire	31	30	pretty	35	
blazer		34	flag	34	32	rose	33	31
blood	26	27	flower	35	34	scarlet	35	34
blue	22	22	green	31	31	sea	35	
bright	27	27	hair	35	31	stop	32	34
car	35	33	head	35		tomato	35	34
cardinal	35		heart		34	tulip		34
coat	34	34	hot	34	32	white	27	29
color	8	9	Indian		34	yellow	30	31
colorful		34	light	33	32			
crayon	34	34	lip		34			

loud

	B	G		B	G		B	G
bang	34	39	horn		39	siren	33	
blare	36		jet	37		soft	15	13
blaring		39	mouth	33	34	sound	29	34
boisterous		39	music		39	speaker		39
bright		37	noise	8	11	talk	34	34
call	37		noisy	17	13	thunder	37	38
children	37	39	quiet	26	27	tremendous		39
clear	37	37	radio	37		voice	29	33
explosion	37		scream	25	26	whisper	36	
harsh	37		screaming	36	39	yell	28	30
hear	32	36	shout	21	19	yelling	37	
high	37	38	shrill	36	38			
holler	36		silence	37				

NORMS FOR THE LIS FOR BOYS AND GIRLS

bath

	B	G		B	G		B	G
bathe	38	38	room	46	42	towel		42
bathing		42	rug		43	tub	20	17
bubble	44	40	Saturday	46		wash	14	14
clean	17	18	shower	26	28	washing	43	41
cool	46	40	soap	33	31	water	11	12
dirty	45	40	suds		41	wet	42	39
hot		41	swim	42	41			

eating

	B	G		B	G		B	G
appetite	33	34	drinking	29	28	meal	31	32
apple	34	34	eat	32	33	meat	33	33
ate	29	30	enjoy	34	32	mouth	34	34
bite		34	enjoying	34		munch	34	
bread	34		fat		34	munching	34	
breakfast		34	fed	34		playing	33	
candy	34		feed		34	restaurant	34	34
chew	33	32	feeding	33	34	sandwich	34	34
chewing	30	30	finished		34	sleeping		33
consuming		34	food	10	10	snack		34
dessert	34		full	33	33	starve		34
digesting		33	gobbling		34	steak		34
dining	34	33	good	34	33	stuffing		34
dinner	29	30	hunger		34	supper	31	31
done	34		hungry	23	23	swallowing	34	
drink	34		lunch	32	32	tasting	33	34

joy

	B	G		B	G		B	G
anger	37		happiness	25	23	present	38	
angry	38		happy	11	12	sad	34	37
cheerful	38		joyful	38		sadness		38
Christmas	37	37	laugh	36	34	Santa		38
enjoy	36	37	laughter	36	35	shout	38	
excitement		38	like	38		smile	37	38
feeling		38	merry	37	37	sorrow	34	35
fun	24	28	name	38		toy		38
gay	33	37	nice		38	wonderful	38	
glad	34	34	party	37	38			
gladness	38	36	pleasure		38			

NORMS FOR THE LLS FOR BOYS AND GIRLS

rough

	B	G		B	G		B	G
angry	28		gentle		34	rugged	22	27
bad		33	girl	28		sandpaper	24	28
bark		35	hand	29	35	scaley	28	34
big	28		hard	9	9	scratch	29	
boxing	29		harsh	27	30	scratchy	29	35
boy	29	28	hurt	28	35	skin		34
bully	29		jagged	27	32	smooth	16	15
bump	28	33	line	29		soft	26	28
bumpy	16	19	man	29	34	stern	29	
cement	29		mean	26	26	stone	29	35
coarse	23	30	men		35	strong	26	34
crude	29		nice	28	34	tough	12	12
day		34	play	28	34	uneven	27	33
dry		35	raw		35	wood	29	
easy	28	33	road	21	28	work	29	34
fight	24	31	rock	26	35			
gangster		34	rocky	26	35			

heavy

	B	G		B	G		B	G
big	28	26	gun	35		pound	33	33
board		35	hard	25	26	rock	34	35
box	35	34	huge	34	34	steel	32	34
brick	35	34	iron	34	34	stone		35
burden	35	34	large	31	29	strength	35	
car	34	35	lead	31	34	strong	31	29
carry	34	33	lift	30	31	thick		34
cement		35	light	9	9	thin	35	
chubby		34	load	24	23	tired		35
dark		35	lot	35		ton	25	25
elephant	35	33	metal	35		truck	35	
fat	30	28	might	35		weight	13	15
furniture		35	package		35	weighty		35
girl		35	person		35	work		34

NORMS FOR THE LIS FOR BOYS AND GIRLS

high

	B	G		B	G		B	G
above	30	33	height	29	33	sky	23	26
air	33	36	hill	34		skyscraper	32	33
airplane	30	33	huge		34	small		36
altitude	29	34	jump		37	steep	32	
big	28	29	ladder		33	story	34	
building	25	28	large		33	sun	34	
cliff		36	length	34	37	tall	15	18
cloud	33	33	long	32	31	top	33	33
far	30	33	low	7	9	tower	32	36
fly		37	mountain	25	27	tree	34	33
flying		37	plane	33	37	up	22	24
giant	33		reach		37	way		36
gigantic	34		school	32	37	wide		34
giraffe		37	short	32				

white

	B	G		B	G		B	G
ambulance	36		dark	34	33	red	32	32
angel	36	34	dress		31	sheet	35	32
black	9	8	ghost		33	shirt	32	33
blank		34	house	35	34	shoe		34
blouse		33	light	25	23	skin	36	34
blue	34	32	lily		34	sky	36	33
bright	33	33	man		33	snow	25	27
clean	30	26	paint	36		snowy		31
clear	35	30	pale		34	veil		34
clothes		32	paper	34	29	wedding	35	32
cloud	27	27	people		34	winter		34
color	16	16	pretty	36	33	yellow		34
crayon		33	pure	36	29			

NORMS FOR THE LIS FOR BOYS AND GIRLS

command

word	B	G	word	B	G	word	B	G
army	24		instruct	29	33	rule	26	30
ask	29	33	instruction		33	ruler		33
boss	26	31	king	29	29	said	29	
captain	26	33	law		33	say	27	
charge	28	32	lead	27		sentence	38	
chief		32	leader	27		sergeant	26	31
commander	27		listen		33	shout	28	32
commandment		33	make	29	32	slave	29	
control	28		man		32	soldier	26	30
demand	26	28	master	28	33	statement		33
direct	27	33	mean		32	strict	28	
direction	29		men		33	teacher		33
disobey	29	33	obey	24	26	tell	20	26
do	23	26	officer	22	28	told	27	32
duty		32	often	29		war	29	
force	29		order	6	9	wish		32
general	25	30	permission		33	work		32
go		32	person	29		word		33
government	29		president	29				
head	28	32	request		31			

sour

word	B	G	word	B	G	word	B	G
apple	32	30	head	35		sick	35	
awful		30	hurt	27	27	sore		32
bad	29	28	icky	35		spoiled	29	29
bitter	19	20	juice		31	stale	34	
candy	34	31	kraut		31	strong	35	
cheese	35		lemon	11	12	sugar		32
cream	24	23	mad	34	31	sweet	9	10
cut	31	30	milk	22	20	tart	32	30
eat	35		nice		32	taste	26	28
face		32	old		31	tasty	35	32
fly	34		orange	34	31	unsweet	33	31
food	34	30	pickle		30	untasty	35	
fruit	33	31	rotten	33	32	vinegar	33	31
good	34	32	salt	35		whiskey	35	
grape	30	27	scratch	35		wine	35	

NORMS FOR THE LIS FOR BOYS AND GIRLS

king

	B	G		B	G		B	G
boss	34		head	30	32	order	34	
boss	31	35	high	34		palace	33	35
castle	29	32	highness		35	power	34	
command		34	honor		35	president	31	
commander	33	34	John	34		prince	32	33
country	34	34	kingdom	34	34	queen	10	11
crown	30	29	knight	34		rich	33	33
emperor	33	34	Kong	34		ring		35
empire		35	leader	31	32	royal	33	32
empress		35	majesty	32	32	royalty	34	34
England	33	34	man	32	33	rule	33	34
general	34		master	33	35	ruler	18	22
George	33		monarch	34	35	sire		35
God	33		noble		35	size	34	
great	34	34	old	34		throne	31	32

deep

	B	G		B	G		B	G
below	30	27	flat		30	shallow	14	16
big	34	30	ground		28	sink		29
bottomless	36		height	35		sleep	32	28
canyon		28	high	33	21	slope		30
color		30	hole	11	13	small	35	
dark	31	26	lake	35	28	snow		27
depth	29	27	large	35	29	steep	31	24
dig		28	long	32	27	thick		30
dirt	36		low	23	17	tunnel		30
ditch		29	mine	36		under	33	29
down	11	16	ocean	24	23	valley	35	28
drop	36		pit	30	28	water	20	20
far	27	24	river		28	well	30	26
fathom	36		sea	24	23			

NORMS FOR THE LIS FOR BOYS AND GIRLS

sleep

	B	G		B	G		B	G
asleep	36	39	eyes		39	sleepy		39
awake	17	19	fast		39	slept	38	
baby		39	lay	37	36	slumber	32	36
bed	7	8	lazy	37		snore	30	31
bedtime	38	39	nap	29	31	snoring	37	39
close	38	39	night	18	24	sound	37	38
comfort	37		pillow	37	39	soundly		38
comfortable	38		quiet	36	39	tire	38	
dark		39	relax		39	tired	17	17
dead	38		rest	20	19	up	38	
deep	37	38	restful		39	wake	31	33
doze	38	37	resting	38	39	well	37	39
dream	24	20	silence		39	working	38	
dreaming	36		sleeping	38				

black

	B	G		B	G		B	G
animal	40		darkness		38	Negro	40	38
blue	37	38	dead	40		night	26	29
bird		39	death	40		red	40	
board	37	37	dirt	36	37	room	40	
brown	39		dirty	38	36	shoe	39	37
cat	40	34	eye		38	sky	39	39
cloud	40		funeral		39	storm	40	
coal	37		hair	40	37	tar	40	
coat		38	hole		39	white	12	12
color	22	25	horse	40	39	witch		38
crayon		39	magic	40				
dark	14	15	mud		38			

hammer

	B	G		B	G		B	G
bang	36	39	heavy	36	39	pounding	37	
blow	37		hit	31	35	saw	33	36
build	37		load		40	sledge	37	40
carpenter	37	40	mallet	37		steel	37	
chisel	36	40	nail	11	12	tool	24	24
fix		40	noise	37	38	wood	36	39
hard	33	39	pliers	37		work	35	39
head	35	40	pound	27	29	wrench	37	39

NORMS FOR THE LLS FOR BOYS AND GIRLS

table

	B	G		B	G		B	G
bench	33	34	eating	32	34	seat	34	34
big		35	flat	33		set	33	34
board		35	floor	33		silverware	34	
breakfast	34	35	food	25	31	stand	34	
card	33		furniture	28	30	stool	34	34
chair	9	11	hard		35	supper	33	35
cloth	26	29	kitchen	34	34	tool	34	
desk	28	32	leg	30	32	top	31	35
dinner	33	34	meal	34	35	wood	29	31
dish	33	32	plate	33	35			
eat	22	26	round	33				

thirsty

	B	G		B	G		B	G
coke	41		dry	28	30	milk	41	38
cool	41		full		39	mouth		40
desert	40		food	41		soda	41	
drank	41		good		39	thirst	41	39
drink	21	17	hot	38	38	throat	41	
drinking	41		hunger	41		water	12	10
drought	41		hungry	33	28			
drunk	41	40	man		40			

quiet

	B	G		B	G		B	G
almost	34		loud	5	9	shut-up		34
alone		33	low	34	35	shy	31	32
asleep	33	35	mouse	34	34	silence	23	20
baby	34		nice	34	35	silent	16	10
calm	26	31	night	29	32	sleep	30	30
cat		35	noise	16	22	sleeping	34	
cemetery	30		noiseless	23	28	soft	20	20
child		35	noisy	14	10	softly	33	34
church	33		peace	28	31	sound	22	22
country	34		peaceful	23	20	soundless	25	31
girl		34	person		33	still	24	20
good	34	35	rest		33	talk	31	
hospital	29	29	room	30	33	talking		33
library	27	33	serene		35	unnoisy	33	31
lonely	34		shh	31	33	whisper	29	29

NORMS FOR THE LIS FOR BOYS AND GIRLS

hard

	B	G		B	G		B	G
board	33	30	iron	32	33	stone	31	31
brick	32	33	labor	34		strong	30	32
cement	31	32	league	34		sturdy	34	
difficult	31	30	man		33	test		33
easy	26	23	metal	32		tough	27	27
firm		33	pound		33	unbreakable	33	33
floor		31	rock	19	23	uncomfortable	34	33
ground	34		rough	18	19	uneasy	34	32
hammer	31	32	slow		33	wall	34	32
head	32	33	smooth		33	wood	28	28
heavy	28	27	soft	7	7	work	26	25
hit		33	solid	27	27	working	32	33
house		33	steel	27	31			
hurt	34	33	stiff	34				

blue

	B	G		B	G		B	G
black	32	36	eye	35	37	red	21	23
blew	36		flag	35	36	sad	36	37
bird	34	37	gray	36		sea	35	38
boy		38	green	29	32	shirt	34	
bright	35		house	36		sky	11	12
car	36		ink	36		soft		39
clear		39	light	35	39	sweater		39
clothes	36		Mary		38	uniform		39
cloud	36		Navy	35	36	violet	36	
coat	36		ocean	35	39	water	30	34
color	13	17	pink		36	white	32	37
dark	35	39	pretty	33	36	yellow	34	38
dress	35	36	purple	36	39			

NORMS FOR THE LIS FOR BOYS AND GIRLS

sweet

	B	G		B	G		B	G
affectionate		38	girl	37	38	pickle	38	
apple	37	38	good	31	30	pleasant		38
beautiful	38		heart	38	37	potato	38	38
bitter	33	35	honey	34	33	pretty		37
cake		36	juice		38	sixteen	38	
candy	15	12	kind		34	smell	34	35
chocolate	37		lady		38	soft	38	
coffee	37		lemon	38	38	sour	12	12
corn	37		love	36	37	sugar	13	19
cute		37	lovely		38	tart	38	36
dessert		38	music	36		taste	33	33
flower	35	35	nice	30	27	tasty	36	38
fruit	38		orange		38	tooth	37	37
gentle	38		perfume		36			

stomach

	B	G		B	G		B	G
abdomen	30		food	13	12	middle		32
ache	10	9	full	30	30	mouth	29	
acid	29	35	growl		35	organ	29	32
back	29	35	gut	28	35	pain	27	33
belly	19	25	hammering		35	people	30	
big	30		hard	29		round		33
body	12	12	head	28	34	sick	30	34
bone	30		heart	26	32	skin	30	35
chest	26	28	hunger		35	system	29	
digest	26	28	hungry	25	25	throat	30	
digestion	28	31	hurt	29	33	tummy	25	28
eat	21	24	insides	25	31	upset	29	32
eating	30	34	intestines	26	28	waist		35
empty	30		light	30		walk		35
energy	30		liver	28		weak	29	35
fat	29	31	loud	30				
flu		34	lung	30	35			

NORMS FOR THE LLS FOR BOYS AND GIRLS

working

	B	G		B	G		B	G
active		32	hard	7	7	playing	18	16
build	30		helping	32		relax		32
building	32	31	hours	32	32	relaxing		32
business	32	31	house	31	32	rest	32	32
busy	27	27	job	13	14	resting	29	27
carpenter	32		labor	18	23	rough	32	
chore	32		laboring	29	30	school	27	28
cleaning	32	30	lazy	27	32	slave		30
comfort	32		loafing	29	31	slaving	32	30
command		32	machine		32	sleeping	32	31
dad		32	making	32		stop	32	
do	31		man	25	26	study	32	
doing	29	30	men	26	26	sweat	30	32
earning		32	money	27	26	thinking	32	32
employ		31	occupation	32	32	tired	30	27
factory		32	office		30	toil	30	32
fast		32	operation	32		toiling	30	32
father		30	pay		32	tool		30
fixing	31		people		32	work	26	27
hammer	32		play	27	28	worker	32	

comfort

	B	G		B	G		B	G
bed	17	17	home	24	24	relieve		33
chair	15	17	house	29		rest	15	11
come	31		joy		30	restful	31	
comfortable	17	13	lay	28	31	resting	31	30
console	30	28	lazy	27	26	rough	29	
content	31	31	leisure	30	30	satisfied	31	
couch		30	lie	29	30	settle	28	
cozy	25	23	like	29		sit		33
cushion		33	lounge	31		sleep	18	23
discomfort		30	love		30	sleeping	29	33
ease	21	20	luxury	25	33	smooth	31	
easy	17	23	mother		27	sofa	27	33
enjoy		30	nice	24	23	soft	12	14
enjoyment	31		peace		33	sooth	29	28
feel		31	perfect		33	sympathize		33
furniture		33	pillow	29	31	sympathy		33
gentle		31	please	31		tired	31	33
good	31	33	pleasure	28	27	uncomfortable	23	25
happiness	30		quiet		28	warm		31
happy	29	31	relax	9	4	warmth	31	
hard	30	29	relaxation	27	27	working	31	
heaven	31		relaxed	26	27			
help	31	28	relaxing	31	30			

NORMS FOR THE LLS FOR BOYS AND GIRLS

soft

	B	G		B	G		B	G
baby		31	feathers	28	29	quiet		32
bed	24	27	fluffy	26	23	rabbit		34
blanket	31	33	fur	31	30	restful	33	
cat		33	fuzz		34	rough	31	33
chair	31	30	gentle	30	30	silk	31	34
cloud		33	hair	33		skin	33	34
coarse	33		hard	8	7	smooth	27	26
comfort	27	28	kitten	32	30	snow	33	
comfortable	26	25	light	29	32	sofa	33	33
cotton	26	27	loud	31	32	spring		34
cozy	33		mild		34	tender		33
cuddly		29	mist		34	velvet	33	
cushion	31	32	nice	27	30	warm	33	34
easy	31	33	pillow	18	16			

short

	B	G		B	G		B	G
baby	33	35	hair	34	34	shrimpy		36
ball	35		hand	35		size	34	
big	33	34	high	34	35	skinny	34	
boy	35		inch	33	34	skirt	35	36
brief	34	36	length	35	34	small	13	13
car	35		little	25	26	story	34	34
child		35	long	10	11	stout	35	34
clothes		35	low	35	36	stubby	30	30
cut	35	36	man	33		tall	21	17
day		36	midget	29	30	time	34	
distance	33		nap	34		tiny	35	31
dog		36	night		35	way		36
dress		34	pencil	35	35	wee		35
evening		36	people	34		while	35	
fat	31	34	person	33	32	wide		36
girl		35	pipe	35		women		36
grass	35		puny	35		worm		36
gun	35		rope	34				

NORMS FOR THE LLS FOR BOYS AND GIRLS

beautiful

	B	G		B	G		B	G
adorable	33		glamorous	33		nice	27	31
America	34		God	33		painting	34	
autumn	34		good		34	picture	33	
baby	34	33	gorgeous	32	30	pretty	9	9
beauty	34	33	hair		33	princess		34
bird		33	handsome	31		queen	34	
butterfly	30	32	heaven		34	quiet		34
color	30	33	house	34		scenery	33	
colorful	34	33	lady	33	32	sky	33	33
country	34		lovely	22	23	summer		34
cute		32	loving	34		sweet	34	
day		33	magnificent	34	33	tree	34	
dog		34	Mary	34		ugly	15	21
dress	34	33	model		34	woman	33	32
flower	26	29	modern	34		wonderful	30	32
girl	23	26	mother		33	worker		34
glamor		34	nature	32	33			

cold

	B	G		B	G		B	G
air		38	fever	37		shivering	35	
antarctic	37		freeze	22	26	sick	35	33
arctic	36		freezer		38	sneeze	36	38
bitter	37		freezing	23	20	snow	26	29
cheerless		38	frost	36		temperature	37	
chill	37		froze	36	37	warm	21	23
chilly	32	32	frozen	34	37	weather	31	32
coat	35	33	hot	7	6	water	31	35
cool	31	27	ice	19	22	wind	35	37
cough		36	night	37		windy	35	38
dark	36		nose		38	winter	15	17
day	34	35	shiver	33	33	zero	37	

NORMS FOR THE LLS FOR BOYS AND GIRLS

whiskey

	B	G		B	G		B	G
alcohol	21	25	dangerous		38	liquid		38
ale	37		drank	38		liquor	15	18
bar	37	37	drink	9	9	rum	37	37
beard		38	drinking		37	shot		38
beer	19	23	drunk	15	19	sour	36	36
beverage	36	36	fast	38	35	strong	38	38
booze	30	35	gin	34	34	tavern		38
bottle	33	36	glass		38	vodka	38	
bourbon	37	38	good		38	water	38	
brandy		37	hot	38		whistle	38	
bum	37	38	intoxicated		38	wine	26	24

yellow

	B	G		B	G		B	G
afraid	31		daisy		30	moon	32	30
banana	26	25	dandelion	32	30	orange	28	26
bee	32		dress		28	paper	32	32
bird	31	30	duck		32	peach	32	
black	30	32	dull	32		pear		32
blond		32	Easter	32	32	pencil		32
blue	26	30	egg	32	32	pink		30
bright	28	23	fairy	32		purple		32
brown	31		fever	31		race	32	
butter	30	30	fire	32		red	27	30
butterfly	32	32	flower	25	25	rose		31
canary	31	32	girl		31	soft		32
car	31		gold	31	30	spring		31
caution	32		gray		32	stone		32
cheese		32	green	24	23	sun	20	15
chicken	27	30	hair	32	38	sweater		32
color	7	7	house	30		teeth	31	
coward	32	31	lemon	29	29	Thursday		32
crayon	31		light	28	28	white	28	29

NORMS FOR THE LLS FOR BOYS AND GIRLS

window

	B	G		B	G	•	B	G
air	.33	32	house	32	32	shutter		37
blind		37	light		34	sill	30	28
break	36	37	look	33	30	spray		37
breeze	37		open	34	32	square		37
broken	35	37	opening	35	36	transparent	35	37
clear	30	30	outdoors		37	view	35	36
closed		37	outside	35	36	wall	35	
cold		37	pane	22	18	wash	36	35
curtain		33	picture		37	washer	35	
door	28	25	scenery		37	wind	36	
drape		34	screen	35	36	wiper		36
frame	35	33	see	32	30			
glass	10	6	shade	33	32			

scissors

	B	G		B	G		B	G
clip	37		instrument		40	sharp	32	35
clippers		39	knife	34	39	shears	37	39
closed		40	material		40	sister	37	
cloth	37	40	mean	37		snip	36	
cut	13	15	pair	37		string	36	
cutters	34	40	paper	31	36	tape		40
cutting	34	39	paste	37		tool	35	39
doctor		40	sewing		40			

foot

	B	G		B	G		B	G
ache		38	head	32	33	run	37	
ankle	36	35	heel	36	38	shoe	14	16
ball	34		hoof	37		skin		38
blister	37		hurt	37	35	sock	37	37
body	28	31	inches	28	31	sore	34	37
bottom	36	38	legs	20	22	step	37	36
doctor		37	long	35	37	stink		38
end	37		measure	37		toes	9	8
feet	19	21	rule	37		walk	25	23
hand	32	30	ruler	33	36	yard	31	33

NORMS FOR THE LLS FOR BOYS AND GIRLS

doctor

	B	G		B	G		B	G
aid	33		helper	28	29	nurse	5	8
care		33	helpful		33	office	30	32
Casey	33		hospital	26	27	operate	31	33
cure	29	31	hurt	30	33	operation	33	31
curer	33		ill	33	31	pain	33	
dentist	26	28	illness	33	31	patient	25	23
disease		33	injury	33		person	33	
doc	33		Kildare	33	33	physical		33
examination		33	lawyer		33	physician	25	30
examine	32		man	23	28	shot	22	23
fix		33	M. D.	29	32	sick	19	21
heal		33	medic	33		sickness	28	28
healer		32	medical	32	30	surgeon	28	30
health	27	29	medicine	15	23			
help	27	31	needle	30	33			

wish

	B	G		B	G		B	G
ask	29	31	grant	29	31	request	34	
birthday	31	30	granted	30	33	something	34	34
bone	24	28	guess	32		star	27	26
come	34		had		34	think	28	29
command	32		happy		32	thinking		34
could	34	33	hard	32	33	thought	32	31
desire	32	29	have	32		three	34	
dish	30	32	hope	7	10	true	24	24
dream	13	11	imagine	34		want	18	20
fairy	24	28	like	33		wanted		33
fish		34	longing	34		wash	34	34
for	32	34	luck	33	33	well	21	23
fortune		34	maybe		34	wished	32	
genie	34		miracle	32		wonder		32
gift		33	money	29	34	yearning		34
good	32		pray	29	32			

NORMS FOR THE LIS FOR BOYS AND GIRLS

house

	B	G		B	G		B	G
apartment	30	30	fort	33		porch	33	33
barn	29	31	furniture	32	31	ranch	33	32
bed	33	33	garage	29	28	ride	33	
bedroom		33	high	33		roof	31	30
big	30	30	hold	32	33	room	28	31
boat		33	home	9	10	school		33
brick	32	32	hotel		33	shack	32	32
building	25	28	hut	32	32	shelter	27	29
cabin	31	30	live	22	23	street		33
car	33		living	32		trailer		33
chimney	33		lodging	33		warm	32	
clean	32	32	lot	33		white	32	33
comfort	31	33	mother		32	wife	32	32
cottage	33	32	mouse		32	window	33	31
dog	32		new	33		wood	32	31
doll	32		own		33	yard	33	31
door	29	30	people	30	31			
family	31	30	place	31	32			

justice

	B	G		B	G		B	G
brave		35	honor	35	34	officer	35	
cold	34		hope		35	orange	35	
court	20	19	injustice	34	33	order	33	32
crime	34	34	jail	34		peace	13	8
criminal		35	judge	24	19	police	25	28
democracy	34		just	34		right	29	24
done	35		law	9	14	sheriff		35
drink		35	lawful	35		thief		35
duty	35		lawyer	35		trial	35	
fair	29	26	liberty	31	32	trouble		35
fairness	33	31	man	34	35	true	35	35
flag	34	33	marriage		32	truth	30	31
free	34	35	married		32	unfair	35	
freedom	31	28	marry	31	32	unjust	34	
good	33	33	mayor		35	virtue		35
help	35	35	name		35	wish		35
honest	34		obey		34			

NORMS FOR THE LLS FOR BOYS AND GIRLS

river

	B	G		B	G		B	G
Amazon	38		current	38		Mississippi	27	30
bank	33	35	dam	38	38	Nile	37	
bed	38		deep	37	36	ocean	33	32
bend		37	Des Plaines	38		pond		36
big		38	dirty	36	38	sea	35	36
blue	37	38	fish	34	34	side		37
boat	31	33	flood	35		stream	16	17
bridge	38		flow	37	34	swamp		38
brook	38	37	flowing		38	swim		36
canal	36	37	Illinois	38		swimming	38	
channel	38		lake	17	16	valley	38	38
cool		37	large		38	water	11	11
creek	36	37	long	36				

sickness

	B	G		B	G		B	G
ache	33	35	fever	30	32	mumps	34	35
bad	29	36	flu	31	33	pain	33	35
bed	33	35	germ		36	pill	35	
cancer	33		good	33		polio	33	
chicken-pox	35		happiness	35		sadness	35	
cold	29	31	health	21	23	sick	27	29
cough	34		healthy	30	34	smallpox		35
dead	33		help	34		sorrow	35	
death	31	33	hospital	33	36	unhealthy	33	
die	35	35	hurt	31	34	virus	35	
disease	16	20	ill	7	7	weak	33	35
doctor	18	20	illness	21	23	well	25	30
dying	34	36	measels	27	33			
feel		36	medicine	33	32			

NORMS FOR THE LIS FOR BOYS AND GIRLS

mountain

	B	G		B	G		B	G
Alps	33	34	high	17	17	rocks	26	32
Andes	34		hill	8	10	rugged	34	35
big	29	33	huge		35	side	34	35
bluff	34		lake	34		ski		35
cave	34		large		35	slope	32	35
cliff		33	lion	33		snow	29	33
climb	30	30	mount	33		steep	30	30
climber	30	35	ocean		35	stream	32	34
climbing	32	35	peak	26	29	tall	33	33
dirt		33	plain		35	top	32	32
earth		35	plateau	33		tree	33	
Everest	32	34	range	30	33	valley	30	33
goat	33	35	river	34		volcano	34	
height	34	35	Rockies	27	29			

stove

	B	G		B	G		B	G
bake	36	39	gas	31	33	pan		40
burn	32	36	grill	36	39	pipe	30	37
burner	38	39	heat	22	32	pot	36	
cook	9	10	heater	38		range	31	37
cooking	30	35	hot	19	20	refrigerator	37	37
fire	24	28	instrument	38		sink		39
flame	38		kitchen	33	37	warm	33	38
food	33	38	oil	36	40	wood	38	
furnace	36		oven	13	14			

girl

	B	G		B	G		B	G
beautiful	30	34	lady	31	32	sharp	35	
boy	9	11	love	35	36	sister	34	
child	31	32	man	35		small	35	
cute		34	marriage	35		soft	35	
doll	33	36	me		36	sweet	34	35
dress	29	31	mother	34		teen-age		36
female	21	24	nice	33	36	woman	29	31
feminine	34	36	people	35		women	32	35
friend	34	35	person	32	34	young		36
hair	31	35	pretty	30	30			
human	34		sex	34				

NORMS FOR THE LLS FOR BOYS AND GIRLS

salt

	B	G		B	G		B	G
bitter	28	31	little	32		shaker	29	29
burn	33		meat	29	31	small		32
crystal	32		mine	30		sour	28	29
deer	32		mineral	28	31	spice	26	28
eat	32	32	ocean	27	31	sugar	22	27
egg	33	32	pepper	7	12	sweet	31	30
flavor	31	31	pork	33		table	32	
flavoring		32	potato		32	taste	28	31
food	25	29	river	33		tasty	32	32
good	32	32	rock	33		thing	33	
grain	33	32	salty	29	32	thirsty	33	
hot	32		sea	32	31	water	25	29
ice	32		season		32	white	30	30
lake	30	31	seasoning	26	28			

man

	B	G		B	G		B	G
adult	33		hard	34		sex	34	
big	31	35	human	31	34	shirt		35
boy	22	23	husband	33	33	smart		35
brave	34		lady	29	23	soldier	32	34
caveman		35	male	21	20	strong	30	32
child	34		masculine		35	suit	34	34
creature		35	men	29	30	tall	33	32
cute		34	mister	33	35	tough	34	
father	30	31	nice		35	woman	7	9
gentleman	31	32	old		35	women	23	21
girl	32	34	pants	34		work	27	32
great	34		parent		35	worker	33	33
grown-up	32	35	person	27	30			
handsome	33	29	power	34				

NORMS FOR THE LIS FOR BOYS AND GIRLS

cheese

	B	G		B	G		B	G
American		31	Friday	37	28	rat	25	27
blue		35	good	35	31	salami		35
bread	32	28	green	37	34	sandwich	26	23
burger		35	grilled	39		sharp	39	
butter	29	24	ham		35	smell	38	34
cake	35	31	hole	34	33	smile		35
cheddar	33	33	Holland		33	sour	36	35
cottage	38	34	Limburger	35		stink	39	33
cow	35	31	meat	35	31	strong		35
cracker	31	25	mice	16	17	Swiss	18	25
cream	32	29	milk	21	23	taste	39	35
dairy	36	32	moon	36	34	Wisconsin	39	35
eat	23	25	mouse	4	5	yellow	28	23
food	10	12	orange	36	31			

baby

	B	G		B	G		B	G
adult	33	35	delicate		40	parent		40
beautiful	36	40	diaper	31	30	person	33	35
birth	36	40	doctor	36		play		38
blue	33	40	doll	33	36	playful	36	
born	27	32	family	36		quiet		40
bottle	30	26	father	36		rattle	34	40
boy	16	23	gentle	36		sitter	33	36
brother	33		girl	28	23	small	14	16
buggy	36		grown-up	36	36	soft	33	35
charming		40	helpless	36		son	36	
child	6	2	human	33		sweet		40
children	34		infant	15	9	tiny	31	29
cradle	34		kid	33		tot	31	28
crib	29	35	little	18	18	toy		38
cry	17	9	love		40	trouble	36	
crying	33		man	31		young	27	33
cuddly		40	mother	28	33			
cute	28	23	nice	33				

NORMS FOR THE LLS FOR BOYS AND GIRLS

moon

	B	G		B	G		B	G
astronauts		32	light	21	21	romantic	37	33
beams		33	love	37	32	round	33	29
big	34	32	lunar	37		satellite	25	27
blue	37		lunch		32	shine	31	26
bright	29	27	man	33	30	silver		33
cheese	26	28	mars	32	33	sky	26	23
crater	26	27	Martian		33	solar	37	
dark	35	32	night	17	17	space	21	25
earth	19	25	noon	37		star	21	20
face	37		orbit	37	32	sun	5	7
far	34	33	planet	10	21	white	36	28
full	29	29	river	37	33	yellow	33	28
half	35	30	rocket	27	27			
high	35	33	romance		31			

spider

	B	G		B	G		B	G
animal	31	30	fly	32	34	scorpian	34	
ant	33	33	garden	34		sliver	34	36
arachnoid	34		hairy	34		snake	33	35
awful	34		insect	17	17	spin	34	
banana	34	36	kill	34		tarantula	32	35
bite	31	33	legs	28	27	thief	34	
black	29	27	Muffet		36	ugly	32	28
bug	24	20	net	34		web	10	9
crawl	33	32	poison	30	33	widow	32	35
creature		35	poisonous	34		wood		35
creepy	34	36	scare	33	34			
death		36	scarey	34	36			

NORMS FOR THE LLS FOR BOYS AND GIRLS

bread

	B	G		B	G		B	G
bake	35		eat	23	28	sandwich	28	27
baker	36		flour	27	27	slice	35	34
basket	35		food	14	21	soft	34	34
bird	36	34	host		34	stale	34	33
biscuit	36		jam	36	34	starch		34
box	35		jelly	36	33	tasty	36	
butter	8	9	loaf	29	29	toast	34	31
cake	36		lunch	36		water	28	28
cheese	33	33	margarine	36		wheat	23	28
crumb	35	32	meat		34	white	30	30
crust	34	31	milk	35	29	wine	32	34
dinner	36		muffins		34	yeast	33	
dough	29	32	rolls	36				
dry		34	rye	31	32			

whistle

	B	G		B	G		B	G
air	30	32	instrument	31		sound	17	19
bell	31	32	kettle	32		stop	33	31
bird	32	31	lip	29	29	talk	32	
blew	32		loud	18	25	teacher	33	
blow	5	6	lunch	33		teeth	33	33
boy	30	30	mouth	31	29	time		33
call	24	27	music	29	29	tone	33	
cat		33	noise	8	15	toot	29	29
cop	30	30	noisy	31		toy	29	30
Dixie	33		plastic		33	train	25	30
dog	27		police	18	21	tune	20	18
ear		33	pucker		31	tweet	32	30
flute	30		scream	30		voice		33
girl	26	32	screech	33		whiskey	33	
happiness		33	sharp	33		whistler	32	
happy	29	28	shrill	21	24	wind	31	30
high	33		signal		33	wolf	32	
horn	27	29	sing	23	21	work	33	31
hum	29	28	song	30	30	yell	30	33

NORMS FOR THE LLS FOR BOYS AND GIRLS

carpet

	B	G		B	G		B	G
bag		38	flying	35	37	soft	35	35
beat	37		furniture		38	spot		38
blue	37		house	37	38	sweep	37	37
broadloom	37		magic	36	37	sweeper	36	38
clean	37	37	material	37		tacks	36	38
cleaner	37		new	37		walk	36	35
covering	37	37	pretty		38	wall	37	37
dirty		38	red	36	38	wood	37	
dog	37		room	37	36	wool	37	37
expensive		38	rough	37				
floor	30	31	rug	13	14			

needle

	B	G		B	G		B	G
cloth	39		pinch		43	stick	39	43
doctor	37		point	33	41	stitch	39	43
eye	39	41	prick		43	straight	39	
haystack	38		scissors		42	string	39	42
hurt	37	42	sew	23	23	thin	39	42
mend		42	sewing	34	40	thread	10	12
ouch		42	sharp	30	36			
pin	20	29	shot	34	41			

hand

	B	G		B	G		B	G
ankle	34		foot	26	27	paw	34	
arm	20	19	give	34	34	right	34	
bag	34		glove	34	33	ring	34	35
body	27	31	grenade	34		rough		35
bone	34		hard		35	shake	31	33
boy	34		head	33	34	strong		35
cream		35	help	34	35	thumb		35
cuff	33		hold	32	33	toe	34	
cut		34	human	34		touch	33	33
elbow		35	left	34	35	use	34	
face		35	leg	32	34	useful	34	
feel	34		made	34	35	work	32	31
feet	32		move	34	35	wrist	33	34
finger	10	10	muscle	34		write	34	32
fist	32	35	nail		34			
flesh	34	35	palm	30	32			

NORMS FOR THE LLS FOR BOYS AND GIRLS

thief

	B	G		B	G		B	G
bad	31	31	honest		36	rob	29	30
badman	35		jail	35	36	robber	9	10
bandit	32	36	jewel		36	robbery	32	36
bank	35		jewelry		36	scoundrel	35	
burglar	24	25	justice		36	snatch		36
cheat	35		kill	35		steal	20	16
chief	35		killer	35		stealer	29	27
cop	35		man	35	36	stealing		34
crime	35		mean		36	stole	30	34
criminal	35	36	money	31	34	stolen	34	33
crook	24	30	murderer	35		take	33	33
gangster	35		police	32		theft	35	
head	35		rat		36			

dream

	B	G		B	G		B	G
angel	35		girl	34		reality	34	
asleep	34	33	good	33	32	see	35	
awake	34		happy		35	sleep	9	9
bad	34	35	hope	32	31	sleeping	33	35
beautiful		34	imaginary		35	story	34	35
bed	32	33	imagination		34	sweet		34
believe		35	imagine	32	32	tale	35	
boat	31	34	land	33	34	think	25	26
boy		34	love		34	thought	27	29
cloud	34	35	lovely	35		true	33	31
cozy		35	nice	32	33	untrue		35
day	32	32	night	30	29	vision	33	
daze		35	nightmare	15	19	wish	17	16
dreamer	35	35	pleasant		35	wonder	30	31
false	32	34	pretend	35		wonderful		35

NORMS FOR THE LLS FOR BOYS AND GIRLS

trouble

	B	G		B	G		B	G
afraid	27	28	fun	28		nothing		30
anger	28	29	gang	29		peace		30
angry		29	good		28	people		30
argument	28		hard	23	23	pleasure		28
bad	4	4	hardship	29	29	police	18	21
bother		27	harm		28	problem	21	14
boy	28	23	help	21	21	punish	28	30
break	29		hood		30	rough		29
car		30	hurt	28	30	run	28	
caught	29		in	27	30	sadness		30
child		30	interference	29		safe	27	29
commotion	29		jail	25	29	safety		29
confusion		29	jam	27	29	scared	27	29
cop	26	30	justice	28	28	school	29	28
court		30	kid	29		some		29
crime	29		kill	29		sorrow	29	
damage		29	law	28	27	sorry		30
danger	20	19	mad		28	steal	29	
dangerous	29		maker	20	22	teen-ager		29
detention	27		matter		30	terrible	27	30
difficult		29	mean	28	30	thief	27	28
disturb		30	mess		29	thought		29
dog	29		mischief	20	15	unhappy		30
double	28		mistake	28		violence		30
evil		30	mix-up	28		war	28	29
fear		29	money	29	29	work	28	29
fight	18	19	murder	28		worried	28	
fighting	28		naughty	28	26	worry	21	19
fix		30	nice	29		wrong	24	27

NORMS FOR THE LLS FOR BOYS AND GIRLS

religion

word	B	G	word	B	G	word	B	G
army	36		custom	36		people	36	36
aunt		37	faith	20	20	Presbyterian		37
belief	29	28	father		37	priest	35	36
believe	29	28	free		37	Protestant	34	37
bible		34	God	13	11	race		35
book	35	35	good	33	35	school	36	
catechism	33	32	holy	36	34	spelling	35	
Catholic	18	15	Jesus	34	35	state		37
Christ	34	34	Jewish	36	37	subject	33	32
Christian	29	33	land	36		Sunday	36	37
church	11	12	Lutheran	34	33	teaching		37
citizen		37	Methodist	36	36	work		37
country	35		pagan	36		worship	33	33

street

word	B	G	word	B	G	word	B	G
address	33	35	dark		35	pave	35	
alley	32	34	drive	34		paved	34	
auto	34		highway	31	30	pavement	32	33
avenue	21	20	home		35	place	32	35
block	32	34	house	34	32	ride		35
boulevard	34	35	lamp	35		road	10	10
bumpy		35	lane	33	33	sidewalk	34	30
car	21	20	light	31	32	sign	34	34
cement	34	35	live		33	state	33	34
city	34	34	long	35		stone	35	
cleaner	35		main	33	32	town	35	35
corner	29	32	name		35	traffic		35
cross		34	number	31	33	walk	31	33
curb	34		path	34		175th		35

NORMS FOR THE LLS FOR BOYS AND GIRLS

health

	B	G		B	G		B	G
aid		33	growth	33		play		33
alive	33		gym		33	poor	33	
bad	29	32	habit	33		posture	33	
blood	33		happiness		29	rescue	33	
board	33	32	happy	33	33	safety	28	29
body	18	18	healthy	24	27	school	32	
book	28	25	heart	32	33	science	30	32
care	28	32	help	32		shape		33
cheerful		33	hospital	32		shot		33
class		33	human		33	sick	8	9
clean	32	30	hygiene	28		sickness	15	15
cold	33		ill	25	25	strength	28	30
condition	21	23	illness		30	strong	15	20
death	33		life	27	31	subject	33	
department		33	live	33		teeth	30	27
disease	32		medicine	31	33	unhealthy	32	
doctor	10	10	mental	33		vitamins		33
eat	32	33	milk		31	walking	33	
exercise	28	29	muscle	32		weak	33	
feel		33	nice	33		wealth	31	28
fine	33		nurse		32	weight		33
fitness	33	31	o. k.	31		welfare	32	
food	31	32	person	32		well	19	16
germ	33		physical	31	31			
good	13	15	physician		32			

ocean

	B	G		B	G		B	G
Atlantic	33	33	lake	30	29	sand	38	
big	36	35	land		37	sea	13	11
blue	35	33	large	38	36	ship	35	35
boat	34	37	liner	36	37	stream	38	37
bottom	38		Pacific	33	32	swim		36
deep	33	32	river	31	27	tide		38
desert		38	sailing		38	vast	38	
fish	36	36	salt	34	36	water	13	12
floor	37	38	salty	38	35	waves	38	34

NORMS FOR THE LLS FOR BOYS AND GIRLS

bed

	B	G		B	G		B	G
berth	34		feather	35		room	33	31
blanket	33	32	furniture	34	33	sheet	35	33
bug	34		home	34	34	sleep	12	12
bunk	33	34	lay	34	34	sleeping		34
canopy		34	lie	34		slippers		34
chair	33	33	mat	34		soft	29	28
child	34		mattress	31	31	spread	34	33
comfort	33	32	night	33	33	spring	34	
comfortable	33	33	pillow	31	29	time	34	33
cot	32	33	people		34	tired	34	34
couch	34	34	post	35	34	up		34
cover	31	30	relaxation		34	warm	35	34
dream	35	34	rest	32	33			

child

	B	G		B	G		B	G
adult	32	27	infant	33	27	playing	36	
baby	6	5	kid	13	17	school	31	30
ball	37		little	25	22	small	23	21
boy	17	29	lovable		35	son	36	
brat	35	33	man	32	35	teen-ager		33
care		35	me		35	toddler		35
children	16	16	mother	31	29	tot	35	32
cry	37		nasty		35	toy	34	31
cute	37	35	nice	37	35	trouble	36	33
family	35		noise		35	woman	36	
girl	35	21	one		33	wonderful		35
good	35	32	parent	35	32	work	37	
grown-up	35	29	people	36	35	young	26	27
hood	34	33	person	21	27	youngster	35	35
human	36		play	25	23			

tobacco

	B	G		B	G		B	G
blend	38		father	39		pouch		41
cancer	35		field	38	41	product	39	41
chew	34	40	filter	39	40	smell		41
chewing	38		good	39		smoke	15	17
cigar	25	27	Indian		40	smoking	35	40
cigarette	11	12	leaf	33	33	South	39	40
crop	36	40	pipe	20	18	taste	39	
eat		40	plant	34	39	weed	38	
farm		41	plantation	38				

NORMS FOR THE LLS FOR BOYS AND GIRLS

woman

	B	G		B	G		B	G
adult	36	35	girl	26	26	nice	36	35
baby		36	housewife	37	36	old		36
beautiful		35	human	36		person	33	34
beauty	37		husband		36	pretty	35	33
big		35	kind		36	sex	36	
child		36	lady	21	21	talk	36	
children	37		man	10	10	wife	33	34
dress	32	33	married	36	36	women	36	34
elder		36	marry	36		work		36
female	23	26	men	34	32			
feminine		36	mother	32	31			

cabbage

	B	G		B	G		B	G
beet	36		eat	26	28	log	36	
boiled		36	farm	36		patch	34	
bunny		37	food	16	24	plant	31	35
carrot	35	36	fruit	35		rabbit	30	27
eelery	35	36	garden	30	32	radish	36	
cheese		37	good	34	37	salad	31	32
coleslaw		37	green	27	30	salt	35	
cook	36	36	head	27	28	smell	35	37
corn	36		horrible	36		sour	36	
corned-beef	33	35	leaf	33	35	trash		37
crop	36		leafy		36	vegetable	15	11
dressing	36		lettuce	9	11			

NORMS FOR THE LLS FOR BOYS AND GIRLS

citizen

	B	G		B	G		B	G
adult		32	freedom		30	pedestrian	30	
alien		30	friend	32		people	14	16
America	31	25	gentleman	33		person	8	6
American	24	21	good	26	24	president	36	
belong		31	government		32	public	31	31
belonging		32	governor		32	registered		31
burgher	32		help		32	resident	32	
Catholic		32	human	31	31	right		32
child	32		immigrant	31		senior		32
citizenship		32	inhabitant	33		ship	30	29
city	23	20	judge	33		state	30	30
civics	32		justice	33		taxpayer	31	
civilian	32		law	33	31	town	25	29
clean	33	32	loyal	32	29	U. S.	27	24
club	31	32	man	28	30	vote	30	30
community	30	28	mayor	31	32	voter	32	30
country	29	25	me	32		woman		32
democracy		31	member	27	23	worker		32
foreign	33	31	men	32	31	you		32
foreigner	31	30	native		30			
free		30	neighbor	32	31			

earth

	B	G		B	G		B	G
axis		37	live	36	35	sky		35
ball	35	34	living	37		soil	31	29
big	34		Mars	35	31	space	34	36
dirt	27	28	moon	20	23	sphere		37
globe	37	33	nature		37	star		37
God		36	people	32	32	sun	32	31
ground	27	23	place	37		surface		36
heaven	37	33	planet	9	8	universe	34	35
home	37		plant	35		U. S.		37
land	30	30	quake	35	35	water		37
large		37	rocky		37	world	19	13
life		35	round	29	24	worm	36	37

NORMS FOR THE LIS FOR BOYS AND GIRLS

lion

	B	G		B	G		B	G
animal	14	17	den	34	35	mountain	35	
bad		35	eat	35		mouse	34	35
bear	34	35	ferocious		32	roar	29	27
beast	29	30	fierce	29	29	roaring		35
big	34	35	growl	33	34	scare	35	
bite		35	hairy		35	tame	35	34
brave	34	35	jungle	30	33	tamer	33	33
cage	31	32	king	29	32	teeth	34	
cat	28	33	leopard	35	34	tiger	10	10
circus	34	34	lioness		35	vicious	35	
creature	35		mane	34		wild	33	33
cub	31	33	mean	32	31	zoo	30	30
dangerous		34	meat	34				

butter

	B	G		B	G		B	G
bread	8	10	food	25	27	potato		34
buy		34	good	31	33	product	33	
cheese	29	30	grease	33	34	rich	34	
churn	32	33	greasy	34	33	slippery		34
cow	31	32	knife	30	32	smooth	32	
cream	29	29	margarine	26	27	soft	30	30
cup	32		melt	31	33	spread	30	30
dairy	32	33	melted	34		stick	34	33
eat	31	33	milk	21	27	sweet	34	33
fat	29	31	nut	34		toast	31	31
finger	32	33	oil	34	33	yellow	25	25
fly	27	32	peanut	34	33			

NORMS FOR THE LIS FOR BOYS AND GIRLS

music

word	B	G	word	B	G	word	B	G
art	30	30	hear	33	33	piano	22	15
band	17	28	horn	31		play	28	34
bass	34		Ideals	29		pretty	33	
Beatles	30	29	instrument	11	17	radio	34	30
beautiful	27	27	jazz	29	29	record	26	32
beauty	34		lesson	29	31	rhythm		34
Beethoven	34		listen		34	scales	34	
book	33	35	loud	30	34	sing	11	9
box	33		lovely		34	singing	31	25
comfort	34		maker		34	soft	32	29
composer		35	man	33		song	7	7
concert		31	melody	28	27	sound	14	15
conductor	33		musician	34		sweet	28	28
dance	26	25	nice	30	33	teacher	27	32
drum	31	35	noise	25	30	tone	27	30
flute		35	note	18	15	tune	23	26
good	34	32	opera		35	violin		33
guitar	34		orchestra	30	32	voice		35
hall	34		organ	34	35	whistle		31

APPENDIX II

SAMPLE COPY OF TEST BOOKLET

L O Y O L A L A N G U A G E S T U D Y

(Experimental Edition)

I N S T R U C T I O N S

When people see or hear a word, they often
think of another word. If you say the word, Stem,
most people would think of flower. Some, but not the
greatest number, might think of Pipe, Grass, Stop,
and so forth.

This study wants to find out what word you
think the greatest number of people would be most
likely to think of when they see or hear each of the
words on the next two pages.

Please write next to each of the words the
one word which you think the greatest number of
people would be most likely to think of when they
see or hear the word in the list. Take as much time
as you need to think about the word which seems to
you to "go along" with each printed word. Then
choose the one word which you think the greatest
number of people would be most likely to think of
when they see or hear the given word. Write the
one word which you choose beside the printed word.
Do not skip any word.

Remember, you are not asked to write down just
any word that comes to your mind. You should write
down the one word which you think the greatest number
of people would be most likely to think of.

N.B. Please fill out the information blank on Page 4.

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Beside each of the words printed below write the one word which you think the greatest number of people would be most likely to think of when they see or hear that word.

soldier	sour	whiskey	whistle
hungry	king	yellow	carpet
butterfly	deep	window	needle
long	sleep	scissors	hand
head	black	foot	thief
anger	hammer	doctor	dream
afraid	table	wish	trouble
fruit	thirsty	house	religion
dark	quiet	justice	street
red	hard	river	health
loud	blue	sickness	ocean
bath	sweet	mountain	bed
eating	stomach	stove	child
joy	working	girl	tobacco
rough	comfort	salt	woman
heavy	soft	man	cabbage
high	short	cheese	citizen
white	beautiful	baby	earth
		moon	lion
		spider	butter
		bread	music

APPROVAL SHEET

The dissertation submitted by Donald J. Rumann has

been read and approved by five members of the Depart-

ment of Psychology.

The final copies have been examined by the director

of the dissertation and the signature which appears below

verifies the fact that any necessary changes have been

incorporated, and that the dissertation is now given final

approval with reference to content, form, and mechanical

accuracy.

The dissertation is therefore accepted in partial fulfill-

ment of the requirements for the Degree of Doctor of

Philosophy.

Jan 15, 1966
_____
Date

_____
Signature of Adviser