

**A STUDY ON THE
RELATIONSHIP BETWEEN PEER'S
ACCEPTANCE AND ACADEMIC PERFORMANCE**

BY

AIDA GILDA FUENTES

A STUDY ON THE RELATIONSHIP BETWEEN
PEER'S ACCEPTANCE AND ACADEMIC PERFORMANCE

A Research Paper

Presented to

the Graduate Council of
Austin Peay State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in Education

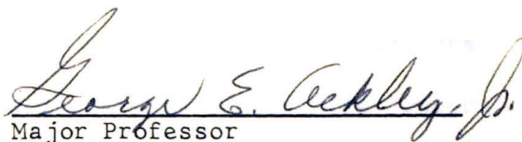
by

Aida Gilda Fuentes R-59

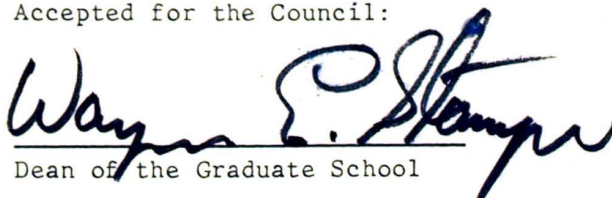
August 1969

To the Graduate Council:

I am submitting herewith a research paper written by Aida Gilda Fuentes entitled "A Study on the Relationship between Peer's Acceptance and Academic Achievement". I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts in Education with a major in Counseling and Guidance.


Major Professor

Accepted for the Council:


Dean of the Graduate School

ACKNOWLEDGMENTS

Sincere gratitude is expressed to Dr. George E. Ackley, Jr., Ph. D., chairman of the Department of Psychology, for his valuable direction, criticism and counsel given to the writer of this paper not only during the development of this study but also throughout her entire stay in this great country.

Grateful acknowledgment is made to Mr. Robert Eugene Moore and Mrs. Kathryn Harmon, assistant principal and secretary at Greeneville Junior High School respectively, for their kind assistance in making this research possible.

TABLE OF CONTENTS

CHAPTER	PAGE
I. THE PROBLEM AND DEFINITIONS OF TERMS USED	1
Introduction	1
The Problem	2
Statement of the problem	2
Importance of the study	3
Hypotheses	3
Definitions of Terms Used	4
Highly accepted students	4
Highly rejected students	4
Not highly accepted students	4
Not highly rejected students	4
Control group	4
Limitations of the Study	4
Procedures Used in this Study	4
Organization of the Study	5
II. ORGANIZATION OF GROUPS	6
III. FINDINGS ON CLASSROOM ACHIEVEMENT PERFORMANCE	9
IV. FINDINGS ON PERFORMANCE WITH STANDARDIZED TEST	15
V. SUMMARY, FINDINGS AND CONCLUSIONS	21
Summary	21
Findings	21
Conclusions	22
VI. INTERPRETATION	23

CHAPTER	PAGE
BIBLIOGRAPHY	24
APPENDIXES	25
APPENDIX A. Classroom Scholastic Achievement for Students in three Groups	25
APPENDIX B. Metropolitan Achievement Test, Grade Equivalent into Standard Scores, for the Accepted Group . . .	26
APPENDIX C. Metropolitan Achievement Test, Grade Equivalent into Standard Scores, for the Rejected Group . . .	27
APPENDIX D. Metropolitan Achievement Test, Grade Equivalent into Standard Scores, for the Control Group . . .	28

LIST OF TABLES

TABLE	PAGE
I. Results of Sociometric Test	8
II. Classroom Scholastic Achievement of Students in Accepted Group	11
III. Classroom Scholastic Achievement of Students in Rejected Group	12
IV. Classroom Scholastic Achievement of Students in Control Group	13
V. Statistical Data of Grade Point Average	14
VI. Metropolitan Achievement Test, Standard Scores, for Accepted Group	17
VII. Metropolitan Achievement Test, Standard Scores, for Rejected Group	18
VIII. Metropolitan Achievement Test, Standard Scores, for Control Group	19
IX. Statistical Data of Scores in Standard Achievement Test . .	20

CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

Introduction. Is there any relationship between social acceptance and academic achievement? Psychologists and educators all over the world have discussed and debated, at one time or another, the motivation existing within every child which makes him thirsty for knowledge and learning. Among the possible motivations, curiosity, a wish for imitation, and a desire for recognition and acceptance by the social group are often mentioned in the first place.

Many a psychologist has said that a happy child will learn more, sooner and better than a child who is unhappy. Charles says that "children learn because they want to or need to; they often fail because they do not want or need to learn" ¹ Again Charles says, "only if academic success is valued by the group that is important to the child will he channel a major part of his energy toward classroom achievement." ²

Mumma ³ re-states the close and positive correlation between social acceptance and academic achievement.

Havighurst and Taba ⁴ indicate that one of the most influencing causes

¹Don C. Charles, Psychology of the Child in the Classroom, (The Psychological Foundations of Education Series). New York: The Macmillan Co., 1964, p. 1.

²Ibid, p. 10.

³John Mumma, "Peer Evaluation and Academic Performance", Personnel and Guidance Journal, Vo. 44, N. 4, Dec., 1965, p. 405.

⁴Robert J. Havighurst and Hilda Taba, Adolescent Character and Personality. New York: John Wiley and Sons, Inc., 1949, pp. 54-55.

in academic achievement is the social class extraction of the students. They state that a comparatively small group of lower class students succeed because they are making an extra effort, which is not required by the social stratum to which they belong.

Eargle⁵ found a positive correlation between social classes of the students and the level of preferences indicated by their teachers. There also seems to be a definite relationship between teachers preferences and success in academic work, and between social class and academic work.

Coleman⁶ indicates that it seems sometimes impossible to determine whether superior achievement is the result of intelligence or socio-economic status.

Wheeler⁷ states that popularity and prestige among the peers have enormous influence upon every adolescent's sense of well-being. Popularity may affect an adolescent's choice of friends, extra-curricular activities and vocational goals; but, on the other hand, it has also been proved that generally the peer's culture does not praise those of its members who excel in scholastic achievement.

I. THE PROBLEM

Statement of the problem. The purpose of this study was to

⁵Zane Eargle, "Social Class and Student Success". High School Journal, XLVI (February, 1963), 162-69.

⁶Hubert A. Coleman, "The Relationship of Socio Economic Status to the Performance of Junior High School Students", The Journal of Experimental Education, IX (September, 1940), 61-63.

⁷D. K. Wheeler, "Popularity among Adolescents in Western Australia and in the U.S.A." Studies in Adolescence, Robert Grinder (comp.). New York: The Macmillan Co., 1963, p. 297.

investigate the relationship between peer's acceptance and academic achievement.

Importance of the study. Regardless of the debates on ranking the importance of factors influencing academic achievement, one of the most essential elements necessary in understanding the academic behavior of the students is the student himself and his own world represented by his own society (peers) and culture.

II. HYPOTHESES

Throughout this study the following hypotheses have been tested:

1. Students who are highly accepted by their peers will be as successful academically as those students who are not highly accepted by their peers. (Control group)
2. Students who are highly rejected by their peers will be as successful academically as those students who are not highly rejected by their peers. (Control group)
3. Students who are highly accepted by their peers will be as successful academically as those who are highly rejected by their peers.
4. Students who are highly accepted by their peers will be as successful on standard achievement tests as those students who are not highly accepted by their peers. (Control group)
5. Students who are highly rejected by their peers will be as successful on standard achievement tests as those students who are not highly rejected by their peers. (Control group)
6. Students who are highly accepted by their peers will be as

successful on standard achievement tests as those students who are highly rejected by their peers.

III. DEFINITIONS OF TERMS USED

The terms used in this study were defined as follows:

Highly accepted students. Students who ranked in the top 13 percent of the class in the selected choices.

Highly rejected students. Students who ranked in the top 13 percent of the class in rejection choices.

Not highly accepted students. Students who were not included in the top 13 percent of the class in the selected choices.

Not highly rejected students. Students who were not included in the top 13 percent of the class in the rejected choices.

Control group. For the purpose of this study, the name of control group was used for the group of not highly accepted nor highly rejected students.

IV. LIMITATIONS OF THIS STUDY

This study was limited to all the students in the eighth grade in Greeneville Junior High School, Greeneville, Tennessee. The actual enrollment, at the time the test was given, was two hundred and forty-three students (boys and girls). Two hundred and twenty-seven participated in this study--nine refused to participate and seven were absent.

V. PROCEDURES USED IN THIS STUDY

In gathering data the following steps were taken: (1) a sociometric test was administered to all eighth grade pupils at the end of the first semester, (2) the semester grades of the students selected in the different groups were recorded and averaged, and (3) the results of the Metropolitan Achievement Test were also recorded and averaged.

VI. ORGANIZATION OF THE STUDY

The contents of this study were organized into five chapters. An introduction, a statement of the problem, the importance of the study, the definitions of terms used, the limitations of the study, the procedures used and the organization of the study are included in Chapter I.

Chapter II deals with the sociometric test, the organization of the groups used in this study, and the findings of such a test.

Chapter III presents the findings and comments pertaining to the classroom achievement of the students.

Chapter IV gives the findings on the performance of the same students on the Metropolitan Achievement Test.

Chapter V consists of the summary findings and conclusions.

CHAPTER II

ORGANIZATION OF GROUPS

The first step of this study was to administer to the students a sociometric test in order to select the well-accepted and the rejected group.

The test consisted of twenty open-ended sentences, including two types of items: the person I like the most to do something with; and the person I like the least to do something with.

The following are the items of the sociometric questionnaire employed in this study:

A. The person I like the most to:

1. go to a game _____
2. be in a class project _____
3. talk with in the hall _____
4. ride a bus with _____
5. keep a secret _____
6. be with on a committee _____
7. eat lunch with _____
8. sit next to _____
9. join my club or group _____
10. do a favor for _____

The same items were used to select the rejected group, except the words "the most" used in the heading were changed to "the least".

Students who ranked in the top 13 percent of choices, which consisted of thirty subjects, formed the accepted group.

The rejected group was formed by those students who ranked in the top 13 percent of rejections (or lowest 13 percent in acceptance).

The control group was selected by employing a table of random numbers in Edwards' Experimental Design in Psychological Research.⁸ With eyes closed, a number was pointed out to start selecting numbers as they appeared in the table. The last three numbers from 1 through 247 were selected as they appeared from the random numbers.

Any duplication of a number was skipped and the next number was selected until thirty were selected for the control group. The selection started in the fifth column of the table for 1000.

The number of preferences and rejections obtained by the students included in the three groups of this research are shown in Table I.

⁸Allen Edwards, Experimental Design in Psychological Research. New York: Rinehart and Co., Inc., 1950.

TABLE I

RESULTS OF SOCIOMETRIC TEST
EIGHTH GRADE STUDENTS AT GREENEVILLE JUNIOR HIGH SCHOOL. JANUARY, 1969

ACCEPTED GROUP		REJECTED GROUP		CONTROL GROUP		
#	Pref.	#	Reject.	Position No. in # Alphabetical list*	Pref.	Reject.
1	47	101	44	201 (67)	2	22
2	38	102	34	202 (137)	1	14
3	38	103	33	203 (51)	4	12
4	34	104	32	204 (148)	10	10
5	26	105	30	205 (55)	4	5
6	26	106	29	206 (194)	21	11
7	23	107	26	207 (118)	2	11
8	23	108	26	208 (149)	7	5
9	21	109	25	209 (123)	11	1
10	21	110	24	210 (144)	11	0
11	21	111	24	211 (17)	10	20
12	19	112	23	212 (65)	8	20
13	19	113	22	213 (34)	10	1
14	18	114	21	214 (36)	11	0
15	17	115	20	215 (167)	6	5
16	17	116	20	216 (12)	1	6
17	17	117	20	217 (40)	5	3
18	17	118	20	218 (01)	2	19
19	17	119	19	219 (88)	4	3
20	16	120	19	220 (122)	15	5
21	15	121	18	221 (161)	6	10
22	15	122	18	222 (54)	0	5
23	15	123	18	223 (61)	7	0
24	15	124	18	224 (225)	0	26
25	15	125	17	225 (78)	5	3
26	15	126	17	226 (106)	6	12
27	15	127	16	227 (14)	4	20
28	15	128	16	228 (18)	2	1
29	14	129	16	229 (112)	6	5
30	14	130	16	230 (69)	7	3

Students ranking in the top 13 per cent of the class in preference and rejection choices formed the accepted and the rejected group. The control group was selected according to table random in Edward's Experimental Design in Psychological Research.
*Selected from Table of Random Numbers. Number in parenthesis designates individual's alphabetical listing by number.

CHAPTER III

FINDINGS ON CLASSROOM ACHIEVEMENT PERFORMANCE

The purpose of this chapter is to present the data in the second step of this study, which was the classroom scholastic achievement of the eighth grade students at Greeneville Junior High School, represented by the semester grades.

At the end of the first semester the grades earned by these students in the basic required subjects of English, Arithmetic, Science, and Social Studies were recorded and averaged. Physical Education and an elective course that all the eighth grade pupils are supposed to take were not included in the scholastic achievement scores.

The actual letter grades used in this school were given a number equivalent, as follows: A = 4 ; B = 3 ; C = 2 ; D = 1 ; and F = 0. Tables II, III, and IV report the academic performance of the students.

An over-all grade point average was computed for each subject, and the mean for each group was obtained:

Accepted group, 30 students, $M = 2.59$

Rejected group, 30 students, $M = 1.83$

Control group, 30 students, $M = 1.99$

The standard deviation for each group was computed. These standard deviations are given below, and distributions from which they were computed may be found in Table IV:

Group 1, Accepted, $SD = 0.66$

Group 2, Rejected, $SD = 0.95$

Group 3, Control, $SD = 0.93$

With these data, an attempt was made to establish whether there was a significant difference between these means. The corresponding computation reveals a significant difference in performance between the accepted and the control group, and between the accepted and the rejected group, at the one percent level of confidence.

When the academic performances of the rejected and the control groups were compared, the null hypothesis was accepted because the difference between the means of the rejected and control groups did not differ from chance expectancy.

TABLE II

CLASSROOM SCHOLASTIC ACHIEVEMENT OF STUDENTS IN ACCEPTED GROUP

STUDENTS	ENGLISH	ARITH.	SCIENCE	SOC.STUDIES	AVERAGE	X ²
1	3	2	2			
2	3	2	2	3	2.50	6.2500
3	2	3	2	4	2.75	7.5625
4	3	3	2	2	2.25	5.0625
5	2	2	2	3	2.75	7.5625
6	3	3	2	2	2.00	4.0000
7	2	4	1	3	2.75	7.5625
8	1	2	1	3	2.50	6.2500
9	3	4	3	1	1.25	1.5625
10	3	2	2	3	3.25	10.5625
11	3	1	2	4	2.75	7.5625
12	4	4	3	3	2.25	5.0625
13	2	2	1	4	3.75	14.0625
14	2	1	1	3	2.00	4.0000
15	2	2	2	1	1.25	1.5625
16	2	3	3	4	2.50	6.2500
17	1	1	1	3	2.75	7.5625
18	2	1	3	3	1.50	2.2500
19	2	3	2	2	2.00	4.0000
20	2	1	3	4	2.75	7.5625
21	4	4	3	2	2.00	4.0000
22	3	3	3	4	3.75	14.0625
23	3	3	3	4	3.25	10.5625
24	3	2	2	4	3.25	10.5625
25	3	3	3	3	2.50	6.2500
26	4	4	3	3	3.00	9.0000
27	2	4	3	4	3.75	14.0625
28	3	2	3	4	3.25	10.5625
29	2	3	2	3	2.75	7.5625
30	3	3	1	3	2.50	6.2500
				2	2.25	5.0625
					77.75	214.1875

$$M = 2.59$$

$$SD = 0.66$$

The figures given in this table correspond to the semester grades obtained by the students in English, Arithmetic, Science, and Social Studies. The conversion of grades was made according to the following scale: A = 4 ; B = 3 ; C = 2 ; D = 1; and F = 0

TABLE III

CLASSROOM SCHOLASTIC ACHIEVEMENT OF STUDENTS IN REJECTED GROUP
EIGHTH GRADE AT GREENEVILLE JUNIOR HIGH SCHOOL, JANUARY, 1969

STUDENTS	ENGLISH	ARITH.	SCIENCE	SOC.STUDIES	AVERAGE	x^2
101	1	2	2	2	1.75	3.0625
102	1	2	2	3	2.00	4.0000
103	3	3	3	4	3.25	10.5625
104	1	0	1	2	1.00	1.0000
105	2	2	2	2	2.00	4.0000
106	0	0	0	1	0.25	0.0625
107	1	2	0	2	1.25	1.5625
108	2	3	4	3	3.00	9.0000
109	0	1	0	0	0.25	0.0625
110	2	1	3	2	2.00	4.0000
111	4	2	3	4	3.25	10.5625
112	1	0	2	1	1.00	1.0000
113	1	2	2	3	2.00	4.0000
114	2	4	1	3	2.50	6.2500
115	2	2	2	1	1.75	3.0625
116	4	2	2	4	3.00	9.0000
117	4	3	3	4	3.50	12.2500
118	2	2	3	3	2.50	6.2500
119	1	2	1	2	1.50	2.2500
120	1	2	2	2	1.75	3.0625
121	0	0	0	1	0.25	0.0625
122	0	2	2	2	1.50	2.2500
123	1	1	2	1	1.25	1.5625
124	1	2	1	1	1.25	1.5625
125	3	3	3	4	3.25	10.5625
126	2	4	2	3	2.75	7.5625
127	1	1	1	3	1.50	2.2500
128	1	0	1	1	0.75	0.5625
129	0	2	0	0	0.50	0.2500
130	3	2	2	3	2.50	6.2500
					55.00	127.8750

$M = 1.83$
 $SD = 0.95$

The figures given in this table correspond to the semester grades obtained by the students in English, Arithmetic, Science, and Social Studies. The conversion of grades was made according to the following scale: A = 4 ; B = 3 ; C = 2 ; D = 1 ; and F = 0

TABLE IV

CLASSROOM SCHOLASTIC ACHIEVEMENT FOR STUDENTS IN THE CONTROL GROUP
EIGHTH GRADE AT GREENEVILLE JUNIOR HIGH SCHOOL, JANUARY, 1969

STUDENTS	ENGLISH	ARITH.	SCIENCE	SOC. STUDIES	AVERAGE	X ²
201 (67)	1	0	1	1	0.75	0.5625
202 (137)	2	1	2	2	1.75	3.0625
203 (51)	2	2	2	2	2.00	4.0000
204 (148)	3	3	2	3	2.75	7.5625
205 (55)	0	0	0	1	0.25	0.0625
206 (194)	3	4	3	3	3.25	10.5625
207 (118)	2	2	3	3	2.50	6.2500
208 (149)	3	2	3	4	3.00	9.0000
209 (123)	2	3	2	3	2.50	6.2500
210 (144)	3	4	4	3	3.50	12.5000
211 (17)	2	2	3	3	2.50	6.2500
212 (65)	2	3	2	2	2.25	5.0625
213 (34)	3	3	3	4	3.25	10.5625
214 (36)	2	3	2	3	2.50	6.2500
215 (167)	2	2	2	2	2.00	4.0000
216 (12)	1	1	0	1	0.75	0.5625
217 (40)	2	3	3	3	2.75	7.5625
218 (01)	1	2	2	2	1.75	3.0625
219 (88)	1	0	1	1	0.75	0.5625
220 (122)	3	3	3	3	3.00	9.0000
221 (161)	0	1	0	1	0.50	0.2500
222 (54)	2	2	2	3	2.25	5.0625
223 (61)	2	1	2	1	1.50	2.2500
224 (225)	1	2	0	2	1.25	1.5625
225 (78)	1	2	1	2	1.50	2.2500
226 (106)	2	2	1	3	2.00	4.0000
227 (14)	4	3	3	4	3.50	12.5000
228 (18)	1	2	0	1	1.00	1.0000
229 (112)	1	1	2	2	1.50	2.2500
230 (69)	0	1	1	2	1.00	1.0000
					59.75	144.8125

M = 1.99
SD = 0.93

The figures given in this table correspond to the semester grades obtained by the students in the control group, in the academic areas of English, Arithmetic, Science, and Social Studies. The conversion of grades was made according to this scale: A = 4 ; B = 3 ; C = 2 ; D = 1 ; F = 0

TABLE V

STATISTICAL DATA OF GRADE POINT AVERAGE OF
THREE GROUPS OF EIGHTH GRADE STUDENTS AT
GREENEVILLE JUNIOR HIGH SCHOOL, JANUARY, 1969

ACCEPTED GROUP	REJECTED GROUP	CONTROL GROUP
$M_1 = 2.59$	$M_2 = 1.83$	$M_3 = 1.99$
$SD_1 = 0.66$	$SD_2 = 0.95$	$SD_3 = 0.93$
$SE_{M1} = 0.12$	$SE_{M2} = 0.18$	$SE_{M3} = 0.17$
ACCEPTED GROUP	$SE_{diff} = 0.20$	$SE_{diff} = 0.20$
	$t = 3.80^*$	$t = 3.00^*$
REJECTED GROUP		$SE_{diff} = 0.24$
		$t = 0.66$

CHAPTER IV

FINDINGS ON PERFORMANCE WITH STANDARDIZED TEST

In January of 1969 the Metropolitan Achievement Test was administered to the eighth grade, as a part of the school guidance program. These results were used as follows to obtain a measure of academic performance.

The results of this battery of tests are given in grade equivalent scores. Consequently, they had to be converted into standard scores. In order to do this, Table 4, appearing on page 22 of the directions booklet, was used.¹⁰ This conversion can be found in Appendixes B, C, and D. The academic performance in standard scores for each of the three groups is shown in Tables VII, VIII, and IX. Again, an over-all average was found for every child, and the respective mean for each group was found to be as follows:

Accepted group, 30 students, $M = 52.78$

Rejected group, 30 students, $M = 47.12$

Control group, 30 students, $M = 49.68$

Appropriate statistical procedures were performed to determine if significant differences between the means of the groups existed. These results may be found in summary form in Table V. Statistical computation revealed that there was no significant difference between the means of the accepted and the control groups in academic performance at the one percent level of confidence. It is worthy to note, however, that there

¹⁰"Directions for Administering Metropolitan Achievement Tests", Advanced Battery--Complete for Grades 7, 8 & 9, Walter N. Durost (ed.). New York: Harcourt, Brace & World, Inc., 1959.

was found significance at the five percent level of confidence.

No significant difference appeared when the performance of the rejected group was compared to that of the control group.

When comparing the performance of the accepted group with that of the rejected group, the difference was significant at the one percent level.

TABLE VI

METROPOLITAN ACHIEVEMENT TEST, STANDARD SCORES, FOR ACCEPTED GROUP

#	Word	Read.	Spell.	Lang.	L.S.S.	Arith.	A.P.S.	Soc.	St.	SSSS	Sci.	Aver.	X ²
1	51	58	47	52	50	50	56	55	43	54	51.6	2662.56	
2	56	58	51	54	56	43	50	48	53	56	52.5	2756.25	
3	45	57	45	41	54	50	51	48	53	56	50.0	2500.00	
4	56	58	59	59	56	58	60	53	53	58	57.0	3249.00	
5	43	42	41	51	45	44	42	48	52	49	45.7	2088.49	
6	56	58	53	44	56	47	47	55	47	51	51.4	2641.96	
7	48	45	59	45	54	53	44	47	50	47	49.2	2420.64	
8	40	42	38	34	43	45	40	41	37	37	40.7	1656.49	
9	55	51	59	59	56	51	50	51	44	46	58.1	3375.61	
10	56	51	59	56	45	55	57	55	53	45	53.2	2830.24	
11	56	51	59	56	56	49	44	55	53	58	58.5	3422.25	
12	56	56	57	59	56	58	60	55	53	57	56.7	3214.89	
13	56	52	54	54	45	53	51	55	46	55	52.1	2714.41	
14	52	54	59	42	50	39	42		40		47.5	2256.25	
15	56	58	59	59	49	53	60	55	53	58	56.0	3136.00	
16	55	58	57	51	54	58	60	50	53	54	55.0	3025.00	
17	47	45	51	40	46	44	41	45	42	38	53.9	2905.21	
18	56	58	59	59	56	53	60	55	53	58	56.7	3214.89	
19	52	57	58	52	54	51	48	53	47	55	52.7	2777.29	
20	56	58	44	38	56	42	42	50	52	58	48.6	2361.96	
21	56	58	59	59	56	58	58	55	53	58	57.0	3249.00	
22	56	58	59	51	56	54	51	55	53	58	55.1	3036.01	
23	56	58	58	56	56	58	58	55	53	58	56.6	3203.56	
24	48	57	49	52	48	53	60	53	50	47	42.7	1823.29	
25	56	58	55	59	56	53	57	55	53	58	56.0	3136.00	
26	56	58	59	59	56	58	60	55	53	58	57.2	3271.84	
27	56	58	52	54	56	57	50	55	46	53	53.7	2883.69	
28	56	58	54	59	56	52	52	45	53	58	54.3	2948.49	
29	56	54	59	55	52	44	44	54	42	58	51.8	2683.24	
30	47	53	59	40	56	58	54	46	50	58	52.1	2714.41	
												1583.6	85339.12

M = 52.78
SD = 7.67

All the figures given in this table correspond to the Standard scores. The results of the Metropolitan Achievement Test are given in grade-equivalent scores. A conversion from grade equivalent into Standard scores may be found in Appendix B.

TABLE VII

 METROPOLITAN ACHIEVEMENT TEST, STANDARD SCORES, FOR REJECTED GROUP

#	Word	Read.	Spell.	Lang.	L.S.S.	Arith.	A.P.S.	Soc.	St.	SSSS	Sci.	Aver.	X ²
101	47	54	42	43	48	47	42						
102	51	57	50	45	52	51	54	52	53	49	47.7	2275.29	
103	56	58	57	53	56	58	60	55	53	47	51.5	2652.25	
104	52	51	59	54	54	44	36	36	50	58	56.4	3180.96	
105	43	42	41	51	45	44	42	48	52	45	48.1	2313.61	
106	41	37	40	35	36	30	27	31	42	35	35.4	1253.16	
107	50	45	43	43	54	51	52	50	40	48	47.6	2265.76	
108	51	53	59	46	56	50	48	43	53	54	51.3	2631.69	
109	56	58	53	46	54	52	42	46	46	38	49.1	2410.81	
110	46	45	57	47	43	46	49	45	42	50	47.0	2209.00	
111	56	58	59	57	56	57	56	55	53	58	56.5	3192.25	
112	45	53	43	41	40	40	38	45	35	47	42.7	1823.29	
113	38	42	44	41	43	50	49	50	39	41	43.7	1909.69	
114	49	45	59	45	54	53	44	47	50	47	49.3	2430.49	
115	56	58	53	46	54	52	42	46	46	38	48.4	2342.56	
116	55	56	52	52	54	49	51	55	53	58	53.5	2862.25	
117	56	58	57	55	56	58	60	55	53	58	56.6	3203.56	
118	51	47	52	57	54	51	52	49	52	49	51.5	2652.25	
119	44	43	59	40	43	33	39	46	37	33	41.7	1738.89	
120	51	45	57	56	56	52	51	48	48	44	50.8	2580.64	
121	36	33	36	26	41	29	31	34	31	34	33.1	1095.61	
122	52	43	55	56	50	53	50		45		50.5	2550.25	
123	40	35	41	44	45	41	40	39	52	44	42.1	1772.41	
124	37	34	32	25	32	37	37	30	39	38	34.1	1162.81	
125	52	46	40	47	56	53	44	48	48	52	48.6	2361.96	
126	56	58	59	52	54	52	54	53	40	47	52.5	2756.25	
127	47	46	51	40	46	44	41	45	42	38	44.0	1936.00	
128	40	37	35	32	34	43	45	34	43	45	38.8	1505.44	
129					34	41	43	40	39	39	39.3	1544.49	
130	56	58	59	53	56	54	60	55	53	58	56.2	3158.44	
												1413.7	67859.48

$$M = 47.12$$

$$SD = 6.44$$

All the figures given in this table correspond to the Standard scores. The results of the Metropolitan Achievement Test are given in grade-equivalent scores. A conversion from grade equivalent into Standard scores may be found in Appendix C.

TABLE VIII

METROPOLITAN ACHIEVEMENT TEST, STANDARD SCORES, FOR CONTROL GROUP

#	Word	Read.	Spell.	Lang.	L.S.S.	Arith.	A.P.S.	Soc.	St.	SSSS	Sci.	Aver.	X ²
67	41	43	49	35	42	52	42						
137	56	56	44	49	56	41	39	43	48	49	44.4	1971.36	
51	56	58	41	41	56	53	52	53	46	53	49.3	2430.49	
148	49	52	49	47	48	48	50	55	53	58	52.3	2735.29	
55					48	38	37	50	53	52	49.8	2480.04	
194	55	51	58	59	56	50	50	44	44	44	42.6	1814.76	
118	51	54	48	50	51	54	50	51	44	46	52.1	2714.41	
149	56	58	59	59	56	57	56	51	53	58	52.0	2704.00	
123	56	58	59	59	56	55	48	55	53	58	56.7	3214.89	
144	56	58	59	59	56	55	55	55	53	58	55.7	3102.49	
17	51	47	52	57	54	50	52	55	53	58	56.4	3180.96	
65	52	58	56	47	56	50	52	49	53	49	51.4	2641.96	
34	56	58	47	49	56	52	54	46	53	49	51.9	2693.61	
36	56	58	56	54	56	53	55	55	53	58	53.8	2894.44	
167	48	52	54	53	54	53	47	55	53	58	55.4	3069.16	
12	38	34	33	25	40	41	41	52	42	53	50.8	2580.64	
40	50	44	49	50	41	46	58		43		36.8	1354.24	
01	51	46	57	56	56	52	52	50	42	58	53.8	2894.44	
88	47	43	42	38	38	39	35	48	48	44	51.0	2601.00	
122	56	58	55	59	56	53	57	51	50	52	43.7	1909.69	
161	49	46	48	42	52	40	43	55	53	58	56.0	3136.00	
54	56	58	56	47	56	52	38	46	42	41	44.9	2016.01	
61	47	44	51	44	51	45	46	55	53	58	52.9	2798.41	
225	50	44	44	43	54	50	52	39	50	52	46.9	2199.61	
78	38	47	44	40	46	50	52	40	48	47.5	2256.25		
106	52	54	51	51	56	42	47	43	40	47	44.7	1998.09	
14	56	58	57	55	56	58	60	55	53	58	56.6	3203.56	
18	32	47	34	38	38	43	43	36	43	35	38.9	1513.21	
112	47	46	54	41	52	45	42	52	48	49	47.6	2265.76	
69	49	54	50	50	52	41	52	39	44	50	48.1	2313.61	

1494.8 75258.87

M = 49.82

SD = 5.14

All the figures given in this table correspond to the Standard scores. The results of the Metropolitan Achievement Test are given in grade-equivalent scores. A conversion from grade equivalent into Standard scores may be found in Appendix D.

TABLE IX

STATISTICAL DATA OF SCORES IN A STANDARD ACHIEVEMENT
TEST OF THREE GROUPS OF EIGHTH GRADE STUDENTS AT
GREENEVILLE JUNIOR HIGH SCHOOL, JANUARY, 1969

ACCEPTED GROUP	REJECTED GROUP	CONTROL GROUP
$M_1 = 52.78$	$M_2 = 47.12$	$M_3 = 49.82$
$SD_1 = 7.67$	$SD_2 = 6.44$	$SD_3 = 5.14$
$SE_{M1} = 1.42$	$SE_{M2} = 1.19$	$SE_{M3} = 0.95$
ACCEPTED GROUP	$SE_{diff} = 1.852$	$SE_{diff} = 1.522$
	$t = 3.056^*$	$t = 1.789$
REJECTED GROUP		$SE_{diff} = 1.852$
		$t = 1.779$

CHAPTER V

SUMMARY, FINDINGS AND CONCLUSIONS

I. SUMMARY

This study has attempted to analyze and compare the performance in the classroom and on a standardized test students who were well-accepted by their peers and students who were rejected by their peers.

The data was limited to two hundred and twenty-seven male and female students, in the eighth grade, at Greeneville Junior High School of Greeneville, Tennessee.

The selected groups resulted from the administering of a sociometric test. The control group was selected at random by employing the table of random numbers in Edwards' Experimental Design in Psychological Research.

II. FINDINGS

In order to insure that any differences found were not likely to be due to chance, the one percent level of confidence was employed. This resulted in the acceptance of hypotheses number two, four and five, and the rejection of hypotheses number one, three and six as stated above.

Hypothesis number one stated that no significant difference in classroom academic achievement exists between the highly accepted students and those who are not highly accepted. However, the average performance of the accepted group was found to be significantly higher than the average performance of the other students.

Hypothesis number three stated that no significant difference in classroom academic achievement exists between the highly accepted group and the highly rejected group. Again, the difference was found to be significantly higher. Hypothesis number six stated that no significant difference on an achievement test exists between the highly accepted students and that of those who are not highly accepted by their peers. The difference was found to be significant in favor of the well-accepted group.

Hypothesis number two stated that no significant difference exists in the classroom academic achievement between highly rejected students and that of the students who were not highly rejected. Hypotheses four and five, dealing with performance on achievement test, stated that no significant difference exists between highly accepted students and those who are not highly accepted; and between highly rejected students and not highly rejected students. All of these hypotheses were accepted within the limits defined by the study.

III. CONCLUSIONS

The limitations of this study were such that no conclusions of broad application could be drawn. The conclusions were:

1. There is a significant difference in classroom achievement between the performance of the highly accepted students and the students of the control group.
2. There is no significant difference in classroom achievement between the performance of the highly rejected students and the performance of the control group.

3. There is a significant difference in classroom achievement between the performance of the highly accepted children and that of the highly rejected students.
4. There is no significant difference on achievement test between the performance of the highly accepted students and the performance of the students of the control group.
5. There is no significant difference on achievement test between the performance of the highly rejected students and that of the control group.
6. There is a significant difference on achievement test between the performance of the highly accepted students and the performance of the highly rejected students.

IV. INTERPRETATION

Within the limits of this study, it may be said that students who are highly accepted by their peers are more likely to perform better in the classroom, as evidenced by higher grades and on achievement tests than are students who are less highly accepted or rejected by their peers.

BIBLIOGRAPHY

A. BOOKS

Charles, Don C., Psychology of the Child in the Classroom. New York: The Macmillan Co., 1964.

Edwards, Allen, Experimental Design in Psychological Research. New York: Rinehart and Co., Inc., 1950.

Grinder, Robert (comp.), Studies in Adolescence. New York: The Macmillan Co., "Popularity among Adolescents in Western Australia and in the U. S. A.", D. K. Wheeler.

Havighurst, Robert J., and Hilda Taba, Adolescent Character and Personality. New York: John Wiley and Sons, Inc., 1949.

B. PERIODICALS

Coleman, Hubert A., "The Relationship of Socio-Economic Status to the Performance of Junior High School Students", The Journal of Experimental Education, IX (September, 1940), 61-63.

Eargle, Zane E., "Social Class and Student Success", High School Journal, XLVI (February, 1963), 162-169.

Muma, John, "Peer Evaluation and Academic Performance", Personnel and Guidance Journal, Vol. 44 (December, 1965), 405-409.

C. TEST

Metropolitan Achievement Test Advanced Battery, 1959. New York: Harcourt, Brace & World.

APPENDIX A

CLASSROOM SCHOLASTIC ACHIEVEMENT FOR STUDENTS IN THE THREE GROUPS

[illegible]

SD = 0.66

SD = 0.95

The figures given in this table correspond to the semester grades obtained by the students in English (E), Arithmetic (A), Science (S), and Social Studies (SS). The conversion was made according to this scale: A = 4 ; B = 3 ; C = 2 ; D = 1 ; F = 0

METROPOLITAN ACHIEVEMENT TESTS, GRADE EQUIVALENTS INTO STANDARD SCORES, FOR THE ACCEPTED GROUP

	Word		Read.		Spell.		Lang.		L.S.S.		Arith.		Arith P.S.		Soc.St.		SSSS		Science	
	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS
1	8.3	51	10.0	58	7.3	47	8.7	52	8.0	50	8.0	50	9.4	56	10.0	55	5.7	43	9.1	54
2	10.0	56	10.0	58	8.5	51	9.1	54	10.0	56	6.9	43	8.1	50	7.5	48	10.0	53	9.6	56
3	6.4	45	9.9	57	7.0	45	6.2	41	9.4	54	8.0	50	8.3	51	7.5	48	10.0	53	9.6	56
4	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	10.0	58	10.0	60	8.8	53	10.0	53	10.0	58
5	6.0	43	5.7	42	6.1	41	8.5	51	6.6	45	7.1	44	6.8	42	7.5	48	8.9	52	7.8	49
6	10.0	56	10.0	58	8.8	53	7.0	44	10.0	56	7.6	47	7.7	47	10.0	55	6.6	47	8.4	51
7	7.8	48	6.6	45	10.0	59	7.1	45	9.4	54	8.6	53	7.2	44	7.3	47	7.6	50	7.4	47
8	5.4	40	5.7	42	5.5	38	4.8	34	6.2	43	7.3	45	6.4	40	5.8	41	4.7	37	5.2	37
9	9.9	55	8.3	51	10.0	59	10.0	59	10.0	56	8.1	51	8.1	50	8.4	51	6.0	44	7.2	46
10	10.0	56	8.3	51	10.0	59	9.6	56	6.6	45	8.8	55	9.7	57	10.0	55	10.0	53	7.0	45
11	10.0	56	9.12	51	10.0	59	9.6	56	10.0	56	7.8	49	7.2	44	10.0	55	10.0	53	10.0	58
12	10.0	56	9.7	56	9.8	57	10.0	59	10.0	56	10.0	58	10.0	60	10.0	55	10.0	53	9.8	57
13	10.0	56	8.5	52	9.0	54	9.1	54	6.6	45	8.5	53	8.3	51	10.0	55	6.4	46	9.4	55
14	9.1	52	9.2	54	10.0	59	6.4	42	8.0	50	6.2	39	6.8	42			5.7	40		
15	10.0	56	10.0	58	10.0	59	10.0	59	7.7	49	8.6	53	10.0	60	10.0	55	10.0	53	10.0	58
16	9.9	55	10.0	58	9.8	57	8.5	51	9.4	54	10.0	58	10.0	60	8.1	50	10.0	53	9.1	54
17	7.0	47	6.6	45	8.5	51	5.9	40	7.0	46	7.1	44	6.6	41	6.6	45	5.4	42	5.4	38
18	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	8.5	53	10.0	60	10.0	55	10.0	53	10.0	58
19	9.1	52	9.9	57	10.0	58	8.7	52	9.4	54	8.1	51	7.8	48	8.8	53	6.6	47	9.4	55
20	10.0	56	10.0	58	6.8	44	5.5	38	10.0	56	6.7	42	6.8	42	8.1	50	8.9	52	10.0	58
21	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	10.0	58	9.9	58	10.0	55	10.0	53	10.0	58
22	10.0	56	10.0	58	10.0	59	8.5	51	10.0	56	8.7	54	8.3	51	10.0	55	10.0	53	10.0	58
23	10.0	56	10.0	58	10.0	58	9.6	56	10.0	56	10.0	58	9.9	58	10.0	55	10.0	53	10.0	58
24	7.4	48	9.9	57	10.0	49	8.7	52	7.4	48	8.5	53	10.0	60	8.8	53	7.6	50	7.4	47
25	10.0	56	10.0	58	9.4	55	10.0	59	10.0	56	8.5	53	9.7	57	10.0	55	10.0	53	10.0	58
26	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	10.0	58	10.0	60	10.0	55	10.0	53	10.0	58
27	10.0	56	10.0	58	8.7	52	9.1	54	10.0	56	9.3	57	8.1	50	10.0	55	6.4	46	8.8	53
28	10.0	56	10.0	58	9.0	54	10.0	59	10.0	56	8.3	52	8.4	52	6.6	45	10.0	53	10.0	58
29	10.0	56	9.2	54	10.0	59	9.3	55	8.6	52	7.1	42	7.2	44	9.2	54	5.4	42	10.0	58
30	7.0	47	8.7	53	10.0	59	5.9	40	10.0	56	10.0	58	8.6	54	7.0	46	7.6	50	10.0	58

METROPOLITAN ACHIEVEMENT TESTS, GRADE EQUIVALENTS INTO STANDARD SCORES, FOR THE REJECTED GROUP

	Word		Read.		Spell.		Lang.		L.S.S.		Arith.		Arith.P.S.		Soc.St.		SSSS		Science	
	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS
101	7.0	47	9.2	54	6.3	42	6.7	43	10.4	48	7.6	47	6.8	42	8.6	52	10.0	53	7.8	49
102	8.3	51	9.9	57	8.2	50	7.1	45	8.6	52	8.1	51	8.6	54	10.0	55	10.0	53	7.4	47
103	10.0	56	10.0	58	9.8	57	8.9	53	10.0	56	10.0	58	10.0	60	10.0	55	10.0	53	10.0	58
104	9.1	52	8.3	51	10.0	59	9.1	54	9.4	54	7.1	44	5.6	36	4.9	36	7.6	50	7.0	45
105	6.0	43	5.7	42	6.1	41	8.5	51	6.6	45	7.1	44	6.8	42	7.5	48	8.9	52	7.8	49
106	5.6	41	4.9	37	6.0	40	5.0	35	4.5	36	4.6	30	3.7	27	4.2	31	5.4	42	4.8	35
107	8.1	50	6.6	45	6.5	43	6.7	43	9.4	54	8.1	51	8.4	52	8.1	50	5.0	40	7.6	48
108	8.3	51	8.7	53	10.0	59	7.3	46	10.0	56	8.0	50	7.8	48	6.2	43	10.0	53	9.1	54
109	10.0	56	10.0	58	8.8	53	7.3	46	9.4	54	8.3	52	6.8	42	7.0	46	6.4	46	5.4	38
110	6.7	46	6.6	45	9.8	57	7.5	47	6.2	43	7.5	46	7.9	49	6.6	45	5.4	42	8.1	50
111	10.0	56	10.0	58	10.0	59	9.7	57	10.0	56	9.3	57	9.4	56	10.0	55	10.0	53	10.0	58
112	6.4	45	8.7	53	6.5	43	6.2	41	5.3	40	6.4	40	6.0	38	6.8	45	4.4	35	7.4	47
113	5.2	38	5.7	42	6.8	44	4.2	41	6.2	43	8.0	50	7.9	49	8.1	50	4.9	39	6.1	41
114	7.8	49	6.6	45	10.0	59	7.1	45	9.4	54	8.5	53	7.2	44	7.3	47	7.6	50	7.4	47
115	10.0	56	10.0	58	8.8	53	7.3	46	9.4	54	8.3	52	6.8	42	7.0	46	6.4	46	5.4	38
116	9.9	55	9.7	56	8.7	52	8.7	52	9.4	54	7.8	49	8.3	51	10.0	55	10.0	53	10.0	58
117	10.0	56	10.0	58	9.8	57	9.3	55	10.0	56	10.0	58	10.0	60	10.0	55	10.0	53	10.0	58
118	8.3	51	7.1	47	8.7	52	9.7	57	9.4	54	8.1	51	8.4	52	7.8	49	10.0	53	7.8	49
119	6.1	44	6.0	43	10.0	59	5.9	40	6.2	43	5.2	33	6.2	39	7.0	46	4.7	37	4.4	33
120	8.3	51	6.6	45	9.8	59	9.6	59	10.0	56	8.3	52	8.3	51	7.5	48	6.9	48	6.8	44
121	4.8	36	4.0	33	5.3	36	3.2	26	5.6	41	4.4	29	4.4	31	4.6	34	3.8	31	4.6	34
122	9.1	52	6.0	53	9.4	55	9.6	56	8.0	50	8.5	53	8.1	50			6.9	45		
123	5.4	40	4.4	35	6.1	41	7.0	44	6.6	45	6.6	41	6.4	40	5.4	39	4.7	52	6.8	44
124	5.1	37	4.2	34	4.6	32	3.0	25	3.3	32	5.9	37	5.8	37	4.1	30	4.9	39	5.4	38
125	9.1	52	6.8	46	6.0	40	7.5	47	10.0	56	8.5	53	7.2	44	7.5	48	6.9	49	8.6	52
126	10.0	56	10.0	58	10.0	59	8.7	52	9.4	54	8.3	52	8.6	54	8.8	53	5.0	40	7.4	47
127	7.0	47	6.8	46	8.5	51	5.9	40	7.0	46	7.1	44	6.6	41	6.6	45	5.4	42	5.4	38
128	5.4	40	4.9	37	5.1	35	4.4	32	4.0	34	6.9	43	7.3	45	4.6	34	5.7	43	7.0	45
129									4.0	34	6.6	41	7.0	43	5.6	40	4.9	39	5.6	39
130	10.0	56	10.0	58	10.0	59	8.9	53	10.0	56	8.7	54	10.0	60	10.0	55	10.0	53	10.0	58

METROPOLITAN ACHIEVEMENT TESTS, GRADE EQUIVALENTS INTO STANDARD SCORES, FOR THE CONTROL GROUP

	Word		Read.		Spell.		Lang.		L.S.S.		Arith.		Arith.P.S.		Soc.St.		SSSS		Science	
	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS	GE	SS
67	5.6	41	6.0	43	7.8	49	5.0	35	6.0	42	6.7	52	6.8	42	6.2	43	6.9	48	7.8	49
137	10.0	56	9.7	56	6.8	44	7.9	49	10.0	56	6.6	41	6.2	39	8.8	53	6.4	46	8.8	53
51	10.0	56	10.0	58	6.1	41	6.2	41	10.0	56	8.5	53	8.4	52	10.0	55	10.0	53	10.0	58
148	7.8	49	8.5	52	7.8	49	7.5	47	7.4	48	7.7	48	8.1	50	8.1	50	10.0	53	8.6	52
55									7.4	48	6.1	38	5.8	37	6.4	44	6.0	44	6.8	44
194	9.9	55	8.3	51	10.0	59	10.0	59	10.0	56	8.1	50	8.1	50	8.4	51	6.0	44	7.2	46
118	8.3	51	9.2	54	7.6	48	8.2	50	8.4	51	8.7	54	8.1	50	8.4	51	10.0	53	10.0	58
149	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	9.3	57	9.4	56	10.0	55	10.0	53	10.0	58
123	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	8.8	55	7.8	48	10.0	55	10.0	53	10.0	58
144	10.0	56	10.0	58	10.0	59	10.0	59	10.0	56	8.7	55	9.0	55	10.0	55	10.0	53	10.0	58
17	8.3	51	7.1	47	8.7	52	9.7	57	9.4	54	8.1	50	8.4	52	7.8	49	10.0	53	7.8	49
65	9.1	52	10.0	58	9.7	56	7.5	47	10.0	56	8.0	50	8.3	52	7.0	46	10.0	53	7.8	49
34	10.0	56	10.0	58	7.3	47	7.9	49	10.0	56	8.3	52	8.6	54	10.0	55	10.0	53	10.0	58
36	10.0	56	10.0	58	9.7	56	9.1	54	10.0	56	8.5	53	9.0	55	10.0	55	10.0	53	10.0	58
167	7.4	48	8.5	52	9.0	54	8.9	53	9.4	54	8.5	53	7.7	47	8.6	52	5.4	42	8.8	53
12	5.2	38	4.2	34	4.7	33	3.0	25	5.3	40	6.6	41	6.6	41			5.7	43		
40	8.1	50	6.6	44	7.8	49	8.2	50	5.6	41	7.5	46	9.9	58	8.1	50	5.4	42	10.0	58
01	8.3	51	6.8	46	9.8	57	9.6	56	10.0	56	8.3	52	8.3	52	7.5	48	6.9	48	6.8	44
88	7.0	47	6.0	43	6.8	44	5.5	38	4.8	38	6.2	39	5.4	35	8.4	51	7.6	50	8.6	52
122	10.0	56	10.0	58	9.4	55	10.0	59	10.0	56	8.5	53	9.7	57	10.0	55	10.0	53	10.0	58
161	7.8	49	6.8	46	7.6	48	6.4	42	8.6	52	6.4	40	7.0	43	7.0	46	5.4	42	6.1	41
54	10.0	56	10.0	58	9.7	56	7.5	47	10.0	56	8.3	52	6.0	38	10.0	55	10.0	53	10.0	58
61	7.0	47	6.6	44	8.5	51	7.0	44	5.6	51	7.3	45	7.5	46	5.4	39	7.6	50	8.6	52
225	8.1	50	6.6	44	6.8	44	6.7	43	9.4	54	8.1	50	8.4	52	8.1	50	5.0	40	7.6	48
78	5.2	38	7.1	47	6.8	44	5.9	40	7.0	46	8.0	50	8.4	52	6.2	43	5.0	40	7.4	47
106	9.1	52	9.2	54	8.5	51	8.5	51	10.0	56	6.7	42	7.7	47	10.0	55	6.6	47	8.6	52
14	10.0	56	10.0	58	9.8	57	9.3	55	10.0	56	10.0	58	10.0	60	10.0	55	10.0	53	10.0	58
18	4.3	32	7.1	47	4.9	34	5.5	38	4.8	38	6.9	43	7.0	43	4.9	36	5.7	43	4.8	35
112	7.0	47	6.8	46	9.0	54	6.2	41	8.6	52	7.3	45	6.8	42	8.6	52	6.9	48	7.8	49
69	7.8	49	9.2	54	8.2	50	8.2	50	8.6	52	6.6	41	8.4	52	5.4	39	6.0	44	8.1	50