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Self-Esteem as it Relates to Reading Facility and Bilingual Schooling of Puerto Rican Students

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SELF-ESTEEM AS IT RELATES TO READING FACILITY AND BILINGUAL SCHOOLING OF PUERTO RICAN STUDENTS

by

Alice Perez Peters

A Dissertation Submitted to the Faculty of the School of Education of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

November

1978
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VITA

The author, Alice Perez Peters, was born in Guayama, Puerto Rico on January 11, 1943.

She attended elementary school in the public schools of Puerto Rico and junior-senior high school in Aurora, Illinois where she graduated from Madonna High School in 1960. The author received her Bachelor of Arts Degree in English from the Catholic University of Puerto Rico in 1964. She also received a gold medal awarded by the Sigma Tau Delta Professional English Fraternity to the best student of English to graduate from that institution that year. In 1969, she received her Master of Arts Degree in English as a Second Language (ESL) from New York University.

From 1964 until coming to Chicago as an exchange teacher in 1969, the author taught high school English and was certified as a zone supervisor of English in the public school system in Puerto Rico. In Chicago the writer has held several positions. She worked as an ESL teacher at Talcott and Lowell Elementary Schools, as a cooperating teacher with the Area C curriculum office, as high school English teacher at Orr High School, and as English teacher and department head of the ESL Department at Tuley High School. She began working with bilingual programs in 1972 as a staff assistant for the Department of Government Funded Programs. She was promoted to Title I administrator for the Bureau of Special Language and Bilingual Programs in 1975. Presently the writer holds the position of Title I administrator in the Bureau of Early Childhood Programs, Department of Government Funded Programs.
The writer has contributed to several curriculum publications for teachers involved in ESL instruction and bilingual education; and, has participated in seminars, inservice workshops, and conferences for the purpose of staff development. She has also written a correspondence course in supervisory management for the Institute of Financial Education in Chicago. She belongs to several professional organizations: Phi Delta Kappa, National Council of Administrative Women in Education, National Association of Bilingual-Bicultural Education, Illinois Teacher of English to Speakers of Other Languages/Bilingual Education and the Puerto Rican Educational Federation.
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CHAPTER I

NATURE OF THE PROBLEM

This chapter will present the problems to be investigated along with the rationale for the study and its significance to the education of bilingual Puerto Rican students in the United States.

Introduction

A widespread reaction against the melting pot theory of assimilation began in the 1960's as a result of ethnic self-awareness. This reaction stimulated and was followed by demands for equal educational opportunities and compensatory legislation designed to provide for the unmet needs of a large segment of the student population. Bilingual education programs, an outgrowth of the compensatory education movement, were designed specifically for the student of non-English-speaking background.

Bilingual education programs gained impetus on a national level when the federal government passed the Bilingual Education Act in 1965, and with the Lau vs. Nichols Supreme Court decision in 1974 which ordered special language instruction for all students who did not understand English. On a local level, the Illinois Transitional Bilingual Act,

passed in 1976, mandated bilingual education programs in all Illinois schools with an enrollment of 20 or more students of the same language background and with limited English speaking skills.\(^1\)

The Chicago Public School System recognized the need for bilingual education when it began operation of two such programs in 1968. The number of bilingual education programs in Chicago has increased so that in the 1977-78 school year there were 175 programs. New ones are expected to be implemented in the future.\(^2\)

Bilingual education subscribes to a view that is different from compensatory education; the latter tends to view the child who is culturally different as "disadvantaged" and seeks ways to provide him with middle-class experiences to coincide with a middle-class oriented school program.\(^3\) Bilingual education accepts the child's culture, language and different experiences and uses these as a base to build new cultural and linguistic experiences. Bilingual education is designed to meet the cognitive and affective needs of the non-English-speaking child. It involves mastery of two languages, adequate academic achievement, and healthy personality development.\(^4\)

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\(^1\)Board of Education, City of Chicago, Spotlight (Chicago: Department of Government Funded Programs, 1976), p. 1.


It is believed that if a student's cultural background is respected, his academic and psychological development is also enhanced. The suppression of or disregard for a student's cultural identity has been found to be related to lower achievement and greater feelings of alienation among students.¹

Through bilingual education, educators seek to provide the basis for a healthy self-concept, believed to be essential for the development of the whole child.² These programs are intended to help the student to function effectively, to see his personal worth objectively, and to acquire a general feeling of self-worth.³

Researchers have found considerable evidence that the self-concept is related to academic achievement.⁴ In fact, educators tend to agree that success in school increases the probabilities of a student gaining a positive view of himself, while failure increases the probability of a student developing a negative view of himself.⁵

¹U.S. Commission on Civil Rights, Bilingual-Bicultural Education, p. 25.

²Board of Education, City of Chicago, A Handbook of Curriculum Models, p. 5.


This study investigates the self-concept of a particular group of Puerto Rican bilingual students, grades four to six, ages ten to twelve, to determine if there is a relationship between their bilingual skills and their self-concept. Since reading facility often affects a student's performance in other areas of the school curricula, it may be used as a criteria of general school achievement.\(^1\) The specific aspect of self-concept to be explored is self-esteem; these two terms will be discussed and further clarified in Chapter III.

Problems

Problems 1, 2, and 3 in this study deal with bilingual Puerto Rican students in grades four to six and their reading facility in two languages. The students read in both English and Spanish, but they do so in varying degrees of competency ranging from adequate to inadequate. These differences in reading facility are believed to be related to the students' self-esteem. Problems 4 and 5 in this study deal with the students' bilingual experience achieved in Puerto Rico or in bilingual education programs in Chicago. This type of bilingual experience is believed to be related to the students' self-esteem.

The Problems are:

**Problem 1**

To determine whether differences exist in self-esteem between students who have an adequate reading facility in both English and Spanish, and those who have an adequate reading facility in only one language, English or Spanish.

**Problem 2**

To determine whether differences exist in self-esteem between students who have an adequate reading facility in only English, and those who have an adequate reading facility in only Spanish.

**Problem 3**

To determine whether differences exist in self-esteem between students who have an inadequate reading facility in both English and Spanish, and those who have an adequate reading facility in both languages or those who have an adequate reading facility in only one of those languages.

**Problem 4**

To determine whether differences exist in self-esteem between students who received bilingual schooling in Puerto Rico, and those who never had this experience.

**Problem 5**

To determine whether differences exist in self-esteem between students who received bilingual schooling in Chicago, and those who never had this experience.
Groups of Subjects

Group A - those students who have an adequate reading facility in English and Spanish.
Group B - those students who have an adequate reading facility in only English.
Group C - those students who have an adequate reading facility in only Spanish.
Group D - those students who have an inadequate reading facility in both English and Spanish.
Group E - those students who studied in Puerto Rico.
Group F - those students who never went to school in Puerto Rico.
Group G - those students who participated in a bilingual program.
Group H - those students who never participated in a bilingual program.

Hypotheses

Hypothesis 1

There will be no difference in the mean of the measured self-esteem of students in Group A (adequate in both languages), when compared with the means of the measured self-esteem of students in Groups B (adequate in English only), and Group C (adequate in Spanish only).

One of the basic tenets of bilingual education assumes that for the non-English-speaking student knowing two languages is more beneficial than knowing just one language.¹ The testing of this hypothesis may support this assumption.

¹Board of Education, City of Chicago, A Comprehensive Design for Bilingual-Bicultural Education (Chicago: Department of Government Funded Programs, 1974), pp. 3-12.
Hypothesis 2

There will be no difference in the mean of the measured self-esteem of students in Group B (adequate in English only), when compared with the mean of the measured self-esteem of students in Group C (adequate in Spanish only).

Since English is the dominant language in this culture, success in English should provide the non-English speaking student with the necessary academic skills to make him successful in school. The testing of this hypothesis may indicate whether reading facility in English is more important than reading facility in Spanish in terms of the self-esteem of the mainland Puerto Rican student.

Hypothesis 3

There will be no difference in the mean of the measured self-esteem of students in Group D (inadequate in both languages), when compared with the means of the measured self-esteem of students in Group A (adequate in both languages), Group B (adequate in English only), and Group C (adequate in Spanish only).

Studies comparing reading achievement and self-concepts of students have found significant differences in self-concept scores between high achieving and low achieving pupils with the former receiving more positive self concept scores.\(^1\) The testing of this hypothesis may indicate whether this relationship holds with bilingual students where two languages are involved.

\(^1\)Purkey, Self-Concepts and School Achievement, p. 15; Felker, Building Positive Self-Concepts, p. 12.
Hypothesis 4

There will be no difference in the mean of the measured self-esteem of students in Group E (studied in Puerto Rico), when compared with the mean of the measured self-esteem of students in Group F (did not study in Puerto Rico).

Present findings appear to indicate that Puerto Rican students in the mainland and at the age levels covered in this study have a significantly less positive self-esteem than their peers living in Puerto Rico. It should be interesting to find out if Puerto Rican students who lived and went to school on the Island have a more positive self-esteem than students who received all their schooling in the mainland. The testing of this hypothesis may support recent findings related to the apparently less positive self-esteem of Puerto Ricans living in the United States.

Hypothesis 5

There will be no difference in the measured self-esteem of students in Group G (participated in a bilingual program), when compared with the mean of the measured self-esteem of students in Group H (did not participate in a bilingual program).


The testing of this hypothesis may provide further support to the bilingual education philosophy. A positive finding would indicate that bilingual education may have contributed to the enhancement of self-esteem in participating non-English-speaking students.

Definition of Terms

The following terms will be used frequently in this study and require definition to insure a consistent interpretation.

Bilingual education - a program by which a person learns and reinforces his own language and culture while at the same time acquires the ability to function in another language and behave on occasion according to the patterns of the second culture.

Bilingual student - a student who is able to function effectively in two languages. In this study the two languages are English and Spanish.

Reading facility - the degree to which a student can decode written symbols and extract information from a text. For this study the degree of reading facility in reading

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1Board of Education, City of Chicago, A Comprehensive Design, p. 15.


3Board of Education, City of Chicago, A Handbook of Curriculum Models, p. 2.

English and Spanish will be described as adequate or inadequate as reported by the standardized tests, *Inter-American Series: Test of Reading* (English), and *Prueba de Lectura* (Spanish).

The levels described below were determined by the average grade levels in reading English at the three schools selected as reported by the *Iowa Test of Basic Skills*. Since no standardized data appeared to exist for reading Spanish, the levels in reading Spanish were determined on the basis of experience. The reading facility in Spanish by students in the study appeared on the average to be .5 grade points less adequate than their reading facility in English.

a) Adequate in English - reading on or above 3.6 (for a ten year old), or 4.0 (for an eleven year old), or 4.4 (for a twelve year old).

b) Inadequate in English - reading below the grade levels described above.

c) Adequate in Spanish - reading on or above 3.1 (for a ten year old), or 3.5 (for an eleven year old), or 3.9 (for a twelve year old).

d) Inadequate in Spanish - reading below the grade levels described above.
Self-concept - the sum total view that an individual has of himself. It is a unique set of perceptions, ideas, feelings, and attitudes that an individual has regarding himself.¹

Self-esteem - the evaluation which the individual makes and customarily maintains with regard to himself; implicit in this definition is an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy.² In this study self-esteem will be considered an aspect of the self-concept,³ and will be measured by the Coopersmith's Self-Esteem Inventory.

Limitations

This study has the following limitations:

1. It includes only 270 bilingual Puerto Rican students from three schools in one district in the Chicago public school system. The latest racial survey, taken on October 29, 1976, and conducted by the


Department of Operation Analysis, indicated that in the 1976-1977 school year there were 32,360 (6.2 percent of the total school population) students of Puerto Rican background in the 646 Chicago public schools.¹

2. The students selected are of both sexes but only those who were ten, eleven, and/or twelve years old at the time of the study. This age span was selected because it is of interest to the investigator and one where mastery of basic reading skills can be assumed.

3. The students selected have been born in Puerto Rico or at least have one parent who has been born on the Island. One or both of these two characteristics identified the student as being of Puerto Rican background. Students of other ethnic groups are not included because comparisons between groups is not the intent of this study.

4. The students in this study are those who were identified as being in language fluency levels IV and V by the Functional Language Survey administered on March, 1977 to the subjects of this study. (See Appendix A for a description of these levels). These fluency levels are useful because they identify students whose language and background is not English, whose first language or home language is Spanish, whose English fluency enables them to be in a regular classroom situation, and who can be tested in two languages.

Students in levels I-III are being served in the basic bilingual program of instruction. These students are excluded from this study because they are not fully bilingual and would be unable to take a test in reading English at their grade level.

5. Since no average grade levels in reading Spanish for students at the participating schools appeared to exist, the "adequate" and "inadequate" levels in reading Spanish were based on experiential data. Students similar to those in the study usually exhibited a less adequate reading facility in Spanish than in English. This poorer reading ability in Spanish believed to be due to many factors including the transitional nature of bilingual programs in which the native language (in this case Spanish) is not maintained.

6. This study deals with reading achievement and bilingual experience in relationship with self-esteem of students. Although, it is recognized that there are many factors that affect or are antecedents to self-esteem of students, these factors are not within the scope of this study or the instruments involved.

**Significance of Study**

Even though a great deal of research has been conducted on the education of minority students, comparatively little research has dealt specifically with the self-concept and bilingual schooling of Puerto Rican students. Many of the studies on the self-concept of minority groups have concentrated on the black minority; most studies dealing with the self-concept of the Spanish-speaking student deal with Mexican Americans. In fact, "few studies have dealt with Puerto Rican self-concept, and those which have investigated this area have compared the self-concept of Puerto Ricans with other minority groups."¹ This study seeks to contribute to empirical research on the Puerto Rican student.

¹Thiel, "The Impact of Minority Status," p. 3.
A recent research study conducted by the American Institute for Research (AIR), frequently referred to as the AIR Report, has created a great deal of controversy in the bilingual education community. This study was conducted during the 1975-76 school year and involved 5,300 students in grades two through six in ESEA Title VII programs. Its findings suggest that bilingual programs do not appear to have a significant impact on student achievement. Although rebuttals have been made to this report, it has negatively affected public opinion on bilingual education.¹

Conclusions as to the value of bilingual education have also been described as "mostly pedagogical and intuitive, yet often inconclusive."² The pedagogical rationale for bilingual education is said to rest upon "reasonable but unproven assumptions."³ Despite the great amount of monies being spent on education, there is an "embarrassing scarcity of relevant research" on bilingual education. Studies conducted


in this area in the United States are "largely limited in their results, design and applicability."\(^1\) This study is therefore meant to contribute to the limited body of research on bilingualism and bilingual education.

Reading achievement is a top priority of the Chicago public school system. Minimal competency requirements, particularly in reading, are being instituted on a mandatory basis for all students prior to graduation from elementary and high school. As a result of this mandate, greater emphasis have been given to reading instruction and to programs or techniques to assist students achieve the required competencies. This study should provide some insights as to how to provide this assistance to students of non-English-speaking background.

It is believed that the findings of this study will direct attention to some important components in bilingual education programs and will generate more studies on the education of the Puerto Rican student living and studying in the United States.

**Summary**

Chapter I presented the problems under investigation: self-esteem and its relationship to reading facility and bilingual schooling of Puerto Rican pre-adolescent students living in the mainland. This problem was subdivided into five problems that evolved into the five hypotheses to be tested. The limitations of this study as well as some

of the terms to be used were also described in this chapter. A brief background of the bilingual education movement along with the need for further research in this area was discussed. In addition to contributing to the scarcity of research on bilingual education, this study is seen as important in terms of the education of the bilingual Puerto Rican student.
CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature was undertaken to investigate the relationship between self-concept and (a) self-esteem, (b) achievement, (c) reading, (d) sex, (e) grade/age levels, and, (f) ethnicity.

Self-Concept and Self-Esteem

The words self-concept and self-esteem have been defined in many ways, often used as if synonymous with each other. Therefore, a clarification of these two concepts is necessary. Wylie, in her review of the research on the self-concept, discusses two usages of the word "self" that have evolved in psychological literature. These two usages are "self as agent or process" and "self as object of the person's own knowledge and evaluation."¹ Wylie feels that this apparently simple dichotomy does not adequately describe the self-referent constructs used by personality theorists. Rather, they imply a more active role for these concepts than the simple phrases "self as process" and "self as object" might imply. According to Wylie, some personality theorists postulate processes which refer to "self as process" and "self as object" but go beyond both senses and are not clearly related to either.² The measuring of self-esteem as used in this study relies more heavily on the "self as object" definition.

²Ibid.
Wylie states that the most commonly studied aspects of the self are such aspects as self-satisfaction, self-acceptance, self-esteem, self-favorability, and discrepancy or congruence between self and ideal self. These terms are not synonymous but are "intertwined and overlapping" in the literature. Wylie refers to self-esteem as being proud of oneself or evaluating one's attributes highly. Self-esteem is referred to as an aspect of the self-concept, synonymous with self-satisfaction and with congruence between self and ideal self. Optimum self-esteem is manifested by moderately small discrepancies between self and ideal self.

Combs and Snygg describe the "self" as related to the phenomenal field (the universe, including oneself, as it appears to the individual). The phenomenal self "includes all those parts of the phenomenal field which the individual experience as part or characteristic of himself." They view the preservation and enhancement of the phenomenal self as a basic human need. Self-esteem, as described by Combs and Snygg, emphasizes that this enhancement of self is a fundamental need.

A similar need theory related to self-esteem is endorsed by Maslow. He describes self-esteem as one of the high order needs in his hierarchy of human needs. Maslow believes that "everyone in our

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1 Ibid, p. 127.
3 Ibid.
society, with a few pathological exceptions, has a need or desire for a stable, firmly based and usually high evaluation of themselves. Failure to meet this need leads to feelings of inferiority, weakness, helplessness, and in extreme cases to neurosis. "1

Jourard, who studied factors involved in healthy personality development, states that "self-concept comprises all the beliefs the individual holds concerning what kind of person he is." 2 Once a self ideal is formulated, it provides a standard by which the individual appraises his own behavior. Self-esteem is highly dependent upon behavior that conforms with the larger concept of self ideal. 3

In relating self-concept to personal adjustment, Jourard believes that self-esteem is rational or healthy when it is derived from an accurate comparison of actual behavior and achievement. It is irrational or unhealthy when the person esteems himself for traits he actually does not possess and achievements he has not actually performed. 4 He also states that people tend to behave with consistency in order to maintain or justify their present beliefs about their personality. 5

1 Ibid, p. 91.
3 Ibid.
5 Ibid, p. 255.
Jones views this need for consistency, however, as a different theory from the need for self-esteem.\(^1\) Self-consistency theorists subscribe to the view that the individual needs to maintain similarity between his evaluation of himself and that evaluation he receives from other sources. Self-esteem theorists appear to believe that the individual needs to maintain and enhance his self-esteem regardless of the evaluations he receives.

Coopersmith presents a synthesis of these theories on self-esteem.\(^2\) He refers to aspirations as personal expectations; achievement as the attainment of these aspirations; and competence as meeting these demands for achievement. An individual evaluates himself when he compares actual achievement with aspirations. If his aspirations have been met, the individual feels worthy; if not, he feels unworthy. Most individuals want to achieve and be successful. Low self-esteem people, however, think success will not occur and, therefore, tend to lower their expectations. Low self-esteem people tend to repress or deny their poor performances, to anticipate failure, to suffer from decreased motivation and to become victims of a negative self-fulfilling prophecy.\(^3\) High self-esteem people are reinforced by high motivation and past and future success. They expect to succeed, set higher goals, and are able to recall their failures and benefit from them.

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\(^{3}\) Ibid.
Webster and Sobreszek review recent empirical research and summarize the consequences of high and low self-evaluations. An individual who receives many positive evaluations at a particular task is more likely to attempt future performances, to evaluate these performances more positively, to rank himself highly within the group, and to be affected in his subsequent behavior in social situations. They describe self-evaluation as synonymous with self-esteem.

Wells and Marwell summarize the literature on self-esteem and attempt to systematize, conceptualize, and measure this concept. They describe self-esteem as a hypothetical construct used to summarize certain features of human behavior. Self-esteem, also referred to in this book as self-regard, self-evaluation, and self-affection, is viewed by Wells and Marwell as a component of self-concept.

In summary, the two terms, self-concept and self-esteem overlap in the literature. Self-concept can be viewed as the generalization of self which aids in perceiving and dealing with self and determines an individual's behavior. It is the sum total view which an individual has of himself, a unique set of perceptions, ideas, feelings, and attitudes.

1Murray Webster, Jr. and Barbara Sobreszek, Sources of Self-Evaluation (New York: Wiley & Sons, 1974).
2Ibid, p. 29.
4Combs and Snygg, Individual Behavior, p. 127.
Self-esteem can be viewed as an aspect of the self-concept, that is, as the individual's perception of his worth;¹ or the regard, affection, or value a person has of himself.² For the purpose of this study, self-esteem will be defined as the evaluation that the individual makes and maintains with regard to himself. Implicit in this definition is an attitude of approval or disapproval, suggesting the extent to which the individual believes himself capable, significant, successful, and worthy.³ A high degree of self-esteem means that a person approves his overall personality.

Self-Concept and Achievement

The importance of self-concept in relation to education has received particular emphasis.⁴ There has been much research indicating a positive correlation between self-concept and academic achievement,⁵ including cross-cultural studies.⁶

³Coopersmith, The Antecedents of Self-Esteem, pp. 4-5.
One classic study of this relationship was conducted by Bruck and Bodwin.¹ They studied 60 students in the third, sixth, and eleventh grades from a Michigan school system to determine the degree to which self-concept is associated with the presence or absence of underachievement in students with normal or high intelligence. Underachievers were defined as being one year or more below grade level on achievement test scores. Intelligence was determined by the California Mental Maturity Test; and Self-Concept Scale of the Machover Draw-A-Person Test was used to measure self-concept. The results of this study indicated a positive and significant relationship between educational disabilities and immature self-concept at all grade levels (ranging from $p < 0.01$ to $p < 0.05$).

Another classic study is the one conducted by Brookover, Thomas, and Paterson.² They began a longitudinal study on the self-concept involving an initial sample of 2,000 seventh grade students from an urban school system. Black students were excluded from this study. The Self-Concept of Ability Scale, an eight-item multiple-choice questionnaire, was used to measure how students perceived their ability to perform in an academic setting. Grade point averages were used as an index of academic performance and intelligence scores were obtained from the California Test of Mental Maturity. Multiple correlations performed indicated that


there was a significant and positive relationship between self-concept and performance in the academic role \( (p \leq .05) \), even when IQ was controlled. Also, relationships were found to exist between self-concept and the perceived evaluation of significant others.

This study was the basis for a six year project of the relationship between self-concept of academic ability and school achievement.\(^1\)

The seventh graders described above were followed through the twelve grade. The final sample consisted of 1,050 high school students. Brookover and his associates found that changes in both perceived evaluations of others (parents, peers and teachers) were highly correlated with changes in grade point average. The basic theoretical framework under investigation was that learning is limited by the student's self-concept of his ability and the self-concept results from the expectations held by significant others as perceived by the student.

A direct linear relationship between self-concept and achievement was found when Campbell studied 158 students in grades four through six.\(^2\)

He examined the function of Coopersmith's SEI scores as contributors to prediction of achievement in the \textit{Iowa Composite Achievement}. Multiple regression techniques, with intelligence quotients as the second independent variable were utilized. Campbell found that poor adjustment, anti-social values, and extroversion appear to characterize students who

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obtain high self-esteem scores while achieving relatively low academically. He also found that poor adjustment characterized by depressed and withdrawn behavior appears to be associated with low self-esteem and high academic achievement.

Similar findings are reported by Caplin. He studied 180 children (66 percent black and 34 percent white) from the intermediate grades of three elementary schools in a small town in New Jersey. Caplin computed analysis of variance on the scores obtained on the Goldberg Self Report Scale administered. Correlations between these scores and scores of achievement obtained from the Iowa Test of Basic Skills were significant at \( p < .001 \). Findings of this study confirmed that children having more positive self-concept and higher levels of aspiration also exhibit higher achievement levels. These findings also lead Caplin to believe that school-related traits are more intimately related to academic achievement than are generalized personal and social feelings about the self.

A more recent study was undertaken by Cole with 100 third graders from an Illinois public school. He investigated the relationship between self concept and several aspects of student achievement including language, spelling, reading and math as measured by the Metropolitan

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Achievement Test. Data from the Children's Self-Concept Index and achievement tests yielded a positive and significant correlation coefficient ($p < .05$) for self-concept and all achievement areas, except spelling. The findings of the study pointed to the important role of personality variables such as self-concept in the achievement of primary students.

Positive and significant correlation at $p < .01$ were reported in a study conducted by Simon and Simon.\(^1\) They computed correlations between Coopersmith's SEI and the SRA Achievement Series in order to explore the relationship between self-esteem and achievement. The students were 87 fifth graders from a New York City suburb, age ten to twelve. Simon and Simon also interpreted their findings as providing additional concurrent validity to the SEI and evidence of its usefulness in educational context.

Self-concept and achievement have been found to be related with both the educable retarded and emotionally disturbed pupil.\(^2\) Fifty pupils, 25 in classrooms for educable retarded students and 25 in classrooms for emotionally disturbed pupils, were administered the Piers-Harris Children Self-Concept Scale and the Standard Achievement Test. The data presented from the correlation of the data after a three year period supported research findings of a positive relationship between academic achievement and self-concept. (No significance levels were provided by the investigators.)


The influence of self-concept appears to be related to academic achievement with gifted students also.¹ The subjects of this study were 48 seventh grade Arizona pupils from middle-class backgrounds. The gifted students were administered Coopersmith's SEI, a free recall learning task, and a nonverbal paired associate learning task. Analysis of variance performed yielded significant main affects (from p < .05 to p < .01) on self-concept and the learning tasks. The preadolescent boys and girls with higher self-perceptions showed greater mastery of verbal and nonverbal learning tasks than their lower self-concept counterparts.

Many and Many, who have conducted several studies on self-esteem and students, have found that students with high self-esteem are happier and more effective in meeting societal demands and anxieties than are students with low self-esteem.² Their study involved 4,367 students from East Aurora and Wheaton, Illinois. The subjects included a broad socio-economic range and different racial and ethnic minority groups. Coopersmith's SEI and two measures to calculate anxiety were used. Although this study did not involve a comparison between self-esteem and achievement, the results indicate that students who are endowed with a healthy self-concept may be able to cope more effectively with academic demands.


Self-Concept and Reading

Research also indicates a strong relationship between self-concept and reading. In summarizing this relationship, the International Reading Association views a poor self-concept as a set of perceptions that interferes with reading; a good self-concept, as a set of perceptions that in no way interferes, but may in fact, enhance a person's opportunities to read well.¹ A poor self-concept denoting an unmet basic need, little or no learning taking place until this need is fulfilled.²

Block has shown that retarded readers tend to have a less adequate self-concept than normal achievers.³ Subjects in this study were students eleven to twelve years old in the third through fifth grades. Matched samples of normal and retarded readers, all of whom had been identified as underachievers, were tested using the Piers-Harris Children's Self-Concept Scale. The differences in mean achievement for the two samples were highly significant at $p < .01$. The difference in mean self-concept scores for the two samples was found significant at $p < .05$.

¹Ivan Quandt, Self-Concept and Reading (Newark, Del.: International Reading Association, 1972), pp. 5-6.
Another study that found self-concept to be related to reading achievement was conducted by Cummings with 48 third graders from an Alabama elementary school.\textsuperscript{1} Students were divided into four groups; those scoring the lowest and the highest in their own school class and those scoring the lowest and the highest in reading in general. The \textit{California Reading Test} and the \textit{Self-Concept Values Test} were used. Results of this study indicated that those students who scored high in reading in their class and those who scored high in reading in general also reported more positive concepts than those students in the two low groups.

A similar finding is reported by Singh who studied 81 fifth grade students from a Mississippi elementary school.\textsuperscript{2} Among the various tests administered was the \textit{California Achievement Test} and Coopersmith's \textit{SEI}. A significant and positive correlation at $p \leq .05$ was found between reading grade equivalency and self-concept when the data was analyzed using a \textit{t} test. Other findings of this study indicated that a child with high moral judgement tends to also achieve high scores on self-concept and reading.

In a study with sixth grade students from a large midwestern inner-city area, Frerichs also found successful students to have higher self-esteem scores than less successful students.\textsuperscript{3} Frerichs used

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Rosenberg's Self-Esteem Scale\(^1\) with 78 black students who had been previously classified as successful and less successful readers. The results of this study were significant for both grade point average (at \(p < .01\)) and for reading level (at \(p < .05\)), indicating a linkage between academic achievement, reading success and self-esteem.

A study conducted by McCormick and Karabinus in the Chicago metropolitan area compared the self-esteem of white, black, and Spanish students grouped by reading ability.\(^2\) The subjects were 1235 students in grades four to six. The black and Spanish-surnamed students were described as disadvantaged. Achievement in reading was measured by using part of the Metropolitan Achievement Test, and the affective factors were tested by various instruments including Coopersmith's SEI. Results indicated that Spanish students who had a high reading ability in grades four to six had significantly higher self-esteem mean scores (at \(p < .05\)) than those with low reading ability. In contrast to Frerich's findings, no differences in self-esteem between blacks classified as high or low in reading achievement were observed.

A similar study with 60 seventh grade students of various ethnic backgrounds, was conducted in a New York City suburb.\(^3\) The subjects were divided into below-level and on-level readers and were matched by age,


sex, and ethnic group. Part of the Self-Social Symbols Task was used to measure self-concept, and reading ability was measured with the Stanford Diagnostic Reading Test. Achieving readers had a significantly higher ($p < .001$) total self-concept than readers who were not achieving.

Katzenmeyer and Stenner studied the self-concept and reading achievement of both elementary and upper elementary grade children. The school districts selected were representative of the United States in terms of size, SES (socio-economic status), and geographical location. Within each school a sample stratified with respect to grade and SES was selected. The overall sample included the students of 1,200 teachers in 150 schools for a total sample size of over 30,000 children in grades K-6. This sample was represented with minority and socio-economically disadvantaged students. The Self-Observation Scale (SOS) was administered as a measure of self-concept. Findings of this study reported a strong positive relationship between reading achievement and self-concept at both the primary and intermediate levels. At the primary level, or grades kindergarten through third, four of the seven subscales were significantly related ($p < .001$) to reading achievement after covarying ethnicity and family income level. At the intermediate level, or grades fourth through sixth all seven subscales were significantly related (at $p < .001$) to reading achievement after adjusting for income and ethnicity.

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In a later similar study with 3,054 intermediate students, Stenner and Katzenmeyer found that six of the seven SOS scales were positively and significantly related at $p \leq 0.0001$ to five teacher-rated reading achievement levels ranging from superior to remedial. Superior readers appeared to be more self-accepting, self-secure, socially mature, peer-affiliated, teacher-affiliated, and socially confident than their below average and remedial reading peers. Stenner and Katzenmeyer suggest that self-concept may have a more pervasive influence on academic performance than previously realized.

Stenner and Katzenmeyer conducted another study using the SOS with 225 sixth graders from two West Virginia rural counties. Eight criterion variables, including reading were correlated; 76 percent of the correlations were significant at $p \leq 0.01$. Self concept was shown to add significantly to the prediction of achievement. The SOS accounted for 22 percent of the variance in reading achievement and self-concept was found to be significantly correlated at $p \leq 0.01$ with five of seven subscales of the SOS.

Some researchers have stated that the relationship between self-concept and reading achievement is causal, that is, a change in one is associated with a change in the other. The question is whether one achieves more because of a higher self-concept or whether one has a higher self-concept because he achieves higher. The cause-effect

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relationship cannot necessarily be discerned. Some educators such as Hamacheck, Wattenburg, and Clifford agree that the relationship between self-concept and achievement is at least partially reciprocal and that reading ability and self-concept continually reinforce each other.

Wattenburg and Clifford conducted a study to answer the question of whether self-concept or achievement is the antecedent factor.¹ They took the measurements and ratings of 185 children enrolled in kindergarten from two schools in Detroit. Two years later, measures were obtained of their progress in reading and self concept. The correlation between second grade reading and kindergarten self-concept was significant at p < .05. Self-concept and intelligence scores were not related.

Wattenburg and Clifford concluded that even as early as kindergarten self-concept is antecedent to, and predictive of, reading accomplishment.

Carlsyn, however, believes that self-concept is a consequence of academic success. He used the cross-lagged panel correlation technique, a methodology for making causal inferences from longitudinal data. Carlsyn reanalyzed data of subjects from preschool to high school. He found academic achievement to be predictive of academic self-concept and not necessarily of general self-esteem. He suggests that compensatory programs which put most of their emphasis on achievement-related tasks might be more successful than those programs which first try to increase self-esteem.²


Carlsyn reaffirmed this belief in a later study where he sought to find whether self-concept is the cause or effect of academic achievement by making a secondary analysis of Brookover's longitudinal data.\(^1\) The subjects of the study were 556 white students in grades eight to twelve in an urban school system in Michigan. His findings indicate that adolescents' performance in school more often affects their self-concept of ability and their perception of others' assessment of that ability. These findings are also contrary to the self-enhancement approach of compensatory programs and consistent with programs with a skill development approach where self-concept variables are primarily the consequences of academic achievement.

Numerous studies show that a person with low concept performs below expectation and a person with a high self-concept performs above expectation. Felker provides two possible explanations for this occurrence. Either achievement and self-concept interact with each other in a vicious cycle (low self-concept \(\rightarrow\) low performance \(\rightarrow\) lower self-concept \(\rightarrow\) lower performance) or low self-concept inhibits the individual's participation in learning tasks (low self-concept = less participation = less chances for success).\(^2\) Consistent with this view, Fitts believes that the more optimal the individual's self-concept, the more effectively he or she functions; all things being equal, between persons of equal ability, the one with the healthier self-concept will generally function

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better. He sees this relationship as an interaction in which a good self-concept contributes to an effective performance, and this in turn contributes to a healthy self-concept.\(^1\)

Hamacheck, who has studied this causal aspect, states that although it may be difficult to determine which comes first, good school work or high self-regard, "it does not seem unreasonable to suggest that each is mutually reinforcing to the extent that a positive change in one facilitates a change in the other."\(^2\) A positive self-concept does not guarantee high academic achievement, but it appears to be a necessary personal quality for a child to have prior to achievement.\(^3\)

**Self-Concept and Sex**

The relationship between reading achievement and self-concept appears to hold for both males and females at the primary and intermediate school levels or grades kindergarten through sixth.\(^4\)

Some studies indicate that there are no significant differences between boys and girls in terms of self-concept. A study conducted by Piers and Harris with third, sixth, and tenth grade classes found no

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\(^4\) Stenner and Katzenmeyer, *Self-Concept and Reading Achievement*, p. 16.
consistent sex differences among male and female subjects.\textsuperscript{1} These students were administered a 140 item scale with satisfactory interval consistency and retest reliability. Similar results were reported by Kokenes in her monumental study involving 7,600 public school students in Illinois.\textsuperscript{2} She used Coopersmith's SEI as a measure of self-esteem. This study found little factorial difference in self-esteem from grade to grade among boys and girls in grades four to eight.

Caplin also found similar results when he analyzed data gathered from his study on self-concept involving 90 boys and 90 girls, ages ten to eleven.\textsuperscript{3} He found the results to be contrary to his expectations for girls at this developmental stage. Caplin had hypothesized that girls would exhibit a more satisfying self-concept than boys as a result of their physical and physiological advantage and their social contacts with people of their own sex.

Several other studies also indicate there are no significant differences between boys and girls and their self-esteem as measured by Coopersmith's SEI. One of the studies involved 237 fourth graders from a southern New Hampshire suburban community.\textsuperscript{4} Less than 5 percent of the

\textsuperscript{1}Ellen V. Piers and Dale B. Harris, "Age and Other Correlates of Self-Concept in Children," \textit{Journal of Educational Psychology} 55 (April 1964), pp. 91-95.

\textsuperscript{2}Barbara M. Kokenes, "Grade Level Differences in Factors of Self-Esteem," \textit{Developmental Psychology} 10 (November 1974), pp. 954-958.

\textsuperscript{3}Caplin, "The Relationship Between Self-Concept and Academic Achievement," p. 15.

122 boys and 115 girls were from minority groups. The second study included 87 fifth graders from a New York City suburb or 45 boys and 42 girls between the ages of ten and twelve. The third study involved 24 boys and 24 girls from an Arizona gifted seventh and eighth grade class.

Edeburn studied 144 boys and 151 girls in grades four to six to examine both teacher and student self-concept. He used the Self-Appraisal Inventory, a self-report instrument similar to Coopersmith's SEI with a reliability described as adequate for elementary school children. Among other findings, Edeburn reported no significant differences between male and female self-concepts.

One of the studies reviewed reported boys' self-concept scores to be significantly more positive than girls' self-concept scores, but only at the eighth grade level. No other differences were found between boys and girls in the fourth, fifth, sixth, and seventh grades or when all grades were combined.

Although most studies point out to few or no significant differences between boys and girls at the primary and intermediate school level, several studies indicate that there may be differences between aspects of male and female self-concepts.

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1Simon and Simon, "Self-Esteem, Intelligence and Standardized Academic Achievement," p. 98.

2Dean, "Affects of Self-Concept on Learning with Gifted Children," p. 316.


For example, Campbell found the relationship between academic performance and self-concept to be more pronounced for boys than girls. Stenner and Katzenmeyer found that girls tend to be more self-accepting, socially mature, school affiliated, and teacher affiliated than boys. Flammer and Matas found that girls reported a "generalized" feeling of adequacy and self-satisfaction. A girl who is satisfied in one area tends to be similarly satisfied in all areas. Boys do not necessarily generalize this feeling to other areas. Shaw and Alves have found that the negative attitudes of the males may be mostly self-perceived while the negative attitudes of the females may be centered on the perception of others about them. Felker has found evidence to hypothesize that self-esteem may be more significant in the males than in the females, that the self-concept relationship may be more stable and predictable in boys, and that academic achievement may be more important for boys.

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2Stenner and Katzenmeyer, Self-Concept and Reading Achievement, pp. 8-9.
Self-concept has been associated with academic achievement at various grade levels. Katzenmeyer and Stenner found self-concept to be associated with reading achievement at both the elementary and intermediate levels or grades kindergarten through sixth. A study conducted by Bruck and Bodwin with 300 pupils from the third to the sixth grade indicated a positive and significant relationship (from $p < .01$ to $< .05$) between self-concept and grade point average at all grade levels studied.

Although the relationship between achievement and self-concept has been found to hold for various grade levels, findings are not conclusive regarding whether self-concept increases or decreases with age. Many, in her review of recent studies on self-esteem, reports conflicting results pertaining to grade level differences; most results indicate that a person's self-concept is generally stabilized over various grade levels.

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Soares and Soares, who studied 661 advantaged and disadvantaged youngsters in grades four to twelve, found elementary school children to have higher self-images than secondary students.¹ Block also found that the older disabled reader tends to view himself more negatively than a similarly disabled younger reader.² These findings are contrary to conclusions reached by Thompson after reviewing several studies on self-concept.³ He concludes that as individuals increase in age, their self-concept also increases.

Piers and Harris, who compared third, sixth, and tenth graders using t tests found third and tenth grade classes not to be significantly different from each other.⁴ However, both third and tenth graders were significantly different from the sixth graders at p < .01. In fact, self-esteem scores for the sixth grade students were less positive than for the third and tenth grade subjects. This less positive self-esteem score in students in the sixth grade was also found by Kokenes.⁵ While


⁴Piers and Harris, "Age and Other Correlates of Self-Concept in Children," p. 93.

⁵Kokenes, "Grade Level Differences in Factors of Self-Esteem," p. 158.
investigating factorial differences in grades four to eight, she noted that sixth graders were more rejecting of themselves than children in other grade levels. Kokenes attributed these more rejecting self-attributes to changes in school placement and physiological changes related to pubescence in students at this age level.

Although research is contradictory as to whether self-esteem increases with age, at least one studied was found pointing out to a structural change in self-concept as primary students become adolescents. Montemayor and Eisen studied 262 subjects from a suburban midwestern university community.\(^1\) The students involved ranged from ten to eighteen years of age corresponding to grades four, six, eight, ten, and twelve. These subjects, which were almost exclusively white, were administered the Twenty Statements Test as a measure of self-concept. Significant structural changes at \(p < .001\) were reported between childhood and adolescent subjects. Results indicated that with increasing age, an individual's self-concept becomes more abstract and less concrete. For example, primary students tend to describe themselves in concrete objective categories such as address, physical appearance, possessions and play activities. Adolescents tend to use more general and subjective categories such as personal beliefs, motivation, and interpersonal relationships. Montemayor and Eisen view this structural change in self-concept a result of the developmental changes taking place in students at this particular stage in their life.

Self-Concept and Ethnicity

Research generally supports the idea that underachievers see themselves as less adequate and less acceptable than other students regardless of social and ethnic boundaries. Studies reviewed in this chapter indicate that self-concept has been found to be related to academic achievement with diverse student populations.

While research into the relationship between development of self-concept and achievement has been relatively stable, much of the recent research has failed to agree on whether black children have lower self-concepts than white children, whether the self-concept of advantaged children differ from those of disadvantaged children, and whether Spanish-speaking students have lower self-concepts than whites and blacks.

Comparisons between the self-concept of white and black student populations are numerous. The Department of Health, Education, and Welfare (HEW), reviewed 66 such studies and found the school setting to be a determining factor. For example, of 6 studies reviewed on the self-concept of blacks and whites in a segregated setting, in only one study did black students report a more positive self-concept than white students; in two cases, their scores were less positive; and in three cases, the students scored equally. In 34 studies involving an interracial setting, 17 studies showed black self-concept to be as positive or more positive than white self-concept; in 7 cases, self-concept was equal between the races; and in 10 cases, black self-concept was as low or lower than that of whites. Out of 26 studies in a desegregated setting, 12 cases showed this setting to have a positive effect on the self-concept of black
students; in 8 cases, this setting had a negative effect on the self-concept of black students; and in 6 studies, the self-concept of both groups was equal.¹

Although these 66 studies do not answer the question of whether whites or blacks have a more positive self-concept, they do indicate that an interracial setting may be beneficial to the self-concept of the black student.

Soares and Soares conducted a study to determine whether disadvantaged children maintain a less positive self-image than advantaged children.² They studied 183 primary subjects from an urban school system in a medium-sized city in New England; the minority group composition was approximately half black and half Puerto Rican. The subjects were administered an inventory of 40 bi-polar traits prepared by the investigators. An analysis of variance reported that disadvantaged children had significantly higher scores (p < .05) than advantaged children. Disadvantaged children also viewed themselves and thought that others viewed them more positively than did advantaged children. The investigators hypothesized that the lower expectation level for disadvantaged children may contribute to their higher self-concept, or it may be that they do not rate themselves according to "Anglo" society's perception of them but use


other disadvantaged children as models. Several researches argue that these unexpectedly high self-concept in disadvantaged youngsters are the result of a defense mechanism they use to present favorable pictures of themselves.¹

Two studies involving Mexican-American students from public schools in New Mexico reported no significant differences in self-concept between these students and other white students. Healy compared the self-concept of 630 black, white, and Mexican-American students in the ninth grade. He used the Tennessee Self-Concept Scale.² Linton analyzed the self-concept of 332 Mexican-American and white sixth graders.³ He used the Piers-Harris Children's Self-Concept Scale to measure self-concept and the Iowa Test of Basic Skills as a measure of achievement. On both studies no significant differences emerged among the white and ethnic groups studied.

Zirkel and his associates have investigated the achievement and the self-concept of Puerto Rican students extensively. In one study, Zirkel and Greene involved 337 Spanish speaking primary Puerto Rican students from 29 bilingual classrooms in Connecticut.⁴ Self-concept was


measured based on teacher reports from the McDaniel Inferred Self-Concept Scale. A correlation analysis indicated that the self-concept of the students was significantly related to achievement, and that the self-concept of the students was higher when they constituted a majority in a school.

In another study, Zirkel and Gable involved 218 seventh and eighth grade black, white, and Puerto Rican students from two innercity public schools in Connecticut.1 Although the purpose of this study was to examine various self-concept instruments, some of conclusions are relevant to this study. Zirkel and Gable found that the self-concept of Puerto Rican students, when compared with blacks and whites, varied depending on the self-concept instrument used, the language of the examiner, the language of the examinee, as well as the type of item and response used.

The most recent study of self-concept of Puerto Rican students offers no comparison with the self-concept of other ethnic groups, however, it does offer some interesting findings relevant to this study. Thiel studied 627 subjects, aged 10 through 12, from public school classrooms in Puerto Rico and Chicago,2 using univariate analysis of covariance to test his hypotheses. Coopersmith's SEI was used as a measure of self-esteem. Three findings appear to be of interest and relevance to this study. First, the total self-esteem of the Puerto Rican children living in the island was significantly more positive at $p < .05$ than their

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counterparts living in metropolitan Chicago. Second, the total self-esteem of the students living in Chicago was significantly and negatively affected at \( p < .05 \) if they spoke only Spanish. Third, the self-esteem of the students living in Chicago did not appear to be related to the amount of time that the subjects had lived in that environment.

The Coleman report which involved 625,000 students in grades one, three, six, nine, and twelve, presented some data relative to the achievement and self-concept of white, Asian-American, Mexican-American, Puerto Rican and black students. First, the achievement of the average black, Mexican-American, and Puerto Rican student was found to be lower than the average white and Asian-American student at all levels. Second, in terms of reading achievement, blacks and Puerto Ricans reported the lowest test scores, the differences increasing at higher levels. Third, Coleman and his associates found that the self-concept was one of the most powerful predictors of test scores. Fourth, Mexican-American and Puerto Rican students had lower positive responses than blacks in almost every attitude toward academic achievement. Fifth, the achievement of advantaged students appeared to be related to what they believed about themselves while the achievement of disadvantaged students appeared to be related to what they believed about the environment. In other words, the advantaged students believed they could control their environment while the disadvantaged students assumed a lack of such control. ¹

In respect to interraciality and achievement, the Coleman report also stated that the achievement of students in each racial group increased as the proportion of white students increased, that the average test performance of blacks increased as the white classmates increased, and that students who first entered a desegregated setting did generally better academically than those who entered later.\(^1\)

Summary

Self-concept and self-esteem are used interchangeably in the literature. However, self-concept may be more correctly viewed as the generalization of the self, while self-esteem may be viewed as an aspect of the self-concept. That is, the individual's perception of his worth, regard or value.

This self-evaluation is deemed significant because a person will perceive, interpret, accept, or reject what he encounters based on his idea of his worth. A deep sense of personal worth appears to be a characteristic of emotional health.

It appears that students with a high self-concept achieve better academically than students with low self-concept. A significant positive relationship has been found between self-concept and reading, specifically. Although research is consistent with this view, the direction of this relationship is not clear. There is disagreement as to which comes first, a good self-concept or adequate achievement. It is apparent that these two factors interact with each other so that a good self-concept contributes to a more effective performance.

\(^1\)Ibid, pp. 307-310.
The relationship between academic achievement and self-concept appears to hold for both males and females. However, evidence is not definite as to whether males or females exhibit higher self-esteem. Males and females subjects do not appear to differ significantly with regard to their measured self-esteem at the primary school level. Although the relationship between academic achievement and self-concept appears to hold for the elementary and intermediate grade levels, evidence is contradictory on whether self-esteem increases with age.

Most of the traditional research indicates that underachievers, regardless of social and ethnic background, tend to have a lower self-esteem than other students. However, recent research is contradictory on whether racial group, ethnic group or social class have an effect on self-esteem. Puerto Rican students living in an inner-city environment in the United States do appear to have a significantly lower self-esteem than their counterparts in the island.
CHAPTER III

RESEARCH DESIGN

This chapter describes the subjects of this study, the instruments used, the testing procedures, and statistical techniques selected to test the hypotheses.

Subjects

The subjects were 270 pre-adolescent Puerto Rican bilingual students, ten to twelve years old, and corresponding to grades four to six in the elementary level. They were drawn from an inner-city low-income neighborhood with a population 53 percent Puerto Rican.¹

The participating schools were ESEA Title I schools which reflected the ethnic composition of the area. These schools were selected from ten found to be at least 50 percent Puerto Rican in student population. Specifically, School A was 68 percent Puerto Rican, 17 percent black, 7 percent white, and 8 percent of other backgrounds; School B was 55 percent Puerto Rican, 26 percent white, 5 percent black, and 14 percent of other backgrounds; School C was 64 percent Puerto Rican, 17 percent black, 5 percent white, and 14 percent of other backgrounds. The

white student population percentages refer to students who are white of non-Hispanic background, and the students described as "other" are mostly Spanish of non-Puerto Rican background.

From these schools, a total of 270 subjects were drawn. In terms of sex, 127 were males, and 143 were females. In terms of age, 82 were ten years old (38 males and 44 females); 100 were eleven years old (41 males and 59 females); 88 were twelve years old (48 males and 40 females). Table 1 presents a summary of the subjects by age, sex, and school.

At each school 2 classrooms per grade were selected for the study for a total of 18 classrooms. These classrooms were selected randomly from a list of all the fourth to sixth grade classrooms at each school. A total number of 350 students were tested, but 80 students (30 percent) were excluded from the study. These students were not included in the final sample because 56 were not of Puerto Rican background, 18 had insufficient test data, and 6 exceeded the age limits of this study.
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<td>17</td>
<td>31</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>44</td>
<td>82</td>
<td>41</td>
</tr>
</tbody>
</table>
The 270 subjects were subsequently classified into four groups based on their reading facility in English and Spanish. Specifically, the groups were described as Group A (those students with an adequate reading facility in both languages); Group B (those students with an adequate reading facility in only English); Group C (those students with an adequate reading facility in only Spanish); and, Group D (those students with an inadequate facility in both languages).

Of a total of 270 subjects, 51 or 18.9 percent were found to be in Group A (18 males and 33 females); 75 or 27.8 percent were in Group B (36 males and 39 females); 49 or 18.1 percent were in Group C (20 males and 29 females); and 95 or 35.2 percent were in Group D (53 males and 42 females). Table 2 presents a summary of the subjects by group, by age, and by sex.
Table 2
SUBJECTS BY GROUP BY AGE BY SEX

<table>
<thead>
<tr>
<th>Group</th>
<th>10</th>
<th></th>
<th>11</th>
<th></th>
<th>12</th>
<th></th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>Total</td>
<td>M</td>
<td>F</td>
<td>Total</td>
<td>M</td>
</tr>
<tr>
<td>A</td>
<td>8</td>
<td>12</td>
<td>20</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>7</td>
<td>13</td>
<td>20</td>
<td>21</td>
<td>16</td>
<td>37</td>
<td>8</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>7</td>
<td>12</td>
<td>4</td>
<td>14</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>D</td>
<td>18</td>
<td>12</td>
<td>30</td>
<td>11</td>
<td>19</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>38</td>
<td>44</td>
<td>82</td>
<td>41</td>
<td>59</td>
<td>100</td>
<td>48</td>
</tr>
</tbody>
</table>

(.11 w
The "adequate" and "inadequate" definitions for reading both English and Spanish were based on the results of the citywide testing program and the average reading level in English of students at the three participating schools. Results indicated the average 10-year-old student to be reading English at the 3.6 grade level; the average 11-year-old to be reading at the 4.0 level; and the average 12-year-old to be reading at the 4.4 level. Since no average reading scores were available in Spanish, and a preliminary study indicated the reading adequacy of the students in reading Spanish to be below that of English, the "adequate" level for reading Spanish was "lowered."

Based on these considerations, "inadequate" reading facility in English was defined as reading below the average for that grade level; "adequate" reading facility, as reading on or above that level. In terms of reading facility in Spanish, "inadequate" reading facility was defined as reading one-half grade or more below the average in English reading for that grade level; "adequate" reading facility, as reading on or above that level. Table 3 presents a summary of the reading levels by age.

---

Table 3

READING LEVELS BY AGE

<table>
<thead>
<tr>
<th>Age</th>
<th>Language</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>English</td>
<td>≥3.6</td>
<td>≥3.6</td>
<td>≤3.6</td>
<td>≤3.6</td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>≥3.1</td>
<td>≤3.1</td>
<td>≥3.1</td>
<td>≤3.1</td>
</tr>
<tr>
<td>11</td>
<td>English</td>
<td>≥4.0</td>
<td>≥4.0</td>
<td>≤4.0</td>
<td>≤4.0</td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>≥3.5</td>
<td>≤3.5</td>
<td>≥3.5</td>
<td>≤3.1</td>
</tr>
<tr>
<td>12</td>
<td>English</td>
<td>≥4.4</td>
<td>≥4.4</td>
<td>≤4.4</td>
<td>≤4.0</td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>≥3.9</td>
<td>≤3.9</td>
<td>≥3.9</td>
<td>≤3.9</td>
</tr>
</tbody>
</table>
All the subjects selected for this study were bilingual and could read both English and Spanish in varying degrees ranging from adequate to inadequate. This was ascertained by the results of the Functional Language Survey administered in March, 1977 and which placed these students in English fluency levels IV-V. A description of these levels is provided in Appendix A.

**Instruments**

The following data was collected for this study:

a) Data pertinent to the students, the two independent variables: schooling in Puerto Rico and bilingual education experience, and the covariates sex and age were collected through a Spanish/English questionnaire developed by the investigator. See Appendix B for a copy of this questionnaire.

b) Data pertinent to the independent variable reading facility was collected through the use of the Inter-American Series: Tests of Reading (English) and Prueba de Lectura (Spanish). See Appendix E for a copy of these two instruments.

c) Data pertinent to the dependent variable self-esteem was collected through the use of Stanley Coopersmith's Self-Esteem Inventory. See Appendix D for a copy of this instrument.

Below is information on each of these instruments:

**Spanish/English Questionnaire**

This ten-item instrument was developed by the investigator in both English and Spanish to gather the necessary data. Questions 1 through 3
ascertained sex, age, and ethnic group membership of the subjects. Questions 4 through 10 indicated the students' schooling in Puerto Rico and bilingual education experience in Chicago.

**Inter-American Series**

These are a series of parallel standardized reading tests in English and Spanish designed to provide comparable measures of reading competency in these languages.

The reading tests used were Level 3, forms DE (English version) and CE (Spanish version), corresponding to the age levels of the students in the study. Two parts were used: Vocabulary and Comprehension. The third part of this test, Speed of Comprehension was not included because the total testing time would have been too long for the students involved. In the vocabulary part, the items consist of a definition, a descriptive phrase, or a word suggesting the response. Forty-five items are included. In the comprehension part, the task is to find a word omitted. Thirty items are included.

The review in Buros' *Seventh Mental Measurements Yearbook* describes the format of the test as "good" and instructions as "clear."\(^1\) Also, it states that "the use of these tests should probably be limited to cross-cultural research and to assessment of reading competency in bilingual communities."\(^2\) The reviewer further adds that "these tests

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\(^2\)Ibid, p. 712.
could be very useful in measuring the vocabulary and reading comprehension of children entering U.S. schools from Mexico, Cuba, Puerto Rico, and other Latin American countries."¹

The median alternate-form reliabilities for both the English and Spanish editions are .90 and .84 respectively for total test scores.² The reliability for the English and Spanish editions, forms DE and CE, level 3 for grade five is .87 and .81 respectively for total scores.³

In terms of validity, the reviewer states that "in general, test items have been competently written: great care has been exercised to see that the Spanish translation is comparable to the English in both content and difficulty."⁴ Also, "results from a preliminary administration were used in item analysis; items were selected in terms of difficulty, values and discrimination indices."⁵

Although the publishers of the test recommend the use of local norms, national norms were used.⁶ First, the local norms available are not representative of the Chicago student population but rather, are representative of Downstate Illinois students. Second, these norms are

¹Ibid.
²Ibid, p. 711.
⁴Buros, The Seventh Mental Measurements Yearbook, p. 711.
⁵Ibid.
only available for grades five and six and not for grade four. Third, although the Inter-American Series is being used to measure the reading comprehension of students in bilingual programs in Chicago public schools, local norms have not been developed.

Coopersmith's Self-Esteem Inventory (SEI)

The SEI was devised by Stanley Coopersmith for elementary school children as a measure of self-judgment of worthiness. The instrument is a 58 item, self-report inventory in which the subject reads a declarative statement and then checks whether the statement is "Like me" or "Unlike me." Eight of the items constitute a lie scale or distractors and are not included in the total score. The remaining 50 items are intended to measure the self-attitudes of the subject and are derived from four sources: the student himself, his home and parents, his school, and his peers. Under normal conditions the test takes approximately 20 minutes to administer.

The SEI was originally administered to 1,700 fifth and sixth grade students. After a five week interval, an alternate form of the test was administered to 30 fifth graders from the original sample. The test-retest reliability obtained was .88.1

In order to assess the reliability of Coopersmith's SEI with subjects similar to those in this study, a reliability analysis was made. The subjects were 139 Puerto Rican students from Chicago public schools having similar characteristics as those used in this study. Test data

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were computer scored and analyzed using the Statistical Package for the Social Sciences.\(^1\) The subscales reported the following reliability coefficients: student, .61; home, .57; peers .41; and school, .61. The total reliability of the test was .70. The results of the split-half reliability coefficients to which the Spearman-Brown formula was applied are presented in Table 4.

Apparently, as the number of items increased so did the consistency of the subscales. This is consistent with Anastasi's view that "other things being equal, the longer a test, the more reliable it will be. The lengthening of the test increases its consistency in terms of content sampling."\(^2\) Cronbach also agrees that "a long test is generally better than a short test," as the length makes the test more dependable.\(^3\)

The literature tends to agree that reliability coefficients of .90 or better are desirable but tend to be rare.


Table 4
SPLIT-HALF RELIABILITY: COOPERSMITH SEI

<table>
<thead>
<tr>
<th>No. of Items</th>
<th>Subscale</th>
<th>r</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/25*</td>
<td>total</td>
<td>.70</td>
<td>7.72</td>
</tr>
<tr>
<td>13/13</td>
<td>student</td>
<td>.61</td>
<td>4.43</td>
</tr>
<tr>
<td>4/4</td>
<td>home</td>
<td>.57</td>
<td>2.20</td>
</tr>
<tr>
<td>4/4</td>
<td>peers</td>
<td>.41</td>
<td>3.70</td>
</tr>
<tr>
<td>4/4</td>
<td>school</td>
<td>.40</td>
<td>2.12</td>
</tr>
</tbody>
</table>

*The 8 lie items or distractors were not included in computing test scores.*
In fact, "many of the best and frequently used tests have reliability coefficients between .70 and .90."¹ In discussing how reliable a test must be, Thorndike and Kelly affirm that a reliability of .50 is acceptable for tests used to evaluate the level of group's accomplishments.² Kelly also states that "if some action must necessarily be taken and only unreliable measures are available as basis for action, one may have to make the best of an unsatisfactory situation and use the most reliable of the available measures even if it has a reliability coefficient of only .40 or .50."³

The use of Coopersmith's SEI in this study was justified based on these assertions. Although the reliability of the total test is acceptable, no conclusions should be made based solely on the individual subscales as a result of their low reliability.

In terms of validation, the original items of the SEI were selected from the "Rogers and Dymond Scale." The items were divided into two groups by agreement among five psychologists as to which indicated high or low self-esteem. The association between the two types of scores was significant (p < .01).⁴ The Spanish version of the test used in

³Ibid.
this investigation was developed by Thiel. He translated the test into Spanish and had it examined and approved for content and form by qualified bilingual psychologists and professionals native to Puerto Rico.

In terms of norms, the means of the SEI have been in the vicinity of 70-80, and the standard deviation approximately 11-13. For purposes of this study, the higher the score for total self-esteem, the more positive the measured total self-esteem of the subjects.

**Test Procedures**

The data for this study was collected during the first two weeks of May 1977, at the three participating schools.

All instruments were administered by the investigator. A teacher appointed at each site by the school principal assisted the investigator in selecting a room for testing, in scheduling the groups, in supplying pencils to the subjects, and in making all other necessary arrangements. All testing took place from 9 a.m. to 1 p.m. Each testing session took approximately two hours. No more than two sessions were scheduled for one day.

Each testing session was begun by making the subjects feel at ease. It was explained that the investigator was interested in determining the English and Spanish reading ability of bilingual students. The student answer sheets were coded, and the students were reassured that their names were not required.

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The first instrument administered was the questionnaire. Including directions, total testing time was 20 minutes. The second instrument administered was Coopersmith's SEI. Including directions, total testing time was 30 minutes. The subjects were then given a 15 minute break. The third and fourth instruments were the Test of Reading and the Prueba de Lectura. Including the directions, the total testing time for both of these instruments was 50 minutes.

All questionnaires were reviewed to ascertain group membership and age of the subjects. Sixty-two subjects were eliminated at this stage because they did not match the characteristics desired for the study. When all other tests were scored, an additional 18 subjects had to be eliminated for insufficient test data.

As a result of the reading test, each subject was classified into one of the four reading levels described in Chapter III (p. 52). For each subject an IBM card was prepared for the data collected. Each card contained the reading group for each subject, age, sex, SEI score, and the length of time each subject spent in school in Puerto Rico and in a bilingual program in Chicago. Test data were analyzed using an IBM 360/65 computer.

Statistical Techniques

In order to test the hypotheses in this study, comparison of means through analysis of covariance was employed. The subprogram ANOVA from the computer program Statistical Package for the Social Sciences was used.¹

¹Norman Nie, et. al.; Statistical Package for the Social Sciences, pp. 398-433.
The investigator selected analysis of covariance because this technique is very powerful in comparing means, allows the user to obtain analysis of variance for up to five factors, has provisions for adjusting up to five covariates, and can cope with unequal cells. The subprogram ANOVA relies on the general linear hypothesis approach to analysis of variance.¹ The F ratio provided assumes the fixed-effect model and provides statistical significance levels.

Sex and age were treated as covariates because they were not the primary concern in this study. Although sex and age are presumed to have an effect on self-esteem, this effect is not believed to be significant. Through analysis of covariance, these two sources of potential bias were removed, thereby increasing measurement precision.

Following is a discussion of the specific procedures used for each of the hypothesis:

Hypothesis 1

There will be no difference in the mean of the measured self-esteem of students in Group A (adequate in both languages) when compared with the measured self-esteem of students in Group B (adequate in English only) and C (adequate in Spanish only).

Hypothesis 2

There will be no difference in the mean of the measured self-esteem of students in Group B (adequate in English only) when compared with the mean of the measured self-esteem of students in Group C (adequate in Spanish only).

¹Ibid, p. 398.
Hypothesis 3

There will be no difference in the mean of the measured self-esteem of students in Group D (inadequate in both languages) when compared with the means of the measured self-esteem of students in Group A (adequate in both language) and B (adequate in English only) and C (adequate in Spanish only).

Analysis of covariance was used to test Hypotheses 1, 2, and 3. The subprogram ANOVA was used to analyze the data and to test significance between the variance of the scores of Groups A, B, C, and D. Contrasts were performed to determine which specific means differed significantly from each other and to find the means and standard deviations for each group. The dependent variable was the measured self-esteem. The independent variable was the reading group factor (Groups A, B, C, and D); the covariates were age (10, 11, and 12 year olds), and sex (males and females). The independent variable and covariates for hypotheses 1, 2, and 3 are presented in Table 5.
Table 5

LEVELS OF INDEPENDENT VARIABLES AND COVARIATES FOR ANALYSIS OF COVARIANCE: READING FACILITY

<table>
<thead>
<tr>
<th>Independent Variable Group</th>
<th>Covariates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
</tr>
<tr>
<td>1. Group A (adequate reading facility in both languages)</td>
<td>10 years old</td>
</tr>
<tr>
<td>2. Group B (adequate reading facility in only English)</td>
<td>11 years old</td>
</tr>
<tr>
<td>3. Group C (adequate reading facility in only Spanish)</td>
<td>12 years old</td>
</tr>
<tr>
<td>4. Group D (inadequate reading facility in both languages)</td>
<td>Sex Male Female</td>
</tr>
</tbody>
</table>
Hypothesis 4

There will be no difference in the measured self-esteem of students in Group E (studied in Puerto Rico) when compared with the mean of the measured self-esteem of students in Group F (did not study in Puerto Rico).

Analysis of covariance was used to test Hypothesis 4. The subprogram ANOVA was used to analyze the data and to test significance between the variances of the scores of Group E and F. Contrasts performed yielded the means and standard deviations for each group. The dependent variable was the measured self-esteem. The independent variable was schooling in Puerto Rico (Groups E and F); the covariates were age (10, 11, and 12 year olds), and sex (males and females). The independent variable and covariates for hypothesis 4 are presented in Table 6.
Table 6
LEVELS OF INDEPENDENT VARIABLES AND COVARIATES FOR ANALYSIS OF COVARIANCE: SCHOOLING IN PUERTO RICO

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Covariates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schooling in Puerto Rico</td>
<td>Age</td>
</tr>
<tr>
<td>1. Group E Schooling in Puerto Rico</td>
<td>10 years old</td>
</tr>
<tr>
<td>2. Group F No schooling in Puerto Rico</td>
<td>11 years old</td>
</tr>
<tr>
<td></td>
<td>12 years old</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
</tbody>
</table>
Hypothesis 5

There will be no difference in the measured self-esteem of students in Group G (participated in a bilingual program) when compared with the mean of the measured self-esteem of students in Group H (did not participate).

Analysis of covariance was used to test Hypothesis 5. The sub-program ANOVA was used to analyze the data and to test significance between the variance of the scores of Groups G and H. Contrasts performed yielded the means and standard deviations for each group. The dependent variable was the measured self-esteem. The independent variable was bilingual education experience (Groups G and H); the covariates were age (10, 11, and 12 year olds) and sex (males and females). The independent variable and covariates for hypothesis 5 are presented in Table 7.
<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Covariates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilingual Education Experience</td>
<td>Age</td>
</tr>
<tr>
<td>1. Group G Bilingual education experience</td>
<td>10 years old</td>
</tr>
<tr>
<td>2. Group H No bilingual education experience</td>
<td>11 years old</td>
</tr>
<tr>
<td></td>
<td>12 years old</td>
</tr>
<tr>
<td></td>
<td>Sex</td>
</tr>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
</tbody>
</table>
The statistical analysis employed in this study can be seen as a two-step process:

1. Regression procedures to determine and remove variation in the dependent variable due to the two covariates.
2. A conventional one-way analysis of variance on the "corrected" scores.

Summary

Chapter III has presented a description of the subjects involved in the study. Three hundred and fifty Puerto Rican students from three Chicago public schools were tested. These students were administered four tests: a questionnaire, to obtain student background data, Cooper-smith's SEI, Prueba de Lectura, and Test of Reading. Based on data from the two reading tests, 270 students were selected and categorized into four groups based on their reading facility in English and Spanish. Data collected on the self-esteem instrument and the questionnaire provided the additional information required for the study.

This chapter also described the reliability, validity and norms of three of the four instruments used in the study. A reliability coefficient had to be computed for Coopersmith's SEI to justify its use with Puerto Rican students of the ages covered in this study. A total reliability coefficient of .70 was found. The subscale reliability coefficients ranged from .40 to .61, somewhat low but acceptable on the basis that they were not considered independently of the total score.
The specific procedures used in collecting the data and the statistical treatment were also included, along with a description of the dependent variable, independent variables, and covariates for each hypothesis.
CHAPTER IV

FINDINGS AND INTERPRETATION

In this chapter, each of the five hypotheses will be presented with a discussion of the findings relative to the relevant relationships under investigation. A summary of these findings will follow.

Hypothesis 1

Research Hypothesis

There will be no difference in the mean of the measured self-esteem of students in Group A (adequate in both languages) when compared with the means of the measured self-esteem of students in Groups B (adequate in English only) and C (adequate in Spanish only).

Statistical Hypotheses

\[ H_0: \mu_a = \mu_b, \mu_c \]
\[ H_1: \mu_a \neq \mu_b, \mu_c \]

Discussion

The mean of the 51 subjects in Group A, those students who read both English and Spanish adequately, was found to be 59.92 with a standard deviation of 14.54. For the 75 subjects in Group B, those students who read only English adequately, a mean of 62.40 with a standard deviation of 12.19 was obtained. The 49 subjects in Group C, those students who read only Spanish adequately obtained a mean of 57.59 with a standard deviation of 13.66. Contrasts performed between these three groups reported no significant differences between Groups A and B and Groups A and C. Table 8 presents this information in tabular form.
Table 8

CONTRASTS: GROUPS A, B, AND C

<table>
<thead>
<tr>
<th>Contrast</th>
<th>N</th>
<th>$\bar{x}$</th>
<th>SD</th>
<th>T</th>
<th>d/f</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>51</td>
<td>59.92</td>
<td>14.54</td>
<td>-1.120</td>
<td>266</td>
<td>0.264</td>
</tr>
<tr>
<td>B</td>
<td>75</td>
<td>62.40</td>
<td>12.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>51</td>
<td>59.92</td>
<td>14.54</td>
<td>0.956</td>
<td>266</td>
<td>0.340</td>
</tr>
<tr>
<td>C</td>
<td>49</td>
<td>57.59</td>
<td>13.66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A regression analysis was performed to determine the contribution of the covariates age and sex, to the total variability of the self-esteem scores of the 175 subjects in Groups A, B, and C. Although no significant contribution was obtained for the covariate sex, a significant contribution to the variability of the measured self-esteem of the target population was obtained at $p \leq .05$ for the covariate, age. A significant contribution was also reported when the two covariates were combined ($p \leq .05$).

The results indicate the proportion of the total variance of the self-esteem scores of the target population accounted by sex or the multiple $R^2$ to be 0.0179, the proportion of the total variance of the self-esteem scores of the same subjects accounted by age or the multiple $R^2$ to be 0.0305, and the combined contribution of both covariates or the multiple $R^2$ to be 0.0510. These results indicate that sex was not responsible for a significant contribution to the total variability of the dependent variable, self-esteem. Although age and the combined covariates contributed significantly to the total variability of the self-esteem scores of the subjects at $p \leq .05$, the proportion of contribution of only 3 and 5 percent respectively. Table 9 presents the results of the regression analysis in tabular form.
### Table 9

RESULTS OF THE REGRESSION ANALYSIS OF THE COVARIATES AGE AND SEX IN GROUPS A TO C

<table>
<thead>
<tr>
<th>Covariates</th>
<th>Mean Square</th>
<th>d/f</th>
<th>Multiple $R^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>5.611</td>
<td>1</td>
<td>0.0305</td>
<td>0.019*</td>
</tr>
<tr>
<td>Sex</td>
<td>3.290</td>
<td>1</td>
<td>0.0179</td>
<td>0.071</td>
</tr>
<tr>
<td>Combined</td>
<td>4.694</td>
<td>2**</td>
<td>0.0510</td>
<td>0.010*</td>
</tr>
</tbody>
</table>

*p ≪ .05

**The covariates are treated as continuous or dummy variables.
Further analysis of the data was performed once the variability of the covariates age and sex was removed. An analysis of covariance on the total self-esteem scores of the 175 subjects in Groups A, B, and C indicated that reading facility did not have a significant effect on the students' self-esteem. These results are presented in Table 10.

Decision for Hypothesis 1

In view that the mean of the measured self-esteem of students in Group A was found not to be significantly more positive than the means of the measured self-esteem of students in Groups B and C, the null hypothesis was accepted.
Table 10
ANALYSIS OF COVARIANCE RESULTS FOR SELF-ESTEEM SCORES
OF GROUPS A TO C: READING

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Square</th>
<th>d/f</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>384.393</td>
<td>2</td>
<td>2.264</td>
<td>0.107</td>
</tr>
<tr>
<td>Residual</td>
<td>169.776</td>
<td>170</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>179.451</td>
<td>172*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Total d/f = 172 or (n-1) - 1 (age) - 1 (sex) = 172 or (175 - 1) - (1) - (1) = 172 d/f.
**Hypothesis 2**

**Research Hypothesis**

There will be no difference in the mean of the measured self-esteem of students in Group B (adequate in English only) when compared with the mean of the measured self-esteem of students in Group C (adequate in Spanish only).

**Statistical Hypotheses**

\[ H_0: \mu_b = \mu_c \]
\[ H_1: \mu_b \neq \mu_c \]

**Discussion**

The mean of the 75 subjects in Group B, those students who read only English adequately, was found to be 62.40 with a standard deviation of 12.19. For the 49 subjects in Group C, those students who read only Spanish adequately, a mean of 57.59 with a standard deviation of 13.66 was found.

Contrasts performed between these two groups indicated that the subjects who read only English adequately or Group B have a significantly more positive self-esteem at \( p \leq .05 \) than those who read only Spanish adequately or Group C. Also, the total self-esteem scores of the subjects in Group C have a higher standard deviation indicating that the scores of students in this group are more widely dispersed about the mean. Table 11 presents this information in tabular form.
Table 11

CONTRASTS: GROUPS B AND C

<table>
<thead>
<tr>
<th>Contrast</th>
<th>N</th>
<th>( \bar{x} )</th>
<th>SD</th>
<th>T</th>
<th>d/f</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>75</td>
<td>62.40</td>
<td>12.19</td>
<td>2.148</td>
<td>266</td>
<td>0.033*</td>
</tr>
<tr>
<td>C</td>
<td>49</td>
<td>57.59</td>
<td>13.66</td>
<td></td>
<td></td>
<td>0.033</td>
</tr>
</tbody>
</table>

*p \leq .05
A regression analysis was performed to determine the contribution of the covariates, age and sex to the total variability of the self-esteem scores of the 124 subjects in Groups B and C. Although no significant contribution was obtained for the covariate sex, a significant contribution to the total variability of the measured self-esteem of the target population was obtained at $p \leq .05$ for the covariate, age. When the two covariates, age and sex was combined, the contribution was also found to be significant ($p \leq .05$).

These results indicate the proportion of the total variance of the self-esteem scores of the target population accounted by sex or the multiple $R^2$ to be 0.0119, the proportion of total variance of the self-esteem scores of the same subjects accounted by age or the multiple $R^2$ to be 0.0313, and the combined contribution of both covariates or multiple $R^2$ to be 0.0477. These results indicate that sex was not responsible for a significant contribution to the total variability of the dependent variable, self-esteem. Although age and the combined covariates contributed significantly to the variability of self-esteem scores of the subjects at $p \leq .05$, the proportion of contribution was only 3 and 5 percent respectively. Table 12 presents the results of the regression analysis in tabular form.
Table 12

RESULTS OF THE REGRESSION ANALYSIS OF THE COVARIATES AGE AND SEX IN GROUPS B AND C

<table>
<thead>
<tr>
<th>Covariates</th>
<th>d/f</th>
<th>Multiple $R^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>4.113</td>
<td>1</td>
<td>0.0313</td>
</tr>
<tr>
<td>Sex</td>
<td>1.566</td>
<td>1</td>
<td>0.0119</td>
</tr>
<tr>
<td>Combined</td>
<td>3.134</td>
<td>2**</td>
<td>0.0477</td>
</tr>
</tbody>
</table>

* $p \leq .05$

**The covariates are treated as continuous or dummy variables.
Further analysis of the data was performed once the variability of the covariates age and sex was removed. An analysis of covariance on the total self-esteem scores of the 124 subjects in Groups B and C indicated that reading facility had a significant effect on the students' self-esteem at $p < .05$. These results are presented in Table 13.

Decision for Hypothesis 2

In view that the means of the measured self-esteem of students in Group B was found to be significantly more positive than the mean of the measured self-esteem of students in Group C at $p < .05$, the null hypothesis was not accepted.
Table 13
ANALYSIS OF COVARIANCE RESULTS FOR SELF-ESTEEM SCORES OF GROUPS B AND C: READING

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Square</th>
<th>d/f</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>794.017</td>
<td>1</td>
<td>5.053</td>
<td>0.026*</td>
</tr>
<tr>
<td>Residual</td>
<td>157.147</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>167.779</td>
<td>121</td>
<td></td>
<td>**</td>
</tr>
</tbody>
</table>

*p < .05

**Total d/f = 121 or \((n - 1) - 1 \text{ (age)} - 1 \text{ (sex)}\)
= 121 or \((124 - 1) - (1) - (1) = 121 \text{ d/f}\)
Hypothesis 3

Research Hypothesis

There will be no difference in the mean of the measured self-esteem of students in Group D (inadequate in both languages) when compared with the means of the measured self-esteem of students in Group A (adequate in both languages), B (adequate in English only), and C (adequate in Spanish only).

Discussion

The mean of the 95 subjects in Group D, those students who read inadequately in both English and Spanish, was found to be 53.06 with a standard deviation of 9.78. For the 51 subjects in Group A, a mean of 59.92 with a standard deviation of 14.54 was obtained. The 75 students in Group B obtained a mean of 62.40 with a standard deviation of 12.19. The 49 students in Group C obtained a mean of 57.59 and a standard deviation of 13.66. The mean of the total target population of 270 students was 58.06 with a standard deviation of 12.61.

Contrasts performed between these four groups indicated that the 95 subjects who read English and Spanish inadequately or Group D have a significantly less positive self-esteem at $p \leq .001$ than those students who read only English adequately (Group B), and a significantly less positive self-esteem at $p \leq .01$ than those who read both languages adequately (Group A). No significant difference was obtained when subjects in Group D were contrasted to subjects who read only Spanish adequately (Group C). Students in Group D also have the lowest standard deviation indicating that the scores of the subjects in this group are clustered...
more closely about the mean that the scores of the subjects in any of the other three groups. Also, students who read both languages adequately and those who read only English adequately or Groups A and B reported more positive total self-esteem scores than the total target population. Table 14 presents this information in tabular form.
Table 14

CONTRASTS: GROUPS A, B, C, AND D

<table>
<thead>
<tr>
<th>Contrast</th>
<th>N</th>
<th>( \bar{x} )</th>
<th>SD</th>
<th>T Value</th>
<th>d/f</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>51</td>
<td>59.92</td>
<td>14.54</td>
<td>2.858</td>
<td>266</td>
<td>0.005*</td>
</tr>
<tr>
<td>D</td>
<td>95</td>
<td>53.06</td>
<td>9.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>75</td>
<td>62.40</td>
<td>12.19</td>
<td>4.529</td>
<td>266</td>
<td>0.000**</td>
</tr>
<tr>
<td>D</td>
<td>95</td>
<td>53.06</td>
<td>9.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>49</td>
<td>57.59</td>
<td>13.66</td>
<td>1.734</td>
<td>266</td>
<td>0.084</td>
</tr>
<tr>
<td>D</td>
<td>95</td>
<td>53.06</td>
<td>9.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>270</td>
<td>58.06</td>
<td>12.61</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\( p \leq .05 \)

**\( p \leq .001 \)
A regression analysis was performed to determine the contribution of the covariates age and sex, to the total variability of the self-esteem scores of the 270 subjects in Groups A to D. A significant contribution to the total variability of the measured self-esteem of the target population was obtained at $p \leq 0.05$ for the covariate age. No significant contribution was obtained for the covariate sex or when the two covariates were combined.

The results indicate the proportion of the total variance of the self-esteem scores of the target population accounted by sex or the multiple $R^2$ to be 0.0055, the proportion of the total variance of the self-esteem scores of the same subjects accounted by age or the multiple $R^2$ to be 0.0135 and the combined effect of both covariates or multiple $R^2$ to be 0.0135. These results indicate that neither sex or the covariates when combined were responsible for a significant contribution to the total variability of the dependent variable, self-esteem. Although age contributed significantly to the variability of the self-esteem scores of the subjects at $p \leq 0.05$, the proportion of contribution was only 1 percent. Table 15 presents the results of this regression analysis.
Table 15

RESULTS OF THE REGRESSION ANALYSIS OF THE COVARIATES AGE AND SEX IN GROUPS A TO D

<table>
<thead>
<tr>
<th>Covariates</th>
<th>F</th>
<th>d/f</th>
<th>Multiple $R^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>3.986</td>
<td>1</td>
<td>0.0135</td>
<td>0.047*</td>
</tr>
<tr>
<td>Sex</td>
<td>1.651</td>
<td>1</td>
<td>0.0055</td>
<td>0.200</td>
</tr>
<tr>
<td>Combined</td>
<td>3.004</td>
<td>2**</td>
<td>0.0204</td>
<td>0.051</td>
</tr>
</tbody>
</table>

*p ≤ .05

**The covariates are treated as continuous or dummy variables.
Further analysis of the data was performed once the variability of the covariates age and sex was removed. An analysis of covariance on the total self-esteem scores of the 270 subjects yielded significant results. Reading facility was found to have a significant effect on the subjects' self-esteem at $p \leq .001$. These results are presented in Table 16.

**Decision for Hypothesis 3**

In view that the means of the measured self-esteem of students in Group D was found to be significantly less positive than the mean of the measured self-esteem of students in Group A at $p \leq .01$ and significantly less positive than the mean of the measured self-esteem of students in Group B at $p \leq .001$, the null hypothesis was not accepted. The null hypothesis was accepted in terms of Groups C and D, since no significant difference was obtained when the mean of the measured self-esteem of students in Group C was contrasted to the mean of the measured self-esteem of students in Group D.
Table 16
ANALYSIS OF COVARIANCE RESULTS FOR SELF-ESTEEM SCORES OF GROUPS A TO D: READING

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Square</th>
<th>d/f</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1208.448</td>
<td>3</td>
<td>8.333</td>
<td>0.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>145.022</td>
<td>264</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>159.043</td>
<td>267**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p \leq .001

**Total d/f = 267 or (n - 1) - 1 (age) - 1 (sex) = 267 or (270 - 1) - (1) - (1) = 267
Hypothesis 4

Research Hypothesis

There will be no difference in the mean of the measured self-esteem of students in Group E (studied in Puerto Rico) when compared with the mean of the measured self-esteem of students in Group F (did not study in Puerto Rico).

Statistical Hypotheses

\[ H_0: \mu_e = \mu_f \]
\[ H_1: \mu_e \neq \mu_f \]

Discussion

The mean of the 75 subjects in Group E, those students who went to school in Puerto Rico was found to be 57.89 with a standard deviation of 11.17, while the mean of the 195 subjects in Group F, those who have never been to school in Puerto Rico was found to be 58.12 with a standard deviation of 13.15. Contrasts performed between these two groups reported no significance differences. Table 17 presents this information in tabular form.
Table 17

CONTRAST: GROUPS E AND F

<table>
<thead>
<tr>
<th>Contrast</th>
<th>N</th>
<th>$\bar{x}$</th>
<th>SD</th>
<th>T Value</th>
<th>d/f</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>75</td>
<td>57.89</td>
<td>11.17</td>
<td>0.134</td>
<td>268</td>
<td>0.094</td>
</tr>
<tr>
<td>F</td>
<td>195</td>
<td>58.12</td>
<td>13.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A regression analysis was performed to determine the contribution of the covariates age and sex, to the total variability of the self-esteem scores of the 270 subjects in Groups E and F. No significant contribution was obtained for the covariates age and sex, individually or combined, to the total variability of the measure self-esteem of the target population.

The results indicate the proportion of the total variance of the self-esteem scores of the target population accounted by sex or the multiple $R^2$ to be 0.0056, the proportion of the total variance of the self-esteem scores of the same subjects accounted by age or the multiple $R^2$ to be 0.0135, and the combined contribution of both covariates or the multiple $R^2$ to be 0.0204. These results indicate that neither sex or age were responsible for a significant contribution to the total variability of the dependent variable, self-esteem. Table 18 presents this regression analysis.
Table 18
RESULTS OF THE REGRESSION ANALYSIS
OF THE COVARIATES AGE AND SEX IN GROUPS E AND F

<table>
<thead>
<tr>
<th>Covariates</th>
<th>F</th>
<th>d/f</th>
<th>Multiple $R^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>3.670</td>
<td>1</td>
<td>0.0135</td>
<td>0.056</td>
</tr>
<tr>
<td>Sex</td>
<td>1.521</td>
<td>1</td>
<td>0.0056</td>
<td>0.219</td>
</tr>
<tr>
<td>Combined</td>
<td>2.766</td>
<td>2*</td>
<td>0.0204</td>
<td>0.065</td>
</tr>
</tbody>
</table>

*The covariates are treated as continuous or dummy variables..
Further analysis of the data was performed once the variability of the covariates age and sex was removed. An analysis of covariance on the total self-esteem scores of the 270 subjects in Groups E and F indicated that schooling in Puerto Rico did not have a significant effect on the students' self-esteem. These results are presented in Table 19.

**Decision for Hypothesis 4**

In view that the mean of the measured self-esteem of students in Group E was found not to be significantly more positive than the means of the measured self-esteem of students in Group F, the null hypothesis was accepted.
Table 19
ANALYSIS OF COVARIANCE RESULTS FOR SELF-ESTEEM
SCORES OF GROUPS E AND F: TIME IN PUERTO RICO (PR)

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Square</th>
<th>d/f</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time PR</td>
<td>18.011</td>
<td>1</td>
<td>0.114</td>
<td>0.736</td>
</tr>
<tr>
<td>Residual</td>
<td>57.493</td>
<td>266</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>159.043</td>
<td>267*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Total d/f = 267 or (n - 1) - 1 (age) - 1 (sex) = 267 or (270 - 1) - (1) - (1) = 267
Hypothesis 5

Research Hypothesis

There will be no difference in the mean of the measured self-esteem of students in Group G (participated in a bilingual program) when compared with the mean of the measured self-esteem of students in Group H (did not participate).

Statistical Hypotheses

\[ H_0: \mu_g = \mu_h \]
\[ H_1: \mu_g \neq \mu_h \]

Discussion

The mean of the 205 subjects in Group G, those subjects who have participated in a bilingual program was found to be 57.00 with a standard deviation of 12.69, while the mean of the 65 subjects in Group H, those students who have never participated in a bilingual program was found to be 61.38 with a standard deviation of 11.86.

Contrasts performed indicated that subjects who have never participated in a bilingual program have a significantly more positive measured self-esteem at \( p \leq .05 \) than those subjects who have participated in this type of program. Also, the self-esteem scores of the subjects in Group H have a lower standard deviation than similar scores of the subjects in Group G indicating that the scores of students in this group are clustered more closely about the mean. Table 20 presents this information in tabular form.
Table 20

CONTRASTS: GROUPS G AND H

<table>
<thead>
<tr>
<th>Contrast</th>
<th>N</th>
<th>( \bar{x} )</th>
<th>SD</th>
<th>T Value</th>
<th>d/f</th>
<th>2-Tailed Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>205</td>
<td>57.00</td>
<td>12.69</td>
<td></td>
<td></td>
<td>2.463 268 0.014*</td>
</tr>
<tr>
<td>H</td>
<td>65</td>
<td>61.38</td>
<td>11.86</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p \leq .05
A regression analysis was performed to determine the contribution of the covariates age and sex, to the total variability of the self-esteem scores of the 270 subjects in Groups G and H. No significant contribution was obtained for the covariates age and sex, individually or combined, to the total variability of the measured self-esteem of the target population. The results indicate the proportion of the total variance of the self-esteem scores of the target population accounted by sex or the multiple $R^2$ to be 0.0056, the proportion of the total variance of the self-esteem scores of the same subjects accounted by age or the multiple $R^2$ to be 0.0135, and the combined contribution of both covariates or the multiple $R^2$ to be 0.0204. These results indicate that neither sex or age were responsible for a significant contribution to the total variability of the dependent variable, self-esteem. Table 21 presents the results of this regression analysis.
Table 21

RESULTS OF THE REGRESSION ANALYSIS
OF THE COVARIATES AGE AND SEX IN GROUPS G AND H

<table>
<thead>
<tr>
<th>Covariates</th>
<th>F</th>
<th>d/f</th>
<th>Multiple $R^2$</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>3.750</td>
<td>1</td>
<td>0.0135</td>
<td>0.054</td>
</tr>
<tr>
<td>Sex</td>
<td>1.554</td>
<td>1</td>
<td>0.0056</td>
<td>0.214</td>
</tr>
<tr>
<td>Combined</td>
<td>2.827</td>
<td>2*</td>
<td>0.0204</td>
<td>0.061</td>
</tr>
</tbody>
</table>

*The covariates are treated as continuous or dummy variables.
Further analysis of the data was performed once the variability of the covariates age and sex was removed. An analysis of covariance on the total self-esteem scores of the 270 subjects in Groups G and H indicated that bilingual experience had a significant effect on the students' self-esteem at $p \leq .05$. These results are presented in Table 22.

**Decision for Hypothesis 5**

In view that the mean of the measured self-esteem of students in Group G was found to be significantly more positive than the mean of the measured self-esteem of students in Group H at $p \leq .05$, the null hypothesis was not accepted.
### Table 22

ANALYSIS OF COVARIANCE RESULTS FOR SELF-ESTEEM SCORES OF GROUPS G AND H: TIME in Bilingual Programs (BP)

<table>
<thead>
<tr>
<th>Source</th>
<th>Mean Square</th>
<th>d/f</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time BP</td>
<td>915.906</td>
<td>1</td>
<td>5.943</td>
<td>0.015*</td>
</tr>
<tr>
<td>Residual</td>
<td>154.118</td>
<td>266</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>159.043</td>
<td>267</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < 0.05

**Total d/f = 267 or (n - 1) - 1 (age) - 1 (sex) = 267 or (270 - 1) - (1) - (1) = 267
Summary

In this chapter, the investigator has presented the results of this study and discussed the relationship between reading facility, schooling in Puerto Rico and bilingual education experience on the self-esteem of bilingual Puerto Rican students. Specific findings are as follows:

1. Reading Facility

Of the three independent variables studied, the factor reading facility attained the most significant effects in relationship to the dependent variable, self-esteem. The findings suggest there is a significant positive relationship between measured self-esteem and reading facility of inner-city Puerto Rican bilingual students.

2. Schooling in Puerto Rico

The independent variable, schooling in Puerto Rico, attained no significant effect in relationship to the dependent variable, self-esteem. The findings suggest there is no significant relationship between measured self-esteem and schooling in Puerto Rico of Puerto Rican bilingual students now living and studying in an inner-city neighborhood.

3. Bilingual Education Experience

The third independent variable, bilingual education experience, was the other factor to attain a significant effect in relationship to the dependent variable, self-esteem. The findings suggest there is a significant negative relationship between measured self-esteem and bilingual education experience of bilingual Puerto Rican students similar to those in this study.
4. Sex

The covariate, sex, did not contribute significantly to the total variability of the dependent variable, self-esteem. The findings suggest that sex is not responsible for any significant effect on the self-esteem of males and females similar to those in this study.

5. Age

The covariate, age contributed significantly to the total variability of the dependent variable, self-esteem. However, the proportion of contribution was never more than five percent even when age was combined with the covariate, sex. The findings suggest that age does not have a proportionate effect on the self-esteem of subjects similar to those in this study within the ages of ten and twelve.
CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS
AND RECOMMENDATIONS

This chapter will summarize the problem, the results, and other components of this study. Based on the findings, several conclusions, implications, and recommendations for further research will be discussed.

Summary

This study investigated the relationship of self-esteem to the reading facility of bilingual Puerto Rican students living and studying in an inner-city environment. The study also considered the impact of such variables as bilingual education experience, schooling in Puerto Rico, sex and age on the self-esteem of the subjects. Self-esteem was viewed as an aspect of the self-concept.

The subjects of this study were 270 bilingual students of Puerto Rican background attending three Chicago public schools. They were drawn from a predominantly Puerto Rican neighborhood, and from schools with a predominantly Puerto Rican student enrollment within a one-half mile radius of each other. The students were ten to twelve years old, from the fourth through the sixth grades.

Four instruments were used in this study: an English/Spanish questionnaire, developed by the investigator, the Reading Test, the Prueba de Lectura, and Coopersmith's Self-Esteem Inventory (SEI). The investigator's questionnaire was used to gather information on the background of the students. The reading tests were used to classify the
students into four levels based on their reading facility in English and Spanish. The SEI provided the measure of self-esteem which became the dependent variable under investigation.

Analysis of covariance for statistical significance and contrasts for specific differences between the means were the statistical techniques employed in this study. For all five hypotheses, self-esteem was the dependent variable, and sex and age were treated as covariates. Specifically, hypotheses 1, 2, and 3 dealt with reading facility, and the reading group factor was treated as the independent variable. Schooling in Puerto Rico was treated as the independent variable in Hypothesis 4, and bilingual education experience was the independent variable in Hypothesis 5.

Hypothesis 1, that there will be no difference in the mean of the measured self-esteem of students in Group A (adequate in both languages) when compared with the means of the measured self-esteem of students in Groups B (adequate in English only) and C (adequate in Spanish only), was accepted.

The findings indicated that bilingual Puerto Rican students who read both English and Spanish adequately do not necessarily have a significantly more positive self-esteem than those who read only one of these languages adequately.

Hypothesis 2, there will be no difference in the mean of the measured self-esteem of students in Group B (adequate in English only) when compared with the mean of the measured self-esteem of the students in Group C (adequate in Spanish only), was not accepted.
The findings indicated that bilingual Puerto Rican students who read English adequately have a significantly more positive self-esteem at $p < .05$ than those students who read only Spanish adequately.

Hypothesis 3, there will be no difference in the measured self-esteem of students in Group D (inadequate in both languages) when compared with the means of the measured self-esteem of students in Group A (adequate in both languages), B (adequate in English only), and C (adequate in Spanish only), was not accepted.

The findings indicated that bilingual Puerto Rican students who read inadequately in both English and Spanish have a significantly less positive self-esteem at $p < .01$ than all other students except those who read only Spanish adequately.

Hypothesis 4, there will be no difference in the measured self-esteem of students in Group E (studied in Puerto Rico) and when compared with the mean of the measured self-esteem of students in Group F (did not study in Puerto Rico), was accepted.

The findings indicated that bilingual Puerto Rican students who studied in Puerto Rico and now live in the mainland do not necessarily have a significantly more positive self-esteem than those students of similar background who never studied there.

Hypothesis 5, there will be no difference in the measured self-esteem of students in Group G (participated in a bilingual program) when compared with the mean of the measured self-esteem of the students in Group H (did not participate), was not accepted.
The findings indicated that bilingual Puerto Rican students who have never been in a bilingual program exhibit a significantly more positive self-esteem at $p < .05$ than those who have participated in such a program and who are now in a regular school program.

Conclusions

Based on the findings of this study, several conclusions can be deduced relative to the self-esteem of the subjects of this study. In making these conclusions, it is important to remember the type of bilingual Puerto Rican student to which these conclusions may apply: to a student who can read, however inadequately, both English and Spanish, and is between ten to twelve years old. This student has probably participated in a bilingual program and received most of his elementary education in the mainland where English is the predominant language and not in Puerto Rico. This student is presently in a regular classroom and residing in an inner-city, low-income neighborhood. The conclusions are:

1. Bilingual Puerto Rican students with the most positive self-esteem appear to be those who can read English adequately. If the student reads Spanish adequately, but is inadequate in reading English, self-esteem appears to be less positive. This conclusion is consistent with findings that indicate that the self-esteem of Puerto Rican students, living in conditions similar to those of the subjects in this study is "negatively affected when they speak only Spanish."\(^1\)

---

2. The self-esteem of bilingual Puerto Rican students appear to be negatively affected if they are unable to read at least one language adequately. This conclusion supports research findings that indicate a positive correlation between poor reading achievement and a low self-esteem in students.¹

3. The self-esteem of bilingual Puerto Rican students does not necessarily increase if they read both English and Spanish adequately. The language of the dominant culture appears to be a key factor in the students' self-esteem. This conclusion does not support or deny assumptions inherent in the bilingual education philosophy as to the affective value of mastering two language systems.²

4. Those bilingual Puerto Rican students who studied on the Island do not necessarily have a more positive self-esteem than those who have received all their elementary schooling in the mainland. This conclusion did not confirm expectations based on findings that indicate that students living on the Island have a positive self-esteem than their counterparts in a mainland, inner-city environment.³

5. Those bilingual Puerto Rican students who have participated in a bilingual program appear to have a more negative self-esteem than those who have never received this type of instruction. This conclusion

¹Purkey, Self-Concept and School Achievement.
reflects that bilingual education programs have failed tentatively and for whatever reasons, in their goal to increase students' self-esteem, at least on a permanent basis.¹

6. Sex and age do not appear to affect the self-esteem of bilingual Puerto Rican students between the ages of ten and twelve. This conclusion is in accord with recent findings on bilingual Puerto Rican students similar to those participating in this study.²

Implications

The findings of this study suggest several areas of consideration for educators interested in providing successful academic experiences to bilingual Puerto Rican students from innercity areas such as Chicago.  

1. There is a positive relationship between reading achievement and self-esteem in bilingual students. In fact, those students who read inadequately in both English and Spanish reported less positive self-esteem scores than any other group. This suggests that teachers of bilingual students may be able to facilitate academic success and enhance the self-esteem of their students by emphasizing mastery of reading skills in both languages.

Since data available does not provide definite evidence about the cause-effect relationship between a positive self-concept and reading success, teachers would be well advised to develop instructional activities designed to develop both a healthy self-concept and achievement in

reading. The teacher interested in pursuing this goal should review the literature because there is a dearth of books and journals in this area with specific ideas that can be implemented in the classroom.¹

2. Although a loss of self-esteem appeared to be associated with inadequate reading facility, this relationship was more dramatic and significant when the inadequacy was in reading English. In fact, those students who read only English adequately reported more positive self-esteem scores than other student groups. This suggests that English reading skills need to be stressed in both the bilingual and regular classroom situation. The fact that English adequacy is tied to a healthier self-concept can be attributed to the function of English as the language of the dominant culture. Therefore, fluency in English should provide the student with a greater degree of peer acceptance, a sense of belonging and success in regular academic areas and rather larger school environment.

3. It was expected that students who read both English and Spanish adequately would report the more positive self-esteem scores. This assumption was based on claims of the affective value of mastering

two language systems. However, these students did not differ significantly in terms of self-esteem from those students who read only English or Spanish adequately. This finding suggests that bilingualism by itself may not necessarily lead to an enhanced self-concept. Teachers should be aware that fluency in the native or first language of the children alone will not lead to a healthy self concept unless accompanied by a corresponding fluency in the dominant language of the culture (in this case, English)

4. It was assumed that students who studied in Puerto Rico would exhibit a more positive self-esteem than those who never went to school there. This assumption was based on studies that indicate that Puerto Rican youngsters on the Island have a more positive self-esteem than their peers in the mainland. No significant differences were found between these two groups in terms of self-esteem. This suggests that students who come from Puerto Rico suffer a loss of self-esteem when they move from the homeland to a foreign soil or that no differences exist in self-esteem between mainland metropolitan Puerto Rican students and those students who come from the Island. Various levels of self-esteem were reported by Thiel between Puerto Ricans from public and private schools and those from rural and urban areas. Teachers should be aware of the transitional problems of the newly-arrived student so as to minimize a possible loss of self-esteem in these students.


2Thiel, "The Impact of Minority Status."
5. An expected more positive self-esteem in students who participated in a bilingual program as opposed to those students who never participated in this type of program did not materialize. This expectation was based on one of the goals of bilingual education to increase the self-esteem of students who receive this type of instruction. In fact, those students who had participated in a bilingual program reported a significantly less positive self-esteem than those who never participated. This appears to suggest that self-esteem is not significantly increased by participation in a bilingual program or that there are other factors of greater impact defeating the efforts of bilingual educators in this area.

These factors could be tied to the type of student who usually participates in a bilingual program. For example, 90 percent of the students in Group C, those who read only Spanish adequately, had participated in a bilingual program. This group of students, also reported a self-esteem score that was not significantly more positive than students who reported the poorer scores. Since 66 percent of these students had studied in Puerto Rico, it can also be assumed that most of them were Island-born and recent arrivals to the mainland. Being recent arrivals, these students could still be going through transitional difficulties. Being Spanish-dominant and reading inadequately in English, they were probably doing very poorly in a regular classroom situation.

On the other hand, Group B students, those who read only English adequately, were strikingly different from Group C students. For example, this group had the lowest percentage of students who had participated in a bilingual program (59 percent) and also the lowest percentage of stu-
dents who had studied in Puerto Rico (7 percent). These students were probably mainland-born or mainland-reared, and therefore, less likely to be going through transitional problems. Being English-dominant, they were also probably doing much better than Group C students in a regular classroom situation.

These findings should not be construed to mean that bilingual education negatively affects the self-esteem of participating students. Rather, these findings show that students who need bilingual education may indeed also have a less positive self-esteem. These findings appear to indicate that even bilingual education cannot deal successfully with those factors affecting the self-esteem of participating students.

Data collected for this study also seem to confirm local reports that claim that in spite of bilingual education and special reading programs such as those offered by ESEA Title I, students of Puerto Rican background are still reading below grade and citywide levels. Furthermore, reading gains continue to diminish with age, younger bilingual students reporting greater gains than older participants when tested in both English and Spanish.¹

One recent local evaluation is promising in terms of bilingual education and the education of students similar to those in this study. Participating students in Chicago bilingual programs were found to be

reading English at a rate somewhat higher than expected. The average gain in reading grade equivalent on the *Iowa Test of Basic Skills* in 1978 was 1.17 during an eight month preposttest interval.\(^1\) In fact, this gain in reading English was the most significant finding in that study. If this trend continues, it is reasonable to expect a corresponding increase in the self-esteem of students who participate in bilingual programs.

**Recommendations for Further Research**

As a result of this study, several ideas can be suggested for further investigation:

1. An attempt should be made to replicate this study to see if the same results are obtained when the differences between the reading levels of the students are greater. In this case, the students classified as reading adequately might be reading one year or more above citywide norms, and those students reading inadequately might be reading one year or more below the citywide norms.

2. It would be important to find out what factors affect the self-esteem of these students. In this case, economic, social, and educational factors in the background of the students could be looked at closely. The student's sample might be drawn from schools throughout the city, and several socioeconomic levels would be represented.

3. An item analysis should be made on Coopersmith's *Self-Esteem Inventory* to determine which factors are not reliable when used with students of Spanish background. Unless this instrument is revised, and

\(^1\)Board of Education, City of Chicago, *Chicago's Bilingual Programs*, p. 18.
reliability scores enhanced, the subscales should not be used to make inferences about Puerto Rican students' self-esteem. Although the total score represented an acceptable reliability, the subscales may be considered too low by same investigators.

4. This study indicates that academic success, as reflected by reading achievement, is positively related to self-esteem of bilingual Puerto Rican students. It is suggested that educators concerned with meeting the affective and academic needs of these students, look more closely at these two variables and develop specific objectives and strategies to achieve both reading success and self-concept growth. To the extent that reading achievement and self-esteem appear to reinforce each other, practical applications to enhance both factors should be explored and implemented in the classroom.

5. In view of the little impact bilingual education appears to have made on the self-esteem of students in this study an examination of the affective goals of bilingual education, a reassessment of curriculum models, and a rethinking of its direction may be necessary. To the extent that the overstated educational goal of meeting students needs has not been realized to the benefit of a great number of Puerto Rican students, empirical research should be geared to identify means by which educators can achieve this goal.
REFERENCES

A. Books


B. Journals


C. Abstracts


D. Reports and Documents


Appendix A

LEVELS OF ENGLISH FLUENCY
LEVELS OF ENGLISH FLUENCY

The levels of English fluency in the Functional Language Survey may be paraphrased as follows:

Level I - Student's English language proficiency is no more than marginal.

Level II - Student's English language proficiency is no more than partial.

Level III - Student's English language comprehension ranges from partial to adequate but verbal skills are not functionally sufficient for effective participation in the general program of instruction.

Level IV - Student's English language proficiency ranges from considerable to complete, and verbal skills are functionally adequate for effective classroom participation in the general program of instruction in most situations, though the staff may have to provide supplemental assistance to such students in order to ensure that such participation is realized.

Level V - Student's English language proficiency is functionally adequate to permit full, effective classroom participation in the general program of instruction.

NOTE: Students in Levels I-III were not involved in the study because their English reading skills were too poor to be tested; students in Levels IV-V were able to be tested in reading both English and Spanish.
Appendix B

CUESTIONARIO/QUESTIONNAIRE
Cuestionario/Questionnaire

1. Muchacho/Boy ___________________ Muchacha/Girl ___________________

2. Fecha de nacimientos Birth date Mes/Month Ano/Year

3. Lugar de Nacimiento Birth place Pais/Country

4. Lugar de nacimiento de tu papa Your father's birth place Pais/Country

5. Lugar de nacimiento de tu mama Your mother's birth place Pais/Country

6. ¿Estudiastes en Puerto Rico? Did you go to school in Puerto Rico?
   Yes _______________ No _______________

7. ¿Cuánto tiempo estudiastes en Puerto Rico? How long did you study in Puerto Rico?
   0 ____________ 1-3 ____________ 4 or more ____________ years

8. ¿Has participado en un programa bilingüe? Have you been in a bilingual program in Chicago?
   Yes _______________ No _______________

9. ¿Cuánto tiempo estudiastes en un programa bilingüe? How long were you in a bilingual program?
   0 ____________ 1-2 ____________ 3 or more ____________ years

10. ¿Te gusta leer más en inglés o en español? Do you prefer to read in English or Spanish?
    ___________________________
Appendix C

COMPOSITION OF READING GROUPS
## COMPOSITION OF READING GROUPS AS PER BILINGUAL EXPERIENCE AND SCHOOLING IN PUERTO RICO

<table>
<thead>
<tr>
<th>Groups</th>
<th>1</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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<td>23.5</td>
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<td>(18.9)</td>
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<td>6.7</td>
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<td></td>
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<td></td>
<td>65.8</td>
<td></td>
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<tr>
<td>(18.1)</td>
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<td>D</td>
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<td></td>
<td></td>
<td>27.4</td>
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<td>(35.2)</td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

% of students who have participated in a bilingual program

% of students who studied in Puerto Rico
Appendix D

COOPERSMITH'S SELF-ESTEEM INVENTORY

Permission to use the version of CSEI used in this study received from Dr. Walter Thiel.
Aquí hay una serie de declaraciones. Por favor, marca cada declaración en el modo siguiente:

Si la declaración describe cómo te sientes usualmente, pon una "X" en el cuadrito que le sigue debajo de la frase "Igual que yo".

Si la declaración no describe cómo te sientes usualmente, pon una "X" en el cuadrito que le sigue debajo de la frase "Distinto a mí".

No hay respuestas correctas ni incorrectas.

Ejemplo:

Example:

<table>
<thead>
<tr>
<th>Igual que yo</th>
<th>Distinto a mí</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like me</td>
<td>Unlike me</td>
</tr>
</tbody>
</table>

A. Me gustaría comer helado todos los días.
I would like to eat ice cream every day.

Si te gustaría comer helado todos los días, pon una "X" en el cuadrito debajo de "Igual que yo". Si no te gustaría comer helado todos los días, pon una "X" en el cuadrito debajo de "Distinto a mí".

If you would like to eat ice cream every day, put an "X" in the box under "Like me". If you would not like to eat ice cream every day, put an "X" in the box under "Unlike me".
<p>| 1. Paso mucho tiempo soñando despierto. | I spend a lot of time daydreaming. | | |
| Estoy seguro de mí mismo. | I'm pretty sure of myself. | | |
| Deseo frecuentemente ser otra persona. | I often wish I were someone else. | | |
| Soy simpático. | I'm easy to like. | | |
| Mis padres y yo nos divertimos mucho juntos. | My parents and I have a lot of fun together. | | |
| Nunca me preocupo por nada. | I never worry about anything. | | |
| Me abochorno de pararme en frente de la clase para hablar. | I find it very hard to talk in front of the class. | | |
| Desearía ser más joven. | I wish I were younger. | | |
| Hay muchas cosas acerca de mí mismo que me gustaría cambiar si pudiera. | There are lots of things about myself I'd change if I could. | | |
| Puedo hacer decisiones fácilmente. | I can make up my mind without too much trouble. | | |
| Mis amigos gozan cuando están conmigo. | I'm a lot of fun to be with. | | |
| Me incomodo en casa fácilmente. | I get upset easily at home. | | |
| Siempre hago lo correcta. | I always do the right thing. | | |
| Me siento orgulloso de mi trabajo en la escuela. | I'm proud of my school work. | | |</p>
<table>
<thead>
<tr>
<th></th>
<th>Igual que yo</th>
<th>Distinto a mí</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>Tengo siempre que tener alguien que me diga lo que tengo que hacer.</td>
<td>Someone always has to tell me what to do.</td>
</tr>
<tr>
<td>16.</td>
<td>Me toma mucho tiempo acostumbrarme a cosas nuevas.</td>
<td>It takes me a long time to get used to anything new.</td>
</tr>
<tr>
<td>17.</td>
<td>Frecuentemente me arrepiento de las cosas que hago.</td>
<td>I'm often sorry for the things I do.</td>
</tr>
<tr>
<td>18.</td>
<td>Soy popular entre mis compañeros de mi misma edad.</td>
<td>I'm popular with kids my own age.</td>
</tr>
<tr>
<td>19.</td>
<td>Usualmente mis padres consideran mis sentimientos.</td>
<td>My parents usually consider my feelings.</td>
</tr>
<tr>
<td>21.</td>
<td>Estoy haciendo el mejor trabajo que puedo.</td>
<td>I'm doing the best work that I can.</td>
</tr>
<tr>
<td>22.</td>
<td>Me doy por vencido fácilmente.</td>
<td>I give in very easily.</td>
</tr>
<tr>
<td>23.</td>
<td>Usualmente puedo cuidarme a mí mismo.</td>
<td>I can usually take care of myself.</td>
</tr>
<tr>
<td>24.</td>
<td>Me siento suficientemente feliz.</td>
<td>I'm pretty happy.</td>
</tr>
<tr>
<td>25.</td>
<td>Preferiría jugar con niños menores que yo.</td>
<td>I would rather play with children younger than me.</td>
</tr>
<tr>
<td>26.</td>
<td>Mis padres esperan demasiado de mí.</td>
<td>My parents expect too much of me.</td>
</tr>
<tr>
<td>27.</td>
<td>Me gustan todas las personas que conozco.</td>
<td>I like everyone I know.</td>
</tr>
<tr>
<td>28.</td>
<td>Me gusta que el maestro me mande a contestar en clase</td>
<td>I like to be called on in class.</td>
</tr>
<tr>
<td>29.</td>
<td>Me entiendo a mí mismo.</td>
<td>I understand myself.</td>
</tr>
<tr>
<td></td>
<td>igual a mí</td>
<td>137 Is</td>
</tr>
<tr>
<td>---</td>
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<td>----------</td>
</tr>
<tr>
<td>30.</td>
<td>Es difícil compotarme como en realidad soy.</td>
<td>It's pretty tough to be me.</td>
</tr>
<tr>
<td>31.</td>
<td>Las cosas en mi vida están muy complicadas.</td>
<td>Things are all mixed up in my life.</td>
</tr>
<tr>
<td>32.</td>
<td>Los demás niños casi siempre siguen mis ideas.</td>
<td>Kids usually follow my ideas.</td>
</tr>
<tr>
<td>33.</td>
<td>Nadie me presta mucha atención en casa.</td>
<td>No one pays much attention to me at home.</td>
</tr>
<tr>
<td>34.</td>
<td>Nunca me regaño.</td>
<td>I never get scolded.</td>
</tr>
<tr>
<td>35.</td>
<td>No estoy progresando en la escuela como me gustaría.</td>
<td>I'm not doing as well in school as I'd like to.</td>
</tr>
<tr>
<td>36.</td>
<td>Puedo hacer decisiones y cumplirlas.</td>
<td>I can make up my mind and stick to it.</td>
</tr>
<tr>
<td>37.</td>
<td>Realmente, no me gusta ser un muchacho-una muchacha.</td>
<td>I really don't like being a boy (girl).</td>
</tr>
<tr>
<td>38.</td>
<td>Tengo una mala opinión de mí mismo.</td>
<td>I have a low opinion of myself.</td>
</tr>
<tr>
<td>39.</td>
<td>No me gusta estar con otra gente.</td>
<td>I don't like to be with other people.</td>
</tr>
<tr>
<td>40.</td>
<td>Muchas veces me gustaría irme de casa.</td>
<td>There are many times when I'd like to leave home.</td>
</tr>
<tr>
<td>41.</td>
<td>Nunca estoy tímido.</td>
<td>I'm never shy.</td>
</tr>
<tr>
<td>42.</td>
<td>Frecuentemente, me incomodo en la escuela.</td>
<td>I often feel upset in school.</td>
</tr>
<tr>
<td>43.</td>
<td>Frecuentemente, me avergüenzo de mí mismo.</td>
<td>I often feel ashamed of myself.</td>
</tr>
<tr>
<td>44.</td>
<td>No soy tan bien parecido como otra gente.</td>
<td>I'm not as nice looking as most people.</td>
</tr>
<tr>
<td></td>
<td>Igual que yo</td>
<td>Distinto a</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>45.</td>
<td>Si tengo algo que decir, usualmente lo digo.</td>
<td>Like me</td>
</tr>
<tr>
<td>46.</td>
<td>If I have something to say, I usually say it.</td>
<td></td>
</tr>
<tr>
<td>47.</td>
<td>Los otros niños la cogen conmigo.</td>
<td></td>
</tr>
<tr>
<td>48.</td>
<td>Mis padres me entienden.</td>
<td></td>
</tr>
<tr>
<td>49.</td>
<td>Mi maestro me hace sentir que no soy gran cosa.</td>
<td></td>
</tr>
<tr>
<td>50.</td>
<td>A mí no me importa lo que me pase.</td>
<td></td>
</tr>
<tr>
<td>51.</td>
<td>Soy un fracaso.</td>
<td></td>
</tr>
<tr>
<td>52.</td>
<td>Me siento incómodo fácilmente cuando me regañan.</td>
<td></td>
</tr>
<tr>
<td>53.</td>
<td>Las otras personas son más agradables que yo.</td>
<td></td>
</tr>
<tr>
<td>54.</td>
<td>Usualmente, siento que mis padres esperan más de mí.</td>
<td></td>
</tr>
<tr>
<td>55.</td>
<td>Siempre sé que decir a las personas.</td>
<td></td>
</tr>
<tr>
<td>56.</td>
<td>Frecuentemente me siento desilusionado en la escuela.</td>
<td></td>
</tr>
<tr>
<td>57.</td>
<td>Usualmente, las cosas no me molestan.</td>
<td></td>
</tr>
<tr>
<td>58.</td>
<td>Otras personas no pueden depender de mí.</td>
<td></td>
</tr>
</tbody>
</table>

Igual que yo:   
Distinto a:   

Like me:   
Unlike me:   

PARE STOP PARE STOP PARE STOP PARE STOP
Appendix E

READING TESTS

These tests have been reprinted with permission from Guidance Testing Associates, as per letter dated July 13, 1978.
PART I, VOCABULARY

In each question find the word which is defined or described.

1 Pieces of money:
   A coins  B arches  C realms  D scales  E banks

2 To talk about a thing:
   F crush  G copy  H discuss  J extend  L soften

3 Bones of the head:
   A harp  B skull  C pulse  D kidney  E elbow

4 To cause something to come near:
   F register  G correct  H betray  J refrain  L attract

5 Learning of something for the first time:
   A payment  B audience  C balance  D discovery  E gesture

6 To think well of a thing:
   F exhaust  G hate  H melt  J approve  L carry

7 To break into many pieces:
   A shatter  B substitute  C depress  D duplicate  E enumerate

8 Something that looks like a thread:
   F vibration  G lens  H fiber  J tube  L crater

9 Used in small boats:
   A rivers  B oars  C helmets  D yokes  E lakes

10 Person who directs the course of a ship:
    F strategist  G commentator  H contractor  J navigator  L narrator

11 To live on while others die:
    A meditate  B perceive  C adjust  D vanish  E survive

12 Money received for work:
    F stem  G receipt  H style  J punishment  L salary

13 Articles that are bought and sold:
    A torrents  B ornaments  C merchandise  D prey  E patterns

14 Agreement to do something:
    F contract  G resignation  H lane  J commerce  L abstraction

15 Object similar to a lamp but made for use out of doors:
    A bulb  B lantern  C wick  D lightning  E candle

16 Small planet that moves around a larger one:
    F parasite  G calorie  H convolution  J constellation  L satellite

17 Conditions favorable to health:
    A casual  B sanitary  C petty  D adverse  E unstable

18 Refers to doing or saying something again:
    F comment  G apparition  H affiliation  J repetition  L confidence

19 Important mineral for the teeth:
    A myopia  B pupa  C calcium  D protein  E dendrite

20 A disease:
    F rabies  G sabotage  H longevity  J monoxide  L prognosis

Go on to the next page.
DIRECTIONS, PART I, VOCABULARY

In each question find the word which is defined or described. Then look at the answer sheet, Part I, to see how the answer is marked.

X1 Something which gives light:
   A table  B candle  C chair  D bed 
   E tree
   (The right answer B is already marked on the answer sheet.)

X2 Worn on the head:
   F shoes  G gloves  H bracelet  J clock
   L hat
   Do not turn the page until you are told to do so.

X3 To go fast:
   A run  B stop  C sew  D wash  E sleep

X4 Opposite of near:
   F here  G down  H now  J far  L within

X5 Mr. White rushed out of the house and jumped into his car, but he could not move the car so quickly. He had forgotten the —?
   A time  B key  C paper  D street  E map

X6 In order that others might see his signals in the darkness, the officer who directed the movement of cars from the park carried a —?
   F flashlight  G gun  H badge  J basket  L radio

X7 We had never seen our uncle but we had no difficulty finding him when he came from the airplane because we had often seen his —?
   A friend  B house  C automobile  D letter  E photograph

X8 The jungle is so dense that a traveler has to cut his way, but the growth is so rapid that the path is soon —?
   F improved  G completed  H closed  J discovered  L widened

X9 When I entered the room, the teacher had just finished reading a funny story. That, I was told, was why the children were all —?
   A working  B reading  C sleeping  D laughing  E eating

X10 On seeing the ancient bridge, the artist was so impressed by its unusual form that he decided to make a —? of it for future use.
   F highway  G drawing  H swing  J house  L river

X11 Because of the popularity of the governor, a large number of the citizens, wishing to show their good will, came to the airport to —? him.
   A resist  B elect  C oppose  D criticize  E greet

X12 It is very foolish to build bridges that are too weak for people to use and that may even break of their own —?
   F weight  G desire  H danger  J frame  L power

X13 Although he was excellent with a rifle, he never brought back anything from hunting. He liked to look for the animals, but disliked —? them.
   A observing  B feeding  C admiring  D killing  E riding

X14 Walking across an open field one night, we almost lost our way because we had no light and the moon was completely hidden by —?
   F curtains  G buildings  H clouds  J stars  L trees

X15 The man who travels alone over very unfamiliar roads can often find his way without the help of others if he carries a good —?
   A map  B lunch  C book  D fuel  E watch

X16 Mr. White rushed out of the house and jumped into his car, but he could not move the car so quickly. He had forgotten the —?
   A time  B key  C paper  D street  E map

X17 In order that others might see his signals in the darkness, the officer who directed the movement of cars from the park carried a —?
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X18 We had never seen our uncle but we had no difficulty finding him when he came from the airplane because we had often seen his —?
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X24 Walking across an open field one night, we almost lost our way because we had no light and the moon was completely hidden by —?
   F curtains  G buildings  H clouds  J stars  L trees

X25 The man who travels alone over very unfamiliar roads can often find his way without the help of others if he carries a good —?
   A map  B lunch  C book  D fuel  E watch

X26 The profit in his work was so small that in every process he had to make special efforts to avoid as much —? as possible.
   F publicity  G sadness  H torment  J waste  L speed

X27 Since breathing is difficult at great heights due to lack of sufficient oxygen in the air, many pilots carry a supply of —? in their planes.
   A gasoline  B oxygen  C oil  D water  E food

X28 Although we tried to drive the car carefully over the rocky road, we broke a spring. So, we are walking while they —? it.
   F wash  G repair  H sell  J paint  L examine

X29 Since the unicycle is a vehicle that has only one wheel, a person attempting to ride it must have a very good sense of —?
   A touch  B sight  C rhythm  D direction  E balance

X30 The season was long and dry on the plateau. The sun rose and set daily in a cloudless sky; we almost forgot that —? existed.
   F wind  G dust  H rain  J darkness  L drought

STOP. Wait here for further directions.
PART II, SPEED OF COMPREHENSION

In each sentence find the word which has been left out.

1. The bee is small, but, when thousands of them work together, they can contribute much to those who care for them. Their —?— is a welcome contribution.
   A. land   B. money   C. fruit   D. grain
   E. honey

2. I knew the hour. My friend walked by every morning on his way to work at exactly seven o'clock; I did not need —?—.
   F. a clock   G. a calendar   H. a telephone
   J. an automobile   L. a job

3. New York is famous for tall buildings, some of them so high that they seem to touch the sky. So, they are called —?—.
   A. birds   B. clouds   C. skyscrapers
   D. rockets   E. trees

4. Some people who take a long journey by boat want to be active most of the time. Others avoid active play and want only to —?—.
   F. work   G. rest   H. swim
   J. dance
   L. return

5. Tom's chickens have been disappearing one by one. This morning he said that he was sure none was missing because he had just —?— them.
   A. fed   B. sold   C. bought
   D. counted
   E. lost

6. In that season of the year the people whose work compelled them to be outdoors had to change their plans continually because of the variable —?—.
   F. salary   G. soil
   H. estimate
   J. value
   L. weather

7. When Robert was little, he wanted to ride his older brother's bicycle, but his legs were so short that he could not reach the —?—.
   A. toys   B. wheels   C. books
   D. pedals
   E. handles

8. It is said that the ancient Moors liked the sound of falling water and that this is why they had many —?— in their palaces.
   F. rooms   G. fountains
   H. pictures
   J. statues   L. servants

9. It is often best to consult a person who is familiar with new territory when one has plans to —?— it for the first time.
   A. visit
   B. publish   C. receive
   D. leave   E. exhibit

10. In time of disaster some men may work many long hours without the hope of any reward except the —?— of those whom they have helped.
    F. family
    G. poverty
    H. house   J. gratitude
    L. dislike

11. We were tempted just to lie in bed. But we wanted to see the sunrise, and to do that we had to get up —?—.
    A. cheerfully
    B. alone
    C. early
    D. slowly
    E. carefully

12. Although he usually said very little in conversation with his friends, he often wrote such long letters that it was necessary to use large —?—.
    F. pens
    G. pictures
    H. envelopes
    J. lamps
    L. gifts

13. Every year the sixth grade went to the mountains to spend a very enjoyable week studying nature. The children waited —?— for this event.
    A. timidly
    B. sadly
    C. confidently
    D. silently
    E. eagerly

14. Often a student can find where a topic is discussed if instead of going through a book page by page he will look at the —?—.
    F. index
    G. title
    H. dictionary
    J. author
    L. price
DIRECTIONS, PART II, SPEED OF COMPREHENSION

In this part of the test you should read as fast as you can without making mistakes. In each sentence find the word which has been left out. Then look at the answer sheet, Part II, to see how the answer is marked.

Y1 There was no moon, and there were so many clouds that the night was very--?
A short  B near  C dark  D hot  E dry

(Final answer C is already marked on the answer sheet.)

Y2 John found the book which he received for his birthday very interesting, and for that reason he--?
F sold  G saw  H lost  J read  L took

Do not turn the page until you are told to do so.

R-3-DE

21 To put an object under water:
   A submerge  B sublimate  C substitute
   D subscribe  E subsist

22 Level land in the mountains:
   F tapestry  G turf  H plateau  J delta
   L oasis

23 Instrument which measures the pressure of the air:
   A periscope  B barometer  C heliograph
   D photometer  E bathometer

24 Person who writes about past events:
   F guardian  G inventor  H inspector
   J editor  L historian

25 Money received by a person:
   A deposit  B relic  C braid  D income
   E expense

26 Agreement between nations:
   F lease  G decree  H treaty  J statute
   L litigation

27 Refers to a person who works hard:
   A pious  B cautious  C graceful  D steep
   E industrious

28 Persons who come into a country to live:
   F consuls  G vagabonds  H immigrants
   J prisoners  L conquerors

29 Central part of a living cell:
   A cellulose  B planetarium  C nucleus
   D tubercle  E chromosome

30 Having a pleasant smell:
   F fragile  G delicious  H fresh  J fragrant
   L mild

31 Subject in which we learn how buildings are constructed:
   A architecture  B foliage  C analogy
   D dogma  E geography

32 Person who represents his government in another country:
   F emigrant  G ambassador  H fugitive
   J exile  L patriarch

33 Refers to a person who does not work:
   A ample  B idle  C impatient  D abundant
   E ambitious

34 False representation:
   F presentment  G mechanism  H stimulus
   J concentration  L pretense

35 To rest:
   A repose  B decay  C replace  D repair
   E deliberate

36 Person who acts for others:
   F conqueror  G prophet  H tyrant
   J delegate  L delinquent

37 The smaller of the two parts of a group:
   A plurality  B battalion  C prelude
   D minority  E dividend

38 Country which attacks another without cause:
   F demagogue  G aggressor  H nonentity
   J agrarian  L cynic

39 The rear part of a ship:
   A stern  B bow  C wharf  D deck
   E cabin

40 Body which makes laws:
   F parish  G conference  H commission
   J seminary  L parliament

41 To pay for a service or loss:
   A eliminate  B reduce  C imply  D resist
   E remunerate

42 Kind of dress:
   F wardrobe  G caste  H legend  J tunic
   L conifer

43 Very generous:
   A lavish  B jovial  C compatible
   D squalid  E sordid

44 Person who holds an office before another:
   F successor  G partisan  H predecessor
   J patrician  L pretender

45 Refers to old age:
   A elegant  B senile  C judicious
   D prudent  E melancholic

STOP. Wait here for further directions.
PRUEBA DE LECTURA

PARTE I, VOCABULARIO

Nivel 3—Elemental—Forma CE s
Serie Interamericana

En cada pregunta busque la palabra que se define o se describe.

1 Uno que viaja por tren:
   A pintor  B decreto  C pasajero
   D huésped  E piloto

2 Romper en pedazos:
   F moler  G suplicar  H espiar
   J concentrar  L admitir

3 Prueba para averiguar algo:
   A axioma  B empleado  C heredero
   D conocido  E experimento

4 Instrumento para buscar la dirección:
   F emblema  G brújula  H trono  J reloj
   L bote

5 Substancias como el oro y la plata:
   A plantas  B animales  C gases
   D alimentos  E metales

6 No estar seguro:
   F grado  G premio  H duda
   J belleza  L certidumbre

7 Proceso de enfriar las cosas:
   A rivalidad  B cloración  C filtración
   D refrigeración  E destilación

8 Reflejar lo que ha pasado:
   F informar  G repasar  H requerir
   J lamentar  L persistir

9 Aire que rodea la tierra:
   A atmósfera  B horizonte  C ecuador
   D oriente  E hemisferio

10 Opuesto de aumentar:
   F incurrir  G reducir  H abusar
   J pulir  L inferir

11 Proceso por el cual se cambia el aire de una habitación:
   A ventilación  B cornisa  C subasta
   D agudeza  E irrigación

12 Creencia falsa como tenerle miedo al número 13:
   F blasfemia  G credo  H superstición
   J anarquía  L agüero

13 Muy viejo:
   A diestro  B estable  C pálido
   D inválido  E anciano

14 Otra palabra para moda:
   F emblema  G carnaval  H desfile
   J estilo  L forma

15 Desgaste de la tierra por el viento y el agua:
   A erosión  B deposición  C mortificación
   D intrusión  E convección

16 Grupo de personas que viven juntas:
   F legión  G comunidad  H convención
   J tumulto  L residencia

17 Sistema que se usa para librarse de desperdicio líquido:
   A vórtice  B irradiación  C cabalgata
   D alcantarillado  E excavación

18 Colorido verde de las plantas:
   F calcio  G clorofila  H estoma
   J vitalidad  L corola

19 Una de las bellas artes:
   A sátira  B avaricia  C densidad
   D mitología  E escultura

20 Cuerpo semejante a una estrella con una cola de luz:
   F planeta  G órbita  H cometa
   J eclipse  L zodiaco

Pase a la página siguiente.
INSTRUCCIONES, PARTE I, VOCABULARIO

En cada pregunta busque la palabra que se define o se describe. Después mire la hoja de contestaciones, Parte I, para ver cómo la contestación está marcada.

X1 Algo que da luz:
A mesa  B vela  C silla  D cama  E árbol

(La contestación correcta B ya está marcada en la hoja de contestaciones.)

X2 Se lleva en la cabeza:
F zapatos  G guantes  H pulsera  J reloj  L sombrero

X3 Ir aprisa:
A correr  B parar  C coser  D lavar  E dormir

No dé vuelta a la página hasta que se la avise.

X4 Lo opuesto de cerca:
F aquí  G abajo  H ahora  J lejos  L por dentro

L3-CEs

21 Señal de enfermedad:
A inán  B síntoma  C rescate  D laberinto  E diagnóstico

22 Dejar saber algo:
F recobrar  G premiar  H enmendar  J revelar  L adaptar

23 Persona que debe dinero a otra:
A deudor  B admirador  C banquero  D financiero  E acreedor

24 Opuesto de inocente:
F honrado  G agradable  H culpable  J envidioso  L falso

25 Mudanza de un lugar a otro:
A negación  B introspección  C locución  D inducción  E migración

26 Enfermedad transmitida por los mosquitos:
F incubación  G desgaste  H astigmatismo  J diarrea  L malaria

27 Abertura muy pequeña:
A poro  B impulso  C cápsula  D célula  E arco

28 Personas que vagan de un lugar a otro:
F novicios  G herejes  H parásitos  J nómadas  L pigmeos

29 Más de la mitad de un grupo:
A mayoría  B jurado  C cuota  D minoría  E consejo

30 Persona que está aprendiendo un oficio:
F trovador  G aprendiz  H técnico  J especialista  L conocedor

31 Habilidad especial en cierto campo:
A temperamento  B talento  C interés  D organización  E logro

32 Persona que establece su hogar en una tierra nueva:
F finca  G seguidor  H arrendatario  J colonio  L guerrero

33 Separación completa de los otros:
A devastación  B ambigüedad  C aislamiento  D adulación  E decadencia

34 Solicita algo:
F ceremonia  G falta  H petición  J exhibición  L condición

35 Se refiere a algo que es importante:
A coneco  B articulado  C puntual  D apropiado  E significante

36 Piel preparada para usarse como material de escritura:
F pavimento  G asfalto  H pergamin  J cuero  L facsimil

37 Glándula que se encuentra en el cuello:
A páncreas  B tiroides  C bazo  D dermis  E pituitaria

38 Persona que vive pobremente para no gastar dinero:
F hechicero  G ciudadano  H mendigo  J esqueleto  L avaro

39 Aumento de velocidad:
A retardo  B disminución  C reacción  D aceleración  E culminación

40 Signo usado en la antigua escritura egipcia:
F grafito  G cuneiforme  H jeroglífico  J cáligrafía  L caligrafía

41 Se refiere a algo que está tiesamente estirado:
A tensión  B duración  C reflexión  D resistencia  E lapso

42 Se refiere a un hombre que pertenece a la clase noble:
F ferviente  G precavido  H aristocrático  J técnico  L arrogante

43 Completo acuerdo:
A animosidad  B unanimidad  C conmoción  D verbosidad  E disertación

44 Advertir:
F prodigar  G balbucear  H suprimir  J exaltar  L afirmar

45 Capaz y preparado para hacer algo:
A competente  B adaptable  C crítico  D cautivo  E agradable

BASTA. Espere aquí más instrucciones.
En cada oración busque la palabra que falta.

1. Después del accidente, la cara del chofer estaba tan hinchada y la piel tan descolorida que él casi tenía miedo de mirar un —?—.
   A libo B cuarto C escritorio D espejo E canasto

2. Al ver al hombre que caminaba lentamente de arriba abajo por el pasillo obscuro del teatro con su linterna, estábamos seguros que estaba —?— algo.
   F alcanzando G buscando H pidiendo J escuchando L esperando

3. Los sitios más interesantes estaban en caminos demasiado estrechos para un automóvil. No habiendo encontrado caballo ni burro, tuvimos que —?— para llegar a ellos.
   A conducir B caminar C volar D correr E pararnos

4. Una de las vistas más bellas es la puesta del sol. Poco antes de desaparecer éste detrás —?—, el cielo resplandece con colores radiantes.
   F del árbol G de la nube H del edificio J de la lluvia L del horizonte

5. Cuando escribimos una carta tenemos que esperar bastante para obtener una respuesta, pero si hacemos una pregunta por teléfono podemos esperar una respuesta —?—.
   A típica B favorable C inmediata D regular E automática

6. Aunque una tormenta en el mar puede ser una experiencia espantosa, muchos de los barcos son suficientemente grandes y estables para dar —?— a los pasajeros.
   F enfermedad G susto H dinero J confianza L duda

7. "Mire el tanque vacío," dijo el mecánico al hombre que no podía poner en marcha el auto. "No necesita ningún arreglo, necesita —?—."
   A gasolina B agua C aire D dinero E llantas

8. Por muchos años los barcos no me llamaban la atención, pero éstos eran bellos, de colores brillantes, y muy elegantes. Por primera vez encontré los barcos —?—.
   F interesantes G moviéndose H peligrosos J feos L pasando

9. Como yo había ido a la tienda para comprarle un regalo a mi sobrino de tres años, busqué al —?— en la sección de niños.
   A pintor B niño C dependiente D maestro E fotógrafo

10. Aunque la medicina era bastante amarga, el niño trató de mostrar su propio valor y de atraer la aprobación de los demás fingiendo que era —?—.
   F terrible G deliciosa H desagradable J necesaria L posible

11. Era su primer salto de un aeroplano, y claro, estaba nervioso. Se sintió más seguro, sin embargo, cuando supo que su —?— había abierto.
   A paraguas B puerta C ventana D paracaídas E cabina

12. Las láminas atractivas pueden añadir mucho al interés y al valor de un libro. Son casi una necesidad en los libros que se publican para —?—.
   F mujeres G hombres H escritores J adultos L niños

13. Debido a su intrincada y fascinante trama, una buena novela de misterio puede mantener al lector en suspenso, conservando así su —?— por bastante tiempo.
   A atención B confianza C recompensa D miedo E ansiedad

14. Mi vecino confeccionó un nuevo tipo de linterna que mostraba a los demás en cada oportunidad. Él estaba contento, y nosotros estábamos orgullosos de su —?—.
   F amistad G pintura H beca J sueldo L invención

**Pase a la página siguiente.**
INSTRUCCIONES, PARTE II, VELOCIDAD DE COMPRENSIÓN

En esta parte de la prueba debe leer tan rápidamente como pueda sin cometer errores. En cada oración busque la palabra que falta. Después mire la hoja de contestaciones, Parte II, para ver cómo la contestación está marcada.

Y1 No había luna, y había tantas nubes que la noche estaba muy —?
A corta B cerca C obscura D caliente E seca
(La contestación correcta C ya está marcada en la hoja de contestaciones.)

Y2 A Juan le interesó mucho el libro que recibió para su cumpleaños y por esa razón lo —?
por segunda vez.
F vendió G vió H perdió J leyó L llevó
No dé vuelta a la página hasta que se le avise.

15 Cuando vivíamos en el campo, teníamos muchos amigos entre los pájaros. El que más me gustaba me despertaba —?
A de pie B ladrando C cantando D caminando E hablando

16 Aunque podemos ver muchas estrellas por la noche, hay muchas más que están tan lejos que no las podemos ver sin —?
F una cámara G una linterna H un microscopio J un telescopio L un espejo

17 Discutiendo la necesidad de dirección, el orador dijo que un grupo sin líder es como un auto sin chofer o como un aeroplano sin —?
A piloto B helice C ala D pasajeros E luz

18 Podemos apreciar la gran labor que hacen las abejas cuando pensamos en la pequeña cantidad de —?
que una abeja puede recoger en un solo viaje.
F semillas G miel H alimento J frutas L grano

19 Por muchos meses la familia había planeado una visita a la feria. Usted comprenderá que cuando llegó ese día, los niños estaban muy —?
A tristes B enojados C enfermos D valientes E contentos

20 Parecía sencillo. Él nos dibujó un mapa que mostraba nuestra ruta claramente. Pero no debo de haberlo entendido todo; de pronto me encontré con que estaba —?
F listo G temprano H enojado J perdido L satisfecho

21 Mi amigo tenía un perro que hacía todo lo que le pedía. Él me explicó que siempre le había enseñado al perro a ser —?
A obediente B manso C rápido D cuidadoso E silencioso

22 Aunque el pasajero estaba seguro que nunca había visitado aquel lugar particular, había algo acerca de éste—quién era la casa—que le parecía extrañamente —?
F distante G salvaje H familiar J ocupado L desinteresado

23 Nunca había visto tanto polvo como el que bloqueaba la carretera más adelante. Lo único que se podía hacer era detener el auto hasta que —?
A viniera B llegara C pasara D empezara E apareciera

24 El orador había viajado mucho y podía contar buenos cuentos. Su discurso era tan interesante que la tarde pasó más —?
de lo que pensábamos.
F sencillamente G rápidamente H seguramente J calladamente L tranquilamente

25 Como no había un camino claramente marcado, y como los hombres temían no poder llegar a la carretera principal antes del anochecer, ellos llevaban —?
A un paraguas B una cartera C un reloj D un libro E una linterna

26 Debido al deseo humano de poseer conocimientos, el mundo ha continuado avanzando; en este movimiento, el deseo de conquistar lo —?
continúa a guiarlo hacia adelante.
F salvaje G desconocido H enemigo J pasado L desierto

27 Si un adulto desea enseñarle a nadar a un niño, debe tener cuidado de que no suceda nada para que el niño le tenga miedo —?
A al agua B al ruido C a la gente D a la obscuridad E a la conversación

28 Nos queríamos ir temprano pero no nos dimos cuenta que el reloj se había parado. Por lo tanto, llegamos demasiado —?
para los juegos.
F pronto G ansiosos H soñolientos J tarde L ansiosos

29 El árbol tenía tantas hojas que por algunos minutos después que empezó a llover me protegió como si hubiera sido un gran —?
A perro B policía C paraguas D cercado E paracaídas

30 A pesar de nuestro acuerdo de que el mejor equipo ganaría, el partido valía tanto para nosotros que no estábamos preparados para aceptar —?
F la deuda G el éxito H el descubrimiento J la crítica L la derrota

BASTA. Espere aquí más instrucciones.
INSTRUCCIONES, PARTE III, NIVEL DE COMPRENSIÓN

Lea el párrafo y luego busque las contestaciones a las preguntas. Lea el párrafo otra vez si es necesario. Cuando haya encontrado la contestación, mire la hoja de contestaciones, Parte III, para ver cómo la contestación está marcada.

El lunes pasado yo vi algo que era más grande que un automóvil. Tenía alas y podía volar más rápido que un águila. Llevaba pasajeros. No le tenía miedo ni a la tierra ni al agua.

Z1 ¿Qué era?
A un bote  B un automóvil  C un tren
D un aeroplano  E un pájaro
(La contestación correcta D ya está marcada en la hoja de contestaciones.)

Z2 En qué día lo vi?
F lunes  G martes  H miércoles  J jueves
L viernes

Z3 ¿Qué ave se nombra en el párrafo?
A un gorrión  B un buho  C una golondrina
D una paloma  E un águila

Espere aquí más instrucciones.