

SELF-CONCEPT AND ANXIETY OF PUERTO RICAN AND  
NORTH AMERICAN COLLEGE STUDENTS:  
A CROSS CULTURAL STUDY

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## NOMENCLATURE

a	intercept, constant
B	sample regression weight (slope)
$\beta$	population beta weight, regression weight in standard score form
c.v.	critical value required for significance in specific mean comparisons
$D_1 \dots D_j$	dummy variables
F	F test of statistical significance
K	symbol of variable levels
n	number of subjects
p	probability level
R	multiple correlation coefficient
r	simple correlation coefficient
$R^2$	coefficient of determination, it expresses the proportion of variance of Y determined by $X'_j$
$X_j$	independent variable
$\bar{X}$	group mean
$Y'$	predicted, dependent variable (in this study = predicted self-concept)

## CHAPTER I

### INTRODUCTION

A review of the professional literature gives evidence of the fact that there has been much research done in the area of self-concept and anxiety. Many of the studies dealt with each construct separately. A number of theorists such as Cain (1970), Zierkel and Moses (1971), and Gillman (1969) have indicated that social and cultural factors play an intensive role in the development of one's self-concept. Several studies have found significant relationship between anxiety and measures which reflect a negative conception of the self (Furlong and Laforge, 1975).

Self-concept has been studied in relation to anxiety together with the ethnic variable by De Blassie and Healey (1970), Paschal and You-Yoh (1976), Saavedra (1977), and Zierkel and Moses (1971). The relationships between anxiety and the ethnic variable are reported by Lugo (1975), Spielberger (1971), and McCoy (1976).

Even though some attempts have been made to look at antecedents to and components of self-concept and its relationship to anxiety, a survey of the literature concerning these two constructs, revealed only a few studies relating to those variables within the cultural setting. In spite of the theoretical and empirical importance of the study of self-concept there is not a considerable emphasis in the literature focusing on predictor variables of self-concept.

### Statement of the Problem

The justification for this study emerges from a need for an understanding of the contributing factors which are instrumental in the individual's self-concept and the lack of research dealing with the self-concept of Puerto Ricans living on the island. As stated by De Blassie and Healey (1974) "studies dealing with the self-concept in relation to the minority groups in the United States, the Spanish American population have been minimal" (p. 15). Additionally, the focus of most of the cross cultural research done in self-concept and anxiety has been with children; there is a need for research on other age groups.

The problem to be investigated in this study is: What are the contributing factors which are instrumental in the individual's self-concept and, are there cultural background differences in predictors of self-concept?

### Purpose of the Study

The purpose of the present research is to investigate if self-concept can be predicted utilizing measures of anxiety, cultural background, sex and socioeconomic status, of Puerto Rican college students residing in Puerto Rico and North American college students residing in the United States. Also of interest are the possible ethnic group differences in the regression weights in the predictor equations.

### Assumptions

The research reported in this paper has the following

assumptions:

- . . the subjects will answer honestly to the instruments questions.
- . . the subjects have a determined and measureable self-concept.
- . . the subjects have a determined and measureable level of anxiety.

#### Limitations

1. The samples of this research were selected from a specific population of college students, not from the general population of both countries.

2. The results of this study are generalizable only to similar student groups.

#### Definition of Terms

For the purpose of this investigation the following terms and definitions were employed:

Anxiety: For purposes of this study, Spielberger's (1972a) definition of anxiety has been utilized. Spielberger (1972a) conceptualizes anxiety as an emotional state. He said that anxiety may be conceived as

a specific emotional state which consists of unpleasant consciously perceived feelings of nervousness, tension and apprehension, with associated activation or arousal of the autonomic nervous system (Spielberger, 1972a, p. 45).

Spielberger's Trait-State Theory of Anxiety gives anxiety a double part conceptual status. This includes what is referred to as "trait" or what is called "state" or situational anxiety. Trait anxiety is dispositional in nature, is construed to be a proneness to be anxious, and

has an internalized locus. State or transitory anxiety is situational in nature, is directly a function of stressful conditions and has a contemporary locus. Anxiety is defined in terms of the subject's trait anxiety score in the State-Trait Anxiety Inventory.

Self-Concept: For the purpose of this study, Fitt's (1965a) definition of self-concept has been utilized. Fitts defines self-concept as: "how an individual perceives himself" (p. 1) and also "as the individual level of self esteem". The subject's self-concept as defined and measured by the Tennessee Self-Concept Scale (TSCS) (Fitts, 1972), signifies the negative or positive view the individual has of him or herself.

Self-concept for the purpose of this study is determined in terms of the subject's self-concept total positive score in the TSCS (Fitts, 1965a).

Puerto Rican: Female or male subject born in Puerto Rico.

North American: Female or male subject born in the United States.

Cultural background: Refers to the country of living and origin of the subject.

Socioeconomic status: Perception of income group which subjects indicate in question #11, in the information sheet (Appendix A).

Both countries: Refers to the total sample, Puerto Rican and North American subjects considered together (N = 280).

Puerto Rican sample: Refers to the sample of 140 subjects from Puerto Rico.

North American sample: Refers to the sample of 140 subjects from the United States.

## CHAPTER II

### REVIEW OF THE LITERATURE

The present chapter is focused on the historical and theoretical background of the variables considered in the study (self-concept, anxiety, gender and socioeconomic status). It is organized as follows: the self and self-concept in psychological theory, anxiety in psychological theory, research on self-concept and anxiety as related variables, cross-cultural research on self-concept and anxiety, and cross-cultural studies in self-concept and anxiety with Hispanic population.

#### The Self and Self-Concept in Psychological Theory

A vast amount of research and theorizing has been devoted to self-concept over the past decades. As a result, a bewildering array of definitions, terms, hypotheses, and theories, research designs and measuring instruments have emerged in the literature.

Social science theorists have long been interested in the relationship between self, both as object and process. What is the source of human personality? Is it self-concept? What is the source of personal consistence? To what extent is the personal self-concept shaped by and molded to the contours of the experienced environment? Included in this review is a summary of the insights of some social science theorists as



pertinent to the questions asked above. Those theorists and investigators who have been most predominant in the field of self-theory and self-concept are the focus of the review.

James (1892) was the first psychologist to elaborate in a most coherent fashion on the subject of self. In his work The Principles of Psychology he assumed that everything, self or not self, was objective. James considered the global self as simultaneously me and I. They are discriminated aspects of the same entity, a discrimination between pure existence (I), and the contents of that experience (Me); between the self as subject (I), and self as object (Me). The self is simultaneously me and I. James claims that this empirical self comprises four components: spiritual self, material self, social self, and bodily self. By spiritual self he meant thinking and feeling, the material self consists of the clothing, and material we see as a part of us. The bodily self is placed last in importance. A person has as many social selves as there are individuals and groups about whose opinions he cares. The bodily self is concerned with our bodily images. These four selves combine, in unique ways, to constitute each person's views of himself. We can set our goals, each one related to different components of the self; it all depends on what you see yourself as being (Burns, 1979).

A concept of self is implied in the work of Freud (1936). Freud structured the total personality around three major systems, the id, the ego, and the super-ego. In Freud's theory the self-concept never became sufficiently explicit. Freud, according to some theorists (Gale, 1969; Burns, 1979), felt that the self was equivalent to the ego. To Jung (Laszlo, 1958), the ego was the conscious mind of the person and

provided a feeling of identity and continuity. During the individual's early development, until his/her late 30's, the ego is the center of the adult life. The self takes the place of the ego and permits knowledge of the personal unconscious. According to Jung the self provides the equilibrium that parts of the personality are searching for. The goal of development, then, is self realization (going to the principle of entropy and find equality). The self, in Jung's theory, is an archetype representing man's striving for unity and wholeness. The self represents an equilibrium between the conscious (ego) and the unconscious levels. The concept of the self is probably Jung's most important psychological discovery (Hall and Lindzey, 1978).

During the late 50's concern with self-concept and its contribution attributes rapidly became a central focus of psychological inquiry. Moustakas (1956), Ansbacher and Ansbacher (1956), Fromm (1955, 1956, 1971), Horney (1937), and Sullivan (1954) were among the earliest psychologists to broaden emphasis upon sociocultural factors in the development of human personality. They emphasized sociocultural situations and interpersonal relations as significant in the development of the self.

Adler (Ansbacher and Ansbacher, 1956) postulates the concept of creative self; the final statement about man, analogous to the concept of the soul. Adler's self is a highly personalized, subjective system that interprets and makes meaningful the experiences of the organism. Adler's contribution to this trend of recognizing the self as an important cause of behavior is considered a very significant one.

Horney (1937) saw the self system as arising out of anxiety. Another exponent of the self as related to the actualization concept

was Goldstein (1950) with his organismic theory. Organismic theory assumes that the individual is motivated by a drive called self actualization (to actualize oneself). Goldstein wrote that the goal of a healthy person was to equalize tension, and thereby to remain organismically centered or balanced in the environment. In pursuit of this centering, the individual followed a motive for self realization. Maslow (1954) states that the self actualization tendency operates toward becoming fully human.

Allport (1955, 1968) often described as a self theorist, clustered all the components of the self he could isolate (bodily, sense, self style) under the general concept he called 'the propium'. The propium is a unique part of the individual, equal to the self. It is the self that defines the lines along which life is meaningfully led. Adler (Ansbacher and Ansbacher, 1956; Adler, 1958) specifies on the content of the self as the one who includes only those aspects of experience that seem essential, warm, and of central importance to the person.

Rogers (1951) and Combs and Snygg (1949) have been influential in developing self theory which views man from a phenomenological perspective. Self theorists such as Rogers, Combs and Snygg stress that man's behavior is the result of his highly individualistic perception in his phenomenal field. Combs and Snygg suggested that the phenomenal field was composed of the totality of experience and feelings of which the individual was consciously aware. The most prominent feature of each person's phenomenal field is his phenomenal self, which includes all those parts of the phenomenal field that the individual experiences as part or characteristic of himself. Combs and Snygg state that the self-concept is the most important single factor affecting human

behavior. Self theorists stress that each person's behavior is always meaningful when understood from his unique frame of reference; however, these self theorists suggest the self-concept is relatively unchanging so provides a stable frame of reference through which the individual interacts, perceives and evaluates the world. According to Rogers (1951) the self-concept or self structure may be thought of as an organized configuration of perceptions of the self which are admissible to awareness. It is composed of such elements as the perception of one's characteristics and abilities; the percepts and concepts of the self in relation to others and to the environment; the value qualities which are perceived as associated with experiences and objects; and goals and ideals which are perceived as having positive or negative valence (Rogers, 1951).

The self in Roger's theory is a portion of the phenomenal field that becomes differentiated from the organism, the organized mental conceptual gestalt of perceptions and characteristics of the I. Rogers (1951) wrote that the end result of a healthy personality development was a congruence between the individual's self-concept and his or her phenomenal experiences. (The world as he/she perceives and experiences it.) The central points of Rogers' self theory are (Burns, pp. 37-39):

1. The theory of the self, as part of the general personality theory, is phenomenological. The essence of phenomenology as mentioned earlier is that "man lives essentially in his own personal and subjective world".
2. The self becomes differentiated as part of the actualizing tendency.
3. The self-concept is the organization of the perceptions of

the self. It is the self-concept which is significant in personality and behavior.

4. Maladjustment is the result of attempting to preserve the existing self-concept from the threat of experiences which are inconsistent with it, leading to selective perception and distortion or denial of experience by incorrectly interpreting these experiences. A state of incongruence results.
5. Self-concept is used to refer to the way a person sees and feels about himself and the sense of process controlling and integrating behavior. Self-concepts thus influence the direction of activity.
6. Once the self-concept has developed and interpretations and motivations are channeled through it, it resists all efforts at disruption.

The phenomenological view of self and self-concept establishes the self as "one's inner world." This self evolves from evaluational interaction, becoming the consistent, personal, individual and unique concept of I and me. The self-concept as such is really the individual anticipation of his general acceptance or rejection of a given situation. As the self-concept is formulated, it tends to shape new experiences and conforms to established patterns. Behavior then becomes an attempt to maintain the consistency of the self-concept and to promote the self actualization of the individualistic self that a person can be in terms of his/her potentialities as a human being (Gale, 1969). A fundamental thesis of this approach is that behavior is not only influenced by past and current experience, but by the personal meaning each individual

attaches to his perception of those experiences (Burns, 1979).

Kohut (1977), one of the psychologists that have been called pioneers in "self psychology", states:

A psychology of the self will be unimportant, unnecessary, irrelevant or inapplicable with regard to psychological states in which a self is either not present or present only in rudimentary or residual form (such as perhaps the earliest infancy . . .). A psychology of the self will be unimportant when we are dealing with psychological states in which self-cohesion is firm and self acceptance is optimally established. A psychology of the self will be most important and most relevant whenever we scrutinize those states in which experiences of disturbed self acceptance and/or of the fragmentation of the self occupy the center of the psychological state (p. 93).

In terms of a definition of the self he states,

My investigation contains hundreds of pages dealing with the psychology of the self, yet it never assigns an inflexible meaning to the term self, it never explains how the essence of the self should be defined . . . The self, whether conceived within the framework of the psychology of the self, in the narrow sense of term, as a specific structure of the mental apparatus, or whether the framework of the psychology of the self in the broad sense of the term, as the center of the individual psychological universe, is like all reality, physical reality, or psychological reality, not knowable in its essence. We cannot by introspection and empathy, penetrate to the self per-se; only its introspectively or empathically perceived psychological manifestations are open to us. Demands for an exact definition of the self disregard the fact that the self is not a concept of an abstract science but a generalization derived from empirical data (p. 310).

Kohut (1977) seems to assume that the human nature is characterized from birth by the tendency to enhance and order functioning through the experience of self. When the self has developed well it is a consciously appreciated sense of who and what one is, lends meaning and direction to behavior. Although the self is not present at birth, it begins to form in earliest childhood as the expression of two core characteristics and parental reactions to them. The core characteristics, considered to be

basic, are the need to be mirrored and the need to idealize. When the family fails in fulfilling the child's needs in those areas, the child's self development is damaged. The ideal type of personality development is the autonomous self, characterized by self-esteem and self confidence. Kohut (1977) specifies in his theory a variety of self disorders. (For example, the narcissistic personality has problems with the self representation.)

Laing (1960, 1971) presents the notion that one exists only as one experiences himself as the center of experience and as the center of behavior. Laing has written mainly about a pathological self (a false self). He said that people become insane because of ontological insecurity (the basic insecurity of whether I exist or not). As a defense mechanism toward the experiences of non-realization the individual puts out a false self; that false self is the one who interacts with the world, because if the true self is in the real world it would suffer too much. On the other hand, the ontologically secure person is described as one who has a centrally firm sense of his own and other people's reality and identity. The ontologically insecure person has to become absorbed in construing ways to be real, of keeping himself and others alive, or preserving his identity, in an effort to prevent himself from losing his self.

There are three distinct steps in the process through which a person comes into being. The first step is conception. The second step is the process of being born. The third step is the phase during which a person comes into being as a separate self, aware of his existence and his identity and having knowledge of a continuity of experiences that are distinctly his and his alone. The development

of the self involves, among other things, a process of differentiation from the general to the specific (Gale, 1969). The early roots of the self begin as the child first distinguishes his/her sensations and the factors contributing to them. Self awareness emerges as the child develops a body image. Consequently his exploration of self and differentiation of self from the environment is the initial step in the development of self. (For a philosophical argument about the self as separation see Wikse [1977].) The concept of self is a learned attribute, a progressive concept, starting from birth and differentiating steadily through childhood and adolescence. The self-concept is a composite of thoughts and feelings that constitutes a person's awareness of his individual existence. It is also his conception of who and what one is, it contains an image or picture that the individual holds of himself (Gale, 1969). Regarding the terminological distinction between the ego, the self and the self representation, Jacobson (1964) states that "it may be of importance to emphasize that the origins of self and object representations and of self-awareness implies and demonstrates that I find myself" (p. 24). Thus she believes in the fusions between self and object images as related to the earliest types of identity development.

#### Anxiety in Psychological Theory

Sigmund Freud is undoubtedly the most important contributor to our present understanding of anxiety phenomena. In 1894 he conceptualized anxiety neurosis as a discrete clinical syndrome to be differentiated from neurasthenia and subsequently Freud (1936) came to regard anxiety as the fundamental problem in all neurotic symptom formation. He



defined anxiety as something felt, an unpleasant emotional (affective) state that is universally experienced. According to Freud, anxiety is

. . . a specific state of unpleasure accompanied by motor discharge along definite pathways . . . Anxiety is a response to a situation of danger . . . at the same time there is an obvious tendency on the part of the ego to restrict the development of anxiety to a minimum only as a signal. Symptom formation has the actual result of putting an end to the danger situation (pp. 70, 86).

It was Freud who first took up the challenge of anxiety (Dustin, 1969). Since Freud formulated this view, there has been recognition of the critical importance of anxiety as the indicator of almost all symptom formation. His exploratory case studies produced many questions. Others such as Pavlov, sought to improve upon Freud's answers.

Thus, for Freud, anxiety was not only a central problem in neurosis, but understanding anxiety was also essential to the development of a comprehensive theory of human behavior. Freud's theoretical views of anxiety were continually modified over a period of nearly 50 years. In Freud's conception of anxiety, the concept has a dual function; a toxic function and a signal function. The toxic function is in charge of demanding libido. The signal function is in charge of warning the ego. There are three types of anxieties, according to Freud, reality anxiety (fear of an objective external danger), neurotic anxiety (the fear of punishment or ego fear of the id) and moral anxiety (the fear of consciousness or fear of the super ego). Since the turn of the century, clinical studies have appeared in the psychiatric literature with increasing regularity. Pavlov's (1927) discovery of experimental neurosis also served to stimulate numerous investigations of fear and anxiety in animals. Prior to 1950, however, there were relatively few experiments dealing with anxiety in humans. The complexity of anxiety

phenomena, the lack of appropriate instruments for assessing anxiety, and ethical problems associated with inducing anxiety in the laboratory, have all contributed to the paucity of research (Spielberger, 1972a).

In actuality anxiety is one of the most important concepts in psychoanalytic theory. It continues to play an important role in the development of the personality as well as the dynamics of personality function (Hall and Lindzey, 1978).

Important psychoanalytic developments, based on the work of Freud but presenting new elements, are those in which the problem of anxiety is seen in a sociopsychological setting. These views, in essence, are that anxiety arises out of disturbed interpersonal relationships, an emphasis made, though in somewhat different ways, by Horney (1937), Fromm and Sullivan. The contribution of Horney to anxiety theory lies in her elucidation of the conflicting trends in personality as the sources of neurotic anxiety, and in her placing of the problem of anxiety on the psychosocial level (May, 1977). Sullivan links the concept of anxiety to the development of the self, one of the aspects that will be presented in this review of literature.

Sullivan shares with Freud the concept of the anxiety arousing power of unacceptable thoughts, feelings, drives, wishes and actions. But in the framework of his interpersonal conceptions, he sees these forbidden inner experiences as interpersonal ones; not as instinctual drives per se.

Theory and research on anxiety were greatly stimulated in 1950 by the publication of three important books. May's The Meaning of Anxiety, Mowrer's Learning Theory and Personality Dynamics, and Dollard and Miller's Personality and Psychotherapy.

In his classic book, The Meaning of Anxiety, May (1950) surveys the evidence of the centrality of the problem of anxiety in contemporary music, literature, art and religion, as well as in psychiatry, psychoanalysis and psychology. He also documents the concern about anxiety in current political and philosophical thought and examines in some detail the views of these philosophers who have most significantly influenced modern anxiety theory such as Spinoza, Nietzsche and Zierkegaard. May's presentation and his analysis of basic historical and cultural trends in western civilization have contributed to making "overt" anxiety a salient characteristic of our times (Spielberger, 1972a).

May (1950) defines anxiety as the apprehension set off by a threat to some value which the individual holds essential to his existence as a personality. May (1977) also defines anxiety as the result of the self alienation resulting from viewing one's self as an object of the market, or marketing one's feeling of self strength depending upon extrinsic wealth rather than intrinsic capacity and productivity (May, 1950, 1977). Although it is widely recognized that anxiety is the most pervasive psychological phenomenon of our time and that it is the chief symptom in neurosis, there has been little or no agreement in its definition and very little, if any, progress in the measurement (Hoch and Zubin, 1964a).

Rank's (1945) view of anxiety stems from his belief that the central problem in human development is individuation. He conceived the life history of a human being as an endless series of experiences of separation. To Rank anxiety is the apprehension involved in these separations. Anxiety is experienced if the individual refuses to separate from his immediate position of security. The role of anxiety is particularly

predominant in individual character formation and personality development (Branch, 1965).

Goldstein's (1950) conception of anxiety as being the subjective experience of a danger to existence, was developed through observing the behavior of brain injured soldiers. Goldstein concluded that human beings have a basic need to comprehend and cope with their environment, when this need is threatened, they experience anxiety in the form of dread of a catastrophic reaction. Anxiety according to Goldstein consists of an apprehension of the catastrophic state.

Lazarus and Averil (1972) agreed with Cattell and Scheier's (1961) view that anxiety is an experience which is generated by experience on motivational uncertainty. During anxiety there is uncertainty about one or all of several things: exactly what will happen, whether it would happen, when it will happen. In their theoretical position, anxiety results from a certain type of appraisal; in effect, the apprehension of danger precedes rather than follows the anxiety.

Epstein (1972, 1973) defines anxiety as a state of diffuse arousal following the perception of threat, or alternatively, an unresolved fear. Anxiety has gradually come to be seen as a central problem of our time and as a central problem in learning theory, in dynamic psychology and in various forms of psychotherapy (May, 1950; Whitaker and Malone, 1960).

In recent years there have been an increased number of studies and interest in anxiety research. Since 1950 more than 2,500 articles and books have indexed under the heading of anxiety (Spielberger, 1972a). During the same period, more than 4,000 studies on anxiety

and closely related topics have appeared in medical journals. Thus, the behavioral scientist who wishes to study anxiety phenomena is confronted not only with a burgeoning empirical literature, but also with a diversity of theoretical orientations that reflect important differences in the research goals of those who work in this area. In other words, in the past 20 years theory and research on anxiety have proliferated but have not led to a consistent body of empirical findings or to convergence among theoretical interpretations (Spielberger, 1966).

Anxiety theorists have been stimulated by the development of Taylor's (1953) Manifest Anxiety Scale and Sarason's (1962) Test Anxiety Questionnaire. Sarason (1975) presents a cognitive social learning interpretation of anxiety. It deals particularly with the effects of self-preoccupation on attention to environmental clues; information processing and overt behavior. Anxiety is viewed as a type of self-preoccupation characterized by self-awareness, self-doubt and self-depreciation.

Different models such as "Cognitive Model of Anxiety" (Beck and Rush, 1975) and "Genetic Model" (Eysenck, 1975) have predominated the recent literature on anxiety.

The term anxiety is perhaps most commonly used in contemporary psychology to denote a palpable but transitory emotional state or condition. Anxiety theorists tend to think of anxiety as a unidimensional concept. A central thesis presented by Izard (1972) is that anxiety is not unipolar, unidimensional, or unifactor in nature. Differential emotion theory defines anxiety as a combination or pattern of fundamental emotions of interest and excitement.

Individual variations in the pattern of emotions in anxiety are a function both of hereditary and experiential determinants. Differential emotion theory defines anxiety as a pattern or combination of discrete emotions and in addition, it may include a mixture of two or more fundamental emotions. Investigations done by Lazarus and Averill (1972) also point to anxiety as an emotional state.

Spielberger (1966) proposed that anxiety should be distinguished between anxiety as a transitory state and as a personality trait that remains relatively stable over time. The views on this subject by a group of distinguished behavioral and medical scientists were brought together in Spielberger's book entitled, Anxiety and Behavior.

The trait-state theory of anxiety gives anxiety a two-part conceptual status. This includes what is referred to as "trait", "neurotic" or "chronic" anxiety, and what is called "state", "objective", or "situational" anxiety. Trait anxiety is dispositional in nature, is construed to be a proneness to be anxious, and has an internalized locus. State anxiety is situational in nature, is directly a function of stressful conditions, and has a contemporary locus (Spielberger, 1972b). Research has confirmed expectations that trait anxiety is relatively stable over time and that state anxiety is less stable (Spielberger and Zuckerman, 1976).

The methodological distinction between state and trait forms of anxiety was first made by Zuckerman when he devised the Affect Adjective Check List (AACL). Zuckerman and Lubin (1965) added scales for depression and hostility to the AACL, and the resultant trait-state test was called the Multiple Affect Adjective Check List (MAACL). In

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1970 Spielberger developed a trait-state theory of anxiety. The trait and state forms of the MAACL were used by Spielberger to test predictions from the theory. Later, Spielberger, Gorsuch and Lashene (1976) developed an instrument, The State Trait Anxiety Inventory (STAI).

#### Research on Self-Concept and Anxiety

##### As Related Variables

A review of the professional literature gives evidence that there has been much research done in the area of self-concept and anxiety. Many of the studies dealt with each construct separately. A number of theorists such as Cain (1970), Zierkel and Moses (1971) and Gillman (1969) have indicated that social and cultural factors play an intensive role in the development of one's self-concept. Several studies have found significant relationships between anxiety and measures which reflect a negative concept of the self (Furlong and Laforge, 1975; Rosenberg, 1962; Cowen, 1972; Shand and Grau, 1977; Shafiabady, 1974).

Sarason (1975) maintained that highly anxious subjects were found to be more self-depreciatory, more self-preoccupied and generally less content with themselves than low anxiety students. Levitt (1967) related anxiety and self-concept in terms of discrepancies between real and ideal selves. A large discrepancy between ideal and real self can cause chronic discontent, unwholesome personality patterns. To escape the anxiety provoked by a threatening self-concept, coping mechanisms may be applied. Thus, low self-esteem, according to Levitt, may be an important cause of high anxiety proneness.

According to Rogers (1951), anxiety is experienced when the individual perceives something that is a threat to his self-concept.

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It is assumed that discrepancies between the self, as conceived, and perceptions of reality which cannot be ignored generate tension and it is this tension which provides the basis for anxiety. Rogers views anxiety as awareness of discrepancy between the self-concept and reality as a disintegration of the self-concept.

Thus Rogers (1961), like Goldstein, believes that anxiety is related to a lack of integration and an inability to direct oneself; the difference being that Rogers represents the threat as to the self-concept, and Goldstein to the organism (Spielberger, 1972a).

Lindgren (1956) points out that one of the developmental tasks as an infant is to become aware of himself as a physical entity somehow separate from the rest of the environment. This process of determining who we are carries into childhood and adulthood. It is a complex task because it involves not only the discovery and exploration of the physical limits of the body but the answering of such questions as "What belongs to me? Who belongs to me, and what should my role be? What is my relationship to the world and the universe?" As the individual attempts to cope with the infinite and complex variations of those questions he/she cannot help being troubled by some anxiety. This anxiety serves as a constant goal that keeps the individual searching for meanings that help to explain the relationship between ourselves and the rest of the world, the relationship of our behavior to our self-concepts and the relationship of the events of the world to each other (Lindgren, 1956).

Current research in the area of self-concept and anxiety suggest that an individual with a high predisposition to anxiety is one who is more easily threatened than his fellows. Such a person is likely to



have a relatively poor opinion of himself because he is easily threatened (Levitt, 1967). A relationship reported by Rosenberg (1962) is the same. He measured self-esteem and anxiety in junior and senior high school students. He found an inverse relationship between self-esteem and the anxiety measures. These findings indicate that a high level of anxiety was associated with a low level of self-esteem (Rosenberg, 1962).

Epstein's (1972) findings seem to be linkage of anxiety to low self-esteem. According to his view anxiety is produced by threats to the integrated capacity of the self system. Decreases in self-esteem produce increases in feelings of unhappiness, disorganization, anxiety and constriction.

This relationship has been studied with "normal patients" and also with patients suffering severe anxiety. Bond and Lader (1976) studied the hypothesis that patients with severe anxiety would also have a less favorable self-concept and view themselves as "worse" than others in general. It was found in their study that neurotic patients have a less favorable concept than if they had had a more favorable image of themselves without symptoms. In other research done by Shahi and Thakur (1978) the relationship between manifest anxiety and self-esteem was studied. The results of the study indicated that subjects high, middle and low in anxiety did not differ significantly on personally perceived self dimension of self-esteem; but subjects high and low, and middle and low in anxiety did differ significantly on socially perceived self dimension of self-esteem. Various authors have concluded that there is an inverse relationship between anxiety and self-concept (Cowen, 1972).

The importance of sociocultural phenomena has been expressed currently in the literature as related to cultural differences (Izard, 1972). The cultural content of the personality should be added as an important variable in behavioral studies. What the individual learns and becomes, happens in a social setting and in general accord with the conceptual and behavioral standards given by a system of cultural rules and norms. When we speak of culture and the individual, we must therefore keep in mind that personality develops within a culture (Thompson, 1975). Hoch and Zubin (1964a) and Mandler and Watson (1966) also recognize the great importance of anxiety in our culture and its importance as a cause or symptom in most emotional disorders.

#### Cross Cultural Research on Self-Concept and Anxiety

Cross cultural studies have developed robust evidence for the universality of certain emotional expressions. Other cross cultural studies show, however, that cultures may have different rules for displaying various emotions under different conditions (Izard, 1980).

Cross cultural psychology has been concerned with the systematic study of behavior and experience as it occurs in different cultures, is influenced by culture, or results in changes in existing cultures (Triandis and Looner, 1980). One of the most significant developments in a contemporary psychology is the rapid growth of cross cultural research on a scale unheard of a decade ago (Díaz-Guerrero, Holtzman and Swartz, 1975).

A major purpose of cross cultural psychology is to test the generality of psychological laws. It is important to know the frequency

of particular behavior or particular incidents in different populations (Triandis and Looner, 1980).

Cross cultural studies have been done in terms of cultural differences and similarities. Cross cultural comparative approaches are particularly appealing in the study of sociocultural factors in any aspect of human development. Different patterns of child rearing, variations in family life styles, contrasting value systems, sociolinguistic variations and different political or social systems, are but a few of the major environmental influences upon human development that require a cross cultural approach if one is to study them under real life conditions (Díaz-Guerrero et al., 1975).

Cultural factors as they relate to anxiety have been studied by Lynn (1975), Kata (1975), Lugo (1975), Spielberger et al. (1971), Spielberger and Martínez Urrutia (1973), and McCoy (1976).

Lynn (1975) presented the thesis that there are differences in levels of anxiety among the populations of different nations and that it is possible to measure these. He did a controversial study on national differences in anxiety. Lynn assembled a number of variables which he thought could be plausibly explained in terms of national differences in anxiety. Some of the variables considered were: the national rates of alcoholism, suicide, crime, murder, illegitimacy, coronary heart diseases, caffeine and others. The variables were chosen according to Lynn because of their relationship with anxiety had been already established. The nations were treated as subjects and the variables as scores in a conventional analysis. Lynn found a significant difference in anxiety between the countries "suffering" military defeat in World War II and the countries that escaped military defeat,

with the first group being the most anxious.

Similarly Kata (1975) studied anxiety in the Scandinavian countries and found that education seems to have a favorable effect on the level of anxiety, the better educated in general being less anxious. Paschal and You-Yoh (1976) conducted a study on anxiety and self-concept among American and Chinese college students. They found that there was no significant difference on means scores of self-concept between Chinese college students and their American counterparts; but they found a significant difference in anxiety between Taiwanese being more anxious than Americans.

Investigations dealing with each construct have been presented, but there are various additional studies that take into consideration anxiety and self-concept as they are related to ethnic groups.

#### Cross Cultural Studies in Self-Concept and Anxiety with Hispanic Population

Self-concept and anxiety has been the focus of much research in relation to ethnic and sociocultural variables. A considerable group of researchers in cross cultural psychology have dealt with this constructs.

Self-concept has been studied in relation to the ethnic variable with a Hispanic population by De Blassie and Healey (1970, 1974), Gimelli (1978), Saavedra (1977), Calhoun (1978), Lazarus (1966), Guzmán (1976) and Larned and Muller (1979).

De Blassie and Healey (1970), for example, found no significant differences between the self-concept of Blacks, Spanish-American and Anglo adolescents. Total self-concept score was not significantly

different for any of the three ethnic groups or for socioeconomic position. Male subjects were found to have higher self-concepts than female subjects. In Gimelli's research she found no significant difference of self-concept among Puerto Rican students due to skin color. Specifically it was considered, if self-concept was affected by the independent conditions of skin color and sex role identity. The results of this study do not reveal significant differences in self-concept among the Puerto Rican students due to skin color or an androgynous sex-role identity. It was also noted that Puerto Rican subjects in the mainland (U.S.A.) generally had lower self-concept scores on the TSCS than had been established for the norm group (Gimelli, 1978). It was suggested for further research to study the influence of self-concept on other variables such as language and characteristics of the Puerto Rican group. Calhoun (1978) in a cross cultural study with Anglos, Portugese and Mexican American pupils found no significant difference in their self-concept.

In Puerto Rico Saavedra (1977) studied the self-concept of Puerto Rican adolescents as related to other variables. Studied were, feelings of self-esteem as they related to adolescents perception of parental warmth or acceptance. It was found that adolescent's perception of their present affective relationship with their parents is an important element in enhancing or downgrading adolescent's own self-esteem. Concretely, adolescents' positive assessments of their self-esteem are positively and significantly related to their reported perceptions of parental warmth and acceptance (Saavedra, 1977).

Guzmán (1976) conducted a study to compare the self-concept of

Puerto Ricans both in the United States and Puerto Rico, with that of black and white students. The ethnic racial factors affecting self-esteem were his main interest. Differences were found to be significant between the three groups. Whites were found to have a lower self-concept than blacks and Puerto Ricans. Guzmán focused on the relationship of IQ, sex and occupational aspirations. The relationship of self-concept and self-esteem with cultural and ethnic variable has been also studied by Hughbanks (1977). She compared differences in self-esteem among white, black, and Mexican Americans. She found that black and white elementary school students did not differ in self-esteem, and were higher in self-esteem than Mexican-American students. Panucci (1978) recommended further research on variables such as sex and ethnic variables in the measurement of psychological constructs. In his opinion, different patterns of correlations among anxiety, self-concept for sex and ethnic groups, possibly causes the apparent differentiation of anxiety between and among sex and ethnic groups.

Further investigation of school variables and their relationship to self-esteem levels of minority students is recommended by Hughbanks as a result of her research. More recently Larned and Muller (1979) researched self-concept in Anglo and Mexican American children. They found no evidence of different developmental patterns for the two ethnic groups as related to this variable. While self-concept and self-esteem were found to change across grades, no evidence of different developmental patterns for the two ethnic groups were detected.

From the above cited research the author gathers that an under-

standing of the development of self-concept is very important when working with members of minority groups in American society.

Cultural factors as related to anxiety when dealing with Hispanic population have been studied by Spielberger, González-Reigoza and Urrutia (1973), Lugo (1975) and McCoy (1976). Lugo (1975) compared Anglo, Mexican American and Puerto Rican sophomore students in regard to state-trait anxiety, by group and by sex. He found that there was a difference, with Puerto Rican men as being the most highly anxious group of all. He found that there were distinct differences between Puerto Ricans and Mexican-Americans, as groups, in regards to both state and trait anxiety. By sex, it was found that Anglo men did not differ significantly from Mexican-Americans and Puerto Rican men in regards to state anxiety. Additionally significant differences were found between Anglo and Puerto Rican men in regards to trait anxiety but not found between Anglo and Mexican-American men. No differences were found by Lugo between Anglo, Mexican American and Puerto Rican in regards to both state and trait anxiety.

A study done in 1973 by Spielberger and Martínez Urrutia studied the relationship between state-trait anxiety and intelligence in Puerto Rican psychiatric patients. The results indicated that anxiety was inversely related to performance in an intelligence test. McCoy (1976) suggested that second language learners present higher levels of anxiety than regular students.

#### Summary

In psychological discussions, the word self has been used in many different ways. It is often said that those usages may be roughly

dichotomized into those which refer to self as agent or process and those which refer to self as object of the person's own knowledge and evaluation (Wylie, 1974).

Those definitions which focus on self as process emphasize the continuity of a flow of consciousness, including perceiving, thinking, planning, evaluating, choosing, willing, introspecting, etc. They are also taken to describe the self as a knower. Those definitions which focus on the self as object emphasize the view a person has of himself or herself as a physical person, the sense of identity (and sources of identity) the person has, the self-esteem the person has, the sense the person has of herself or himself as an object in space, time and his or her interaction with others. They sometimes also describe the self as known (Zurcher, 1977).

In relation to this dicotomy, Zurcher developed the notion that human beings have incorporated in their personality structures both self as a process and self as an object. Evidently, psychological literature considers the concept of the self as significant in the developmental patterns of human behavior (Gale, 1969; Myers, 1969). There is considerable evidence that one of the most significant and recent interpretations of human personality is located in the self-concept theory. Many contemporary psychologists discussed in this review describe the self-concept as a "key role factor" in the interaction of personality, motivating behavior and in achieving mental health (Burns, 1979; Epstein, 1973).

An individual self-concept involves the complex interaction of social, psychological and environmental factors. The following statement by Fitts (1971) reflects the interrelations of these factors,



"The self-concept, or self-image is learned by each individual through his lifetime of experience of himself, with other people and with the realities of the external world" (p. 7).

Therefore, an individual's self-concept has a direct influence upon his behavior, values, attitudes, and interests. An individual's self-concept is partially based on his perceptions of how others view him. Other's perception of him is determined in part by their own personal self-concepts.

Some theoretical insights of the authors whose work has dealt with the issue of self and self-concept has been presented. Those insights have included observations and speculations concerning: the self as object or process, as knower or known, as I or me, the evolution of the concept of self; the process of self actualization and the emergence of new varieties (or greater number) of contemporary varieties of self-concepts.

The importance of self-concept in the prediction of behavior has been addressed by Wylie (1974), Fitts (1965a), Gage and Berliner (1979), Young (1972), Zurcher (1977), and Erikson (1968).

The real challenge for psychology comes in the attempt to predict individual behavior. The self-concept and life style, then, are the keys to the unique personalities of human beings, the pattern of life of every individual is living out of his self image (Gage and Berliner, 1979). It is not possible to completely "understand" an individual's self-concept and his phenomenological world, but knowledge of another's self-concept does facilitate both understanding and prediction of human behavior.

The importance of anxiety as a powerful influence in contemporary

life is increasingly recognized; manifestations of current concern are reflected in the literature. The importance of anxiety as a fundamental human emotion is widely recognized by behavioral and medical scientists. Many regard anxiety as a basic condition of human existence (Spielberger, 1972a). Anxiety has undoubtedly received greater attention than any other personality variable.

While the intimate relationship between anxiety and psychopathology has spurred the research endeavors of clinical psychologists, the persuasiveness of anxiety in our culture and its influence on human behavior have generated comparable empirical efforts among learning theorists and psychologists (Spielberger, 1966).

As it has been presented the considerations in the literature of the topic of anxiety have ranged from the philosophic to the sociologic, from the biological to the psychological (Lesse, 1970). Spielberger's indefatigable efforts to bring together contributors to the field in several symposia lead to the publication of more than seven volumes of research on anxiety, state anxiety and trait anxiety.

Ambiguity in the conceptual status of anxiety arises from the more or less indiscriminated use of the term that refers to two different types of concepts. Anxiety is perhaps most commonly used in an empirical sense to denote a complex reaction that varies in intensity and fluctuates over time. But the term anxiety is also used to refer to a personality trait, to individual differences in the extent to which different people are characterized by anxiety states and by predominant defenses against such states. Empirical evidence of different types of anxiety has emerged from the factor analytic studies of Cattell and Scheier (1961) and Spielberger (1966).

Spielberger's differentiation between "state and trait" anxiety has inspired literally hundreds of studies (May, 1977). He sees anxiety as a transitory emotional condition associated with autonomic nervous-system activity. Transitory, or state anxiety (A-State) may be conceived as a complex, relatively unique emotional condition or reaction that may vary in intensity and fluctuate over time. A-States may be conceptualized as consisting of unpleasant, consciously perceived feelings of tension and of the autonomous nervous system.

Trait anxiety is anxiety proneness, or frequency of the manifestation of anxiety over a long period of time. A trait refers to relatively stable individual differences in anxiety proneness, that is, to differences in the disposition to perceive a wide range of stimulus situations as dangerous or threatening, and in the tendency to respond to such threats with A-States reactions.

Spielberger (1972a) comments that:

A comprehensive theory of anxiety requires clarification of the relationship between three different anxiety concepts; anxiety as a transitory state, anxiety as a complex process that involves stress and threat and anxiety as a personality trait. Subjective (phenomenological) feelings of tension and apprehension constitute the most unique and distinctive features of anxiety as an emotional state (p. 38).

Until recently, personality psychology has been preoccupied with the measurement of trait anxiety. The traditional anxiety test, whether objective or projective, typically yields a general trait assessment which ignores the specificities in individual response and situations. What has been neglected is the measurement of transitory states and changes as the situation is modified (Spielberger and Zuckerman, 1976). In recent years there has been considerable concern and controversy over the topics of self-concept and anxiety. The consideration in the

literature of these two variables have ranged from the philosophical to the sociological, biological and psychological.

Current research in the area of self-concept and anxiety suggest a negative relationship between self-concept and anxiety measures. Rosenberg (1962), Sarason (1962), Levitt (1967), and Bond and Lader (1976).

The review of the current literature leads to the conclusion that self-concept and anxiety have been the focus of many research studies in relation to ethnic and sociocultural variables (De Blassie and Healey, 1970; Paschal and You-Yoh, 1976; Guzmán, 1976; and Saavedra, 1977).

Even though self-concept and anxiety have been extensively studied no definite conclusions have been drawn regarding the contributing factors which are instrumental in the individual self-concept.

The research literature does not provide a definitive or consistent answer to questions as: which are the contributing factors which are instrumental in the individual's self-concept; the identification of personality variables in relation to cultural phenomena; and which are the correlational patterns for different age groups (the focus of the cross cultural research done in self-concept and anxiety has been mainly with children). Additionally, despite a growing body of research designed to investigate self-concept, relatively few studies have employed Puerto Rican students as subjects. It is evident that the studies reported to date with Hispanic populations have produced contradictory findings, continued research seems clearly indicated in these areas.

### Research Questions

The present research investigates the following questions which are derived from the review of the literature:

1. Can self-concept of Puerto Rican and North American college students be predicted using information regarding the subjects level of anxiety, cultural background, gender and socioeconomic status?
2. Are there different predictors of self-concept for the two samples?
3. Is there a significant relationship between self-concept and the interaction between cultural background and level of anxiety?
4. Is there a significant relationship between self-concept and gender within each sample?
5. Is there a significant relationship between self-concept and the interaction of level of anxiety and gender within each sample?
6. Is there a significant relationship between self-concept and socioeconomic (SES) status, within each sample?
7. Is there a significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status within each sample.

### Hypothesis

Based on the findings discussed in the review of the literature and on the research questions, the following hypotheses are formulated:

General hypothesis - 1.H<sub>0</sub>: Measures of level of anxiety, cultural background, sex and socioeconomic status are not significant predictors of self-concept of Puerto Rican college students residing in Puerto Rico and North American college students residing in the United States.

The following hypotheses are derived from hypothesis number one:

2.H<sub>1</sub>: There is a significant negative relationship between self-concept and level of anxiety of subjects in both countries.

3.H<sub>1</sub>: There is a significant negative relationship between self-concept and level of anxiety within the Puerto Rican college students.

4.H<sub>1</sub>: There is a significant relationship between self-concept and level of anxiety of North American college students.

5.H<sub>1</sub>: There are different predictors of self-concept for the two samples.

6.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction between anxiety and cultural background.

7.H<sub>0</sub>: There is no significant relationship between self-concept and gender of subjects in both countries.

8.H<sub>0</sub>: There is no significant relationship between self-concept and gender within the Puerto Rican college students.

9.H<sub>0</sub>: There is no significant relationship between self-concept and gender within the North American college students.

10.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction of level of anxiety and gender of subjects within both countries.

11.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction of level of anxiety and gender within the Puerto Rican college students.

12.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction of level of anxiety and gender within the North American college student.

13.H<sub>0</sub>: There is no significant relationship between self-concept and socioeconomic status of subjects in both countries.

14.H<sub>0</sub>: There is no significant relationship between self-concept and socioeconomic status within the Puerto Rican college students.

15.H<sub>0</sub>: There is no significant relationship between self-concept and socioeconomic status within the North American college students.

16.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status of subjects in both countries.

17.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status within the Puerto Rican college students.

18.H<sub>0</sub>: There is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status within the North American college students.

## CHAPTER III

### METHODOLOGY

#### Introduction

Presented in this chapter are descriptions of the subjects, measuring instruments, design and procedural steps in the conduction of this study.

#### Selection of Subjects

To select the subjects that participated in the study, a cluster sampling method was employed in which classes were randomly selected from a population of classes of three university courses. All the subjects in the classes randomly selected constituted the sample. The same procedure was employed in each country. The classes from Puerto Rico were randomly selected from the course Education 4019 at the University of Puerto Rico. In the United States classes were randomly selected from the courses ABSED 3113 and 3213 at Oklahoma State University. There are 140 students in each of the samples.

The three courses (U.S.A. and Puerto Rico) were courses taught in the College of Education (U.S.A.) or in the Department of Education (Puerto Rico), courses for students seeking a career in teaching (education majors), and courses required for the acquisition of a teacher's license.

In Puerto Rico all subjects agreed to participate. In North



America, from the ten classes that were randomly selected, in only one class approximately five subjects did not agree to participate. The rest of the subjects in each of the other classrooms agreed.

#### Characteristics of the Subjects

Specifically, the subjects in this study are college students at the junior and senior level, males and females who perceived their families as having low, middle and high income. Additionally the subjects for this study are either natives of the United States (Blacks, Caucasians, Indian) or natives from Puerto Rico. Subjects in each sample shared the following characteristics:

1. Subjects in each sample are juniors and seniors majoring in Education (seeking a career in teaching);
2. Both samples are constituted from students enrolled in a state university (Oklahoma State University, University of Puerto Rico), which are public institutions of higher education with a total enrollment figure fluctuating between 21,000 and 22,000 students; and
3. Subjects are enrolled in a course which is required for teacher licensure.

The average age of the Puerto Rican subject is 22 years. The modal age is 21 years. The lowest age is 18 years and the highest is 52.

The average family size for the Puerto Ricans is six members. The modal family size is five. The largest family has 20 members and the smallest, three. This number of members include the subject, his or her parents and all brothers and sisters, etc. In terms of parental

educational background, Table I contains the different educational levels of the subjects' fathers and mothers.

In relation with place of residence, Puerto Rican subjects present the following pattern: 53 percent have their permanent residence in a city, 20 percent in towns and 26 percent in the country.

When categorizing their race membership, Puerto Rican students present an interesting pattern; 72 percent classified themselves as whites, 5 percent as blacks and 15 percent as "other". Seven percent did not answer.

Considering the Puerto Rican marital status, 78 percent are single, 18 percent are married and four percent are divorced.

The average age of the North American subjects is 21 years. The modal age is 20. The lowest age is 19 and the highest is 49.

The average family size for the North American is five members. The modal family size is five. The largest number of members is 14 and the least, 3.

Regarding place of residence, North American subjects are almost evenly spread. Thirty percent of the subjects have their permanent place of residence in the city, 32 percent live in towns, and 37 percent live in the country.

In the United States, 96 percent identify themselves as whites, 1 percent as blacks and 3 percent as American Indians. In terms of their marital status, North American subjects have the following characteristics: 71 percent are single, 25 percent are married and 4 percent are divorced.

In this study 66 percent of all the subjects are females and 34

TABLE I

## PARENTS' EDUCATIONAL LEVELS: ALL SUBJECTS

Country	Did Not Complete High School	High School Graduate	Associate Degree or Technical School	Bachelor's Degree	Graduate School	Not Answered
<u>Father's Educational Level</u>						
Puerto Rico	25.0%	32.1%	15.7%	17.9%	7.1%	2.0%
United States	8.6%	42.1%	8.6%	26.4%	14.3%	0.0%
<u>Mother's Educational Level</u>						
Puerto Rico	30.7%	25.7%	15.0%	18.6%	7.9%	2.1%
United States	4.3%	55.0%	18.6%	15.0%	7.1%	0.0%

percent are males. In the Puerto Rican sample 72 percent of the subjects are females and 28 percent are males. Regarding the North American subjects, 61 percent are females and 39 percent are males.

The maximum annual income for the North American sample is \$500,000, the minimum is \$3,000, and the average annual income is equal to \$43,727.

The minimum annual income reported for the Puerto Rican sample is \$1,500, the maximum is \$70,000 and the average annual income is equal to \$12,690.

The results in terms of descriptive statistics calculated on the data are as follows: The mean for self-concept in both countries is 353.514; for the Puerto Rican subjects the mean is 354.0500 and for the North American subjects the mean is 352.9786. In relation to anxiety the mean in both countries ( $n=280$ ) is equal to 34.782; for the Puerto Rican subjects the mean is 36.1571 and for the North American subjects the mean is 33.4071. A summary of the descriptive statistics for self-concept and anxiety is presented in Table II.

#### Instruments

The Tennessee Self-Concept Scale for Adults (TSCS) by William Fitts (1965a) was utilized as the data gathering instrument for self-concept. Test-retest reliability ranges from .60 for total variability to .92 for total positive. The TSCS has a test-retest reliability coefficient of .91 and a standard error of measurement of 30.70 for total positive score. The TSCS consists of 100 self-descriptive items in booklet form. The standardization group for the English form was a sample of 626 persons, ages 12 to 68 with

TABLE II  
DESCRIPTIVE STATISTICS

	Self-Concept in Both Countries	Anxiety in Both Countries
Mean	353.514	34.782
Variance	1067.118	75.841
Range	181.000	52.000
Sum	98984.000	9739.000
Standard Error	1.952	0.520
Kurtosis	0.260	1.321
Minimum	248.000	20.000
Standard Deviation	32.667	8.709
Skewness	0.328	1.005
Maximum	429.000	72.000
Puerto Rico:* Mean	354.0500	36.1571
Standard Deviation	33.5165	9.8902
North America:* Mean	352.9786	33.4071
Standard Deviation	31.9058	7.1136

\*N = 140

equal numbers of both sexes, representing a broad range of socio-economic groupings.

The TSCS is one of the few self-concept measures that has been translated with Hispanic populations out of the United States. The Spanish version of the TSCS was developed in Mexico.

The TSCS consists of 100 self-descriptive statements to which the subject responds on a 5-point response scale ranging from "Completely true" to "Completely false." Ten of these items came from the MMPI L-Scale and constitute the Self Criticism Score - a measure of overt defensiveness. The other 90 items were drawn from a large pool of self-descriptive statements. The items are based on the following classification system:

1. The positive or negative position of the statement relative to self-regard (self-esteem or social desirability).
2. The position of the statement within the following set of three categories constitutes an internal frame of reference:
  - a. Row 1 or Identity - items pertaining to what the individual is, his Identity Self.
  - b. Row 2 or Self Satisfaction - items describing how a person feels about himself, the Judging Self.
  - c. Row 3 or Behavior - items describing what an individual does or how he acts, the Behavioral Self.
3. The position of the statement within a set of five categories of the external frame of reference:
  - a. Column A or Physical Self - items pertaining to physical attributes or functioning, sexuality, state of health, and appearance.

- b. Column B or Moral and Ethical Self - items dealing with moral, ethical, and religious aspects of the self.
- c. Column C or Personal Self - items describing personal worth and adequacy, self-respect and self-confidence.
- d. Column D or Family Self - items describing the nature of an individual's relationships with its primary group (family and close friends) and his sense of adequacy as a family member.
- e. Column E or Social Self - items dealing with one's sense of adequacy or worth in relationships with people in general.

With this conceptual scheme a variety of scores were generated which reflect significant information concerning an individual's self-concept. The Total P score is the most important score in the test.

Positive (P) - a self-esteem or Positive Score was obtained for each of the eight areas of reported self-concept. Scores on all 90 items were summed to provide the Total P Score, which reflects the general level of self-esteem. Ordering of the scores is as would be expected; high scores represent high levels of self-esteem.

Cross cultural data has been measured with the TSCS.

Lamarche has reported on a French Canadian population to whom a French translation of the TSCS was administered and Zuvil and Shaked have administered a Hebrew version of the TSCS to persons in Israel. The TSCS has been utilized in Korea by Kim and by De Alvarez and Barrientos in México (Fitts, 1972, p. 12).

The State-Trait Anxiety Inventory (STAI) (Spielberger, 1968) in English and Spanish was utilized as the data gathering instrument for anxiety. The concurrent validity coefficient between the English

version and the Spanish version range from .75 to .83. Test-retest reliability estimates range from .73 to .86. The alpha reliability coefficient ranges from .83 to .92.

In order to establish the equivalence of the Spanish and English forms of the STAI, two studies were carried out with bilingual subjects, one at the University of Texas at Austin and the second at the Rio Piedras campus of the University of Puerto Rico. Evidence of the equivalence of the Spanish and English forms of the STAI is provided by finding that the correlation between these scales in the first administration was .83 in Texas and .85 in Puerto Rico. Similarly, in the second administration, the correlations between the Spanish and English forms of the STAI were .89 in Texas and .85 in Puerto Rico. Evidence of the stability of the STAI scale is reflected in test-retest correlations of .84 (Texas) and .83 (Puerto Rico). Alpha coefficients range from .89 to .95 for the Spanish A-State scale and from .85 to .93 for the English scale (Spielberger et al., 1971).

#### Procedure

In the United States:

1. A total of 10 classes were randomly selected from the courses Psychological Foundations of Childhood (ABSED 3113) and Psychology of Adolescents (ABSED 3213) at Oklahoma State University. Classes were selected during the third week of July, 1981. Arrangements were made with the professors during the same week.
2. A pilot study was carried out during the 3rd week of July in the United States. The purpose of the pilot study was to try



out the collection of data procedures and clarify if it were necessary to make any changes. The pilot study was conducted with 10 students enrolled in the ABSED 3202 course in summer school at Oklahoma State University.

3. Data were collected during the first week of classes in the fall semester in each country.
4. Data were collected through group administration of the instruments. After all subjects received each instrument they were instructed as follows:

I am conducting a study about self-evaluation in college students. For this reason it is necessary to find college students in the Applied Behavioral Studies Department to collect the data of interest. I am specifically interested in juniors and seniors majoring in Education. You will receive 3 questionnaires. All of them contain questions about yourself. On each one you will answer every question in terms of the categories indicated there. It is very important that you answer the questions honestly. No names or any other identification will be recorded on any of the questionnaires. Please answer all the questions on the front and back of every questionnaire. When you finish let me check if you have answered all questions before you leave. Thank you.

Following presentation of the general directions and answering questions for clarification subjects were instructed to answer each instrument. The students were instructed to answer the A-State scale first, followed by the A-Trait scale.

In Puerto Rico:

1. A total of 8 classes were randomly selected from the population of college students enrolled at the University of Puerto Rico during the second week of August. The classes were randomly selected from the course Philosophical Foundations of Education (Education 4019). The arrangements were made with the

professors during the same week.

2. A pilot study was carried out during the 3rd week of August in Puerto Rico. The pilot study was conducted with 10 students enrolled in the course described above, previous to the data collection with the other random classes.
3. Data were collected during the first week of classes (last week of August) of the fall semester.
4. The instructions were given to the subjects exactly as the instructions given to the North American students but in Spanish.

#### Analysis of the Data

Multiple regression analysis was used to determine the contribution to self-concept variance, of cultural background, the level of anxiety, sex and socioeconomic status, because as Kerlinger and Pedhazur (1973) state:

The complex phenomena studied by behavioral scientists can rarely be explained adequately with one independent variable. In order to explain a substantial proportion of the variance of the dependent variable, it is almost always necessary to study the independent variable and combined effects of several independent variables (p. 154).

A method of Dummy Coding (Kerlinger and Pedhazur, 1973) was employed in which each factor or categorical variable is coded using 1's and 0's where 1 indicates membership in a given group and 0 indicates nonmembership. In other words a Dummy variable is a vector in which members of a given category or group are assigned an arbitrary number while all others - that is subjects not belonging to the given group or category - are assigned another arbitrary number. The number of vectors

required is equal to one less than the number of groups. Dummy coding was employed for the interaction terms. In this manner, one vector  $X_2 = D_2$ , was created to code information regarding cultural background membership. Dummy coding was also used for gender. The two gender classifications were represented by vector  $X_3 = D_3$ . Similarly socioeconomic status (SES) was represented by vectors  $X_4, X_5 = D_4, D_5$ . The interactions between the independent variables were represented by eighteen vectors,  $X_6$  to  $X_{23} = D_6$  to  $D_{23}$ . In Table III are presented the dummy vectors generated for the categorical variables and for the interaction terms.

The following steps were completed in the analysis of the data:

Multiple correlations between the predictor variables and the criterion variable were computed for the total sample and each ethnic group; regression equations were computed for the total sample and each ethnic group; multiple regression coefficients were used to determine the contributions of cultural background, level of anxiety, gender and socioeconomic status to self-concept variance; simple correlations between each pair of criterion and predictive variables were computed separately for the Puerto Rican and North American samples; and means and standard deviations were calculated for the total sample and each ethnic group; all a posteriori comparisons were completed using Tukey's HSD Test at the .05 level, because it is relatively powerful. Due to the fact that the number of subjects per cell was not equal a harmonic mean ( $\bar{n}$ ) was calculated for each interaction and factor tested and used in the denominator of the mean square within (in this case, mean square residual). The formula is

$$\text{Critical value} = q_k \sqrt{\text{MS residual}/\bar{n}} \quad (1.1).$$

TABLE III  
DUMMY VECTORS

Factors	Variable Labels	Dummy Vectors
A	$X_1$ = anxiety	
B	$X_2$ = cultural background	$D_2$
C	$X_3$ = gender	$D_3$
D	$X_4$ $X_5$ = socioeconomic status	$D_4$ & $D_5$

Dummy vectors for interaction		
Vector name	Interaction	Variables
$D_6$	2•3	Cultural background by gender
$D_7$	2•4	
$D_8$	2•5	Cultural background by SES
$D_9$	3•4	
$D_{10}$	3•5	Gender by SES
$D_{11}$	2•3•4	Cultural background by gender
$D_{12}$	2•3•5	by SES
$D_{13}$	1•2	Anxiety by cultural background
$D_{14}$	1•3	Anxiety by gender
$D_{15}$	1•4	
$D_{16}$	1•5	Anxiety by SES
$D_{17}$	1•6 (1•2•3)	Anxiety by cultural background by gender
$D_{18}$	1•7 (1•2•4)	Anxiety by cultural background
$D_{19}$	1•8 (1•2•5)	by SES
$D_{20}$	1•9 (1•3•4)	
$D_{21}$	1•10 (1•3•5)	Anxiety by gender by SES
$D_{22}$	1•11 (1•2•3•4)	
$D_{23}$	1•12 (1•2•3•5)	Anxiety by cultural background by gender by SES

## CHAPTER IV

### RESULTS

#### Introduction

Presented in this chapter are the results of the statistical analysis for the eighteen hypotheses formulated in this study. The major emphasis of this study is to determine if measures of the level of anxiety, cultural background, sex and socioeconomic status of Puerto Rico college students residing in Puerto Rico and North American college students residing in the United States are significant predictors of the subjects' levels of self-concept. Also of interest are the possible ethnic group differences in the prediction pattern in the regression equations.

The results of this study provide information regarding the joint and unique contributions of the independent variables in the prediction of self-concept. The relationship between the criterion variable and the four independent variables:  $X_1$ , anxiety;  $X_2$ , cultural background;  $X_3$ , gender; and  $X_4$   $X_5$ , the dummy vector for socioeconomic status, were obtained by performing a multiple regression analysis for the combined samples. Computations were done using the Statistical Package for the Social Sciences (SPSS) (Nie et al., 1975). Hypothesis one through five were investigated using multiple regression. To test hypothesis six through eighteen the simple correlation coefficient between the

variables involved in the hypotheses were utilized. The correlation coefficients and beta weights were tested for significance using an F test. Mean and mean differences in the follow-up tests were tested using Tukey's HSD test.

### Test of Research Hypotheses

#### Hypothesis One

Hypothesis one states that measures of level of anxiety, cultural background, sex and socioeconomic status are not significant predictors of self-concept of Puerto Rican college students residing in Puerto Rico and North American college students residing in the United States. A multiple regression analysis between self-concept and the four independent variables was performed to determine the predictive contributions of level of anxiety, cultural background, sex and socioeconomic status. The findings related to this hypothesis are presented in Tables IV and V. A significant multiple correlation of .6773 was obtained between the criterion and predictive variables. The multiple regression prediction equation associated with the independent variables is presented in Table V. The most important predictor variable for self-concept was found to be the subject's level of anxiety ( $\beta = -.6452$ ). The next most important variable was cultural background ( $\beta = .1424$ ) followed by socioeconomic status (.1268 and .0806). As seen in Table IV when all four independent variables were added to the regression equation the F ratio for all the independent variables is significant at the .01 level. Therefore hypothesis one is rejected.

Listed in Table IV is also a summary of the beta weights,

TABLE IV

SUMMARY TABLE OF MULTIPLE REGRESSION ANALYSIS AND F TEST FOR SPECIFIED ORDERS OF ENTRANCE  
OF INDEPENDENT VARIABLES FOR ALL SUBJECTS (BOTH COUNTRIES)

Label	Variable	R	R <sup>2</sup>	R <sup>2</sup> Change	B	β	Individual F	P	Overall F	N
Anxiety	X <sub>1</sub>	.65255	.42582	.42582	-2.4204	-.64526	206.1689**	.01**	58.276**	280
Cultural Background	X <sub>2</sub>	.66370	.44050	.01468	9.2897	.14244	6.857**	.05*		
Gender	X <sub>3</sub>	.66947	.44819	.00769	-5.3791	-.07790	3.85 NS			
Socioeconomic	X <sub>5</sub>	.67435	.45475	.00656	9.6475	.12687				
Status	X <sub>4</sub>	.67733	.45877	.00402	9.9832	.08064	5.37*			

TABLE V

MULTIPLE REGRESSION PREDICTION EQUATION FOR SELF-CONCEPT WITH LEVEL OF ANXIETY, CULTURAL  
BACKGROUND, AND SOCIOECONOMIC STATUS\* FOR SPECIFIED ORDERS OF ENTRANCE OF INDEPENDENT  
VARIABLES, FOR ALL SUBJECTS (BOTH COUNTRIES)

(Both countries) Predictive Self-Concept

$$Y' = X_1(-2.420405) + D_2(9.289782) + D_5(9.6475) + D_4(9.9832) + 426.8088$$

\*D<sub>5</sub> and D<sub>4</sub>

coefficient of multiple correlation and F ratios for the unique contributions of the independent variables to the prediction of self-concept.

#### Hypothesis Two

Hypothesis two states there is a significant negative relationship between self-concept and level of anxiety for both countries. A regression analysis was performed to test hypothesis two. The correlation coefficient between self-concept and level of anxiety for both countries is  $-.6525$  which is significant at the  $.01$  level. Therefore, hypothesis two is not rejected.

#### Hypothesis Three

Hypothesis three states there is a negative relationship between self-concept and level of anxiety for the Puerto Rican college students. The correlation coefficient between self-concept and anxiety for the Puerto Rican college students is  $-.7400$  which is significant at the  $.01$  level. Statistical analysis performed on this data led to acceptance of hypothesis three.

#### Hypothesis Four

Hypothesis four states there is a negative relationship between self-concept and level of anxiety for the North American students. The correlation coefficient between self-concept and anxiety of  $-.5738$  is statistically significant at the  $.01$  level. Statistical analysis performed on this data led to acceptance of hypothesis four.



### Hypothesis Five

Hypothesis five states there are different predictors of self-concept for the two samples. In Table VI the multiple regression equations (1) for the Puerto Rican sample and (2) for the North American sample are presented.

Stepwise multiple regression analyses between self-concept and the four independent variables (anxiety, cultural background, gender and socioeconomic status) and their interactions, was performed to obtain the multiple regression equation for each country. Reported in Table VII is the summary table for the analyses. For the Puerto Rican sample the most significant predictors of self-concept are level of anxiety and the interaction between level of anxiety and socioeconomic status. The individual F ratios as well as the overall F ratio are significant at the .01 level.

A stepwise multiple regression analysis performed to obtain the multiple regression equation for the North American sample indicated that the most significant predictors of self-concept for this sample are anxiety level, the interaction between level of anxiety, gender and socioeconomic status and the interaction between anxiety and gender. The individual and overall F ratios are significant at the .01 level.

As presented in Table VI there is a different prediction equation and correlation pattern for each sample. The statistical analysis performed on the data lends support to hypothesis five.

### Hypothesis Six

Hypothesis six states there is no significant relationship between self-concept and the subject's cultural background and level of anxiety.

TABLE VI

MULTIPLE REGRESSION EQUATIONS FOR THE PUERTO RICAN SAMPLE AND FOR THE NORTH AMERICAN SAMPLE

Group	R	Stepwise Regression Equations*
Puerto Rico	.75138	$Y' = X_1(-2.518941) + D_{16}(.2800731) + D_{15}(.8883316) + 437.9537$
North American	.63662	$Y' = X_1(-2.484121) + D_{20}(-.88004) + D_{21}(.4267020) + D_{14}(-.618125) + 440.2150$

\*All  $X_1, D_1 \dots D_{23}$  included.

Variable labels:

$X_1$  = anxiety

$D_{16}D_{15}$  = Dummy vector for the anxiety by SES interaction

$D_{20}D_{21}$  = Dummy vector for the anxiety by gender by SES interaction

$D_{14}$  = Dummy vector for the anxiety by gender interaction

TABLE VII

SUMMARY TABLE OF STEPWISE MULTIPLE REGRESSION ANALYSIS AND F TESTS FOR SELF-CONCEPT WITH THE INDEPENDENT VARIABLES AND ALL DUMMY VECTORS FOR THE PUERTO RICAN SAMPLE AND THE NORTH AMERICAN SAMPLE

Variable	N	R	R <sup>2</sup>	R <sup>2</sup> change	B	β	F
<u>Puerto Rican</u>							
X <sub>1</sub>	140	.73565	.54118	.54118	-2.518941	-.74330	173.433*
D <sub>16</sub>		.74787	.55932	.01814	.2800731	.14704	
D <sub>15</sub>		.75138	.56457	.00525	.8883316	.07419	7.35*
							Overall F = 88.814 *
<u>North American</u>							
X <sub>1</sub>	140	.57385	.32930	.32930	-2.484121	-.55785	75.054*
D <sub>20</sub>		.61927	.38350	.05419	-.8800439	-.14539	
D <sub>21</sub>		.62415	.38956	.00607	.4267020	.22218	13.524*
D <sub>14</sub>		.63662	.40526	.01572	-.6181253	-.33345	
							Overall F = 30.524 *

X<sub>1</sub> = anxiety

\*p < .01

D<sub>16</sub>, D<sub>15</sub> = Dummy vectors for the A·D interaction

D<sub>20</sub>, D<sub>21</sub> = Dummy vectors for the A·C·D interaction

D<sub>14</sub>, vector for the A·C interaction

The simple correlation coefficient between self-concept and the interaction of cultural background and level of anxiety is  $-.1762$  which is significant at the  $.01$  level. Therefore hypothesis six is rejected.

#### Hypothesis Seven

Hypothesis seven states there is no significant relationship between self-concept and gender in both countries. Even though gender was not a significant predictor when all four independent variables were included in the equation, gender was found to be the most significant predictor of self-concept in both countries when anxiety level was excluded from the stepwise multiple regression analysis. The correlation between the criterion variable and gender is equal to  $-.1213$  which is significant at the  $.05$  level. Hypothesis seven is rejected.

#### Hypothesis Eight

Hypothesis eight states there is no significant relationship between self-concept and gender within the Puerto Rican college students. The correlation coefficient between self-concept and gender is equal to  $-.0348$  which is not significant. Statistical analysis performed on this data supports hypothesis eight.

#### Hypothesis Nine

Hypothesis nine states there is no significant relationship between self-concept and gender within the North American college students. The correlation between self-concept and gender is  $-.2032$  which is significant at the  $.05$  level. Therefore this hypothesis is

rejected.

#### Hypothesis Ten

Hypothesis ten states there is no significant relationship between self-concept and the interaction of level of anxiety and gender of subjects within both countries. A correlation coefficient of .2128 was found between the criterion and predictive variables. This correlation is significant at the .01 level. Hypothesis ten is rejected.

#### Hypothesis Eleven

Hypothesis eleven states there is no significant relationship between self-concept and the interaction of level of anxiety and gender within the Puerto Rican college students. A correlation coefficient of  $-.1438$  was found between the criterion and predictive variables. This correlation is significant at the .05 level. Therefore hypothesis eleven is rejected.

#### Hypothesis Twelve

Hypothesis twelve states there is no significant relationship between self-concept and the interaction of level of anxiety and gender within the North American college students. The correlation coefficient of  $-.2841$  is statistically significant at the .01 level. Hypothesis twelve is rejected.

#### Hypothesis Thirteen

Hypothesis thirteen states there is no significant relationship between self-concept and perception of income group (socioeconomic

status) for both countries. The correlation coefficient of .1610 is significant at the .01 level. Hypothesis thirteen is rejected.

#### Hypothesis Fourteen

Hypothesis fourteen states there is no relationship between self-concept and socioeconomic status within the Puerto Rican college students. A correlation coefficient of .3639 was calculated between self-concept and socioeconomic status within the Puerto Rican sample. This coefficient is significant at the .01 level. Therefore hypothesis fourteen is rejected.

#### Hypothesis Fifteen

Hypothesis fifteen states there is no significant relationship between self-concept and socioeconomic status within the North American college students. The correlation between the criterion and predictive variables is not significant at the .05 level. This statistical finding lends support to hypothesis fifteen.

#### Hypothesis Sixteen

Hypothesis sixteen states there is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status of the subjects in both countries. The correlation between self-concept and the interaction of level of anxiety and socioeconomic status is  $-.2660$  which is statistically significant at the .01 level. Hypothesis sixteen is rejected.

### Hypothesis Seventeen

Hypothesis seventeen states there is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status within the Puerto Rican college students. The coefficient of correlation for this variable is .1695 which is significant at the .05 level. Therefore hypothesis seventeen is rejected.

### Hypothesis Eighteen

Hypothesis eighteen states there is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status within the North American college students. The correlation coefficient between the variables is equal to  $-.2303$  which is significant at the .01 level. Hypothesis eighteen is rejected.

### A Posteriori Comparisons

In the previous section the statistical findings as they relate to each research hypothesis was presented. Several significant correlations were found among the criterion and predictive variables. It was also found that several of the correlations which were significant involved the interaction between several independent variables, or a categorical variable having several levels. When an independent variable has several levels, rejecting the null hypothesis does not always provide precise information concerning which groups are different from which other groups. Specific comparison tests need to be done to determine this. In this research specific comparison tests were done which allow the researcher to pinpoint the group differences.

In Tables VIII, IX, X and XI are reported the results of the multiple comparison tests performed on the following interactions:

- (1) anxiety by gender by socioeconomic status for both countries, ACD;
- (2) anxiety by cultural background by socioeconomic status for both countries, ABD;
- (3) anxiety by socioeconomic status for the Puerto Rican subjects, AD; and
- (4) anxiety by gender by socioeconomic status for the North American subjects, ACD.

The following mean differences in self-concept were found to be significant when both countries were considered: females of limited income and high anxiety and females of limited income and low anxiety; females of high income and average anxiety and males of high income and average anxiety; males of limited income and average anxiety and males of limited income and high anxiety; females of high income and males of high income; males of middle income and low anxiety and males of middle income and high anxiety; males of high income and low anxiety and males of high income and average anxiety.

In terms of the ABD interaction the following mean differences in self-concept were found to be significant when both countries were considered: North American subjects of limited income and low anxiety and North American subjects with limited income and average anxiety; North American subjects of middle income and low anxiety and North American subjects of middle income and high anxiety.

The following mean differences in self-concept were found to be significant when the Puerto Rican sample was considered: Puerto Rican subjects of limited income and average anxiety and Puerto Rican subjects of limited income and high anxiety; Puerto Rican subjects of limited income and low anxiety and Puerto Rican subjects of limited income and high anxiety; Puerto Rican subjects of middle income and



TABLE VIII

MEANS AND MEAN DIFFERENCES OF SELF-CONCEPT FOR THE ACD INTERACTION  
(ANXIETY BY GENDER BY SES): BOTH COUNTRIES

Self-concept means			A <sub>3</sub>	A <sub>2</sub>	A <sub>1</sub>
<u>AC<sub>1</sub>D<sub>1</sub></u>			C <sub>1</sub>		
A	A <sub>3</sub>	384.00	-	34.36	64.20*
	A <sub>2</sub>	349.64		-	29.84
	A <sub>1</sub>	319.80			-
<u>AC<sub>1</sub>D<sub>2</sub></u>			C <sub>1</sub>		
A	A <sub>3</sub>	371.00	-	10.38	38.26
	A <sub>2</sub>	360.82		-	27.88
	A <sub>1</sub>	332.74			-
Self-concept means				C <sub>1</sub>	C <sub>2</sub>
<u>A<sub>2</sub>C at D<sub>3</sub></u>					
A <sub>2</sub>	C <sub>1</sub>	353.17		-	49.50*
	C <sub>2</sub>	303.67			-
Self-concept means				A <sub>2</sub>	A <sub>1</sub>
<u>AC<sub>2</sub>D<sub>1</sub></u>			C <sub>2</sub>		
A	A <sub>2</sub>	348.93		-	54.43*
	A <sub>1</sub>	294.50			-
Self-concept means			A <sub>3</sub>	A <sub>2</sub>	A <sub>1</sub>
<u>AC<sub>1</sub>D<sub>3</sub></u>			C <sub>1</sub>		
A	A <sub>3</sub>	389.00	-	29.00	35.83
	A <sub>2</sub>	360.00		-	6.83
	A <sub>1</sub>	353.17			-
Self-concept means				C <sub>1</sub>	C <sub>2</sub>
<u>AC at D<sub>3</sub></u>					
C	C <sub>1</sub>	374.65		-	56.9*
	C <sub>2</sub>	317.75			-

TABLE VIII (Continued)

		Self-concept means	A <sub>3</sub>	A <sub>2</sub>	A <sub>1</sub>
<u>AC<sub>2</sub>D<sub>2</sub></u>			C <sub>2</sub>		
A	A <sub>3</sub>	381.20	-	27.77	53.82*
	A <sub>2</sub>	353.43		-	26.05
	A <sub>1</sub>	327.28			-
		Self-concept means	A <sub>3</sub>	A <sub>2</sub>	
<u>AC<sub>2</sub>D<sub>3</sub></u>			C <sub>2</sub>		
A	A <sub>3</sub>	360.00		-	56.33*
	A <sub>2</sub>	303.67			-

\*p ≤ .05

A<sub>1</sub> = high anxiety; A<sub>2</sub> = average anxiety; A<sub>3</sub> = low anxiety  
 C<sub>1</sub> = gender; C<sub>1</sub> = females; C<sub>2</sub> = males  
 D<sub>1</sub> = limited income; D<sub>2</sub> = middle income; D<sub>3</sub> = high income

TABLE IX

MEANS AND MEAN DIFFERENCES FOR THE ABD INTERACTION (ANXIETY BY CULTURAL BACKGROUND BY SES): BOTH COUNTRIES

Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AB_2 D_1}{A}$				
	A <sub>3</sub>	412.00	-	82.29*
	A <sub>2</sub>	329.71		-
Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AB_2 D_2}{A}$				
	A <sub>3</sub>	370.00	-	20.37
	A <sub>2</sub>	349.63		-
	A <sub>1</sub>	309.20		-
Self-concept means			A <sub>3</sub>	A <sub>1</sub>
$\frac{AB_2 D_3}{A}$				
	A <sub>3</sub>	383.44	-	47.44
	A <sub>1</sub>	360.00		-
	A <sub>2</sub>	336.67		-
Self-concept means			A <sub>2</sub>	A <sub>3</sub>
$\frac{AB_1 D_1}{A}$				
	A <sub>2</sub>	356.42	-	.42
	A <sub>3</sub>	356.00		-
	A <sub>1</sub>	314.47		-
Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AB_1 D_2}{A}$				
	A <sub>3</sub>	384.00	-	16.31
	A <sub>2</sub>	367.69		-
	A <sub>1</sub>	335.62		-

\*p = ≤ .05

A<sub>1</sub> = high anxiety; A<sub>2</sub> = average anxiety; A<sub>3</sub> = low anxiety  
 B<sub>1</sub> = Puerto Rico; B<sub>2</sub> = North American  
 D<sub>1</sub> = limited income; D<sub>2</sub> = middle income; D<sub>3</sub> = high income

TABLE X  
 MEANS AND MEAN DIFFERENCES FOR THE AD INTERACTION  
 (ANXIETY BY SES): PUERTO RICO SAMPLE

		Self-concept means	A <sub>2</sub>	A <sub>3</sub>	A <sub>1</sub>
<u>A at D<sub>1</sub></u>					
A	A <sub>2</sub>	356.42	-	.42	41.95*
	A <sub>3</sub>	356.00		-	41.53*
	A <sub>1</sub>	314.47			-
		Self-concept means	A <sub>3</sub>	A <sub>2</sub>	A <sub>1</sub>
<u>A at D<sub>2</sub></u>					
A	A <sub>3</sub>	384.00	-	16.31	48.38*
	A <sub>2</sub>	367.69		-	32.07
	A <sub>1</sub>	335.62			-
		Self-concept means	D <sub>3</sub>	D <sub>2</sub>	D <sub>1</sub>
<u>D at A<sub>3</sub></u>					
D	D <sub>3</sub>	399.50	-	15.5	43.50*
	D <sub>2</sub>	384.00		-	28.00
	D <sub>1</sub>	356.00			-

\*p ≤ .05

A<sub>3</sub> = low anxiety; A<sub>2</sub> = average anxiety; A<sub>1</sub> = high anxiety  
 D<sub>3</sub> = high income; D<sub>2</sub> = middle income; D<sub>1</sub> = limited income

TABLE XI

MEANS AND MEAN DIFFERENCES FOR THE ACD INTERACTION (ANXIETY  
BY GENDER BY SES): NORTH AMERICA

Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AC_1 D_1}{A}$				
	A <sub>3</sub>	412.00	-	86.00*
	A <sub>2</sub>	326.00		-
Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AC_1 D_2}{A}$				
	A <sub>3</sub>	367.45	-	15.02
	A <sub>2</sub>	352.43		44.10
	A <sub>1</sub>	308.33		-
Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AC_2 D_2}{A}$				
	A <sub>3</sub>	381.20	-	34.58
	A <sub>2</sub>	346.62		-
	A <sub>1</sub>	310.50		-
Self-concept means			A <sub>3</sub>	A <sub>2</sub>
$\frac{AC_2 D_3}{A}$				
	A <sub>3</sub>	360.00	-	56.33
	A <sub>2</sub>	303.67		-
Self-concept means			A <sub>3</sub>	A <sub>1</sub>
$\frac{AC_1 D_3}{A}$				
	A <sub>3</sub>	386.38	-	26.38
	A <sub>1</sub>	360.00		6.83
	A <sub>2</sub>	353.17		-

\*p ≤ .05

A<sub>3</sub> = low anxiety; A<sub>2</sub> = average anxiety; A<sub>1</sub> = high anxiety  
C<sub>1</sub> = females; C<sub>2</sub> = males  
D<sub>1</sub> = limited income; D<sub>2</sub> = middle income; D<sub>3</sub> = high income

low anxiety and Puerto Rican subjects of middle income and high anxiety; Puerto Rican subjects of high income and low anxiety and Puerto Rican subjects of limited income and low anxiety.

The following mean differences in self-concept were found to be significant when the North American sample was considered: females of limited income and low anxiety and females of limited income and average anxiety; females of middle income and low anxiety and females of middle income and high anxiety; males of middle income and low anxiety and males of middle income and high anxiety.

## CHAPTER V

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### Introduction

The purpose of this chapter is to present a general view of the study and an interpretative analysis of the significant findings. General conclusions based upon the results of the research are discussed. Recommendations for future research endeavors in related areas are stated.

#### Summary

The primary purpose of this study was to investigate if self-concept can be predicted utilizing measures of anxiety, cultural background, sex and socioeconomic status, of Puerto Rican college students residing in Puerto Rico and North American college students residing in the United States. Also of interest were the possible ethnic group differences in the predictors in the prediction equations.

The subjects in this study were selected from a population of junior and senior college students enrolled at the University of Puerto Rico at Rio Piedras campus and from a population of junior and senior college students enrolled at Oklahoma State University in Stillwater, Oklahoma. They are males and females from low, middle

and high income (socioeconomic status). There was a total of 280 subjects, 140 from Puerto Rico and 140 from North America.

Test data consist of the subjects' self-concept scores as measured by the Tennessee Self-Concept Scale (in English and Spanish), the subjects' trait anxiety scores as measured by the State-Trait Anxiety Inventory (in English and Spanish) and additional demographic data obtained from the subject's response to an information sheet designed specifically for the purposes of this study (see Appendix A). Seven research questions were answered and eighteen hypotheses were tested using multiple and simple regression analyses in the data.

The first hypothesis states that measures of level of anxiety, cultural background, sex and socioeconomic status are not significant predictors of self-concept of Puerto Rican college students residing in Puerto Rico and North American college students residing in the United States. A multiple regression analysis between self-concept and the four independent variables was performed to test hypothesis one. The independent variables are significant predictors of self-concept. These findings led to rejection of hypothesis one.

Hypotheses two to five were tested by a stepwise multiple regression analysis for both countries, and each sample (Puerto Rican and North American) with self-concept and the four predictive variables. Hypotheses two, three and four states there is a negative relationship between self-concept and level of anxiety for each sample tested. Anxiety was found to be the most significant predictor of self-concept and for each sample tested the relationship is significant and negative. These findings supported hypotheses two, three and four.



Hypothesis five states there are different predictors of self-concept for the two samples. A stepwise multiple regression analysis for each sample was performed. Inspection of the statistical results reveal that there are two distinctive prediction patterns. Therefore hypothesis five was supported.

Hypotheses six through eighteen were investigated using multiple regression analyses and simple correlation analyses between self-concept and the independent variables related to each particular hypothesis. Hypothesis six states there is no significant relationship between self-concept and the interaction of cultural background and level of anxiety. The correlation obtained between self-concept and the interaction of cultural background and level of anxiety is statistically significant. This finding supported hypothesis six.

Hypothesis seven states there is no significant relationship between self-concept and gender within both countries. The correlation obtained between the criterion and predictive variable is statistically significant. This finding led to rejection of hypothesis seven.

Hypothesis eight states there is no significant relationship between self-concept and gender within the Puerto Rican college students. The correlation between self-concept and gender is not significant. The results of the statistical analysis performed on the data supported hypothesis eight.

Hypothesis nine states there is no significant relationship between self-concept and gender within the North American college students. The correlation between self-concept and gender within the North American

sample is statistically significant. Based on this finding hypothesis nine was rejected.

Hypothesis ten states there is no significant relationship between self-concept and the interaction of level of anxiety and gender within both countries. The correlation coefficient between self-concept and the predictive variables is statistically significant, therefore hypothesis ten was rejected.

Hypothesis eleven states there is no significant relationship between self-concept and the interaction between anxiety and gender within the Puerto Rican sample. Statistical analysis performed on the data indicated there is a significant relationship between self-concept and the interaction between level of anxiety and gender. Therefore the null hypothesis that the relationship is not significant was rejected.

Hypothesis twelve states there is no significant relationship between self-concept and the interaction of level of anxiety and gender within the North American sample. Since the correlation is significant at the .01 level, the null hypothesis that there is no significant relationship was rejected.

Hypothesis thirteen states there is no significance between self-concept and perception of income group (socioeconomic status) for both countries. Since the correlation between self-concept and socioeconomic status within both countries is significant at .05 level, the null hypothesis that there is not a significant relationship was rejected.

Hypothesis fourteen states there is no relationship between self-concept and perception of income group (socioeconomic status) within the Puerto Rican college students. The correlation between self-concept and socioeconomic status within the Puerto Rican sample is significant at

the .01 level. Hypothesis fourteen was rejected.

Hypothesis fifteen states there is no significant relationship between self-concept and perception of income group (socioeconomic status) within the North American sample. The correlation between self-concept and socioeconomic status within the North American college students is not significant at the .05 level. Therefore the null hypothesis that there is no significant relationship was not rejected.

Hypothesis sixteen states there is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status of the subjects in both countries. Statistical analysis performed in the data indicated there is a significant relationship between these variables, at the .01 level. This finding did not lend support to the null hypothesis which was rejected.

Hypothesis seventeen states there is no significant relationship between self-concept and the interaction of level of anxiety and socioeconomic status within the Puerto Rican college students. The correlation between self-concept by anxiety by socioeconomic status is statistically significant at the .05 level and hypothesis seventeen was rejected.

Hypothesis eighteen states there is no significant relationship between self-concept and the interaction of anxiety level and socioeconomic status within the North American college students. Based on the statistical findings performed to test hypothesis eighteen it was concluded there is a significant relationship between self-concept and the interaction of anxiety level and socioeconomic status. This correlation is significant at the .01 level and null hypothesis eighteen was rejected.

All a posteriori comparisons were calculated using Tukey's HSD test at the .05 level of significance.

### Conclusions

Within the limits and findings of this study the following conclusions are suggested:

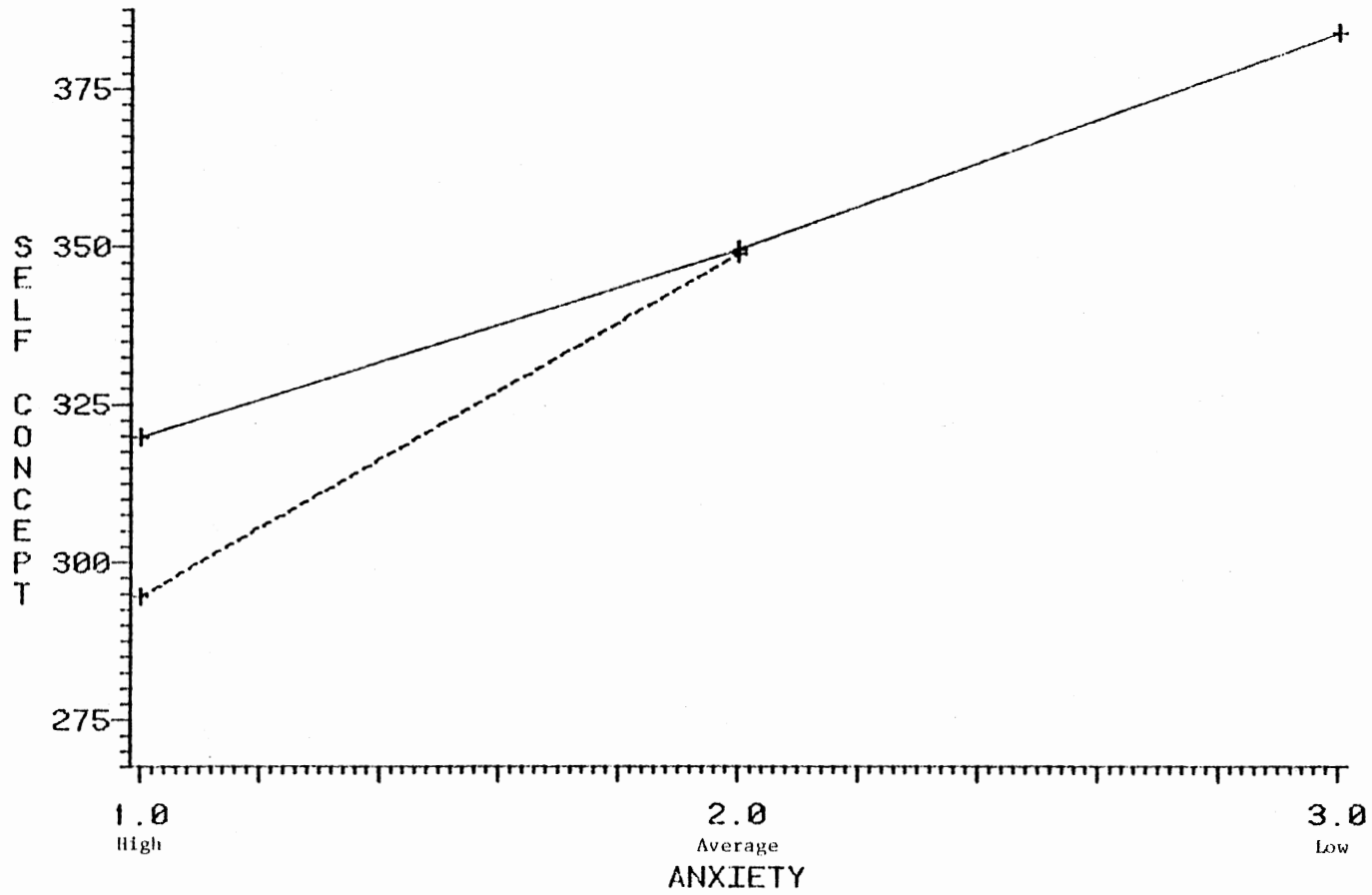
1. Based upon the statistical findings, it is concluded that the independent variables level of anxiety, cultural background and socioeconomic status are significant predictors of the Puerto Rican and North American college students' level of self-concept. Approximately 45.877 of the variance in self-concept is accounted for by the contribution of these independent variables.

2. When a stepwise multiple regression analysis was performed on the data, including the four independent variables and their interactions terms (all dummy vectors), the most significant predictor of self-concept for both countries were found to be level of anxiety, followed by the interaction between level of anxiety, gender and socioeconomic status and lastly the interaction between level of anxiety, cultural background and socioeconomic status. Approximately 47.9 percent of the variance of self-concept is accounted for by the contribution of these variables.

The results of the multiple comparison tests were presented in Chapter IV. In Figures 1, 2 and 3 the graphs for the ACD interaction are presented.

The multiple comparisons tests performed on the ACD interaction indicates that in the limited income group females with low anxiety present significantly higher levels of self-concept than females with

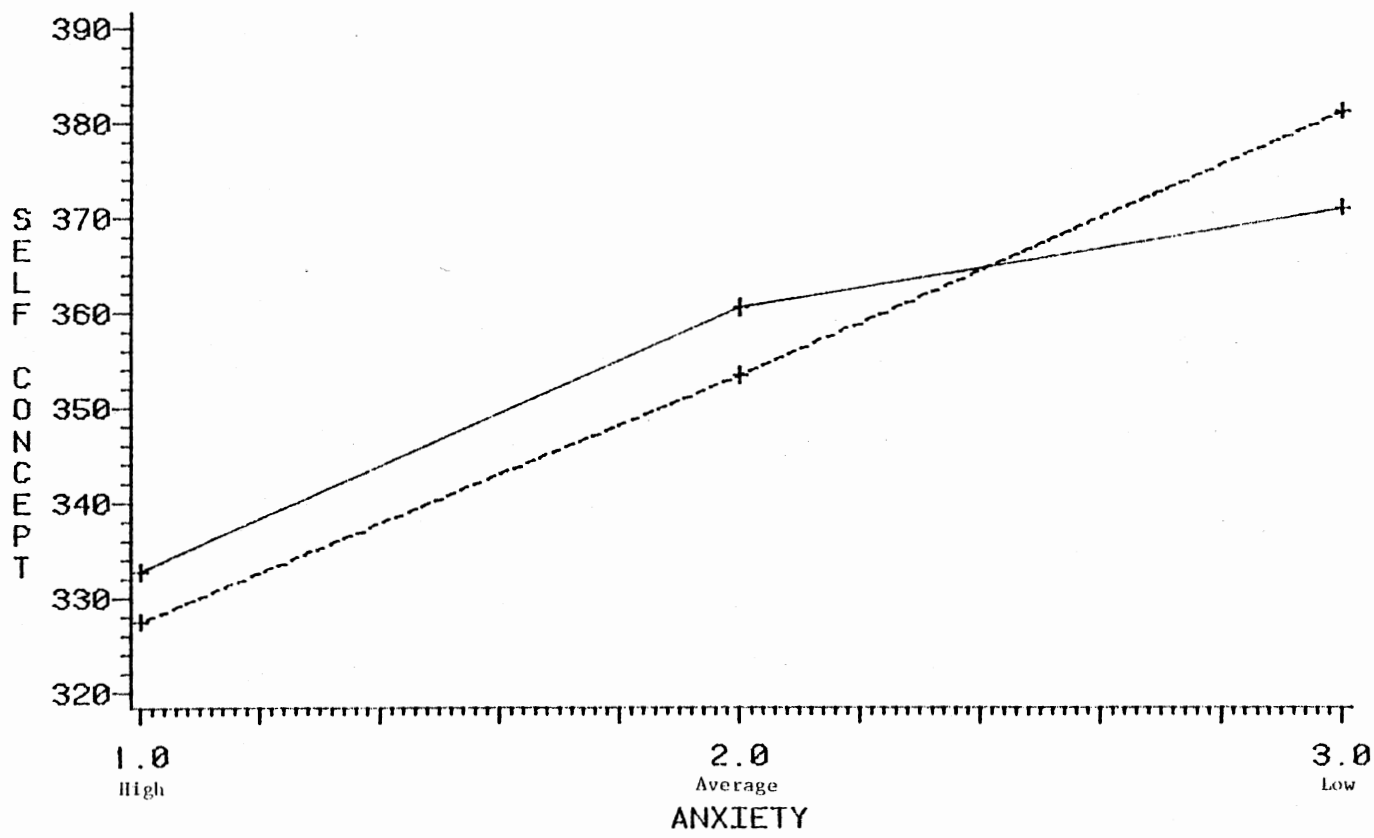
Both Countries - ACD<sub>1</sub> - Limited Income



LEGEND: C    +--+ FEMALE    +--+ MALE

Figure 1. Both Countries -- Anxiety by Gender by SES (ACD<sub>1</sub>)

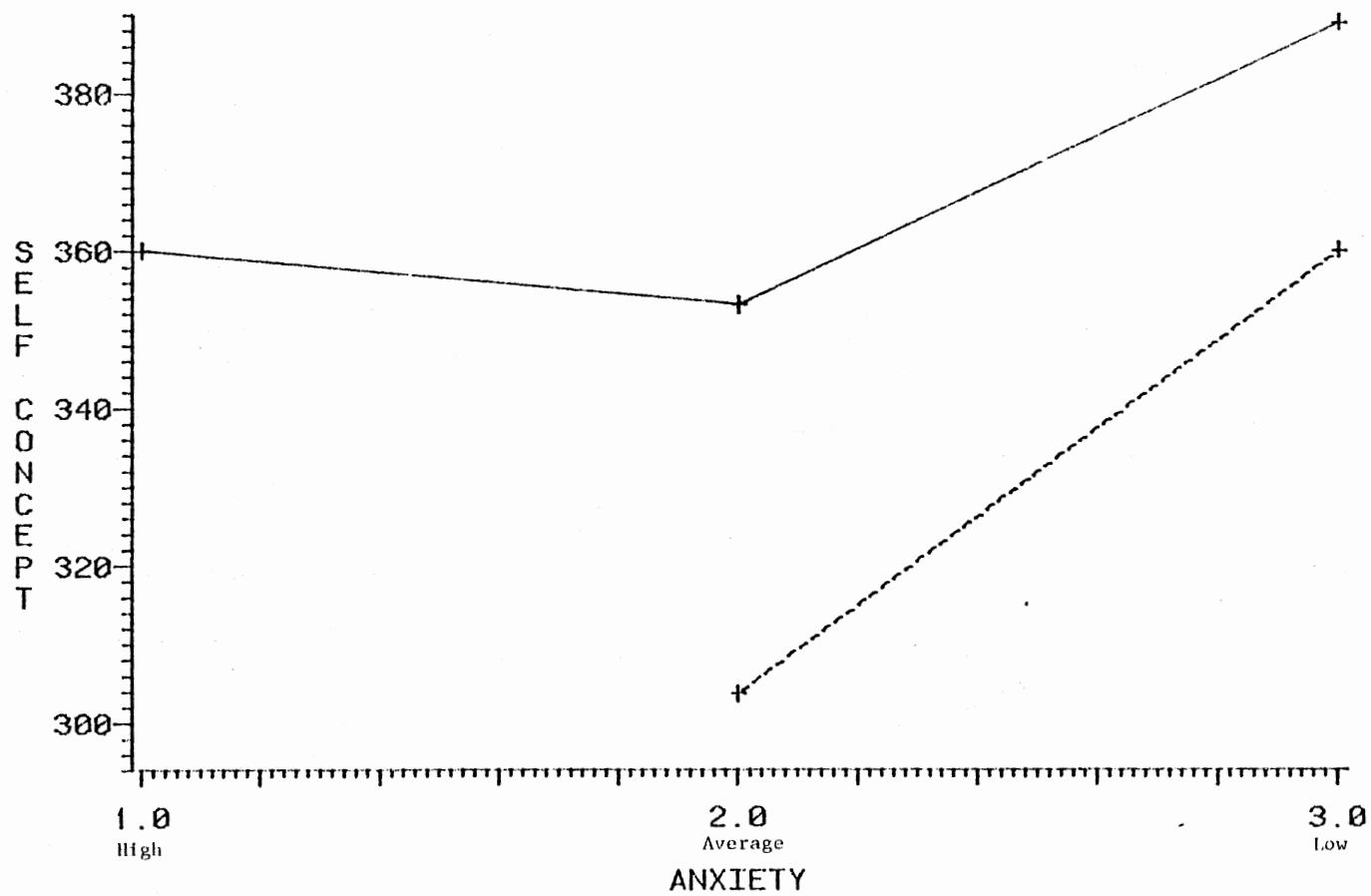
Both Countries - ACD<sub>2</sub> - Middle Income



LEGEND: C    +--+ FEMALE    +--+ MALE

Figure 2. Both Countries -- Anxiety by Gender by SES (ACD<sub>2</sub>)

Both Countries - ACD<sub>3</sub> - High Income



LEGEND: C    +--+ FEMALE    +--+ MALE.

Figure 3. Both Countries -- Anxiety by Gender by SES (ACD<sub>3</sub>)

high anxiety. Additionally, females with high income and average anxiety presented significantly higher levels of self-concept than males in the same income group and with average levels of anxiety (Figure 3). Also, females with high income present significantly higher self-concepts than males in the same income group.

In relation to male subjects, those with limited income and average anxiety differ significantly in their self-concept measures from limited income males with high anxiety. Males with average anxiety present more positive self-concepts than males with high anxiety. Additionally, males with middle income and low anxiety present more positive self-concepts than males in the same income group but with high anxiety level (Figure 2). In the case of high income males, those with low anxiety present more positive self-concepts than those with average anxiety (Figure 3).

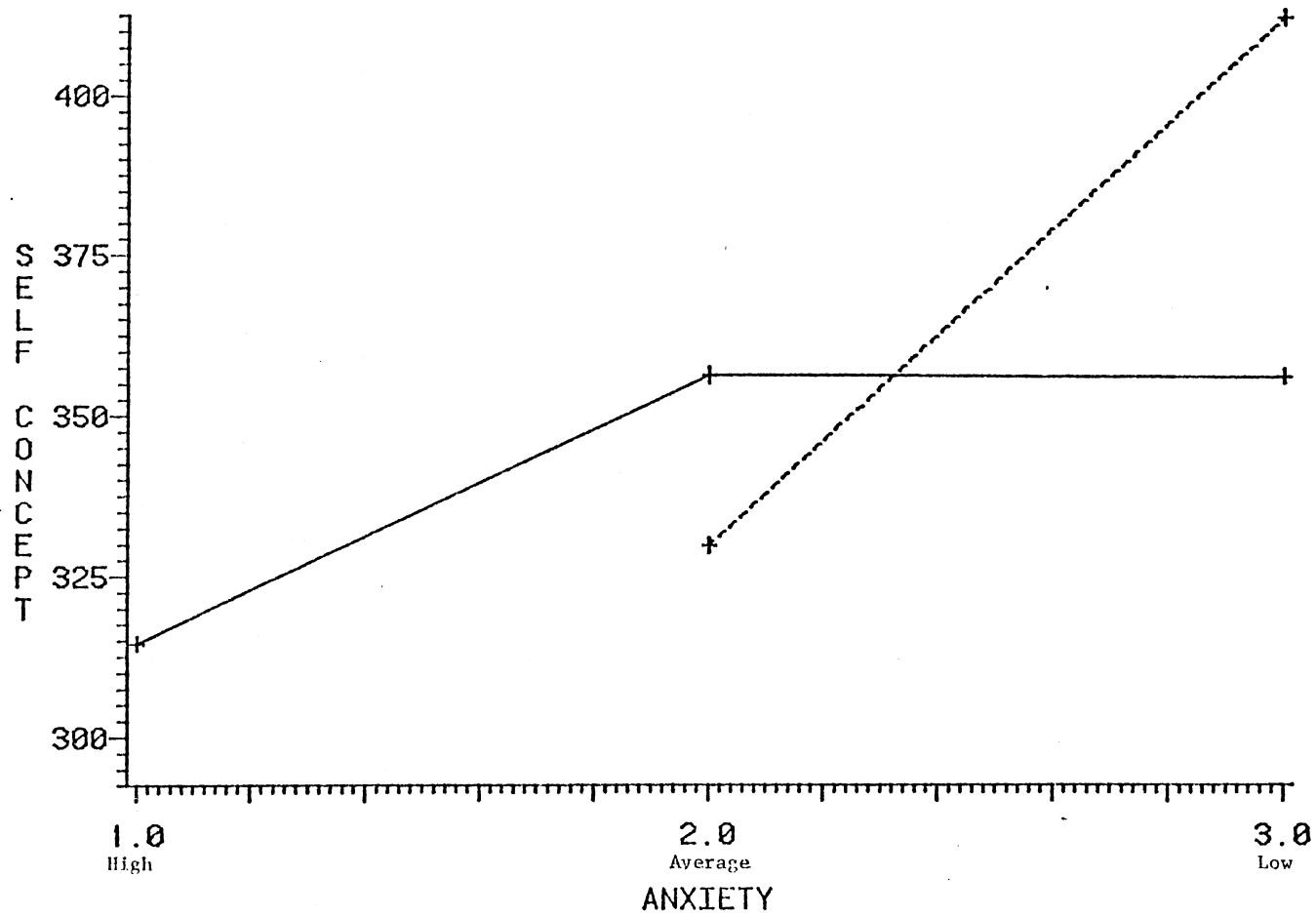
As indicated in Figure 1, there are no males with low anxiety in the limited income group. All males in the limited income group in both countries are in the high or average anxiety level. There are also no males with high income level and high anxiety (Figure 3).

The graphs for the ABD interaction are presented in Figures 4 through 6. As a result of the multiple comparison tests performed on the ABD interaction (anxiety by cultural background by socioeconomic status), the following interpretations are made: Subjects from the United States with low levels of anxiety and limited income present higher self-concepts (more positive self-concepts) than subjects from the United States and having the same income group but with average level of anxiety.

In the middle income group, North American students with low

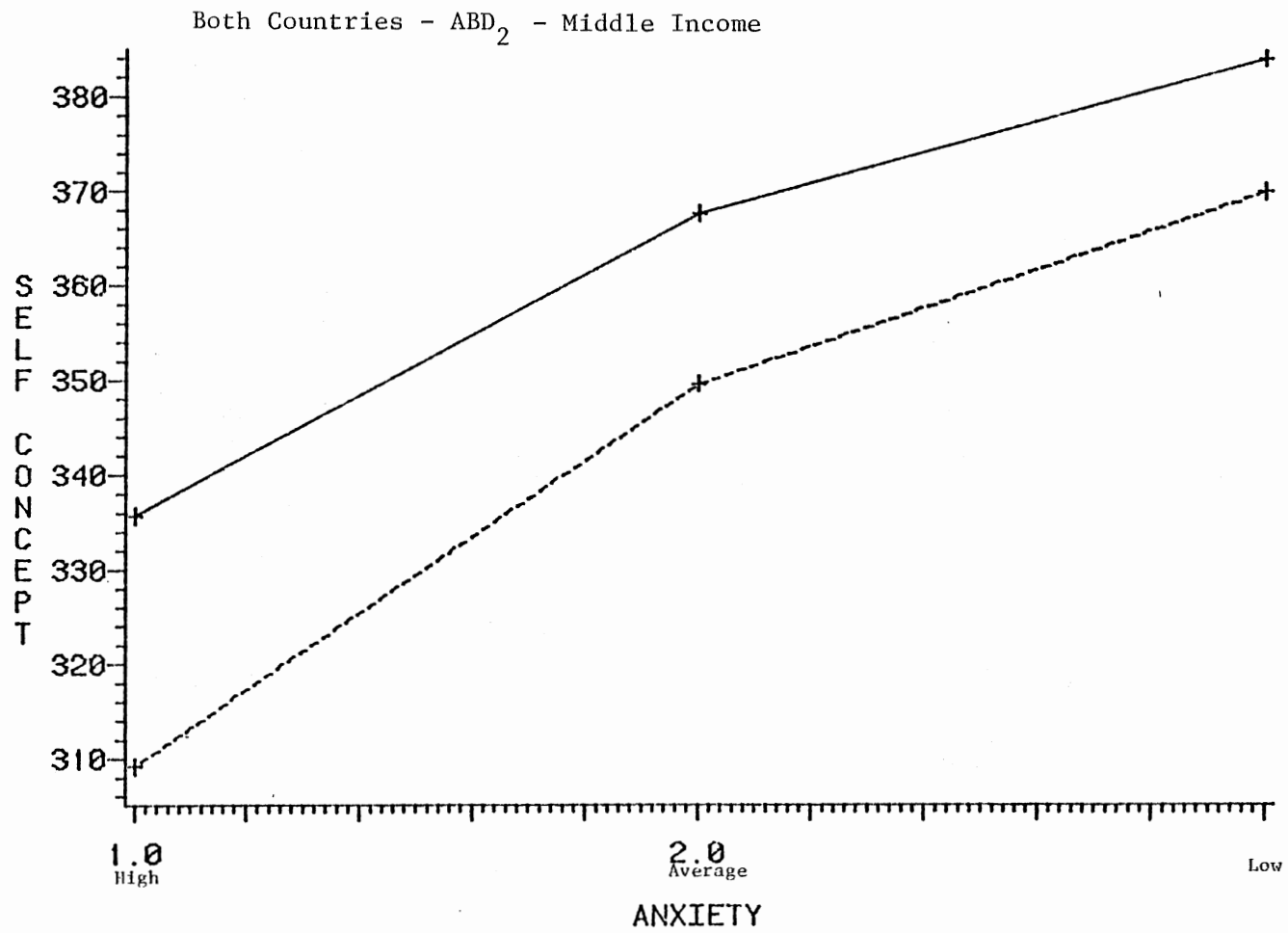


Both Countries -  $ABD_1$  - Limited Income



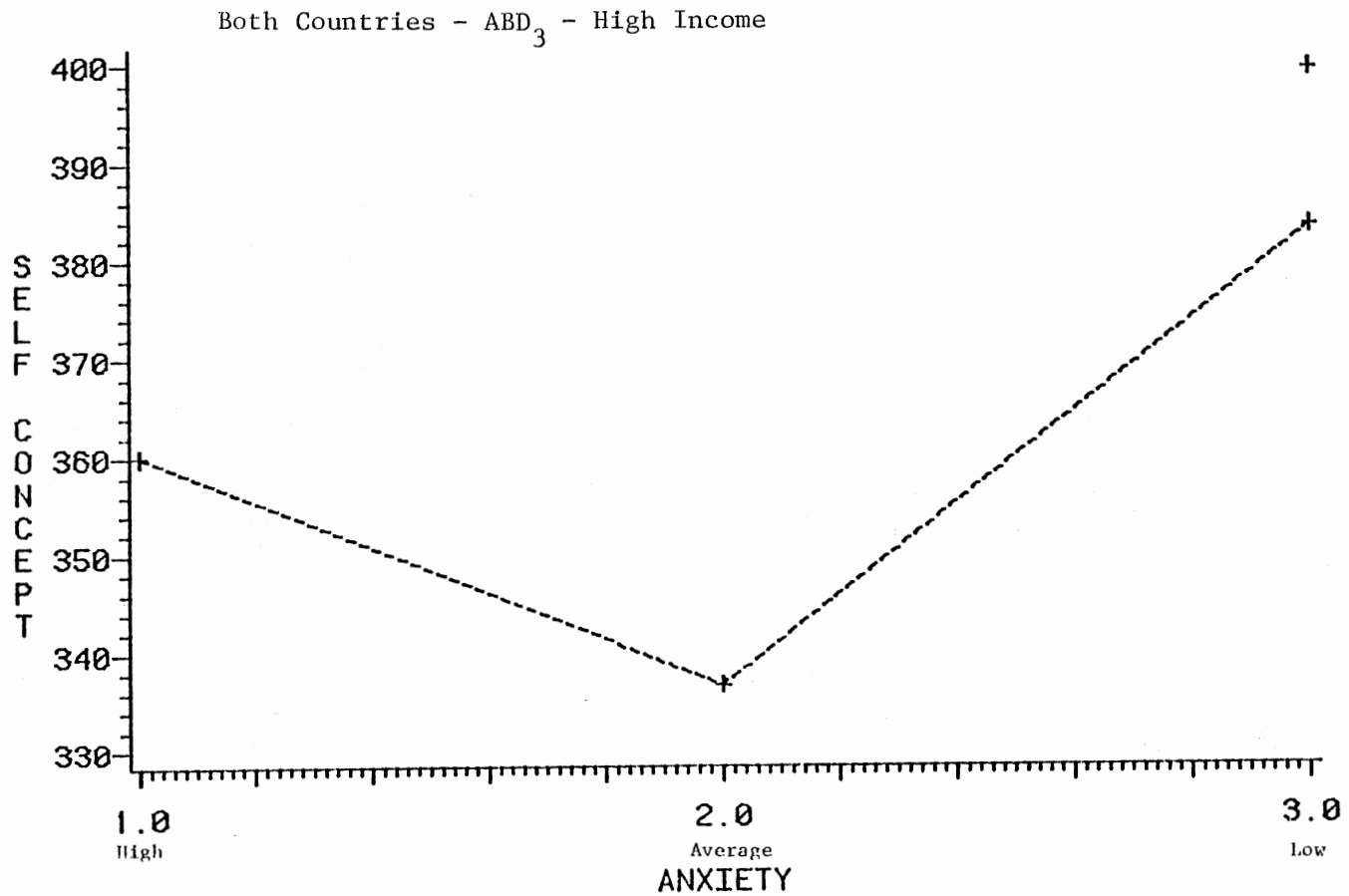
LEGEND: B    +--+ PUERTO RICO    +--+ UNITED STATES

Figure 4. Both Countries -- Anxiety by Cultural Background by SES ( $ABD_1$ )



LEGEND: B    +++ PUERTO RICO    +++ UNITED STATES

Figure 5. Both Countries -- Anxiety by Cultural Background by SES (ABD<sub>2</sub>)



LEGEND: B    +--+ PUERTO RICO    +--+ UNITED STATES

Figure 6. Both Countries -- Anxiety by Cultural Background by SES (ABD<sub>3</sub>)

levels of anxiety differ significantly in their self-concept measures from North American students in the same income group, but with higher anxiety levels. The students with lower anxiety present higher levels of self-concept than the high anxiety students.

As indicated in Figure 4, there are no subjects with limited income and high anxiety within the North American subjects. In the high income group there are no Puerto Rican subjects with high or average anxiety. All Puerto Rican subjects in the high income group presented low levels of anxiety (Figure 6).

3. When a stepwise multiple regression analysis was performed on the data, including the four independent variables and their interactions the most statistically significant predictors of self-concept for the Puerto Rican subjects were: level of anxiety and the interaction between level of anxiety and socioeconomic status. These variables account for 56.45 percent of the variance in self-concept.

In Figure 7 the graph for the AD interaction is presented. In terms of the significant interaction between anxiety and socioeconomic status, the comparison tests indicate that: Puerto Rican subjects with limited income and high levels of anxiety differ significantly in their self-concept from Puerto Rican subjects with limited income and average anxiety. Those subjects with average anxiety and limited income present significantly higher levels of self-concept than those with limited income and high anxiety. It was also found that subjects with limited income and low anxiety present significantly higher self-concepts than subjects with limited income and high anxiety.

In terms of Puerto Rican subjects with middle income, multiple comparisons tests indicate there is a significant difference between

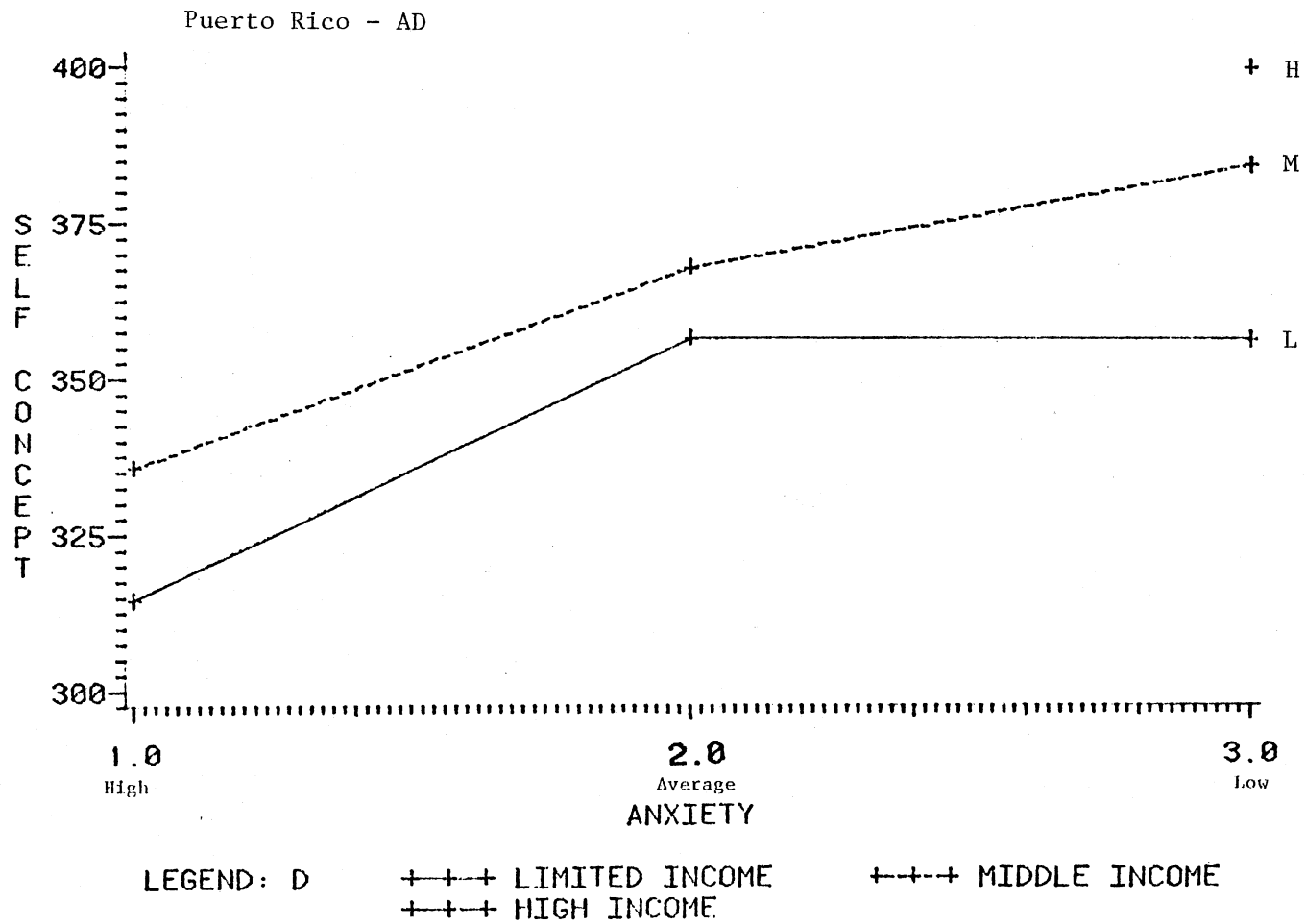


Figure 7. Puerto Rico -- Anxiety by SES (AD)

those with high and low anxiety levels. Subjects with middle income and low anxiety present significantly higher self-concepts than those with middle income and high anxiety.

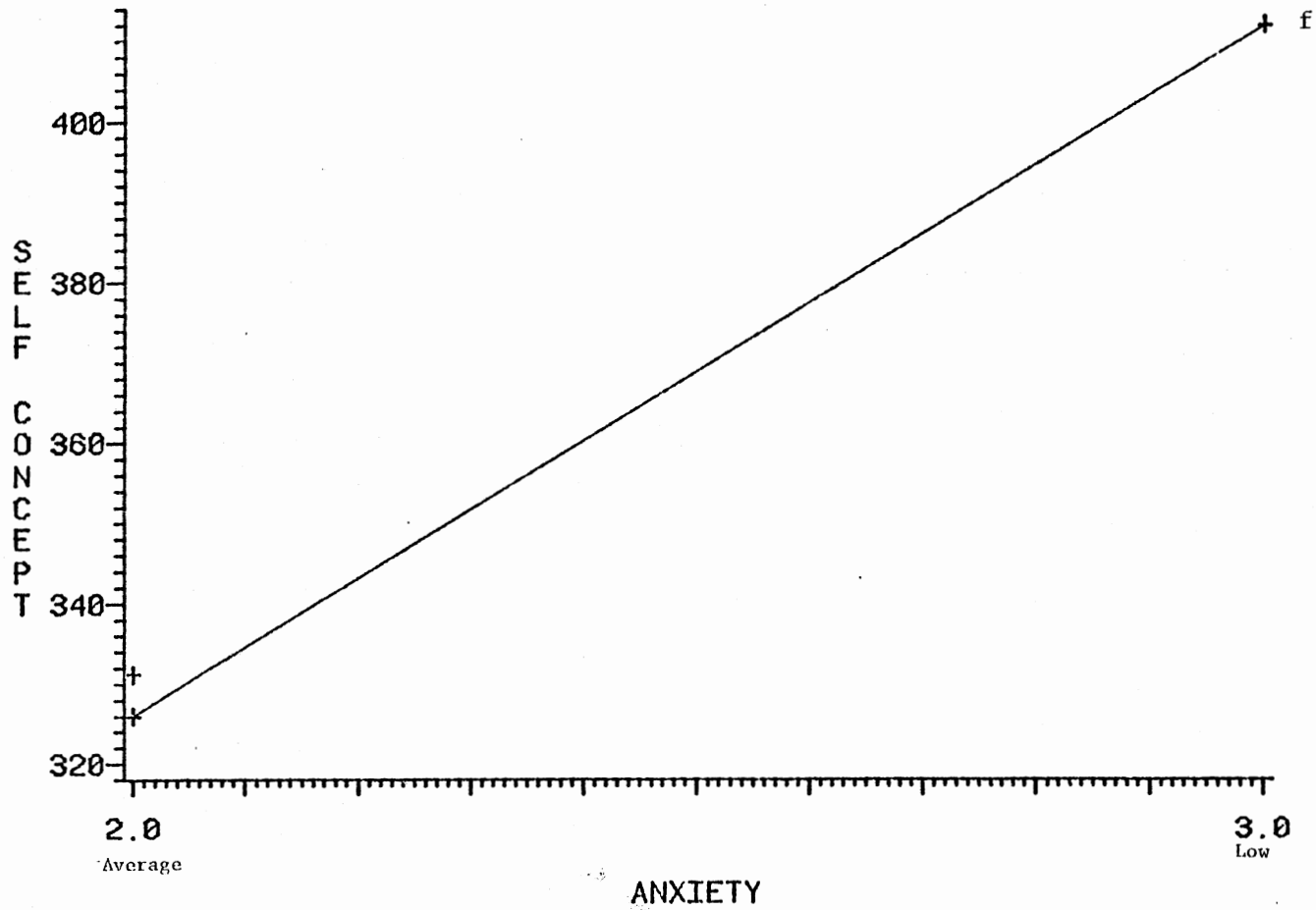
Additionally, Puerto Rican subjects with low levels of anxiety and high income present significantly higher self-concept levels than those with low anxiety and limited income. Although the AD interaction is not evident by inspection, the statistical analysis revealed it is significant at the .05 level ( $F = 4.08$ , with 1 and 140 degrees of freedom).

As noticed in Figure 7, Puerto Rican subjects with high income only present low levels of anxiety. There are no Puerto Rican subjects in the high income level presenting average or high levels of anxiety.

4. When a stepwise multiple regression analysis was performed on the data, including the four independent variables and their interactions, the most significant predictors of self-concept for the United States subjects' were found to be level of anxiety followed by the interaction of level of anxiety, gender and socioeconomic status and lastly the interaction between anxiety and gender. These variables account for 40.53 of the variance in self-concept of North American students. The graphs for ACD interaction are presented in Figures 8 through 10.

As a result of the multiple comparison tests made on the ACD interaction in the North American subjects the following conclusions were made: North American females with limited income and low anxiety present significantly higher self-concepts than these with limited income but with average anxiety. Additionally, North American females

U.S.A. - ACD<sub>1</sub> - Limited Income



LEGEND: C    +++ FEMALE    +x+++ MALE

Figure 8. United States -- Anxiety by Gender by SES (ACD<sub>1</sub>)

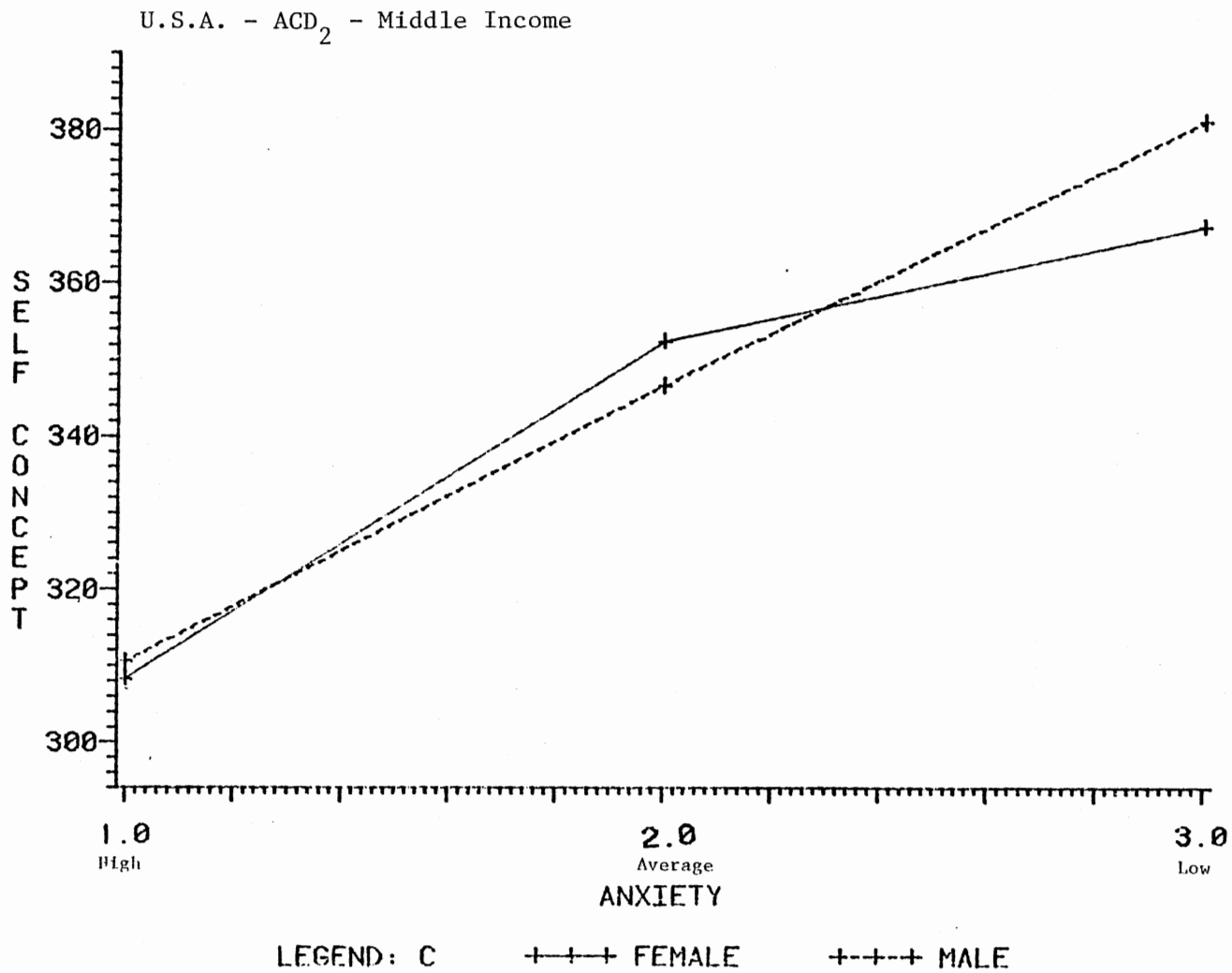


Figure 9. United States -- Anxiety by Gender by SES (ACD<sub>2</sub>)



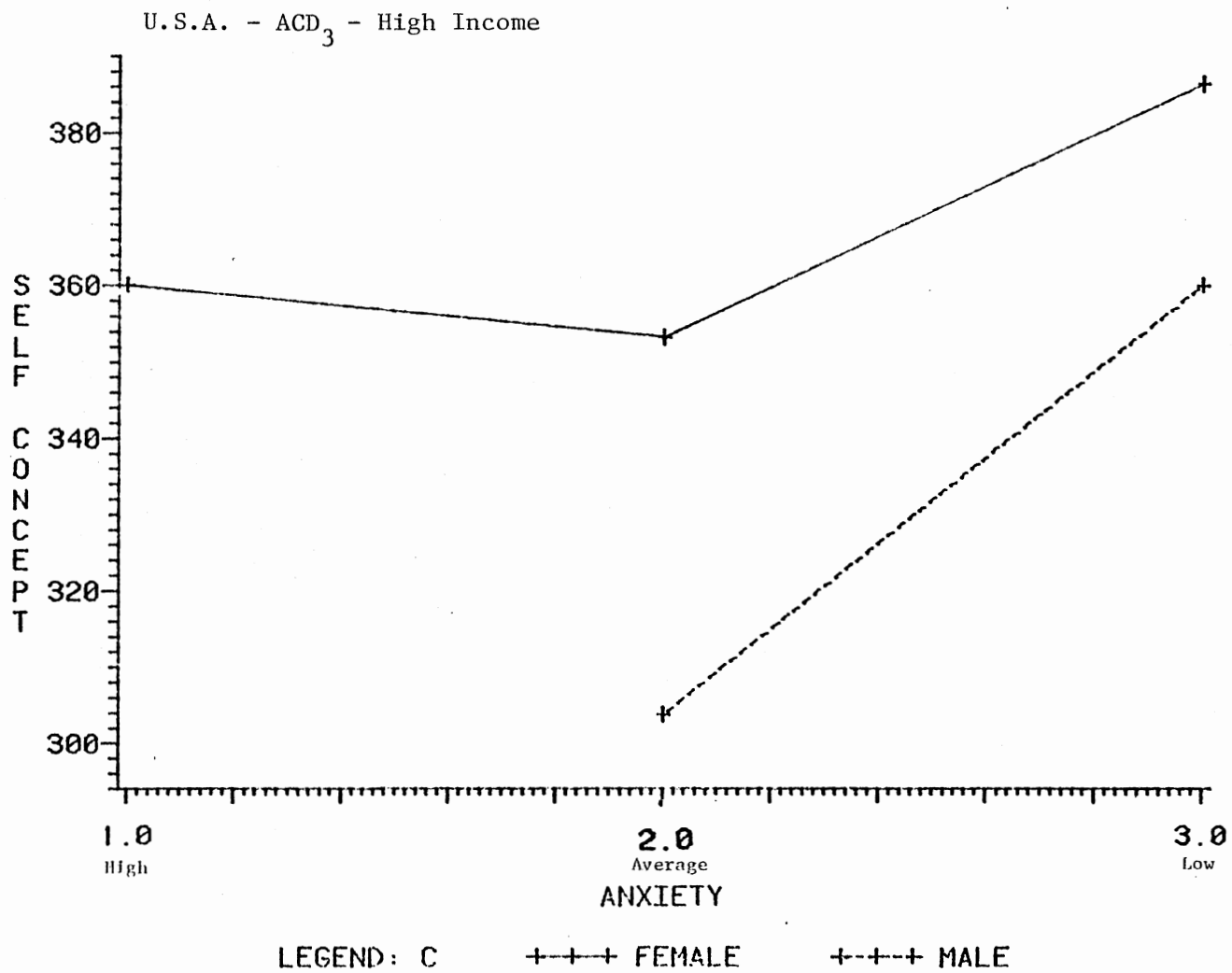


Figure 10. United States -- Anxiety by Gender by SES (ACD<sub>3</sub>)

with middle income and low anxiety present significantly higher levels of self-concept than females in the same income group but with high anxiety.

In respect to middle income North American students, males with low anxiety present significantly higher self-concepts than males with high anxiety. As noticed in Figure 8, there are no North American subjects in the limited income group presenting high levels of anxiety. Additionally, in the high income group, there are no males in the North American sample presenting high anxiety levels (Figure 10).

5. Anxiety was found to be the most significant predictor of self-concept for each of the samples tested. The direction of the correlations indicates that low levels of self-concept are associated with high levels of anxiety. For the total sample (Puerto Rican and North American together), approximately 42.58 percent of the variance in self-concept is accounted for by the subject's level of anxiety. For the Puerto Rican subjects the  $r^2$  indicates that level of anxiety accounts for approximately 54.118 percent of the variance in self-concept. The direction of the correlations indicate that low levels of self-concept are associated with high levels of anxiety. The relationship is moderately strong (Bartz, 1976) and it is the highest of the correlations calculated between the variables among the samples. For the North American sample the negative correlation is slightly higher and statistically significant. Approximately 32.9 percent of the variance in self-concept for the North American college students is accounted for by anxiety.

6. The relationship between self-concept and cultural background

by level of anxiety is negative and statistically significant. The  $R^2$  value indicates that only approximately 7.96 percent of the variance in self-concept was explained using the interaction between cultural background and level of anxiety. Therefore information about the subjects cultural background and level of anxiety may be of limited value when predicting self-concept.

The relationship between self-concept and gender in both countries is significant. However, the  $r^2$  value indicates that only 1.5 percent of the variance in self-concept is accounted for by gender when subjects from the combined sample from both countries are analyzed. Therefore gender may be of limited value when used as a predictor of self-concept for subjects in both countries.

7. The relationship between self-concept and gender within the Puerto Rican sample is not statistically significant. Therefore, gender may not be utilized as a significant predictor of self-concept for the Puerto Rican population.

8. The relationship between self-concept and gender within the North American sample is statistically significant. Additionally, gender appeared to be the most significant predictor of self-concept for the North American students, when anxiety level was not included in the analysis. Even then, the  $r^2$  value indicates that only 4.13 percent of the variance in self-concept is accounted for by the North American subjects' genders.

9. The relationship between self-concept and the interaction of anxiety and gender is statistically significant when considering subjects in both countries. The  $R^2$  value indicates that 4.5 percent

of the variance in self-concept is accounted for by the subjects' level of anxiety and gender. Therefore, information about the subjects' gender and level of anxiety may not be an important predictor of self-concept when dealing with subjects in both countries.

10. The relationship between self-concept and the interaction of level of anxiety and gender is statistically significant within the Puerto Rican sample. The  $R^2$  value indicates that only two percent of the variance in self-concept is accounted for by the Puerto Rican subjects' levels of anxiety and gender.

11. The statistical findings concerning the combined contribution of gender and anxiety to the prediction of self-concepts of subjects from the United States indicates a significant relationship between the variables. The  $R^2$  value of .0807 indicates that level of anxiety and gender accounts for only 8.07 percent of the variance in self-concept.

12. The relationship between self-concept and socioeconomic status was found to be statistically significant, when considering subjects from both countries. The  $r^2$  value of .2591 indicates that three percent of the variance in self-concept is accounted for by the subjects' income groups.

In regard to the Puerto Rican subjects, socioeconomic status is the most important predictor after anxiety. The relationship is positive and moderately low. The  $r^2$  value indicates that socioeconomic status accounts for 13.25 percent of the variance in self-concept. Subjects with higher income present significantly more positive self-concept levels than subjects from limited and middle income.

13. The relationship between self-concept and the socioeconomic status of the North American students is not significant.

14. The relationship between self-concept and the interaction of anxiety and socioeconomic status is statistically significant when considering all subjects in the study. Anxiety and socioeconomic status account for about seven percent of the variance in the predictive variable. Therefore, the subjects' socioeconomic status and level of anxiety, as combined variables, may be used as a significant predictor of self-concept when dealing with subjects from both countries combined.

15. The relationship between self-concept and the interaction of anxiety and socioeconomic status is also statistically significant for Puerto Rican subjects when considered alone and for the North American subjects alone. The  $R^2$  value indicates that only 2.8 percent of the variance in self-concept can be accounted for by a linear combination of anxiety level and socioeconomic status for the Puerto Rican subjects.

The  $R^2$  value of .05 for the North American subjects indicates that approximately five percent of the variance in self-concept is accounted for by the interaction between anxiety and socioeconomic status. Therefore information about the subjects' socioeconomic status and level of anxiety may be used as a significant predictor of self-concept with all the subjects in the study and with each particular sample. Table XII contains a summary of the multiple regression equations with differential orders of entry of variables.

16. When anxiety is excluded from the analysis the most significant predictors of self-concept for both countries are: gender, socioeconomic status, the interaction between cultural background and socioeconomic status and lastly the interaction between gender and socioeconomic status. These variables account for 11.37 percent of the variance in self-concept.

TABLE XII

## MULTIPLE REGRESSION EQUATIONS WITH DIFFERENTIAL ORDER OF ENTRY OF VARIABLES

Both Countries		
	R	
Order 1*	.69280	$Y' = X_1(-2.54624) + D_{20}(-1.752355) + D_{21}(-.08131162) + D_{19}(.2733308) + D_{18}(.5349837) + 439.6597$
Order 2**	.67733	$Y' = X_1(-2.420405) + D_2(9.289782) + D_4(9.647525) + D_5(9.983215) + 426.8088$
Order 3***	.28214	$Y' = X_{14}(-.4174004) + X_{13}(-.3120242) + 364.0791$
Order 4****	.33731	$Y' = X_3(-23.4666) + D_5(.7213930) + D_4(16.6666) + D_7(48.95333) + D_8(26.02023) + (-30.11667) + 344.7936$
Puerto Rico		
	R	
Order 1	.75138	$Y' = X_1(-2.5189) + D_{16}(.2800731) + D_{15}(.8883316) + 437.9537$
Order 2	.75068	$Y' = X_1(-2.33435) + D_5(10.94367) + D_4(24.18395) + 430.1735$
Order 3	.62838	$Y' = D_5(101.5377) + D_4(62.68002) + D_{16}(-2.234278) + D_{15}(.91872) + 335.9744$
Order 4	.36394	$Y' = D_5(24.27817) + D_4(63.52564) + 335.9744$
North American		
	R	
Order 1	.63662	$Y' = X_1(-2.484121) + D_{20}(-.88004) + D_{21}(.4267020) + D_{14}(-.618125) + 440.2150$
Order 2	.59678	$Y' = X_1(-2.522742) + D_3(-10.69208) + 441.4567$
Order 3	.52458	$Y' = D_3(78.57244) + D_{10}(75.19289) + D_9(27.62985) + D_{16}(-1.685161) + D_{15}(-1.325156) + 409.7724$
Order 4	.30989	$Y' = D_3(-23.4667) + D_9(-30.11667) + D_{10}(16.88295) + 354.6667$

\*Stepwise

\*\*A priori specified order; variables  $X_1, D_1 \dots D_5$ 

\*\*\*A priori specified

\*\*\*\*Stepwise excluding  $X_1$

For the Puerto Rican subjects with anxiety excluded, the most significant predictor is socioeconomic status. As previously mentioned when discussing each individual variable, the most significant predictors for the North American subjects when anxiety is excluded are: gender and the interaction between gender and socioeconomic status.

While the relationship between most of the independent variables were found to be statistically significant, some of the simple correlations were of moderate magnitude, however the multiple correlations resulted in higher magnitude correlations which suggest that the combined relationship from several variables result in a more accurate prediction of self-concept for the subjects from North America and Puerto Rico, both combined and separate.

#### Recommendations

1. Each experience in school can affect self-concept, personally held values and/or the subsequent self-esteem of the learner. For this reason an understanding of self-concept and in general, how it functions in young adults and how the schools might enhance or hinder it must be a major concern of those responsible for curriculum planning and implementation . . . It follows that schools have the opportunity to enhance the development of individuals beyond the acquisition of facts (Beane, Lipka and Ludewig, 1980). Therefore, further research in self-concept prediction could extend to include a variety of school related variables such as achievement motivation and age.

2. It would be helpful to investigate which specific elements of the school program or of young adult development are significant contributors to the differences in self-concept between male and female

subjects within the North American sample.

3. The present study has identified significant variables which facilitate both understanding and prediction of human behavior, consequently a subject's level of anxiety, cultural background, gender and socioeconomic status may serve as a significant predictor of the subjects self-concept.

4. Further research is needed to investigate the relationship between self-concept and gender as they correlate with other personality and school environment related variables. Particularly since different correlational patterns between both variables were found depending upon the different independent variables that were involved in the prediction analysis.

5. It is recommended that more personality research be conducted with Puerto Rican populations residing on the island of Puerto Rico. Most of the research concerning Puerto Rican's personality and school-environment related variables have been conducted with populations outside the country of Puerto Rico.

6. At this point it has been supported that the self-concept is an important variable; a more difficult question is how self-concept changes. Future research must consider not only personality and school related variables, but also age related and developmentally related variables, with different ethnic populations.

7. A general finding of this study was a substantial linear relationship between self-concept and anxiety with populations from two different cultures. The consistency of this finding across other cultures is an area worthy of future research.

8. The study should be replicated in order to cross validate the



initial findings.

9. In relation to the conduction of cross-cultured research, it was observed that subjects from different cultural background may deal differently with several issues. In the case of Puerto Rican subjects when dealing with the concept of race, fifteen percent of the subjects indicated other "race" than white or black. Seven percent did not answer the question in terms of their race. Some of the answers to this question were: "trigueño, javao, mezcla de taino, español y blanco, mestizo" or ? Approximately 22 percent of the Puerto Rican subjects did not identify themselves with a particular race. It was also noticed and confirmed by university personnel in Puerto Rico that information regarding the subjects' race is rarely collected in application forms in Puerto Rico.

In relation to North American subjects, their difficulty when dealing with the issue of parents' income was observed. A systematic pattern of responses was not observed in this question. Generally, North American subjects indicated their perception of income group, but when questioned about their parent's specific income, 17 percent of the subjects did not report that information or were undecided. Therefore, when conducting cross-cultural research a careful selection of the criteria and issues to be included in the research should be done, taking into consideration the possibility of a differential conceptual pattern when dealing with issues such as finances and race. The researcher observed that in this particular research the subjects approaches to these two issues revealed unique characteristics and possible differences, which are directly related to the subjects' cultural background.

It is hoped that the results of this study will contribute to the understanding of the contributing factors which are instrumental in the individual's self-concept.

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APPENDIX A  
INFORMATION QUESTIONNAIRE, IN  
ENGLISH AND SPANISH

Information Questionnaire

The information provided in this form will be relevant to the study that is being conducted. Your honesty and accurate response is deeply appreciated. Be sure to answer all questions (18). Thank you.

1. Country of Origin: \_\_\_\_\_
2. Name and Country of the University in which you are studying:  
University: \_\_\_\_\_  
Country: \_\_\_\_\_
3. Years in College: \_\_\_\_\_
4. Years in Present College: \_\_\_\_\_
5. Major in College: \_\_\_\_\_
6. Age: \_\_\_\_\_
7. Sex: Male \_\_\_\_\_ Female \_\_\_\_\_
8. Race: \_\_\_\_\_, \_\_\_\_\_
9. Marital Status: Single \_\_\_\_\_ Married \_\_\_\_\_ Divorced \_\_\_\_\_ Widow \_\_\_\_\_
10. Do you consider you belong to:  
\_\_\_\_\_ a) a high income family?  
\_\_\_\_\_ b) a middle income family?  
\_\_\_\_\_ c) a low income family?

FAMILY SIZE BACKGROUND

11. How many members are in your family, counting yourself, your parents, your brothers and sisters?  
\_\_\_\_\_ # of members in your original family background.
12. If married, how many more members are in your family, counting your wife (husband), and children. Do not include yourself.  
\_\_\_\_\_ # of members counting only your wife or husband and your children.
13. Where is your permanent place of residence?  
\_\_\_\_\_ a) city  
\_\_\_\_\_ b) town  
\_\_\_\_\_ c) country
14. Where is your temporary or present place of residence?  
\_\_\_\_\_ a) city  
\_\_\_\_\_ b) town  
\_\_\_\_\_ c) country

## EDUCATIONAL BACKGROUND OF YOUR PARENTS

15. How many years of education did your parents have?

Father        none                      Mother        none  
       years                                             years

16. Highest degree obtained:

Father	<u>      </u> none	Mother	<u>      </u> none
	<u>      </u> high school		<u>      </u> high school
	<u>      </u> technical		<u>      </u> technical
	<u>      </u> school		<u>      </u> school
	<u>      </u> bachelor's		<u>      </u> bachelor's
	<u>      </u> degree		<u>      </u> degree
	<u>      </u> graduate school		<u>      </u> graduate school

17. Indicate your parents' occupation (career):

Father: \_\_\_\_\_ Mother: \_\_\_\_\_

18. \$ \_\_\_\_\_ annual income of my parents.

Cuestionario de Información

La información que usted proveerá en esta hoja es muy importante para este estudio. Su contestación sincera es muy apreciada. Por favor conteste Las 18 preguntas. Gracias.

1. País de origen \_\_\_\_\_.
2. Nombre y país de La Universidad en la que usted estudia  
 Universidad: \_\_\_\_\_  
 País: \_\_\_\_\_
3. Años que lleva en la universidad \_\_\_\_\_.
4. Años que lleva en ésta universidad \_\_\_\_\_.
5. Su concentración en la universidad \_\_\_\_\_.
6. Edad: \_\_\_\_\_.
7. Sexo: Masculino \_\_\_\_\_ Femenino \_\_\_\_\_
8. Raza: \_\_\_\_\_
9. Status civil: Soltero (a) \_\_\_\_\_, Casado (a) \_\_\_\_\_  
 Divorciada (o) \_\_\_\_\_, Viuda (o) \_\_\_\_\_
10. Usted considera que pertenece a:  
 \_\_\_\_\_ a) una familia de clase alta en ingresos  
 \_\_\_\_\_ b) una familia de clase media en ingresos  
 \_\_\_\_\_ c) una familia de ingresos limitados  
 Información sobre el tamaño de su familia
11. ¿Cuántos miembros hay en su familia original, incluyéndose usted, sus padres, sus hermanos y hermanas?  
 \_\_\_\_\_ # de miembros en su familia original
12. Si usted es casado (a), cuántos miembros más hay en su familia, incluyendo a su esposo (a), y sus niños. \_\_\_\_\_
13. ¿Dónde es su lugar de residencia permanente?  
 \_\_\_\_\_ a) ciudad  
 \_\_\_\_\_ b) pueblo  
 \_\_\_\_\_ c) campo
14. ¿Dónde es su lugar de residencia temporera?  
 \_\_\_\_\_ a) ciudad  
 \_\_\_\_\_ b) pueblo  
 \_\_\_\_\_ c) campo  
 EDUCACION DE SUS PADRES
15. ¿Cuántos años de estudio tienen sus padres?  
 Padre, \_\_\_\_\_ años                      Madre, \_\_\_\_\_ años

16. Grado más alto obtenido:

padre _____	ninguno	madre _____	ninguno
_____	escuela	_____	escuela
	Superior		Superior
_____	escuela	_____	escuela
	Técnica		Técnica
_____	Bachillerato	_____	Bachillerato
_____	escuela	_____	escuela
	Graduada		Graduada

17. Indique la ocupación de sus padres (La carrera)

padre: \_\_\_\_\_ madre: \_\_\_\_\_

18. ¿Cuál es el ingreso promedio por año de sus padres?

\$ \_\_\_\_\_ ingreso anual de mis padres (en cifras)

APPENDIX B

CORRESPONDENCE TO AND FROM AUTHORS  
OF THE INSTRUMENTS





UNIVERSITY OF SOUTH FLORIDA  
TAMPA • ST. PETERSBURG • FORT MYERS • SARASOTA

COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES  
HUMAN RESOURCES INSTITUTE  
TAMPA, FLORIDA 33620

June 3, 1981

813-974-2342

Ms. Nilsa S. Colon Ortiz  
912 North Knoblock  
Stillwater, Oklahoma 74074

Dear Ms. Colon Ortiz:

Thank you for your recent letter. I was pleased to learn of your interest in the State-Trait Anxiety Inventory.

A copy of the STAI Test Form is enclosed. Detailed information about the administration, scoring and psychometric properties of the scale are reported in the Test Manual which may be obtained from Consulting Psychologists Press at the address noted on the Test Form.

The Test Forms may also be ordered from the publisher. However, if you decide to use the scale and do not have research funds to purchase the Test Form, I will be happy to give you permission to reproduce it if you will fill out the enclosed Request Form. You may wish to make xerox copies of the Request Form for your faculty advisor and your personal files.

Best wishes on your research. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Charles D. Spielberger, Ph.D.  
Professor of Psychology and  
Director, Center for Research  
in Community Psychology

CDS/cw

Enclosures

P. S. I have also enclosed a copy of the IDARE, the Spanish Form of the STAI. You may wish to order the IDARE Test Manual from El Manual Moderno, S.A., Mexico II, D.F. CD

May 20, 1981

Dr. Charles D. Spielberger  
Department of Psychology  
Florida State University  
Tallahassee, FL 32306

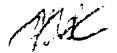
Dear Dr. Spielberger:

I am a Ph.D. candidate in Educational Psychology at Oklahoma State University. I am interested in using the STAI in Spanish and the same instrument in English as one of the data gathering instruments for my dissertation.

I would appreciate it if you would send me information regarding the Inventory translation into Spanish.

Thank you for your assistance with this important matter.

Truly yours,



Nilsa S. Colón Ortiz  
912 N. Knoblock  
Stillwater, OK 74074

## UNIVERSITY OF SOUTH FLORIDA

## Center for Research in Community Psychology

Request for Permission to Use the: State-trait Anxiety Inventory X-2 in English  
and the IDARE in Spanish

TO: Dr. Charles D. Spielberger DATE: July 10, 1981

FROM: (Name) Nilsa S. Colón Ortiz

Institutional Affiliation: Oklahoma State University

Department or Division: Applied Behavioral Sciences

Address: North Murray Hall, Oklahoma State University, Stillwater, OK 74078

1. Permission is requested to reproduce the above mentioned measure(s) for the research project described below. I do not have research funds to purchase the materials at this time.
2. The above mentioned measure(s) will be used in accordance with the Code of Ethics of the American Psychological Association.
3. I agree to provide a detailed description of my procedures and results as soon as possible after the completion of the research.
4. Description of research: Title: Self-concept and Anxiety of Puerto Rican

and North American College Students: A Cross Cultural Study.

Dissertation X ; M.A. thesis      ; Other     

Subject populations; Number of subjects minimum of 50 American and 50 Puerto Rican

Location where research will be carried out: Oklahoma State University, Stillwater, OK  
University of Puerto Rico at Rio Piedras or Mayaguez campus

Brief description of study: The purpose of this research is to investigate if  
self-concept can be predicted utilizing measures of anxiety, cultural  
background, sex and socioeconomic status of Puerto Rican college students  
residing in Puerto Rico and North American college students residing in the  
United States. Also of interest are the possible ethnic-group differences  
in the regression weights in the predictor equations.

Nilsa S. Colón Ortiz      Bill J. Elsom  
 Signature of Investigator      Signature of Faculty Advisor

Bill J. Elsom  
 Type or Print Faculty Advisor's Name



## UNIVERSITY OF SOUTH FLORIDA

TAMPA • ST. PETERSBURG • FORT MYERS • SARASOTA

COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES  
 HUMAN RESOURCES INSTITUTE  
 TAMPA, FLORIDA 33620

913: 974-2342

July 30, 1981

Ms. Nilsa S. Colon Ortiz  
 912 North Knoblock  
 Stillwater, OK 74047

Dear Ms. Ortiz:

In response to your recent request, I am very pleased to give you permission to reproduce the:

XX STAI           STAIC           STAS           STPI           TAI

for your XX dissertation        thesis        nonfunded research, entitled:  
 Self-concept and Anxiety of Puerto Rican and North American College  
 Students: A Cross Cultural Study

It is my understanding that your research will be carried out at:

Oklahoma State University, Stillwater, OK  
 Puerto Rico at Rio Piedras or Mayaguez campus

Best wishes on your research project. I look forward to receiving further details about your procedures and the results of your study as such information becomes available.

Sincerely,

*Charles D. Spielberg*  
 Charles D. Spielberg, Ph.D.  
 Professor of Psychology and  
 Director, Center for Research  
 in Community Psychology

CDS/cw

cc: Bill F. Elsom

William H. Fitts, Ph.D.

LICENSED & REGISTERED CLINICAL PSYCHOLOGIST

4209 SNEED ROAD  
NASHVILLE, TN. 37215  
(615) 292-0918

6-23-81

Dear Miss Porter,

The Latin American edition of the TSCS  
can be obtained from:

Mrs. Blanca de Alvarez  
Institute for Sociological & Psychological Studies  
Chihuahua, Chihuahua  
Mexico.

Good luck with your study!

Sincerely  
W. H. Fitts

APPENDIX C

CORRESPONDENCE TO UNIVERSITY OF

PUERTO RICO

9 de julio de 1981

Srta. Nilsa S. Colón Ortiz  
912 N. Knoblock St.  
Stillwater, OK 74074

Estimada señorita Colón Ortiz:

Hago referencia a su carta del 15 de junio de 1981 dirigida a la Prof. Alicia Carlo de Nat, Decana de Estudiantes.

Le estoy refiriendo su petición a la Decana Auxiliar de Estudiantes, Srta. Daliana Muratti, para que haga las averiguaciones correspondientes y le deje saber en qué forma podemos corresponder a su petición.

Atentamente,



Otto Riollano Dávila  
Decano de Estudiantes Interino

nl

cc: Srta. Daliana Muratti  
Decana Auxiliar de Estudiantes

Modelo 326  
Enero 1980

UNIVERSIDAD DE PUERTO RICO  
RECINTO UNIVERSITARIO DE RIO PIEDRAS  
Decanato de Estudiantes  
(Dependencia)



HOJA DE TRAMITE

URGENTE

Nombre y Unidad

9 de julio de 1981

Fecha

E	1. Srta. Daliana Muratti p Decana Auxiliar	
N	2.	
V	3.	
I	4.	
O	5.	
S		

Corres. De Otto Riollano - Dec. Esta. Int Corres. Fecha

ASUNTO Acuso recibo de carta recibida de la Srta Nilsa S. Colón Ortiz y se la refiero a usted para el trámite correspondiente.

Los documentos que se acompañan son referidos para la acción siguiente:

- VISTO BUENO
- FIRMAR Y DEVOLVER
- SU INFORMACION
- SU ATENCION Y/O TRAMITE
- CONTESTAR DIRECTAMENTE
- ENTERARSE Y EXPEDIR
- CONTESTAR PARA LA FIRMA DE
- SOMETER RECOMENDACIONES A
- INVESTIGAR E INFORMAR A
- ESTUDIAR Y DISCUTIR CON
- CONSIDERAR EN REUNION
- ACUSAR RECIBO
- ENTERARSE Y ARCHIVAR
- ENTERARSE Y DEVOLVER
- CASO TERMINADO O RESUELTO
- COMPLEMENTAR APARTADOS MARCADOS

(FECHA Y LUGAR)

OBSERVACIONES: Para su atención.





OFICINA DECANA AUXILIAR

UNIVERSIDAD DE PUERTO RICO  
RECINTO DE RIO PIEDRAS  
DECANATO DE ESTUDIANTES

31 de julio de 1981

Srta. Nilsa S. Colón Ortiz  
912 N. Knoblock St.  
Stillmater, OK 74074

Estimada señorita Colón:

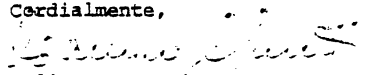
Hago referencia a su comunicación del 5 de junio de 1981, dirigida a la Prof. Alicia Carlo de Net, Decana de Estudiantes, la cual fue referida a mi atención el 9 de julio de 1981.

Deseo informarle que deberá someter a la Decana de Estudiantes una copia de su propuesta tentativa, la cual a su vez será evaluada por el Decano de Estudios. Luego el Decano de Estudios someterá sus recomendaciones a la Prof. Alicia Carlo de Net, Decana de Estudiantes.

Le agradeceré que tan pronto tenga disponible la copia de la propuesta la haga llegar a la oficina de la Decana de Estudiantes para el trámite correspondiente.

Saludos.

Cordialmente,

  
Daliana Muratti  
Decana de Estudiantes

cc Prof. Alicia Carlo de Net  
Sr. Otto Riollano



UNIVERSIDAD DE PUERTO RICO  
RECINTO DE RIO PIEDRAS

COLEGIO DE PEDAGOGIA  
OFICINA DEL DECANO

7 de agosto de 1981

MEMORANDO

A : Prof. Medardo Carazo  
Director Interino  
Departamento de Fundamentos de  
la Educación

DE : Lydia L. Díaz de Grana  
Decana

ASUNTO: Sra. Nilsa Colón

Refiero a usted a la Sra. Nilsa Colón, estudiante graduada de la Universidad de Oklahoma, quien ha solicitado nuestra colaboración para que le permitamos administrar unos cuestionarios a estudiantes de Cuarto año que estén terminando los cursos de Psicología Educativa, Psicología de la Niñez y Psicología de la Adolescencia.

Mucho le agradeceré la reciba y le tramite arreglos con los profesores de estas materias a los efectos de que ella pueda realizar su labor.

Extiendo mi agradecimiento por adelantado y también a los profesores que colaboren.

✓  
VITA

Nilsa S. Colón Ortiz

Candidate for the Degree of

Doctor of Philosophy

Dissertation: SELF-CONCEPT AND ANXIETY OF PUERTO RICAN AND NORTH AMERICAN COLLEGE STUDENTS: A CROSS CULTURAL STUDY

Major Field: Educational Psychology

Biographical:

Personal Data: Born in Quebradillas, Puerto Rico, October 28, 1953.

Education: Graduated from Juan A. Arizmendi High School, Quebradillas, Puerto Rico, in May, 1970; received Bachillerato en Artes degree from the Universidad de Puerto Rico at Mayaguez Campus in May, 1974; received Master of Education from the Catholic University of Puerto Rico in July, 1976; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in May, 1982.

Professional Experience: Master of Education Internship in Instituto Tecnológico de Ponce, Ponce, Puerto Rico, September 1975 - May, 1976; Academic Counselor, Interamerican University, Guayama Regional College, Guayama, Puerto Rico, August, 1976 - May 1977; Instructor, World University, Ponce Center, Ponce, Puerto Rico, August, 1977 - May, 1979. Assistant Chairperson, Division of Development of the Individual, World University, Ponce Center, Ponce, Puerto Rico, August, 1978 - May, 1979; Editorial Assistant, Petroleum Publishing Company, Tulsa, Oklahoma, July, 1979 - January, 1980; Peer Counselor, Minority Student Program, University Counseling Service, Oklahoma State University, Stillwater, Oklahoma, February, 1980 - August, 1980. Educational Psychology Practicum, Payne County Guidance Center, Stillwater, Oklahoma, August, 1980 - December, 1980; Marital and Family Treatment Practicum, Psychological Service Center, Oklahoma State University, Stillwater, Oklahoma, January, 1982 - May 1982.

Member of: Hispanics in Higher Education, Kappa Delta Pi Honor Society, Phi Kappa Phi Honor Society, National Hispanic Psychological Association.