A GUTTMAN FACET DESIGNED MULTIDIMENSIONAL ATTITUDE - BEHAVIOR SCALE ANALYSIS OF INTERNAL - EXTERNAL LOCUS OF CONTROL OF MEXICAN AMERICANS AND MEXICAN NATIONALS

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This is to certify that the

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John Gonzales Castro

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Carl Gordon
Major professor

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ABSTRACT

A GUTTMAN FACET DESIGNED MULTIDIMENSIONAL ATTITUDE-BEHAVIOR SCALE ANALYSIS OF INTERNAL-EXTERNAL LOCUS OF CONTROL OF MEXICAN AMERICANS AND MEXICAN NATIONALS

By

John Gonzales Castro

Statement of the Problem

This study was designed to investigate the relationship between level of educational attainment, locus of control, and demographic variables in five Mexican American groups and one group of Mexican Nationals.

Instrumentation

Using the "known group" method, the present research sampled 378 subjects: 100 Mexican American high school seniors, 100 Mexican American college sophomores, 27 Mexican American college seniors, 39 Mexican American professional women, 28 Mexican American professional men, and 84 Mexican National college students. The Mexican American students were selected from two South Texas border cities. The Mexican Nationals represented two universities

in the Mexico City area. The professionals were Roman Catholic priests and nuns living throughout the United States.

Subjects' locus of control was determined by the use of the Matthews-Jordan facet designed multidimensional Attitude-Behavior Scale: Internal-External Locus of Control (ABS:IE).[1] Educational attainment was measured by the actual educational level of each group; and demographic status was determined by a self-answered 17-item multiple choice personal data questionnaire.

Design and Analysis Procedures

Null hypotheses were formulated to test whether significant differences existed on locus of control for the six groups; for females and males within each group; for the Mexican National group and any of the Mexican American student groups in relationship to hypothetical interaction and personal action; and for the specific dimensions of demographic variables within each group.

Pearson product moment correlations were computed for the six levels of the ABS:IE, resulting in matrices which exceeded the Q^2 simplex approximation criterion of .70 in all cases except two: the Mexican American high school senior and college senior groups. Statistical treatment of the data relating to hypothesis 2 (the standard deviations will be greater than 2.00 for the six

levels of the ABS:IE throughout the six categories) proved significant using the chi square test of variance.

One-way analysis of variance procedures followed by t tests employing pooled variance estimate contrasts were computed for hypotheses 3-6. The rank order of categories on the locus of control continuum postulated by hypothesis 3 was generally not supported by the data.

Hypothesis 4 comparing each of the Mexican American student groups with the group of Mexican Nationals on the hypothetical action level and personal action level of the ABS:IE, was unsupported by the data. The hypothesis postulating no sex difference of males and females on the entire ABS:IE and for each level of the ABS:IE was supported with one exception. Hypothesis 6 (relating total locus of control scores and dimensions of the demographic variables for each category) was not supported.

Conclusions

The basic findings of this study seem to indicate that the ABS:IE was an adequate instrument to measure the internal-external locus of control (IELC) of Mexican Americans and Mexican Nationals. However, it appeared inadequate in measuring the locus of control of high school seniors and college seniors.

Significant differences were reported among the groups which represented various levels of educational attainment. However, the study failed to support the

postulated rank order which predicted that those groups with higher educational attainment would score significantly higher in internal control. Nevertheless, the professional groups did rank significantly higher in internal control than any other group.

The results also suggest that even though the groups were chosen from homogeneous populations, variations within each group encompass a wide range. This seems to suggest that even though individuals may indeed exercise similar control over their environment, their locus of control scores indicate their personal need for greater or lesser control. Also confirmed was the lack of significant difference between males and females as measured by the six levels of the ABS:IE, with one exception.

The data were unable to support significant differences between Mexican American students who have been educated as a minority in the American school system and Mexican National students who have not undergone the stigma of being a minority in their schools. The data also proved generally inadequate to differentiate between specific dimensions of the demographic variables and postulated higher internal scores for any of the groups.

Recommendations

Several questions have arisen from the findings of the study. The following recommendations were considered appropriate:

1. The ABS:IE should be revised to simplify the differentiation between ABS:IE levels for more efficient administration to high school students and dropouts.

2. Presupposing this apparently important simplification, the ABS:IE could provide the needed instrumentation to study the IELC of all high school students and dropouts, especially the Mexican American group.

3. This study should be replicated using clusters or combinations of specified dimensions from several demographic variables as predictors instead of the single specified dimension of one demographic variable as was used in this study.

4. The personal data questionnaire should be revised so that respondents be offered choices containing the clusters or combinations specified above rather than choices specifying dimensions from one variable.

5. A random sample should be selected from each group.

6. A larger sample size should be used for some of the groups.

7. Further research should be conducted to investigate the multiple interactions of parents, home, teachers, counselors, Anglo peers, ethnic peers, and instrumental handicaps as well as other possible sources of reinforcement or alienation contributing to the IELC of the Mexican American.

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[1]This study is one in a series of racial-ethnic attitude studies under the direction of Dr. John E. Jordan, College of Education, Michigan State University, East Lansing, Michigan 48824.

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John Gonzales Castro

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DEDICATION

To the memory of my sister

Mary Elvira Castro

whose longing for educational excellence

continues as a very vibrant part of my life.

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Without the love and encouragement of John R. and Elvira G. Castro, my parents, and Gloria, Rebecca, Florence, Milton and Joseph, my sisters and brothers, I never could have terminated this endeavor. I am deeply grateful to them as well as to a group of friends whose assistance and inspiration I will always treasure: Irma Becerril, Saida Califa, Jean and James Dalton, Marie and Axel Franson, Eva Mae and Fidencio Garza, Edna Gaybrick, Constance Gurrola, Rebecca Jimenez, Veronica and James LaMacchia, Maria and Albert Olney, Pauline Sandoval, and Delores and Donald Willis.

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PREFACE

This study is one in a series, dealing with Attitude-Behavior Scale construction. A common use of instrumentation, design, and theoretical material, as well as technical and analyses procedures was both necessary and desirable.

CHAPTER I

INTRODUCTION

Mexican Americans in the United States are striving not only to find their identity but also to make an impact on the society in which they live (Mittelbach, 1967; Rubel, 1966). Of basic importance to their struggle is an insight into themselves which will aid them to attain high achievement in all areas, including secondary education and college. Since some studies (Coleman, 1966; Franklin, 1963; Rotter & Mulry, 1965) postulate a positive correlation between high achievement and internal locus of control, the present research investigated those variables which were postulated to correlate positively with internal locus of control in an educated Mexican American population. Identification of these factors offers Mexican Americans greater self awareness as well as the possibility of manipulating certain variables in their pursuit of those disciplines which will guarantee them the expertise necessary to successfully compete in their 20th century world.

Nature of the Problem

As a member of a specific minority group in the United States, the student of Spanish heritage, to which group the Mexican American belongs, has a dropout level of 32.46% before reaching eighth grade, according to the 1970 Census of Population of the United States (U.S. Department of Commerce, 1973). His Anglo American counterpart has only a 19.34% dropout level as compared to the Black American student with 26.55%.

Based on the responses of 16 year old persons not enrolled in school in 1970, the same census (U.S. Department of Commerce, 1973) describes only 67.54% of the respondents of Spanish heritage as persons who had completed at least an eighth grade education or more. The Anglo American students belonging to the same category were 13.12% higher, with a total of 80.66%, while the Black Americans occupied the middle spot with 73.45% having completed at least an eighth grade education or more.

Considering 19 year old persons who were not enrolled in school in 1970 the census previously cited (U.S. Department of Commerce, 1973) reports that 70.85% of Anglo Americans had completed at least a high school education or more compared to only 47.46% of persons of Spanish heritage and 53.48% of Blacks. The dropout level before the final year in high school for the person of Spanish

heritage in this category was 52.54% as compared to 46.52% for the Black and 29.15% for the Anglo.

The same census (U.S. Department of Commerce, 1973) reports that of 24 year old persons who were not enrolled in school in 1970, of the Anglo Americans 31% had completed at least one year of college or more, while only 14.76% of the persons of Spanish heritage and 13.53% of the Blacks were included in the same category.

These data demonstrate that the dropout level of Mexican American students at the various intervals of education is the highest compared to that of the Anglo and of the Black with only one exception. Nevertheless, some Mexican Americans do achieve educational success. The concern of this research study was upon those variables which differentiate the Mexican American who succeeds at any of the given intervals of education and has an internal locus of control from the Mexican American at the same level of educational success who has an external locus of control.

Statement of the Problem

Although very little research has been conducted to identify those variables which differentiate the Mexican American who succeeds at any grade of formal education from the one who fails, the Rotter (1966) internal-external locus of control study (IELC) based on

social learning theory, does investigate the attempt of people to better their lives, that is to control their environment. Some research (Phares, 1955; Rotter, 1966) has found that IELC, or belief regarding the nature of causal relationships between an individual's behavior and the consequences of that behavior, is measurable as a personality characteristic; and, as such is useful in understanding personal behavior and attitudinal differences.

According to the assumptions of Rotter's (1954) social learning theory an individual's generalized expectancy concerning the functional relationship between behavioral events and reinforcement is a product of that person's previous experiences with reinforcing events. Rotter (1966) suggests that individuals with an internal locus of control (ILC) can be described as persons who maintain the generalized expectancy that the reinforcement they receive is determined by factors under their control such as personal skill, ability, or other internal factors. In the same study Rotter (1966) refers to individuals as having an external locus of control (ELC) when they believe or act as though forces beyond their personal control such as fate, luck, powerful others, chance or other external factors are the determinants in the occurrence of their reinforcement.

More recently, research has identified IELC as an independent variable and a considerable range of behaviors as dependent variables. These studies have included: expressed willingness to participate in social action activities (Gore & Rotter, 1963); risk taking (Lefcourt & Ladwig, 1965); attention and recall of information in the environment (Phares, Ritchie & Davis, 1968; Seeman, 1963; Seeman & Evans, 1962); achievement motivation (Franklin, 1963; Rotter & Mulry, 1965); and reactions to frustration (Brissett & Nowoicki, 1973).

Matthews (1975) posits that the current emphasis on IELC has grown from the desire to understand, predict and control behavior. Specifically, he emphasizes that psychologists are interested in IELC as a personality variable especially as it relates to the on-going changes in the attitudes of minority groups such as Blacks, Mexican Americans, American Indians, women, the handicapped and others. Some IELC studies such as those of Gurin, Gurin, Lao and Beattie (1969), and Williams (1972) have involved minorities, especially Blacks, in their application of Rotter's unidimensional Internal-External Scale (IES).

Convinced that research using internal-external locus of control as a personality variable has been inconclusive because of the lack of an instrument which operationally measures IELC according to its multidimensional

theoretical construct, Matthews (1975) developed a new approach to measure IELC with the aid of the Guttman-Jordan paradigm of facet design and analysis (Guttman, 1959, 1970, 1971; Jordan, 1971a, 1971b). The Matthews-Jordan (1975) Attitude-Behavior Scale: Internal-External Locus of Control (ABS:IE) attempts to identify the multi-dimensionality of levels of IELC corresponding to specified levels of behavior according to Guttman-Jordan facet theory.

Employing Matthews' ABS:IE the present researcher attempted to measure the internal-external locus of control of Mexican Americans at diverse intervals of educational achievement and Mexican Nationals attending college in Mexico City. Five categories of Mexican Americans and one category of Mexican Nationals comprised the subjects for this research:

1. 100 Mexican American seniors in high school, divided into 51 male and 49 female subjects.
2. 100 Mexican American sophomores in a two-year public college, divided into 50 male and 50 female subjects.
3. 27 Mexican American seniors in a four-year public college, divided into 6 male and 21 female subjects.
4. 84 Mexican National (Mexico City) students in two four-year public colleges in Mexico, divided into 35 male and 49 female subjects.
5. 39 Mexican American professional women who are Roman Catholic religious (nuns) and have earned at least a master's degree.

6. 28 Mexican American professional men who are Roman Catholic priests and who have earned at least a doctoral degree or its equivalent.

The goal of this research study was to identify those variables which correlate positively with an internal locus of control at various intervals of educational achievement. Applying the concept of internal-external locus of control as a personality variable, the researcher hypothesized that identification of variables which correlate high with an internal locus of control in the educated Mexican American would describe those areas in the life of Mexican Americans which could be used in an attempt to increase an internal locus of control and thus educational achievement in the student of Mexican American heritage.

Need for the Study

"Know yourself" insisted the Greek philosopher Socrates centuries ago. The Neo-Freudian, Erich Fromm (1956), in his modern approach to life in The Art of Loving insists no less that basic to an individual's success as a human person is an insight into himself, a definite self-awareness of his personhood:

> The need for transcendence is one of the most basic needs of man, rooted in the fact of his self-awareness, in the fact that he is not satisfied with the role of the creature, that he cannot accept himself as dice thrown out of the cup. He needs to feel as the creator, as one transcending the passive role of being created (p. 43).

With this in mind the extensive dropout level of Mexican American students at the different stages of education in the United States cannot be tolerated as a bitter fact of life. The genuine educator of the Mexican American is committed not only to ask "Why?" but also to dream things that never were and ask "Why not?" If some Mexican Americans do succeed at the different levels of education, why not all Mexican Americans?

This study attempted to delve into the "Why not?" by identifying those variables which correlate positively with Mexican Americans who are succeeding educationally and who score high on an internal locus of control continuum. It was hypothesized that Mexican Americans at a higher level of educational success would score more internally on the internal-external locus of control factor. It was also hypothesized that identification of those variables which correlate positively with the educationally successful and internally localized Mexican American would not only increase his self knowledge but would also suggest the variables which could be used in an effort to lessen the Mexican American dropout rate. The group of Mexican Nationals from Mexico City was used to ascertain differences between U.S. Mexican Americans and the population from the original Mexican culture.

Purpose

Applying Matthews' ABS:IE to samples of Mexican Americans at varying degrees of educational success, this study attempted the following:

1. To identify the diverse categories or groups according to the IELC continuum.
2. To differentiate those categories or groups on the IELC continuum according to the six levels of the Guttman-Jordan paradigm.
3. To identify those variables which correlate positively with an internal locus of control (ILC) of Mexican Americans at different grades of educational success.
4. To determine the relationship (correlational) between specified levels of the ABS:IE with the major predictor variables (demographic, social, psychological and educational status).
5. To interpret the implications of the correlations between specified levels of the ABS:IE with the major predictor variables.
6. To recommend that educators be attentive to those variables which correlate positively with ILC in the educated Mexican American in an effort to aid the student of Mexican American background toward higher educational achievement.

Definitions

Mexican American is defined in this study as a native born or naturalized citizen of the United States who has at least one parent who can trace his/her ancestry to Mexico. Chicano is synonymous with Mexican American and will be used interchangeably throughout.

Mexican National is defined as a citizen of Mexico.

Anglo is defined as a native born or naturalized citizen of the United States who is white and is not a Mexican American.

Internal Locus of Control (ILC) is defined as that cluster of characteristics in an individual which describes that individual as one who maintains the generalized expectancy that the reinforcement he receives is determined by factors under his control such as personal skill, ability or other internal factors.

External Locus of Control (ELC) is defined as that cluster of characteristics in an individual which describes that individual as one who maintains the generalized expectancy that the reinforcement he receives is determined by forces beyond his control such as fate, luck, powerful others, chance or other external factors.

Dropout is defined as any individual who ceases attending school at any grade level before successfully terminating the initial 12 years of education in the United States.

Professional Women is defined as professed Roman Catholic nuns who have earned at least a master's degree.

Professional Men is defined as legitimately ordained Roman Catholic priests who have earned at least a doctoral degree or its equivalent.

Hypotheses

In attempting to identify those variables which correlate positively with different grades of educational success in the Mexican American this researcher used the internal-external locus of control continuum as the dependent or criterion variable. Both theoretical and clinical hypotheses were examined.

H-1: The six levels of the ABS:IE will form a Guttman simplex for the total study and for each of the six categories or groups.

H-2: The standard deviation will be greater than 2.00 for the total study and for each of the six levels of the ABS:IE throughout the six categories.

H-3: On the ABS:IE continuum, the categories will rank in the following order (from low to high or external to internal on the locus of control dimension):

1. Public high school seniors
2. Two-year public college sophomores
3. Four-year public college seniors
4. Four-year Mexican National college students
5. Professional women
6. Professional men

H-4: There will be no significant difference between any of the five categories of Mexican Americans and the one category of Mexican Nationals in responding to general statements about IELC when viewed as "intention to act" (level 4). However, there will be a significant difference between any of the five categories of Mexican Americans and the one category of Mexican Nationals when they answer items about their own life experiences (level 6).

H-5: There will be no significant difference between males and females in internal-external locus of control as measured by the six levels of the ABS:IE.

H-6: In each and every one of the six categories, the following dimension of the given demographic variable will correlate positively higher than any other dimension of that variable with an internal locus of control as measured by the total score on the combined six levels of the ABS:IE:

1. A higher amount of combined parents' formal educational attainment
2. Membership in a smaller family
3. Being the first born
4. The higher the income of subject's family while subject attended high school
5. An urban environment while attending high school
6. Attendance at a public elementary school
7. A non-Catholic religious affiliation in high school
8. A predominantly Mexican American ethnic composition of students in elementary school
9. A predominantly Mexican American ethnic composition of subject's high school friends
10. Varsity sport team membership in high school
11. The greater the number of clubs or organizations other than sports to which subject belonged in high school
12. Engagement in a paying job during the summer months.

CHAPTER II

HISTORICAL REVIEW OF THE MEXICAN AMERICAN: HIS PERSON AND EDUCATION

Mejicano, Español, Latino, Hispano, Chicano
or whatever I call myself,
I look the same
I feel the same
I cry and
Sing the same

I am the masses
of my people and I refuse to be
absorbed.
I am Joaquin
The odds are great
but my spirit is strong
My faith unbreakable
My blood is pure
I am Aztec Prince
and Christian Christ
I SHALL ENDURE! I WILL ENDURE!
(Rodolfo Gonzales, 1967, p. 20.)

This chapter will briefly review the general history of the Mexican American. It will describe him as a citizen culturally, socially, economically, and territorially. Next, it will specifically consider the Mexican American as a member of a minority group in his role as a student engaged in educational endeavors. Finally, it will review the research which has been conducted to identify those variables which correlate positively with the Mexican American student who succeeds at diverse levels of education.

The Mexican American as Citizen

Brown, Poor and Uneducated

That the Mexican American is unique in the population of the United States is beyond question. The color of his skin and the features of his appearance differentiate him almost immediately from the typical Anglo American and Black American. Juanita Dominguez of the Crusade for Justice bluntly expresses this difference in Armando B. Rendon's (1971) Chicano Manifesto:

> I have my pride, I have my faith
> I'm different, my skin is brown.
> I have a culture, I have a heart,
> And no one can take them from me. . . .
> (p. 83).

But more obvious than his features or the color of his skin, the Mexican American considered as a group of people in the United States continues to be visible in his poverty and in his lack of education. In her introduction to Mexican-Americans: Problems and Prospects, Joan W. Moore (1966) reiterates this plight:

> Mexican-Americans are the second largest minority in the United States--a largely Spanish-speaking sub-population of vast and growing size inside five large southwestern states. In this immense area, their traditional home, it is customary to ignore their poverty, segregation, and bad schooling and to emphasize the traditional--and mythical--"Western tolerance." Too often their isolation is sustained and perpetuated both by romantic anthropological nonsense about a poor and proud people who want to remain Mexican and by liberal notions of "cultural pluralism." Frequently, and erroneously, they are lumped with other Hispanic immigrants--Puerto Ricans and Cubans--with whom they share neither customs, geography, nor history--in fact, little

> more than the rudiments of communication. Once dismissed as a useful, passive labor force for agriculture, mining, and the railroads, their extraordinary fertility, continued immigration, growing political awareness, and the role they play in the problems of the large southwestern cities make Mexican-Americans an increasing source of concern in a welfare-oriented dominant society (p. 1).

Indian and European Traditions

According to the latest report of the Census of Population of the United States (U.S. Department of Commerce, 1975) persons of Spanish origin in the United States number 11.2 million or about 5% of the total population. Puerto Ricans comprise 1.7 million or 15% of this group of Spanish origin, Cubans approximate 1 million or 7% and Mexican Americans 6.7 million or 60%.

The Mexican American is described as a native born or naturalized citizen of the United States who has at least one parent who can trace his/her ancestry to Mexico. The Report of the U.S. Commission on Civil Rights (1974) adds the following:

> "Chicano" is another term used to identify members of the Mexican American community in the Southwest. In recent years it has gained wide acceptance among many persons of Mexican ancestry and reflects a group identity and pride in Mexican American culture and heritage. In this report "Chicano" and "Mexican American" are used interchangeably (p. ix).

The majority of Mexican Americans cluster in the five states of Arizona, California, Colorado, New Mexico, and Texas although there are Mexican Americans in

practically every city in the country (Moore, 1966). Los Angeles, California, claims more Mexican Americans than any other city in the world.

Historically, most Mexican Americans can trace their ancestry to the migrations of the early 1900s when large numbers of Mexicans crossed the United States-Mexican border at several points of entry. Most of these immigrants came from either the lower economic classes or the agricultural areas and continued to remain poor in the southwest (Grebler, Moore & Guzman, 1970).

Nevertheless, some Mexican Americans can also trace their lineage prior to the 1900s, "to Hispanic or Indo-Hispanic forebears who resided within Spanish or Mexican territory that is now part of the Southwestern United States" (A Report of the U.S. Commission on Civil Rights, Feb. 1974, p. ix). Guadalupe Salinas (1971) elaborates:

> In the 1500's the Spanish began to settle this area, many years before the English established the first settlement at Jamestown in 1607 . . . . These Southwestern States came under Mexican rule after Mexico won her independence from Spain in 1821.
>
> However, the vast Mexican nation encountered internal problems when Texas seceded in 1836 and again when the United States Congress voted in 1845 to allow Texas to enter the Union . . . . In spite of Mexico's relative military weakness compared to the United States, the two countries engaged in armed conflict. The result was the defeat of Mexico and the signing of the Treaty of Guadalupe Hidalgo on February 2, 1848. By the terms of the treaty, Mexico acknowledged the

> annexation of Texas and ceded the rest of the Southwest to the United States. In addition, the treaty guaranteed civil and property rights to those who became American citizens. Approximately 75,000 Mexicans decided to remain and receive American citizenship . . . (pp. 930-931).

Culturally, the Mexican American borrows from two traditions--the Indian heritage of the Mexican world before the advance of the conquistadores and the European style of those new world settlers which have mixed to make the Mexican nation what it is today. In 1883, almost a century ago, Walt Whitman seems to have captured the essence of the Mexican American's cultural wealth and what it could contribute to the American nation when he wrote in Clark's (1955) Walt Whitman's Concept of the American Common Man:

> To that composite American identity of the future, Spanish character will supply some of the most needed parts. No stock shows a grander historic retrospect--grander in religiousness and loyalty, or the patriotism, courage, decorum, gravity and honor . . . . As to the Spanish stock of our Southwest, it is certain to me that we do not begin to appreciate the splendor and sterling value of its race element. Who knows but that element, like the course of some subterranean river, dipping invisibly for a hundred or two years, is now to emerge in broadest flow and permanent action (pp. 88-89).

Roman Catholic Majority

According to Rev. Virgil Elizondo (1973), president of the recently established MACC (Mexican American Cultural Center) in San Antonio, Texas, 85% of the Mexican American minority of the United States is Roman Catholic and together with the other Spanish-origin groups (Cuban

and Puerto Rican) they constitute 25% of the entire United States Roman Catholic membership. Insisting that religion is fundamental to the Mexican American life style, Elizondo (1973) continues:

> Because his faith is very expressive, the Spanish-speaking needs the fiesta to celebrate life. He has captured that which is most truly the Paschal mystery--while immersed in the midst of problems, tribulations and misery, he can rise above all the sufferings to truly celebrate the gift of life. . . . Moreover, the Spanish concept of life is strongly linked to the traditions and structures of the family, to such a degree that religion is the norm for the family and the family is the norm for religion (p. 9).

Fernando Pico, S.J. (1973) delves even deeper into the religious aspect of the Mexican American cultural legacy:

> Some of the sensitivity and the values secular society is trying so desperately to recover are alive in Latin Christianity--hospitality to strangers, loyalty to the extended family, spontaneity in expressing sorrow and joy, a sense of community and an inability to deal with others impersonally (p. 5).

Socio-economic Status, or Lack of It

Economically, the Mexican American continues to be generally poor in comparison to the Anglo and Black citizen. Whether he engages in rural activities or in urban endeavors his lack of education limits him to the bottom rung of financial rewards (Moore, 1966).

Richard C. Schroeder (1970) dubs the Mexican American as the most deprived of all Americans:

> Forty per cent of all Chicanos in Texas were said be "functional illiterates" - they never learned enough reading, writing and arithmetic in school to hold even semi-skilled jobs. Mexican-Americans earn about one-half as much as Anglos in the same communities; one-third of all Mexican-American families fall below the federally defined poverty level - $3,500 per year for a family of four. The House Government Operations Committee has noted the existence of "pockets of poverty and deprivation in the Southwest far worse than any suffered by other citizens of the United States . . ." (p. 713).
>
> One authority calls Mexican-Americans "the most neglected, the least sponsored, the most orphaned major minority group in the United States." Statistics bear out the contention. Mexican-Americans average eight years of education compared with 10 years for blacks and 12 years for whites. Spanish-American unemployment rates run well above those for blacks or whites (p. 715).

It is in condemnation of this socio-economic status or lack of it, that Rendon (1971) directs his assault:

> The United States has been anything but a melting pot, because the gringo has purposely segregated, separated, and relegated the non-Anglo to an inferior and degraded status. Melting pot has meant surrender of one's past and culture to something euphemistically called American society or culture. The melting pot worked only for immigrants with a white skin who came to America. Regardless of nationality, these were willing to sacrifice a discrete identity in order to succeed and enter the polluted mainstream of American "can-doism" - can cheat, can swindle, can steal, can discriminate, can invade, can kill (p. 107).

Preserving and Sharing the Past

Cognizant of those variables which have contributed to the current state of the Mexican American

socially, religiously, economically and politically, Elizondo (1973) concludes:

> This growing consciousness is helping us to discover our self-identity. Rather than forgetting our past, there is a growing desire to preserve it and share with the rest of America the best of our cultural traditions and language. This phenomenon is of utmost importance when we are considering the integration of our people and our active participation in the social, religious, economic and political structures of our country (p. 8).

Elizondo's conclusion seems to be the fulfillment of the prophecy uttered by Carey McWilliams (1968) in relationship to the future of the Mexican American culture and the present generation of Mexican Americans:

> The region has yet to experience the impact of the first articulate generation of persons of Mexican descent. In another generation, Mexican-Americans will be found in all walks of life - in the arts, the professions, in the colleges and universities - and in significant numbers. In the past, Mexicans have been a more or less anonymous, voiceless, expressionless minority. There has yet to be written, for example, a novel of Southwestern experience by an American-born person of Mexican descent or a significant autobiography by a native-born Mexican. The moment the group begins to achieve this type of expression, a new chapter will be written in the history of the Southwest. For as the Spanish-speaking attain cultural maturity, as they achieve real self-expression, they will exert a profound influence on the culture of the region and Spanish-American influences that have remained dormant these many years will be revived and infused with new meaning and vigor (p. 302).

The Mexican American as Student

The Schools Have Failed

Perhaps no other document can depict the problems of both the Mexican American student and those who are responsible for his education as accurately as the report of the United States Commission on civil rights Toward Quality Education for Mexican Americans (1974):

> In this report, the Commission has attempted to identify specific conditions and practices that bear on the failure of schools in the Southwest to provide equal educational opportunity to Mexican American students. The specific areas selected for inquiry were: curriculum; school policies on grade retention, ability grouping, and placement in classes for educable mentally retarded; teacher training; and counseling. In each of these areas the Commission has documented the inadequacies of the schools and their lack of concern for Mexican American children, who represent nearly 20 percent of the school enrollment in the Southwest.
>
> The findings of this report reflect more than inadequacies regarding the specific conditions and practices examined. They reflect a systematic failure of the educational process, which not only ignores the educational needs of Chicano students but also suppresses their culture and stifles their hopes and ambitions. In a very real sense, the Chicano is the excluded student (p. 67).

In deciding that the various components of the educational process combine to create a situation which almost inevitably leads the Chicano student to educational failure, the Commission berates public education in the southwest for its decisions regarding not only who will teach, but also what will be taught and how it will be taught. The Commission (1974) especially pinpoints the following four areas of incompetency:

> Chicanos are instructed in a language other than the one with which they are most familiar. The curriculum consists of textbooks and courses which ignore the Mexican American background and heritage. Chicanos are usually taught by teachers whose own culture and background are different and whose training leaves them ignorant and insensitive to the educational needs of Chicano students. And when Chicano pupils seek guidance from counselors they rarely can obtain it and even more rarely from a Mexican American counselor (p. 68).

Although the literature is replete with glaring statistics of Mexican American failures in educational endeavors (the 1970 Census of Population of the United States, U.S. Department of Commerce, 1973) Grebler, Moore and Guzman (1970) lament the lack of information explaining the reasons for such failures:

> There is little systematic information about educators' general views of Mexican Americans. . . . There is only a sparse literature written for educators and used by the schools as a basis for understanding this group. . . . Observation and interviews also suggest that they serve to support and amplify existing conventional diagnoses of the Mexican Americans' educational problems. Generally speaking, teachers interviewed in Southwest schools tend to attribute the problems to the failure of Mexican culture to prepare or motivate the child for school (p. 158).

Having adopted such a mentality it is a wonder that educators have even attempted to become introspective concerning their accountability to the Mexican American student in their care. Grebler, Moore and Guzman (1970) express this same concern:

> The prevailing general acceptance in educational circles of the present goals and organization of the school and the prevailing general diagnosis of

> Mexican Americans' cultural deficiencies as a prime source of their educational problems have apparently prevented radical experimentation with the school itself. Among the few significant exceptions are bilingual schools such as those in Laredo and San Antonio, Texas (p. 159).

Dissecting the Complexity

The Commission (1974) clearly underscores the fact that bilingual education is not the only or the total answer to the problems of the Mexican American student. As in practically every other problem area the answer seems to be complex. It is to the dissecting of this complexity that Moore (1966) challenges the educator of the Mexican American:

> A powerful educational group in the Southwest recently endorsed the basically ideological point of view that the Mexican school dropout is suffering primarily from the lack of self-esteem. Accordingly, it recommended an increased curricular emphasis on Mexican cultural background. At best, this "solution" is highly oversimplified. It is well known that children of distinctive ethnic backgrounds operate inside a complex network of influences and possible sources of alienation. The teacher, the counselor Anglo peers, ethnic peers, instrumental handicaps, and so on, are all factors.
>
> Possibly the effort and emphasis should be placed on specialized teacher training for the whole school-community situation rather than on the search for a single-factor solution, that is, on drastic improvement of teaching and of the school as an institution (p. 41).

Significantly, Rendon's (1971) emphases for the betterment of the Mexican American's education in the public schools seem to share the same ink which was used by the Commission three years later:

> If there must be integration, we say, let it be in terms of cash, curriculum, and control. Let the Chicano enjoy a just share of funds so that his barrio schools can hire the most qualified teachers, purchase the best equipment, and give young people the finest education possible. Integrate the history books, the literature books, the languages spoken in the classroom, so that the Chicano can identify himself there and feel pride in his being Chicano. The Anglo must let go of the total control he has maintained over the educational system, the curriculum, the hiring and firing, the discipline, and the decision-making so that Chicanos will have a say in the schooling of their children (pp. 281-282).

That the solution to the Mexican American's educational problems is complex there is no doubt. That an effort to dissect that complexity is underway seems to be receiving some verification. But that the Mexican American student is at the bottom of the educational ladder in comparison to the Anglo and Black citizen is totally obvious.

The Commission (1974) reexamines the condition of that bottom rung when it deplores:

> Under existing conditions this is what Mexican American parents may expect as their children enter a public school in the Southwest:
> Their children will be isolated from Anglo children.
> Their language and culture will be excluded.
> Schools to which their children are assigned will be underfinanced.
> Teachers will treat their children less favorably than Anglo pupils.
> Forty percent of their children will drop out of school before graduation and those who remain in school will achieve less well than their Anglo classmates (p. 2).

The Mexican American Who Succeeds

Very little research has been attempted to identify those variables which correlate positively with the Mexican American student who succeeds at diverse levels of educational endeavor. Perhaps this is due to the questionable, but for many years prevalent reasoning among educators, that the cultural background in the Mexican American home was responsible for those students who failed and that such failure in no instance reflected on the efficacy of the school (Carter, 1970, 1971; Grebler, Moore & Guzman, 1970; Moore, 1966).

Carter (1970) further emphasizes the extent of such thinking:

> The near stereotype of the Mexican American child and culture is not destroyed by exceptional cases. A few low-status children do succeed in school and society. These usually share, or are assumed to share, middle-class values or have some personality characteristics expected or admired by school people. In spite of the exception to the rule, the stereotype of the Mexican American child remains unmodified in its essentials. Unfortunately, teacher-preparation institutions probably do more to support stereotyping than to destroy it. Even as additional empirical evidence that refutes the stereotype becomes available, it is doubtful that it will substantially modify educators' perceptions (p. 62).

The literature indicates that even the research which has been conducted has resulted inconclusive mostly because of methodological inconsistencies (Bowles & Levin, 1968; Carter, 1970, 1971; Coleman, 1968; Friend,

1972; Grebler, Moore & Guzman, 1970; Moore, 1968; Rendon, 1971). Basic to much of this research has been the erroneous use of IQ test scores and other standardized test scores to assess intellectual capacity in the Mexican American student. Carter (1971) explains:

> Many teachers fail to recognize that IQ is not a measurement of innate intelligence but rather an indication of the amount of "standard culture" internalized. Commonly used group "intelligence" tests are constructed on the basis of Anglo middle-class culture and are generally normed on that social group. By their very nature, such tests are biased against the Mexican American or other culturally different populations (p. 12).

Locus of Control and Academic Success

Coleman and his associates (1966) in their massive study of a national sample of racial and ethnic groups reported that relative to other racial and ethnic groups Mexican American students had a more self-deprecatory self-concept than either Anglos or Negroes and expressed a considerably lower sense of control over the environment than Anglos. However, Coleman's basic findings of factors associated with the achievement of Mexican American pupils and all other students in the sample were identical. In his analysis of the Coleman report, George W. Mayeske (1967) presents these factors:

1. Family background is most important for achievement
2. The association of family background with achievement does not diminish over the years

3. The influence of school facilities, curriculum, and staff that is independent of family background is small.
4. Teachers' characteristics account for most of the differences in school factors that are related to achievement.
5. The social composition of the student body is more highly related to achievement independently of the student's own social background, than is any school factor.
6. Attitudes concerning control or responsiveness of the environment are highly related to achievement, but variations in school characteristics have little influence on these attitudes (p. 9).

But even these findings of the Coleman Report (1966) which has been hailed by some educators "the most important source of data on the sociology of American education yet to appear . . . a document of profound significance for the future of racial and ethnic relations in America" (Mosteller & Moynihan, 1972, p. 5) have been questioned. Grebler, Moore, and Guzman (1970) summarize the problem:

> The questions involve the representativeness of the sample for Coleman's survey in light of total nonresponse by fairly large numbers of schools and of nonresponse (probably not random) on particular questionnaire items. There is reason to believe that this problem is especially acute in the case of Mexican-American pupils covered by the survey. Perhaps more important, the questions involve the validity of indicators used in the survey to measure school resources including teachers' characteristics and the social composition of the student body (p. 162).

Samuel Bowles and Henry M. Levin (1968) conclude their critique of Coleman's (1966) work by noting:

> . . . some of the Report's most widely publicized findings concerning the determinants of scholastic achievement, namely, those relating to the ineffectiveness of school resources, the influence of student peers, and the effects of integration, are not substantiated by the evidence. We have attempted to show that both the measurement of the school resources and the control of social background of the student were inadequate, and that the statistical techniques used were inappropriate. By no means do we wish to suggest that the actual relations are the opposite of what the Report concludes or that further research will not substantiate some of the Report's findings; but until better evidence is found, we will have to remain agnostic about which relationships prevail.
>
> Equality of Educational Opportunity addressed itself to some of the most difficult questions that our society faces: what are the determinants of different educational outcomes, and what is the relative importance of each of the relevant influences? Unfortunately, the survey that led to the Report was handicapped by a severe time constraint. It was also hampered by a more serious impediment, for the learning processes by which different influences alter achievement are largely unknown, and no set of data and statistical analyses can easily compensate for a missing theoretical framework. The Report has a distinct contribution to make, but not directly in the arena of educational or social policy. Rather, its strength lies in the fact that it has stimulated a great deal of thought and new research efforts to uncover the largely unknown and complex relationships among family, school, and community influences on one hand, and educational outcomes on the other. Further, it has provided some of the necessary data to test the new hypotheses that it has stimulated. In short, while the Report did not provide the answers, it has brought us closer to being able to use large scale research efforts as a basis for making intelligent policy decisions for our schools (pp. 23-24).

Mosteller and Moynihan (1972) resume the range of this technical controversy:

> The sample was not properly done. The nonresponses were too many. The number of school systems refusing to cooperate invalidated any results. The

> reliance on school administrators to report accurately the facilities in their schools was naive (pp. 32-33).

Value Orientation and Academic Success

Another study analyzing value orientation and academic success of Mexican American and Anglo students from the Los Angeles City School District conducted by Audrey James Schwartz (1969) measured reading comprehension on variables of pupil attitudes, values and opinions and reported the following:

> . . . from this analysis it is evident that value orientations are related to academic success and that subpopulations tend to have dissimilar value orientations. It is also evident that the orientations most related to success are those associated with the Anglo social structure (p. 52).

Schwartz (1969) specifies the following orientations as requisites for educational achievement: personal congruence with the goals toward which the school tasks are directed; rational orientation toward goal attainment; a generalized confidence in mankind which allows for effective interpersonal relations in the institutional climate of the school; and an optimistic definition of the general life situation which includes the view that goals can be attained through personal activity.

Of special interest in this study is how Schwartz (1969) attempts to explain that "the achieving Mexican-American differs from the achieving Anglo chiefly in his

orientation to authority, that is, in his own reluctance to exercise control over others and in his independence from parental control" (p. 53):

> . . . by moving away from the strong influence of the family, which in itself is a dominant Mexican-American characteristic, the pupil frees himself of the cultural ties which may inhibit his achievement. Moreover, with independence from family authority, the pupil is emotionally free to change his major reference group and acquire new values and behaviors. Greater concern over peer than over adult disapproval in academically successful Mexican-Americans supports the contention that the upwardly mobile pupil is looking to different standards in setting his goals and selecting his activities (p. 53).

In summary, Schwartz (1969) proposes:

> One can conclude from this analysis that as opportunities are presented to Mexican-American youth for some acculturation of Anglo values, so are opportunities presented for greater educational achievement. . . .
>
> With the firm conviction that some form of cultural adaptation to the larger society by Mexican-American youngsters is necessary if the already apparent grim consequences of educational failure are to be avoided, this study recommends that educational systems make a formal effort to structure the social context of education so that achievement values which may not be derived from the home can be developed at school, through informal social processes. Through deliberate encouragement and through manipulation of attendance boundaries, school officials must be permitted and, indeed, required to develop school environments which are most positive for academic achievement and for values which support it (pp. 53-54).

That value orientations are related to academic success seems to be the outstanding and indisputable contribution of the Schwartz (1969) findings. The research also seems to support the contentions that

there are differences in some special value orientations between Mexican American and Anglo pupils from similar socioeconomic backgrounds and that Mexican American pupils from families of high socioeconomic status are more similar to Anglo pupils in these value orientations than are Mexican American pupils from families of lower socioeconomic status.

The interpretations of these findings, however, seem to rely totally upon the theoretical writings of Talcott Parsons' "typology of the principal types of social structures . . . " which categorizes ". . . the Mexican-American society as one of predominantly particularistic-ascriptive value orientation patterns and the Anglo society as predominantly universalistic-achievement value orientation patterns" (Schwartz, 1969, pp. 1-2). Carter (1970) suggests the dangers implicit in such interpretations:

> Having in mind a set of preconceived ideas concerning the "group personality," it is an unusual educator who does not find his expectations confirmed by his observations of Mexican American behavior. The stereotype strongly influences his analysis of the group and acts as a selector of observed behavior. He tends to remember or "see" those aspects of behavior that correspond with his belief pattern (p. 38).

Nor does Carter (1970) hesitate to add that the theory of cultural deprivation seems to include the following:

> Explicit in the concept that some children are culturally deprived is the idea that certain nurturing cultures do not provide the necessary influences to make children successful in school or acceptable in the majority society. The concept implies that the principal role of the school is to act as the first of a chain of influences that cause disadvantaged children to accept middle-class culture - that is, the school's function in society is to reeducate the culturally distinct, both the poor and the foreign. Also implicit in this concept is the assumption that the school is essentially satisfactory as it now exists, and that it is a valid representation of American culture (p. 36).

Locus of Control Independent of IQ

Ras Roland Friend (1972) conducted a study to determine if a relationship exists, independent of IQ, between academic achievement and locus of control in grades nine, ten and eleven for male and female, black, white and Mexican American high school students of lower and middle socioeconomic levels. Although the basic findings seem to indicate little if any measured relationship between academic achievement and locus of control, Friend proposes several alternative possibilities:

1. Controlling the IQ, which is so closely related to academic achievement, may have eliminated effect. "IQ scores" on this verbal group test may actually be "academic achievement."
2. The instrument used in the study may not have been sensitive enough to measure degrees of locus of control.
3. The sample used in the study was small and may not have been representative.
4. There may have been other uncontrolled contaminating variables present or possibly there were no actual relationships other than for the two hypotheses noted.

5. There may be a small and weak relationship between academic achievement and locus of control.
6. Significant findings in two groups indicate the possibility of any or all of the above conclusions as a possible explanation of the weak results obtained.

Friend (1972) likewise adds these recommendations:

1. Research needs to be conducted to identify the most effective levels of locus of control for different situations. The importance of internal locus of control has been emphasized in the literature but no information is available about what level of internal locus of control is most effective in what situations.
2. Counseling programs aimed at changing locus of control should be investigated to determine if changes in locus of control are accompanied by changes in achievement.
3. Further research should be conducted to determine the effects of enrichment programs on locus of control and academic achievement.

Mexican Americans and Locus of Control

The literature seems to suggest, with few exceptions (Friend, 1972) that locus of control or the manner in which one perceives reinforcement for his behavior is correlated with academic success for all students regardless of ethnic background (Crandall, Katkovsky & Crandall, 1965; Coleman et al., 1966; Franklin, 1963; Remanis, 1970; Schwartz, 1969; Shore, Milgram & Malasky, 1971). In addition, the studies of Coleman et al. (1966) and Schwartz (1969) specifically pinpoint the association of locus of control and academic success in the pupil of Mexican American descent.

Marshall L. Smith (1972) notes how in the midst of challenges to most of Coleman's (1966) conclusions, one of two which received apparent unanimous acceptance concerns the association of locus of control and achievement:

> During the five years following the appearance of the Report, no one has seriously questioned the importance of family background for student achievement. Nor has the conclusion reached about the association of student attitudes with student achievement been controversial. . . . (p. 231).

In their discussion on the findings relating to the control of the environment Mosteller and Moynihan (1972) underscore:

> As much as could be was also made of the finding that a child's sense of "control of his environment" correlated strongly with his educational achievement. "Of all the variables measured in the survey," the EEOR reported, "including all measure of family background and all school variables, these attitudes showed the strongest relation to achievement. . . ." (EEOR, p. 319). Negro students who had a strong sense of control of environment did better than white students with a weak sense. . . . (p. 25).

Among other commentators Maurice R. Berube and Marilyn Gittell (1969) also emphasize the locus of control variable and its relationship to academic achievement:

> Some major research studies indicate that community control may offer the most positive educational formula. These studies show teacher and pupil attitudes to be critical to learning. The largest educational study conducted in the United States--the U.S. Office of Education's "Equality of Educational Opportunity," commonly referred to as the Coleman Report--concludes that a student's feeling of control over his future is a factor influencing achievement, a factor of more weight than all other factors combined . . . (p. 7).

The scant literature available seems to warrant the contention that for Mexican American students, as for Blacks and for Anglos, the recurring and inevitable conclusion seems to be that school achievement or academic success, regardless how it is measured, is definitely associated with the pupil's locus of control or the manner in which he perceives reinforcement for his behavior.

CHAPTER III

INSTRUMENTATION AND VARIABLES

Basic to the instrumentation of this study is a trilogy of contributions essential to the development of Matthews' (1975) Attitude Behavior Scale: Internal-External Locus of Control (ABS:IE):[1]

1. Louis Guttman's (1944, 1950a, 1950b, 1959, 1970) facet design scaling analysis.
2. John E. Jordan's (1968, 1971a, 1971b, 1974) adaptation and expansion of Guttman's paradigm.
3. Calvin O. Matthews' and John E. Jordan's (1975) creation of the ABS:IE by applying J. B. Rotter's (1966) internal-external locus of control concept to the Guttman-Jordan facet scaling design.

This chapter treats each of these triple contributions as they effect the development of the ABS:IE. Then it considers in detail the manner in which different variables were identified and utilized in the present study.

The Guttman-Jordan Facet Theory

Quantifying Qualitative Data

One of the perennial problems of research in the social sciences seems to be the goal of adequately

[1]Hereafter referred to as the ABS:IE.

quantifying the qualitative. Especially in dealing with attitudes one finds himself awed at the 'inability' not only to measure attitudes, but even to discover consensus as to what an attitude really is.

Whether the researcher accepts an attitude to be a predisposition to behavior, the behavior itself, or as in the Guttman-Jordan approach (Jordan, 1971a) a combination of both as an attitude-behavior concept, the problem remains. Needless to say, research is useless unless one can "measure the constructs" under consideration (validity) and can adequately reproduce the same results using the same techniques (reliability).

The quest of Guttman-Jordan's attitude facet theory (Guttman, 1959, 1970, 1971; Jordan, 1971a, 1971b) is to quantify the qualitative; to be able to construct a scale, an index, an instrument which will indeed be able to "measure" attitude-behaviors. Two of the most attractive traits of the Guttman-Jordan proposition are the rigor of its logic and the precision of its "ordering principle" in attempting to introduce the concept of semantic "structure" as a means of quantifying qualitative data (Foa & Turner, 1970).

Contrary to many other psychological researchers, Guttman-Jordan define an attitude as a "delimited totality of behavior with respect to something" (Guttman, 1950a, p. 51). Thus, they consider an attitude as a whole, a

universe, a totality: composed of interdependent parts, which parts can be subdivided and rearranged in diverse a priori specified ways to represent the given whole.

Facet Analysis and Set Theory

It is this concept of a content universe or whole, and its parts or components as applied to attitude-behavior, that "allows" the researcher to be able to quantify qualitative data. Basic to facet theory, then, is the concept of set theory. The individual objects in a set are called elements or members of that set. All the possible combinations of elements derived from the diverse sets under consideration are called the set product or the Cartesian product (Elizur, 1970).

In facet analysis the set product is synonymous with the attitude-behavior universe which encompasses the combinations of all elements from the diverse sets. In this sense, as a profile of elements across sets, facet theory attitude research is multivariate. It considers the many variables, aspects, qualities, or facets which combine to comprise the attitude-behavior universe.

Founded on the principles of set theory, there are two basic steps in facet design. The first step is the development of a rationale for the selection and specification of the basic sets called facets; e.g., aspects or qualitative variables of the attitude-behavior

universe, as illustrated in Table 1. Each basic facet is composed of various elements.

The second step is the selection of sets of elements, combinations, or profiles which together form the Cartesian product of the facets of the total universe under consideration. These new sets, profiles, or combinations may be called attributes, subuniverses or subscales; which are divided into attitude-behavior levels by "degree of strength," or interpersonal intimacy; i.e., of subject-object interaction, as shown in Tables 1 to 4.

TABLE 1.--Facets used to determine joint struction[a] of an attitude universe.

(A) Referent	(B) Referent Behavior	(C) Actor	(D) Actor's Intergroup Behavior	(E) Domain of Actor's Behavior
a_1 others	b_1 belief	c_1 others	d_1 comparison	e_1 hypothetical
a_2 self (I)	b_2 experience (overt behavior)	c_2 self (mine/my)	d_2 interaction	e_2 operational

[a]Joint struction is operationally defined as the ordered sets of the five facets from low to high (subscripts 1s are low) across all five facets simultaneously.

TABLE 2.--Joint level, profile composition, and labels for six types of attitude struction.

Subscale Type-Level	No.[a]	Profile by Definitional[b] System	Profile by Notational System in Table 1	Attitude Level Descriptive Term
1	0	o b o c h	a_1 b_1 c_1 d_1 e_1	Societal Stereotype
2	1	o b o i h	a_1 b_1 c_1 d_2 e_1	Societal norm
3	2	i b o i h	a_2 b_1 c_1 d_2 e_1	Personal moral evaluation
4	3	i b m i h	a_2 b_1 c_2 d_2 e_1	Personal hypothetical action
5	4	i e m i h	a_2 b_2 c_2 d_2 e_1	Personal feeling
6	5	i e m i p	a_2 b_2 c_2 d_2 e_2	Personal action

[a]Number of strong elements.

[b]Facet elements of Table 1

A = o (others) or i (self)
B = b (belief) or e (experience)
C = o (others) or m (mine/my)
D = c (comparison) or i (interaction)
E = h (hypothetical) or p (operational)

Although the five, two-element facets of Table 1 permit the generation of 32 combinations or profiles it has been established (Maierle, 1969) that only 12 of these are logically and semantically consistent, psychologically relevant, and nonredundant. These 12 profiles group into six "levels of strength." Six of these profiles, one at

TABLE 3.--Comparison of Guttman and Jordan facet designations.

Designation	Facets[a] in Jordan Adaptation				
	A	B	C	D	E
Jordan	Referent	Referent behavior	Actor	Actor's intergroup behavior	Domain of actor's behavior
	a_1 others	b_1 belief	c_1 others	d_1 comparison	e_1 hypothetical
	a_2 self (I)	b_2 experience (overt behavior)	c_2 self (mine/my)	d_2 interaction	e_2 operational
Guttman	-----	Subject's behavior	Referent	Referent's intergroup behavior	-----
	-----	b_1 belief	c_1 subject's group	d_1 comparative	-----
	-----	b_2 overt action	c_2 subject himself	d_2 interactive	-----

[a]Facet elements of Table 1:
A = o (others) or i (self)
B = b (belief) or e (experience)
C = o (others) or m (mine/my)
D = c (comparison) or i (interaction)
E = h (hypothetical) or p (operational)

TABLE 4.--Five-facet six-level system of attitude verbalizations:[a] levels, facet profiles, attitude-behavior dimension and definitional statements for twelve combinations.

Level	Facet Profile	A-B Dimension	No.[b]	Definitional Statement[c]		Descriptive Name[d]
1	o b o c h $a_1b_1c_1d_1e_1$	Cognitive	0	Others believe others' comparisons hypothetically	**	Societal stereotype (group assigned group status)
2	i b o c h			I believe others' comparisons hypothetically		Personally-assigned group status
	o b o i h $a_1b_1c_1d_2e_1$	Cognitive	1	Others believe others' interactions hypothetically	**	Societal norm
	o b m c h			Others believe my comparisons hypothetically		Group-assigned personal status
3	i b o i h $a_2b_1c_1d_2e_1$	Affective		I believe others' interactions hypothetically	**	Personal moral evaluations (perceived values)
	i b m c h		2	I believe my comparisons hypothetically		Self-concept (personally assigned personal status)
	o b m i h			Others believe my interactions hypothetically		Proclaimed laws (group (expectations)
	o e o i h			Others experience others' interactions hypothetically		Group identity (actual group feelings)
4	i b m i h $a_2b_1c_2d_2e_1$	Affective Conative	3	I believe my interactions hypothetically	**	Personal hypothetical action
	o e o i p			Others experience others' comparisons hypothetically		Actual group action
5	i e m i h $a_2b_2c_2d_2e_1$	Affective Conative	4	I experience my interactions (feelings) hypothetically	**	Personal feeling
6	i e m i p $a_2b_2c_2d_2e_2$	Conative	5	I experience my interactions (overt behavior) operationally	**	Personal action

** Combinations used in the ABS.

[a] Cf. Tables 1 and 2.

[b] No. = number of strong elements in level.

[c] Words in parentheses are part of redundant but consistent statements.

[d] Alternate names in parentheses indicate relationships of various level members.

each level of strength (Table 2), have been chosen for the attitude-behavior scales (ABS) and the research discussed herein. The rationale for the selection is extensively discussed elsewhere (Jordan, 1971a, 1971b).

Jordan's Six Level Adaptation

Although the Guttman-Jordan paradigm as it is used in the ABS:IE is composed of five facets and six levels, Guttman (1959) originally employed only three facets (subject's behavior, referent and referent's intergroup behavior) and four levels (stereotype, norm, moral evaluation and hypothetical interaction). Jordan (1968) expanded the Guttman design by adding two facets (actor and domain of actor's behavior) and two levels (personal feeling and personal interaction) as shown in Table 3.

In his attempt to capture the multidimensionality of attitude-behavior in his facet analysis scaling Guttman (1959) had stated: "To increase the predictability would require enriching the facet design, or placing these behaviors in a larger context" (p. 327). Convinced that the "conative dimension" and the "affective domain" of attitude-behavior were not being measured specifically in the four-level system, Jordan (1968) attempted to enrich the facet design and placed attitude-behavior in a larger context as shown in Table 4.

Brodwin (1973) emphasizes Jordan's contribution to Guttman's attempt to measure the entire universe of attitude-behavior:

> His [Jordan's] theory, while including Guttman's four Levels (cognitive and affective elements), extends Guttman into the realm of conative behavior. His two additional Levels, personal feeling (Level 5) and actual personal action (Level 6) extend the theory to 'real', observable overt behavior. These Levels are evaluating the subject's actual feelings and actions, instead of his perceived thoughts, beliefs, and opinions (as measured in the first four Levels). They appear to be the crucial Levels at which attitudinal change occurs (pp. 162-163).

Thus, the Guttman-Jordan five-facet, six-level design encompasses the three dimensions of attitude-behavior: the cognitive (Levels 1 and 2); the affective (Levels 3, 4 and 5); and the conative (Levels 4, 5 and 6).

Facet scaling, then, is basically a technique employing the theory of facet analysis: "a tool for the organization of ideas" (Foskett, 1963, p. 111). Foskett (1963) views Guttman's facet analysis as "the coordination of elements from sets which together add up to the whole content of research projects" (p. 111).

Structioning

Although Guttman rejects factor analysis as a means for quantifying data, he considers factor analysis a "predecessor" to facet analysis. Guttman's primary aim is not to "factorize" the data, but to present a theory and a method of instrument or scale construction in which

he "quantifies a class of attributes" by means of predetermined rules of classification. The effect is directed toward scaling the universe of attributes of the area under consideration such that it contains 'all' of the attributes under investigation.

Guttman (1970) approaches the actual "quantifying of attributes" in facet theory by a procedure termed structioning. Structioning consists of providing a faceted definitional system (Figures 1 and 2) for a set R and is accomplished by mapping R into the Cartesian space of the facets (R = set of rules for classification).

This set of rules for classification is decided a priori but not without a rigorous, empirical, and logical rationale; i.e., a "theory." Guttman (1973) states that a theory can be defined as:

> an hypothesis of a correspondance between a definitional system for a universe of observations and an aspect of the empirical structure of those observations, together with a rationale for such an hypothesis (p. 35).

Kim, Jordan and Horn (1974) elaborate that such a theory and methodology attempt to answer quantitative questions as:

> How are the variables under consideration distributed in the population? What are the laws of interrelationships between variables that produce this behavior? Are these laws generalizable to all individuals (p. 11)?

According to scale theory, ordering of the profiles also implies, as Guttman (1959) states, "a formal

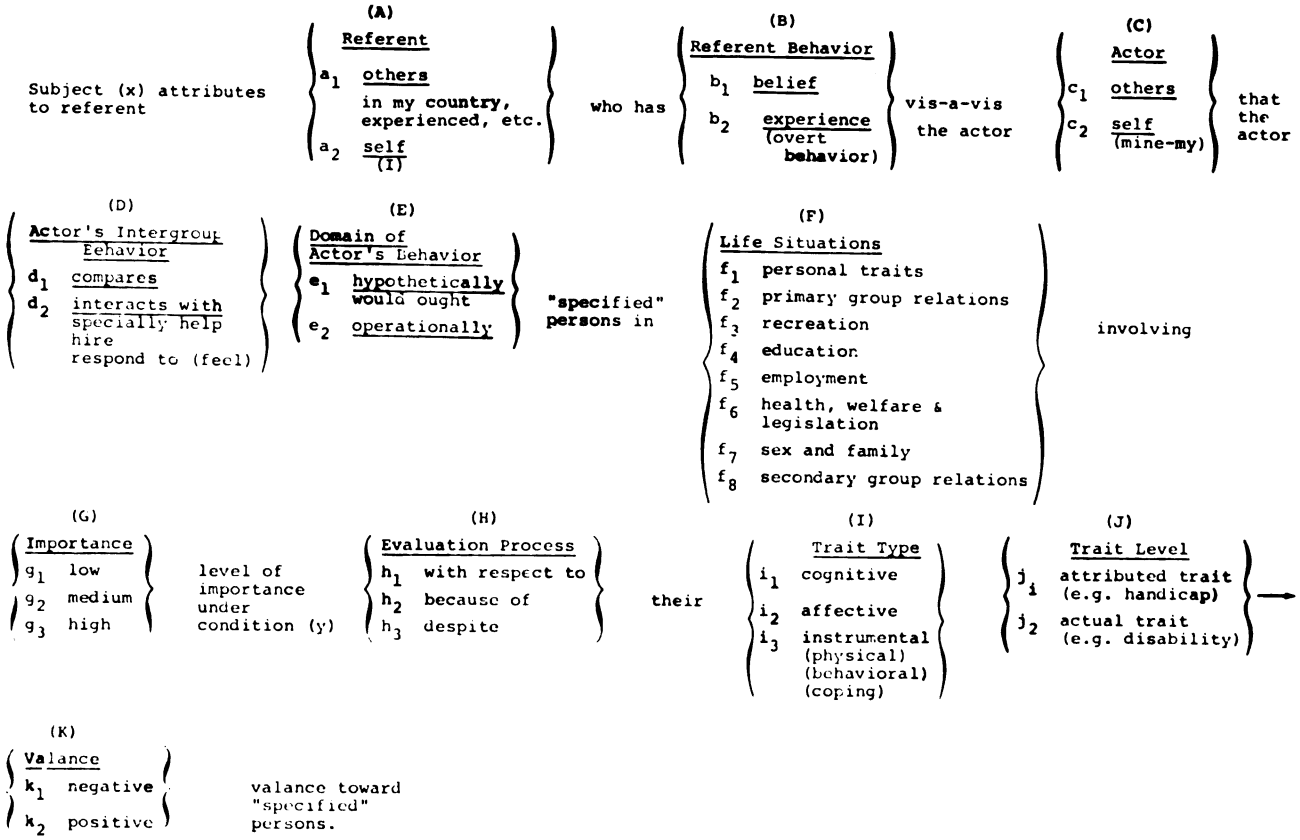

Figure 1.--A mapping sentence for the facet analysis of joint[a] and lateral[b] struction of attitudes toward specified[c] persons.

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[a]Facets A through E denote Joint Struction or level.

[b]Facets F through J denote attitude content or Lateral Struction.

[c]Any person or social group such as aged, blind, alcoholic, drug user, Negro, national, or ethnic group may be substituted for "specified" persons.

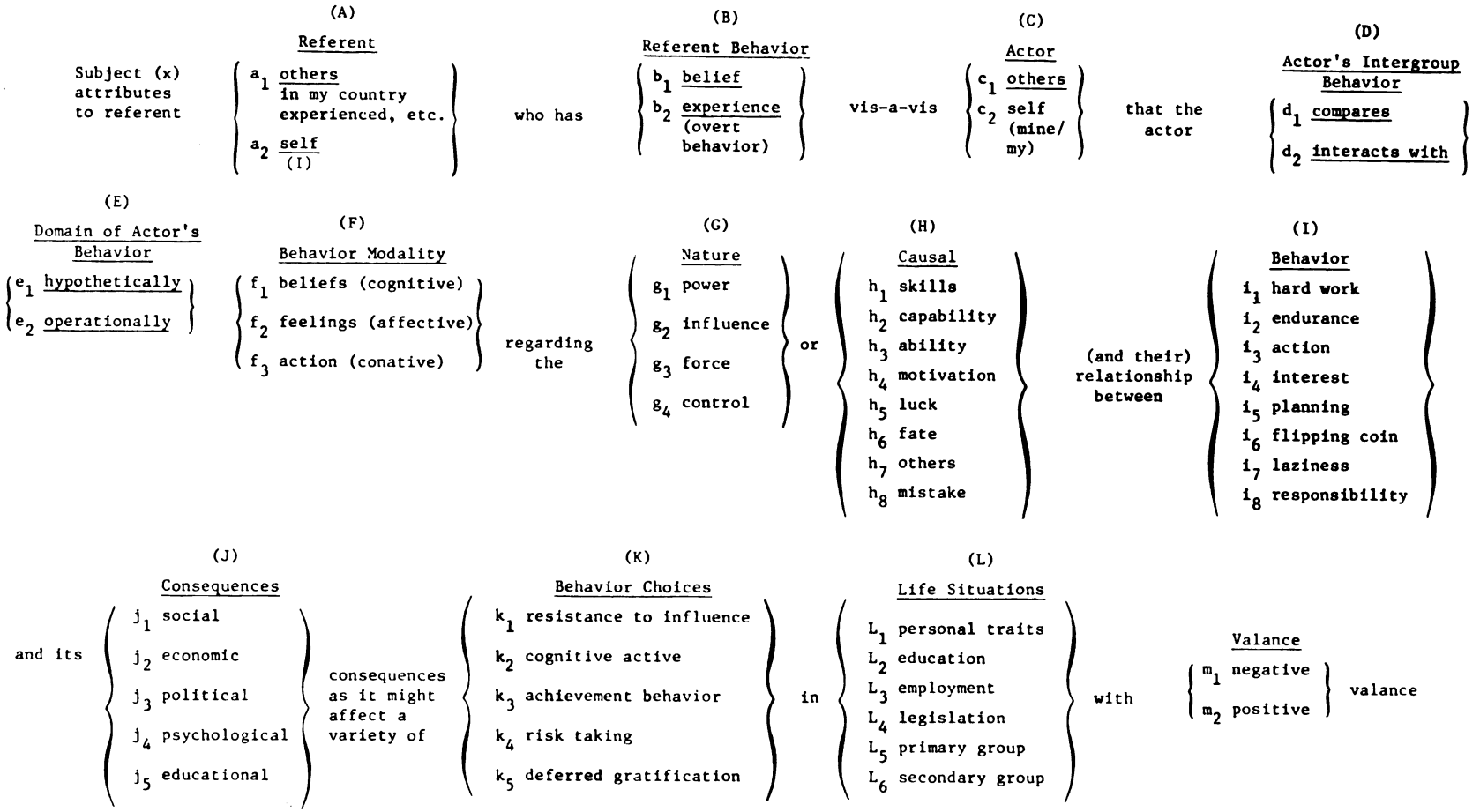

Figure 2.--Mapping sentence for the facet analysis of joint[a] and lateral[b] dimensions of attitude-behavior toward internal-external locus of control.

[a]Facets A through E denote joint structure.

[b]Facets F through L denote lateral structure.

ordering of the specific categories or elements 'within' each facet" (p. 320). In attitude research this methodological approach allows a "known" sampling of appropriate items for the different attitude-levels or subscales (Table 2 and Figures 1 and 2), and also enables the prediction of relationships between the different substructures (profiles) of the attitude universe.

Joint Struction

Joint struction (Guttman, 1970) is restricted to the "ordering" depicted in the five facets of Table 1. Structioning is operationally defined as the ordered sets of the five facets of Table 1, from low (subscript "1") to high (subscript "2"), across all five facets simultaneously (Jordan, 1968, p. 76); leading to six levels of attitude-behavior strength. Low (subscript "1") represents a cognitive-other-passive orientation and high (subscript "2") represents an affective-self-action orientation (Kim et al., 1974, p. 6).

It is this quantitative rank ordering or joint struction, measuring the increasing strength of attitude-behavior from a "weak" cognitive-other-passive orientation to a "strong" affective-self-action orientation, that quantifies the qualitative data and lays the foundation for considering the multidimensional aspect of attitude-behavior.

The resulting six levels derived from the combinations of the facet-elements can thus be ordered from weakest to strongest, vis-a-vis subject-object interaction; depending on the number of "strong" facet elements appearing in each level. Using this type of struction or ordering, Guttman-Jordan arrive at a multivariate attitude-behavior content universe which is "scaled" into six levels, each progressive level, from one to six, containing from zero to five "strong" facet-elements (Table 2).

The following analysis defines the joint struction or "ordering" rationale as applied by Guttman-Jordan to the facet-elements of Table 1 (Kim et al., 1974):

Facet A - the referent "other" (a_1) is weaker than the referent "self" - I (a_2) in being less personal.

Facet B - "belief" (b_1) is weaker than "experience" - overt behavior (b_2) in being "passive" rather than "active."

Facet C - referring to the behavior of one's "self" - mine/my (c_2), rather than of "others" (c_1), is stronger in that it implies personal involvement.

Facet D - in behavioral terms, "comparison" (d_1) is weaker than "interaction" (d_2) since it does not imply social contact. A member of some identified group (i.e. the attitude object) is seen by the subject in comparison to members of some group - his own or another - without any necessary implication of interactions between S and the members of the other group.

Facet E - "hypothetical" behavior (e_1) is weaker than "operational" (e_2) in that it does not imply acting-out behavior (p. 6).

As is obvious, there is a rank order underlying the joint struction facet-elements in this design. Guttman refers to it as a progression from a weak to a strong form of the subject's behavior vis-a-vis the attitude object. The more subscript "2" elements a profile contains the greater the strength of the attitude-behavior at that particular level. In summary, there is a progression through (Table 2) the subscale levels, "stereotype" (level 1), being the weakest, proceeding through to "personal interaction" (level 6) the strongest. Table 2 represents the special case in which all the facets are monotonic functions of the rank order specified in the ordering principle by the number of weak-strong elements of interpersonal interaction.

Lateral Struction

Jordan has attempted to establish also an ordering principle for the attitude item content itself so that it too could be "ordered" with some explicit a priori semantic meaning, rather than attempting to a posteriori evolve the meaning by some procedure such as factor analysis. Guttman calls this type of ordering "lateral struction" and the rationale Jordan (1971b) proposes considers three main principles in the selection of the item content (Figures 1 and 2) in an attitude-behavior scale.

1. Relevance of the content-area for the subject: Low-high. Is "situation y" relevant and/or important to the subject?

2. Ego involvement of subject: Cognitive-affective. Is the "attitude object in situation y" dealt with cognitively or affectively by the subject?

3. Social distance between subject and attitude-object: Distant-close. Is subject's "self" touched in situation y by the attitude object?

In other words, an item (variable) belongs to the universe of attitude items if and only if its domain asks about behavior in a cognitive, affective, instrumental modality toward an object; and its range is ordered from very positive to very negative toward that object. Therefore, attitude items toward a given object are not negatively correlated for usual populations.

Consistent with the above discussion of the weak-strong principle in the evaluation of facets A-E and the attitude levels 1-6, a positive or stronger attitude in the lateral struction would be expressed by a subject who "agreed with or chose" items that dealt with the attitude object in "highly important situations that involved the 'self' of the S in close interpersonal action."

Six Level Matrix: Simplex

By combining the content ordering, or lateral struction, with the joint struction ordering of the six attitude-behavior levels, Jordan has developed several

ABS type measures of attitude-behaviors toward varied "attitude objects" (Bray & Jordan, 1973; Dell Orto & Jordan, 1974; Hamersma, Paige & Jordan, 1973; Harrelson, Jordan & Horn, 1972; Jordan, 1974; Jordan & Brodwin, 1974). Although each ABS can be differentiated by its content and/or attitude object, the underlying joint struction/ordering provides the researcher a social psychological basis for predicting the structure of the empirical intercorrelation matrix of its six levels into a specific type of matrix: a simplex, as shown in Table 5.

TABLE 5.--A simplex for six variables.

1	---					
2	.55	---				
3	.39	.45	---			
4	.27	.30	.70	---		
5	.24	.28	.62	.86	---	
6	.21	.24	.59	.82	.88	---
	1	2	3	4	5	6

This prediction was stated by Guttman (1959) as the contiguity hypothesis: "Subuniverses closer to each other in the semantic scale of their definitions will

also be closer statistically" (p. 324). The contiguity hypothesis postulates that levels adjacent to one another will correlate to a stronger degree than will levels that are more distant from each other. In other words, "Societal Norm" (level 2) will correlate more highly with a closer level, "Personal Hypothetical Action" (level 4) than it will with "Personal Action" (level 6), a more distant level.

Nevertheless, Guttman (1959) does caution the researcher concerning the ordering principle:

> One cannot presume to predict the exact size of each correlation coefficient from knowledge only of the semantics of universe ABC, but we do propose to predict a pattern or structure for the relative sizes of the statistical coefficients from purely semantic considerations (p. 324).

Facet analysis provides a means of selecting items from an infinite sample of items that are representative of the particular dimensionality of the scale being constructed. That a rank order of subjects can be established for material that is qualitative in nature is especially significant. By means of a semantic facet analysis, qualitative data can be interpreted by quantitative means. The qualitative variable is given quantitative significance "such that each attribute in the universe of attributes is a simple function of that quantitative variable" (Guttman, 1950b, p. 88).

Methodological, Theoretical and Applied Results

Jordan's recent summary (Kim et al., 1974) of the results he has obtained from the application of the multidimensional facet theory approach in numerous attitude-behavior studies serves as a resume of the Guttman-Jordan attitude facet procedure. The importance of a facet-designed approach to attitude research, and the results obtained thereby, can be considered under three aspects: (a) methodological, (b) theoretical, and (c) applied:

1. The facet-theory approach has proved a powerful tool in (a) defining research problems, (b) finding relationships within and among variables, (c) dealing with problems of relevancy, equivalency, and comparability in cross-cultural research, and (d) assisting in the analysis and interpretation of empirical data.

2. Certain aspects of attitude-behavior are cross-culturally invariate, i.e., the simplex-determined largely by structure of the object-subject relationship.

3. Certain aspects of attitude-behavior are object specific.

4. Certain aspects of attitude-behavior are situation specific (e.g., the same attitude object in different situations--that is, attitudes of Whites toward Blacks re education vs. housing vs. jobs vs. etc.).

5. Certain aspects of attitude-behavior are culture specific (racial attitude-behaviors in New Zealand are quite similar in structure to those in the U.S. but more equalitarian in magnitude).

6. Certain aspects of attitude-behavior may be personality specific, as has been demonstrated in the authoritarian personality studies.

7. Knowledge per se about the attitude object does not generally lead to attitude positiveness.

8. Amount of contact per se increases attitude intensity but not positiveness unless accompanied by (a) enjoyment of the contact and (b) perceived voluntariness of the contact. Mere exposure "is not" enough (Zajonc, 1968)!

9. Attitude positiveness is related to a value-affective-contact base rather than a cognitive-knowledge one.

10. Attitude-behavior change must be approached multidimensionally: knowledge is more related to Stereotypic and Normative Levels and contact, values, and enjoyment factors are more related to the Actual Feeling and Action (acting-out) Levels (p. 15).

Matthews' ABS:IE

Development of the Instrument

Employing the Guttman-Jordan facet scaling paradigm as his foundation, Matthews (1975) proceeded to develop with Jordan the ABS:IE by adapting Rotter's (1966) concept of internal-external locus of control in the content ordering or lateral struction of his instrument. The ABS:IE, then, is essentially a Guttman-Jordan six-level facet analysis scale which adapts and/or assesses Rotter's concept of internal external locus of control according to its multidimensionality.

Matthews (1975) states the following:

> The content of the items used in the ABS:IE scale was taken directly from Rotter's I-E Scale (1966) . . . and was "structured" according to facet theory. Using the 29 paired items of the Rotter I-E Scale, level one (stereotype) of the ABS:IE was developed by semantically writing the 58 items at level 1 of the Guttman-Jordan paradigm . . . (p. 73).

A tentative 20 item scale (Table 6), reduced from the original 58 items, eventually resulted in the 10 items which Matthews (1975) chose for the final ABS:IE in which the content of each item was repeated or held constant across all six levels. The following items differed from level to level only in alternation of the specified item content to fit the joint struction of the different levels:

1. Unhappiness is due to bad luck.
2. Personal worth is unrecognized.
3. Right break needed to achieve.
4. World is controlled by powerful people.
5. Decision making by flipping a coin.
6. Being boss depends on luck.
7. Relation between grades and studying.
8. No influence over things.
9. No control over politicians.
10. Good job depends on fate (p. 77).

Since Jordan (1968) reported that econo-demographic variables, socio-psychological variables, contact, and knowledge variables are important determinants, correlates, and/or predictors of attitudes, Matthews (1975) also collected the following demographic data as possible correlates and/or predictors of IELC attitudes:

> (a) sex, (b) age, (c) amount of education, (d) marital status, (e) religious preference, (f) degree of conformity to religious rules and regulations and importance of religion, (g) geographical location, and (h) racial group (p. 82).

TABLE 6.--Content of items for inclusion in the tentative ABS:IE.

Item Content[a]	Levels and Item Numbers					
	1	2	3	4	5	6
1. Unhappiness is due to bad luck.	1	21	41	61	81	101
2. Personal worth is unrecognized.	2	22	42	62	82	102
3. Teachers are not fair.	3	33	43	63	83	103
4. Right break needed to achieve.	4	24	44	64	84	104
5. Decision to take action.	5	25	45	65	85	105
6. Success depends on hard work.	6	26	46	66	86	106
7. World is controlled by powerful people.	7	27	47	67	87	107
8. Events depend on good or bad fortune.	8	28	48	68	88	108
9. Getting doesn't depend on luck.	9	29	49	69	89	109
10. Decision making by flipping a coin.	10	30	50	70	90	110
11. Being boss depends on luck.	11	31	51	71	91	111
12. Success depends on ability.	12	32	52	72	92	112
13. No such thing as luck.	13	33	53	73	93	113
14. Bad things are balanced by good things.	14	34	54	74	94	114
15. Relationship between grades and studying.	15	35	55	75	95	115
16. No influence over things.	16	36	56	76	96	116
17. Trying to please people.	17	37	57	77	97	117
18. No control over politician.	18	38	58	78	98	118
19. Good job depends on fate.	19	39	59	79	99	119
20. What is going to happen will happen.	20	40	60	80	100	120

[a]3974 edition of the ABS:IE.

Validity and Reliability

Matthews (1975) posits that "Content validity of the ABS:IE can be assumed since the content was taken directly from the Rotter I-E Scale and facetized into the mapping sentence" . . . (p. 82). "Construct validity," he continues, "is indicated by the results of the simplex data and from social learning theory" (p. 83). He also adds: "Concurrent and predictive validity was tested by correlating the ABS:IE with the Rotter I-E Scale and the Efficacy Scales. These scales have already been established as measures of IELC" (p. 88).

According to Matthews (1975) reliability estimates for the six levels of the ABS:IE were obtained by the Hoyt method which "uses analysis of variance procedures to produce a reliability coefficient equivalent to the Kuder-Richardson measure of internal consistency at each of the six levels of attitude measured" (p. 90).

In his conclusions Matthews (1975) reiterates:

> Previous attitude-behavior studies have had "personal" attitude-objects as subjects (ethnic groups, drug users, mental retardates) toward whom the respondents would indicate their attitude. In the present study there is no direct "personal" subject; the attitude object is "conceptual" in nature. The ABS:IE attempts to measure one's philosophy of life in terms of his beliefs about his and other people's control over reinforcement (p. 128).

In recommending the ABS:IE as a useful research instrument Matthews (1975) summarizes:

> The primary objectives of this study were to (a) replicate the six-level attitude scale construction of Jordan using Guttman facet design and analysis, and to test that construction; (b) to develop, according to the Guttman-Jordan formulations, an attitude-behavior, internal-external locus of control scale ABS:IE; (c) to determine the relationships between specific levels of the ABS:IE with predictor variables; and (d) to determine the relationship between the levels of the ABS:IE, the Rotter I-ES, and the Efficacy Scale (p. 122).
>
> The methodological and theoretical findings (simplex order, reliability, and validity) suggest that the ABS:IE can serve as a useful research instrument (p. 127).

Research Population

Six socially relevant groups which were projected to possess various internal-external locus of control orientations were used in the present study. The ABS:IE was administered in English to the following five categories or groups: (a) Mexican American high school students enrolled as seniors or in the 12th grade, (b) Mexican American two-year college (junior college) students enrolled as second year students or sophomores, (c) Mexican American four-year public college students enrolled as seniors, (d) Mexican American female professionals, and (e) Mexican American male professionals. The ABS:IE was also administered in the Spanish language to one group, Mexican National (citizens of Mexico) four-year college students attending two Mexican colleges in Mexico.

The categories or groups were believed to vary in IELC along a continuum from low to high in internal locus of control, 1 through 6 as shown in Table 7. Each category is divided into female and male except categories 5 and 6 which are sexually homogeneous.

Category 1 consists of 100 Mexican American high school students who are seniors (12th grade), attending a high school in South Texas. This category is divided into 49 females and 51 males.

Category 2 consists of 100 Mexican American junior college (two-year college) students who are second year students or sophomores, attending a junior college in South Texas. This category is divided into 50 female and 50 male subjects.

Category 3 consists of 27 Mexican American four-year public college students who are seniors, attending a four-year college in South Texas. This category is divided into 21 female and 6 male subjects.

Category 4 consists of 84 Mexican National (citizens of Mexico) college students attending two Mexican four-year public universities in Mexico. This group is divided into 49 female and 35 male subjects.

Category 5 consists of 39 Mexican American professional women. All of these women are Roman Catholic religious (nuns) who have earned a master's degree or more.

TABLE 7.--Research population employed in the ABS:IE Mexican American, Mexican National study.

Category (Group)	N	Females	Males
1. Mexican American High School Seniors	100	49	51
2. Mexican American Two-Year College Sophomores	100	50	50
3. Mexican American Four-Year College Seniors	27	21	6
4. Mexican National Four-Year College Students[a]	84	49	35
5. Mexican American Professional Women	39	39	--
6. Mexican American Professional Men	28	--	28
TOTALS	378	208	170

[a]This category was subdivided:

Freshmen:	14	Juniors:	13
Sophomores:	16	Seniors:	41

Category 6 consists of 28 Mexican American professional men. All of these men are Roman Catholic ordained priests who are considered to have earned a doctoral degree or its equivalent because of their four years of divinity studies beyond their bachelor's degree. Some of these men have also earned additional independent degrees in other fields.

Rationale for Research Sample Choice

Since this study attempts to measure the internal-external locus of control of Mexican Americans who have succeeded at various intervals of educational endeavor, it was considered essential to choose samples from definite intervals of educational success.

1. Those who are completing their basic twelve years of education, the high school seniors (Category 1).
2. Those who are completing their initial two years in a junior college (two-year college), the junior college sophomores (Category 2).
3. Those who are about to terminate their undergraduate degree, seniors at a four-year public college (Category 3).
4. Those who have earned a graduate degree, the professional women (Category 5).
5. Those who have earned a doctoral degree, its equivalent or more, the professional men (Category 6).

Category Four: The Mexican National

This investigation attempts to probe the manner in which a Mexican American perceives the reinforcement he receives for his behavior (his locus of control). But the literature seems to indicate that the Mexican American has been treated as the "excluded" student by the specific conditions and practices that bear on the failure of the American educational process ". . . which not only ignores the educational needs of Chicano students

but also suppresses their culture and stifles their hopes and ambition" (U.S. Commission on Civil Rights, 1974, p. 67). Therefore, it was projected that students who are Mexican Nationals (citizens of Mexico) and share the original culture with the Mexican American but not the pejorative treatment of the American public school system, would score significantly more internally than the Mexican American at the same level of education.

In order to examine this hypothesis it was necessary to include a sample of the Mexican National (citizen of Mexico) college student population. Further, since this Mexican National student was to be compared primarily to the two groups of Mexican American college students, it was decided that this sample should be gathered from each of the four years of at least two Mexican universities. In this manner it (Category 4) would approximate a better representation of Mexican college students even though it was not chosen at random.

Priests, Nuns Dimension

Although the educated Mexican American is certainly represented in many other professional fields which could have been sampled for this project, it was decided to exclude other professionals lest each of the professional categories should become so heterogeneous within itself that it would be difficult to be measured

and compared. Priests and nuns were projected to be more homogeneous in their respective groups because of the great similarities of training and environmental conditioning in their individual group's professional preparation. The contention was that such group homogeneity would immediately suggest variable differences and thus IELC differentiations in comparison with the other groups.

For the same reasons it was hypothesized that priests and nuns would differ more from one another as professionals than would men and women in any other single profession. Therefore, priests and nuns were considered as two distinct groups rather than as male and female subjects of one and the same group.

In summary, this study employed six categories (groups). Five of these categories consisted of Mexican Americans at different intervals of educational success. One category consisted of Mexican Nationals (citizens of Mexico) at the four-year college level.

Details of Administration

Two methods of data collection were employed in this study: (a) group administration of the ABS:IE instrument and the personal data questionnaire conducted by personnel especially trained by the researcher and (b) self administration of the received-by-mail ABS:IE instrument and the personal data questionnaire by the respondent.

Group Administration

As has already been noted in the explanation of the nature of the research sample, three of the six categories or groups were chosen from the border area of South Texas which has a high concentration of Mexican Americans. In each of the three cases, professionals in each of the settings volunteered to help in obtaining the samples. They or their colleagues, chosen by them and instructed accordingly, conducted the group administration of the ABS:IE instrument and the personal data questionnaire. Random sampling was not used because of the difficulties inherent in administrative singling out of students in public education classroom environments. However, every respondent in these three groups was judged to fit the definition of Mexican American as appears in the introductory chapter.

Similarly, the Mexican National sample was obtained by a volunteer professional employed at both universities who administered the Spanish version of the ABS:IE instrument and personal data questionnaire in group situations. Random sampling was not used with this category but every respondent was judged to be a citizen of Mexico.

Self Administration

The self administration of the received-by-mail ABS:IE instrument and the personal data questionnaire was initiated by the researcher. Each respondent in both the professional female and male categories received identical information. No follow-up information was sent to any member of either group.

In the case of the female professionals, the mailing list was not chosen at random because of the small number that qualified for that category. In the case of the male professionals, out of some 200 who qualified for this category, 75 subjects were chosen by random numbers to whom the mailing packet was sent. The 28 who responded comprised this sample category.

In summary, the Spanish translation of the ABS:IE instrument and the personal data questionnaire was administered in group settings under identical supervision. The English version, however, was administered both in the group setting in the cases of groups 1, 2, and 3; and in the self administration of the received-by-mail situation in the cases of groups 5 and 6.

According to the information on both the Spanish and the English versions of the ABS:IE booklet, the respondent was instructed to answer anonymously. The ABS:IE and personal data questionnaire are instrumented

in such a manner that the researcher respects that anonymity before, during and after their administration.

Major Variables

According to Coleman et al., (1966) the factors which seem to be most associated with student achievement are: (a) an internal locus of control, (b) family background, (c) the social composition of the student body. Schwartz (1969) includes "a generalized confidence in mankind which allows for effective interpersonal relations in the institutional climate of the school . . ." (p. 52), together with internal locus of control. Jordan (1958) reports that these four classes of variables seem to be important predictors of attitudes:

1. Age, sex, income
2. Value orientations (internal-external locus of control)
3. Amount of and enjoyment of contact and/or alternatives
4. Amount of factual information concerning the attitude object.

Personal Data Questionnaire

Since the present study attempted to investigate the predictors of internal-external locus of control in the educated Mexican American, the personal data questionnaire included variables 7 to 23 as shown in Table 8. This list of 17 major variables considered these factors:

TABLE 8.--ABS:IE Mexican Americans, Mexican Nationals basic variable list[a] by IBM card and column.

	Variable	Score Range	IBM Card	IBM Column	ABS:IE Items
Attitudes-Behaviors	1. Stereotype	10-40	1	20-29	1-10
	2. Norm	10-40	2	20-29	11-20
	3. Moral Evaluation	10-40	3	20-29	21-30
	4. Hypothetical	10-40	4	20-29	31-40
	5. Feeling	10-40	5	20-29	41-50
	6. Action	10-40	6	20-29	51-60
Demo	7. Sex[b]	1-2	1-6	31	61
	8. Age	1-5	1-6	32	62
	9. Education	1-5	1-6	33	63
Family Character	10. Mother's Education	1-5	1-6	34	64
	11. Father's Education	1-5	1-6	35	65
	12. Brothers	1-5	1-6	36	66
	13. Sisters	1-5	1-6	37	67
	14. Order of Birth	1-5	1-6	38	68
	15. Family Income	1-5	1-6	39	69
Demo	16. Urbanity	1-5	1-6	40	70
	17. Elementary Education	1-3	1-6	41	71
	18. Religion	1-5	1-6	42	72
School Character	19. Elementary School Ethnicity	1-5	1-6	43	73
	20. High School Ethnicity	1-5	1-6	44	74
	21. High School Sports	1-5	1-6	45	75
	22. High School Organizations	1-5	1-6	46	76
	23. Summer Employment	1-5	1-6	47	77
Identity	24. Nation[c]		1-6	1-3	
	25. Interest Group[d]	01-99	1-6	4-5	
	26. Subject Number	001-999	1-6	6-8	
	27. Card Number	1-6	1-6	9	

[a]On the 5274 edition of the ABS:IE

[b]Sex: 1-female; 2-male

[c]Nation (Columns 1-3): 133 - USA; 086 - Mexico

[d]Interest Group (Columns 4-5)

01	High School Seniors	04	College Students (Mexico)
02	Junior College Sophomores	05	Professional Women
03	College Seniors (U.S.A.)	06	Professional Men

1. Sex (item 61)
2. Age (item 62)
3. Amount of personal education (item 63)
4. Total amount of formal education of subject's mother (item 64)
5. Total amount of formal education of subject's father (item 65)
6. Total number of subject's brothers (item 66)
7. Total number of subject's sisters (item 67)
8. Subject's position in the order of birth among his/her brothers and sisters (item 68)
9. Total yearly income of subject's family while subject was attending high school (item 69)
10. Subject's home environment while attending high school (item 70)
11. Status of subject's elementary school (up to sixth grade) (item 71)
12. Subject's religious following while in high school (item 72)
13. Composition of ethnic/racial background of students who attended subject's elementary school (item 73)
14. Composition of ethnic/racial background of subject's high school friends (item 74)
15. Subject's membership in any varsity sport team in high school (item 75)
16. Subject's membership in total number of clubs or organizations other than sports in high school (item 76)
17. Subject's engagement in a paying job during high school summer months (vacations) (item 77).

CHAPTER IV

DESIGN AND ANALYSIS PROCEDURES

The primary purpose of this study was to measure the internal-external locus of control of Mexican Americans and Mexican Nationals at different intervals of educational achievement. Accordingly, populations of Mexican Americans were chosen at varying levels of educational success while the population of Mexican Nationals was chosen at the college level. The design of this study, therefore, called for samples from these same interest groups in the United States and in Mexico. Analysis procedures were chosen which permitted testing the relationships specified in the hypotheses.

Demographic Characteristics

As stated in Chapter III, six categories or groups (high school seniors, junior college sophomores, U.S. college seniors, Mexican college students, professional women, and professional men) were used in the present study. Each group, except those of professional women and men, was divided into female and male classifications. Table 9 presents demographic characteristics of the "total" research sample. Not all the demographic data

TABLE 9.--Demographic characteristics of sample for ABS:IE Mexican American, Mexican National study.

Variables	Sample	
	N	%
1. Sex		
Female	208	55.02
Male	170	44.97
2. Age		
17 or under	42	11.11
Between 18 & 20	140	37.03
Between 21 & 25	91	24.07
Between 26 & 40	72	19.05
41 and over	33	8.73
3. Education		
High School Senior	100	26.45
Mexican College Freshman	14	3.70
College Sophomore	116	30.68
Mexican College Junior	13	3.43
College Senior	68	17.98
Master's or more	67	17.72
4. Mother's Education		
0 to 6 years	148	39.15
7 to 9 years	67	17.72
10 to 12 years	108	28.57
1 to 4 college	39	10.31
Master's or more	13	3.43
Error	3	.79
5. Dad's Education		
0 to 6 years	138	36.50
7 to 9 years	80	21.16
10 to 12 years	67	17.72
1 to 4 college	61	16.13
Master's or more	27	7.14
Error	5	1.32
6. Brothers		
None	33	8.73
One	100	26.45
Two	91	24.07
Three	67	17.72
Four or more	85	22.48
Error	2	.52

TABLE 9.--Continued.

Variables	Sample	
	N	%
7. Sisters		
None	52	13.75
One	90	23.80
Two	78	20.63
Three	55	14.55
Four or more	100	26.45
Error	3	.79
8. Order of Birth		
Last born	46	12.16
Second to last	50	13.22
Between second and second to last	91	24.07
Second born	64	16.93
First born	121	32.01
Error	6	1.58
9. Family Income (dollars)		
Less than $2,000	58	15.34
$2,001 - $4,000	87	23.01
$4,001 - $10,000	120	31.74
$10,001 - $15,000	56	14.81
$15,001 and over	34	8.99
Error	23	6.08
10. Urbanity		
Country	36	9.52
Small town	92	24.33
Less than 500,000	123	32.53
More than 500,000, less than 750,000	101	26.71
750,000 and over	16	4.23
Error	10	2.64
11. Elementary Education		
Catholic	89	23.54
Private non-Catholic	19	5.02
Public	268	70.89
Error	2	.52
12. Religion		
Jewish	4	1.05
Roman Catholic	289	76.45
Protestant	41	10.84
Other	14	3.70
None	27	7.14
Error	3	.79

TABLE 9.--Continued.

Variables	Sample	
	N	%
13. Elementary Ethnicity		
Most Anglo American	33	8.73
Half Anglo, half Mexican American	85	22.48
Half Mexican American, half Mexican National	12	3.17
Most Mexican National	65	17.19
Most Mexican American	174	46.03
Error	9	2.38
14. High School Ethnicity		
Most Anglo American	35	9.25
Half Anglo, half Mexican American	121	32.01
Half Mexican American, half Mexican National	13	3.43
Most Mexican National	71	18.78
Most Mexican American	128	33.86
Error	10	2.64
15. High School Sports		
None	213	56.34
One	102	26.98
Two	40	10.58
Three	14	3.70
Four or more	6	1.58
Error	3	.79
16. High School Organizations		
None	88	23.28
One	96	25.39
Two	91	24.07
Three	54	14.28
Four or more	45	11.90
Error	4	1.05
17. Summer Employment		
Never	121	32.01
One summer	73	19.31
Two summers	54	14.28
Three summers	28	7.40
Every summer	98	25.92
Error	4	1.05

are used in the study, but are included in Table 9 to give the reader a better understanding of the nature of the sample.

Hypothesis Testing

H_1: Level to Level Correlations and Q^2 Evaluation to Test Simplex Approximation of ABS:IE Mexican American, Mexican National

Hypothesis 1 stated that the six levels of the ABS:IE Mexican American, Mexican National data would form a Guttman simplex for the total study and for each of the six categories or groups. This type of simplex requires that the size of the correlation coefficient should increase with the addition of contiguous facets in the variables. Contiguity theory also states that the correlations between the six levels should decrease in relation to the number of steps that two levels are removed from each other. According to Guttman's (1950b) contiguity hypothesis, attitudinal levels closer to each other in the semantic scales of their definition will also be closer statistically. The STATROUT computer program at Michigan State University computer center was used to produce level-to-level correlations for the entire sample, for females and males taken separately, and for each category or group.

There is no direct test of significance to interpret the simplexes obtained. However, Kaiser (1962) has

developed a method whereby the obtained simplex is submitted to a procedure that rearranges the correlations in the "best simplex" (improved) order. By comparing the obtained (empirical) simplex with this "best simplex" (improved) order a value is calculated to "evaluate" the obtained correlation matrix. This value, which is a descriptive index with a range from 0.00 to 1.00, has been labeled Q^2. The program also computes a Q^2 value for the rearranged "best possible simplex" order. These two Q^2 values determine whether or not the "best" order for the data of the simplex was the order obtained in the empirical matrix. Tables 10 through 18 present the correlation matrices and Q^2 values for both the original and improved matrices for the entire sample, for females and males taken separately, and for each individual category or group.

Although they are not reported in the simplex structures, there are negative correlations in some cases in this study. Kaiser (1962) suggests treating the negative correlations as positive by reflecting them (e.g., -20 is interpreted as 20). Sampling errors, small sample size, and other confounding variables may account for the few negative correlations.

In order for an obtained matrix to approximate a simplex satisfactorily, Hamersma (1969) expected a Q^2 value of .70, with a minimal value of .60. Also according

to the Hamersma (1969) "6 reversal criteria" a 6 x 6 matrix could contain a maximum of six order reversals and still be accepted as approximating a simplex.

Examination of Tables 10 through 18 reveals that all matrices exceeded the expected value of .70 except two, those of category 1 of high school seniors (Q^2 = .54) and category 3 of college seniors (Q^2 = .46). No specific reason can be given for these groups failing to achieve a Q^2 value of .70 or greater. However, category 3 with the weakest Q^2 value is also the smallest (N = 27) in the study. It is suggested that sampling errors, small sample size, and other confounding variables were responsible for the relatively low Q^2 obtained in this correlation matrix.

The total sample (i.e., all groups in the total ABS:IE) obtained a Q^2 value of .90 which is clearly within the .70 or greater criterion discussed previously. Table 10 presents the correlation matrices and Q^2 values for the total sample. Hypothesis 1 (the ABS:IE Mexican American, Mexican National will form a Guttman simplex for the total study and for each one of the six categories) tended to be supported by both the total Q^2 value of .90, and the individual groups Q^2 values presented in Tables 10 through 18. The simplex structure obtained in this study also indicates construct validity for the ABS:IE Mexican American, Mexican National.

TABLE 10.--Correlation matrices and Q^2 values for original and improved simplex approximation, all categories and groups.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .90	
Norm	2	.47	---				
Moral	3	.18	.28	---			
Hypo	4	.23	.13	.47	---		
Feeling	5	.12	.15	.41	.33	---	
Action	6	.18	.04	.26	.47	.21	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .93	
Norm	2	.47	---				
Moral	3	.28	.18	---			
Hypo	4	.15	.12	.41	---		
Feeling	5	.13	.23	.47	.33	---	
Action	6	.04	.18	.26	.21	.47	---
		1	2	3	4	5	6

TABLE 11.--Correlation matrices and Q^2 values for original and improved simplex approximation, females.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .97	
Norm	2	.19	---				
Moral	3	.02	.44	---			
Hypo	4	.08	.32	.58	---		
Feeling	5	.02	.25	.37	.49	---	
Action	6	.01	.20	.43	.51	.37	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .97	
Norm	2	.19	---				
Moral	3	.08	.32	---			
Hypo	4	.02	.44	.58	---		
Feeling	5	.02	.25	.49	.37	---	
Action	6	.01	.20	.51	.43	.37	---
		1	2	3	4	5	6

TABLE 12.--Correlation matrices and Q^2 values for original and improved simplex approximation, males.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .88	
Norm	2	.58	---				
Moral	3	.01	.07	---			
Hypo	4	.11	.16	.56	---		
Feeling	5	.06	.09	.29	.29	---	
Action	6	.05	.08	.36	.56	.35	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .95	
Norm	2	.58	---				
Moral	3	.11	.16	---			
Hypo	4	.05	.08	.56	---		
Feeling	5	.06	.09	.29	.35	---	
Action	6	.01	.07	.56	.36	.29	---
		1	2	3	4	5	6

TABLE 13.--Correlation matrices and Q^2 values for original and improved simplex approximation, high school seniors.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .54	
Norm	2	.63	---				
Moral	3	.26	.25	---			
Hypo	4	.19	.19	.72	---		
Feeling	5	.12	.11	.06	.01	---	
Action	6	.22	.22	.58	.68	.03	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .82	
Norm	2	.63	---				
Moral	3	.19	.19	---			
Hypo	4	.22	.22	.68	---		
Feeling	5	.25	.26	.72	.58	---	
Action	6	.11	.12	.01	.03	.06	---
		1	2	3	4	5	6

TABLE 14.--Correlation matrices and Q^2 values for original and improved simplex approximation, junior college sophomores.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .84	
Norm	2	.69	---				
Moral	3	.21	.21	---			
Hypo	4	.39	.45	.57	---		
Feeling	5	.12	.17	.46	.45	---	
Action	6	.35	.37	.55	.79	.36	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .99	
Norm	2	.69	---				
Moral	3	.39	.45	---			
Hypo	4	.35	.37	.79	---		
Feeling	5	.21	.21	.57	.55	---	
Action	6	.12	.17	.45	.36	.46	---
		1	2	3	4	5	6

TABLE 15.--Correlation matrices and Q^2 values for original and improved simplex approximation, college seniors.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .47	
Norm	2	.74	---				
Moral	3	.38	.26	---			
Hypo	4	.50	.35	.79	---		
Feeling	5	.08	.40	.24	.06	---	
Action	6	.42	.31	.73	.81	.03	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .93	
Norm	2	.81	---				
Moral	3	.73	.79	---			
Hypo	4	.42	.50	.38	---		
Feeling	5	.31	.35	.26	.74	---	
Action	6	.03	.06	.24	.08	.40	---
		1	2	3	4	5	6

TABLE 16.--Correlation matrices and Q^2 values for original and improved simplex approximation, Mexican National college students.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .86	
Norm	2	.49	---				
Moral	3	.14	.34	---			
Hypo	4	.33	.47	.30	---		
Feeling	5	.10	.05	.10	.17	---	
Action	6	.15	.03	.01	.22	.62	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .94	
Norm	2	.34	---				
Moral	3	.13	.49	---			
Hypo	4	.30	.47	.33	---		
Feeling	5	.10	.05	.10	.17	---	
Action	6	.01	.03	.15	.22	.62	---
		1	2	3	4	5	6

TABLE 17.--Correlation matrices and Q^2 values for original and improved simplex approximation, female professionals.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .90	
Norm	2	.33	---				
Moral	3	.08	.10	---			
Hypo	4	.16	.13	.58	---		
Feeling	5	.06	.14	.36	.50	---	
Action	6	.22	.21	.52	.77	.44	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .96	
Norm	2	.33	---				
Moral	3	.22	.21	---			
Hypo	4	.16	.13	.77	---		
Feeling	5	.08	.10	.52	.58	---	
Action	6	.06	.14	.44	.50	.36	---
		1	2	3	4	5	6

TABLE 18.--Correlation matrices and Q^2 values for original and improved simplex approximation, male professionals.

		Original Simplex Matrix					
Stereo	1	---				Q^2 = .83	
Norm	2	.56	---				
Moral	3	.01	.07	---			
Hypo	4	.12	.09	.62	---		
Feeling	5	.02	.11	.43	.33	---	
Action	6	.18	.11	.45	.74	.18	---
		1	2	3	4	5	6
		Improved Simplex Matrix					
Stereo	1	---				Q^2 = .93	
Norm	2	.56	---				
Moral	3	.18	.11	---			
Hypo	4	.12	.09	.75	---		
Feeling	5	.02	.11	.18	.33	---	
Action	6	.01	.07	.45	.62	.43	---
		1	2	3	4	5	6

H_2: Standard Deviation Within the Six Categories

Hypothesis 2 stated that the standard deviations would be greater than 2.00 for the six levels of the ABS:IE Mexican American, Mexican National throughout the six categories or groups. The criterion categories were chosen for their projected significantly different "mean score" location on the IELC continuum. Nevertheless, it was also postulated that a range of scores with a standard deviation larger than 2.00 would be obtained within each category since IELC seems to be dependent on the amount of control an individual desires to have over his environment in relation to the amount of control he sees himself actually possessing. Therefore, even though individuals within a category may have similar control, they may in fact view their actual amount of control very dissimilarly.

Tables 19 through 26 present the sample sizes, means, and standard deviation values for the total sample, for females and males taken separately, and for each one of the six categories or groups on the six levels of the ABS:IE. Because the data are approximately normal, the chi square test of variance was used to test this hypothesis. Examination of Tables 19 through 26 reveals that the standard deviations are greater than 2.00 in every case, for the total sample, for the females and males taken separately and for each of the categories or groups on

the ABS:IE. Hypothesis 2 (the standard deviations will be greater than 2.00 for the six levels of the ABS:IE Mexican American, Mexican National throughout the six categories or groups) was supported.

TABLE 19.--Sample sizes, means and standard deviations for total sample on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	378	23.81	4.94
2. Norm	377	25.35	5.34
3. Moral evaluation	378	28.71	5.11
4. Hypothetical	377	28.74	4.93
5. Feeling	377	27.76	5.42
6. Action	377	26.40	5.70

TABLE 20.--Sample sizes, means and standard deviations for females, males on the ABS:IE.

Variables	N	Means	SD
Females			
1. Stereotype	208	25.63	4.82
2. Norm	208	23.20	5.01
3. Moral evaluation	208	25.76	5.79
4. Hypothetical	208	28.76	4.98
5. Feeling	208	29.16	4.40
6. Action	208	28.05	4.99
Males			
1. Stereotype	170	24.79	5.39
2. Norm	169	25.49	5.14
3. Moral evaluation	170	28.11	5.78
4. Hypothetical	169	28.81	5.09
5. Feeling	169	26.66	6.36
6. Action	169	27.24	5.22

TABLE 21.--Sample sizes, means and standard deviations for high school seniors on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	100	23.40	4.65
2. Norm	100	23.40	4.71
3. Moral evaluation	100	29.07	4.25
4. Hypothetical	100	29.19	3.89
5. Feeling	100	27.84	5.27
6. Action	100	28.29	4.56

TABLE 22.--Sample sizes, means and standard deviations for junior college sophomores on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	100	24.74	4.27
2. Norm	100	24.39	4.49
3. Moral evaluation	100	27.06	5.64
4. Hypothetical	100	28.08	4.78
5. Feeling	100	27.59	5.44
6. Action	100	27.38	4.26

TABLE 23.--Sample sizes, means and standard deviations for college seniors on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	27	22.07	5.20
2. Norm	27	22.04	5.37
3. Moral evaluation	27	28.59	4.69
4. Hypothetical	27	28.04	4.77
5. Feeling	27	27.56	5.36
6. Action	27	27.48	4.13

TABLE 24.--Sample sizes, means and standard deviations for Mexican National college students on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	84	26.63	6.10
2. Norm	84	29.38	3.85
3. Moral evaluation	84	26.52	4.65
4. Hypothetical	84	26.01	5.27
5. Feeling	84	23.08	5.84
6. Action	84	23.41	5.45

TABLE 25.--Sample sizes, means and standard deviations for female professionals on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	39	24.67	4.86
2. Norm	39	24.18	4.62
3. Moral evaluation	39	28.80	5.46
4. Hypothetical	39	32.10	4.42
5. Feeling	39	30.87	4.68
6. Action	39	30.31	4.86

TABLE 26.--Sample sizes, means and standard deviations for male professionals on the ABS:IE.

Variables	N	Means	SD
1. Stereotype	28	38.82	6.10
2. Norm	27	24.04	5.50
3. Moral evaluation	28	30.82	7.07
4. Hypothetical	27	33.11	3.98
5. Feeling	27	30.33	6.97
6. Action	27	31.22	5.06

H_3: Ranking of Sample Categories on IELC Continuum

Hypothesis 3 stated that the sample categories or groups would rank in the following order (from low to high in internal control on the IELC dimension): (a) public high school seniors, (b) two-year college sophomores, (c) four-year college seniors, (d) four-year Mexican National college students, (e) professional women, (f) professional men. Table 27 presents the sample size, mean scores and standard deviation values for each category or group on the total ABS:IE continuum.

TABLE 27.--Sample sizes, means and standard deviations for each category or group on the total 6-level ABS:IE continuum.

Variables	N	Means	SD
1. Mex. American High School Seniors	100	161.19	16.24
2. Mex. American Junior College Sophomores	100	159.24	20.52
3. Mex. American College Seniors	27	155.78	20.80
4. Mex. National College Students	84	155.04	20.75
5. Mex. American Female Professionals	39	170.92	18.54
6. Mex. American Male Professionals	28	169.11	29.01

Analysis of variance (ANOVA) was used to determine whether the apparent differences in category means in Table 27 indicate the presence of true category differences. A one-way ANOVA was computed for the total ABS:IE continuum which resulted in the analysis reported in Table 28 reflecting a significant F-ratio.

TABLE 28.--Analysis of variance and significant level for the category or group variables on the total ABS:IE 6-level continuum.

Scale	Source of Variation	Sum of Squares	df	MS	F	Sig.
ABS:IE	Between groups	9627.82	5	1925.56	4.76	.0001
	Within groups	150588.64	372	404.81		

Table 29 contains a summary of the results of the t tests employing pooled variance estimate contrasts which were used to assess the relevant category or group differences and ordering on the total ABS:IE continuum. Only the significant ts are included. It is apparent from the results of Table 29 that groups 2 (Mexican American junior college sophomores) and 3 (Mexican American college seniors) are not significantly different from one another. Neither are groups 5 (Mexican American female professionals) and 6 (Mexican American male professionals) significantly different from each other.

However, groups 1 (Mexican American high school seniors) and 4 (Mexican National college students) do differ significantly from each other. The other significant differences in the data rank the categories in the following order from low to high in internal control on the IELC dimension: (a) categories 2 and 3, (b) category 4, (c) category 1, (d) categories 6 and 5. Thus, the ordering of sample categories that was hypothesized on the total IELC continuum was largely unsupported by the data. Reversals in the hypothesized ordering and the presence of category similarities occur.

TABLE 29.--Summary of significant t tests for the category or group variables on the total ABS:IE 6-level continuum.

Category Contrasts	df	T Value	T Prob.
1. High School > 4. Mex. Nat.	372	2.07	.04
5. Fem. Pro > 1. High School	372	2.56	.01
5. Fem. Pro > 2. Jr. Col.	372	3.08	.002
6. Male Pro > 2. Jr. Col.	372	2.29	.02
5. Fem. Pro > 3. Col. Sen.	372	3.01	.003
6. Male Pro > 3. Col. Sen.	372	2.46	.01
5. Fem. Pro > 4. Mex. Nat.	372	4.08	.0001
6. Male Pro > 4. Mex. Nat.	372	3.21	.001

Since it was also hypothesized that the same order (from low to high in internal control on the IELC dimension) would prevail not only on the total scale but also on the individual levels of the scale, Table 30 presents the sample size, mean scores and standard deviation values for each category or group on each level of the six-level ABS:IE continuum. Analysis of variance (ANOVA) was used to determine whether the apparent differences in category means in Table 30 indicate the presence of true category differences. A one-way ANOVA was computed for each of the six levels of the ABS:IE which resulted in the analysis reported in Table 31 reflecting a significant F-ratio for the last four levels of the ABS:IE but not for the first two.

Table 32 contains a summary of the results of the t tests employing pooled variance estimate contrasts which were used to assess the relevant category or group differences and ordering on each one of the four levels which reported significant Fs. Only the significant ts are reported for each level of the ABS:IE.

Analysis of Table 32 seems to suggest a threefold pattern prevalent throughout the four levels of the ABS:IE which reported significant differences: (a) categories 5 and 6 do not significantly differ from each other on any of the levels, (b) categories 5 and 6 differ significantly from every other category on every

TABLE 30.--Sample size, mean scores and standard deviation values for sample categories on the six levels of the ABS:IE.

Sample Size	100		100		27		84		39		27	
Variable	1. High School		2. Jun. Col.		3. Col. Senior		4. Mex. Nat.		5. Female Pro		6. Male Pro	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1. Stereo	23.30	4.82	24.74	4.27	22.07	5.20	23.08	5.84	24.67	4.86	23.82	6.10
2. Norm	24.32	5.17	24.39	4.49	22.04	5.37	23.40	5.45	24.18	4.62	24.04	5.50
3. Moral	29.20	4.28	27.06	5.64	28.59	4.69	26.63	6.10	28.79	5.46	30.82	7.07
4. Hypo.	28.82	3.97	28.08	4.78	28.03	4.77	29.38	3.85	32.10	4.42	33.11	3.98
5. Feeling	28.05	5.28	27.59	5.44	27.56	5.36	26.52	4.65	20.87	4.68	30.33	6.97
6. Action	27.50	4.55	27.38	4.26	27.48	4.13	26.01	5.27	30.31	4.86	31.22	5.06

TABLE 31.--Six ANOVA summary tables for sample categories on the six levels of the ABS:IE.

Levels	Source of Variation	Sum of Squares	df	MS	F	Sig.
1	Between groups	264.10	5	52.82	2.06	.07
	Within groups	9,535.28	372	25.63		
2	Between groups	159.01	5	31.80	1.25	.29
	Within groups	9,447.46	371	25.46		
3	Between groups	643.19	5	128.64	4.31	.001
	Within groups	11,096.18	372	29.83		
4	Between groups	913.39	5	182.68	9.97	.00001
	Within groups	6,801.15	371	18.33		
5	Between groups	674.06	5	134.81	4.84	.0001
	Within groups	10,330.92	371	27.85		
6	Between groups	855.04	5	171.01	7.78	.00001
	Within groups	8,153.26	371	21.98		

TABLE 32.--Summary of significant t tests for the category or group variables on levels 3 through 6 of the ABS:IE.

Category Contrasts		df	T Value	T Prob.
Moral Evaluation Level (3)				
1. High School	> 2. Jr. Col.	372	2.77	.01
1. High School	> 4. Mex. Col.	372	3.18	.002
6. Male Pro	> 2. Jr. Col.	372	3.22	.001
5. Fem. Pro	> 4. Mex. Nat.	372	2.05	.04
6. Male Pro	> 4. Mex. Nat.	372	3.52	.0001
Hypothetical Level (4)				
5. Fem. Pro	> 1. High School	371	4.06	.0001
6. Male Pro	> 1. High School	371	4.62	.0001
4. Mex. Nat.	> 2. Jr. Col	371	2.05	.04
5. Fem. Pro	> 2. Jr. Col.	371	4.98	.0001
6. Male Pro	> 2. Jr. Col.	371	5.42	.0001
5. Fem. Pro	> 3. Col. Sen.	371	3.79	.0001
6. Male Pro	> 3. Col. Sen.	371	4.35	.0001
5. Fem. Pro	> 4. Mex. Nat.	371	3.28	.001
6. Male Pro	> 4. Mex. Nat.	371	3.94	.0001

TABLE 32.--Continued.

Category Contrasts	df	T Value	T Prob.
Personal Feeling Level (5)			
1. High School > 4. Mex. Nat.	371	1.95	.05
5. Fem. Pro > 1. High School	371	2.83	.005
6. Male Pro > 1. High School	371	2.00	.05
5. Fem. Pro > 2. Jr. Col.	371	3.29	.001
6. Male Pro > 2. Jr. Col.	371	2.40	.02
5. Fem. Pro > 3. Col. Sen.	371	2.51	.01
6. Male Pro > 3. Col. Sen.	371	1.93	.05
5. Fem. Pro > 4. Mex. Nat.	371	4.25	.0001
6. Male Pro > 4. Mex. Nat.	371	3.26	.001
Personal Action Level (6)			
1. High School > 4. Mex. Nat.	371	2.15	.03
5. Fem. Pro > 1. High School	371	3.17	.002
6. Male Pro > 1. High School	371	3.66	.0001
2. Jr. Col. > 4. Mex. Nat.	371	1.97	.05
5. Fem. Pro > 2. Jr. Col.	371	3.31	.001
6. Male Pro > 2. Jr. Col.	371	3.78	.0001
5. Fem. Pro > 3. Col. Sen.	371	2.41	.02
6. Male Pro > 3. Col. Sen.	371	2.93	.004
5. Fem. Pro > 4. Mex. Nat.	371	5.02	.0001
6. Male Pro > 4. Mex. Nat.	371	5.02	.0001

other level except from category 3 on level 3, (c) categories 5 and 6 persistingly rank as the most internal on the total scale and on every level of the scale.

It is also apparent that contrary to the postulated hypothesis, category 1 never ranks at the bottom of the internal scale, but rather second only to categories 5 and 6 on all the four levels. Similarly, levels 5 and 6 almost have identical differences and rank orders.

Level 4 seems to approximate the postulated rank order hypothesis more closely than any other level. But even this dimension contains reversals in its ordering of categories (from low to high in internal control on the IELC continuum): (a) 2 and 3, (b) 1, (c) 4, and (d) 5 and 6. Thus, the ordering of sample categories that was hypothesized on the total IELC dimension and on every one of its levels was generally unsupported by the data although there were some identifiable trends.

H_4: Scores on Levels 4 and 6 for Mexican Americans and Mexican Nationals

Hypothesis 4 stated that there would be no significant differences between Mexican Americans and Mexican Nationals on level 4 of the ABS:IE, but that there would be a significant difference between each of the Mexican American categories and the category of Mexican Nationals on level 6. Further it stipulated that the category of

Mexican Nationals would rank higher than any other category on the internal dimension of level 6.

Table 32 on its hypothetical dimension (level 4) reports significant differences between category 4 and categories 2, 5 and 6. It fails to report significant differences only between category 4 and categories 1 and 3.

On its personal action dimension (level 6) Table 32 reports significant differences between category 4 and categories 1, 2, 5 and 6, but fails to report a significant difference between categories 4 and 3. However, the significant differences which are reported do not support hypothesis 4 which postulated that category 4 would be significantly more internal than any other category on level 6. As a matter of fact, on level 6, category 4 ranks lowest on the internal locus of control continuum. Therefore, hypothesis 4 is largely unsupported by the data.

H_5: Sex and Internal-External Locus of Control

Hypothesis 5 stated that there would be no significant differences between males and females in IELC as measured by the six levels of ABS:IE. Analyses of variance indicated no significant differences (.05 level) between males and females on all the levels except level 2 (Normative) of the ABS:IE. Table 33 presents the ANOVA summary

TABLE 33.--Six ANOVA summary tables for the sex variable on the six levels of the ABS:IE.

Levels	Source of Variation	Sum of Squares	df	MS	F
1	Between groups	18.65	1	18.65	.72
	Within groups	9,780.73	376	26.01	
2	Between groups	102.49	1	102.49	4.04*
	Within groups	9,503.98	375	25.34	
3	Between groups	.94	1	.94	.03
	Within groups	11,738.44	376	31.22	
4	Between groups	5.86	1	5.86	.59
	Within groups	7,708.68	375	20.56	
5	Between groups	54.59	1	54.59	1.87
	Within groups	10,950.39	375	29.20	
6	Between groups	.10	1	.10	.004
	Within groups	9,008.21	375	24.02	

*Significant at the .045 level.

tables for the sex variables on each of the six levels of the ABS:IE. No precise conclusion can be drawn to interpret the significant difference found on level 2 (what people generally believe) in contrast to the other five levels which reported no significant differences. The data tend to support the hypothesis with only one exception.

H_6: Relating Total IELC Scores and Dimensions of the Demographic Variables for Each Category

Hypothesis 6 stated that on each of the six categories (high school through male professional) a certain dimension of the demographic variable would correlate significantly higher than any other dimension of that same variable with a higher internal locus of control score on the total ABS:IE continuum. The variables with the dimensions postulated to correlate higher than any other dimension with a higher internal locus of control score on the total ABS:IE were:

1. Parents' combined education (a higher amount of combined parents' educational attainment).
2. Family size (membership in a smaller family).
3. Order of birth (being the first born).
4. Family income (a higher income of family).
5. Urbanity (city with largest population).
6. Elementary education (attendance at a public school).
7. Religion (non-Catholic religious affiliation).
8. Elementary school ethnicity (a predominantly Mexican American ethnic composition of students).
9. High school ethnicity (a predominantly Mexican American ethnic composition of friends).
10. High school sports (membership in more varsity teams).

11. High school organizations (membership in more organizations).

12. Summer employment (more summers employed during high school).

Thus, there were 12 variables with specified dimensions hypothesized to correlate significantly higher than any other dimension with higher IELC scores on the total ABS:IE continuum. Separate one-way analysis of variance (ANOVA) procedures were conducted for each one of the 12 variables on the scores of the total 6-level ABS:IE continuum for each category or group.

Tables 34 through 39 present the six one-way ANOVAs which reported significant differences among the various dimensions of six variables on the scores of the total 6-level ABS:IE continuum. None of the other one-way ANOVAs employed reported significant differences.

TABLE 34.--Analysis of variance and significant level for the birth order variable of college seniors (Category 3) on the total score of the 6-level ABS:IE.

Scale	Source of Variation	Sum of Squares	df	MS	F
Total ABS:IE	Between groups	3,171.14	4	792.84	3.28*
	Within groups	5,080.71	21	241.94	

*Significant at the .03 level.

TABLE 35.--Analysis of variance and significant level for the elementary education variable of male professionals (Category 6) on the total score of the 6-level ABS:IE.

Scale	Source of Variation	Sum of Squares	df	MS	F
Total ABS:IE	Between groups	4,526.29	1	4,526.29	5.96*
	Within groups	19,758.14	26	759.93	

*Significant at the .02 level.

TABLE 36.--Analysis of variance and significant level for the elementary school ethnicity variable of junior college sophomores (Category 2) on the total score of the 6-level ABS:IE.

Scale	Source of Variation	Sum of Squares	df	MS	F
Total ABS:IE	Between groups	4,861.11	4	1,215.28	3.66*
	Within groups	30,517.64	92	331.71	

*Significant at the .01 level.

TABLE 37.--Analysis of variance and significant level for the high school organizations variable of high school seniors (Category 1) on the total score of the 6-level ABS:IE.

Scale	Source of Variation	Sum of Squares	df	MS	F
Total ABS:IE	Between groups	2,315.54	4	578.89	2.69*
	Within groups	20,449.46	95	215.26	

*Significant at the .04 level.

TABLE 38.--Analysis of variance and significant level for the summer employment variable of Mexican National college students (Category 4) on the total score of the 6-level ABS:IE.

Scale	Source of Variation	Sum of Squares	df	MS	F
Total ABS:IE	Between groups	3,388.88	4	847.22	2.96*
	Within groups	22,351.22	78	286.55	

*Significant at the .03 level.

Table 39.--Analysis of variance and significant level for the summer employment variable of male professionals (Category 6) on the total score of the 6-level ABS:IE.

Scale	Source of Variation	Sum of Squares	df	MS	F
Total ABS:IE	Between groups	12,482.91	4	3,120.73	5.93*
	Within groups	11,579.17	22	526.33	

*Significant at the .002 level.

Tables 34 through 39 indicate that significant differences were found only for five demographic variables:

1. Birth order (among college seniors, Category 3)
2. Elementary education (among male professionals, Category 6)
3. Elementary school ethnicity (among junior college sophomores, Category 2)
4. High school organizations (among high school seniors, Category 3)

5. Summer employment during high school years (among Mexican National college students, Category 4; and among male professionals, Category 6).

The same tables also report no significant differences for any of the demographic variables for female professionals on their scores of the 6-level total ABS:IE. In other words, among female professionals there was no significant difference between those who scored more internal or less internal on the 6-level total ABS:IE and their answers to the demographic information.

Tables 40 through 45 present summaries of significant t tests employing pooled variance estimate contrasts which were used to assess differences between the relevant dimensions of those demographic variables which reported significant Fs. Only the significant ts are reported for each demographic variable.

TABLE 40.--Summary of significant t tests for the birth order variable of college seniors (Category 3) on the total score of the 6-level ABS:IE.

Dimension Contrasts		df	T Value	T Prob.
1. Last born	> 4. Second born	21	2.88	.01
2. Sec. to last	> 4. Second born	21	3.07	.01
3. First born	> 4. Second born	21	2.04	.05

TABLE 41.--Summary of significant t tests for the elementary education variable of male professionals (Category 6) on the total score of the 6-level ABS:IE.

Dimension Contrasts	df	T Value	T Prob.
3. Public school > 1. Catholic	26	2.44	.02

TABLE 42.--Summary of significant t tests for the elementary school ethnicity variable of junior college sophomores (Category 2) on the total score of the 6-level ABS:IE.

Dimension Contrasts	df	T Value	T Prob.
1. Most Anglo > 3. ½ Mex Am ½ Nat	92	3.77	.0001
2. ½ An ½ Mex Am > 3. ½ Mex Am ½ Nat	92	3.28	.001
4. Most Mex Nat > 3. ½ Mex Am ½ Nat.	92	2.41	.02
5. Most Mex Am > 3. ½ Mex Am ½ Nat	92	3.22	.002

TABLE 43.--Summary of significant t tests for the high school organizations variable of high school seniors (Category 1) on the total score of the 6-level ABS:IE.

Dimension Contrasts	df	T Value	T Prob.
4. Three organ > 1. None	95	2.19	.03
4. Three organ > 2. One organ	95	3.18	.002

TABLE 44.--Summary of significant t tests for the summer employment during high school of Mexican National college students (Category 4) on the total score of the 6-level ABS:IE.

Dimension Contrasts	df	T Value	T Prob.
4. Three summers > 1. Never	78	2.66	.01
4. Three summers > 3. Two summers	78	2.75	.01

TABLE 45.--Summary of significant t tests for the summer employment during high school of male professionals (Category 6) on the total score of the 6-level ABS:IE.

Dimension Contrasts	df	T Value	T Prob.
1. Never > 4. Three summers	22	13.77	.0001
2. One summer > 4. Three summers	22	17.15	.0001
3. Two summers > 4. Three summers	22	15.93	.0001
5. Every summer > 4. Three summers	22	33.76	.0001

Table 40 reports significantly higher internal scores for college seniors who are last born (1), second to last born (2) and first born (5) than for those who are second born (4). However, it fails to report significant differences between last born (1), second to last born (2), and first born (5). Nor is a significant difference reported between the dimension which places

one's birth between the second born and the second to the last born (3) and any of the other four dimensions. No conclusions can be drawn to interpret these results.

Table 41 reports significantly higher internal scores for male professionals who attended public schools (3) than for those who attended Catholic schools (1) for their elementary education. Those who attended public schools score statistically more internal than those who did not.

Table 42 reports higher internal scores for junior college sophomores whose elementary school ethnic makeup was mostly Anglo American (1), half Anglo and half Mexican American (2), mostly Mexican National (4), or mostly Mexican American (5) than for those whose elementary school ethnic composition was half Mexican American and half Mexican National (3). Nevertheless, there is no significant difference reported between the IELC scores of those who chose dimensions 1, 2, 4, or 5.

Table 43 reports significantly higher internal scores for high school seniors who belonged to three organizations (4) than for those who belonged to none (1). A significantly higher internal score is also reported for those seniors in high school who belonged to three organizations (4) than for those who belonged to one organization (2). However, Table 43 fails to differentiate statistically between those who chose dimensions 3 or 5 and those who chose any other dimension.

Table 44 reports statistically higher internal scores for Mexican National college students who worked three summers during their high school (4) than for those who never worked (1), or who only worked two summers (3). But it fails to report statistical differences between those who worked three summers (4) and those who worked one summer (2), or those who worked every summer (5). Likewise it fails to report significant differences between those who never worked (1), those who only worked one summer (2), those who worked two summers (3), and those who worked every summer (5).

Table 45 reports significantly higher internal scores for male professionals who never worked (1), who worked one summer (2), who worked two summers (3), or who worked every summer (5) than for those who worked three summers (4). However, it fails to report significant differences between those who chose dimensions 1, 2, 3 or 5.

In summary, it is apparent that hypothesis 6 which postulated that specified dimensions of the demographic variables would correlate higher than any other dimension with a higher IELC score on the 6-level total ABS:IE continuum is largely unsupported by the data.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

> There must be something invincible
> in our people that has kept alive our humanity
> in spite of a system bent on suppressing
> our difference and rewarding our conformity.
> (Armando B. Rendon, 1971, p. 334)

A triple concern will comprise the emphasis of this chapter. It will briefly summarize the purpose of this study. Next it will discuss the results of the data and hypotheses. Lastly, it will posit some implications and recommendations for further research.

Summary of the Study

Educators of the Mexican American in the United States need only to review the dropout level among Mexican American students in comparison to their Black and Anglo counterparts to become alarmed. Since the literature seems to suggest that internal locus of control is highly correlated with educational achievement, it was hypothesized that Mexican Americans who had succeeded at different intervals of educational achievement would score accordingly on an internal-external locus of control scale. It was also hypothesized that certain

dimensions of demographic variables reported by Mexican Americans who had succeeded at diverse intervals of education and scored highly internal on the IELC scale would differ significantly from the demographic variable dimensions reported by those who scored less internally on the IELC continuum. It was further hypothesized that verification of the first two hypotheses would serve as useful insights to the Mexican American community in its efforts to lessen the dropout level of Mexican American students.

Purpose

One of the major aims of this study was to discover whether or not the internal-external locus of control of Mexican Americans who had succeeded at varied intervals of educational achievement could be measured on a multidimensional internal-external locus of control scale. The newly developed ABS:IE which combined the Guttman (1944, 1950a, 1950b, 1959, 1970) facet theory, Jordan's (1968, 1971a, 1971b, 1974) adaptation and expansion of Guttman's paradigm, and Matthews' (1975) application of Rotter's (1966) internal-external locus of control concept to the Guttman-Jordan facet scaling design was used to evaluate this hypothesis. Also used for this purpose was the STATROUT computer program at Michigan State University computer center to produce level-to-level

correlations for the entire sample, for females and males taken separately, and for each category or group. Since there is no direct test of significance to interpret the obtained simplexes, Kaiser's (1962) procedure for obtaining Q^2 values was also applied to the data.

A second purpose was to assess whether or not the postulated six groups or categories differed significantly from one another on the IELC continuum. The relationship of these categories to one another and their order from low to high on internal control was also of major interest. A one-way analysis of variance (ANOVA), followed by t tests employing pooled variance estimate contrasts, was used to evaluate this hypothesis.

Another objective was to correlate certain dimensions of demographic data with internal-external locus of control scores on the six-level total ABS:IE continuum for each category or group. This provided an attempt to differentiate statistically the reported demographic dimensions of those who scored more internally from the reported demographic dimensions of those who scored less internally in the same category or group. One-way analysis of variance (ANOVA) procedures, followed by t tests employing pooled variance estimate contrasts, were used to evaluate this hypothesis.

Literature

A review of the research which has been conducted to identify those variables which correlate positively with the Mexican American student who succeeds at the diverse levels of educational endeavor yielded very little information. The literature seems to indicate that even the research which has been attempted has resulted inconclusive mostly because of methodological inconsistencies.

Coleman's et al. (1966) basic findings of factors associated with the achievement of Mexican American pupils and all other students in the sample were identical. Interestingly, the two factors which Coleman et al. (1966) found most important for achievement were family background and locus of control or attitudes concerning control or responsiveness of the environment.

Another study analyzing value orientation and academic success of Mexican American and Anglo students from the Los Angeles City School District was conducted by Audrey James Schwartz (1969). It concluded that an optimistic definition of the general life situation which includes the view that goals can be attained through personal activity, or what has been defined as internal locus of control, is an orientation which is required for educational achievement.

The scant literature available seems to warrant the contention that for Mexican American students, as for Blacks and for Anglos, the recurring and inevitable conclusion seems to be that school achievement or academic success, regardless how it is measured, seems to be associated with the pupil's locus of control or the manner in which he perceives reinforcement for his behavior. Internal locus of control seems to be correlated with academic success for all students regardless of ethnic background.

Instrumentation and Methodology

Matthews' Attitude Behavior Scale: Internal-External Locus of Control (ABS:IE) which was used in this study, is a multidimensional attitude-behavior scale which borrows from three traditions. It encompasses the Guttman (1950b) tradition of facet analysis scaling based on set theory; the Jordan (1968) tradition which adapted the original Guttman scale to emphasize not only the cognitive and affective aspects of attitude-behavior but also the conative or action level; and the Rotter (1966) tradition of internal-external locus of control dimension. The ABS:IE used in this study is a six level scale attempting to measure the stereotypic, societal norm, moral evaluation, hypothetical interaction, personal feeling, and personal action aspects of the internal-external locus of control attitude-behavior universe.

The personal data questionnaire also used in this study was a 17-item multiple choice instrument on which respondents were required to report personal demographic characteristics. Both the ABS:IE and the personal data questionnaire were administered in both English and Spanish.

Design and Analysis

The English version of the ABS:IE and the personal data questionnaire was administered to five categories or groups: (a) Mexican American high school students enrolled as seniors or in the 12th grade, (b) Mexican American two-year college (junior college) students enrolled as second-year students or sophomores, (c) Mexican American four-year public college students enrolled as seniors, (d) Mexican American female professionals, and (e) Mexican American male professionals. The ABS:IE and the personal data questionnaire were also administered in the Spanish language to one category or group, Mexican National (citizens of Mexico) four-year college students attending two Mexican universities in Mexico.

Several hypotheses were tested using correlation coefficients, one-way analysis of variance procedures, t tests using pooled variance estimate contrasts, the chi square test of variance, and the Kaiser Q^2 simplex approximations.

Research Findings

The attitude-behavior data from the six samples did approximate a Guttman simplex, as had been hypothesized. The combined total of all groups, and the total female and total male dimensions taken separately excelled Hamersma's (1969) .70 criterion Q^2 value required for approximating a simplex. However, taken as individual groups or categories, there were two samples (category 1: high school seniors; and category 3: college seniors) which failed to reach the criterion Q^2 value required for the approximation of a simplex.

The hypothesis regarding differences between the six categories or groups and the predicted order on the IELC scale was only partially confirmed. Statistical differences were reported but they did not yield the hypothesized rank order predicted. Instead the significant differences in the data ranked the categories in the following order from low to high in internal control on the IELC dimension: (a) junior college sophomores (category 2), and college seniors (category 3); (b) Mexican National college students (category 4); (c) high school seniors (category 1); and (d) male professionals (category 6) and female professionals (category 5).

As hypothesized, the standard deviations for all categories were greater than 2, although homogeneous groups were chosen for the population.

The data also confirmed the lack of significant difference between males and females as measured by the stereotypic, moral evaluation, hypothetical interaction, personal feeling and personal action levels of the ABS:IE. However, a significant difference was reported between males and females on the normative level of the ABS:IE.

For the specified dimensions of the demographic variables and their hypothesized correlations with higher internal locus of control scores in each group, only two significant relations were obtained to support the hypothesis. Male professionals who attended public schools for their elementary education scored significantly higher on the ILC continuum than those who attended Catholic schools. Junior college sophomores whose elementary school ethnic composition was half Mexican American and half Mexican National persistingly scored significantly lower on ILC than those who reported any of the other choices to explain their elementary school ethnic makeup. Therefore, this hypothesis was largely unsupported by the data.

Discussion of Results

This section will summarize each of the substantive hypotheses employed in the study. It will also discuss unexpected findings and their possible implications. Finally, it will specify the limitations inherent in this type of research endeavor.

Applying ABS:IE to Mexican Americans, Mexican Nationals

H_1: Kaiser Q^2, using Hamersma's (1969) minimal criterion of .70, confirmed the simplex approximation hypothesis for the entire study, for the male and female dimensions taken separately, and for the six groups individually considered with only two exceptions. An interpretation of the simplexes obtained, based on Guttman's (1950b) contiguity hypothesis which postulates that levels adjacent to one another will correlate to a stronger degree than will levels that are more distant from each other, is that the ABS:IE was able to measure on its multidimensional continuum the internal-external locus of control of Mexican Americans and Mexican Nationals.

No adequate interpretation can be presented for the failure of two groups (high school seniors and college seniors) to reach the minimal criterion for simplex approximation. However, it is suggested that the high school senior group, the less advanced in education, may have encountered difficulties differentiating between the meanings of the different levels and responded similarly to all levels. Matthews (1975) states in his limitations of the study section:

> The ABS:IE which was developed in this study is not recommended for people with less than seven years formal education or its equivalence . . . . During the study, the ABS:IE was administered to a remedial class in the adult education program, but the students were not literate enough to complete the scale (p. 134).

It is also of interest that in his development of the ABS:IE, Matthews (1975) found simplex approximations for all but four of his samples and that one of the samples which did not yield the expected .70 criterion Q^2 was also the high school sample comprised of juniors and seniors.

In regard to the failure of the sample of college seniors to reach the minimal criterion Q^2 value, it is suggested that small sample size could have been responsible since this category was the smallest (N = 27) in the entire study. Coincidentally, perhaps, Matthews (1975) again reports that out of his 12 samples only four failed to reach the criterion value, and one of those was that of college juniors and seniors.

Variation Within Each of the Six Categories

H_2: To test the variability within each one of the six levels of the ABS:IE for each one of the six categories or groups, the chi square test for variance was used. The hypothesis that the standard deviations would be greater than 2.00 for the six levels throughout the six categories was supported. Thus, a sizeable spread in scores was obtained on each of the six levels of the scale within each one of the six homogeneous categories without any exceptions.

It is suggested that even within apparently homogeneous categories, individuals view their control of the environment in relationship to the personal need which they may have for greater control. Consequently, although members of a certain group may have apparently equal control of their environment, because of their diverse needs for greater control, they will vary along the internal-external locus of control continuum.

Rank Order of Sample Categories on IELC Continuum

H_3: A one-way analysis of variance (ANOVA) reported significant differences among the six categories or groups in the study. However, t tests using pooled variance estimate contrasts only partially confirmed the hypothesized rank order of categories along the external-internal locus of control continuum. It had been hypothesized that the order (from low to high in internal control on the IELC dimension) would be: (a) public high school seniors, (b) two-year college sophomores, (c) four-year college seniors, (d) four-year Mexican National college students, (e) professional women, (f) professional men. The data supported this order: (a) two-year college sophomores and four-year college seniors, with no significant difference between them; (b) four-year Mexican National college students; (c) public high school seniors;

(d) female professionals and male professionals, with no significant difference between them.

The rationale for the unsupported hypothesized order contended that the more educated groups would score more internally than the less educated since the more educated would view themselves as having greater control over their environment. The Mexican National college students, members of the majority in their own country, were hypothesized to be more internal than any of the three groups of Mexican American students since they would have never encountered the stigma of being members of a minority group and all the disadvantages which the literature seems to attribute to the education of Mexican American students in the United States.

The significant finding that professional men and women ranked highest on the internal scale, as hypothesized, does not necessarily suggest that the higher one advances in educational attainment, the higher will be his internal locus of control. This is apparent from the equally significant finding that the high school senior group, hypothesized to rank at the bottom of the internal continuum, ranked second only to the professionals.

Nor does the failure of Mexican Nationals to rank more internally than any of the three student groups suggest that being a member of a minority does not

correlate with scoring lower on the internal scale. It is suggested that there were other variables such as level of national development (Jordan, 1968) in the Mexican National sample that may be responsible for its low rank.

As has been posited by some educators, the suggested conclusion is that predictors of internal locus of control, as of educational achievement, are multivariate, not univariate. It is suggested that advancement in educational attainment alone is not an exhaustive predictor of internal locus of control. Likewise, a minority status alone is not an exhaustive predictor of external locus of control.

Similarities and Dissimilarities of Mexican Americans and Mexican Nationals

H_4: One-way analysis of variance procedures (ANOVAs) followed by t tests employing pooled variance estimate contrasts reported findings which did not support the hypothesis that Mexican Nationals would not differ significantly from any of the Mexican American categories on the hypothetical interaction level of the ABS:IE, but that they would score significantly more internal than any of the Mexican American groups on the personal action level. The findings that the Mexican National group did differ significantly from categories of junior college sophomores, professional men, and

professional women on the hypothetical interaction level; and scored significantly more external than all the other categories on the personal action level suggest the presence of other variables not taken into account by the researcher.

Male, Female Differences on Internal-External Locus of Control

H_5: Only level 2 (Normative) of the ABS:IE reported significant differences between males and females. Analysis of variance applied to each one of the six levels supported the hypothesis that there would be no significant differences between males and females for the other five levels.

There is no adequate explanation to interpret the significant difference reported on the normative level in view of the nonsignificant findings of differences for the other five levels. With this one exception, the data supported this hypothesis which seems to be almost unanimously supported in the literature dealing with internal-external locus of control.

Relating Dimensions of the Demographic Variables for Each Category on Total IELC Scores

H_6: Apparently, the specified dimensions of the demographic variables hypothesized to correlate

significantly with ILC scores were too weak as single predictors to differentiate between those who scored high or low on the internal locus of control continuum. The hypothesis which stated that specified dimensions of the demographic variables for each category would correlate significantly higher than any other dimension of that variable with higher internal scores was almost totally unsupported by the data.

As was suggested for hypothesis 3, it again seems that the data failed to support this hypothesis because the specified dimensions standing alone were too weak or too small to contribute sufficiently to the ILC score. It is suggested that clusters or combinations of the specified dimensions of the demographic variables could have been used instead of the individual, specified dimensions employed. It is further suggested that these clusters or combinations would strengthen the predictors to such a degree that the influence of the individual specified dimensions within the clusters or combinations, or their lack of influence, would be more statistically measurable.

Limitations

This study shares the characteristics of both causal comparative or "ex post facto" research and correlational analysis. Therefore, it did not investigate true

cause and effect; nor do the hypotheses supported statistically by the data "prove or disprove" the rationale for forming those hypotheses.

It should also be noted that the categories in this study were all select groups which had succeeded at different intervals of educational endeavor and were hypothesized to vary on the internal-external locus of control dimension. Since random selection was employed for only one category (male professionals) generalization to all such groups of Mexican Americans and Mexican Nationals is not warranted on the basis of these data.

Recommendations for Further Research

The data in this study seem to indicate that ABS:IE is an adequate instrument to measure the internal-external locus of control of Mexican Americans and Mexican Nationals on the college level and beyond. However, it is recommended that the ABS:IE be revised to simplify the differentiation between levels for administration to high school students and dropouts.

Provided the ABS:IE can be simplified for high school students and dropouts, it is suggested that it would serve as an adequate instrument to study the IELC of both groups within the Mexican American population. This type of research could contribute to a better understanding of the Mexican American dropout difficulties.

The ABS:IE could also be administered to randomly selected matched samples (or by holding certain variables constant) of Mexican American, Black, and Anglo student populations to assess the findings of the literature concerning the differences or similarities of such groups on IELC. This could augment the limited research which has been attempted in this regard.

It is also recommended that this study be replicated using clusters or combinations of specified dimensions from several demographic variables as predictors or independent variables instead of the single specified dimension of one demographic variable used as the predictor in this study. It is suggested that in the personal data questionnaire respondents be offered choices containing clusters or combinations which would include specified dimensions from different variables rather than choices specifying dimensions from one and the same variable.

Random sampling from each group is recommended. Standardization of procedures for the administration of the instrument to all categories is suggested. Also suggested is a larger sample size for some of the groups.

Finally, it is suggested that the predictors of IELC for the Mexican American student be investigated as multidimensional clusters or combinations rather than as unidimensional variables. In other words, to dissect the

complexity of predictor variables of IELC in the Mexican American it seems necessary not to overlook the multiple interactions of parents, home, teachers, counselors, Anglo peers, ethnic peers, and instrumental handicaps as well as other possible sources of reinforcement or alienation.

Implications

> The Mexican American must answer at the same time: Who am I? and, Who are we? This is to pose then, not merely a dilemma of self-identity, but of self-in-group-identity. . . . Perhaps the answer to developing a total Mexican American concept must be left in the hands of the artist, the painter, the writer, and the poet, who can abstract the essence of what it is to be Mexican in America. . . . When that understanding comes . . . the Mexican American will not only have acculturized himself, but he will have acculturized America to him (Armando B. Rendon, 1971, p. 324).

While the following observations do not necessarily result from the empirical data generated by this study, they do reflect the convictions of the researcher.

People from developing nations who are studying in fields where job opportunities are limited may score low on locus of control since realistically they are cognizant of the fact that there are few opportunities for future employment in their field, i.e., in Mexico there are comparatively speaking many students in psychology but few job opportunities. The relationship between socio-economic development and psychological variables has been demonstrated elsewhere (Jordan, 1968). Perhaps this is

one variable which influenced the low internal scores of the Mexican National group.

It seems significantly important that future studies of Mexican American populations define with precision the rationale basic to their hypothesized contentions. Radically dichotomous positions contending to analyse the Mexican American population or any other minority group will necessarily emphasize unique premises, structures and expectations to the exclusion of possibly relevant others.

APPENDICES

APPENDIX A

ATTITUDE BEHAVIOR SCALE: IE

ATTITUDE BEHAVIOR SCALE: IE

Directions:

This booklet contains statements of how people behave in certain situations or feel about certain things. You, yourself, or other persons often behave in the same way in certain situations. You also have some general ideas about yourself and about other persons. Sometimes you feel or behave the same way as others and sometimes you feel or behave differently than others.

This questionnaire has statements about ideas and about behavior. Each statement of this questionnaire is different from every other section, although some of the statements in each section are similar. Your answers in one section, therefore, may be the same as answers in another section, or your answers may differ from section to section. Here is a sample statement:

Sample I

Other people believe the following things:

1. Getting ahead in life depends on luck.

   (1) strongly agree
   2. agree
   3. disagree
   4. strongly disagree

If other people strongly agree with this you should circle the number 1 as shown above or if you are using an IBM answer sheet make a heavy dark line on the answer sheet between the two lines after the number 1 as follows:

1. 1 ▬▬ 2 ═══ 3 ═══ 4 ═══ 5 ═══

DO NOT PUT YOUR NAME ON THE BOOKLET

Calvin O. Matthews
and
John E. Jordan
College of Education
Michigan State University

52574

ABS-I-IE

Directions: Section 1

This section contains statements about beliefs which other people have about certain things in life. Circle or fill in the answer sheet number that indicates how others believe in the situation.

Other people believe the following things:

1. Others believe that the unhappy things in people's lives are due to bad luck.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

2. Others believe that an individual's worth passes unrecognized no matter how hard he tries.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

3. Others believe that without the right breaks one cannot be an effective leader.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

4. Others believe that the world is run by a few powerful people, and there is nothing the little guy can do about it.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

5. Others believe that people might as well decide what to do by flipping a coin.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

ABS-I-IE

Other people believe the following things:

6. Others believe that who gets to be the boss depends on who was lucky enough to be in the right place first.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

7. Others believe there is a direct connection between studying hard and the grades one gets.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

8. Others believe that people have no influence over the things that happen to them.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

9. Others believe that people have no control over the things politicians do in office.

   1. strongly agree
   2. agree
   3. disagree
   4. strongly disagree

10. Others believe that getting a good job depends on being in the right place at the right time.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

ABS-II-IE

Directions: Section II

This section contains statements which people generally believe others would experience in certain situations in life. Please choose the answer that indicates what you think most others believe about different life situations.

Most people generally believe the following:

11. Others generally believe that the unhappy things in people's lives are usually due to bad luck.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

12. People generally believe that an individual's worth is not usually recognized no matter how hard he tries.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

13. Others generally believe that without the right breaks one usually cannot be an effective leader.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

14. Others generally believe that the world is run by a few powerful people and there is nothing the little guy can do about it.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

15. Others generally believe that people might just as well decide what to do by flipping a coin.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

ABS-II-IE

Most people generally believe the following:

16. People generally believe that who gets to be boss depends on who was lucky enough to be in the right place first.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

17. People generally believe there is a direct connection between studying hard and the grades that one gets in school.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

18. Others generally believe they have no influence over the things that happen to them.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

19. Others generally believe that people have no control over the things politicians do in office.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

20. Others generally believe that getting a good job depends on being in the right place at the right time.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

ABS-III-IE

Directions: Section III

This section contains statements of the right or wrong way others believe. You are asked to indicate what you think is right or wrong for others to believe.

In respect to the following statements, what do you think is right or wrong for others to believe.

21. When others believe that unhappy things in people's lives are due to bad luck they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

22. When people believe that an individual's worth passes unrecognized no matter how hard he tries, they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

23. When people believe that without the right breaks one cannot be an effective leader they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

24. When others believe that the world is run by a few powerful people, and there is nothing the little guy can do about it they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

25. When others believe that people may just as well decide what to do by flipping a coin they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

ABS-III-IE

In respect to the following statements, what do you think is right or wrong for others to believe.

26. When others believe that who gets to be boss depends on who was lucky enough to be in the right place first they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

27. When others believe there is a direct connection between studying hard and the grades one gets they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

28. When others think that people believe they have little influence over the things that happen to them they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

29. When others believe that people have no control over the things politicians do in office they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

30. When others believe that getting a good job depends on being in the right place at the right time they are:

    1. right
    2. usually right
    3. usually wrong
    4. wrong

ABS-IV-IE

Directions: Section IV

This section contains statements about how you expect you would act. Choose the answer that indicates how you think you would act.

In respect to the following statements what would you yourself expect in the future.

31. I expect that the unhappy things in my life will be due to bad luck.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

32. I expect my individual worth to pass unrecognized no matter how hard I try.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

33. Without the right breaks, I could not expect to be an effective leader.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

34. I expect the world to be run by a few powerful people and there will be nothing I can do about it.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

35. I expect that I might just as well decide what to do by flipping a coin.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

ABS-IV-IE

In respect to the following statements what would you yourself expect in the future.

36. I expect that if I got to be the boss, it would depend on my being lucky enough to be in the right place first.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

37. I expect a direct connection between studying hard and the grades I get.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

38. I expect to have little influence over the things that will happen to me.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

39. I expect that I have no control over the things politicians do in office.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

40. I expect that getting a good job would depend on my being in the right place at the right time.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

ABS-V-IE

Directions: Section V

This section concerns actual feelings that you yourself have under certain circumstances. You are asked to indicate how you would feel.

Indicate how you actually feel about the following situations:

41. If the unhappy things in my life were due to bad luck, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

42. If my individual worth passes unrecognized no matter how hard I try, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

43. If without the right breaks, I cannot be an effective leader, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

44. If the world was run by a few powerful people and there was nothing I could do about it, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

45. If I might just as well decide what to do by flipping a coin, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

ABS-V-IE

Indicate how you actually feel about the following situations:

46. If my getting to be boss depended on my being lucky enough to be in the right place first, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

47. If there is a direct connection between studying hard and the grades I get, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

48. If I had little influence over the things that happened to me, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

49. If it were difficult for me to have control over the things politicians did in office, I would feel:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

50. If my getting a good job depended on my being in the right place at the right time, my feelings would be:

    1. strongly positive
    2. positive
    3. negative
    4. strongly negative

ABS-VI-IE

Directions: Section VI

This section concerns actual experiences you have had. Try to answer the following statements from knowledge of your own experiences.

I have experienced or found:

51. I have found that the unhappy things in my life are due to bad luck.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

52. I have experienced that my individual worth passes unrecognized no matter how hard I try.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

53. I have found that without the right breaks I cannot be an effective leader.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

54. I have found that the world is run by a few powerful people, and there is nothing I can do about it.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

55. I have found that people might just as well decide what to do by flipping a coin.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

ABS-VI-IE

I have experienced or found:

56. I have seen that who gets to be boss depends on who was lucky enough to be in the right place first.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

57. I have experienced that there is a direct connection between studying hard and the grades I get.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

58. I have found that I have no influence over the things that happen to me.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

59. I have found that I have no control over the things politicians do in office.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

60. I have found that getting a good job depends on my being in the right place at the right time.

    1. strongly agree
    2. agree
    3. disagree
    4. strongly disagree

APPENDIX B

PERSONAL DATA QUESTIONNAIRE

PERSONAL DATA QUESTIONNAIRE

61. Please indicate your sex:

1. Female
2. Male

62. Please indicate your age as follows:

1. 17 or under
2. Between 18 and 20
3. Between 21 and 25
4. Between 26 and 40
5. 41 and over

63. Please indicate your present educational level:

1. Senior in high school
2. Sophomore in college
3. Senior in college
4. I have earned a bachelor's degree
5. I have earned a master's degree, its equivalent or more

64. Please indicate the total amount of years of education which your mother completed:

1. 0 to 6 years of school
2. 7 to 9 years of school
3. 10 to 12 years of school
4. 1 to 4 years of college
5. A master's degree or more

65. Please indicate the total amount of years of education which your father completed:

1. 0 to 6 years of school
2. 7 to 9 years of school
3. 10 to 12 years of school
4. 1 to 4 years of college
5. A master's degree or more

66. How many brothers (do not include sisters) do you have?

1. None
2. One
3. Two
4. Three
5. Four or more

67. How many sisters (do not include brothers) do you have?

1. None
2. One
3. Two
4. Three
5. Four or more

68. What place do you hold in the order of birth among your brothers and sisters?

1. I am the last born
2. I am the second to the last born
3. I am between the second born and the second to the last born
4. I am the second born
5. I am the first born

69. While you are/were attending high school what is/was the approximate total yearly income of your family?

1. Less than $2,000.00
2. $2,001.00 - $4,000.00
3. $4,001.00 - $10,000.00
4. $10,001.00 - $15,000.00
5. $15,001.00 and over

70. While you are/were attending high school, where do/did you live?

1. In the country
2. In a small town
3. In a city of less than 500,000 population
4. In a city of more than 500,000 but less than 750,000 population
5. In a city of 750,000 or more population

71. What type of elementary school did you generally attend up to and including the sixth grade?

1. A Catholic parochial school
2. A private school which was not a Catholic parochial school
3. A public school

72. While you are/were in high school what religion do/did you generally follow?

1. Jewish
2. Roman Catholic
3. Protestant
4. Other
5. None

73. In the elementary school you attended, most of the students belonged to what ethnic background?

1. Most were Anglo Americans
2. About half were Anglos, about half Mexican Americans
3. About half were Mexican Americans, about half Mexican Nationals
4. Most were Mexican Nationals
5. Most were Mexican Americans

74. While you are/were in high school to what ethnic background do/did most of your close friends belong?

1. Most are/were Anglo Americans
2. About half are/were Anglos, about half Mexican Americans
3. About half are/were Mexican Americans, about half Mexican Nationals
4. Most are/were Mexican Nationals
5. Most are/were Mexican Americans

75. In high school do/did you belong to different varsity sports teams?

1. No
2. Yes, to one team
3. Yes, to two different teams
4. Yes, to three different teams
5. Yes, to four or more different teams

76. In high school to how many school clubs or organizations other than sports do/did you belong?

1. To none
2. To one
3. To two
4. To three
5. To four or more

77. While in high school during how many summer vacations have you held (did you hold) a paying summer job?

1. Never
2. Only during one summer vacation
3. Only during two summer vacations
4. Only during three summer vacations
5. Every summer

APPENDIX C

ESCALA DE COMPORTAMIENTO ACTITUDINAL: IE

ESCALA DE COMPORTAMIENTO ACTITUDINAL: IE

DIRECCIONES:

Este folleto contiene declaraciones de la manera en la cual los individuos se comportan en ciertas situaciones o como se sienten en ciertas cosas. Usted mismo u otras personas a menudo se comportan igualmente en ciertas situaciones. Generalmente usted también piensa de si mismo y de otras personas en una manera única. A veces usted se siente y se comporta igual a otras personas y a veces usted se siente o se comporta diferente a otras personas.

Este cuestionario contiene declaraciones en cuanto a ideas y en cuanto a comportamiento. Cada declaración de este cuestionario es diferente a otra declaración, aunque algunas de éstas son semejantes de sección a sección. Sus respuestas en una sección por consiguiente pueden resultar iguales a respuestas en otra sección, o sus respuestas pueden resultar diferentes de sección en sección. Aquí tiene un ejemplo de una declaración:

Primer Ejemplo:

Otras personas creen lo siguiente:

1. El tener éxito en el mundo depende de la suerte.

   (1) definitivamente de acuerdo

   2. de acuerdo

   3. de desacuerdo

   4. definitivamente no de acuerdo

Si otras personas estan definitivamente de acuerdo con esta declaración usted debe encerrar en un círculo el uno según el ejemplo ilustrado.

Favor de no poner su nombre en el folleto

Calvin O. Matthews y John E. Jordan

Traducción del inglés al español por

John Gonzales Castro y Maria Sol Gonzalez Valdez

College of Education, Michigan State University

ECA-I-IE

Direcciones: Sección Primera

Esta sección contiene declaraciones tocante a lo que otras personas creen de ciertas cosas de la vida. Encierre en un círculo el número que indica la manera en la cual otras personas creen en la situación señalada.

Otras personas creen las siguientes cosas:

1. Otros creen que las cosas tristes que suceden en la vida a otras personas son debidas a la mala suerte.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

2. Otros creen que el valor del individuo pasa sin ser reconocido a pesar del esfuerzo que haga.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

3. Otros creen que sin las oportunidades propias no se puede llegar a ser un líder efectivo.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

4. Otros creen que el mundo se dirige por un grupo de gente poderosa, y que no hay nada que el menos poderoso puede hacer para cambiarlo.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

5. Otros creen que da lo mismo que el individuo decida lo que se debe hacer al apostar "sol o águila."

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

ECA-I-IE

Otras personas creen las siguientes cosas:

6. Otros creen que el que llega a ser jefe depende de ser afortunado al estar en primer lugar antes que los demás.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

7. Otros creen que existe una relación directa entre el estudiar dedicadamente y las calificaciones que obtiene.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

8. Otros creen que el individuo no tiene ninguna influencia sobre lo que le sucede.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

9. Otros creen que el individuo no tiene ningún control sobre lo que los políticos efectuan con sus puestos.

   1. definitivamente de acuerdo
   2. de acuerdo
   3. de desacuerdo
   4. definitivamente no de acuerdo

10. Otros creen que al conseguir un buen trabajo depende al estar en el lugar y tiempo apropiados.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

ECA-II-IE

Direcciones: Sección Segunda

Esta sección contiene declaraciones que el individuo generalmente cree que otras personas experimentarían en ciertas situaciones de la vida. Escoja la respuesta que indique lo que usted piensa de lo que la mayoria cree tocante a diferentes situaciones de la vida.

La mayoria generalmente cree lo siguiente:

11. Otros generalmente creen que las cosas tristes en las vidas de otras personas de ordinario son debidas a la mala suerte.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

12. Otros generalmente creen que el valor del individuo de ordinario no es reconocido a pesar del esfuerzo que haga.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

13. Otros generalmente creen que sin las oportunidades propias de ordinario no se puede llegar a ser un líder efectivo.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

14. Otros generalmente creen que el mundo se dirige por pocas personas poderosas y no hay nada que el menos poderoso puede hacer con esto.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

15. Otros generalmente creen que da lo mismo que el individuo decida lo que se debe hacer al apostar "sol o águila."

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

ECA-II-IE

La mayoria generalmente cree lo siguiente:

16. Otros generalmente creen que el llegar a ser jefe depende en ser afortunado al estar en el primer lugar apropiado.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

17. Otros generalmente creen que existe una directa relación entre el estudiar dedicadamente y las calificaciones que obtiene en la escuela.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

18. Otros generalmente creen que ellos no tienen ninguna influencia sobre lo que les pasa.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

19. Otros generalmente creen que el individuo no tiene ningún control sobre lo que los políticos efectuan con sus puestos.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

20. Otros generalmente creen que al consequir un buen trabajo depende al estar en el lugar y tiempo apropiados.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

ECA-III-IE

Direcciones: Sección Tercera

Esta sección contiene declaraciones de la correcta o incorrecta forma en la cual otros creen.

En cuanto a lo que otros creen indique lo que es correcto o incorrecto. Marque correcto o incorrecto lo que otros pueden creer con respecto a las siguientes declaraciones.

21. Cuando otros creen que las cosas tristes de la vida de otras personas son debidas a la mala suerte es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

22. Cuando otros creen que el valor del individuo no es reconocido a pesar del esfuerzo que haga ese individuo es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

23. Cuando otros creen que sin las oportunidades propias no se puede ser un líder efectivo es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

24. Cuando otros creen que el mundo se dirige por pocas personas poderosas, y no hay nada que el menos poderoso puede hacer con esto es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

25. Cuando otros creen que da lo mismo que el individuo decida lo que se debe hacer al apostar "sol o águila" es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

ECA-III-IE

Marque correcto o incorrecto lo que otros pueden creer con respecto a las siguientes declaraciones.

26. Cuando otros creen que el llegar a ser jefe depende en ser afortunado al estar en el primer lugar apropiado es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

27. Cuando otros creen que hay una directa relación entre el estudiar dedicadamente y las calificaciones que obtiene es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

28. Cuando otros piensan que el individuo cree que el tiene poca influencia sobre lo que le pasa es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

29. Cuando otros creen que el individuo no tiene ningún control sobre lo que los políticos efectuan con sus puestos es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

30. Cuando otros creen que al conseguir un buen trabajo depende al estar en el lugar y tiempo apropiados es:

    1. correcto
    2. de ordinario correcto
    3. de ordinario incorrecto
    4. incorrecto

ECA-IV-IE

Direcciones: Sección Cuarta

Esta sección contiene declaraciones tocante a la manera en la cual usted esperaría portarse. Escoja la repuesta adecuada según la manera a como usted se portaría.

En cuanto a las siguientes declaraciones, que esperaría usted de su propio futuro.

31. Espero que las cosas tristes en mi vida se deban a la mala suerte.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

32. Espero que mi valor individual no sea reconocido a pesar del esfuerzo que haga.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

33. Sin las oportunidades propias no podría esperar a llegar a ser un líder efectivo.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

34. Espero que el mundo sea dirigido por pocas personas poderosas y que no haya nada que pueda hacer con esto.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

35. Espero que daría lo mismo decidir lo que debo hacer al apostar "sol o águila."

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

ECA-IV-IE

En cuanto a las siguientes declaraciones, que esperaría usted de su propio futuro.

36. Espero que si llegaría a ser jefe esto dependería de lo afortunado que fuera al estar en el primer lugar apropiado.

1. definitivamente de acuerdo
2. de acuerdo
3. de desacuerdo
4. definitivamente no de acuerdo

37. Espero una relación directa entre el estudiar dedicadamente y las calificaciones que obtenga.

1. definitivamente de acuerdo
2. de acuerdo
3. de desacuerdo
4. definitivamente no de acuerdo

38. Espero tener poca influencia sobre las cosas que me pasen.

1. definitivamente de acuerdo
2. de acuerdo
3. de desacuerdo
4. definitivamente no de acuerdo

39. Espero no tener ningún control sobre lo que los políticos efectuen con sus puestos.

1. definitivamente de acuerdo
2. de acuerdo
3. de desacuerdo
4. definitivamente no de acuerdo

40. Espero que al conseguir un buen trabajo dependería de mí al estar en el lugar y tiempo apropiados.

1. definitivamente de acuerdo
2. de acuerdo
3. de desacuerdo
4. definitivamente no de acuerdo

ECA-V-IE

Direcciones: Sección Quinta

A ésta sección le corresponden los sentimientos actuales que usted tiene bajo ciertas circunstancias. Indique como se sentiría.

Indique como se siente usted actualmente tocante a las siguientes situaciones:

41. Si las cosas tristes de mi vida fueran debidas a la mala suerte me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

42. Si mi valor individual no fuera reconocido a pesar del esfuerzo que hiciera me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

43. Si no puedo ser un líder efectivo sin las oportunidades propias me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

44. Si el mundo fuera dirigido por pocas personas poderosas y no hubiera nada que pudiera hacer con esto me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

45. Si lo mismo diera decidir lo que se debe hacer al apostar "sol o águila" me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

ECA-V-IE

Indique como se siente usted actualmente tocante a las siguientes situaciones:

46. Si al llegar a ser jefe dependiera de lo afortunado que fuera al estar en el primer lugar apropiado me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

47. Si hay una directa relación entre el estudiar dedicadamente y las calificaciones que yo obtenga me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

48. Si tuviera poca influencia sobre lo que me pasa me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

49. Si para mí fuera difícil tener control sobre lo que los políticos efectuan con sus puestos me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

50. Si al conseguir un buen trabajo dependiera de mí al estar en el lugar y tiempo apropiados me sentiría:

    1. definitivamente positivo
    2. positivo
    3. negativo
    4. definitivamente negativo

ECA-VI-IE

Direcciones: Sección Sexta

A esta sección le corresponden las experiencias actuales que usted ha tenido. Recordando sus propias experiencias trate de responder las siguientes declaraciones.

He experimentado o encontrado:

51. He encontrado que las cosas tristes de mi vida son debidas a la mala suerte.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

52. He experimentado que mi valor individual no es reconocido a pesar del esfuerzo que haga.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

53. He encontrado que sin las oportunidades apropiadas no puedo ser un líder efectivo.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

54. He encontrado que el mundo se corre por pocas personas poderosas y que no hay nada que pueda hacer con esto.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

51. He encontrado que da igual decidir lo que se debe hacer al apostar "sol o águila."

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

ECA-VI-IE

He experimentado o encontrado:

56. He visto que el que llega a ser jefe depende del que fué afortunado al estar en el primer lugar apropiado.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

57. He experimentado que hay una relación directa entre el estudiar dedicadamente y las calificaciones que obtengo.

    1. definitivamento de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

58. He encontrado que no tengo ninguna influencia sobre lo que me sucede.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

59. He encontrado que no tengo control sobre lo que los políticos efectuan con sus puestos.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

60. He encontrado que al conseguir un buen trabajo depende de mí al estar en el lugar y tiempo apropiados.

    1. definitivamente de acuerdo
    2. de acuerdo
    3. de desacuerdo
    4. definitivamente no de acuerdo

APPENDIX D

CUESTIONARIO EN CUANTO A DATOS PERSONALES

CUESTIONARIO EN CUANTO A DATOS PERSONALES

61. Indique su sexo:

1. femenino
2. masculino

62. Indique su edad según estas categorias:

1. 17 o menos
2. entre 18 y 20
3. entre 21 y 25
4. entre 26 y 40
5. 41 y más

63. Indique su nivel actual de educación:

1. ultimo año de bachillerato
2. primer año de universidad
3. segundo año de universidad
4. tercer año de universidad
5. cuarto año de universidad

64. Indique el total de años de educación que su madre ha llegado a completar:

1. 0 a 6 años de escuela
2. 7 a 9 años de escuela
3. 10 a 12 años de escuela
4. 1 a 4 años de universidad
5. et titulo de maestría o más

65. Indique el total de años de educación que su padre ha llegado a completar:

1. 0 a 6 años de escuela
2. 7 a 9 años de escuela
3. 10 a 12 años de escuela
4. 1 a 4 años de universidad
5. el titulo de maestría o más

66. Cuántos hermanos (no incluya hermanas) tiene usted?

1. ninguno
2. uno
3. dos
4. tres
5. cuatro o más

67. Cuántas hermanas (no incluya hermanos) tiene usted?

1. ninguna
2. una
3. dos
4. tres
5. cuatro o más

68. Marque el lugar según el orden de nacimiento que ocupa usted en comparación con sus hermanos y hermanas.

1. nací al último
2. nací antes del último
3. nací entre el segundo y el que nació antes del último
4. soy el segundo nacido
5. soy el primer nacido

69. Mientras que usted asistía al bachillerato cuál era el aproximado ingreso economico total de su familia?

1. menos de $2,000.00 dólares
2. $2,001.00 - $4,000.00 dólares
3. $4,001.00 - $10,000.00 dólares
4. $10,001.00 - $15,000.00 dólares
5. $15,001.00 o más dólares

70. Mientras que usted asistía al bachillerato dónde vivía usted?

1. en el campo
2. en una población pequeña
3. en una ciudad de menos de 500,000 de habitantes
4. en una ciudad de 500,000 de habitantes o más pero con menos de 750,000 de habitantes
5. en una ciudad de 750,000 de habitantes o más

71. A que clase de escuela primaria asistió usted generalmente (incluyase hasta el sexto año)?

1. colegio católico
2. colegio privado pero no católico
3. escuela pública

72. Mientras que asistía al bachillerato que religión practicaba generalmente?

1. judía
2. romana católica
3. protestante
4. otra todavía no mencionada
5. ninguna

73. En la escuela primaria a la cual asistía, a que grupo étnico pertenecía la mayoría de los estudiantes?

    1. la mayoría anglosajón
    2. una mitad anglosajón y la otra mejicano americano
    3. una mitad mejicano americano y la otra mejicano original
    4. la mayoría mejicano original
    5. la mayoría mejicano americano

74. Mientras que asistía al bachillerato a que grupo étnico pertenecían sus mejores amigos?

    1. la mayoría anglosajón
    2. una mitad anglosajón y la otra mejicano americano
    3. una mitad mejicano americano y la otra mejicano original
    4. la mayoría mejicano original
    5. la mayoría mejicano americano

75. Durante el bachillerato a cuántos equipos estudiantiles de deporte competivo representativos de su colegio pertencía usted?

    1. a ninguno
    2. a uno
    3. a dos
    4. a tres
    5. a cuatro o más

76. Durante el bachillerato a cuántas organizaciones estudiantiles que no eran sobre deporte pertenecía usted?

    1. a ninguna
    2. a una
    3. a dos
    4. a tres
    5. a cuatro o más

77. Mientras que estudiaba el bachillerato en cuántas vacaciones de verano trabajó con sueldo?

    1. nunca
    2. solamente durante una vacación de verano
    3. solamente durante dos vacaciones de verano
    3. solamente durante tres vacaciones de verano
    5. durante cada vacación de verano

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