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STUDENTS VARYING IN SOCIOECONOMIC STATUS  
AND RACIAL GROUP.

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EXPERIENCE OF CONTROL, TIME ORIENTATION  
AND ASPIRATION LEVEL OF HIGH SCHOOL STUDENTS  
VARYING IN SOCIOECONOMIC STATUS AND RACIAL GROUP

by

Paula Creighton Stone

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I hereby recommend that this dissertation prepared under my  
direction by Paula Creighton Stone

entitled Experience of Control, Time Orientation and Aspiration  
Level of High School Students Varying in Socioeconomic  
Status and Racial Group

be accepted as fulfilling the dissertation requirement of the  
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SIGNED: Paula Creighton Stone

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## ABSTRACT

The present study investigated the relationship of two demographic variables—socioeconomic status (SES) and racial groups—and three psychological variables—internal control, one's belief in his ability to succeed; achievement reality orientation, recognition that current achievement is important to future success; and future time orientation, concern for the future—to achievement level and to educational and vocational aspirations. Eleventh grade students (N=176) from two racial groups—Caucasian and Mexican American—representing both lower and middle socioeconomic status were studied.

The results indicated that a student who experienced internal control, who was future and present oriented and who had adequate achievement reality orientation was more likely to be succeeding academically and to hold high, but realistic aspirations. On the other hand, the student who experienced external control, who was past oriented and who lacked achievement reality orientation was likely to be doing poorly academically and to hold low, restrictive aspirations. The results also indicated that lower SES students experienced less internal control, did poorer academically and held lower

educational aspirations than middle SES students. Mexican American students were more past oriented than Caucasians.

These findings suggested that these characteristics of both lower SES and minority group students are not likely to facilitate academic progress nor the development of realistically high aspirations; rather they are likely to perpetuate academic failure and low, restrictive aspirations. For these reasons further research is needed to investigate methods which are effective in teaching internal control, adequate achievement reality orientation and present and future time orientation. One implication of this research is that such teaching could be beneficial to the student who has poor grades and low aspirations because it could provide him with attitudes and beliefs which facilitate academic improvement and the development of realistically high aspirations.

## INTRODUCTION

The purpose of this study was to investigate the relation of both demographic variables and psychological variables to academic failure and low, restricting levels of educational and vocational aspirations. Two demographic variables—socioeconomic status (SES) and racial group were studied—as past research indicated that lower SES and/or minority racial group students tended to complete less schooling and to work at lower paying, lower status jobs (McClelland, 1958; Passow, 1963; Rosen, 1956, 1959). Throughout the following discussion the term "racial group" is used in its most broad sense to denote an ethnic group, a group which shares a common gene pool and culture. Using these general criteria Caucasians and Mexican Americans are discussed as two different racial groups.

Past research also indicated that psychological variables, specifically the experience of internal control and future time orientation, were likely to be important to academic success and level of aspiration. Lefcourt (1966) and Rotter (1966) reported that the experience of internal control, i.e., a belief that rewards are contingent on one's own behavior, and not on luck or chance, was related to optimistic levels of aspiration. LeShan (1952) and Teahan (1958)

found that future time orientation, i.e., a tendency to be predominantly concerned with the future, was also related to high achievement and to optimistic aspirations.

It would seem that an individual who does not think about the future and who believes that luck and chance, not his own actions, determine his success would be unlikely to achieve academically and would be unlikely to develop meaningful feasible aspirations, as aspirations presuppose future thinking and belief in the ability to exert control. Moreover, it would seem that academic achievement and feasible aspirations presuppose an adequate achievement reality orientation, defined as the recognition that current achievement is important to future success. An individual who does not understand the contingencies which operate in academic and vocational areas would be unlikely to be getting good grades as he does not consider them important and would be unlikely to develop aspirations which are related to his current achievement in a meaningful way.

On the basis of past research the relative importance of each of these demographic and psychological variables was difficult to assess as each variable had generally been studied independently. One purpose of this research was to study these variables conjointly to determine if the relations discussed above did obtain.

Rosen's research on the Achievement Syndrome (1956, 1959) illustrated how clarity was gained by investigating

several demographic and psychological variables simultaneously. The Achievement Syndrome included three factors: 1) high need achievement, 2) achievement values, beliefs about planning, sacrifice and success that implied future time orientation and experience of internal control, and 3) high vocational and educational aspirations. Rosen (1956) found that belief in achievement values was predictive of high aspiration levels and that high need achievement was predictive of high achievement levels. Lower SES subjects (Ss) expressed less adherence to achievement values and held lower aspiration levels. Further investigation revealed that this relation did not hold for lower SES Negro students; although vocational aspirations were low, achievement values and educational aspirations were high and comparable to those expressed by Caucasians (Rosen, 1959). Factors other than achievement values were influencing the vocational aspirations which lower SES Negroes held. In hopes of clarifying what some of these factors might have been this research investigated the relation of specific variables, i.e., internal control, future time orientation and achievement reality orientation to aspirations rather than investigating the relation of general achievement values to aspirations.

The first variable to be discussed is the experience of internal control, which Coan (1968) defined as "the sense that one actively chooses, successfully wills or achieves mastery over himself and the circumstances in which he finds

himself (p. 1)." Coan developed a 131 item, true-false test, the Personal Opinion Survey (POS) to measure the experience of control. Factor analysis yielded 18 different, fairly independent areas of control. Two of these areas of control— 1) the belief that one can achieve success through conscientious effort (factor 1) and 2) the belief that one can plan and organize successfully (factor 4)—were studied in this research as they seemed especially relevant to both achievement level and aspiration level. An individual who believes that his own efforts and planning will bring him success would be more likely to believe that studying is necessary for good grades and that higher levels of aspiration will be possible to attain than is the individual who believes that luck or chance determine the success he will have in academic and vocational areas.

As noted above, past research indicated that internal control and aspiration level were related (Rotter, 1966). This research utilized the concept of locus of control, a concept which is central to Rotter's social learning theory (1954). Locus of control refers to a generalized expectancy that reinforcements are contingent on one's actions (internal control) or non-contingent, i.e., due to luck, fate or chance, (external control). The Internal-External Control of Reinforcements Scale, the I-E Scale, was developed to measure locus of control (Rotter, Seaman, and Liverant, 1962). Although the I-E Scale does not specifically measure the two

dimensions of control which were investigated in this research, data obtained using this scale are still relevant.

An expectancy of external control has been found consistently with lower SES and/or minority group students (Lefcourt, 1966; Rotter, 1966). A greater expectancy of internal control was found for students with high aspirations, i.e., plans to attend college than for less aspiring students (Franklin, as cited in Rotter, 1966).

The second variable to be discussed, future time orientation, is also likely to be related to aspiration level. In this study future time orientation, FTO, is defined as: 1) a tendency to incorporate thoughts about the future into the present and 2) a tendency to imagine oneself in the future. These dimensions of FTO seemed particularly important to the formation of aspirations, as possessing aspirations requires that the future possess a relevancy and a reality.

Incorporation of thoughts about the future into one's thinking indicates that the future has a relevancy. Eson (1951) developed a technique which seemed an adequate measure of relevancy. He had §s list recent thoughts and assign temporal referents to them, i.e., if the thought referred to the past, present or future when it occurred. This technique was used in this study to measure relevancy of the future. Teahan (1958), who used the Eson technique, found that high achieving, optimistic (high aspiring) 7th and 8th grade students were more future oriented.

The other dimension of FTO investigated was the tendency to imagine oneself in the future. This tendency suggests that the future possesses a kind of reality for the individual. This dimension was measured by a task designated as the Picture Sentence Test, which involved the following method: each student was presented with a series of five pictures. He was then instructed to pretend each picture was of him and to write two sentences about each picture. Predominant use of future tense verbs indicated a tendency to see oneself in the future. This task was similar to, but simpler than, requiring Ss to write stories about TAT cards. Stories written about TAT cards have yielded information about various dimensions of Ss' time orientation (LeShan, 1952; Monks, 1968). This past research thus suggested that the Picture Sentence Test (PST) might also yield information pertinent to the time orientation of high school students.

On the basis of the past research (Krauss and Ruiz, 1967, 1968), future verb tense was chosen as an appropriate measure of future time orientation. Krauss and Ruiz (1968) suggested verb tense as an indicant of time orientation on the premise that language reflects personality. They hypothesized that predominant use of the present tense indicated present orientation, predominant use of the past tense, past orientation and predominant use of the future tense, future orientation. They developed the Incomplete Thoughts Test, the ITT, (1967), which required individuals to complete

sentence stems. They found that the verb tense used in these sentences varied significantly between adjusted and maladjusted adults. Maladjusted ss used significantly fewer future tense verbs. Zatzkis (as reported by McClelland, 1958) found that college students with high need achievement used more future tense verbs and anticipatory clauses than students with low need achievement. Unfortunately, besides Zatzkis' work, little research using verb tense as an index of time orientation has been done with normal student populations. However, on the basis of its successful use with other populations, verb tense was employed as an index of time orientation in this study.

In this study, future time orientation referred to two dimensions—1) concern with the future and 2) a tendency to imagine oneself in the future. Past research had investigated a number of other dimensions of time orientation. For example, Wallace (1956) emphasized temporal extension which he defined as how far an individual extended his thoughts, and temporal coherence, defined as how well organized and coherent an individual's future outlook was. Kastenbaum (1961) studied temporal density which referred to how densely populated with events an individual's future was. LeShan (1952) investigated temporal duration which was indicated by an individual's estimate of the length of time involved in different stories. Green and Knapp (1959) emphasized temporal directionality which concerned an individual's concept of

time as active or passive. Each of the above dimensions was measured by a different instrument.

A study by Ruiz, Reivich and Krauss (1967) indicated that five commonly used tests of time orientation showed no significant intertest correlations. These tests included 1) Eson, 2) the ITT, 3) a test of temporal extension, 4) a test of temporal duration and 5) a test of frequency of references to different time dimensions. This lack of communality among tests suggested that the various dimensions of time orientation which were measured had functioned independently of one another. Kastenbaum (1961) reported an opposite finding. He found that measures of extension, density and coherence were significantly correlated. On the basis of these findings he postulated a "general concern for time" as a unifying explanatory construct.

These contradictory findings made it impossible to predict the kind of relationship which would be obtained between the Eson and the PST. It was also difficult to evaluate the relevance of past research on time orientation because so many different instruments had been used. When reviewing these findings, one must keep in mind that the communality shared by different measures may have been very small. Research on time orientation demonstrated that lower SES students (LeShan, 1952), low achieving students (LeShan, 1952; Teahan, 1958), and low aspiring students (Teahan, 1958) displayed little future time orientation.

The third variable, achievement reality orientation (ARO), refers to a recognition that current achievement will affect the course of the future. A student who is getting failing grades and who does not realize that these grades make high school graduation unlikely, lacks ARO. He also may not realize that failure to graduate from high school will severely limit the kinds of jobs he can get; again he lacks ARO. He does not understand the contingencies that operate in academic and vocational areas. To the author's knowledge no previous test had been constructed to measure this specific variable; therefore, a test of ten items which measured comprehension of the contingencies operating in academic and vocational areas was constructed to assess ARO.

ARO seems especially important to the reality of one's aspirations. If a student has a D average but aspires to graduate from college, his aspirations are unrealistically high. The means of evaluating the reality of aspirations was to compare achievement level with aspiration level. To be considered realistic a high aspiration level should be based on a high achievement level. A student who has high aspirations but low achievement, quite possibly lacks ARO. He does not understand that his low achievement level makes his high aspirations almost impossible to achieve.

Past research indicated that lower SES and/or minority group students had either low aspirations, often unrealistically low and thus restricting aspirations (Passow, 1963),

or high, improbable aspirations (Deutsch, 1963). They tended not to have realistically optimistic aspirations. This research investigated the possibility that lack of ARO was related to unrealistic levels of aspiration.

As discussed above, this research investigated demographic and psychological variables which have been associated with and thus which may initiate and sustain academic and vocational failure. The persistent and generalized failure of lower SES and minority group students to achieve success either academically or vocationally has been called, quite appropriately, the plight of the disadvantaged child (Ausubel and Ausubel, 1963). It is a plight for the student and for society. Ausubel and Ausubel (1963) stressed the urgency of ameliorating this problem, as unskilled jobs are becoming scarcer; thus education is becoming almost a prerequisite to employment.

Our schools encourage and reward striving for goals. Perhaps the students who fail academically, and eventually vocationally, do not see themselves as capable of achieving success nor of striving for goals, i.e., they experience external control, and/or perhaps they do not see goals as reachable or relevant, i.e., they lack future time orientation and achievement reality orientation. Such attitudes are not likely to facilitate academic progress nor to contribute to realistically optimistic aspirations. More probably, these attitudes will contribute to continued academic

failure and will help sustain unrealistically low or high aspirations.

In light of the above discussion, the following hypotheses were advanced:

1. Lower SES students will demonstrate less internal control, less future time orientation, less achievement reality orientation and lower achievement levels than middle SES students.
2. Minority racial group students (Mexican Americans) will demonstrate less internal control, less future time orientation, less achievement reality orientation and lower achievement levels than non-minority group students (Caucasians).
3. Internal control, achievement reality orientation and/or future time orientation will demonstrate significant positive correlations with achievement level and aspiration levels.

## METHODOLOGY

### Subjects

Subjects were 176 eleventh grade students, 89 males and 87 females, from three Tucson, Arizona high schools. Ages ranged from 15 to 19 years; mean = 16.

Four groups of Ss were formed on the basis of SES level and racial groups. Two levels of SES, lower and middle, were determined by the Hollingshead and Redlich (1958) Index of Social Position which is based on father's occupational and educational level. Each factor was scaled and assigned a weight determined by a standard regression equation. The combined scores grouped themselves into five clusters (socioeconomic statuses) and to each a numerical value was assigned. Highest SES was Class I. Lowest SES was Class V. Classes II and III were classified as middle SES. Classes IV and V were classified as lower SES. There were very few students in Class I (N=17); therefore, they were not included as Ss.

Racial group membership was determined by having S indicate membership in one of the following groups: 1. Afro-American, 2. Mexican American, 3. American Indian, 4. Caucasian, and 5. Other (Appendix A). The original design

included Negro and American Indian students as ss, but it was impossible to obtain samples large enough to test for statistical significance; therefore, only Caucasian and Mexican American students were studied. Further research which includes Negroes and American Indians is planned.

Four groups, each containing approximately 50% male and 50% female ss, were studied—1. lower SES Caucasians (N=37), 2. middle SES Caucasians (N=65), 3. Lower SES Mexican Americans (N=48) and 4. middle SES Mexican Americans (N=26).

#### Measuring Instruments

Vocabulary ability was measured by raw scores on the 40 vocabulary items and alternatives of the Shipley Institute of Living Scale (Shipley, 1940). This test was included to assess the relationships between vocabulary ability and the demographic and psychological variables being studied.

Past research (Eson, 1951; Lefcourt, 1966; LeShan, 1952; McClelland, 1958; Rosen, 1956, 1959; Teahan, 1958) indicated that measures comparable to those described below had been used successfully with high school subjects. To maximize student comprehension of the tests, items and directions were reworded using words predominantly from Thorndike and Lorge's (1944) 1,500 most frequent word list.

### Internal Control

The 32 true-false items which were chosen from the Personal Opinion Survey (POS) developed by R. W. Coan appear in Appendix B. Most items are heavily loaded on factor 1 (achieve through conscientious effort) and factor 4 (successful planning and organization). Other items referred to a general belief in the ability to control one's future. On 16 items a response of true indicated internal control and on 16 items a response of false indicated internal control, thus response set was controlled. Contrasting items were included to provide a check on response consistency. Responses indicating internal control were credited one point each; thus 32 points was the highest possible score and indicated the highest internal control.

### Time Orientation Scales

Two scales, the Picture Sentence Test and the Eson Technique, were used to measure time orientation.

### Picture Sentence Test (PST)

The PST which was created for this research appears in Appendix D. It contained five pictures. The S was instructed to pretend that each picture was of him and to write two sentences about each picture. The pictures were simple line drawings of people. The order of pictures was as follows: (1) expressionless person reading a book, (2) expressionless person holding money, (3) expressionless person with

raised arm, (4) face frowning, and (5) face smiling. The first three pictures represented academic and vocational themes. The last two pictures represented no content theme, but could be considered as depicting happiness and sadness, respectively. Instructions indicated that S could write picture-related sentences about his past, his present or his future. An initial "I\_\_\_\_\_" served as the stem for each sentence. The number of future tense verbs used served as a measure of future time orientation.

The purpose of instructing S to "pretend the picture is you" was to increase the probability that the verb tense S used reflected personal time orientation. Although the line drawings lacked sexually identifying characteristics, they appeared more like males than females. Unlike TAT pictures which have been used in past research, the pictures were simple, depicting only one expression or object; thus all Ss were limited to writing about the same object or facial expression. More structured stimuli were desirable as the measure of concern was verb tense, not sentence content. Ss were asked to write sentences instead of stories to equate the number of verbs used.

#### Eson Technique

The Eson technique of asking S to list the topics he had talked about or thought about in the past two weeks and then to tell the time (past, present, or future) to which

these items referred when talked about was used as the second measure of time orientation (Appendix D). The number of future references was used as an index of future time orientation; the number of present referents, present orientation, and the number of past referents, past orientation.

Eson (1951) required 25 to be listed; however, this research required ten topics to be listed. This minor modification was based on the assumption that ten topics should yield a reliable measure and should be representative of ss time orientation.

#### Educational Aspiration

Educational aspiration was measured by a multiple choice question, "How much more schooling do you plan to complete?" Intention to complete graduate or professional school represented the highest level of aspiration and was credited five points. There were five other choices which were assigned 4-0 points on the basis of their aspiration level, e.g., no more schooling = 0. Maximum score for aspiration was five.

#### Vocational Aspiration

Vocational aspiration was measured by the three separate subtests—1. Aspired status of future job, 2. Status of preferred and nonpreferred jobs and 3. General aspiration and certainty. To determine the aspired status of future job, ss were instructed to write down the job they planned

to have when they were 25 years old. The job that S stated was scored according to its position in Hollingshead and Redlich's (1958) 7 Occupational Levels. The highest level was credited 7 points; the lowest level, 1 point. The maximum score was 7; the lowest, 1.

To determine status of preferred and nonpreferred jobs, ss were presented with a list of 14 job titles in alphabetical order. These appear in Appendix C. Instructions were to mark three jobs they would "most like" and the three they would "least like." There were two different lists—one appropriate for males and the other for females. Each contained 14 jobs, two from each of Hollingshead and Redlich's (1958) 7 Occupational Levels. High aspiration was indicated by endorsement of high status jobs as "most liked" and endorsement of low status jobs as "least liked." The scoring procedure was as follows: for the "most liked jobs," the two highest status jobs counted 7 points; the next 2 highest, 6 points and so on in decreasing order. For the "least liked jobs," the 2 lowest status jobs counted 7 points; the next 2 lowest, 6 points and so on in decreasing order. The highest score was 40, the lowest, 6.

To determine general aspiration and certainty two items were included which asked S what he planned to do after high school and how certain he was of this choice. A response indicating definite plans counted 2 points, a response indicating less definite plans counted 1 point, and a response of

"don't know" counted no points. The latter question was scored on the basis of certainty, i.e., a choice of "very sure" counted 2 points; of "not sure, but have some idea," 1 point; and of "not sure at all," no points. The maximum score was 4, the minimum, 0.

#### Achievement Level

Two questions about grades were included to measure achievement level: first, grades received last year, (typical responses were "mostly A's," etc.), and second, high school grade point average. In both questions an "A" response counted 4; a "B", 3; a "C", 2; a "D", 1, and a "F", 0. Responses to these two questions were summed; thus the maximum score of 8 indicated the highest level of achievement. The achievement level score was compared with the aspiration scores to determine the reality of both educational and vocational aspirations. A high positive correlation between achievement level and aspiration level indicated realistic aspirations.

#### Achievement Reality Orientation

Ten true-false items were included to measure achievement reality orientation, ARO; defined as the degree to which an individual was aware of the importance of achievement level to his future schooling and vocation. These are included in Appendix B. The consequences of completing or not completing high school were emphasized, e.g., "An employer

is more likely to hire me if I have finished high school than if I have not."

On five questions a true response indicated correct ARO and on five questions a false response indicated correct ARO; thus response bias was controlled. Contrasting items were included as a check on response consistency. Answers indicating correct ARO were credited 1 point each. The maximum score was 10.

#### Procedure

The different types of items described above were combined in the following manner to form five separate scales. (1) The Vocabulary Scale subtest of the Shipley Institute of Living Scale. (2) The Information Scale. This scale contained 15 items about S and his family. In addition two achievement items were included as these items concerned factual information. One vocational item was included. Instructions stressed the seriousness of these questions. (See Appendix A for the Information Scale.) (3) The Internal Control-Achievement Reality Orientation Scale. The ten true-false internal control items were combined to make up a 42 item test. Combining these two types of separate items reduced the probability that Ss would guess accurately what the items measured (Appendix B). (4) The Aspiration Scale. This scale included the educational and aspiration items (Appendix C). (5) The Time Orientation Scale. This scale

included the Picture Sentence Test and the Eson Technique (Appendix D).

These five scales were included in a test booklet. The Vocabulary Scale was placed first to equate motivation and fatigue between ss. The Information Scale was placed second. Sequence effects due to fixed placement were unlikely due to the factual nature of this test.

The two parts of the Time Orientation Scale, the Picture Sentence Test and the Eson Technique were placed in a standard order. Since the responses to the Eson Technique, i.e., assigning temporal referents to items, could have possibly influenced the content and tense of sentence used in the Picture Sentence Test, the Picture Sentence Test was placed first. The influence of the Picture Sentence Test on the Eson Technique, i.e., on the things listed, was likely to have been small as the initial directions for the Eson Technique did not cue s to the time dimension.

Within each test booklet the Time Orientation Scale, the Internal Control-Achievement Reality Orientation Scale, and the Aspiration Scale were counter-balanced to control for possible order effects.

The following administration procedure was used. The ss were tested in their classrooms during a regularly scheduled class period. Each was given a test booklet. Instructions were the same for all ss. (See Appendix E for complete instructions.)

Standard instructions for the Shipley Institute of Living Scale were presented orally to minimize error variance due to lack of comprehension. Additional instructions were added to increase motivation and reduce anxiety. After the ten minute time limit §s were asked to turn to the Information Scale. To ensure comprehension, items on the first part of this scale were also presented orally as §s followed along and answered them. The §s were permitted to ask questions about items they did not understand. This method should have resulted in valid answers which were essential on this scale, especially in determining SES and racial group.

The §s were required to do the second page of the information scale and the remaining three scales, the Time Orientation Scale, the Internal Control-Achievement Reality Orientation Scale, and the Aspiration Scale without oral instructions. Each scale was preceded by a brief set of written instructions. The §s were told that they would receive feedback on the research after they had finished the booklet.

## RESULTS

Twelve two analyses of variance using the least squares solution for unequal ns as suggested by Winer (1962) were computed to determine the effect of race, Caucasian and Mexican American, and SES level, middle SES and lower SES, on 12 variables. These were:

- 1) Vocabulary ability, measured by the vocabulary scale on the Shipley Institute of Living Scale.
- 2-4) Vocational aspirations, measured by three separate scales—2) status of future job, 3) jobs liked—status of preferred and nonpreferred jobs, and 4) certainty of aspirations.
- 5) Educational aspirations.
- 6) Achievement level, measured by grade point average and grades received last year.
- 7-8) Future time orientation measured by two scales—7) future tense verbs used on the Picture Sentence Test, and 8) future referents listed on the Eson technique (Eson future).
- 9) Past time orientation measured by past referents listed on the Eson technique (Eson past).
- 10) Present time orientation measured by present referents listed on the Eson technique (Eson present).

11) Internal control.

12) Achievement reality orientation.

The results of these analyses are found in Table 1.

Race demonstrated a significant effect on two variables: 1) vocabulary ability, Caucasians were higher on vocabulary ability, and 2) past time orientation, Mexican Americans were more past oriented. The SES demonstrated a significant effect on three variables, middle SES students had higher achievement levels and educational aspirations and were more internally controlled. A significant interaction between race and SES was demonstrated for future time orientation as measured by the Picture Sentence Test.

Pearson Product Moment Correlation Coefficients ( $r$ ) which were computed to determine relationships between the 12 variables listed above, are presented in Table 2. Additional coefficients were computed to determine whether coefficients varied between SES levels or racial groups, but none of the coefficients were significantly different. For this reason, none of these coefficients are reported with one exception. Correlations between vocabulary ability and 11 other variables for each race appear in Table 3. The formula presented by McNemar (1955, p. 148),  $z_{1-z_2} = \sqrt{\frac{1}{n_1-3} + \frac{1}{n_2-3}}$ , was used to determine if the relationships between vocabulary ability and other variables were significantly different between races. These tests indicated that none of these correlations were significantly different between races.

TABLE 1  
ANALYSIS OF VARIANCE OF EFFECTS OF RACE (R) AND  
SOCIOECONOMIC STATUS (SES) ON TWELVE VARIABLES

Variables	Source	df	Mean Squares	F Ratio
Vocabulary Ability	Race	1	400.78	23.43 **
	SES	1	9.95	0.55
	RxSES	1	.00	0.00
	Error	172	17.10	
Status of Future Job	Race	1	1.84	.88
	SES	1	6.49	3.09
	RxSES	1	2.86	1.30
	Error	172	2.00	
Jobs Liked	Race	1	90.75	1.88
	SES	1	101.44	2.10
	RxSES	1	70.83	1.57
	Error	172	98.22	
Certainty of Aspirations	Race	1	1.39	2.10
	SES	1	1.33	2.02
	RxSES	1	1.04	1.57
	Error	172	.66	
Educational Aspirations	Race	1	2.70	1.87
	SES	1	9.12	6.14 *
	RxSES	1	3.84	2.58
	Error	172	1.48	
Achievement Level	Race	1	5.33	2.18
	SES	1	15.03	6.17 *
	RxSES	1	.14	.06
	Error	172	2.44	
Picture Sentence Test	Race	1	2.19	1.08
	SES	1	.01	.01
	RxSES	1	10.95	5.39 *
	Error	172	2.03	
Eson Future	Race	1	1.06	.24
	SES	1	6.04	1.36
	RxSES	1	.08	.02
	Error	172	4.50	

TABLE 1--Continued

Variables	Source	df	Mean Squares	F Ratio
Eson Past	Race	1	28.83	6.12 *
	SES	1	.02	.08
	RxSES	1	2.54	.65
	Error	172	3.83	
Eson Present	Race	1	3.03	.79
	SES	1	.46	.12
	RxSES	1	1.51	.39
	Error	172	3.83	
Internal Control	Race	1	.07	.01
	SES	1	108.18	5.82 *
	RxSES	1	16.38	.81
	Error	172	18.58	
Achievement Reality Orientation	Race	1	4.20	1.30
	SES	1	2.90	.90
	RxSES	1	12.50	3.82
	Error	172	3.22	

\* P <.05  
 \*\* P <.01

TABLE 2

CORRELATIONS BETWEEN TWELVE VARIABLES

	Vocabulary Ability	Status of Future Job	Jobs Liked	Certainty of Aspirations	Educational Aspirations	Achievement Level	Picture Sentence Test	Eson Future	Eson Past	Eson Present	Internal Control
Vocabulary Ability	---										
Status of Future Job	.11	---									
Jobs Liked	.03	.23**	---								
Certainty of Aspirations	.12	.01	.04	---							
Educational Aspirations	.18*	.47**	.30**	.10	---						
Achievement Level	.39**	.14	.25**	.17	.30**	---					
Picture Sentence Test	.03	-.05	.01	-.03	-.09	-.05	---				

TABLE 2--Continued

	Vocabulary Ability	Status of Future Job	Jobs Liked	Certainty of Aspirations	Educational Aspirations	Achievement Level	Picture Sentence Test	Eson Future	Eson Past	Eson Present	Internal Control
Eson Future	.12	.16*	.10	.07	.12	.14	.02	---			
Eson Past	-.18*	-.01	.02	-.05	-.05	-.21**	.10	-.44**			
Eson Present	.14	-.14	.02	-.04	-.06	.17*	-.09	-.30**	-.34**		
Internal Control	.20**	.01	.21**	.28**	.19*	.30**	-.06	.09	-.14	.13	
Achievement Reality Orientation	.12	.03	.14	.12	.23**	.26**	-.08	.13	-.09	-.01	.11

with df = 174, \*r> .148, P <.05  
 \*\*r> .193, P <.01

TABLE 3

CORRELATIONS BETWEEN VOCABULARY ABILITY AND  
ELEVEN OTHER VARIABLES FOR TWO RACIAL GROUPS  
(CAUCASIANS AND MEXICAN AMERICANS), INDICATING  
NO SIGNIFICANT DIFFERENCES BETWEEN RACIAL  
GROUPS FOR ANY OF THE VARIABLES

Variables	Vocabulary Ability	
	Caucasians	Mexican Americans
Status of Future Job	.23*	-.13
Jobs Liked	.07	.10
Certainty of Aspirations	.05	.09
Educational Aspirations	.29**	.01
Achievement Level	.48**	.28*
Picture Sentence Test	.26**	-.11
Eson Future	.27**	.18
Eson Past	-.15	-.19
Eson Present	.04	.05
Internal Control	.19	.25*
Achievement Reality Orientation	.19	.14

with df = 100

\*r&gt; .195, P &lt;.05

\*\*r&gt; .254, P &lt;.01

with df = 72

\*r&gt; .233 P &lt;.05

\*\*r&gt; .302 P &lt;.01

Table 4 includes the Shipley Institute of Living Scale vocabulary raw score means and the converted IQ's for both races. Raw scores were converted to IQ's by using the norms given by Shipley (1940). Since the average range for IQ's is 90 to 109; the mean IQ for Caucasians of 101 and the mean IQ for Mexican Americans of 95 are both within the average range.

Table 5 includes results of a one way analysis of variance computed to determine the effect of sex on other variables. Four significant effects were found: females had higher achievement levels and chose higher status jobs as jobs liked: males had higher educational aspirations and listed higher status of future job.

TABLE 4  
SHIPLEY INSTITUTE OF LIVING SCALE VOCABULARY  
RAW SCORE MEANS AND CONVERTED IQ'S  
(AVERAGE RANGE FOR IQ'S BETWEEN 90 AND 109)  
FOR CAUCASIANS AND MEXICAN AMERICANS

	Vocabulary Raw Score Mean	Converted IQ
Caucasians	26.65	101
Mexican Americans	23.31	95

TABLE 5  
ANALYSIS OF VARIANCE OF EFFECTS  
OF SEX ON TWELVE VARIABLES

Variables	Source	df	MS	F
Vocabulary Ability	Sex	1	6.26	.28
	Error	174	22.49	
Status of Future Job	Sex	1	9.66	4.72*
	Error	174	2.05	
Jobs Liked	Sex	1	794.84	18.20**
	Error	174	43.68	
Certainty of Aspirations	Sex	1	.67	.89
	Error	174	.75	
Educational Aspirations	Sex	1	8.42	5.77*
	Error	174	1.46	
Achievement Level	Sex	1	43.09	18.52**
	Error	174	2.33	
Picture Sentence Test	Sex	1	.22	.10
	Error	174	2.07	
Eson Future	Sex	1	.33	.07
	Error	174	4.55	
Eson Past	Sex	1	12.59	3.13
	Error	174	4.02	
Eson Present	Sex	1	3.63	.87
	Error	174	4.15	
Internal Control	Sex	1	3.10	.17
	Error	174	18.36	
Achievement Reality Orientation	Sex	1	5.63	1.67
	Error	174	3.38	

\*P <.05  
\*\*P <.01

## DISCUSSION

The data presented in Tables 1 and 2 indicated that both the demographic and psychological variables investigated in this research influenced achievement level and educational and vocational aspirations. Before discussing these results two other issues—1) the construct of future time orientation, and 2) the effects of vocabulary ability and sex--will be considered.

The tasks intended to measure future time orientation, the Picture Sentence Test (PST) and the Eson technique, showed almost no common variance ( $r = .02$ ). This result was similar to that of Ruiz et al. (1967) who found no significant inter-correlations among various measures of time orientation. The lack of relationship between the PST and the Eson indicated that different, fairly independent dimensions of time orientation were being measured.

An unexpected interaction between SES and race was demonstrated on the PST. Lower SES Mexican Americans used more future tense verbs than Caucasians, but middle SES Caucasians used more future tense verbs than middle SES Mexican Americans. The difference between future tense use was greater within the lower class than within the middle class;

therefore, lower class usage of future tense verbs will be discussed.

The differential use of the future tense on the PST could be interpreted to indicate that lower class Mexican Americans were more future oriented than lower class Caucasians except that Mexican Americans, both lower and middle SES, demonstrated more past time orientation on the Eson than did Caucasians. Examination of actual responses indicated that students who used the future tense on the PST, particularly lower SES Mexican Americans, tended to write sentences about improbable, unrealistic events, e.g., "I will have one million dollars." This type of response may have reflected a tendency to escape into the future and a tendency to have an unorganized and unrealistic future time orientation. Perhaps because the PST was relatively unstructured it was successful in measuring this dimension of future time orientation. The Eson technique was more structured. It probably permitted less fantasizing of responses because it required S to write down things he had thought about or talked about recently and then to indicate if the thought or verbal statement had referred to the past, present or future when it had occurred. In this case, giving future referents quite probably reflected a general concern for the future and a more realistic and coherent future time orientation.

The above interpretations which are highly speculative suggested that lower SES Mexican Americans were

characterized by a tendency to fantasize about the future and therefore to use this temporal dimension as an escape. Krauss and Ruiz (1967) characterized anxious individuals as dreading the future and thus being past oriented, in a sense escaping into the past. This study indicated that individuals may escape into the future as well as the past. Young individuals such as high school students who have had an unpleasant past, as perhaps a number of Mexican American lower SES students have had, would seem most likely to seek solace in the future by creating unrealistically good things that were to happen.

This study suggested that future time orientation may serve several psychological functions. Future time orientation may include a realistic concern for the future and thus function as an aid to the student by helping him to plan successfully and to form optimistic aspirations which he has a good probability of fulfilling. On the other hand, future time orientation may be predominantly unrealistic, i.e., characterized by whimsical fantasy rather than pragmatic planning or realistic goal setting. This type of future time orientation may serve minority group members as a means of escaping into an unrealistic, but pleasant future. The two functions discussed above—realistic planning and unrealistic escape—are likely only two of many functions that future time orientation may serve the individual. In order to clarify the multidimensional and multifunctional nature

of time orientation, further research should investigate the many possible functions which future time orientation may serve.

Data from the Eson technique were used as indicants of time orientation in the following discussion for several reasons. The PST was not significantly related to any psychological variables; however, the Eson technique showed several significant relationships with other psychological variables (Table 2). In addition, the Eson appeared to measure the dimension of future time orientation of major relevance in this research, i.e., realistic concern about the future rather than unrealistic escape into the future.

Two way analysis of variance indicated that vocabulary ability was significantly different between races but not between SES levels. Mexican Americans had poorer vocabulary abilities than Caucasians. Although the vocabulary raw score means were significantly different, the converted IQ's for both racial groups were within the average range of 90 to 109 (Table 4).

The difference in vocabulary ability was almost certainly due to a general English language deficit which Mexican Americans are likely to possess. Many Mexican American students, particularly those in the Southwestern United States are almost certain to come from homes where English is either poorly or rarely spoken. This background tends to produce students whose command of English is poor in comparison to

Caucasian students. To minimize the possible effects due to the difference in language skills between the two racial groups, all tests constructed for this research employed vocabulary of high frequency words, i.e., the words used were predominantly from Thorndike and Lorge's list of the 1,500 most frequently used words (Thorndike and Lorge, 1944).

To determine whether the difference in vocabulary ability between racial groups had systematically influenced other variables statistical tests of significance were computed between Mexican American and Caucasian scores for each variable. Since Mexican American scores were not systematically different from Caucasian scores one may infer that the difference in vocabulary ability had not affected performance on other variables. Racial groups differed only on past time orientation, with this being significantly greater for Mexican Americans. A nonsignificant correlation ( $r = -.199$ ) between vocabulary ability and past time orientation among Mexican Americans (Table 3) was interpreted as indicating that poor language skills had little influence on past time orientation.

In addition, the separate  $r$ 's computed for each racial group (Table 3), demonstrated that although relationships between vocabulary ability and other variables differed somewhat, they were not significantly different between races. This lack of significant differences suggested that vocabulary ability was related to other variables to more or less the same degree in both racial groups. This suggested that

the technique of including simple, frequently used words was effective in minimizing the influence of low vocabulary ability on the comprehension of other tests.

For these reasons, one set of correlations combining scores from both races (Table 2) was used as the basis of the discussion which follows. These correlations indicated that vocabulary ability demonstrated positive significant relationships with educational aspiration, achievement level and internal control and a significant negative correlation with past time orientation. In the initial planning stages of this research, the use of analysis of covariance was included to eliminate effects of variance associated with vocabulary ability and other variables. However, analysis of covariance was considered unnecessary because the significant correlations between vocabulary ability and other variables demonstrated such small amounts of variance common to both variables.

The sex of S demonstrated four significant effects. Females had a mean grade point average of B; whereas, males had a mean average of B-/C+. Males had higher educational aspirations than females. Both sexes tended to have plans to finish high school; however, males were more likely to aspire to more post-high school education than were females. Females chose higher status jobs from a list when asked to pick the three jobs they would like most; however, males listed higher status jobs when asked to write down what they planned to do

when they were 25 years old. This different answering pattern on these two vocational aspiration subtests indicated that females preferred, but did not actually plan to have higher status jobs than males.

Past research on aspiration has rarely included high school female students as Ss. Results from this study indicated that females were appropriate Ss as they held definite and widely varying aspirations. Although female aspirations were lower than males, both sexes expressed middle to upper middle class aspirations as determined by Hollingshead and Redlich's two factor Index of Social Position (1958). The majority of each sex planned to complete some kind of schooling after high school whether it was college or some other type of schooling such as vocational, beauty, or flight school. Each group also intended to work at middle class jobs which included Hollingshead and Redlich's Level 3 jobs, e.g., administrative personnel, small independent business owners (value of business \$6,000-\$35,000), and minor professionals, and Level 4 jobs, e.g., clerical and sales workers, technicians, and owners of little businesses (value \$3,000-\$6,000).

On the basis of the above results, one may infer that women, as well as men, have plans about their futures and hold fairly definite aspirations. These plans and aspirations are important because they are likely to influence future educational and vocational success. To gain a more comprehensive picture of factors which influence the formation and

fulfillment of these aspirations, future research should include both female and male subjects.

To summarize, in the discussion which follows, time orientation refers to results from the Eson technique rather than from the PST, for the reasons outlined above. Vocabulary ability and sex showed some significant relationships. Vocabulary ability was significantly different between races; Mexican Americans showed lower mean scores on vocabulary ability. Vocabulary ability showed significant positive relationships with internal control, achievement level and educational aspiration and a significant negative relationship with past time orientation. Sex showed a significant relation with educational and vocational aspirations as well as with achievement level. These relationships should be kept in mind while reading the following discussion.

The remainder of this discussion deals with the central concerns of this study which were 1) the effects of demographic variables, SES and race, on psychological variables, internal control, achievement reality orientation, time orientation, achievement level, and aspiration levels; 2) the relationships between these psychological variables, particularly the relationship of time orientation, internal control and achievement reality orientation to achievement level and aspiration levels; and 3) the relation of the results obtained to hypotheses which have been advanced to explain the variables which are important to academic and vocational failure.

Hypothesis I, which stated that lower SES students would demonstrate less internal control, less future time orientation, less achievement reality orientation and lower achievement levels than middle SES students was only partially confirmed. Lower SES students demonstrated significantly less internal control and lower achievement levels than middle SES students. In addition lower SES students had lower educational aspirations than middle SES students. No other significant differences were found between SES levels.

Hypothesis II, which stated that minority racial group students, i.e., Mexican Americans, would demonstrate less internal control, less future time orientation, less achievement reality orientation and lower achievement levels than nonminority group students was not confirmed as none of the above differences were found. Vocabulary ability was significantly different between races as noted above. Although future time orientation was not different between racial groups, past time orientation was. Mexican Americans were more past oriented than Caucasians. The significant interaction between race and SES which was found for the PST was discussed above.

Hypothesis III, which stated that internal control, achievement reality orientation and/or future time orientation would demonstrate significant positive relations with achievement level and aspiration levels was confirmed. The following significant positive correlations were obtained:

internal control was related to achievement level and to educational and vocational aspirations, achievement reality orientation was related to educational aspirations and to achievement level, future time orientation was related to vocational aspirations, and present time orientation was related to achievement level.

These correlations were interpreted as indicating that a high school student who believed in his own ability to achieve, who understood that current achievement was important to future success and who thought predominantly about the future and present was more likely to have a high achievement level and to hold high educational and vocational aspirations than was the student who experienced external control, who lacked ARO and who thought predominantly about the past. In addition, the positive significant correlation between achievement level and both educational and vocational aspirations suggested that the general high school population held aspirations which were fairly realistic in terms of their current achievement level.

It is also important to note that although internal control, ARO and time orientation showed similar and significant correlations with achievement level and aspiration levels, these variables demonstrated nonsignificant intercorrelations. This lack of relationship between these variables indicated that each had functioned in a fairly independent manner. On the basis of the above findings, it would seem

that internal control, achievement reality orientation and present and future time orientation are each related to actual academic success as well as to high levels of aspiration, i.e., optimistic aspirations.

The significant relationships demonstrated by each psychological variable—internal control, ARO and time orientation—are discussed below as each helps explicate poor achievement and low, restricting levels of aspiration. Internal control showed the same relationships that Lefcourt (1966) and Rotter (1966) reported—lower SES ss experienced external control and ss who experienced external control tended to have lower achievement and aspiration levels. These findings suggested that the academic failure and low levels of aspiration which are characteristic of lower SES students (Passow, 1963) may be related to their experience of external rather than internal control.

The experience of external control implies a belief that rewards such as good grades or a good future job, are not contingent on behavior, but rather are due to luck or chance. The results of this research indicated that this belief is likely to be associated with poor academic performance and low restricting aspirations. For these reasons, the experience of external control was considered an unadaptive set of beliefs for high school students.

Perhaps if external control could be altered, academic performance would improve and aspiration levels would be

raised. Lefcourt (1967) found that external control could be altered by using skill instructions. According to Lefcourt, skill instructions were effective in changing external control because they simulated the kinds of self-generated instructions and plans which ss who experienced internal control held and used. The skill instructions created an expectancy that reward was contingent on behavior—a normal expectancy for internally controlled individuals but not for externally controlled individuals.

The tendency of internally controlled individuals to operate in terms of internalized skill instructions helps explain their tendency to be successful academically. Rotter (1966) reported that skill instructions, instructions which simulated the expectancy of internal control, produced faster and better learning than chance instructions. Skill instructions were especially helpful to individuals who experienced external control.

These studies suggested that the experience of external control could be changed and that this change was likely to effect positive results such as the facilitation of learning. Further research should investigate both methods which are successful in altering external control and the effects that altering external control demonstrates, especially the effects on achievement level and aspiration level.

Each aspect of time orientation, past, present and future, also demonstrated significant relationships. Future

time orientation was positively related to vocational aspirations which was similar to the relationship Teahan (1958) reported. However, unlike Teahan's findings, present orientation rather than future orientation was characteristic of high achieving students. Past orientation was related to low achievement levels and to poor vocabulary ability. Mexican Americans tended to be more past oriented than Caucasians.

These results suggested that both present and future time orientation were adaptive because of their association with good achievement and high vocational aspirations. Past orientation was considered unadaptive as it was associated with academic failure. The tendency of Mexican Americans to do poorly in academic and vocational areas may be related to their past time orientation. One implication of this possible relationship is that students might benefit if taught to think about the present and future. The functional value of a coherent, realistic present and future orientation could be presented to past oriented students. Perhaps a shift in time orientation, would help past oriented students to deal more successfully with the present and thus improve their academic performance. In addition, the shift might contribute to the formation of higher but still realistic levels of aspiration. On the other hand, past time orientation may be such an integral part of the Mexican American subculture that it proves quite resistant to change. Future research which investigates the possibility of manipulating time orientation, as well as

the effects of such manipulation, is needed in order to assess the validity of the suggestions made above.

The third variable, achievement reality orientation (ARO) demonstrated significant positive relationships with educational aspirations and achievement level. These results indicated that a student who believed that grades had future importance was likely to get good grades and to believe that a high level of education was necessary if he was to get the job he wanted.

As noted above, the concept of achievement reality orientation had not been previously investigated. The results of this study demonstrated that ARO was an important variable to consider when investigating psychological correlates of achievement and aspiration levels. Further research should be undertaken to determine whether poor ARO is consistently associated with low achievement levels and low levels of educational aspiration. If this is the case, future research should study methods which are effective in manipulating ARO and the results of these manipulations. One method which might increase ARO would be to present students with information about the contingencies which operate in academic and vocational areas, e.g., "finishing high school improves your chances of getting most jobs." If ARO influences achievement and aspiration levels, then an increase in ARO should facilitate the development of higher achievement levels and higher, but still realistic, aspirations levels.

The relationships which internal control, achievement reality orientation and time orientation demonstrated are also important to consider in relation to the hypotheses which Deutsch (1963) and Cloward and Jones (1963) advanced to explain the academic and vocational failures of lower SES and minority group students. Deutsch suggested that lower SES and minority group students were likely to have experienced chronic failures and that these failures did not cause the student to lower his aspirations but rather impaired his ability to appraise reality. As a result of this impairment, a student was likely to form aspirations which were either unrealistically high or low.

As Deutsch hypothesized, academic failure and lack of ARO were positively related. This relationship was interpreted to indicate that students who were doing poorly academically did not consider the consequences of current achievement as important and did not consider future education as possible and/or meaningful. Also as Deutsch suggested, successful students were more likely to recognize the relevance of their academic performance to future success and were more likely to have higher educational aspirations. However, contrary to Deutsch's hypothesis, low achievement level and low ARO were related only to realistically low, although perhaps restrictive aspirations, rather than to unrealistically high or low aspirations.

Cloward and Jones (1963) hypothesized that lower SES and minority group failure was partially due to these students' learning values which were different from, perhaps contradictory to, educational values, i.e., achievement values which stress future time orientation and internal control. Cloward and Jones suggested that students who did not learn educational values had difficulty succeeding in current educational systems for at least two reasons—first, they didn't understand the educational system and second, they didn't consider academic success relevant because they could see no rewards that education offered.

This hypothesis was supported—as lower SES and minority group students had learned values which were different from educational values—lower SES students experienced less internal control and minority group students were past oriented. In addition, as Cloward and Jones suggested, learning these values appeared to have detrimental effects. Students who were past oriented and externally controlled and who lacked achievement reality orientation tended to do poorly academically and tended to have low restricting aspirations.

To summarize the relationships presented above: because internal control, present and future time orientation and ARO were positively related to academic success and to realistically high aspirations, each was considered an adaptive attitude for aspiring high school students. On the other hand, external control, past time orientation and inadequate

ARO were considered as unadaptive, perhaps maladaptive, values, because each was associated with low achievement and aspiration levels. Since lower SES and minority group students tended to hold these maladaptive values, i.e., lower SES ss experienced external control and minority group ss were past time oriented, they were more likely to be doing poorly academically and to hold low, restrictive levels of aspiration.

One implication of these results is that positive effects, e.g., higher levels of achievement and aspiration, might be obtained if internal control, achievement reality orientation and present and future time orientation were increased. Future research should explore this suggestion by investigating methods which are effective in manipulating these variables and the effects of these manipulations. Hopefully students who were taught the attitudes which make up internal control, achievement reality orientation and present and future time orientation would benefit, i.e., they would improve academically and would develop higher, but still realistic, levels of aspiration.

APPENDIX A

INFORMATION SCALE

1. Does your father have a job right now? \_\_\_\_\_
- 2a. Is your father in the military? \_\_\_\_\_
- 2b. If your father is in the military, what branch is he in? \_\_\_\_\_  
and what is his rank? \_\_\_\_\_

Sometimes a person's job is to own or manage a company or business.

- 3a. Does your father own a company, store or business? \_\_\_\_\_
- 3b. If he does own a company, store or business, what kind of a company, store or business does he own? \_\_\_\_\_  
\_\_\_\_\_
- 4a. Does your father manage a company, store or business? \_\_\_\_\_  
\_\_\_\_\_
- 4b. If he does manage a company, store or business, what kind of a company, store or business does he manage? \_\_\_\_\_  
\_\_\_\_\_
5. If your father does not own or manage a company, store or business and is not in the military, please write down his job and describe it as best you can. If he does not have a job right now, please write down the job he used to have and describe it as best you can.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 6a. Does your mother have a job? \_\_\_\_\_
- 6b. If your mother has a job, what kind of job does she have? \_\_\_\_\_  
\_\_\_\_\_
- 7a. When I am 25 years old, I hope to be working as: \_\_\_\_\_  
\_\_\_\_\_

Please answer the following questions about yourself and your family.

1. My age is \_\_\_\_\_.
2. My sex is \_\_\_\_\_.
3. The group to which I belong is (check one)
  - \_\_\_\_\_ 1. Afro-American
  - \_\_\_\_\_ 2. Mexican American
  - \_\_\_\_\_ 3. American Indian
  - \_\_\_\_\_ 4. Caucasian
  - \_\_\_\_\_ 5. Other (please explain) \_\_\_\_\_
4. I presently live with (check one)
  - \_\_\_\_\_ 1. both my mother and father (real or step)
  - \_\_\_\_\_ 2. only my mother
  - \_\_\_\_\_ 3. only my father
  - \_\_\_\_\_ 4. other (please explain) \_\_\_\_\_
5. How many years of school did your father complete?  
(check the number of years he completed)
  - \_\_\_\_\_ 1. less than 7 years
  - \_\_\_\_\_ 2. junior high school (9th grade)
  - \_\_\_\_\_ 3. 10th or 11th grade
  - \_\_\_\_\_ 4. senior high school
  - \_\_\_\_\_ 5. 1 year of college
  - \_\_\_\_\_ 6. 4 years of college
  - \_\_\_\_\_ 7. graduate or professional school
  - \_\_\_\_\_ 8. don't know
6. How many years of school did your mother complete?  
(check the number of years she completed)
  - \_\_\_\_\_ 1. less than 7 years
  - \_\_\_\_\_ 2. junior high school
  - \_\_\_\_\_ 3. 10th or 11th grade
  - \_\_\_\_\_ 4. senior high school
  - \_\_\_\_\_ 5. 1 year of college
  - \_\_\_\_\_ 6. 4 years of college

- \_\_\_\_\_ 7. graduate or professional school  
\_\_\_\_\_ 8. don't know
7. The grades I got last year were (check one)
- \_\_\_\_\_ 1. mostly A's  
\_\_\_\_\_ 2. mostly B's  
\_\_\_\_\_ 3. mostly C's  
\_\_\_\_\_ 4. mostly D's  
\_\_\_\_\_ 5. mostly F's
8. My grade point average is \_\_\_\_\_

## APPENDIX B

### INTERNAL CONTROL SCALE AND ACHIEVEMENT REALITY ORIENTATION SCALE

On the next 3 pages are opinions about life and people. They are about your own feelings and beliefs. We are asking you about the way you think and feel. There are no right or wrong answers. Please mark a T for true if you feel the statement is true and a F for false if you feel the statement is false. Sometimes you may find it hard to decide on an answer, but please mark an answer for every statement.

1. In general, I get the grades I deserve. (True)<sup>1</sup>
2. When a person is born, the success or failure he is going to have is already in the cards and there is little he can do to change it. (False)
3. The most important thing for me to do to get better grades would be to study harder and plan ahead more. (True)
4. Often I can't remember where I put something. (False)
5. I could figure out how to put almost any kind of puzzle together. (True)
- ARO<sup>2</sup> 6. An employer is more likely to hire me if I finish high school. (True)
- ARO 7. The reason I'm in high school right now is either to get a better job or go to college. (True)
8. Most of the unhappy things in my life have been because of what I did. (True)
- ARO 9. If I don't finish high school, I can get as good a job as if I do finish high school. (False)
10. I find it hard to start doing things. (False)

- \_\_\_\_\_ 11. Nowadays, with conditions the way they are, I live for today and let tomorrow take care of itself. (False)
- \_\_\_\_\_ 12. No matter what might come up I could do well in school if I tried hard enough. (True)
- \_\_\_\_\_ 13. Often I can't keep my mind on something I'm working on. (False)
- ARO 14. An employer is not likely to care if I finish high school. (False)
- \_\_\_\_\_ 15. Once I start something, I feel that I must finish it. (True)
- \_\_\_\_\_ 16. If I had the right books and enough time I could understand almost any kind of scientific theory. (True)
- \_\_\_\_\_ 17. Planning for the future never works out. (False)
- \_\_\_\_\_ 18. In general, I feel I have little to do with the grades I get. (False)
- \_\_\_\_\_ 19. I could become a leader if I spent enough time at it. (True)
- ARO 20. I don't worry much about the grades I get because they don't matter. (False)
- \_\_\_\_\_ 21. I find it hard to understand mathematics. (False)
- \_\_\_\_\_ 22. I can almost always carry out my plans. (True)
- \_\_\_\_\_ 23. Making a lot of money is largely a matter of getting the right breaks. (False)
- \_\_\_\_\_ 24. Problems have gotten so big that I could not solve them. (False)
- \_\_\_\_\_ 25. My bad luck is usually because of a mistake I made. (True)
- \_\_\_\_\_ 26. I usually plan my work carefully before starting it. (True)
- ARO 27. If I drop out of high school the kind of job I can get will probably pay as much as if I finish high school. (False)

- \_\_\_\_\_ 28. I can nearly always finish the projects I start.  
(True)
- \_\_\_\_\_ 29. My life is largely controlled by chance and fate.  
(False)
- ARO 30. The grades I get have a lot to do with the kind of  
future job I will get. (True)
- \_\_\_\_\_ 31. I find it hard to understand mechanical things.  
(False)
- \_\_\_\_\_ 32. I am sure I will reach my goals. (True)
- ARO 33. If I don't finish high school, I can't get as good  
a job as if I do finish. (True)
- \_\_\_\_\_ 34. The most important things for me to do to get better  
grades would be to get some lucky breaks. (False)
- \_\_\_\_\_ 35. I will need the right breaks to become a successful  
leader. (False)
- ARO 36. The real reason I'm in high school right now is that  
there's nothing better to do and my parents make me  
attend. (False)
- \_\_\_\_\_ 37. I am responsible for what I am and for what I do.  
(True)
- \_\_\_\_\_ 38. I often have trouble planning my work as much as I  
need to in order to get it done. (False)
- \_\_\_\_\_ 39. There is little I can do about what happens to me.  
(False)
- \_\_\_\_\_ 40. Everyone, including myself, can and should decide  
what he will become. (True)
- \_\_\_\_\_ 41. If I drop out of high school, the job I can get will  
probably pay less than if I finish high school. (True)
- \_\_\_\_\_ 42. I think I could get almost anything I wanted if I  
tried hard enough. (True)
1. Answers given after each item (true or false) are answers which indicate internal control.
  2. Items preceded by "ARO" measure achievement reality orientation. Answers given after each of these items (true or false) are answers which indicate achievement reality orientation.

APPENDIX C

ASPIRATION SCALE

On this page there are some questions about what you plan to do in the future.

1. How much more schooling do you plan to complete?  
 1. I won't finish high school  
 2. finish high school  
 3. complete some other schooling such as business school, vocational school, flight school or beauty school  
 4. complete some college, but not graduate  
 5. graduate from college  
 6. complete graduate or professional school
2. What do you plan to do after high school? \_\_\_\_\_  
\_\_\_\_\_
3. How sure are you of what you want to do (check one)  
 1. I am very sure  
 2. I am not sure but have some ideas  
 3. I am not sure at all of what I want to do
4. There are some different jobs listed below. Which 3 of these jobs would you like to have most? Check the 3 jobs you would like to do the most.  
If you are male check 3 in this list  
 college professor (7)<sup>1</sup>  
 construction worker (1)  
 druggist (6)  
 electrician (3)  
 factory supervisor (4)  
 gas station owner (5)  
 insurance agent (5)  
 janitor (1)  
 lawyer (7)  
 officer in military (6)  
 policeman (3)  
 sales worker (4)  
 steel worker (2)  
 truck driver (2)  
If you are female check 3 in this list  
 bank teller (4)  
 college professor (7)  
 hair stylist (5)  
 Housekeeper (3)  
 interior decorator (5)  
 laundry worker (1)  
 lawyer (7)  
 policewoman (3)  
 practical nurse (6)  
 private secretary (5)  
 sales clerk (4)  
 social worker (6)  
 teacher in grade school (6)  
 waitress at drive-in restaurant (1)



APPENDIX D

TIME ORIENTATION SCALES—  
PICTURE SENTENCE TEST

Pretend the person in each picture is you. Write two sentences about each picture—about you. They can be about things that happened to you in the past, things that are happening to you now, or things that will happen to you in the future.



1. I

2. I



1. I

2. I



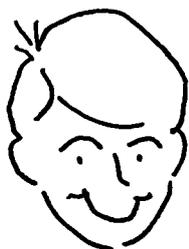
1. I

2. I



1. I

2. I



1. I

2. I

ESON TECHNIQUE

What did you think about or talk about in the last two weeks? Write down 10 things that you thought about or talked about in the last two weeks.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Look at each of the items on the page you just finished. Decide if the item concerned the past, the present, or the future at the time when you thought about it. For example, let's say you thought about a school dance in the last two weeks. If, when you thought about it, it had already happened you would mark that thought as past. If you thought about it while it was happening you would mark it present. If you thought about it before it happened, you would mark it future.

Now go back to the page you just finished and write beside each item if the item referred to the past, the present, or the future when you thought about it or talked about it.

## APPENDIX E

### INSTRUCTIONS

My name is Miss Stone. I am from The University of Arizona. We are doing a research project that is interested in finding out about your attitudes and values, your opinions and thoughts. We hope you will decide to participate in this research. You don't have to participate, whether you participate or not will not affect your grades.

Let me tell you a little about the research. You will receive a booklet which contains several parts, most of them contain questions about your attitudes and thoughts. You do not have to write your names on any part of the booklet. Your teachers and your principal will never see the answers you write down, I will take your booklets to the researchers as soon as you are finished. Since you don't have to write your name, no one will know how you answered. We hope this will make you feel free to answer truthfully.

After all of you have finished the booklet you may ask questions about it. This test is probably different from any you have taken before. I want to thank all of you who have decided to participate. We really appreciate it, because your opinions are important to the researchers.

Please do not open the booklet until I say to. The booklet in front of you contains several parts. We are going to do the first two parts together. The first part of your booklet contains vocabulary words. It is the only part of the booklet that is like a school test. It is the hardest part and many people don't like it too much, but let's do the hardest part first. Please turn to page 1 which says Shipley Institute of Living Scale at the top. You do not have to write your name in the space that says name, cross this out if you wish. Let's read the instructions together. (Examiner reads standard instructions for the Shipley.)

Remember if you don't know a word, guess . . . . You are not expected to know all of the words, so don't worry if there are some you don't know. You will have ten minutes to do this part, I will tell you when the time is up. If you finish before I say stop, please do not go on until I tell you to.

Let's turn to the next page and do the questions about you and your family together.

Now we are ready for the parts you do by yourself. The rest of the booklet has five parts. There are a few more questions about you and your family. The rest of the booklet has questions about your attitudes and beliefs—there are no right or wrong answers to these questions. These parts are in different orders in different booklets, so don't worry if the booklet the person next to you has is not in the same

order as yours. Please do not talk to anyone while you are taking the questionnaire, we want to know your opinions.

Before each part of the test is a short set of instructions, please read these carefully before doing each part. Do all parts in order. If you have any questions or difficulty reading any of the instructions please raise your hand and we will try to help you. When you have finished, please turn your booklet over and find something else to do until every one is finished, then you may ask questions about the booklet.

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