The influence of participation in adult basic education on attitudinal changes among a selected group of adults from rural Appalachia was studied. Specific aims of the study were: (1) to determine the relationship between participation in ABE and change in anomia, (2) to determine the extent of anomia among rural Appalachian adults with educational deficiencies, and (3) to determine the relationship between demographic factors and anomia of ABE participants. Ten hypotheses were tested. Using the Srole Anomia Scale, data were collected from seven classes in four different locations in rural Appalachia (four in Eastern Kentucky and three in Northern Alabama). The median age of the subjects was 30.5 years; the mean age was 31.4 years. There were 26 females and 11 males in the sample, 59.4% being married. Nearly one-half of the subjects had completed 7 or 8 grades of school before dropping out, and over 60% were employed. The mean anomia pretest score was 3.5 and the mean posttest score was 2.9. This change in anomia scores implies that ABE students see the program as a means of removing obstacles to the achievement of their goals. No significant relationships were identified between the demographic factors, age, sex, marital status, educational level, and employment status and anomia. A significant finding was that students who remained in the adult program had significantly higher anomia scores than did drop-outs. (DB)
THE RELATIONSHIP BETWEEN ANOMIA AND PARTICIPATION IN ADULT BASIC EDUCATION

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U.S. DEPARTMENT
OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
BUREAU OF ADULT, VOCATIONAL, AND TECHNICAL EDUCATION
INTRODUCTION

The purpose of this study is to determine the influence of participation in adult basic education on attitudinal changes among a select group of adults from rural Appalachia.

Before 1950, Appalachia was largely a forgotten land; however, people began focusing their attention on this mountainous region with the climax occurring during the 1960 presidential campaign. The view of Appalachia held by most is of a poverty stricken area with a large number of disadvantaged people suffering from inadequate housing, education, and employment.

The lack of education, which is of central concern in this study, of the disadvantaged Appalachian poses a severe handicap as they attempt to function and face the responsibilities in a society that demands a high level education. Many are further plagued because they are usually unskilled and are unable to secure employment and fall into poverty and welfare dependence.

One of the programs designed to alleviate poverty through education is the adult basic education program. The Economic Opportunity Act of 1964 established as a goal for the adult basic education program: "Education for all adults whose inability to read or write the English language constitutes an impairment of their ability to get or retain employment." More specifically, adult basic education was designed to eliminate such inability, to raise the level of such individuals with the view of making them less likely to become dependent on others, and to make them better able to meet their adult responsibilities.¹

The primary purpose of the adult education amendments to the Elementary and Secondary Education Act of 1966 was to "provide a program of grants to the states and territories for the establishment or expansion of both basic and supplemental adult education programs". ¹

In order for the adult basic education program to be successful, it must change attitudes as well as improve the educational skills. The Appalachian is individualistic and has self-centered concerns. His beliefs and attitudes are strongly traditional. He is an action-seeker and has very little self-assurance which is seen in his sense of anxiety. His orientation is toward existence disregarding progress. He has a detached outlook on work with very little concern for job security and satisfaction. There is a feeling of antagonism toward government and law coupled with suspicion of the outside world. Because he is poor, he has the least opportunity for varied experiences. His social roles are limited, he rarely plays leadership roles, and he seldom, socially, goes beyond his own kinship. ²

Irelan and Besner in describing low-income life style suggest that deprivation is, perhaps, the most significant factor influencing life styles. There exists among the poor a constant awareness of their own object status and the failure which it rightly or wrongly implies. "They see life as a series of unpredictable events in which they have no part and over which they have no control." This view of life has been conceptualized as alienation. ³

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Alienation has been a useful concept for many sociologists, social philosophers, and social historians in explaining man's social behavior. It appears to consist of several different components or meanings. The component utilized in this study is anomia. Meir and Bell argue that anomia results in American society when individuals lack access to means for the achievement of life goals:

Such lack of opportunity follows largely as a result of the individual's position in the social structure as determined by such factors as type of occupation, amount of education, income, age, sex, ethnicity, marital status, the type and amount of association in both formal organizations and in informal groups of friends, work associates, neighbors and relatives, and the degree of commitment to particular beliefs, attitudes, and values.

It would appear that many individuals living in Appalachia have been unable to obtain the means to achieve life goals. This may be partially explained by the isolation and poverty imposed, to a large extent, by the mountainous terrain. In any case, it appears likely that the discrepancy between life goals and access to means for achievement is a likely breeding ground for anomia.

STATEMENT OF THE PROBLEM

The purpose of this study is to examine the relationship between participants in adult basic education and anomia of adults in rural Appalachia.

More specifically, this study is designed to (1) determine the relationship between participation in ABE and change in anomia, (2) determine the extent of anomia among rural Appalachian adults with educational deficiencies,

and (3) determine the relationship between demographic factors and anomia of ABE participants.

**REVIEW OF LITERATURE**

Alienation is a sociological concept which has had limited empirical usage until recently because of the many different definitions. Seeman attempted to bring order to this chaotic situation by identifying five separate meanings of alienation.

The first element, powerlessness, is conceived as "the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcomes, or reinforcements, he seeks".

The second component, meaningless, is defined as a state when "the individual is unclear as to what he ought to believe—when the individual's minimal standards for clarity in decision-making are not met".

The third variant of the alienation theme is referred to as a condition of normlessness. Normlessness is described as a "high expectancy that socially unapproved behaviors are required to achieve given goals".

The fourth component of alienation refers to isolation. The alienated in the isolated sense are those who "assign low reward value to goals or beliefs that are typically highly valued in the given society".

The final variant discovered in the literature by Seeman is alienation in the sense of self-estrangement. This form of alienation is seen as "the degree of dependence of the given behavior upon anticipated future rewards".¹

Dean identified three components of alienation--powerlessness, normlessness, social isolation, and developed scales to measure each component in order to determine the extent of empirical relationships between the several components of alienation.

According to Dean, alienation is not a personality "trait", but a situation-relevant variable. In other words, an individual may have a high alienation score toward political activity, but a low one in regard to religion.¹

Clark also argues that in order for any measure of alienation to be meaningful it must occur within a specific social system. Implicit is the feeling that an individual's alienation may vary among the social system in which he is a member:

A measure of alienation must be a measure of the discrepancy between the power man believes he has and what he believes he should have--his estrangement from his rightful role. It is necessary for man to consider himself deserving a role in the social situation before he can experience feelings of alienation within it, a fact that must be established for any population before it can be intelli-gently studied within an alienative frame of reference.²

The form of alienation used in this investigation is anomia. Of the component parts of alienation discussed, it is related closest to normlessness. Modern theoretical discussions of anomia began with the work of Durkheim and Merton.

Merton hypothesizes that high anomia is associated with the existence of differences between culturally prescribed aspirations and socially structured awareness for realizing these aspirations.³

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MacIver described anomie as "the absence of values that might give purpose or direction to life, the loss of intrinsic and socialized values, the insecurity of the hopelessly disoriented". ¹

Srole defined anomia as a variable contemporary condition, originating in the complex interaction of present and past social and personality factors. According to Srole's theoretical framework, an individual can be placed on a socio-psychological continuum with one pole represented by "self-to-others belongingness" and the other pole represented by "self-to-others distance" or self-to-others alienation". Srole refers to this as the individual eunomia-anomia continuum in order to distinguish it from the sociological concept of anomie; the latter refers not to individuals as such, but to the degree of normlessness of social systems or sub-systems.²

Meir and Bell argued that anomia results when an individual is prevented from achieving his life goals, and that the character of the goals and the obstacles to their achievement are rooted in social and cultural condition.³

Several investigations have studied the relationship between anomia and participation. Mizruchi⁴ and Dickinson⁵ found an inverse relationship between social participation and anomia. Marsh, Dolan and Riddick discovered a significant relationship between anomia and participation in public bureaucracies.

³Meir and Bell, op. cit.
A negative association was found between anemia scores and extent of contact with the Agricultural Extension Service and between anemia and knowledge of area vocational schools. The relationships were in the hypothesized direction regardless of educational level though the degree of association was quite low in some categories. However, the data did not support the hypothesis of a negative relationship between anemia and contact with the Employment Security Commission. There the hypothesis is supported by the data on contact with the educational agencies but not by the data on contact with the employment service. Presumably, the most anemic individuals are most often unemployed and thus more frequently require the assistance of the employment service in filing for unemployment benefits and in locating employment. The greater need may offset the greater predisposition to avoid contact on the part of the more highly anemic.

Clark's study of members of an agriculture cooperative organization revealed a significant relationship between alienation and participation.

Studies have been conducted to determine the degree of urbanization on anomia. At one time, alienation was thought to be related to city life. According to Meir and Bell, anomia is not necessarily confined to the city dweller or urban society:

In fact, we may expect considerable despair in the near future among members of agricultural, non-industrial, non-urbanized population with low living standards—the densely settled "underdeveloped areas". For these people increasingly accept configuration of life goals involving political freedom and economic advancement—while facing severe obstacles as they attempt to achieve these goals. This is precisely the breeding ground of anomia.

Comparison of city-dwellers and small-town residents by Killian shows that in the white samples, the incidence of high anomia is significantly greater in the urban environment. When he controlled for education, however,
the significant urban-rural difference disappears.

In both urban and rural communities, the "low-education" whites displayed high anomia to a significantly greater degree than did "high-education" whites.¹

Mizruchi states that the difference between dwellers of large urban areas and those of less urban areas has often been exaggerated.²

Rhodes, in a study of high school seniors, found a negative statistically significant relationship between anomia and family occupational level, occupational aspiration, and urban school context.

Young persons on the verge of entering the competition for material success may be insulated from anomia by maintaining high aspirations acquired during the educational process. Among the subjects studied, anomia was more closely related to occupational aspiration than to occupational level. The adolescents tended to score high on an anomia scale when there was a wide discrepancy between aspiration and chances for success, provided the family position in the social structure is one where economic stress is maximized.³


²Mizruchi, op. cit.

HYPOTHESES

There will be a significant change in anomia scores after participating in adult basic education.

There will be a significant relationship between age and anomia protest scores.

Young adults participating in adult basic education will have a significantly greater change in anomia than older adults.

There will be a significant relationship between sex and anomia.

There will be a significant difference in change in anomia score between male and female participants in adult basic education.

The average anomia scores of the three marital categories are significantly different.

There is a significant change in anomia scores among the marital status categories.

There will be a significant relationship between educational level and anomia.

There will be a significant relationship between employment status and anomia.

There will be a significant relationship between employment status and change in anomia scores.
Sample

Data for this study were collected from seven classes in four different locations in rural Appalachia. Four of the classes were located in eastern Kentucky and three of the classes were located in Northern Alabama. These classes were used because of accessibility to the writers and should not be considered a random sample of adult basic education classes in Appalachia.

Procedures

The Srole Anomia Scale was employed on a pretest-posttest basis with approximately four months elapsing between test. Several steps were taken to prevent problems from arising because of the low educational level of the participant. The first step was to change the answers for each item in the test from five choices (strongly agree, agree, undecided, disagree, and strongly disagree) to two choices (agree, disagree).

There is reason to believe that with fewer choices, there would be less confusion. It was also observed in the literature that the anomia data was often dichotomized for analyses.

The second step employed was to place the test items on overhead transparencies. This enabled the researcher to control the speed of response and to demonstrate on sample items the correct way to respond to the item. The instructions for administering the scale were taped. An individual with an Appalachian dialect was used in the taping. Taping the instructions guaranteed consistency among testing centers.

The instrument was tested on a group of adult basic education students. The researchers discovered some small problems in administering procedures which were corrected. The scale was then administered to the participants in the study.
Instrumentation

Although anomia is one of the older concepts in sociological theory, only recently have social scientists attempted to develop scales to measure this phenomena.

Srole's scale was constructed of five components to represent, directly or indirectly, the respondents definition or perception of his own interpersonal situation.

The first component was the individual's sense that community leaders are not concerned about his needs. This component was measured by the following item:

"There's little use writing to public officials because often they aren't really interested in the problems of the average man."

The second component of anomia was the individual's feeling that he could accomplish little toward realizing future life goals because of the orderlessness of society. The following item was proposed by Srole:

"Nowadays a person has to live pretty much for today and let tomorrow take care of itself."

The third element measures the individual's belief that he is losing ground from the goals he has already attained. This component was measured by the following statement:

"In spite of what some people say, the lot of the average man is getting worse, not better."

The fourth component was the loss of internalized social norms and values which is reflected by the individual's sense of the meaninglessness of life. The item selected to represent this component was:

"It's hardly fair to bring children into the world with the way things look for the future."
The last component of anomia identified by Srole was the individual's perception of the support of immediate personal relationships. The element is reflected in the following item:

"These days a person doesn't really know whom he can count on."

Meir and Bell contend that what Srole is really measuring is despair.

"We are convinced that these questions (Srole's instrument) for the most part measures despair, that is, utter hopelessness and discouragement. A person agreeing strongly with each of these questions is beyond simple apathy; his is a condition of sadness and distress in which he is unable to exercise any confidence or trust that his desires or wishes may be realized. At the very least, despondency, and at worst, object despair characterizes such a person. It is despair, however, which is in part turned toward one's fellows and the social order with the particular implications that no one is bound by any effective norms of responsibility toward others."

---

1 Srole, op. cit.
2 Meir and Bell, op. cit.
DATA ANALYSES: PROCEDURES AND RESULT

This section of the report is devoted to (1) describing the demographic characteristics of the participants, (2) testing the basic hypothesis, and (3) analyzing the auxiliary supporting data. A variety of parametric and non-parametric statistical techniques were utilized in the analyses of data.

DESCRIPTION OF THE SAMPLE

The respondents in this study were adult basic education students enrolled in seven classes in four different adult education centers. Thirty-seven students who participated in both the pre and posttest were used to test the major hypotheses. Data analyses of drop-outs and analyses for internal validity were computed with additional students.

Age

Data on the ages of the respondents are summarized in Table 1. The largest percentage of subjects was located in the 16-25 category. The median age of the subjects was 30.5 years. The mean age was 31.4 years.

Table 1. Frequency and percentage distribution of subjects by specified age brackets.

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-25</td>
<td>17</td>
<td>47.2</td>
</tr>
<tr>
<td>26-35</td>
<td>4</td>
<td>11.1</td>
</tr>
<tr>
<td>36-45</td>
<td></td>
<td>11.1</td>
</tr>
<tr>
<td>46-55</td>
<td>6</td>
<td>16.6</td>
</tr>
<tr>
<td>56-65</td>
<td>5</td>
<td>13.9</td>
</tr>
<tr>
<td>Totals</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>
Sex

Table 2 presents a description of participants by sex. There was a significantly larger number of females than males in the sample. Although this is not a random sample, this is probably a good reflection of the sexual composition of the total adult basic education program.

Table 2. Frequency and percentage of subjects by sex.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>26</td>
<td>70.3</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
<td>29.7</td>
</tr>
<tr>
<td>Totals</td>
<td>37</td>
<td>100</td>
</tr>
</tbody>
</table>

Marital Status

Data on marital status is presented in Table 3. Nearly 60 percent of the participants were married.

Table 3. Frequency and percentage of subjects by marital status.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>9</td>
<td>24.3</td>
</tr>
<tr>
<td>Married</td>
<td>22</td>
<td>59.4</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>16.2</td>
</tr>
<tr>
<td>Totals</td>
<td>37</td>
<td>100</td>
</tr>
</tbody>
</table>
Educational Level

Data in Table 4 refers to the highest grade level completed in the public school system by the participant. Nearly one-half of the subjects had completed 7 or 8 grades of school before dropping out.

Table 4. Frequency and percentage of subjects by educational level.

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>3</td>
<td>8.1</td>
</tr>
<tr>
<td>3-4</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>5-6</td>
<td>5</td>
<td>13.5</td>
</tr>
<tr>
<td>7-8</td>
<td>17</td>
<td>45.9</td>
</tr>
<tr>
<td>9-10</td>
<td>5</td>
<td>13.5</td>
</tr>
<tr>
<td>11-12</td>
<td>6</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>37</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Employment Status

The subjects were divided into two groups according to their employment status. Over 60 percent of the adult basic education students were employed in some capacity. See Table 5.

Table 5. Frequency and percentage of subjects by employment status.

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>13</td>
<td>37.1</td>
</tr>
<tr>
<td>Employed</td>
<td>22</td>
<td>62.8</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>35</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
TESTING THE HYPOTHESES

The distribution of anomia pre and posttest scores was plotted in Figure 1. The mean anomia pretest score was 3.5 and the mean posttest score was 2.9. An examination of Figure 1 revealed that the data was skewed.

Anomia Scores

Figure 1. Distribution of anomia pre and posttest data.
A decision was made to test the major hypotheses with the nonparametric Wilcoxon Matched-Pairs Signed-Ranks Test. The Wilcoxon considers the magnitude as well as the direction of difference. A Z test was used to test the significance of the Wilcoxon score. A two-tailed test of significance was employed.

The relationship between anomia scores collected during the first weeks of classes and the scores collected after participating in adult basic education for four months are presented in Table 4.

The following hypotheses were tested:

Ho: There will be no significant change in anomia scores after participating in adult basic education.

Ha: There will be a significant change in anomia scores after participating in adult basic education.

Table 4. Wilcoxon Matched-Pairs Signed-Ranks Test between Anomia pretest and posttest scores.

<table>
<thead>
<tr>
<th>Rank of difference</th>
<th>Rank with less frequent signs</th>
<th>Z score</th>
</tr>
</thead>
<tbody>
<tr>
<td>N= 27</td>
<td>T=95</td>
<td>-2.26*</td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

The anomia scores of 27 of the 37 participants changed between the pre and posttest. As the result of an analyses of the change in score, the null hypotheses was rejected. There was a significant change between anomia pre and posttest scores.
Age and Anomia

In order to compute a correlation coefficient between age and anomia, a check was made to determine if the relationship was linear. An eta coefficient was computed to test the departure of the data from linearity. The departure from linearity was nonsignificant. Therefore, the Pearson Correlation Coefficient was computed to test the following hypotheses.

Ho: There will be no relationship between age and anomia pretest scores.
Ha: There will be a significant relationship between age and anomia pretest scores.

Table 5. Pearson Correlation Coefficient between Anomia pretest scores and age.

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>Anomia Pretest Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>37</td>
<td>-.036</td>
</tr>
</tbody>
</table>

The data in Table 5 supports the null hypotheses.

Although age was not significantly correlated with anomia at the beginning of the study, the review of literature supported the hypothesis that the attitude of younger adults would be easier to change than the attitude of older adults. The participants were arbitrarily divided into two age groups. The Mann Whitney U-Test, a nonparametric test for independent groups, was used to test the following hypotheses.

Ho: There will be no difference in change of anomia scores between young and old adults participating in adult basic education.
Ha: Young adults participating in adult basic education will have a significantly greater change in anomia than older adults.
Table 6. Mann Whitney U-Test between young and old adults and change in anomia score.

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young (16-35)</td>
<td>21</td>
<td>156</td>
<td>-.049</td>
</tr>
<tr>
<td>Old (36-69)</td>
<td>15</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The relationship between age and change in anomia score was not significant. The null hypotheses was accepted.

Sex and Anomia

A Point-Biserial Correlation was completed to determine the relationship between sex and anomia in Table 7.

Ho: There will be a nonsignificant relationship between sex and anomia.

Ha: There will be a significant relationship between sex and anomia.

Table 7. Relationship between sex and anomia.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>( r_{pb} )</th>
<th>t test of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>11</td>
<td>.011</td>
<td>.064</td>
</tr>
<tr>
<td>Female</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The null hypotheses was accepted.

The data were analyzed to determine if sex was related to change in anomia scores.
Ho: The change in anomia scores between males and females participating in adult education will be nonsignificant.

Ha: There will be a significant change in anomia score between male and female participants in adult basic education.

Table 8. Mann Whitney U-Test between sex and change in anomia score.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>11</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>26</td>
<td>137</td>
<td>-.20</td>
</tr>
</tbody>
</table>

The analyses in Table 8 produced a nonsignificant relationship between sex and change in anomia scores. The null hypotheses was accepted.

Marital Status and Anomia

The Kruskal-Wallis one-way analysis of variance by ranks was used to determine if the k samples were from different population. The following hypotheses were tested:

Ho: There is no difference in the average anomia scores of the three marital categories.

Ha: The average anomia scores of the three marital scores are significantly different.
Table 9. Kruskal-Wallis Test between marital status and anomia.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Rank</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>9</td>
<td>143</td>
<td>.59</td>
</tr>
<tr>
<td>Married</td>
<td>22</td>
<td>445</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The significance of the computed H value was checked with Chi Square Tables. The null hypotheses was accepted.

The Kruskal-Wallis was also computed to determine the significance of change in anomia scores among the marital status categories.

H₀: There is no difference in the change in anomia scores among the marital status categories.

H₁: There is a significant change in anomia scores among the marital status categories.

Table 10. Kruskal Wallis Test between marital status and change in anomia.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Number</th>
<th>Rank</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>9</td>
<td>180</td>
<td>.10</td>
</tr>
<tr>
<td>Married</td>
<td>22</td>
<td>410.5</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>112.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The data in Table 10 did not reveal a significant difference among the various marital categories. The null hypothesis was accepted.

Educational Level and Anemia

After completing an eta correlation which revealed that the departure from linearity was not significant, a Pearson Correlation Coefficient was computed to test the relationship between education level and anemia.

H₀: There will be a nonsignificant relationship between educational level and anemia.

Hₐ: There will be a significant relationship between educational level and anemia.

Table 11. Pearson Correlation Coefficient between educational level and anemia.

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>N</th>
<th>Anemia Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>37</td>
<td>-.037</td>
</tr>
</tbody>
</table>

The relationship between educational level and anemia was not significant. The null hypotheses was accepted.

The participants were divided into two educational levels to determine if a relationship existed between educational level and change in anemia scores. Those individuals who had completed 8 grades or less of school were classified in the low educational level group. The participants with 9 or more grades completed were placed in the high educational level.

Table 12. Mann Whitney U-Test between educational level and change in anemia.

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Number</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (0-8)</td>
<td>26</td>
<td>100</td>
<td>-1.46</td>
</tr>
<tr>
<td>High (9-12)</td>
<td>11</td>
<td>186</td>
<td></td>
</tr>
</tbody>
</table>
The analyses of the data proved to be nonsignificant. The null hypothesis was accepted.

**Employment Status and Anomia**

Data were collected to determine the relationship between employment and anomia.

**Ho:** There will be no relationship between employment status and anomia.

**Ha:** There will be a significant relationship between employment status and anomia.

A Point-Biserial Correlation was used to test the hypotheses. The relationship between work status and anomia was not significant. See Table 13.

**Table 13. Relationship between employment status and anomia.**

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Number</th>
<th>( r_{pb} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>22</td>
<td>.963</td>
</tr>
</tbody>
</table>

A Point-Biserial Correlation was also computed to determine if employment status would influence change in anomia scores.

**Ho:** There will be no significant relationship between employment status and change in anomia scores.

**Ha:** There will be a significant relationship between employment status and change in anomia scores.

**Table 14. Relationship between employment status and change in anomia.**

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Number</th>
<th>( r_{pb} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>13</td>
<td>.700</td>
</tr>
<tr>
<td>Employed</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>
The null hypothesis was accepted.

Test for Internal Validity

In most experimental research designs there is always the possibility that some extraneous variable could produce effects confounded with the effect of the experimental stimulus. Four months elapsed between the pretest and the posttest. Problems of history—the specific events occurring between the first and second measurements in addition to the experimental variable, and maturation—processes within the respondents operating as a function of the passage of time per se including growing older, growing more tired, and the like, could serve to produce change in anemia scores.\footnote{Donald T. Campbell and Julian C. Stanley, "Experimental and Quasi-Experimental Designs for Research on Teaching", in N.L. Gage (ed.), Handbook of Research on Teaching (Chicago: Rand McNally & Company, 1963), p. 175.}

Additional data were collected to strengthen the validity of the findings.

Most adult basic education classes continue to recruit students to replace drop-outs. The classes used in this study were no exception. When the posttest was administered to the experimental groups it was also given to students who had recently enrolled in the program. By comparing the anemia scores of new enrollees with the anemia scores collected four months earlier, one may locate variables outside the class which might have produced changes in the subjects. The following hypotheses were tested:

\textbf{H}_0: \text{There is no significant difference in anemia scores between students beginning class in September and students beginning class in January.}

\textbf{H}_a: \text{There will be a significant difference in anemia scores between students beginning class in September and students beginning class in January.}
Table 15. Mann Whitney U-Test between beginning students in September and January.

<table>
<thead>
<tr>
<th>Starting Classes</th>
<th>Number</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>37</td>
<td>227.5</td>
<td>-1.363</td>
</tr>
<tr>
<td>January</td>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although there was a tendency for people enrolling in September to have higher anemia scores, it was not significant at the .05 level. Therefore, the null hypothesis that there would be no difference in anemia scores between September and January enrollees was supported. This finding does provide additional validity for the study.

Serendipital Findings

Often in research, experimenters find unexpected relationships in their data that are most interesting. It is important that these discoveries be reported as discoveries and that the word "conclusions" be reserved for judgements regarding hypotheses that were formed prior to the collection of evidence. Although serendipital findings are exciting to discover and may lead to productive research, they may be merely an artifact of the experiment and need to be retested before they become part of anyone's conclusions. While "playing" with the data, the writer discovered that there was a significant difference between the anemia pretest scores of students who dropped out of the ABE program and students who remained in the program for at least 4 months.
Table 16. Mann Whitney U-Test between drop-outs and students completing four months of adult basic education.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Number</th>
<th>U</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop-outs</td>
<td>46</td>
<td>1209</td>
<td>-3.3406**</td>
</tr>
<tr>
<td>Four-month</td>
<td>37</td>
<td>493</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at the .01 level.

The data in Table 16 indicates that those individuals who remain in the program have higher anomia scores than those students who drop out of the adult basic education program.
Discussion

This study revealed a significant change in anomia scores among a select group of adults from rural Appalachia often participating in adult basic education for four months. This implies that ABE students see the program as a means of removing obstacles to the achievement of life goals. The change in attitude may be as important as the development of educational skills in enabling the adult basic education student to become a productive and responsible citizen.

Unlike other research efforts, this investigation failed to identify any significant relationships between the demographic factors, age, sex, marital status, educational level, and employment status and anomia. This may be due to the fact that most other studies have utilized the total population of a specific area while this study was restricted to ABE participants, a group with a high anomia potential. One additional explanation for the lack of relationship between anomia and demographic factors may be the lack of opportunity in Appalachia for all segments of the population to achieve life goals. In other words, anomia may be a characteristic of the total Appalachian population and not restricted to those individuals with educational differences.

Of particular significance in this study was the discovery that students who remained in the adult program had significantly higher anomia scores than drop-outs. This, of course, cannot be considered as a conclusion of this study since it was not a hypothesized finding. In any event, additional studies should be conducted to determine the relationship between anomia and drop-outs.
BIBLIOGRAPHY


