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A STUDY OF THE PERSONALITY DIFFERENCES BETWEEN A GROUP OF
WOMEN WHO HAD PARTICIPATED IN SEWING CLASSES IN AN ADULT
EDUCATION PROGRAM AND A GROUP OF THEIR FRIENDS AND
NEIGHBORS WHO HAD NOT PARTICIPATED IN ANY ADULT
EDUCATION ACTIVITIES

presented by

Marvin R. Sitts

**has been accepted towards fulfillment
of the requirements for**

Ph.D degree in Teacher Education

Harold J. Dillon
Major professor

Date May 3, 1960

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by

Marvin R. ^{olph}Sitts

AN ABSTRACT

Submitted to the College of Education
Michigan State University of Agriculture and
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the requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Teacher Education

1960

Approved

Harold J. Dillon

MARVIN R. SITTS

ABSTRACT

This study was concerned with the personality differences between a group of women who had participated in sewing classes offered by the Mott Adult Education Program of the Flint Board of Education and a group of their friends and neighbors who had not participated in any adult education activity.

Members of a sample of women who had each taken three classes in sewing were asked to permit interviewers to enter their homes and administer the Sixteen Personality Factor Questionnaire by Cattell, Saunders, and Stice and the "Adult Education Interview Sheet" prepared by this researcher. Each woman selected was asked to invite to her home a friend or neighbor who had never taken an adult education class and who would also be willing to fill in the Sixteen Personality Factor Questionnaire and the "Adult Education Interview Sheet". There were two hundred two women in the two groups.

The scores on the Sixteen Personality Factor Questionnaire indicated a difference between the two groups at the one per cent level on the bright----dull continuum and on the aggressive----mild continuum. The participators were brighter and more aggressive. In other personality factors the participators tended to be more persistent, less polished, more confident, and with a less clear pattern of socially approved behavior.

From the "Adult Education Interview Sheet" it was revealed that the adult education participator had enrolled in more special schools, had a larger income, and belonged to more service clubs and neighborhood clubs. The participator attended more activities in school buildings.

§He voted more frequently in recent elections. §He had known about the adult education program longer. In these items the difference between the participator and non-participator was significant at the one per cent level. The participator was older than the non-participator. The difference in age was significant at the five per cent level. In all other of the forty-two questions and observations on the "Adult Education Interview Sheet" there were no differences at any acceptable level.

These findings suggest that since the women participating in these classes have personality factors which are unlike the personality factors of non-participators chosen for this study, these differences should be kept clearly in mind by the adult educator both when he is trying to attract the non-participators to the adult education program and when he is trying to satisfy the needs of the former non-participator once she has enrolled in adult education classes. Recommendations are given in areas where the differences would suggest modifications in the adult education program.

This study represents an effort to measure with care a segment of the adult education population and a segment of the non-participating population. It is hoped that additional similar studies will eventually produce a body of knowledge which will give the adult educator a clear picture of the people with whom he works. This picture will include personality factors as well as factors not usually considered personality factors.

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CHAPTER I

THE PROBLEM

Introduction

When dealing with any complex situation, which must be understood and perhaps modified, a first step is to observe and systematically record the observations. However, meaningful observations require the careful use of measuring instruments. And, measuring instruments are specialized and must be applied properly if results are to be of value.

The field of adult education is complex. In it are found all kinds of people and all kinds of non-personal factors, many and diverse relationships among the elements, and a continual state of change. It is sometimes felt that no man and no part of man's environment are entirely free of implications for adult education.

Instruments for measuring man and his surroundings leave much to be desired. In fact, in physical engineering of all kinds it is an axiom that no measurement aside from mere counting of units is or can be perfect. However, it can be better. Maintaining of accuracy of the simplest measurements of weight and length requires frequent international gatherings of the most informed national leaders and involves well-protected air-conditioned standards in Washington and Geneva. By comparison instruments designed for measuring human characteristics often seem crude and their application indifferent.

•

QUESTION

1. The following table shows the number of people who attended the 2010 World Cup in South Africa, by country and by match.
- | Country | Match 1 | Match 2 | Match 3 | Match 4 | Match 5 | Match 6 | Match 7 | Match 8 | Match 9 | Match 10 | Match 11 | Match 12 | Match 13 | Match 14 | Match 15 | Match 16 | Match 17 | Match 18 | Match 19 | Match 20 | Match 21 | Match 22 | Match 23 | Match 24 | Match 25 | Match 26 | Match 27 | Match 28 | Match 29 | Match 30 | Match 31 | Match 32 | Match 33 | Match 34 | Match 35 | Match 36 | Match 37 | Match 38 | Match 39 | Match 40 | Match 41 | Match 42 | Match 43 | Match 44 | Match 45 | Match 46 | Match 47 | Match 48 | Match 49 | Match 50 | Match 51 | Match 52 | Match 53 | Match 54 | Match 55 | Match 56 | Match 57 | Match 58 | Match 59 | Match 60 | Match 61 | Match 62 | Match 63 | Match 64 | Match 65 | Match 66 | Match 67 | Match 68 | Match 69 | Match 70 | Match 71 | Match 72 | Match 73 | Match 74 | Match 75 | Match 76 | Match 77 | Match 78 | Match 79 | Match 80 | Match 81 | Match 82 | Match 83 | Match 84 | Match 85 | Match 86 | Match 87 | Match 88 | Match 89 | Match 90 | Match 91 | Match 92 | Match 93 | Match 94 | Match 95 | Match 96 | Match 97 | Match 98 | Match 99 | Match 100 |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| South Africa | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Spain | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Germany | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| England | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| France | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Italy | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| United States | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| Other | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Another accepted procedure in physical science is to consider any structure which is to be measured broken into homogeneous parts. The measure of each part is taken. Carried to the extreme this means counting electrons and protons and the other building stones of the atom. Carried to the extreme this can also mean such a preoccupation with minutiae that essential interconnections and the whole, greater than its parts, may be forgotten. However, if ignored, it can and usually does mean much ado about nothing.

In this paper it will be contended that adult education is a composite of many elements of the tangible and the intangible. Therefore, it cannot be said in sweeping style that this or that is true of adult education or even that it is true of a participator in adult education in general. It can only be said that available evidence indicates that a certain observation has been made with respect to a small, partially homogeneous segment of the adult education complex, and, within the limits of fallibility of the measuring instrument, a truth is being approached.

Statement of the Problem

This thesis is concerned with the measurement of the personality factors of a group of women who have participated in three terms of sewing in the adult education program in Flint, Michigan. Also measured are the personality factors of a group of women who have not participated in any activity which could be considered adult education. Members of the second group were selected by the first group and were, in general, friends and neighbors of the individuals of the first group. The

women of each group were given, in their homes, the Sixteen Personality Factor Questionnaire by Cattell, Saunders, and Stice¹ and a personal interview questionnaire, the "Adult Education Interview Sheet," constructed by this researcher.²

It was expected that in some ways the personalities of the two groups would differ. It was also expected that in many ways the two groups would be alike in important non-personality areas. Thus it was hoped a more clear picture of both the participators and non-participators could be found. The personality characteristics of the participator are extremely important to the adult educator because he is working with her and it is her educational need which must be met. Almost equally important are the personality characteristics of the non-participator because it is this person whom the adult educator hopes to draw into the program. And, since it is further expected that the non-participator, who is a close acquaintance of the participator, is more apt to become a participator, the group comprised of friends and neighbors of the participator is of particular interest.

The field where measurements are to be taken, though containing a large number of women, is a comparatively small part of the total field of adult education. It is composed of women only and women involved in one particular group of classes in the adult education program in Flint. Considered also is a second group limited in that

¹Raymond B. Cattell, D. R. Saunders, and G. Stice, Sixteen Personality Factor Questionnaire, Form A (Champaign, Ill.: Institute for Personality and Ability Testing, 1959). See Appendix, p. 140 for a copy of this questionnaire.

²See Appendix, p. 141 for a copy of this interview sheet.

it is composed of women and non-participants. It bears with respect to the first group relationships of acquaintance and proximity. Individuals in both groups must, as in all surveys, have a willingness to cooperate.

Assuming a reasonable accuracy of the measuring instrument and a careful application, the findings can contribute to understanding in several ways. A trustworthy measure of a small part of the adult participating population and a similar measure of a related non-participating group will result. This will be another step toward the measure of all factors in adult education which is an overall goal of adult education research. It is not to be doubted that certain immediate benefits can be derived from using the results of this study of these restricted groups. And even though conclusions of this study cannot be extended beyond the population of which the groups are samples, they will hint at fruitful areas for further study.

Background and Need for This Study

To state that adult education is an area of increasing importance in modern society will not startle anyone who has even a casual knowledge of the bulging enrollments in adult education programs throughout the United States. Figures for the nation and figures for even one city that are clear and meaningful are often hard to obtain but some attempts have been made. Morse A. Cartwright, a director of the American Association of Adult Education, estimated 14,881,500 participants in 1924 and 22,311,000 in 1934.¹ Paul Essert of Columbia

¹Morse A. Cartwright, Ten Years of Adult Education (New York: The Macmillan Co., 1935), cited by Edmund deS Brunner, David S. Wilder, Corrinne Kirchner, and John S. Newberry, An Overview of Adult Education Research (Chicago: Adult Education Association of the U.S.A., 1959), p.2.

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University claims 29,000,000 in 1950¹ and Malcolm Knowles believes almost 50,000,000 were in adult education in 1955.² These authors all admit that their figures may be in error, but feel they are the best estimates possible.

Considering the number of communities offering adult education courses, Edmund deS Brunner has this to contribute:

In 1924, only nine high schools in a nationwide representative sample of one hundred forty village-centered agricultural communities offered any adult education and almost all of it was vocational. In 1936, forty-two of these schools had adult education offerings, over one-fifth of them non-vocational. By mid-century, according to another study, better than three-fourths of the school districts with populations under 10,000 conducted courses for adults, many non-vocational. Urban proportions were higher.³

Looking at Flint, in which the current study was conducted, it again is evident that adult education participation has become large in a relatively short period. Before 1935 there were certain adult activities in churches, Y.M.C.A. and Y.W.C.A. groups, libraries, and other non-public school areas. There were no composite figures then as to number of enrollments in these classes nor do such figures exist for total enrollments today. However, it is contended by people involved that there has been considerable growth.

With respect to the public school adult education story, the

¹Paul Essert, Creative Leadership of Adult Education (New York: Prentice Hall, 1951), p. 40.

²Malcolm Knowles, "Adult Education in the United States," Adult Education, V, No. 2 (Winter, 1955), cited by Edmund deS Brunner, David S. Wilder, Corrinne Kirchner, and John S. Newberry, An Overview of Adult Education Research (Chicago: Adult Education Association of the U.S.A., 1959), p. 3.

³Edmund deS Brunner and Others, An Overview of Adult Education Research (Chicago: Adult Education Association of the U.S.A., 1959), p. 3.

picture is much clearer. Prior to 1935 there was no organized public school adult education; in 1935 there was a beginning with three parent education classes involving about 25 people; by 1945 this had become 80 classes and 2,016 enrollments; in 1958 there were 3,201 classes and 77,644 enrollments. Flint's population from 1945 to 1958 grew from about 160,000 to 200,000. Thus, adult education increased 4,000% while population increased only 25%.

Not only is it possible to measure the growth in adult education up to this time, it is further possible to note social and economic trends which give promise of further great strides in adult education programs. The theme that increased leisure time will force the creation of an ever greater adult program if good living is to be had is so widely held it needs little elaboration here. However, a few items which apply directly to Flint may support the contention. One Flint automobile plant which formerly employed 30,000 men can now produce an equal number of more complicated cars with 19,000 men. This means, first and immediate, unemployment. It means retraining. It indicates greater productivity. And, if the immediate maladjustments can be corrected, it can mean more leisure time to be used for adult education activities. One particular product manufactured in Flint, in a plant, currently employing 11,000 men and women, cost, in 1950, forty-eight cents to produce. Today this same product can be produced for twenty-four cents. This is again an indication of greater productivity which further can mean greater leisure and learning. The U.A.W.-C.I.O. claims productivity per man in the automobile plants of Flint has increased nearly 4% each year during the last decade. This is still more evidence that the American standard of living may be maintained with fewer hours of work.

Approaching the same problem from a more negative viewpoint, it can be stated that our society is most demanding on the individual mentally and emotionally, and if provision is not made for lifelong mental and emotional health, society will reap the heavy punishment of care for one person in ten¹ in corrective or custodial institutions.

Wilbur C. Hallenbeck writes:

People have a sense of frustration. They realize they are surrounded with controls and forces with which they cannot cope. Bigness and remoteness put the forces which mold their lives beyond their reach. Nothing is more disillusioning or disheartening than to realize that one can do nothing about the things which affect his life.²

Malcolm S. MacLean offers:

We have moved from the isolated calm of farm lands to the turmoil of great cities; from a majority of children and young folk to a preponderance of oldsters; from the soft sounds of bird calls, lowing cattle and splashing streams to the roar of a million motors, the jangling of a billion bells, the scream of fire, police, and ambulance sirens; and from the safety of intimate knowledge of a few friendly neighbors to the insecurity of ignorance, hostility or indifference of many masses of folks jammed in slums, theatres, claustrophobic apartment cells. Under the impact of these accumulations of noise, movement, machines, and people, disintegration sets in. Solid cores of value crumble, conflicts replace stability, and bewilderment overcomes understanding.³

It is apparent, therefore, that adult education has had a rapid growth nationwide and in the Flint community. Also if mental and emotional health are to be maintained and America is to escape the

¹Education Flint, II, No. 5 (Flint: Flint Board of Education, 1959), p. 1.

²Wilbur C. Hallenbeck, "Participation in Public Affairs," Adult Education, II, No. 1 (October, 1951), p. 15.

³Malcolm S. MacLean, "Learning to Live with Atomic Energy," (address before the Institute on Atomic Energy, University of California at Los Angeles, May 28, 1947; unpublished), cited by Paul H. Sheats, Clarence D. Jayne, and Ralph B. Spence, Adult Education, The Community Approach (New York: The Dryden Press, 1953), p. 43.

dire future so many predict, forces must be encouraged which oppose the threatened dissolution. An ever broader, more effective adult education program may be one of these beneficent forces. But no plan of action can hope to be effective without measurement and understanding of the specific elements involved. This paper is planned to provide some of those measurements and contribute toward an understanding.

There is strong suspicion among adult education leaders that the challenge of adult education is not being fully met. Studies indicate that in a democratic society whose very life's blood depends on voluntary association and participation as high as 65% of the people are not participating at all in anything.¹ And further, even among those who try to avail themselves of opportunities in existing adult education programs, satisfaction is by no means assured. It is estimated that, nation wide, 50% of those who join adult programs drop out before realizing appreciable benefits.² This in a sense is a measure of the lack of systematic observations of the groups with whom adult leaders are and should be working.

Many testify to the confusion with respect to research in the field of adult education. Edmund deS Brunner wrote in 1959:

any examination in research in adult education reveals a rather chaotic situation. A few pertinent areas such as adult learning, have been explored far more thoroughly than others. Some have received almost no research attention. Where any considerable body

¹William G. Mather, "Income and Social Participation," American Sociological Review, VI, No. 3 (June, 1941), p. 382.

²Stephen Russell Deane, "A Psychological Description of Adults Who Have Participated in Selected Educational Activities" (unpublished Doctoral thesis, Graduate School, University of Maryland, 1949), p. 1.

of effective research is available other than in the field of methods, typically it has been conducted, not by adult educators, but by social scientists who had available a considerable body of theory, generalizations and methodologies developed by their disciplines which could be applied to the problems of adult education. Thus the movement has benefited much from the work of psychologists and to a considerable but lesser extent, from that of social psychologists and sociologists.¹

Brunner also contends that what has been done by adult educators in research has been chiefly "descriptive studies which record, sometimes with satisfactory detail and analyses, the experiences, successes, and mistakes of a single program or of a total effort in a single community or area";² or, "studies of local situations used for building programs appropriate to the people and locality studies."³ Limited though these studies may be, he does not "decry the value of such work."⁴ He merely warns that in such cases improper generalizations must be avoided.

It is interesting to note that the 1948 issue of the Handbook of Adult Education in the United States covers over five hundred pages with fifty-four chapters and nearly fifty-four authors without mentioning research except briefly in connection with governmental research organizations which have nothing to do with adult education directly.⁵

Research has contributed in some ways to the understanding of behavior. Certain information is available concerning the individual adult. For example, something is known about his ability to learn,

¹Brunner, p. 2.

²Ibid., p. 6.

³Ibid.

⁴Ibid.

⁵Mary L. Ely (ed.), Handbook of Adult Education in the United States (New York: Institute of Adult Education, 1948).

his motivation to learn, his interests, and educational level. His socio-economic condition can be described. There are techniques for manipulating him. He can be taught to do certain things for himself. Relationships and dependencies among these factors are also known. However, if the additional fact is given that this adult being studied is a participator in adult education activity, research reveals little more, personality-wise, about him. It may be guessed that he is more intelligent, or more ambitious, or more lonely, or more free to go out nights. Other stereotyped attitudes adult educators have about their clientele may be inferred, but nothing is known through measurement. The conclusions to be drawn from this paper should include that if a certain person is a participator in a certain type of activity then it follows that he, within given statistical limits, certainly is different from, or similar to, a given person of a non-participating group. It is important to know this if adult educators are to provide more satisfactions for the participator and entice, as they feel they should, the non-participator into the fold. This idea of specifically what research has to contribute to understanding of adults will be developed more fully in the chapter on the review of literature in the field. It is sufficient to say here that there seems to be a kind of research missing and a need which this paper hopes to help fill.

To say that a paper is valuable because it studies women does not imply that it is more valuable than if it studied men. However, in Flint there are more women involved in adult education than men. In Flint's public school adult educational program about 60% of the participants are women. This would mean there were about 45,000 women

participating in 1959. Secondly, the values of adult education as already stated are particularly pertinent to women. The increased leisure due to increased productivity is felt in the home. Further, men commonly work to the age of sixty-five while a woman's work is greatly reduced at forty or forty-five when children leave home. At the same time the pressures of modern living bear just as relentlessly on her. The man may bring home all of his anxieties to add to hers and the woman will be exposed to them but even more helpless to do anything about them.

If it is accepted that complete understanding of the people in adult education involves measurement of those people and if it should be agreed that measurement of the larger and more important groups should be undertaken first, then there is justification for measuring personality characteristics of the women in sewing classes. Flint has about 2,500 women in sewing classes each year. About four hundred of these, in the third year of sewing, comprise one of the groups studied in this survey. Better information about this group can result in its better being served by the program. If it could be estimated that the well-being of each woman is closely tied with the well-being of more than three other people (and this guess is justified from later statistics on this group), over 1,600 people each year or nearly 1% of Flint's population are affected. In conclusion, it is contended that this group is of sufficient size and importance to make this study worthwhile even though it is a specialized group and conclusions reached about it cannot be generalized to include all adult education participators everywhere.

Robert Plummer wrote in a study he had made of participators in a certain adult education program the chief method of learning about the program was through a friend. This is more important than newspapers, or radio, or television, or special pamphlets, or any other device commonly used by promoters of adult programs.¹ Other evidence that promotion of adult programs is through acquaintanceship and word-of-mouth includes a study by Stephen Deane in 1949. He wrote:

It is apparent . . . that very few persons seek adult education courses entirely on their own initiative. Most frequently they are told about courses by friends and relatives. In many of the answers the respondent indicated that he was talked into attending by some neighbor who was hesitant to go alone.²

From this it may be reasoned that the acquaintances of a group of participators in adult education are members of the non-participating group on which the most effective promotional device is being focused. This group is of interest to the adult educator because members of it are in a position to be drawn into adult education and he may soon have to be dealing with them as class members. But they are of interest in this study not only for this reason but also because, being acquaintances, they are in many ways, it is believed, like the participating group so whatever differences are found will possibly be relevant to a participation pattern.

What little has been done on the study of participators in adult education has been done without comparison to non-participating groups.

¹Robert H. Plummer, "An Experiment In Counseling," Adult Education, IX, No. 1 (Autumn, 1958), p. 34.

²Deane, p. 24.

Probably this is true because the participators have been considered a fairly easy group to reach through actual classes attended while non-participators are scattered, heterogeneous and, in general, much harder to reach. There is even some doubt that accurate information, especially in psychological areas, can be obtained through classroom surveys of participators. The extremely negative reaction, noted in these captive groups to imposed surveys, would lead one to doubt results. These silent rebellions are often unknown to the teacher, who is generally a likable fellow and may even give grades, and to the survey director who is a good friend of the teacher.

Finally, to be considered in discussing the importance of the problem, is the value of measuring the personality differences of the two groups. The value lies chiefly in the assumption that more or less persistent personality factors are at least partly responsible for adult behavior, and the adult behavior and the modifying of it make up the province of the adult educator. There is almost nothing in adult education research on classified personality characteristics of participators in adult programs. There are certain personality differentiations for men compared to women; for younger adults compared to older adults;¹ but not for participators compared to non-participators. This measure is not easy, but as Cattell implies this should not be left to the novelist while the psychometrist has fled to the laboratory "where the husk of measurement may be exhibited even when the kernel is lost."²

¹R. B. Cattell, D. R. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Ill.; Institute of Personality and Ability Testing, 1957).

²R. B. Cattell, Description and Measurement of Personality (Yonkers-on-Hudson, New York: World Book Co., 1946), p. 1.

Basic Assumptions of This Study

The following assumptions were considered basic to this study:

1. that the sixteen personality factors described in the Sixteen Personality Factor Questionnaire by Cattell, Saunders, and Stice comprise a meaningful classification of personality factors.
2. that the Sixteen Personality Factor Questionnaire when properly used measures the stated elements of personality.
3. that women in their own homes who have been asked by the investigator by telephone to participate responded truthfully, in general, to the questions on the Sixteen Personality Factor Questionnaire and the "Adult Education Interview Sheet."
4. that women in the homes of neighbors who have been invited by their neighbors to participate responded truthfully, in general, to the questions on the Sixteen Personality Factor Questionnaire and the "Adult Education Interview Sheet."
5. that the groups studied are an important segment of the adult population, participator and non-participator.
6. that results of the Sixteen Personality Factor Questionnaire and "Adult Education Interview Sheet" can be used by adult educators to improve classes and to encourage greater participation.

The Scope and Limitations of This Study

This study attempted to measure the personality factors of a group of women who had completed a third class in sewing offered by the Mott Program of the Adult Education Division of the Flint Board of Education

and the personality factors of a group of their friends and neighbors who had never participated in any adult education classes. Interviewers entered the homes of women to be tested after a telephone appointment had been made and waited while the two questionnaires were completed.

It is recognized that the method used to gather information is vulnerable in the following ways:

1. Certain individuals, when telephoned, refused to be interviewed. Non-respondents may produce bias, and there is a possibility that their returns, if they could be obtained, would alter the results.
2. In some cases women telephoned were unable to find a friend or neighbor who had not participated in adult education and was willing to fill in the questionnaire. This situation could introduce more bias.
3. Some women may have falsified answers because they did not feel sure of the anonymity of their answers.
4. In some cases there was no answer to the telephone even after repeated recalls over a two month period.
5. There may have been some hidden but a real variation in the seriousness with which the women regarded the questionnaire. Interviewers saw no evidence of a lack of seriousness but it is well known that various physical states may alter toleration of interferences to normal living such as this questionnaire represented.
6. The participator sample chosen was a sample of those Flint women who had participated in three sewing classes.

Therefore, generalization in the most strict sense will have to be limited to this population.

7. The non-participator sample was of friends and neighbors of the participating sample and so generalizations of this sample in the most strict sense will have to be limited to friends and neighbors of the first total population selected in manner given.
8. This was an attitudinal study in part and as such is probably less dependable than a factual study.
9. The degree of inaccuracy cannot be fully measured. However, some limited estimation will be attempted in the statistical analysis.

The Hypotheses

In formulating hypotheses for this study, the investigator was motivated by the following considerations:

1. That knowledge of the personality factors of participators in a portion of the Flint adult education program will help in improving that portion of adult education.
2. That knowledge of the personality factors of a group of non-participators who were well known to the participators will help in devising methods to attract the non-participators and of providing proper educational opportunities for them when they once become involved.
3. A comparison of the personality factors of the two groups will make the personality factor measure of each more meaningful.

4. Knowledge of certain non-personality factors of the two groups measured with comparisons to each other and to personality factors will make more meaningful the personality factors.

The hypotheses are as follows:

1. There are statistically significant differences between personality factors of the selected participators and personality factors of the selected non-participators as measured by the Sixteen Personality Factor Questionnaire by Cattell, Saunders, and Stice.
2. The participators and non-participators as selected will not be significantly different statistically in other non-personality factors which will be measured by the "Adult Education Interview Sheet".
3. The differences and likenesses found will suggest adjustment of methods in adult education.

Importance of This Study

Adult education has grown so fast in recent years that adult educators have been more than busy merely trying to satisfy insistent demand. This has been attempted on a trial-and-error basis with resulting inefficiencies. The groups which have endured have been judged to be effective and right for reasons unknown. The groups which have fallen by the wayside have been judged ineffective often for reasons unknown.

Further, groups accommodated in adult education have generally

been those which clamored the loudest for attention and little attempt has been made to consider out-groups. It has been quite possible that a public school adult education program like the one in Flint has served the same group many ways while other large groups have been unheard and unknown. This is not good when it is considered that a public school program is paid for by all citizens and should serve all citizens.

Measures of adults taken with a view to increasing the effectiveness and service of adult programs have largely been limited to the measuring of only participators and to the measuring of factual and descriptive features. However easy and useful this has been in the past, it is not sufficient because it has neglected the non-participators who are harder to reach and neglected the important personality factors on which so much human direction depends both for the non-participator and the participator.

This study is an attempt to add to participator studies these two heretofore neglected factors. It is designed to examine personality as related to adult education participation. And it is an attempt to bring into the picture a selected group of non-participators in order to sharpen the focus and extend the usefulness. The area delineated for observation is necessarily limited, but it is hoped it will point the way for similar studies to continue until a body of knowledge has been assembled that will put adult education on a firmer scientific base than it now enjoys.

CHAPTER II

REVIEW OF LITERATURE

When one studies the literature related to the question of personality differences between a group of participators in a specific adult education activity and an associated group not participating, it becomes evident that the study may be very broad if a large number of suggested relationships are pursued or quite limited if only close relationships are considered pertinent. This section will present literature in two areas. First, there will be a limited discussion of certain personality considerations and in particular personality of adults. Here, also, will be included comment on the present state of personality testing again with respect to adults. Lastly, and most fully, will be examined those writings which purport to explain reasons for adult participation in group activity with special emphasis on reasons having to do with personality factors and with adult activities which may be considered adult education.

Certain Personality Considerations of Adults

Personality has been defined as those characteristics which are measured on the Sixteen Personality Factor Questionnaire. This paper deals with differences in two chosen groups as measured on this questionnaire. However, as background to comparison of these measurements, a few references to personality in general and to personality measurements in particular are in order.

James S. Plant explains the development of the attitude of the social worker toward personality. He writes that years ago people were considered on the basis of their accomplishments and, therefore, a person's acts tended to be equated with his personality. Later the person involved in the act received greater emphasis and so personality became a person behaving. Finally, he believes each person and his behavior came to be thought of as a part of a cultural pattern and so personality, without an understanding of the cultural whole, was meaningless.¹

The words used to describe the elements of personality vary with the authors. Plant uses alertness, complexity, pliability, temperament, and cadence as well as attitudes toward security, reality, and authority with all the relationships between these and the outer world. David C. McClelland discusses trait (expressive performance) as a personality variable, schema (ideas, values, roles) as a personality variable, motive as a personality variable, and the integration of all of these.² Raymond B. Cattell uses the sixteen factors discussed earlier although these were the final product of an evolution. Leonard V. Gordon lists only ascendancy, responsibility, emotional stability, and sociability.³ McClelland is comprehensive when he writes, "to do the job [describe personality] well requires a knowledge of practically all of present day

¹James S. Plant, Personality and the Cultural Pattern (New York: The Commonwealth Fund, 1937), pp. 3-23.

²David C. McClelland, Personality (New York: William Sloane Associates, 1951).

³Leonard V. Gordon, Gordon Personal Profile Manual (Yonkers-on-Hudson, New York: World Book Co., 1953).

psychology."¹

Cattell emphasized the difficulties of personality measurement when he wrote in 1956 in the Journal of Clinical Psychology:

Although the ideal in personality measurement, as in ability measurement, is to deal with functionally unitary traits, there are as yet extremely few personality factor scales available. The clinical, educational, or industrial psychologist who is ready for the sophisticated and effective diagnosis and prediction which the use of factors . . . makes possible, finds available only a few instruments of objective factor measurement and three or four questionnaires.²

Cattell, in this article, further explains the validation factor analyses and research basis that makes the Sixteen Personality Factor Questionnaire a suitable measure of adult personality.

Anne Anastasi wrote in 1954:

A phase of psychological testing which is still in its infancy is represented by the various efforts to measure non-intellectual aspects of behavior. Tests designed for this purpose are commonly known as 'personality tests',³

She further wrote that:

For the present, it will suffice to point out that personality testing lags far behind aptitude testing in its positive accomplishments. Nor is such lack of progress to be attributed to insufficient effort. Research on the measurement of personality has reached vast proportions during the last decade, and many ingenious devices and technical improvements are under investigation. It is rather the special difficulties encountered in the measurement of personality that account for the slow advances in this area.⁴

An interesting study related to personality of adult females is

¹MCClelland, p. xi.

²Raymond B. Cattell, "Validation and Intensification of the Sixteen Personality Factor Questionnaire," Journal of Clinical Psychology, XII (July, 1956), p. 206.

³Anne Anastasi, Psychological Testing (New York: The Macmillan Co., 1954), p. 16.

⁴Ibid.

that of Helen Kerr Maxham reported in the Journal of Genetic Psychology in 1944. Maxham had an interest in two areas. First, she wanted to know the status of women as perceived by themselves, and second, she wished to have rated by these women traits of personality which they considered ideal in a husband. Five hundred thirty college women composed the sample. Conclusions pertinent to this study include:

The most conspicuous feature of the study as a whole is the close agreement upon most points of the women reporting here. The conclusion is that the social environment of the moment was of greater weight in determining answers than was any difference in age, the variations between age groups being usually one of relatively small degree.¹

However, insofar as there was change with age, the ideas about status of women became more fixed and uniform in the older groups while ideas about a husband remained fairly fixed regardless of age.²

Because the Sixteen Personality Factor Questionnaire used in this study included intelligence as a factor, and because evidence to be presented later indicates there may be statistically significant differences between participators and non-participators in this area, observations on adult intelligence are in order.

Whether intelligence is a proper subject for study under the heading of personality is not fully agreed upon. Cattell, himself, in his early accounts of his Sixteen Personality Factor Questionnaire refers to fifteen personality factors and intelligence. Nevertheless, in later writing he makes no differentiation and none shall be made in this paper. Much more has been done with intelligence than any other personality

¹Helen Kerr Maxham, "A Study of the Viewpoints of Women of Different Age Groups," Journal of Genetic Psychology, LXIV (June, 1944), p. 314.

²Ibid.

factor, but, as David Wechsler pointed out in 1947, not so much has been done with intelligence of adults. Wechsler wrote:

Although the earliest investigations in the field of psychometrics were made largely with adult subjects, the great bulk of test data which now forms the basis of intelligence scales has been derived from the examination of school children. The reasons for this are several. Perhaps the most important is the relative ease with which one may obtain young subjects.

If we enquire why the Binet and other children's scales have continued to be used for the testing of adults, in spite of the criticism that has been leveled against this practice, the answer is not far to find. No better instruments were on hand The scales now in use fail to meet some of the most elementary requirements which psychologists ordinarily set themselves when standardizing a test. . . . Most of them were never standardized on any adults at all.¹

Wechsler emphasized further the lack of suitable materials for adults and the stress that current intelligence tests place on speed rather than power.²

The situation with respect to intelligence testing of adults may have improved some in recent years but still leaves much to be desired. Edmund deS Brunner is emphatic in his appraisal of present day methods of the evaluation of adult intelligence. He believes measurement of adult intelligence is complicated beyond what has been commonly believed, that perhaps the extended use of any tests in use today is bound to be nonproductive. Brunner today is in essential agreement with Plant of twenty-five years ago in emphasizing the importance of environment and the cultural aspects of intelligence.³

¹David Wechsler, The Measurement of Adult Intelligence (Baltimore: The Williams and Wilkins Co., 1944), p. 13.

²Ibid., p. 3.

³Edmund deS Brunner, David S. Wilder, Corrinne Kirchner, John S. Newberry, An Overview of Adult Education Research (Chicago: Adult Education Association of the U. S. A., 1959), p. 24.

One particular problem that may well be involved in conclusions drawn from the current study is that of constancy of intelligence and of the other personality factor. This will have to be properly handled if the groups or sub-groups being examined differ particularly in age. Sidney L. Pressey in 1939 observed:

As measured by typical group test intelligence, mental ability grows rapidly during childhood and adolescence, reaching a peak somewhere during the late teens or early twenties. According to the tests a gradual decline begins soon thereafter and by the age of fifty-five ability has receded to about the fourteen year level. . . . These data suggest that either ability does not begin to decline as soon as tests indicate, or that accumulation of knowledge and experience, and maturing of judgment more than compensate for the first decline. Both tests and accomplishment indicate a definite decline after sixty. But individual differences are great.

Through childhood and youth interests are increasingly active and increasingly social Slowly through adult life there is a settling back into interests less active and into a narrowing and established social life.¹

R. B. Cattell in 1947 argues: "The writer's former contention that the greater part of the variance in the personality sphere can be accounted for by about twelve factors that these factors are stable over adult age ranges and that they have the specific characteristics previously described is, therefore, sufficiently confirmed."² In 1950 he wrote:

Although the period now to be examined, say from 25 to 50 or 55 is chronologically the longest, it is in most ways the least eventful in regard to personality change As with adolescence we shall find the issues best handled systematically by considering on the one hand, the inner biological maturation and changes and on the other, the environmental stimuli and poses of possible expression,

¹Sidney L. Pressey, J. Elliott Janney, and Raymond G. Kuhlen, Life: A Psychological Survey (New York: Harper and Bros., 1939), p. 213.

²Raymond B. Cattell, "Confirmation and Clarification of Primary Personality Factors, "Psychometrika, XII, No. 3 (September, 1947), p. 217.

finally reviewing the interaction of these. . . .¹

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That the period of maturity results in a certain narrowing of interests and at length in a lack of spontaneity and a separation from unconscious needs, evident in some feeling of emptiness and dissatisfaction, has been discussed at length by Jung; but how prevalent this is and what its exact nature may be, is not known in terms of objective psychology.²

An interesting side light on the use of Cattell's Sixteen Personality Factor Questionnaire is reported in the proceedings of the Iowa Academy of Science in 1953. A significant difference was found between accident prone drivers and others at the five per cent level. Factors F and Q₃ were significantly different at slightly higher than the ten per cent level. The author feels the results merited further study.³

E. Lowell Kelly, reporting in the American Psychologist in 1955, describes a longitudinal study designed to reveal personality constancy or the lack of it. The personality characteristics measured by Kelly were physical energy, intelligence, voice quality, neatness of dress, breadth of interest, conventionality, quietness, kind of temper, modesty, and dependability. The subjects were three hundred engaged couples. The span of the study was twenty years. The findings are not conclusive.⁴ The author is extremely cautious in stating his results. He comments

¹Raymond B. Cattell, Personality: A Systematic Theoretical and Factual Study (New York: McGraw Hill Book Co., Inc., 1950), p. 610.

²Ibid., p. 616.

³Virtus W. Suhr, The Cattell Sixteen Personality Factor Test as a Prognosticator of Accident Susceptibility, Proceedings of Iowa Academy of Science, LX, Des Moines: State of Iowa, 1953.

⁴E. Lowell Kelly, "Consistency of the Adult Personality," American Psychologist, X, No. 11 (November, 1955).

thus:

We found evidence for considerable consistency of several variables, in spite of fallible tools and a time span of nearly 20 years. But we also found evidence for considerable change in all variables measured. These changes were shown to be relatively specific rather than reflecting any over-all tendency to change. While measurable changes occurred on most variables, it appears that correlates of these changes are many and elusive, and hence, changes in scores are likely to be difficult to predict for individuals.¹

A firmer statement concluded the report:

Such changes, while neither so large nor sudden as to threaten the continuity of the self concept or to impair one's day-to-day interpersonal relations are potentially of sufficient magnitude to offer a basis of fact for those who dare to hope for continued psychological growth during the adult years.²

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In view of the considerable evidence for the general constancy of I.Q. during developmental period, and as reported by Owens and by Bayley and Oden for adult groups, it is likely that intelligence would have appeared at the top of this chart.³

Even in 1938 Herbert Sorenson may have been right when he observed on the subject of age and ability: "In general then, abilities that are used throughout adult experience tend to increase with age, while abilities required by situations that do not come within the scope of adult experience show a definite decline over a range of adult years."⁴

Anastasi in her usual clear style warns:

Thus if we are interested in the effect of age upon test scores, we need groups which vary systematically in age while being as uniform as possible in all other relevant variables.

For example, owing to the increasing educational level of the U. S. population during the past decades, older persons living

¹Ibid., p. 680.

²Ibid., p. 681.

³Ibid., p. 675.

⁴Herbert Sorenson, Adult Abilities: A Study of University Students (Minneapolis: The University of Minnesota Press, 1938), p. 181.

today have had less education, on the average, than younger adults.¹

Edward A. Runquist wrote the Handbook of Applied Psychology in 1950 on personality testing. He stated: "While the importance of personality factors in occupational success has been uniformly emphasized, attempts to measure these factors have by and large failed."²

Studies Related to the Characteristics of
Participators in Adult Education Activities

With respect to participation in adult education, Coolie Verner and John S. Newberry stated: "The nature of participation in organized adult education has been studied less thoroughly than nearly any other aspect."³ Brunner and his associates comment on the "paucity and limited scope of research on participation in adult education."⁴ They further contend that there have been two basic approaches in the study of participation: "(1) study of the characteristics of participants in particular institutions or types of institutional programs, and (2) sampling of a population or area to determine differences between participants and non-participants in various types of adult education . . . Most of these studies are purely descriptive."⁵ The emphasis has been on the description of participators in existing

¹Anne Anastasi, "Age Changes in Adult Test Performance," Psychological Reports, II (1956), p. 509.

²Edward A. Runquist, "Personality Tests and Prediction," Handbook of Applied Psychology, edited by Fryer, H. Douglas, and Edwin Henry, I (New York: Rinehard and Co., 1950), p. 183.

³Coolie Verner and John S. Newberry, "The Nature of Adult Participation," Adult Education, VIII, No. 4 (Summer, 1958), p. 213.

⁴Brunner and Others, p. 98.

⁵Ibid., p. 90.

studies and characteristics of non-participants have been inferred but not measured.

A good example of a descriptive study is the adult education survey undertaken by the Los Angeles City School District, Division of Extension and Higher Education, Adult Education Branch, in October, 1959. This study reveals that participants in the Los Angeles program were born in 89 different countries; that they were 41.53 per cent male and 58.47 per cent female; that they ranged from 18 years to 69 years with the largest percentage in the 30-39 group. Further, 63.285 per cent were married, and 68 per cent had attended college. The total questionnaire not only included numbers and percentages of these aforementioned items, but similar statistics under the following headings: United States citizen, registered voter, number of years in California, ownership of home, personal property tax, children in school, distance from home to school, method of transportation, reasons for attending adult school, ways of improving the adult school experience, rating of adult school classes, attitude toward taxing for adult school, attitude toward tuition for adult school, annual family income, and employment status.¹ There is no attempt to measure the non-participating groups. There is no reference to figures, which are possibly known in Los Angeles, descriptive of the population as a whole in some of the listed areas. To an adult education worker these given figures are interesting and to the school people of Los Angeles they could be useful, but there

¹Informational Report on Adult Education to the Los Angeles City Board of Education, Mimeographed report to the Los Angeles City School Districts, Division of Extension and Higher Education, Adult Education Branch (December 10, 1959).

is much to be done before they would be considered complete. Literature abounds in this type of study.

The well-known Verner and Newberry study is also descriptive of more or less surface characteristics of participating adults. The five headings used are: sex, age, education level, economic status, and occupational group. This study has two important improvements over the Los Angeles study referred to earlier. Verner and Newberry produce figures in each category for the general population for comparison. They also break the adult education program into several subheads: public school, junior college, university extension, private correspondence, Great Books, and home demonstration. The general population figures, of course, include both participators and non-participators and comparisons consequently are not between participators and non-participators.

The subdivisions of adult education are of utmost importance also if meaningful results are to be obtained. For example, in the Verner and Newberry study the participation rate for "professionals" ranges from 5.8 per cent in public school programs to 55 per cent in university extension programs. The participation rate also ranges from seven per cent for professionals participating in private correspondence studies to 19.6 per cent for the white collar worker in private correspondence studies. To combine the various phases of adult education and produce one figure would be quite meaningless. Similarly, to combine various classifications of people and produce one figure for participators in a broad area should be treated with care.¹

¹Verner and Newberry.

This supports the contention made elsewhere in this paper that a study of the characteristics of participators in adult education must be done within highly restricted adult groups.

Another study which casts some light on the characteristics of adults participating in adult education activities is that of George Baxter Smith. This study considers in part the characteristics of those adults who completed home study courses of Columbia University as opposed to the characteristics of those adults who enrolled in home study courses but did not complete them. Dr. Smith discovers what has been rediscovered several times; that, in general, the tendency is for those who have the most regular education to enroll in and complete the adult education activity. He further shows evidence that those adults with vocationally oriented goals are also more apt to enroll in and complete adult education home courses. When classified according to age, older adults from forty years of age on complete considerably more courses than those in the lower age levels. The Smith study considers many breakdowns within educational and occupational areas, but makes no attempt to examine further personality or psychological factors.¹

Abraham Abbott Kaplan studied the socio-economic relationship to participation in adult education activities. Again, this is not a deliberate attempt to investigate personality characteristics of participating adults, but in the study certain non-personality (in the

¹George Baxter Smith, "Purposes and Conditions Affecting the Nature and Extent of Participation of Adults in Courses in the Home Study Department of Columbia University, 1925-1932," Contributions to Education, No. 663 (New York: Bureau of Publications, Teachers College, Columbia University, 1935).

sense used in this study) but related characteristics are measured. For example, Kaplan wrote: "In general, residents of areas of higher socio-economic status participated to a greater degree and in a larger number of the educational activities than residents of lower status areas."¹ High rank correlations were obtained between education and participation and between economic status and participation. A high rank correlation was also apparent between socio-economic status and percentage of cases participating in three or more activities. There did not appear to be a very high correlation for the fourteen areas between percentage of native-born and participation. In the realm of attitude, Kaplan notes:

. . . it was apparent that there were many persons who did not participate because of a feeling of 'not belonging', or of not feeling welcome, or because of a conviction that their particular problems were not being considered or would not be given a favorable hearing.²

Kaplan also found that in Springfield younger persons participated more than older, and single persons more than married.³

A recent descriptive study of participation in adult activities which is noteworthy is that of John B. Holden. This study, undertaken in 1957 in collaboration with the Bureau of Census and the United States

¹Abraham Abbott Kaplan, "Socio-economic Circumstances and Adult Participation in Certain Cultural and Educational Activities," Contributions to Education, No. 889 (New York: Bureau of Publications, Teachers College, Columbia University, 1943), p. 114.

²Ibid., p. 68.

³Ibid.

Office of Education, was designed primarily to find the nature of the participation, the number of participators, and characteristics of participators as to age, previous education, and occupation. Conclusions reached included the estimate in 1957 of 8,000,000 persons enrolled in adult education, as defined by that survey. Further, it was found that the types of activities having the greatest enrollment were trade, business, and technical classes. These accounted for nearly one-third of the total. The next largest groups were general education classes and civic and public affairs classes in that order. Home and family living classes and recreational skills classes ranked fourth and fifth, respectively.

Measure of a limited number of characteristics of adult participators revealed the following. Over 40 per cent of the participators were in the 30-44 year age group, with a falling off in number steeply, but symmetrically, on each side of this group. The retired group, 60-74, managed only a participation rate of 2.8 per cent. As to education, the percentage of the total population participating increased directly as formal school attainment increased. The "functionally illiterate" had 1.4 per cent participation rate while 25.5 per cent of those with four or more years of college were involved. Finally, professional technical groups and clerical sales groups led the list of participators and farmers, farm managers, and laborers trailed when occupations were examined.¹

Several comments may be made on this survey. As the author

¹John B. Holden, "A Survey of Participation in Adult Education Classes," Adult Leadership, VI (April, 1958).

points out, it is a start in the direction of developing a scientific measure of the adult education population, and certainly suggests a limited and selected participation at the present time. However, because of the definitions and methods used, the reliability of some of the figures is open to question. Finally, it can be said that no attempt was made here to examine psychological or personality characteristics of adult participators except as they may be deduced from some of the categories established.

Holden's concluding sentence is interesting even if it may be debatable. "If adult education is to help meet the challenge of the present and foreseeable future, we should have more complete statistics on adult education on the local, state, and national levels classified by personal, social, and economic factors which might be made available only through the decennial Census."¹

George M. Beal, writing in 1956, stresses the inadequacy of mere measurement of age, class, and income categories usually considered in studies of participation. He suggests more attention to "dynamic factors." By "dynamic factors" he refers to having a say in decision-making in the group and to a feeling of responsibility for group action and group values.² This is felt to be a step ahead but, nevertheless, measurable personality factors associated with decision-making, behavior, and feelings of responsibility should not be neglected.

Emory J. Brown in 1954 explored the hypotheses that: (1) differen-

¹Ibid., p. 270.

²George M. Beal, "Additional Hypotheses on Participation Research," Rural Sociology, XXI, No. 1-4 (1956), p. 249.

tial formal participation patterns are associated with positions in the community social structure; (2) differential formal participation patterns are associated with ecological factors and means of communication; (3) differential participation patterns are associated with self images; and (4) differential participation patterns are associated with varying "other" images of the community. The study claims that each hypothesis was supported by the facts.

With respect to the "self image" hypothesis, two traits were examined. These were a feeling of being at ease in social groups and the image of self as a participator. Those who both were at ease and who considered themselves participators were judged to be the participators by the researchers. Finally, certain expectancies of the community, as, for example, the expectancy that farm owners would make better participators, were a barrier which would have to be broken before full participation could be expected.¹

Roy C. Buck and Louis A. Ploch approached the subject of adult social participation by considering change in participation over a period from 1937 to 1949. Certain interesting results include the finding that heads of households tended to participate more in the latter years. This was accompanied by an increase in the mean socioeconomic status of all household heads during this period, and so agrees with other related research. It was found that younger rather than older age was associated with participation. In both survey years

¹Emory J. Brown, Elements Associated with Activity and Inactivity in Rural Organizations, Bulletin 574, University Park: Pennsylvania State University Agricultural Experiment Station, February, 1954.

church affiliation was found to be related to participation. Finally, both short and long term residence in the community were related to low participation, but this was more pronounced in 1949 than in 1937.¹

Harold Kaufman's study of 1949 of participation in group activities in Kentucky is another study in a limited area which may be of value in Kentucky, but which seems only to confirm other research and offers no new broad generalizations. Kaufman notes a large number of people who lacked organized contact. He finds a great difference of participation among various socio-economic classes. Finally, he finds a concentration of leadership among those with high participation rates.²

W. A. Anderson described a research in 1953, related to rural social participation and the family life cycle. In this study a definite relationship was found between each of the six stages into which a family life cycle can be divided and formal and informal participation.³ Again, this tends to be a description of surface characteristics and yields essentially the same conclusions so often found in participation studies. For example, owner husbands and wives participate more than tenant-laborer husbands and wives. Income increases in the post-child care

¹Roy C. Buck and Louis A. Ploch, Factors Related to Changes in Social Participation in a Rural Pennsylvania Community, Bulletin 582, Pennsylvania State College: Pennsylvania State University Agricultural Experiment Station, 1954, p. 29.

²Harold F. Kaufman, Participation in Organized Activities in Selected Kentucky Localities, Bulletin 528, Lexington: University of Kentucky Agricultural Experiment Station, 1949.

³W. A. Anderson, Rural Social Participation and the Family Life Cycle, Part I: Formal Participation, Memoire 314, Ithaca, New York: Cornell University Agricultural Experiment Station, 1953.

years, and so does participation, but this study does not suggest a casual relationship.¹

A second study by W. A. Anderson, also in 1953, on the same subject, in another part of New York, verified the findings of the first.²

A study which would appear from its title to approach the hypotheses suggested in the present study is, "A Psychological Description of Adults Who Have Participated in Selected Educational Activities" by Stephen R. Deane. Deane stated no hypotheses and professed to be exploratory. Three groups of participators were interviewed with respect to their attitudes toward their adult education experiences and life in general. Deane was interested in possible attitudinal differences among the three groups and between the group of the participators who finished the courses and the group which did not. He used open-ended questions and allowed each respondent thirty minutes in a personal interview situation. The three groups of participators were from: (1) the Great Books program, (2) non-credit evening classes at Baltimore City College, (3) college credit students from the University of Maryland. A total of two hundred sixty-four students were eventually reached. The questionnaire included forty-five questions. The author found statistically significant differences on twenty-three items. These included, for example, "How often do you actively seek competition with other groups?"

¹Ibid., p. 52.

²W. A. Anderson, Rural Social Participation and the Family Life Cycle, Part II: Informal Participation, Memoire 318, Ithaca, New York: Cornell University Agricultural Experiment Station, 1953.

and 'How did your parents feel about your choice of vocation and educational plans?'¹

William G. Mather and his staff in 1940 made a door-to-door canvass of three hundred eighty-five households in Franklin, Indiana, to determine the organizational affiliation of the adult section of the population and to relate it to income.² He concluded that: "The implications of these findings are not pleasant for the lover of democracy."³ Further, with certain minor qualifications, he wrote: ". . . these findings indicate that 65 per cent of the 6,264 people living in this typical farmers' town are rather completely dominated in their recreation, politics, religion, patriotism, culture,—every phase of their organized living—by the remaining 35 per cent."⁴ The 35 per cent were those people in the higher income groups.

F. Stuart Chapin wrote in 1939 of social intelligence as opposed to abstract intelligence. By social intelligence he meant the ability to get along with people. He stated: "We concluded that a measure of overt social participation in the organized groups and institutions of the community is itself a rough measure of social intelligence and may be a useful supplement to the existing scales of social intelligence

¹Stephen R. Deane, "A Psychological Description of Adults Who Have Participated in Selected Activities" (unpublished Ph. D. dissertation, University of Maryland, 1949).

²William G. Mather, "Income and Social Participation," American Sociological Review, VI, No. 3 (June, 1941).

³Ibid., p. 382

⁴Ibid.

which depend on the measurement of attitude and feeling, rather than upon observable total overt behavior."¹

A finding upon participation stressed in the work of Alvin H. Scaff in 1952, is summarized as follows:

Without any conscious effort to be exclusive, the organizations in the community are highly selective of the educational and professional groups. High participation scores are thus made by these groups; the lowest participation scores by the poorer educated and employees in industry.²

Other general conclusions of the Scaff study relating to commuting and participation are quite remote from the current topic.

An interesting study in social participation was undertaken by John M. Foskett in 1954. Using two hundred sixty adults and a scale 'measuring overt behavior such as voting in elections; discussion of educational, governmental, and civic affairs, with members of one's family, friends and officials; and membership in organizations,"³ Foskett concluded:

It may be assumed . . . that to attribute participation as measured here directly to the effect of education, income or age, or even a combination of these items, would be too easy an explanation. It is generally recognized that traits such as these considered do not operate directly but are part of a wider complex of circumstances . . . One possible approach would be to draw upon role behavior theory as a theoretical framework for analysis. The basic proposition in role behavior theory is that social behavior is primarily learned behavior and is a function of the position the individual occupies in the social system.⁴

¹F. Stuart Chapin, "Social Participation and Social Intelligence," American Sociological Review, IV, No. 2 (April, 1939), p. 165.

²Alvin H. Scaff, "The Effect of Commuting on Participation in Community Organizations," American Sociological Review, XVII, No. 2 (April, 1952), p. 220.

³John M. Foskett, "Social Structure and Social Participation," American Sociological Review, XX, No. 4 (August, 1955), p. 432.

⁴*Ibid.*, p. 437.

Foskett summarized by writing that people in different classes may or may not be expected to participate in various ways; may or may not benefit from participation; and, finally, may or may not be qualified to participate. This, then, throws the question of participation as related to personality factors back to the personality factors basic to social class determination.¹

John C. Scott in 1957 attempted to determine the extent of participation of Americans in voluntary associations and to relate this to certain other of their characteristics.² He concluded:

The ideal voluntary association member in this community might be characterized as a forty-five year old married man who is a Protestant, a non-manual worker and possibly a son of native born parents; who has two children, a college education, fifty or more 'friends', his own home which is no more than the third house in which he has lived since he came to the community less than eleven years ago; and who participates as a member only in a fraternal association, which he attends approximately twice a month, which costs him twenty-three dollars a year and of which he has been a member for ten years.³

This research again seems to support the relationship between participation and education and socio-economic position. A one new idea seems to be in the religious factor.

Wendell Bell and Maryanne T. Force studied participation in formal associations in San Francisco in 1953. They produced the conclusions that education and socio-economic position relate to participation. Aside from this, they found a notable lack of correlation

¹Ibid., p. 438.

²John C. Scott, 'Membership and Participation in Voluntary Association,' American Sociological Review, XXII, No. 3 (June, 1957).

³Ibid., p. 325.

between family status and participation. Further, they discovered an increasing participation with age in high income groups, but no such trend in lower income groups.¹

William M. Evan wrote in 1957 with respect to participation that three things to be considered in such a study should be: (1) decision making by the rank and file, (2) activity of the rank and file, and (3) value commitment or acceptance, again by the rank and file, of goals and values of the group. Evan felt that enough has been done with studies that deal with familiar social categories of class, religion, nativity, sex, and age, and more should be done with the "why" and "what of it."²

Philip Taiezt and Olaf F. Larson studied in 1947-1948, in connection with a major research project of Cornell University, social participation with respect to old age. Conclusions drawn included:

(1) Low socio-economic status and retirement combine to produce low participation in formal organizations among aged male household heads in rural communities; (2) retirement produces a change in the pattern of participation through a shift in emphasis from occupational oriented activities to activities which provide sociability and face-to-face group satisfactions; and (3) advanced age bring about less of a reduction in participation than either low socio-economic status or retirement.³

It is interesting to note here that it was not old age itself that

¹Wendell Bell and Maryanne T. Force, "Urban Neighborhood Types and Participation in Formal Associations," American Sociological Review, XXI, No. 1 (February, 1956), p. 33.

²William M. Evan, "Dimensions of Participation in Voluntary Association," Social Forces, XXXVI, No. 2 (December, 1957).

³Philip Taiezt and Olaf F. Larson, "Social Participation and Old Age," Rural Sociology, XXI, No. 1-4 (December, 1956), p. 229.

produced non-participation, but situations which often accompanied old age and which would result in low participation at any age.

Hester Chadderdon and Mary S. Lyle investigated reasons given by Iowa women for attending homemaking classes for adults in 1955. This was accomplished by presenting a questionnaire to the women in the adult classes. Reasons for attending adult classes included a strong desire for new ideas and skills which would help the women participating directly in their problems, especially problems in the home. A surprising, but common, reason for attending was a desire to help the adult education program by their attendance. A side light on the attitude of these women was their tendency to prefer passive rather than active roles in the classes.¹

The only study found which was planned to show relationships between participation and personality factors is by Herbert Goldhamer, written in 1942. This study relates age and education with participation, and, in a sub-portion of the study, relates neuroticism as measured in the Thurstone Inventory. Conclusions reached were: (1) 30 per cent of the men and 40 per cent of the women responding listed no affiliations at all; (2) age and associational participation were inversely related in the early years of the age range studied and directly related in the later years; (3) participation in voluntary associations varied directly with education for adults; (4) membership frequency varied inversely with total neurotic score.

¹Hester Chadderdon and Mary S. Lyle, Reasons Given by Iowa Women for Attending Homemaking Classes for Adults, Special Report No. 12, Ames, Iowa: Iowa State College Agricultural Experiment Station, June, 1955.

The conclusion reached should be qualified because of the procedures used. No attempt was made to secure a statistically random sample, and so conclusions cannot be generalized beyond the group selected. A one-page questionnaire was used in addition to the Thurstone Inventory.

The study is of interest because it considers participation in some depth. It not only asked whether or not the respondent joined an organized group, but also asked about his frequency of attending, his holding of a position of responsibility, his financial contributions, and the nature of the group.

A list of non-personality factors which Goldhamer proposes as relevant to this type of study, but which he felt he could not include in his one-page questionnaire, parallels almost exactly the non-personality factors examined in the current study.¹

Literature that is related directly to measurement of personality factors of adults participating in adult education courses is limited in quantity. The majority of studies of adult participators have dealt with factors which are termed in this paper non-personality factors. They have considered, to a large extent, age, socio-economic position, extent of all kinds of participation and education, more than any other factors. They, with a few exceptions, have agreed that a typical participator is a somewhat older person, but not retired; he is in higher socio-economic level; he has a broad participation pattern; and is better educated than the non-participator.

¹Herbert Goldhamer, "Participation in Voluntary Association" (unpublished Ph. D. dissertation, Department of Sociology, University of Chicago, 1942).

Several of the authors quoted have advocated measurements of more "dynamic" qualities and a more careful attention to the relationships between all factors of personality, non-personality factors, and cultural and environmental factors in general. This is seen to be a logical development, but complicated. It is not surprising that almost nothing has been done in an effort to measure these qualities in participants in adult education projects.

CHAPTER III

METHOD OF INVESTIGATION

The Instruments of Measurement

1. The Sixteen Personality Factor Questionnaire

In order to measure the personality factors of a group of women who have participated in adult education activities and of a group of women who have never participated, it was necessary to select a suitable questionnaire. The questionnaire had to be an established instrument, accepted by workers in the field of personality testing. It had to be of sufficient length to cover all possible personality areas. Yet, it had to be short enough to be administered in the time it was felt could be asked of the women responding, which was about one hour. It had to be accompanied by sufficient descriptive material to enable the investigator to judge its reliability, validity, and general design. The questionnaire had to be suitable for adults, and, in particular, non-college women, which was the expected population.

There were on the market several psychological questionnaires which, though not strictly designed for the use which this study proposed, were designed for adults and for measuring personality differences. Among these questionnaires were: L. L. Thurstone, Temperament Schedule (Chicago: Science Research Associates, 1949-1953); J. P. Guilford and Carle C. Zimmerman, Temperament Survey (Beverly Hills, California: Sheridan Supply Co., 1949); Leonard V. Gordon,

Gordon Personal Profile (Yonkers, New York: World Book Co., 1951-1953); C. Frederic Kuder, Kuder Preference Record-Personal, (Chicago: Science Research Associates, 1948); and R. B. Cattell, D. R. Saunders, and G. F. Stice, Sixteen Personality Factor Questionnaire (Champaign, Ill.: Institute for Personality Testing, 1950-1957). Literature related to these questionnaires was examined, and sample copies were ordered.

The Thurstone Temperament Schedule had much to recommend it. It received favorable comment from both Anastasi¹ and Traxler.² It had an easy-to-handle answer sheet. It seemed to have a large number of suitable items, yet, was short, requiring only about twenty minutes. Its methods of determining validity were most carefully described. A smaller number of items was used than was included in the questionnaire finally chosen. Since more time was available than twenty minutes, it seemed that, assuming equally well-devised questions, a questionnaire containing a greater number of questions would have greater chance of yielding meaningful results. Individual questions on the Thurstone questionnaire often involved references to boxing and hunting and other more masculine considerations, which would apply less well to the women to be measured. Finally, the Thurstone questionnaire contained no intelligence measure, which is an important element of personality, though a difficult one to measure rapidly.

The Guilford and Zimmerman questionnaire also appeared to be

¹Anastasi, Psychological Testing (New York: The MacMillan Co., 1954).

²Arthur Traxler, Techniques of Guidance (New York: Harper and Brothers, 1957).

a strong test from review in Anastasi¹ and Traxler.² However, it was not available until after a selection was made.

The Gordon Personal Profile was an exceptionally brief measure. The handbook was almost popular in style. The personality factors numbered only four, cautiousness, original thinking, personal relations, and vigor. The description of these traits was much clearer than the descriptions in the Cattell questionnaire chosen. The question of validity was not thoroughly examined in the handbook supplied with this questionnaire. The questionnaire was designed for adults as were all the questionnaires considered. It seemed the major strengths in the Gordon Personal Profile were in simplicity and brevity rather than accurate measurement.

The Kuder Preference Record-Personal is a highly regarded scale. It contains a large number of items and an ingenious scoring device. It claims a means of identifying the falsifier. The aim of the questionnaire is to "identify types of personal and social activities"³ and relate these to vocational groupings. This was not directly the aim of the study at hand. While personality traits may be observable through behavior, it is assumed in this study that they are qualities of a person to some extent apart from, and responsible for, behavior. For example, a person may have intelligence and not act in an intelligent fashion. The vocational emphasis also is not of particular value

¹Anastasi.

²Traxler.

³G. Frederic Kuder, Examiner Manual for the Kuder Preference Record-Personal (Chicago: Science Research Associates, 1953), p. 3.

in this study. The Kuder areas of concern are: (A) preference for being active in groups; (B) preference for familiar and stable situations; (C) preference for working with ideas; (D) preference for avoiding conflict; and (E) preference for directing or influencing others.

Of the questionnaires examined, the Sixteen Personality Factor Questionnaire seemed best for use in this study for several reasons. First, the division of personality into sixteen factors would tend to cover the area more fully than would fewer divisions. Cattell wrote in 1957: "The busy psychometrist may sometimes feel that 16 sub-scores is a lot, but if such is the real complexity of human nature, and if, as studies show, the majority of these personality characteristics are involved in most criterion predictions, a much better multiple correlation is to be obtained by respecting the complexity than by indulging in a fools' paradise of over simplification."¹ Further "intelligence" is omitted as a personality factor in other questionnaires studied. This is seen to be a serious omission. It is felt that for intelligence there are much better measuring instruments than are provided by this small section of one questionnaire. But as an indication of the comparative intelligence level of two specific groups it is adequate, granting an author claimed reliability of .86 and a validity of .80 or .93 depending on the method of figuring.² There is some question, both from Anastasi and from those with whom the researcher has discussed

¹R. B. Cattell, D. R. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Ill., Institute for Personality and Ability Testing, 1957).

²Ibid.

the test, as to suitability of the language used in describing personality characteristics. This difficulty was greater in early editions of the Handbook for the Sixteen Personality Factor Questionnaire. The author writes he has used ". . . the technical names used by the professional psychologist based on the discussion of scientific meaning of the factors . . . e.g., cyclothymia - vs schizothymia, for Factor A; ego strength - vs - neuroticism for Factor C; and simpler descriptive labels for use in communicating with the lay public, e.g., warm, outgoing - vs - stiff, aloof, for factor A; and stable mature - vs - emotional, ill--balanced for factor C."¹

Another group of features of the Sixteen Personality Factor Questionnaire in its favor is associated with the questions themselves. First, there is a comparatively large number of questions, over twice as many as in Gordon's questionnaire. Further, they seem to apply better to the group of women under study since there are few questions that would invite the response, "These do not have anything to do with me." And, finally, the language used is understandable.

Reliability for this questionnaire is indicated by Table 1 on the following page. Because this study used only form A, a lower reliability would be expected. Cattell further states, "Since it is desirable that the 16 P.F. have a good range and discriminate, for example, among clinical cases as well as in industry and college, we have not aimed at the artificially high reliabilities to which some handbooks accustom their readers."²

¹Ibid., p. 2

²Ibid., p. 3

TABLE 1

RELIABILITY (CONSISTENCY: SPLIT HALF) COEFFICIENTS FOR FACTOR
MEASUREMENTS ON BATTERY LENGTH: FORM A PLUS FORM B^a

Factor	Reliability Coefficient
A	0.90
B	.86
C	.93
E	.91
F	.84
G	.85
H	.83
I	.76
L	.77
M	.88
N	.79
O	.85
Q ₁	.71
Q ₂	.79
Q ₃	.76
Q ₄	0.88

^aTable taken from R. B. Cattell, D. R. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Ill., Institute for Personality and Ability Testing, 1957), p. 4.

As to validity, the author stated:

The concept validities of the 16 factor scales can be calculated in two ways: (1) From the known factor loadings of the items on the factors, in the original researches, according to the formula for combining items (26). This gives a mean validity for the A and B forms of the test as follows:

TABLE 2

VALIDITIES, ESTIMATED FROM LOADINGS
(A AND B FORMS TOGETHER)^a

A	0.88
B	.80
C	.76
E	.82
F	.91
G	.85
H	.96
I	.84
L	.89
M	.74
N	.73
O	.91
Q ₁	.74
Q ₂	.81
Q ₃	.92
Q ₄	0.96

^aIbid., p. 4.

(2) From the split half reliability of the factor, assuming that the items have no "specifics" in common but only the common factor, when $\text{validity} = \sqrt{\text{reliability}}$. This yields validities of:¹

TABLE 3

VALIDITIES, ESTIMATED FROM CORRELATION OF TWO FACTOR HALVES
(A AND B FORMS TOGETHER)^b

A	0.95
B	.93
C	.96
E	.95
F	.92
G	.92
H	.91
I	.87
L	.88
M	.94
N	.89
O	.92
Q ₁	.84
Q ₂	.89
Q ₃	.87
Q ₄	0.94

^bIbid., p. 4.

¹Ibid., p.4.

Again, Form A alone would tend to have lower validity coefficients. Traxler believes these validity findings may be open to question.¹ He believes they may be properly determined, but the handbook description of their determination is inadequate. However, he does not feel the question is serious.

Anastasi feels that Cattell's questionnaire is not well supported by the accompanying handbook, and, further, that some of the trait names and other terms are unclear.² She, however, was writing in 1954. Since 1954 an article by Cattell, published in the Journal of Clinical Psychology³ and a revised Handbook for the Sixteen Personality Factor Questionnaire, would make less applicable her criticism.⁴

Finally, a group of miscellaneous desirable features of Cattell's questionnaire include an estimated time of forty minutes for administering, which was believed about right in light of methods to be followed. Also, the test has published norms especially for non-college women which provide a valuable comparison with samples to be used. Age corrections are available if needed. Although no built-in lie detector is proved for Form A, rapport was expected with group to be tested and so this was not important.

¹Traxler.

²Anne Anastasi, Psychological Testing (New York: The Macmillan Co., 1954), pp. 540-541.

³R. B. Cattell, "Validation and Intensification of the Sixteen Personality Factor Questionnaire," Journal of Clinical Psychology, XII (1956), pp. 205-214.

⁴Cattell, Handbook (revised ed., 1957).



Cattell, in the Journal of Clinical Psychology, in July, 1956, wrote that: "The Sixteen Personality Factor Questionnaire . . . has been in use seven years. During that time it has been translated for use in eight countries."¹ In this article Cattell also explains the validation factor analyses and research basis that makes, in his opinion, a suitable measure of adult personality.

The personality factors considered in Cattell's questionnaire are shown in Table 4.

TABLE 4

CONTINUUM REPRESENTATION OF PERSONALITY FACTORS

Factor	Continuum
A	Aloof, cold Warm, sociable
B	Dull, low capacity Bright, intelligent
C	Emotional, unstable Mature, calm
E	Submissive, mild Dominant, aggressive
F	Glum, silent Enthusiastic, talkative
G	Casual, undependable .. Conscientious, persistent
H	Timid, shy Adventurous, "thick skinned"
I	Tough, realistic Sensitive, effeminate
L	Trustful, adaptable Suspecting, jealous
M	Conventional, practical ... Bohemian, unconcerned
N	Simple, awkward Sophisticated, polished
O	Confident, unshakable Insecure, anxious
Q ₁	Conservative, accepting..Experimenting, critical

¹Cattell, "Validation and Intensification . . .," XII, p. 205.

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TABLE 4--Continued.*

Factor	Continuum
Q ₂	Dependent, imitative ... Self-sufficient, resourceful
Q ₃	Lax, unsure, Controlled, exact
Q ₄	Phlegmatic, composed Tense, excitable

*Cattell, Handbook . . . (1957), pp. 11-19.

On page 140 of the Appendix is a copy of Cattell's Sixteen Personality Factor Questionnaire used in this survey.

2. The "Adult Education Interview Sheet"

The second instrument used was a fact sheet and questionnaire designed by this researcher to reveal a number of non-personality areas in the two groups to be examined. By non-personality factors are meant factors not included in Cattell's list of personality factors. The questions on this sheet could be grouped under the following eleven headings. The numbers appearing below the headings are the numbers of the questions on the "Adult Education Interview Sheet" which pertain to that heading.

1. Age
10
2. Familiarity with adult program.
15, 16
3. Extent of participation in adult classes.
1, 2, 3, 4, 17
4. Extent of participation in other out-of-home activities.
30, 31, 32, 33, 39, 35, 36
5. Socio-economic position.
13, 18, 19, 20

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. The text outlines various methods for organizing and storing data, including digital databases and physical filing systems. It also mentions the need for regular audits and reviews to ensure the integrity of the information.

2. The second part of the document focuses on the role of communication in achieving organizational goals. It highlights the importance of clear and concise communication, both internally and externally. The text provides guidelines for effective communication, such as using appropriate language, being open to feedback, and ensuring that all team members are informed and aligned. It also discusses the benefits of regular communication, such as improved collaboration and faster problem-solving.

3. The third part of the document addresses the challenges of managing a large and diverse team. It acknowledges that managing a large team can be a complex task, requiring strong leadership skills and effective delegation. The text offers strategies for managing a large team, including setting clear expectations, providing ongoing support and training, and fostering a positive team culture. It also mentions the importance of recognizing and rewarding team members for their contributions.

4. The fourth part of the document discusses the importance of innovation and creativity in driving organizational growth. It emphasizes that innovation is a key factor in staying competitive in a rapidly changing market. The text provides tips for fostering innovation, such as encouraging employees to think outside the box, providing resources for experimentation, and creating a supportive environment for risk-taking. It also mentions the importance of protecting intellectual property and seeking external funding for innovative projects.

5. The fifth part of the document concludes with a summary of the key points discussed throughout the document. It reiterates the importance of accurate record-keeping, effective communication, strong team management, and innovation. The text encourages readers to implement the strategies and guidelines provided in the document to achieve their organizational goals. It also mentions that the document is a living document and will be updated as new information and insights are gained.

6. Mobility
11, 12, 14
7. Conditions in the home.
22, 23, 24, 25, 26, 27, 28, 29
8. Education.
5, 6, 7, 8, 9
9. Health.
21
10. Religion.
37, 38
11. Political activity.
39, 40

A reason for including the interview sheet in this survey was that in these non-personality areas it had been hypothesized that fewer differences would be revealed between participators and non-participators. Also, it was reasoned that a knowledge of these non-personality areas would make more understandable the personality factor differences. On page 141 of the Appendix is a copy of the "Adult Education Interview Sheet."

The "Adult Education Survey Sheet" was pretested on six women chosen at random from the populations later sampled for the survey itself. A copy of the revised form of the "Adult Education Interview Sheet" is shown on page 141 of the Appendix.

The Sample

The sample was obtained from the class attendance lists for Sewing III in the Mott Adult Education Program of the Flint Board of Education for the year beginning September, 1958, and ending June, 1959. The names of four hundred thirty women were on these lists.

Initially, every fourth name was selected for the interview. The first fourth of the names selected did not produce the required one hundred pairs of women to be interviewed. Therefore, the class list was gone through again. This time the name preceding the one chosen the first time was selected. Of these a random selection was made which resulted in the number of women being chosen which is reported in the Chapter on Statistical Analysis of Data.

The sample of participators can be said, with minor qualifications, to be a random sample of the four hundred thirty women who had taken three semesters of sewing during the period specified. The non-participators who were chosen by the participators were an unknown fraction of the unknown total number of friends and neighbors of the participators who were willing to co-operate in this survey.

The Telephone Interview

Each woman was telephoned. The telephone call was typically as follows: "This is _____ of the Mott Program Adult Education staff. Is this the Mrs. _____ who has recently taken a class in sewing in the adult program"? If the answer was "yes," the conversation continued. "Have you a few minutes? I have a couple of questions I would like to ask you." Again, if "yes": "In co-operation with Michigan State University, we are conducting a study of people who are taking adult education classes, and, also, of people who are not taking adult education classes, with the purpose of securing information about these people which will eventually result in better adult classes. This study involves a questionnaire which will take about an hour of your

time. My first question is: 'Is it possible that you would let someone from our staff visit your house any time at your convenience and present this questionnaire to you?'" Again, if "yes," the interviewer would say: "That is very nice of you. However, before we set a date, I must ask you one more question. Is it possible that there is some other adult woman in your neighborhood who has never taken a so-called adult education class anywhere who might be willing to come to your home the same time you let us come to your home, and who would also fill out one of our questionnaires? You see, as I have said, we are trying to reach two kinds of people, those who have taken adult classes and those who have not taken adult classes; and, in this way, we can reach both kinds at the same time." At this point, it was expected the interviewer might encounter hesitancy. (In fact, the interviewee sometimes said that she did not know offhand who had not taken an adult education class who would be willing to be questioned. Most of her friends, she would say, had taken classes.) The interviewer would agree that this would be no easy job, and say, further, the only incentive that could be offered would be a letter presented to each interviewee which would entitle the holder to an adult education class of her choice without charge. (This letter seemed to make little difference in an interviewee's attitude. If she was reluctant before the letter was mentioned, she was reluctant afterward, as far as one could tell by her voice. The effectiveness of the letter offer cannot be determined. However, it was reasoned that the letter which would have a value up to eight dollars in class fees made possible some interviews which otherwise might have been lost.) The conversation concluded with: 'May I leave my telephone number and

name again, and, if you find someone who will join us, we would appreciate a call. Thus, no one was interviewed unless she, herself, called back.

The Home Interview

Members of the Mott Adult Education Program staff conducted the interviews. Over 90 per cent of the interviews were conducted by this researcher and one assistant. When more than two interviews were scheduled at the same time, other members of the staff helped.

The Sixteen Personality Factor Questionnaire was administered first. Instructions were given to the two women as directed in the Handbook. When one of the women finished, she was handed, without further direction, the "Adult Education Interview Sheet." There was no time limit on either questionnaire. The women were encouraged to ask any questions which might interest them.

The Procedure for Analysis of the Data

The data is of two types. First, there are scores on the Sixteen Personality Factor Questionnaire. Secondly, there are the responses on the "Adult Education Interview Sheet." The scores on the Sixteen Personality Factor Questionnaire were treated first.

The scores on the Sixteen Personality Factor Questionnaire were changed to sten scores and presented graphically, using superimposed graphs. In this way were compared the personality factor scores of the participators with the non-participators and with given norms. Also, Hotelling's T^2 characteristic was evaluated, using Mystic, so that a possible significant difference between participators and non-partici-

pators on the sixteen factors could be determined. The correlation factors of the differences of scores by pairs were developed in order to justify consideration of differences between means of individual factors. Finally, differences of means and means of differences by pairs were found for the separate factors, and the factors ranked in order of these differences.

The responses on the "Adult Education Interview Sheet" were examined. In all cases involving comparative statistical information, the sign test was applied, and the level of significance of the difference between participator and non-participator was determined. In a few of the areas, the difference of means also was examined to support evidence secured otherwise. Tables were used to present the information in almost all cases. Some of the information could only be tabulated. Graphs were used to emphasize skewed distributions.

The acceptable level of significance was the five per cent level. If differences existed at the one per cent level, this was noted. When differences of means were under consideration, this was noted at the ten per cent level.

CHAPTER IV

ANALYSES OF THE SURVEY DATA

Part A: Report on Results of Sixteen Personality Factor Questionnaire

This questionnaire was administered to two hundred twenty-eight women. One hundred fourteen of these women had enrolled in three sewing classes of the Mott Program of the Flint Board of Education. The other one hundred fourteen women were selected because they had never participated in any activity commonly known as adult education. The individual members of the first group of one hundred fourteen each chose one woman for the second group. The questionnaire was administered to the women two at a time, a sewing class participator and her selectee, in the home of the participator. Arrangements for administering the questionnaire were made by telephone.

Statistics relative to arranging for the interview are indicated in Table 5.

TABLE 5

STATISTICS RELATIVE TO ARRANGING FOR THE INTERVIEW

Kind of Statistic	Frequency
Number of women selected from class list for telephoning	163
Total number of home interviews held	228

TABLE 5--Continued

Kind of Statistic	Frequency
Total number of home interviews accepted as complete	202
Number of phone calls to which there was no answer initially	67
Number of selectees where no one answered the phone initially, but who were eventually reached	41
Number of selectees where no one answered initially but who were eventually reached and finally participated in the interview	36
Number of selectees who were not at home at initial phone call but were committed to call interviewer by person answering phone	18
Number of selectees who were not at home on initial phone call but were committed to call interviewer by person answering phone and did call as committed	4
Number of selectees who were not at home on initial phone call, were committed to call interviewer by person answering phone, who did not call back, but who were eventually reached after one or more recalls by interviewer.	8
Number of selectees who were not at home on initial phone call but who were eventually reached and finally participated in the interview	10
Number of selectees reached on first phone call	78
Number of selectees who were reached on first phone call who found a co-participator and actually participated in the interview	68
Number of all selectees who agreed to participate immediately on request	112
Number of selectees who agreed to participate but were slightly more reluctant to find a co-participator	35

TABLE 5--Continued

Kind of Statistic	Frequency
Number of selectees who immediately refused to participate	3
Number of selectees who agreed to try to find a co-participator but who found a co-participator only after interviewer phoned an additional one or more times	22
Average number of days waited by interviewer before recalling selectee who had agreed to find a co-participator but who was not calling back	3½
Number of selectees reached on first call who agreed to try to find a co-participator and called back as requested	69
Average number of days for selectee to call back ready with a co-participator	1½
Number of selectees who set up appointments on the phone but later changed or cancelled them . .	6
Percentage of all selectees who eventually participated in the interview and were accepted	62.0
Percentage of all selectees who did not answer the phone initially but who finally participated in the interview	62.3
Percentage of women reached by phone who eventually participated	87.0
Percentage of home interviews given which were acceptable	88.6
Percentage of home interviews out of total number of selectees	69.9
Total number of phone calls made by interviewer and selectees	609

In Table 5 some definitions should be noted. The word, "interviewer," refers to telephone interviewer who may or may not be the interviewer

making the call to the home with the questionnaire. The word, "co-participator," refers to women who submitted to the interview in the home and not to only the half of the women who had earlier enrolled in three sewing classes. The word, "selectee," refers to those women who were selected by the survey group from class lists to participate in the survey. These were all women who had taken three semesters of sewing. The word, "selectee," does not refer to those women who had never taken adult education classes, but who were chosen by the selectees as defined above.

Since the survey was conducted in July and August of 1959, an unusually large number of women would be expected to be on vacation. This was hoped to be offset by making recalls over a long enough period to enable the survey group to reach the women sought after their vacation ended. Most of those not reached initially were recalled regularly over a period of a month or more. However, those who received an initial call near the end of August were recalled only during a two-week period.

The fact that thirty-two or 19.7% of the women selected were not reached by telephone should be considered in evaluating the sample. The question is whether or not the inclusion of this group would have affected the results. If it can be assumed that this group might resemble to some degree those women who were not reached on the initial telephone call but did eventually participate, then it may be argued that to examine those who did participate but were hard to reach would throw light on the characteristics of those not reached at all.

Table 6 compares the means of the differences of scores on the

Sixteen Personality Factor Questionnaire of the group not answering the phone initially with the group which did answer initially. There were forty-one women in the hard-to-reach group and sixty women in the group which answered the first phone call.

TABLE 6

MEANS OF DIFFERENCES OF SCORES FOR TWO GROUPS TAKING
SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE

Personality Factor	Group Requiring Repeated Telephone Calls	Initially Responsive Group	Absolute Differences
A	-0.07	-0.15	0.08
B	.98	.56	.42
C	.10	.89	.79
E	.41	2.20	1.79
F	-1.29	- .20	1.09
G	- .17	.86	1.03
H	-1.46	1.02	2.48
I	- .24	.29	.53
L	- .29	- .60	.31
M	.27	.50	.23
N	- .71	- .41	.30
O	- .32	- .79	.47
Q ₁	.37	.02	.35
Q ₂	.17	- .10	.27
Q ₃	- .05	-1.67	1.62
Q ₄	-0.12	0.56	0.68

Considering a confidence region investigation which will be discussed later¹ and using as a region boundary the figure 1.31, it is seen from Table 6 that a significant difference at the 5% level between the two subgroups on any one factor is revealed possible, by this statistic, in factors E, H, and Q₃. Considering the approximate methods used and the smallness of the subgroups even this possibility is small, except in factor H. Table 6 suggests that the harder-to-reach groups paired in much the same fashion as the easier-to-reach groups with no certain differences between the two on any one factor.

Another way to consider the relationships between the responses of the hard-to-reach group and the group reached on the first telephone call is by observing the means of the two groups on each factor. These means are presented in Table 7.

TABLE 7
PERSONALITY FACTOR MEANS OF SUBGROUPS

Factor	Group Requiring Repeated Telephone Calls	Initially Responsive Group	Difference of Means
A	8.36	9.10	0.74
B	6.49	6.32	.17
C	14.44	15.53	1.09
E	11.39	12.43	1.09
F	11.71	12.45	.74
G	12.73	13.05	0.32

¹I. W. Anderson, An Introduction to Multivariate Statistical Analysis (New York: John Wiley and Sons, Inc., 1957), p. 24.

TABLE 7--Continued

Factor	Group Requiring Repeated Telephone Calls	Initially Responsive Group	Difference of Means
H	10.65	12.37	1.81
I	10.90	10.52	.38
L	8.07	7.42	.65
M	11.41	11.70	.29
N	8.70	8.83	.13
O	11.41	10.53	.88
Q ₁	8.24	8.15	.09
Q ₂	9.98	8.77	1.21
Q ₃	10.24	8.73	1.51
Q ₄	14.12	13.53	0.59

Examining the differences of the means, we find that the difference of means for factors H and Q₃ are largest and, further, prove to be significantly different at the 5% level.¹ This could indicate that individuals in the hard-to-reach group are more adventurous and, therefore, not at home as much. It could indicate that the hard-to-reach group is less controlled or lax. Finally, it may reflect the fact that a small sample is not as reliable as a larger sample chosen in the same manner.

There were also nineteen women reached who were unable or

¹Margaret Jarman Hagood and Daniel O. Price, Statistics for Sociologists (New York: Henry Holt and Co., 1952), p. 323.

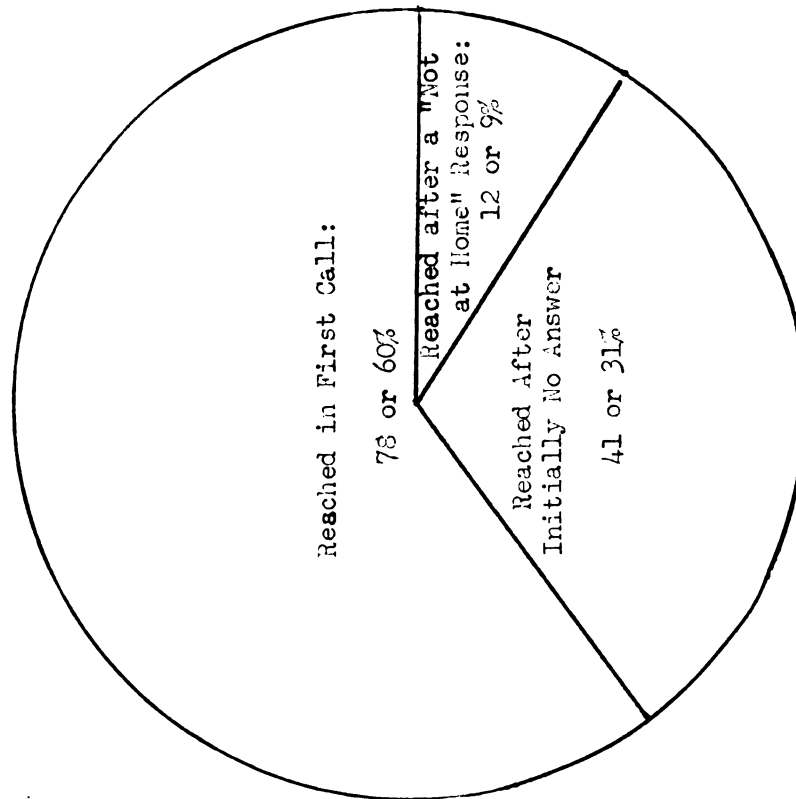
unwilling to participate. Some of these may have had personality factors quite different from those who co-operated. Of the three who refused immediately to consider the interview, two were quite unpleasant and suspicious. However, of the three major reasons given for non-participation, the first was illness--often pregnancy; the second largest number pleaded about-to-leave-on-vacation or to make a major family move which left them no time and house in no condition to receive an interviewer. The last major reason given for not participating was newness in the neighborhood or other reason for being unable to find a second woman in the neighborhood who had not ever participated in an adult education activity. The effect of the loss of these nineteen women to the survey is unknown. The results can only be properly interpreted when qualified by this situation.

Some of the major results of Table 7 are presented in Graph 1 and Graph 2.

Graphs 1 and 2 show that those more difficult to reach contributed a share of participators equal to their percentage of the total number participating. That is, 40% of all people reached were hard to reach but when finally contacted contributed 40% of the participators.

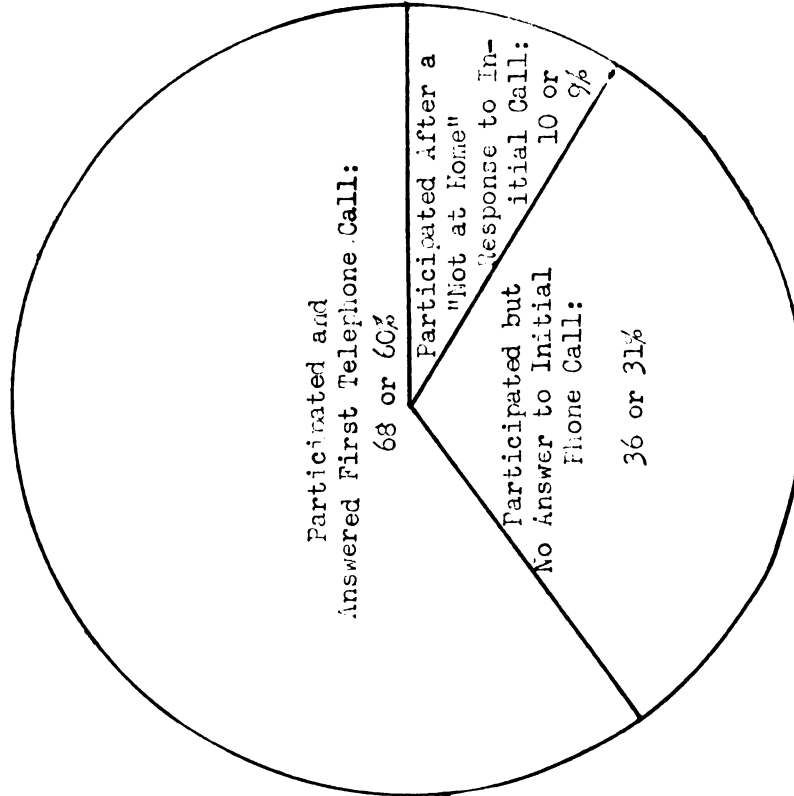
GRAPH 1

GROUPS OF SELECTERS REACHED AS A PERCENTAGE
OF TOTAL NUMBER REACHED BY TELEPHONE



GRAPH 2

GROUPS OF SELECTERS PARTICIPATING
AS A PERCENTAGE OF TOTAL NUMBER
PARTICIPATING



Elements of the response of the women to the interview in the home itself is indicated in Table 8. Several observations could be made with respect to Table 8. In all of the cases where the non-class person was not available when the interviewer visited the home, the interview was salvaged either by waiting or by rescheduling the interview. Whenever a wrong person was chosen by the selectee, the interview proceeded on schedule and the scholarship was given, even though it was quite obvious that the interview sheet would be useless for survey purposes. It was thought this was time well spent from the point of view of public relations. The two women who filled in the questionnaire, even though they did not appear to want to, were poorly briefed by the selectee who picked them and had, in both cases, a wrong idea of time involved and purposes.

TABLE 8

RESPONSE OF WOMEN TO HOME INTERVIEW

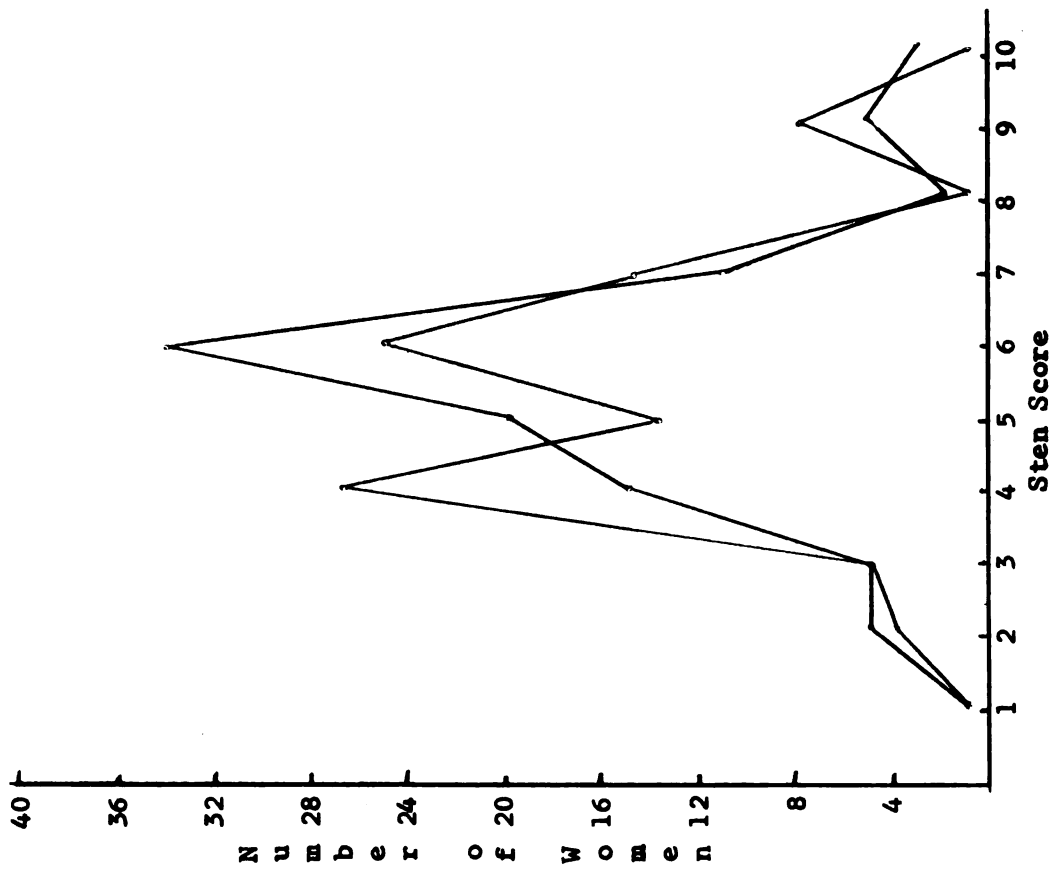
Response	Frequency
Number of selectees who were not at home when interviewer called at the home even though appointment had been made	1
Number of selectees who did not have a non-class participator available when interviewer called at the home	3
Number of selectees who could not read questionnaire	2
Number of selectees who had chosen as co-participator a person who had been involved in adult education	6
Number of selectees who did not satisfactorily complete questionnaire	3
Number of selectees who filled in questionnaire but seemed to have objection to doing it	2

The results of applying the Sixteen Personality Factor Questionnaire to the two groups of women are contained in the following sixteen graphs. The scores used are sten scores obtainable from raw scores from a table supplied by R. B. Cattell, D. R. Saunders and G. Stice, authors of the Sixteen Personality Factor Questionnaire.¹ The red line is the graph of the participator. The black line is the graph of the non-participator.

¹See Appendix. Page 147 contains the table used in converting raw scores to sten scores.

GRAPH III

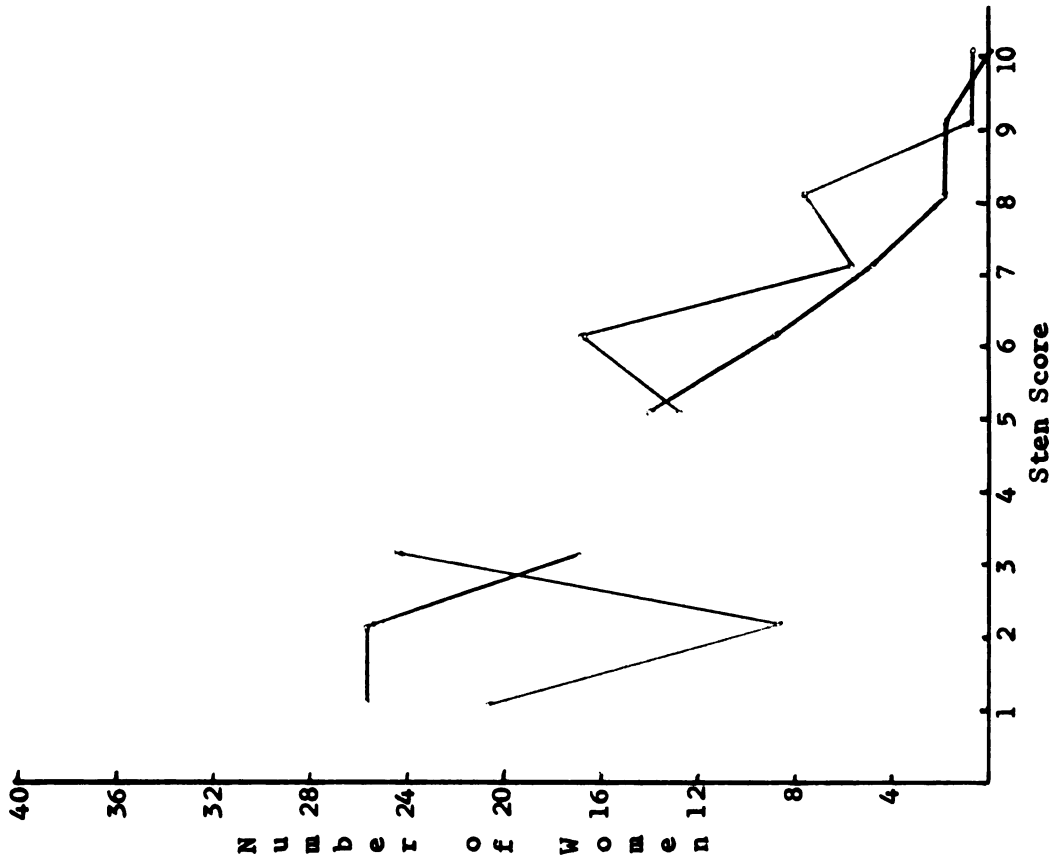
Red --- Participant
 Black --- Non-Participant



FACTOR A

GRAPH IV

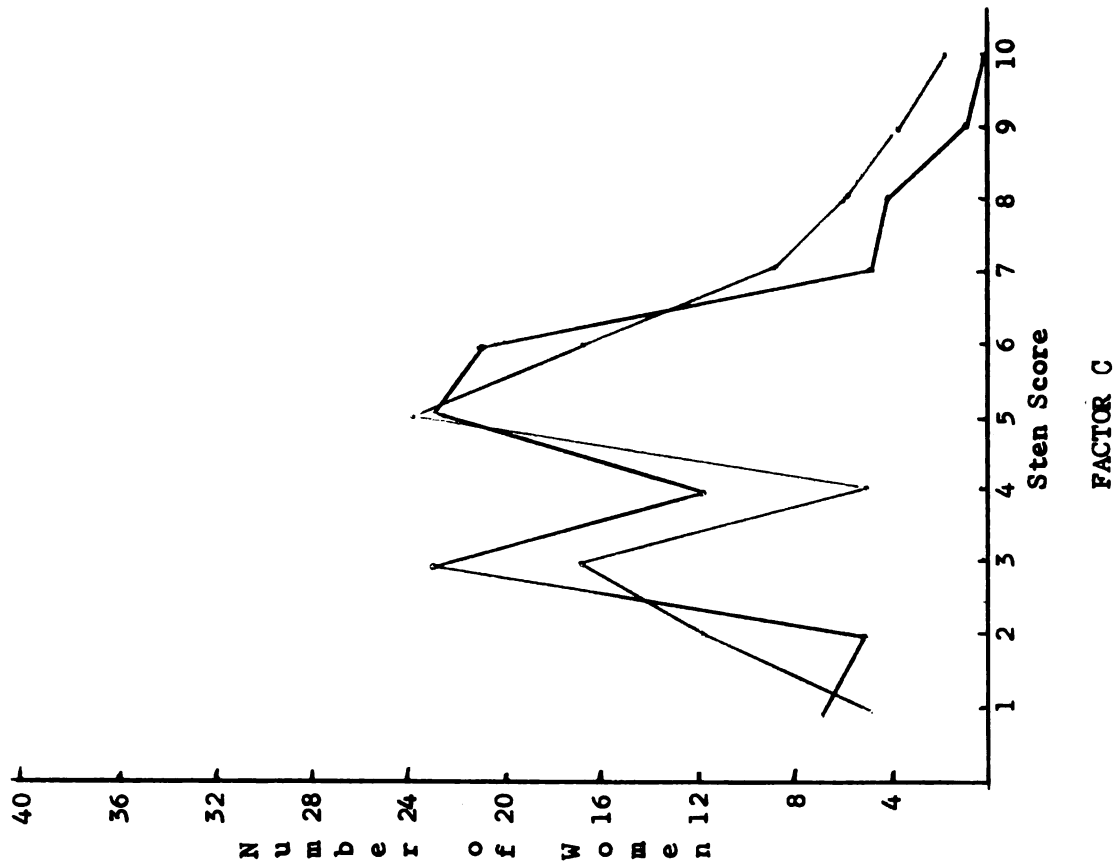
Red --- Participant
 Black --- Non-Participant



FACTOR B

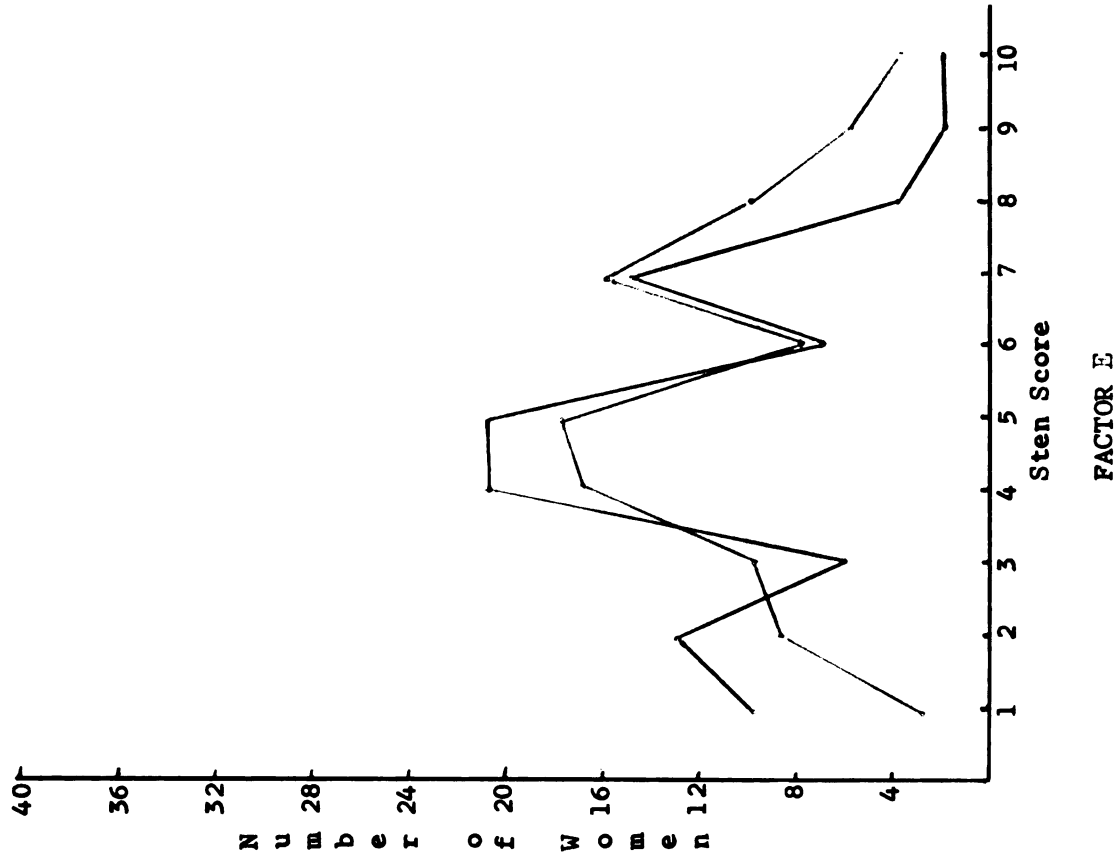
GRAPH V

Red --- Participant
Black -- Non-Participant



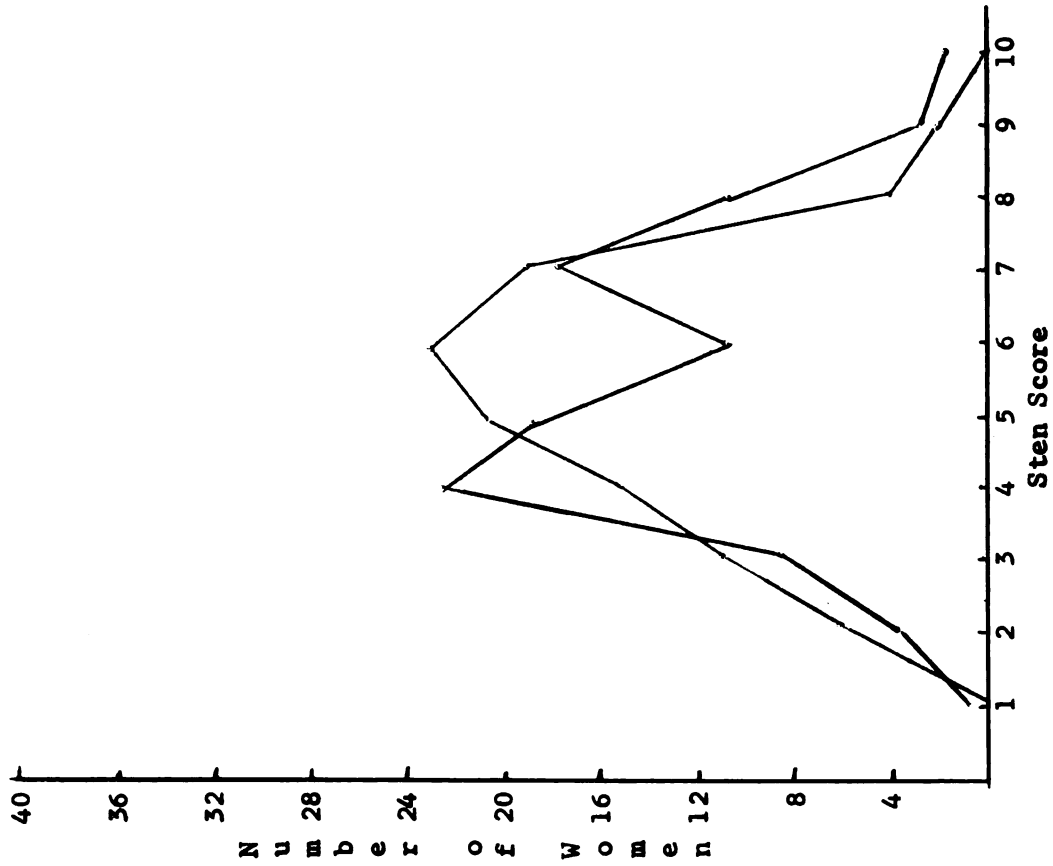
GRAPH VI

Red --- Participant
Black -- Non-Participant



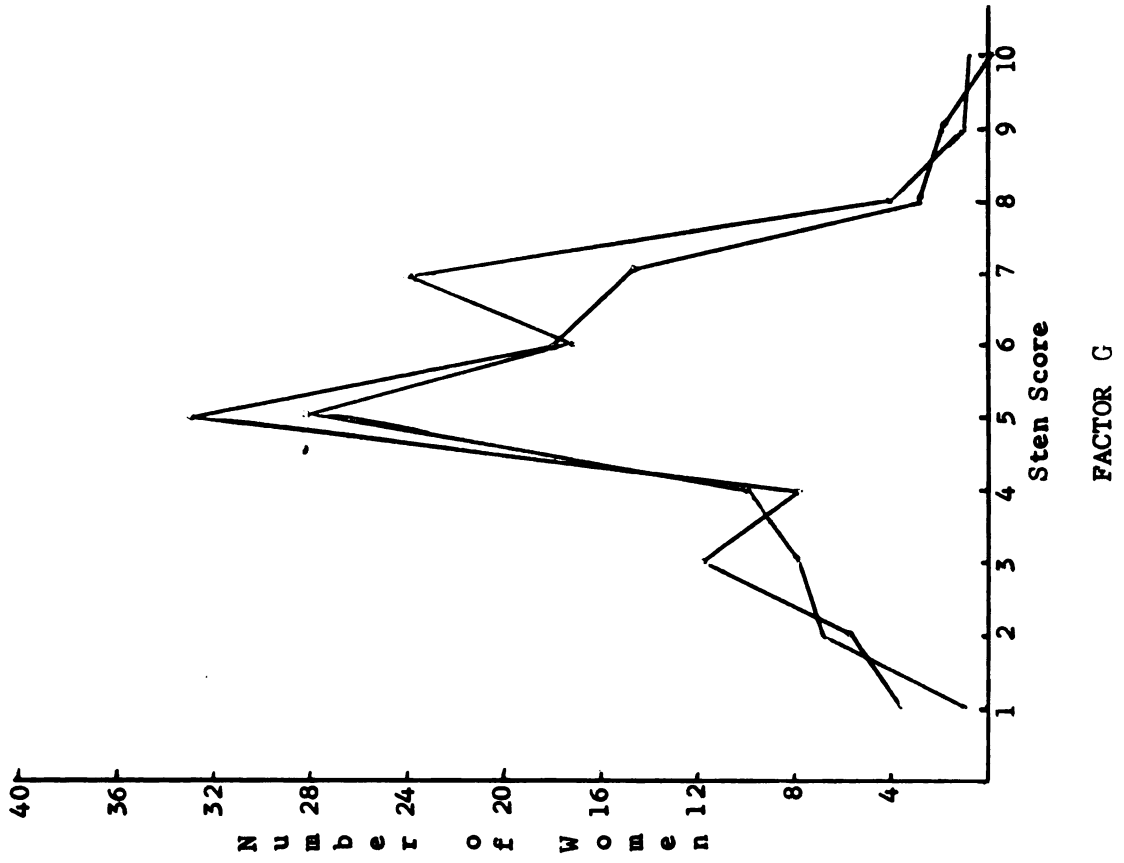
GRAPH VII

Red --- Participant
Black --- Non-Participant



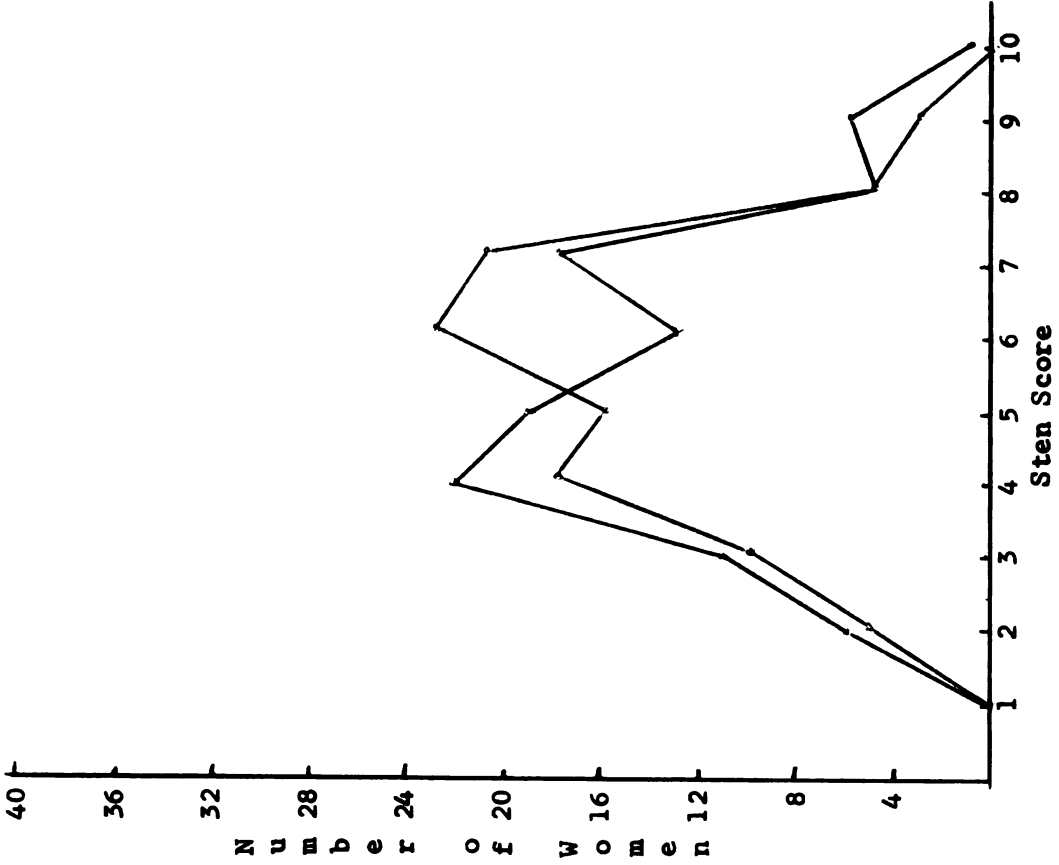
GRAPH VIII

Red --- Participant
Black --- Non-Participant



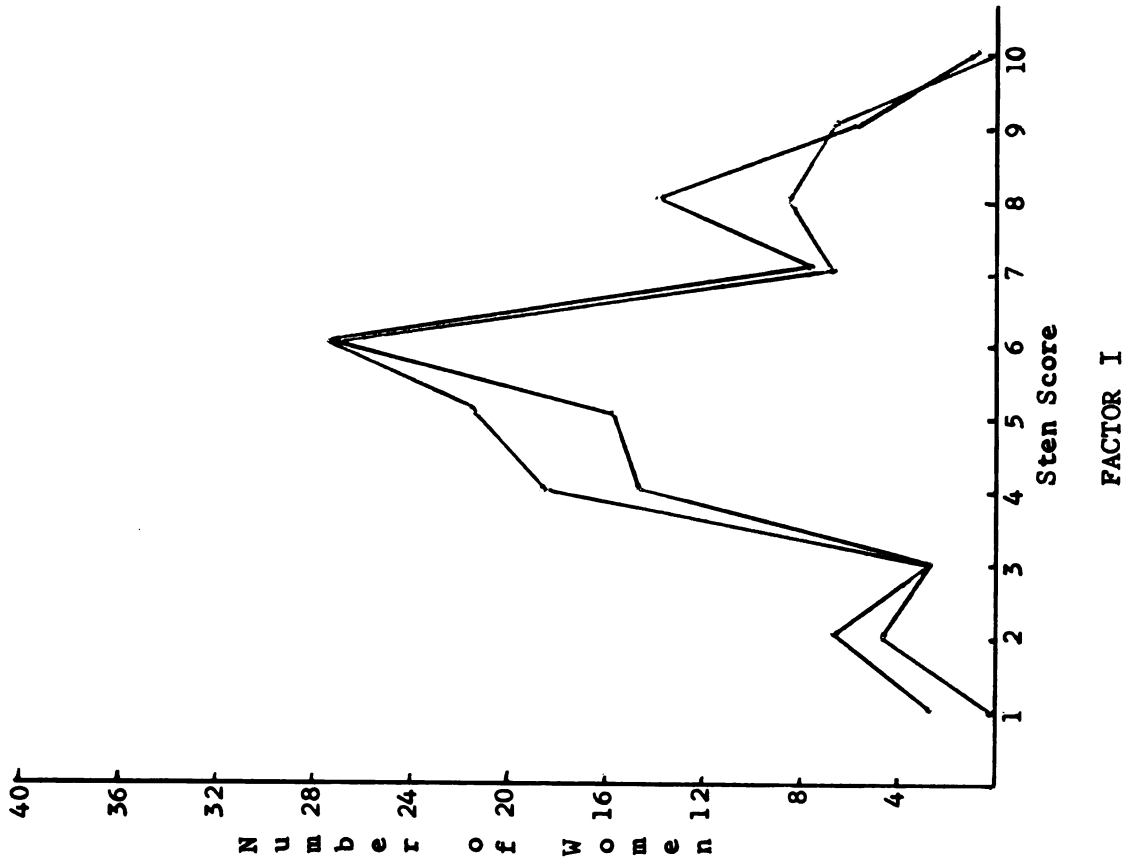
GRAPH IX

Red --- Participant
Black -- Non-Participant



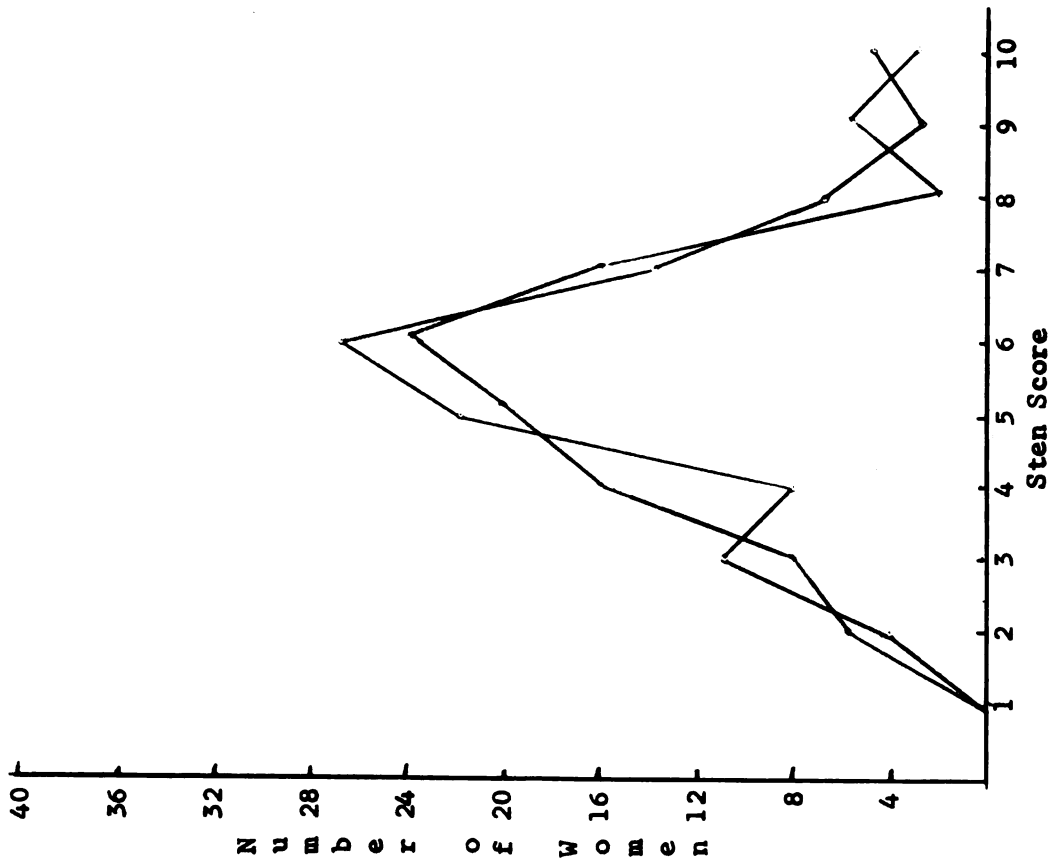
GRAPH X

Red --- Participant
Black --- Non-Participant



GRAPH XI

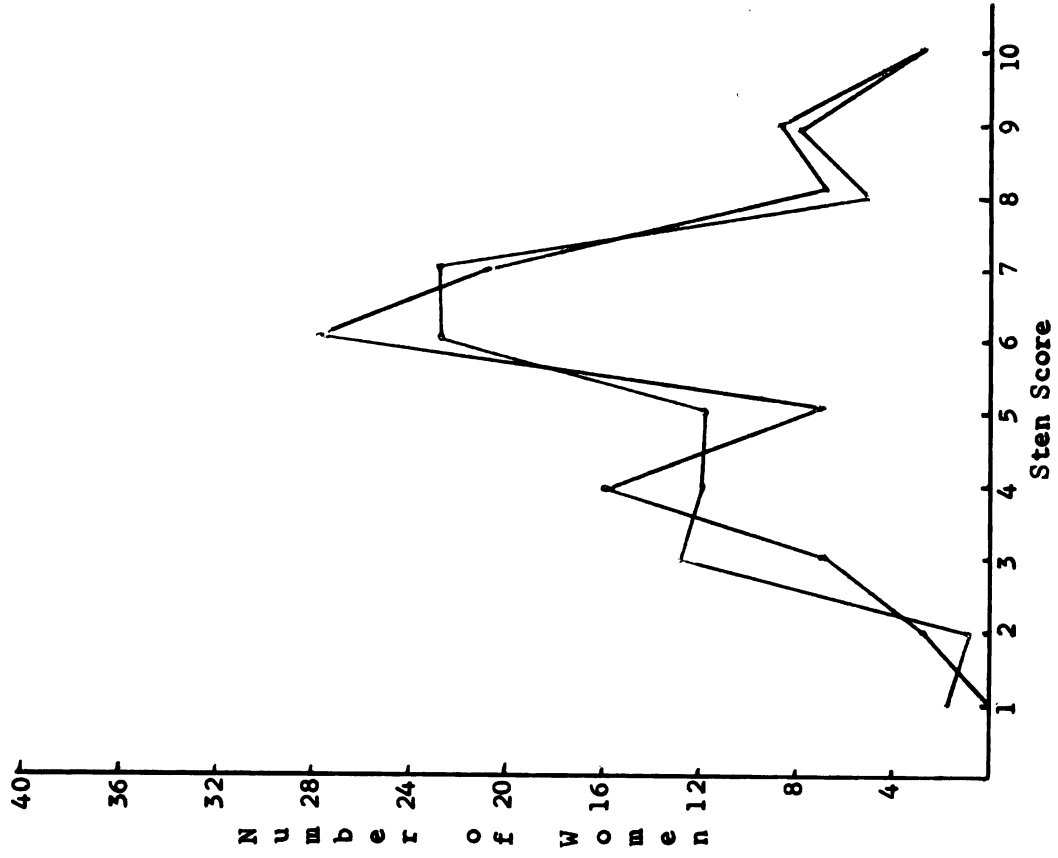
Red -- Participant
Black -- Non-Participant



FACTOR I

GRAPH XII

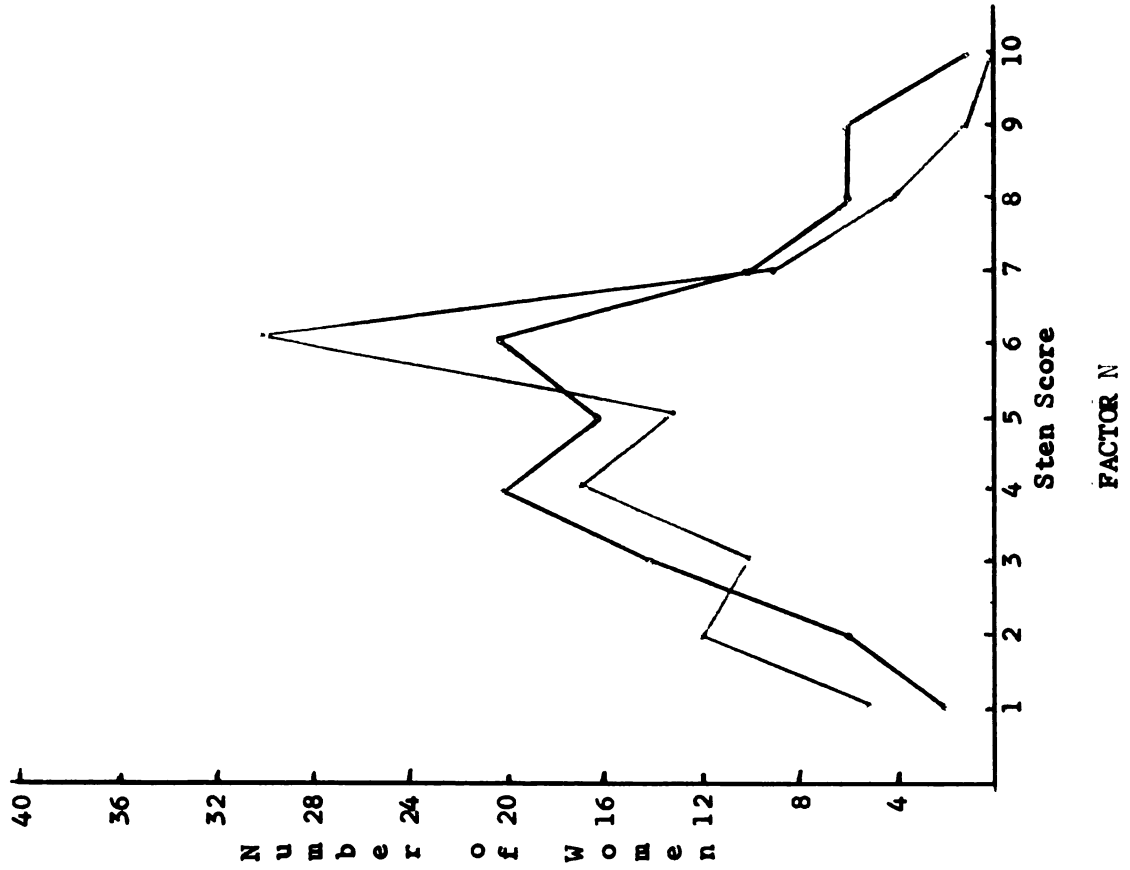
Red -- Participant
Black -- Non-Participant



FACTOR M

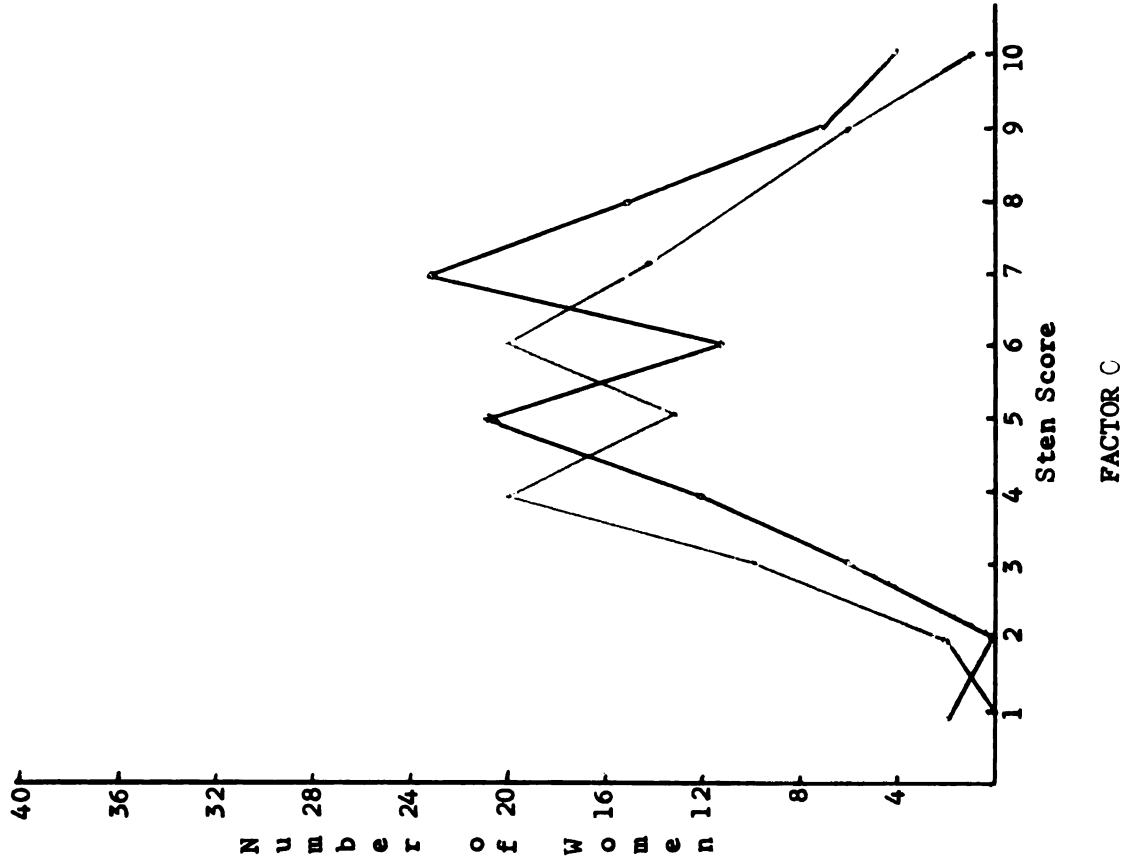
GRAPH XIII

Red --- Participant
Black -- Non-Participant



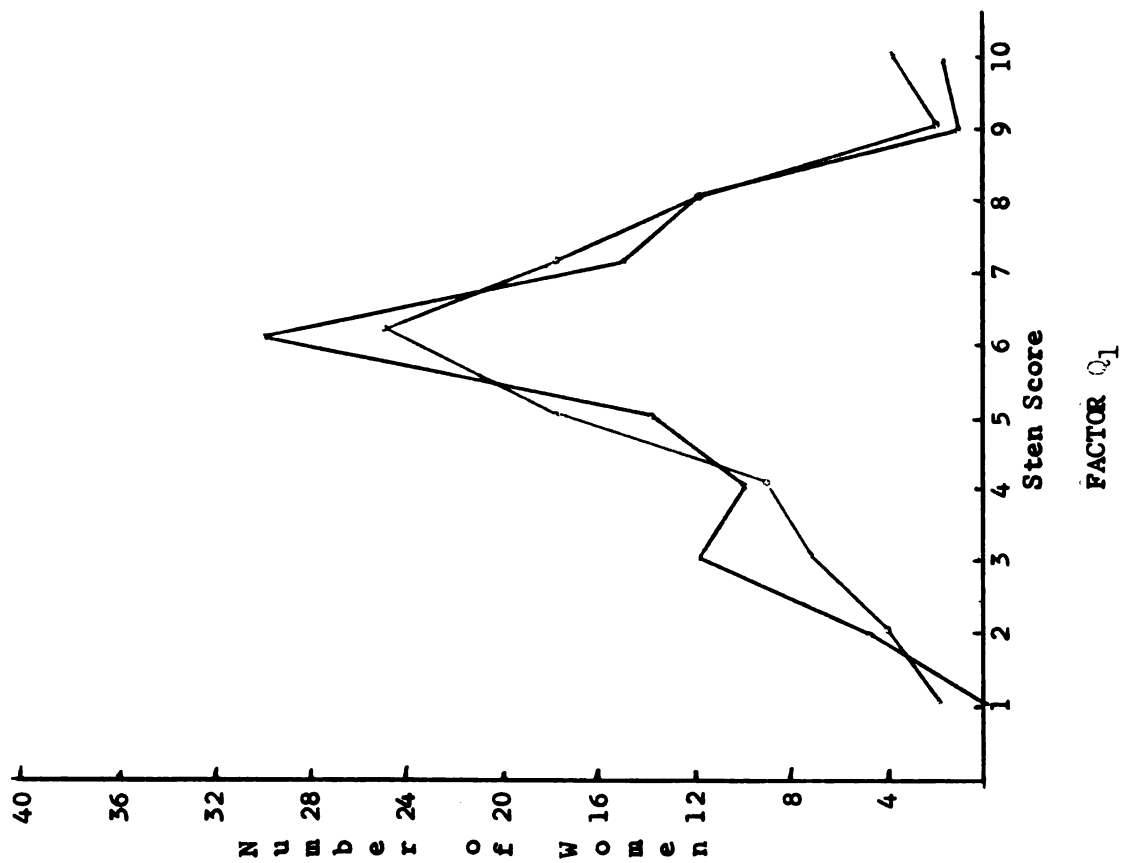
GRAPH XIV

Red --- Participant
Black --- Non-Participant



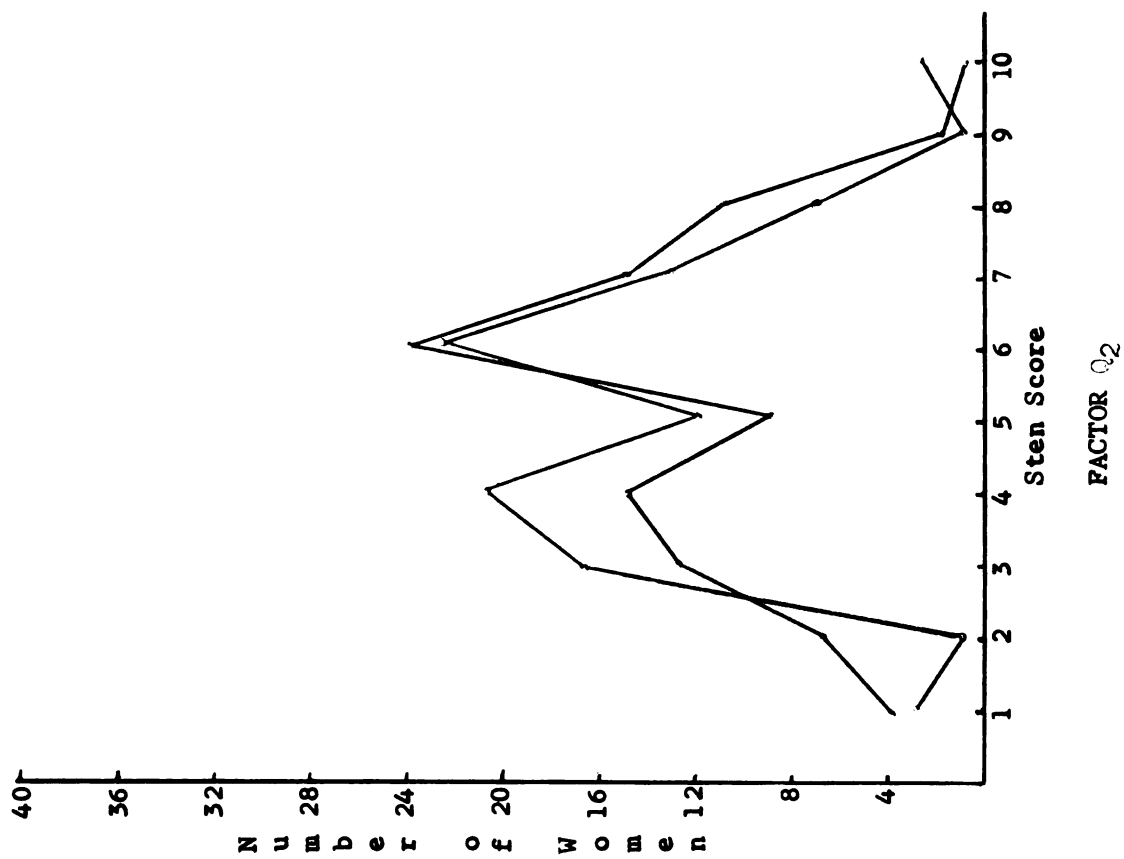
GRAPH XV

Red --- Participant
 Black --> Non-Participant



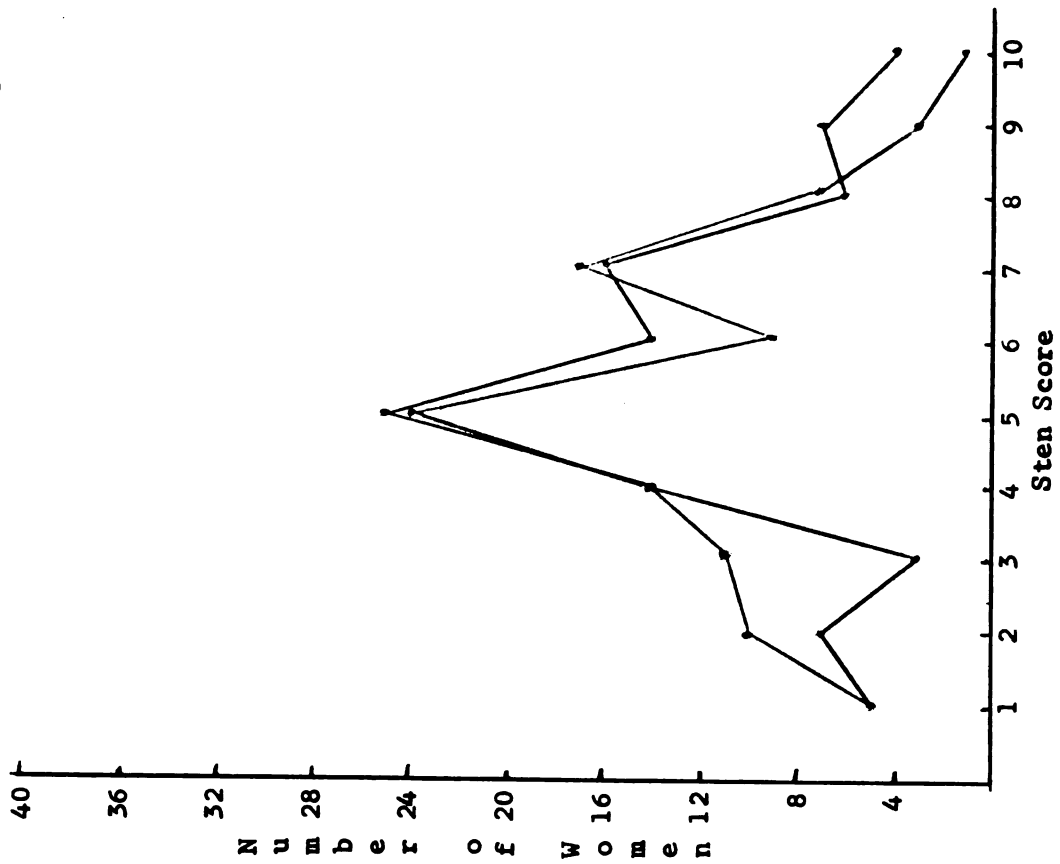
GRAPH XVI

Red --- Participant
 Black --- Non-Participant



GRAPH XVII

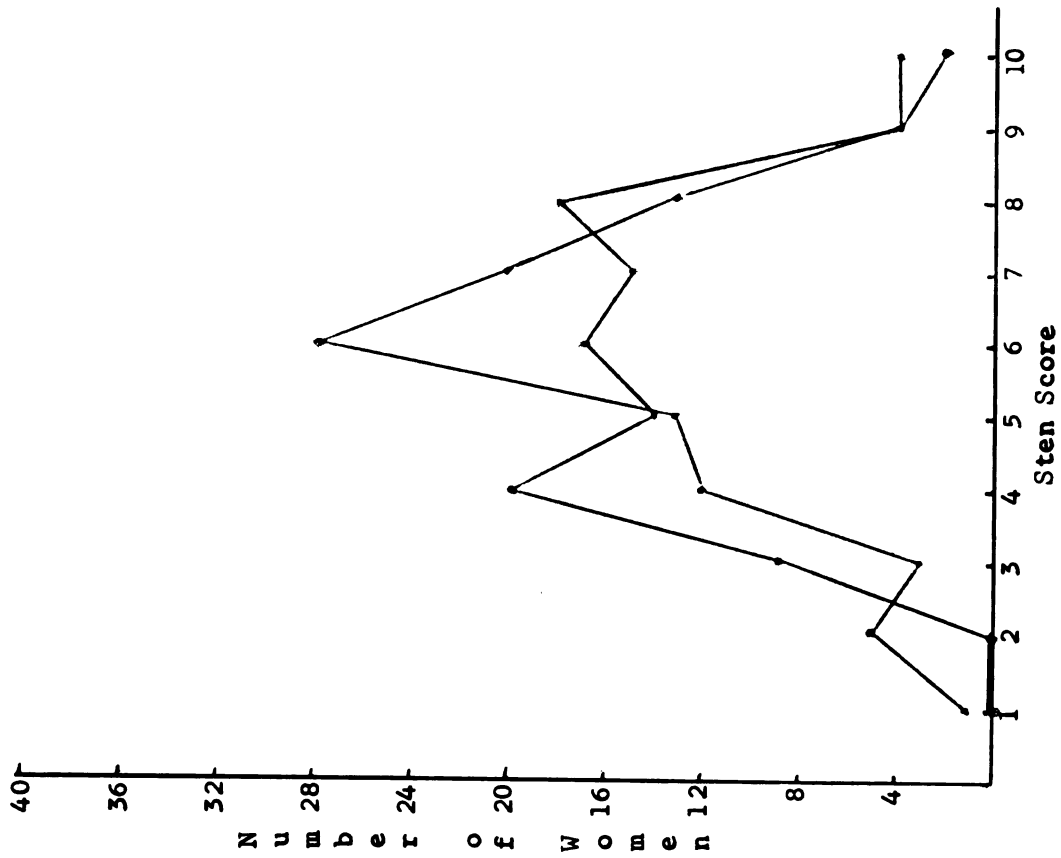
Red --- Participant
Black -- Non-Participant



FACTOR Q₃

GRAPH XVIII

Red --- Participant
Black --- Non-Participant



FACTOR Q₄

To determine possible significant differences between the personality factors of the participators and non-participators is a multivariate problem. The statistical treatment decided upon for the personality scores involved in the preceding sixteen graphs follows:

Hotelling's T^2 statistic was computed from the sample of 101 measurements on 16 variables. Using Mistic at Michigan State University to compute the statistic T^2 , the line vector, the covariance matrix, the column vector and S inverse were obtained. T^2 was defined as $(101) \bar{x}' S^{-1} \bar{x}$ where \bar{x}' is the line vector of sample means, S is the sample covariance matrix, \bar{x} is the column vector, and where

$$s_{ij} = \sum_{\alpha=1}^{101} (x_{i\alpha} - \bar{x}_i) (x_{j\alpha} - \bar{x}_j) / N - 1.$$

Figures produced by Mistic from which the factors of T^2 were obtained are listed in Tables 51, 52, and 53 in the Appendix, pages 154 to 157.

Matrix multiplication as directed in the definition of T^2 yielded an observed T^2 of 1.788. A T^2 of this magnitude indicates a significant difference between the personality factors of participators in adult education activity and non-participators at the 5% level. The comparative figure taken from T^2 table by interpolation is 1.761¹. This reveals a significant difference when all personality factors are considered together in the manner described, but reveals nothing about possible differences when individual factors are considered.

¹I. W. Anderson, An Introduction to Multivariate Statistical Analyses (New York: John Wiley and Sons, Inc., 1957), p.

It should be noted that if the sixteen factors were distinctly independent, the individual scores could be considered separately without question with respect to significant differences. As to independence, the authors of the Sixteen Personality Factor Questionnaire write:

It will be recognized that although the above sixteen dimensions have been shown to be functionally unitary and independent . . . yet some slight correlation exists among them for genetic reasons and because they may interact with one another through environment. For example, there are reasons in environmental experience why dominance E and intelligence B tend to become correlated. Orthogonal factors are a mathematical fiction--a model which nature disowns.¹

Be that as it may for the universe selected by the test authors, it would seem the correlation in the universe of this survey is more than slight. The correlation coefficients yielded by Mystic, found in the Appendix, page 156, are larger than would be expected with a high degree of independence. A correlation coefficient of .165 or less indicates independence² at the 5% level. It can be shown that only about 33 or roughly .3 of the relationships are independent at the 5% level, that is, of the correlation coefficients only .3 are less than .165.

Another concept which could possibly reveal the correctness of examining the individual factors for significant differences, once knowing that the factors when grouped are significantly different at a certain level, is the "confidence region for the mean vector."³ This involves obtaining a 16 dimensional ellipsoid, the boundaries of which determine the limits of a region, which region, if it does not contain

¹Wilfred J. Dixon and Frank J. Massey, Introduction to Statistical Analysis (New York: McGraw Hill Book Co., Inc., 1951).

²Dixon and Massey.

³Anderson.

0, indicates a significant difference. Assuming a standard deviation for all factors which is high, 4, and the same standard deviation for all factors, thus making the ellipsoid a sphere, it can be shown that the interval boundary is 1.31 which is larger than the mean of the differences of paired scores and which, therefore, includes 0 in most cases and so reveals no significant difference at the 5% level. Factor E is an exception in that the mean of the differences is 1.485 and so the interval of 1.31 does not contain 0. This could indicate a significant difference. This coincides with other evidence to be supplied later. However, the standard deviation for factor E is larger than the 4 taken in determination of the 1.31, so doubt arises again.

The question still to be resolved is whether or not significant differences can be determined for the separate factors. For example, can it be determined whether or not the class participators are significantly higher on the B personality factor than the non-class participators? This question cannot be answered beyond all doubt, but certain evidence can be marshalled which points toward this conclusion.

In the first place, means of the scores of the participators and non-participators may be determined for the various factors and they may be compared for significant differences. When this is done, the results are shown in Table 9.

TABLE 9
COMPARISON OF MEANS ON SIXTEEN PERSONALITY
FACTOR QUESTIONNAIRE

Factor	Participant	Non-Participant	Difference
A	5.42	5.52	0.10
B	4.01	3.17	.84
C	4.84	4.46	.38
E	5.38	4.55	.83
F	5.26	5.45	.19
G	5.35	4.99	.36
H	5.39	5.31	.08
I	5.54	5.61	.07
L	5.51	5.71	.20
M	6.03	5.77	.26
N	4.71	5.13	.41
O	5.76	6.18	.42
Q ₁	5.82	5.61	.21
Q ₂	5.19	5.32	.13
Q ₃	4.95	5.51	.56
Q ₄	5.96	5.99	0.03

Some of these are so close together there could be no significant difference. Others, however, are far enough apart to be doubtful and so a test for the significant difference of means is employed. The factors in question are B, C, E, G, N, O, and Q₃. Application of a test for the significant difference of means¹ yields an answer expressed in standard deviation units which, when compared with the values in a P table, indicates the level of significance of the difference. This test, applied to the factors in question, yields Table 10.

TABLE 10

LEVEL OF SIGNIFICANCE FOR DIFFERENCE OF MEANS

Factor	Level
B	0.0096
C	.19
E	.0038
G	.091
N	.097
O	.1188
Q ₃	0.0702

¹Margaret Jarman Hagood and Daniel O. Price, Statistics for Sociologists (New York: Henry Holt and Co., 1952), p. 323.

Thus it is seen that factors B and E have means which are significantly different at the 1% level. No other factors have means which are significantly different at the 1% or 5% level. However, factors G, N, and Q₃ have means which are significantly different at a level close to the 5% level and, therefore, later consideration will be given to these personality ratings. In other words, the class participators are significantly more dominant and aggressive and bright and intelligent, while the non-participators are significantly more submissive and mild and of lower capacity. Means for the participators and non-participators on the scales relating the lax, unsure versus controlled, exact; the casual, undependable versus conscientious, persistent; and, finally, the simple, awkward versus sophisticated, polished are close to being significantly different at the 5% level and, therefore, should not be entirely ruled out.

Table 11 of the mean of differences of pairs of respondents tends to support the above tentative conclusions.

TABLE 11
MEAN OF DIFFERENCES OF PAIRS OF RESPONDENTS ON
SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE

Factor	Mean of Differences or \bar{X}
A	-0.119
B	.723
C	.574
E	1.485
F	-0.396

TABLE 11--Continued

Factor	Mean of Differences or \bar{X}
G	0.446
H	.228
I	.079
L	- .475
M	0.406
N	-0.525
O	- .604
Q ₁	.356
Q ₂	.010
Q ₃	-1.020
Q ₄	0.287

It will be noticed that factor B has a mean of differences of over .7 and is the third largest mean of differences of pairs of respondents in the group. Factor E has a mean of differences of pairs of respondents of almost 1.5 and is the largest mean of differences of the group. Factor Q₃ is the second largest. In Table 12 the factors are ranked in order of the size of the mean of the differences of pairs of respondents, with the largest given first.

In Table 13 the differences of the means of the scores of the participators and non-participators on the individual personality factors are ranked in order of size beginning with the largest.

TABLE 12

PERSONALITY FACTORS RANKED ACCORDING TO
THE SIZE OF THE MEAN OF THE DIFFERENCES
OF PAIRS OF RESPONDENTS

Rank	Factor
1	E
2	Q ₃
3	B
4	O
5	C
6	N
7	L
8	G
9	M
10	F
11	Q ₁
12	Q ₄
13	H
14	A
15	I
16	Q ₂

TABLE 13

PERSONALITY FACTORS RANKED ACCORDING TO THE SIZE
OF THE DIFFERENCE OF THE MEANS OF THE SCORES
OF PARTICIPATORS AND NON-PARTICIPATORS

Rank	Factor
1	B
2	E
3	Q ₃
4	O
5	N
6	C
7	G
8	M
9	Q ₁
10	L
11	F
12	Q ₂
13	A
14	H
15	I
16	Q ₄

Looking at the similarities in personality factors between participators and non-participators, it will be found that both methods of ranking agree that the two groups most resemble each other on factors Q₂, A, H, I, and Q₄. That is, the two groups most resemble each other on the dependent, imitative versus self-sufficient, resourceful scale; on the tough, realistic versus sensitive, effeminate scale; on the aloof, cold versus the warm, sociable scale; on the timid, shy versus adventurous, "thick-skinned" scale; and on the tense, excitable versus phlegmatic, composed scale.

Looking at correlation coefficients in the dissimilar area of the personality factors, we find correlations as follows in Table 14.

TABLE 14
CORRELATION OF MEANS OF DIFFERENCES OF PAIRS OF RESPONDENTS
FOR PERSONALITY FACTORS WHERE PARTICIPATORS AND
NON-PARTICIPATORS TEND TOWARD SIMILARITY

	B	C	N	O	Q ₃
E	.07	.05	.07	<u>.29</u>	<u>.19</u>
B		.02	.08	.06	.15
C			.07	<u>.19</u>	.02
N				.15	.05
O					.13

The underlined correlation coefficients are sufficiently large to justify considering dependency at the 5% level. This is determined by using the test number of .165 described before. These factors show a dependency in fewer than the 30% noted earlier for the group as a whole. In fact, this shows a dependency in 20% of the coefficients

listed.

In both methods of testing it is evident that on certain factors the participators resembled the non-participators. These factors are Q₃, I, A, H, and Q₄.

Looking at the correlation coefficients in the area where the personality factors of the participators and of the non-participators are similar, we find correlations as follows in Table 15.

TABLE 15
CORRELATION OF MEANS OF DIFFERENCES OF PAIRS OF RESPONDENTS
FOR PERSONALITY FACTORS WHERE PARTICIPATORS AND
NON-PARTICIPATORS TEND TOWARD SIMILARITY

	I	A	H	Q ₄
Q ₂	.06	<u>.18</u>	<u>.26</u>	<u>.22</u>
I		<u>.21</u>	.03	.03
A			<u>.35</u>	.00
H				<u>.33</u>

Again, the underlined correlation coefficients are sufficiently large to justify considering dependency at the 5% level. This is determined by using the test number of .165. These factors show a dependency in about 60% of the cases which is double that for the group as a whole.

Summary of the Results of the Sixteen Personality Factor Questionnaire

Results of the Sixteen Personality Factor Questionnaire indicated that the participators and non-participators:

1. are significantly different at the 5% level with respect to

scores on the sixteen personality factors measured in the Sixteen Personality Factor Questionnaire. This was determined by Hotelling's T^2 characteristic. This characteristic does not specify in which of the sixteen factors the differences are greatest.

2. are significantly different at the 1% level on scores for factors B and E as determined by the application of the test for significant difference of means given by M. J. Hagood and D. O. Price in Statistics for Sociologists.¹
3. are significantly different near the 10% level on scores for factors G, N, O, and Q_3 as determined by the application of the test for significant difference of means given by M. J. Hagood and D. O. Price in Statistics for Sociologists.²
4. are significantly different on scores for factor E at the 5% level as determined by a consideration of the confidence region for the mean vector given by I. W. Anderson in An Introduction to Multivariate Statistical Analysis.³
5. have scores which, of the sixteen factors, tend to be most different on factors B, E, O, and Q_3 whether means of differences of the scores of pairs of respondents are

¹Margaret Jarmen Hagood and Daniel O. Price, Statistics for Sociologists (New York: Henry Holt and Co., 1952), p. 323.

²Ibid.

³I. W. Anderson, An Introduction to Multivariate Statistical Analysis (New York: John Wiley and Sons, Inc., 1957).

considered.

6. have scores which of the sixteen factors tend to be most alike on factors H, A, I, Q₄, and Q₂ whether means of differences of the scores of pairs of respondents are considered or differences of means of the scores of respondents are considered.
7. have scores on the personality factors, the differences of which correlate at the 5% level in 30% of the cases involving all sixteen factors; in 60% of the cases involving factors which tend to be alike; and in 20% of the cases involving factors which tend to be different.

Part B: Report on Results of "Adult Education
Interview Sheet"

To each pair of women, included in the survey, was administered an "Adult Education Interview Sheet." This sheet contained forty questions related to the woman's age, extent of participation in adult classes, participation in other "out-of-the-home" activities, conditions in the home, mobility, education, socio-economic position, health, religion, familiarity with the adult education program, and political involvement. These elements, although related to personality, are not personality characteristics as defined by the Sixteen Personality Factor Questionnaire. It was hoped that a measure of these elements, which shall be called "non-personality" factors, would throw light on the personality factors of the women.

Age

Table 16 is designed to show the age groups of adult education participators and non-participators.

TABLE 16

AGE

Age Group	Participators	Non-participators
20 years or less	0	1
21 - 25	10	23
26 - 30	19	20
31 - 35	28	15
36 - 40	16	15
41 - 45	9	11

TABLE 16--Continued

Age Group	Participants	Non-participants
46 - 50	7	6
51 - 55	8	4
56 - 60	4	4
61 - 65	0	1
66 or more	0	1

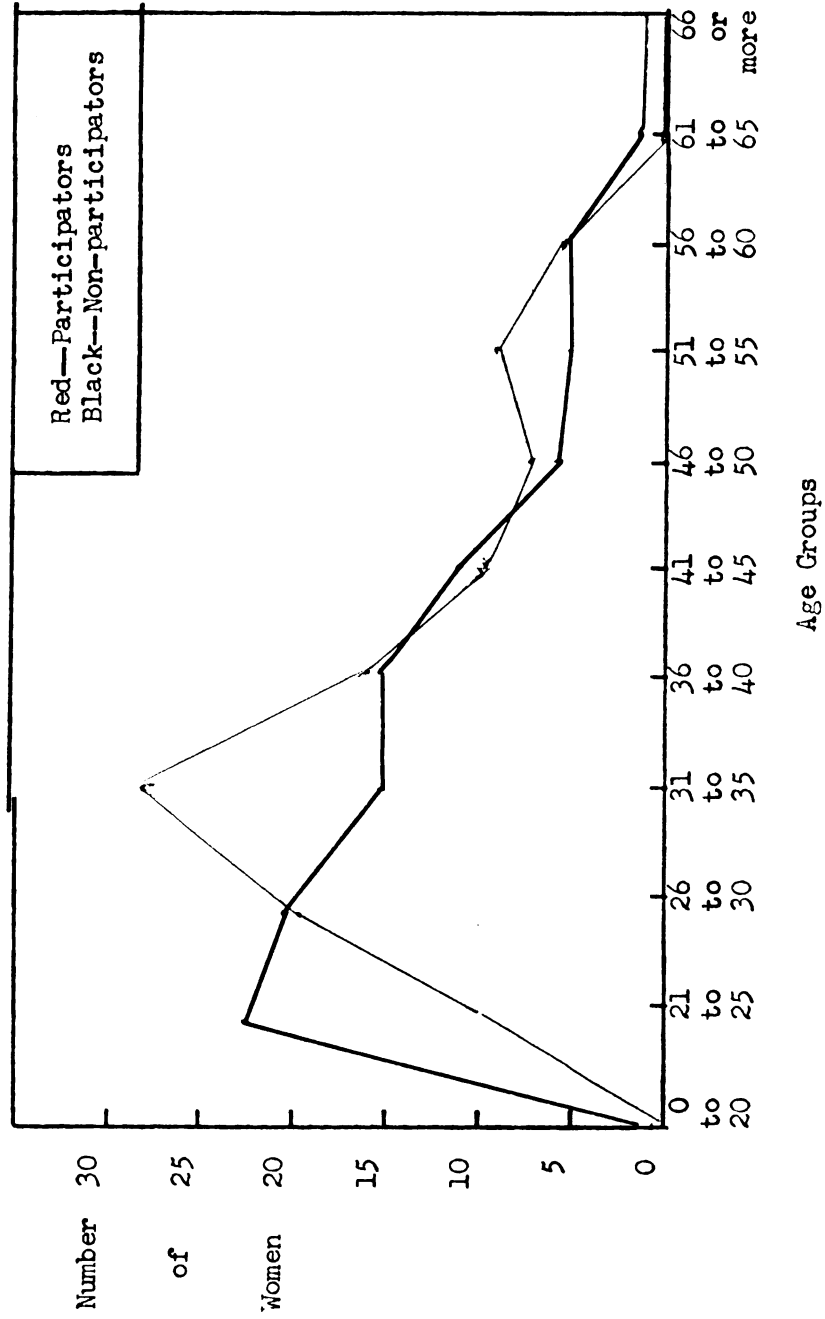
Testing for significant difference of means of ages between the two groups of women by the method described above¹ reveals a P of .2502 and so no significant difference at any acceptable level. The mean age for the participants is 36.39 years. The mean age for the non-participants is 34.73 years. This makes a difference of means of 1.64 years.

In spite of the results above, the table of ages seems to indicate a preponderance of younger women in the non-participating group. Two superimposed graphs further emphasize this non-normal distribution. This is shown in Graph XIX. However, the skewed form of the graph suggested that tests based on a normal distribution assumption might be unreliable. Therefore, a test was used which would compare distributions without regard to the form of the distribution. The test used was the sign test.² Applying the sign test it was revealed there is a difference

¹Margaret Jarman Hagood and Daniel O. Price, Statistics for Sociologists (New York: Henry Holt and Co., 1952), p. 323.

²The sign test will be used for all data on the "Adult Education Interview Sheet".

GRAPH XIX
AGE GROUPINGS FOR PARTICIPATORS AND
NON-PARTICIPATORS



at the 5% level. The test figure is .0436. It can then be said the probability of a difference like the one found and in the direction found (that is, with the non-participants younger than the participants) will occur by accident one time in twenty. But, if the direction of the difference is ignored, the chance of such a difference is but one in ten.

Education

There were five questions in the "Adult Education Interview Sheet" related to education. They were numbered questions 5, 6, 7, 8, and 9. These will be reported in this order.

Question number five asked, "What was the last grade or year which you attended in regular school?" The results are reported in Table 17.

TABLE 17
EDUCATION

Last Grade or Year of Attendance in Regular School	Participants	Non-participants
0 - 8	8	13
9 - 10	0	0
11 - 12 (not graduated)	21	22
12 (graduated)	59	57
College (not graduated)	8	7
College (graduated)	2	1
Graduate work	2	1

It appears from Table 17 the non-participants are slightly less well-educated than the participants. The grade levels of the participants and non-participants are displayed in Graph XX. The average grade completed for the participant is 11.6 years, while for the non-participant, it is 11.3 years. This is a small difference. Also applying the sign test, a test figure of .304 is found which indicates a significant difference at no acceptable level.

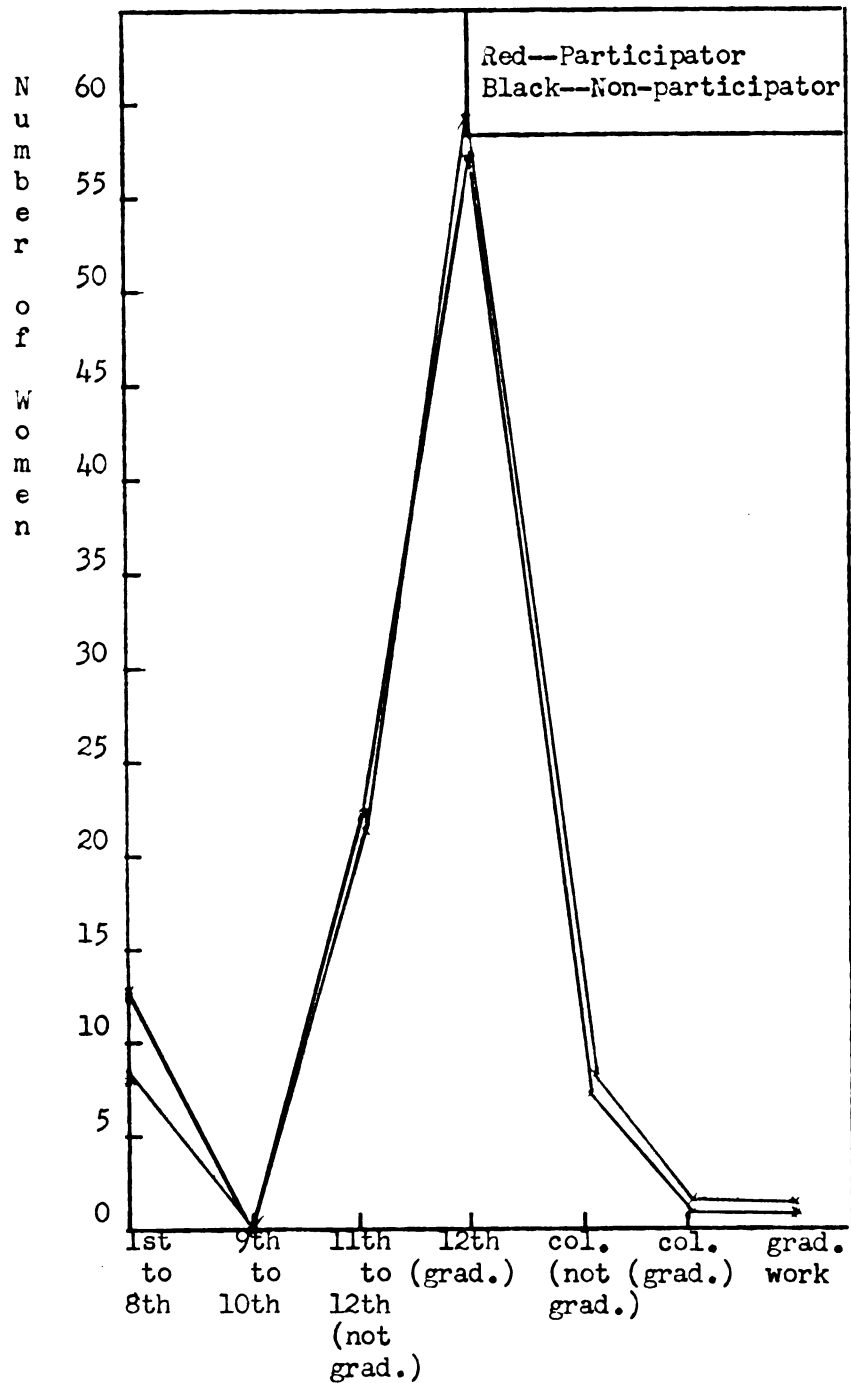
Question six was stated: "Did you enjoy regular school when you attended?" Of the participants, 97% reported enjoying school when they attended. Of the non-participants, 93% reported enjoying school when they attended. Applying the sign test, we find a test figure of .172 and, therefore, a significant difference at no acceptable level.

Question seven was stated: "Have you enrolled in any special school, trade school, or correspondence school since leaving regular school?" Of the participants, 41 had attended such a school while only 19 of the non-participants had so attended. The sign test discloses a significant difference here at better than the 1% level. The test figure was .00006.

Question eight was stated: "If, 'yes,' (to question 7) name the school." Schools named are tabulated as follows in Table 13.

GRAPH XX

LAST GRADE OR YEAR OF ATTENDANCE IN REGULAR SCHOOL



Last Grade or Year of Attendance in Regular School

TABLE 18

SPECIAL SCHOOL ENROLLMENTS

Type of School	Participant	Non-participant
Business school	13	7
School for comptometry	7	2
Nursing school	5	1
General Motors Institute	3	4
School of Cosmetology	3	2
College or university	3	1
Others:		
U. S. Navy Store Keeper's School	1	
Corresponding school for dieticians	1	
Flight school	1	
Indiana University Extension		
Northwestern University Medical School	1	
Cook's and baker's school	1	
Detroit Western High School	1	
Studies on understanding children	1	
Studies on understanding adults	1	
Study on aging at Ann Arbor	1	
Owosso Bible College		1
Southern Pilgrim College		1
Moody Bible Institute	1	

Question nine was stated: "If, 'yes,' to question 7 why did you enroll in this special school, trade school, or correspondence school?" The results are found in Table 19 listed in order of frequency of response.

TABLE 19

REASONS FOR ENROLLING IN SPECIAL SCHOOL, TRADE SCHOOL, OR
CORRESPONDENCE SCHOOL IN ORDER OF FREQUENCY OF RESPONSE

A. Participators

1. To secure a better job.
2. To improve typing and shorthand.
3. Help out in the type of work being done at that time.
4. To learn typing and shorthand.
5. To further education.
6. Because the work in this field was liked.
7. To finish high school credits.
8. To prepare for self-support.
9. To prepare for business world.
10. To receive nurse's registration.
11. Required.
12. Wanted to practice this profession (medicine).
13. Hoped to do some writing.
14. Blue print reading to help with inspection job.
15. To help people.

B. Non-participators

1. To further education
2. To learn typing and shorthand.

TABLE 19--ContinuedB. Non-participants--Continued

3. To advance speed in typing and shorthand.
4. To better self.
5. To sharpen business skills to hold job had at that time.
6. To prepare for work.
7. To acquire a better position.
8. To be a nurse.
9. To become a rural teacher.
10. To learn all about foods.
11. Mother wanted her to.

Health

Only one question was asked which related directly to health. This was question twenty-one and was stated: "How is your health?" Results from this question appear in Table 20.

TABLE 20

HEALTH

Condition of Health	Participant	Non-participant
Almost never ill	76	79
Ill sometimes	24	21
Often ill or handicapped	1	1

Again it seems there is little difference revealed here. The sign test gives a test figure of .409 and therefore, a significant difference at no

acceptable level.

Socio-economic Position

There were four questions and two observations which were designed to show socio-economic position. The questions were numbers 13, 18, 19, and 20.

Question 13 was stated: "Do you own your present home or rent?" Of the participators, 95 owned their homes or were buying while 86 of the non-participators owned their homes or were buying. Applying the sign test, a figure of .095 was obtained which does not indicate a significant difference at any acceptable level.

Question 18 was stated: "Your total yearly income would fall in which group?" The results from this question are found in Table 21. The table shows the participators have a higher yearly income than the non-participators. The mean difference for the two groups is \$295. The sign test when applied to the two groups gives a test figure of .0166 which indicates a significant difference at near the 1% level. The difference would still be significant at better than the 5% level if the direction of difference were ignored and the test figure were doubled.

Question 19 was stated: "Do you, yourself, work for money?" Answering, "Yes," were 26 non-participators and 18 participators. Applying the sign test, one has a test number of .132 which indicates a difference at no acceptable level.

Question 20 was stated: "If 'Yes' to question 19, what is your job?" The results of this are found in Table 22.

TABLE 21

INCOME

Income Level	Participants	Non-Participants
Less than \$1,000.	0	2
\$1,000-4,000.	3	11
\$4,001-6,000.	46	47
\$6,001-7,000.	18	22
\$7,001-10,000.	19	12
More than \$10,000.	11	3

TABLE 22

JOBS HELD BY RESPONDENTS

Type of Job	Participant	Non-Participant
Store Clerk	2	6
Factory Worker		5
Secretary	1	3
Baby Sitter	1	2
Elevator Operator		1
Timekeeper		1
Part-time Aunt Mary		
Membership Club		1
Housekeeper		1
Singing with dance bands		1
Maid	1	1
Flower Shop	1	1
Ironings	1	1
Press Operator		1
Office Worker	2	1

TABLE 22---Continued

Type of Job	Participator	Non-Participator
School Bus Driver		1
Part-time Typist	1	
Instructor of Practical Nurses	1	
Emerson School Cafeteria	1	
Telephone Operator	1	
Teacher of the Deaf	1	
Assistant Librarian for Preschool Story Hour	1	
Substitute Organist	1	
Cook at Camp	1	
Printer	1	
Sewing at Home	3	
Medical Secretary	1	

Observation one was as to whether participators and non-participators were white or non-white. Of the non-participators, 97 were white and 4 were non-white. Of the participators, 98 were white and 3 were non-white. There is no significant difference here, the sign law result being close to 1.

Observation two was regarding the type of house in which the participators and non-participators lived. The results are found in Table 23.

The "no answers" in the non-participator column are due to the number of people who were brought in by the participator from a distance too great to permit direct observation of the home. Using the sign test and ignoring the pairs where there was no observation for one member of the pair, one found no significant difference.

TABLE 23
ESTIMATED VALUE OF HOUSE

Estimated Value	Participator	Non-Participator
\$10,000 or less	42	37
\$10,001 -20,000	48	43
\$20,001 or more	9	4
No Answer	2	17

Participation in "Out-of-the-Home" Activities

Questions dealing with participation in "out-of-the-home" activities, other than adult education classes, were numbered 30, 31, 32, 33, 34, 35, and 36.

Question 30 was stated: "How many times in the last year have you visited in a friend's or relative's home?" The answers to this question are summarized in Table 24. The mean difference is very slight here. Participators visited in a friend's or relative's home 65.5 times in the last year while non-participators visited 63.1 times. A test number of .191 is obtained by the sign law which indicates a difference significant at no acceptable level. It must be remembered that in addition to the friendly visiting noted in this question, class participators will be shown to be out an additional 30 nights a year, and this must be added to the small edge they have in friendly visiting when total nights out are figured.

Question 31 was stated: "Do you usually visit alone or with

TABLE 24
VISITATIONS IN THE LAST YEAR IN THE
HOME OF A FRIEND OR RELATIVE

Number of Visits Made	Participant	Non-Participant
None	0	0
1 - 5	3	2
6 - 10	4	5
11 - 20	13	11
21 - 50	18	19
51 - 100	19	29
More than 100	43	33

your husband and family?" To this question, 82 of the participants answered with husband and family. Of the non-participants, 84 answered with husband and family. This is a significant difference at no acceptable level.

Question 32 was stated: "Do you belong to service clubs, neighborhood clubs, or any social, recreational, political, or organized group?" Of the participants, 72 belonged to such a group. Of the non-participants, 42 belonged to this kind of a group. Applying the sign test, a test number of .00003 was found which indicates a significant difference at better than the 1% level.

Question 33 stated, "What is the name or are the names of your clubs or groups?" From this question was obtained not only the names of the groups but also the number of groups joined by each respondent. The number of groups joined is found in Table 25.

TABLE 25
NUMBER OF GROUPS JOINED

Number of Groups Joined	Participant	Non-Participant
1	30	22
2	22	13
3	13	3
4	3	0
5	2	2
6	0	1

The names of clubs or groups joined are found in Table 26.

TABLE 26
CLUBS JOINED BY RESPONDENTS

Club	Participant	Non-Participant
Bridge	14	9
Parent-Teacher Associations	9	7
Church Guilds	7	7
Child Study Group	7	3
Altar Society	5	5
Church Clubs	5	5
Order of Eastern Star	4	2
Square Dan Club	3	2
Hospital Auxiliaries	3	2
Cub Scouts	4	1
Women's Service Clubs	5	5
Sunday School Group	3	1
Sororities	2	2
Neighborhood Sewing Club	3	1
Druggist Auxiliary	2	1

TABLE 26---Continued

Club	Participator	Non-Participator
Missionary Association	2	1
Church Fellowship Group	3	
Bowling	1	2
Garden Club	2	
School Group	2	
Sunday School Teacher	2	
Card Club	1	1
Coffee Club	1	1
International Business Girls	2	
International Order of Oddfellows	2	
P.E.O.	2	
Adult Choir	2	
Medical Association	1	
Flint Nurse's Assoc.	1	
Boy Scout Auxiliary	1	
Girl Scout Leader	1	
Cooperative Nursery	1	
Maize and Blue Club	1	
Postal Workers of America		1
Flint Sorosis	1	
W.C.T.U.		1
Y.W.C.A.	1	
Ladies' Aid	1	
Extension Service	1	
Kiwanis	1	
Junior Chamber of Commerce Auxiliary	1	
Opti-Mrs. Club	1	
High School Council		1
Order of Amaranth	1	
Burton Democrats Club	1	
Marion Study Group	1	
N.A.A.C.P.	1	
Michigan Hemophilia Chapter		1
Mayfair Bible Church	1	
Civil Air Patrol	1	
Genesee Sportsman Club	1	

TABLE 26--Continued

Club	Participator	Non-Participator
Saginaw Valley Pilot's Association	1	
Charmettes	1	
Lucky in Love Club	1	

Question 34 was stated: "How many times in the last year have you attended regular meetings of these clubs?" The answers to this question are tabulated in Table 27.

TABLE 27

CLUB ATTENDANCE

Number of Meetings Attended	Participator	Non-Participator
0	2	0
1 - 5	10	5
6 - 10	9	6
11 - 20	17	13
21 - 50	22	12
51 - 100	4	4
101 or more	5	1

The participators attended a total of 1935 club meetings. The non-participators attended a total of 1085 club meetings last year. This meant the "club joiner" who was a participator in adult education

attended an average of 27 meetings last year while the "club joiner" who was a non-participator in adult education attended an average of 26 meetings.

Question 35 stated, "How many times in the last year have you attended an activity in a school building?" Answers to this question are summarized in Table 28.

TABLE 28
ACTIVITY IN SCHOOL BUILDINGS

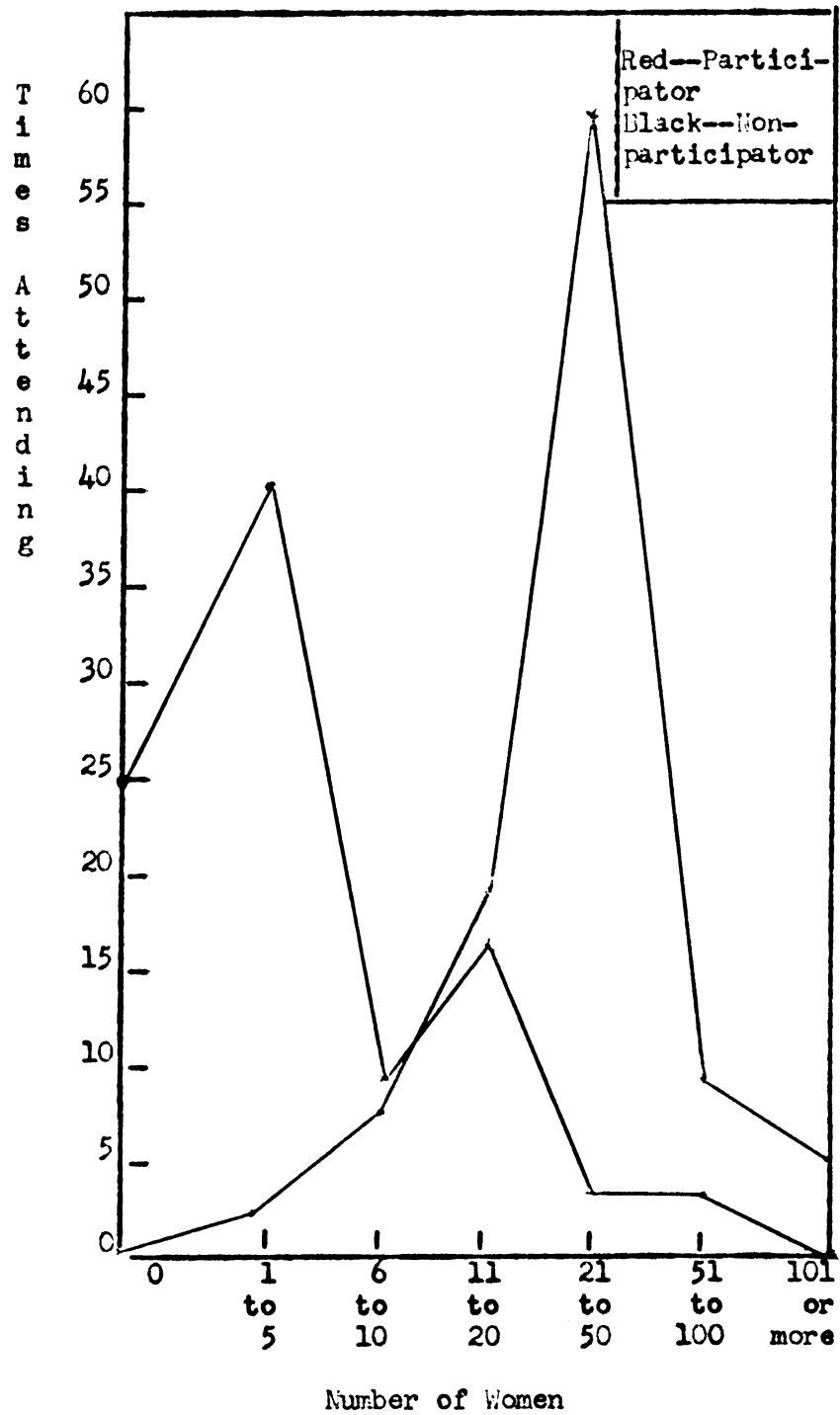
Number of Times Attended	Participator	Non-Participator
None	0	25
1 - 5	2	40
6 - 10	7	9
11 - 20	19	16
21 - 50	60	3
51 - 100	9	3
101 or more	4	0

This information is also given in Graph 6.

All the participators in the sewing classes were attending activities in school buildings. Applying the sign test, a significant difference at better than the 1% level is obtained. The adult education participator attended a school building activity an average of 36 times a year while the non-participator attended a school building activity an average of less than 8 times a year. This is a difference not to be entirely accounted for by attendance at sewing

GRAPH XXI

ACTIVITY IN SCHOOL BUILDINGS



classes.

Question 36 stated: "Do you usually go alone or with a member of your family?" This question refers to attendance at some kind of a school building activity. The answers to this question were not given by 12 participators and by 33 non-participators. Of those answering, 49% of the participators indicated attendance alone and 39% of the non-participators indicated attendance alone. Applying the sign test, a test figure of .229 was obtained. This indicates a significant difference at no acceptable level.

Extent of Participation in Adult Classes

Additional information concerning only adult education participators and their participation in classes other than sewing classes is found in questions 2, 3, and 4.

Question 2 asked the participator to name adult education classes attended during the last year. From these answers can be found both the number of classes attended and the names of the classes. Table 29 gives the number of classes attended during the last year by adult education participators.

Table 30 lists the names of the classes, other than sewing, taken by adult education participators and the number of women listing each class. This averages 2.72 classes other than sewing attended by each participator in the last year.

TABLE 29

ADULT EDUCATION CLASSES ATTENDED BY
PARTICIPATORS IN THE LAST YEAR

Number of Classes	Number of Women Attended Given Number of Classes
0	0
1	17
2	15
3	58
4	6
5	3
6	1
7	0
8	1

TABLE 30

CLASSES OTHER THAN SEWING ATTENDED BY ADULT
EDUCATION PARTICIPATORS IN THE LAST YEAR

Class	Number of Women Attending Class
Millinery	3
Baking	2
History	1
Drawing	1
Oil Painting	1
Cake Decorating	1
Handicraft	1
English Vocabulary	
Building	1
Upholstering	1
Square Dancing	1
Bridge	1
Driver Training	1
Skin Diving	1
Party Foods	1
Physical Fitness	
for Women	1
Ice Skating	1
Golf	1

Question 3 stated: "Have you attended any other adult education classes in the last five years?" The number of adult education classes attended by the participators is given in Table 31.

TABLE 31

OTHER CLASSES ATTENDED BY PARTICIPATORS
IN THE LAST FIVE YEARS

Number of Classes	Number of Women Who Have Attended Each Given Number of Classes
0	36
1	14
2	15
3	13
4	13
5	2
6	4
7	3
8	1

This averages 1.96 classes other than sewing taken by participators in the last five years. This does not include classes attended in the last year which are noted in question 2. The names of classes taken by these women are listed in Table 30.

TABLE 32

CLASSES TAKEN BY ADULT EDUCATION PARTICIPATORS IN
THE LAST FIVE YEARS OTHER THAN SEWING

Class	Number of Women Taking Class
Cake Decorating	13
Square Dancing	7
Typing	7
Swimming	5

TABLE 32---Continued

Class	Number of Women Taking Class
Textile Painting	4
Leathercraft	4
Couple Dancing	4
Millinery	4
Bridge	3
History	3
Glove Making	2
Slip Covering	2
Grapho-analysis	2
Ceramics	2
Gift Wrapping	2
Oil Painting	2
Shorthand	2
Chair Caning	1
Movie Camera	1
Secretarial Training	1
Figurine Painting	1
Memory Improvement	1
Public Speaking	1
Hooked Rugs	1
Interior Design	1
Art	1
Bookkeeping	1
Fly Tying	1
Insurance	1
Ice Skating	1
Draperies	1
English	1
I.B.M.	1
Music Appreciation	1
Dresden Painting	1
Poster Work	1
Upholstering	1
Drawing	1
Music	1

Political Involvement

Another type of participation is related to political interest and is touched briefly in questions 39 and 40.

Question 39 states: "With which major political party do you usually find yourself voting?" The answers to this question are

summarized in Table 33. The sign test reveals no significant difference here at any acceptable level. The test number was .244

TABLE 33
POLITICAL PARTY AFFILIATION

Party Affiliation	Participant	Non-Participant
Republican	30	25
Democratic	38	43
Neither or varies	29	30

Question 40 stated: "In the past five local and national elections how many times have you voted?" The answers to the question are summarized in Table 34.

TABLE 34
VOTING

Number of Times Voted	Participant	Non-Participant
0	9	27
1	7	10
2	10	11
3	19	14
4	19	9
5	36	25

The sign test indicates a significant difference here at nearly the 1% level. The test number is .012. This information is shown in Graph 22.

Religious Involvement

A last type of participation considered was related to the church. Questions 37 and 38 pertained to this.

Question 37 stated, "What is your church affiliation?" The answers given are shown in Table 35. Using the sign test a figure of .425 was obtained so no significant difference at any acceptable level is indicated.

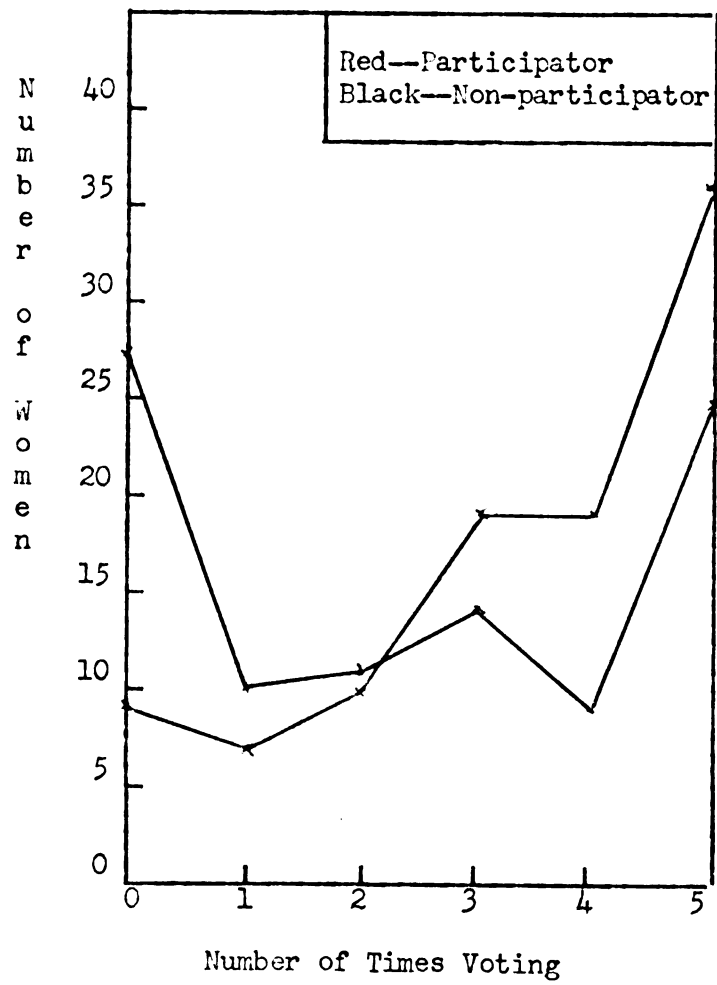
TABLE 35

CHURCH AFFILIATION

Church	Participator	Non-Participator
Catholic	24	28
Protestant	74	67
Jewish	0	0
Other or None	3	6

GRAPH XXII

VOTING



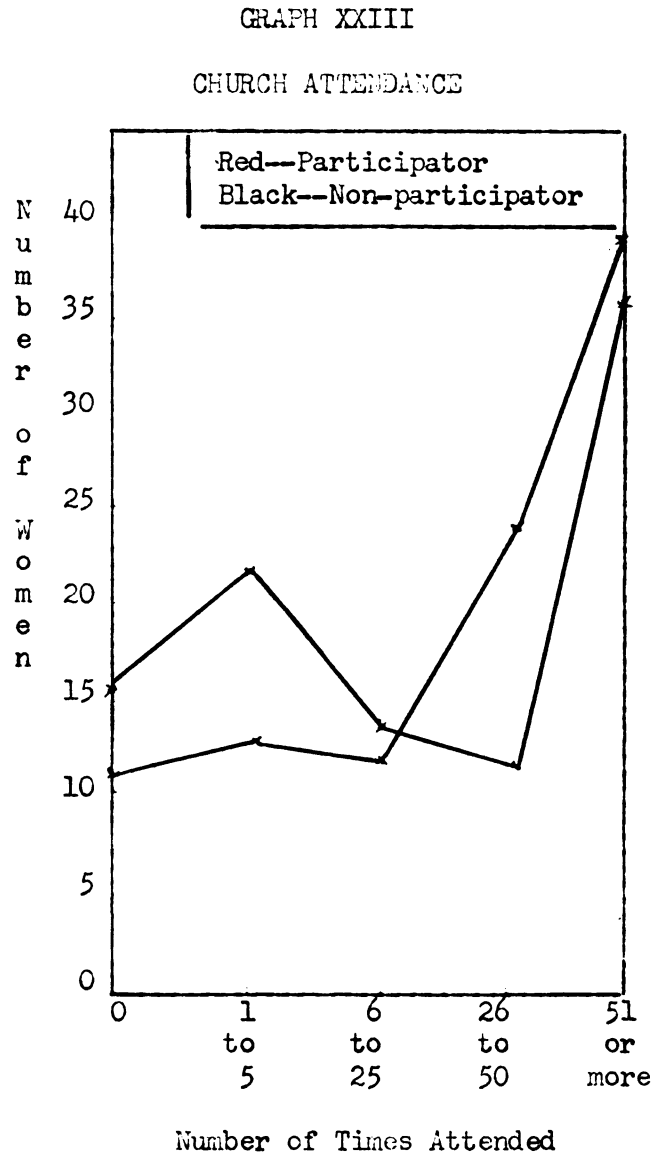
Question 38 stated: "How many times in the last year have you attended a regular church meeting?" The results are in Table 36.

TABLE 36

CHURCH ATTENDANCE - NUMBER

Number of Times Attended	Participant	Non-Participant
0	11	16
1 - 5	13	22
6 - 25	12	14
26 - 50	24	12
51 or more	39	36

The sign test gives no significant difference at any acceptable level. The test figure is .181. Graphs of the distribution are found in Graph



The distribution of church attendance is found in Table 36.

TABLE 37

CHURCH ATTENDANCE--SELECTION

		Number of Times Attending					
		No Ans.	0	1 to 5	6 to 25	26 to 50	51 or more
Number of Times Attending	No Ans.						1
	0		1	1	3	5	6
	1-5	1	4	2	1	7	7
	6-25		2	1	2	3	6
	26-50		1	3	2	1	4
	51 or more	1	3	6	3	3	15
	Total	2	11	13	12	24	39

The mean number of times the participators attended church in a year was 31, while the non-participators had a mean of 25. Considering the significant difference of means P came out .057, so it can be said the means are significantly different at close to the 5 per cent level.

Conditions in the Home

Questions 22, 23, 24, 25, 26, 27, 28, and 29 dealt with conditions in the home which could have had an influence in participation practice.

Question 22 stated: "How many members of your family live in your house with you?" The answers given are shown in Table 38.

TABLE 38

SIZE OF FAMILY

Number in Family	Participant	Non-participant
1	0	0
2	10	7
3	16	17
4	28	28
5	27	22
6	13	13
7	4	5
8	1	2
9	1	3

The average size of the family for the class participant was 4.4 members, while for the non-participant it was 4.6. The sign test gave a test figure of .409, and so indicated a significant difference at no acceptable level.

Question 23 stated: "Do you feel crowded in your home?" Of the class members, 25 said they felt crowded. Of the non-participants, 21 said they felt crowded. The test figure for the sign test is .364, so no significant difference at any acceptable level is shown.

Question 25 stated: "If yes (to question 24), do these incapacitated persons require much of your time caring for them?" Of the participants, 26 said "yes" to this question. Of the non-participants, 30 made a similar response. Applying the sign test, a test

figure of .344 was found indicating a significant difference at no acceptable level.

Question 26 stated: "Do you feel busier than you would like to be with your house work?" Of the participators, 41 said "yes" to this question, and 46 of the non-participators also said "yes." The sign test gave a test figure of .161, and so there is no significant difference at any acceptable level.

Question 27 stated: "Do you have a lawn or garden on which you work?" Of the participators, 80 answered yes to this question. Of the non-participators, 87 also answered yes. The sign test figure is .500 and, therefore, no significant difference at any acceptable level is shown.

Question 28 stated: "Do the members of your family get along well together?" The results of this question are found in Table 39.

TABLE 39
FAMILY HARMONY

Harmony	Participator	Non-participator
Yes	81	73
Usually	20	25
No	0	2

The sign test gave a figure of .128, and so there is no significant difference at any acceptable level.

Question 29 stated: "Do the members of your family get along well with their neighbors?" The results of this question are found in Table 40.

TABLE 40
NEIGHBORHOOD HARMONY

Harmony	Participant	Non-participant
Yes	83	89
Usually	18	11
No	0	0

The sign test gave a figure of .115, and so there is no significant difference at any acceptable level. However, if a lower level of significance should be accepted, it would be noted that greater harmony seems to be with the non-participants in this neighborhood question while in the previous question dealing with harmony within the home, the participants are ahead.

Mobility

Questions 11, 12, and 14 were concerned with the mobility of the respondents.

Question 11 stated: "How many years have you lived in Flint?" Table 41 presents a summary of the answers to this question.

TABLE 41
NUMBER OF YEARS LIVED IN FLINT

Number of Years	Participant	Non-participant
Less than 1 year	0	4
1 - 3	8	6
4 - 5	6	6
6 - 10	10	9
11 - 15	7	7
16 years or more	69	69

The test number given by the sign test is .235, so there is a significant difference at no acceptable level.

Question 12 stated: "How many different houses have you lived in, in Flint?" The answers to this question are summarized in Table 42.

TABLE 42
NUMBER OF HOUSES LIVED IN

Number of Houses	Participant	Non-participant
1	7	9
2	21	26
3	22	21
4	13	16
5	10	9
More than 5	28	19

The participators have lived in an average of 3.8 homes each, while the non-participators have lived in an average of 3.5 homes. This gave a sign test reading of .109, so there is no significant difference at any acceptable level.

Question 14 asked: "Where did you live immediately before coming to Flint?" The responses are given in Table 43. The test figure given by the sign test is .095, so, again, there is no significant difference indicated by this test at any acceptable level.

TABLE 43
LOCATION OF PREVIOUS HOUSE

Location	Participator	Non-participator
Born in Flint	38	37
Lower Michigan	22	32
Upper Michigan	2	1
Southern U. S.	9	13
Eastern U. S.	4	3
Western U. S.	3	0
Northern Mid-west	23	14
Other	0	1

Familiarity With the Adult Education Program

The final group of questions on the "Adult Education Interview Sheet" was related to the familiarity of participators and non-participators with adult education and their feelings toward it. Questions 15,

16, and 17 were in this group.

Question 15 asked: "About how many years ago did you first hear of the Mott Adult Education Program?" The answers to this question are summarized in Table 44.

TABLE 44
LENGTH OF TIME ADULT PROGRAM HAS
BEEN KNOWN

Length of Time	Participant	Non-participant
Never	0	0
Less than 1 year	0	4
1 - 2 years	7	14
3 - 5 years	26	33
More than 5 years	67	46

The sign test gave a figure of .001, indicating significant difference at greater than the 1 per cent level.

Question 16 states: "How did you hear of this program?" Answers to this question are given in Table 45. The number of answers exceeds the total of 101, because many indicated they had heard of the program through several media.

TABLE 45

METHOD OF LEARNING ABOUT THE ADULT EDUCATION
PROGRAM

Medium	Participant	Non-participant
Newspaper	69	66
Friends	64	77
Pamphlets	18	17
Radio and television	5	12
Other	10	9

The sign test does not apply here, because of the multiple responses, but the table indicated little difference between the two groups on this question.

Question 17 stated: "If you have not taken part in the adult education program, what would you say are the chief reasons?" Answers to this were given only by the non-participants and their responses are listed in Table 46.

TABLE 46

REASONS FOR NOT PARTICIPATING

Age.
 Not enough time and money.
 Doesn't leave family, but does things with them.
 Had two babies in three years.
 Transportation--does not drive.
 Marriage and a family.
 Not enough time.
 Irregular working hours.
 Husband on second shift and need to hire a sitter.
 Not interested.
 Illness and children.
 No reason.
 Working and being in the army for two years.
 Just hadn't thought of it.

Summary of the Results of "Adult Education Interview Sheet"

Results of the "Adult Education Interview Sheet" indicated that the participators and non-participators were significantly different in their answers to the questions listed in Table 47.

TABLE 47

SUMMARY OF THE RESULTS FROM "ADULT EDUCATION INTERVIEW SHEET"
WHERE SIGNIFICANT DIFFERENCES WERE DETERMINED

Question Number	Question	Level of Significant Difference by Sign Test	Direction of Difference
10	What is your age group?	5%	Participators were older.
7	Have you enrolled in any special school, trade school, or correspondence school since leaving regular school?	1%	Participators had enrolled in more special schools.
18	Your total yearly income would fall in which group?	1%	Participators had higher income.
31	Do you belong to any service clubs, neighborhood clubs, or any social, recreational, political or other organized group?	1%	Participators belonged to more activity groups.
35	How many times in the last year have you attended an activity in a school building?	1%	Participators attended more school building activities.
40	In the past five local and national elections, how many times have you voted?	1%	Participators voted more times.
15	About how many years ago did you first hear of the Mott Adult Education Program?	1%	Participators had known of program longer.

For all other questions on the "Adult Education Interview Sheet" the sign test revealed a difference significant at no acceptable level.

CHAPTER V

SUMMARY, CONCLUSIONS AND IMPLICATIONS OF THE STUDY

This study was concerned with the determination of differences and similarities between those women who had taken three classes in sewing in the Mott Adult Education Program of the Flint Board of Education and a group of their friends and neighbors who had never participated in any adult education activity. Differences and similarities considered were those in personality factors as defined by the Sixteen Personality Factor Questionnaire and differences in specified non-personality areas as defined by items on the "Adult Education Interview Sheet" designed by this researcher.

Telephone appointments were made with members of a sample of the class participators. Each class participator was asked to invite to her home a friend or neighbor who had never participated in any activity known as an adult education activity. The two women were visited at the appointed time and were asked to complete the Sixteen Personality Factor Questionnaire and the "Adult Education Interview Sheet" according to directions given by the interviewer.

Information gathered through the use of the Sixteen Personality Factor Questionnaire concerned the respondent's personality in sixteen areas grouped by the following continua: sociable----aloof, bright----dull, calm----emotional, aggressive----mild, enthusiastic----glum, conscientious----casual, adventurous----shy, sensitive----tough,

jealous----accepting, absent-minded----practical, polished----simple, timid----confident, radical----conservative, resourceful----dependent, controlled----lax, and tense----phlegmatic. Information gathered through the use of the "Adult Education Interview Sheet" was grouped under the following headings: age, extent of participation in adult classes, participation in other out-of-the-home activities, conditions in the home, mobility, education, socio-economic position, health, religion, familiarity with the adult program, and political involvement.

This chapter summarizes the data analyzed in Chapter IV. Conclusions are drawn, and implications for the Mott Adult Education Program of the Flint Board of Education are suggested.

Summary of Responses to the Sixteen Personality Factor Questionnaire

The class participators and the non-participators were significantly different on the continuum, bright----dull. The class participators rated brighter than the non-participators. There was also a significant difference between the two groups on the aggressive----mild continuum. The class participators were the more aggressive.

Different, but at a lower level of significance, were scores on the continua; persistent----undependable, polished----simple, insecure----confident, and controlled----lax. The class participators were more persistent, simple, confident, and lax, while the non-participators tended to be more undependable, polished and controlled, but insecure.

A class participator in this study may, therefore, be described as a definitely intelligent and aggressive woman who perseveres, is confident, and has fewer fears. She is simple in her tastes and has

1. The first part of the document is a list of the names of the persons who have been appointed to the various offices of the city government. The names are listed in alphabetical order, and each name is followed by the office to which the person has been appointed.

2. The second part of the document is a list of the names of the persons who have been appointed to the various offices of the city government. The names are listed in alphabetical order, and each name is followed by the office to which the person has been appointed.

3. The third part of the document is a list of the names of the persons who have been appointed to the various offices of the city government. The names are listed in alphabetical order, and each name is followed by the office to which the person has been appointed.

4. The fourth part of the document is a list of the names of the persons who have been appointed to the various offices of the city government. The names are listed in alphabetical order, and each name is followed by the office to which the person has been appointed.

5. The fifth part of the document is a list of the names of the persons who have been appointed to the various offices of the city government. The names are listed in alphabetical order, and each name is followed by the office to which the person has been appointed.

not, in the words of Cattell, "crystallized for herself a clear, consistent admired pattern of socially approved behavior to which she strives to conform."¹

We might picture the class participator as searching for new ways of conducting her life, because she does not have a good image of socially approved behavior. She approaches the problem with confidence and has few fears about not succeeding. Her intelligence soon makes her aware of adult education classes and their possibilities for her. Flint adult education classes are unsophisticated adult activities which fit well with her unsophisticated personality characteristics. She enrolls in the classes and remains to complete the work.

The non-participator in this study, by comparison, may be said to be of lower intelligence and less aggressive. She perseveres less, is less confident and more fearful than the participator, but still has a clearer picture of "socially approved behavior to which she strives to conform."²

With respect to adult education participation, the non-participator presents quite a different picture from that of the participator. The non-participator has a better idea of what her behavior should be, but she is worried and is not sure she can behave in conformity with her standards. Her lower intelligence makes it difficult to see possible solutions including benefits from adult classes. And, finally,

¹Raymond B. Cattell, Handbook for Sixteen Personality Factor Questionnaire (Champaign, Ill.: Institute for Personality and Ability Testing, 1957), p. 19.

²Ibid.

when she does think about adult classes, they appear to her as too simple and not in keeping with the polished sophisticated life she dreams for herself. She is slower to enroll in adult education classes.

It should be remembered that the differences between the participant and the non-participant have been established at a high level of significance only with respect to the factors of intelligence and aggressiveness. The use of other factors in picturing the participant and non-participant must be qualified by their level of significance.

The participants and non-participants tended to be alike in the continua: sociable----aloof, adventurous----shy, sensitive----tough, resourceful----dependent, and tense----phlegmatic. Each group was close to the norms in each area provided by the author of the questionnaire. However, in every case the mean score was slightly higher than the norm.

Summary of Responses to the "Adult Education Interview Sheet"

The class participants and non-participants were significantly different in certain specific elements of the non-personality area. Under the general heading of education there was revealed that, even though the participants did not have a record of a greater number of years in regular school, they had enrolled in many more special schools, trade schools, and correspondence schools since leaving regular school. When answering questions about participation in other out-of-the-home activities, two major differences were revealed. The participants belonged to many more clubs than the non-participants. The participants also attended various meetings in the community schools to a much greater extent than the non-participants. As to socio-economic

position, the participators claimed a significantly higher income than the non-participators. In the socio-economic area there were no other revealed differences. The participators were older than the non-participators. The difference in age was at the five per cent level of significance, while all other differences reported in this section were at the one per cent level. Under "political involvement" a difference was shown in the voting record. The class participators voted in more elections than did the non-participators.

The "Adult Education Interview Sheet" contained forty-two questions and observations under eleven different headings. Among the forty-two questions and observations there were seven significant differences. Of the eleven general headings, there were found to be five containing some question where a significant difference appeared.

There were findings of similarity between participators and non-participators which were important enough to merit special emphasis. In recording grades of regular school completed, the participators claimed more years in school, but not enough more to indicate a significant difference. Both groups seemed to like school. The two groups were matched in health. The two groups tended to own their own homes, had lived in Flint about an equal length of time, and presented similar distribution of living areas prior to coming to Flint. Conditions in the homes of the two groups were very much alike both as to demands on the women's time and energy, and as to harmony. In spite of the differences in income, the houses lived in were much alike. Of the seven questions about participation in out-of-the-home activities, only two, as reported earlier, showed a significant difference. As to "political

involvement" there was no difference with respect to claimed party affiliation, though the participators voted more regularly than non-participators. Church affiliation seemed to be unrelated to class participation, as did church attendance.

Findings in the non-personality area of this survey in general conform to the findings of other related studies. One outstanding disagreement is in the area of education. Other studies find that for the populations measured the participators are the better educated. Here educational levels are nearly equal, at least in years of regular school completed. The common finding that participation is positively correlated with socio-economic position is substantiated to the extent that income is a measure of socio-economic position, although homes lived in were of nearly equal value and neighborhoods in most cases the same. It was again revealed in this study that participators in adult education classes were also participators in other adult activities.

Conclusions and Implications of this Study

The findings of this study appear to support the hypotheses of this study with the qualifications noted below.

Hypothesis 1: There are statistically significant differences between the personality factors of the selected participator and the personality factors of the selected non-participators as measured in the Sixteen Personality Factor Questionnaire by Cattell, Saunders and Stice.

From the investigation it appears that the participators were significantly different at the five per cent level from the non-participators in the scores made on all sixteen factors when treated as a group. When treated as individual factors, it was found that on

factor B which designates the continuum, bright----dull, and factor E which designates the continuum, aggressive----mild, the differences were significant at the one per cent level. The participators tended toward the "bright" end of the B continuum and toward the "aggressive" end of the E continuum. The two populations were different also at a lower level of significance in the factors represented by the G, N, O, and Q₃ continua. These continua are the persistent----undependable, polished----simple, insecure----confident, and controlled----lax.

Hypothesis 2: The participators and non-participators as selected will not be statistically different in other non-personality factors which will be measured on the "Adult Education Interview Sheet."

There were eleven non-personality factors considered in this part of the survey. These eleven non-personality factors were age, extent of participation in adult classes, participation in other out-of-the-home activities, conditions in the home, mobility, education, socio-economic position, health, religion, familiarity with the adult program and political involvement. Within six of the eleven areas there were significant differences in individual questions. The six areas showing at least one element of significant difference were age, education, socio-economic position, participation in out-of-the-home activities, political involvement, and familiarity with the adult program. There were forty-two questions and observations which were designed to reveal the respondent's condition with respect to the eleven non-personality factors. Of the forty-two questions and observations, there were significant differences on seven.

Therefore, it can be said that this hypothesis is not fully supported since differences were found significant at a high level. However, more likenesses were found than differences. Further, some likenesses were found in each of the eleven areas except in age. And, finally, where differences were found, even though significant, they were not large.

Hypothesis 3: The differences and likenesses found will suggest adjustment of methods in adult education.

The worker in adult education has two basic responsibilities. First, he must acquaint people with the opportunities available through adult education. Second, he must adequately provide for the needs of people once they have become participators. These two responsibilities will each be considered in the light of significant differences found.

With respect to intelligence it should be noted that neither population measured very high compared to the norms supplied by the authors of the Sixteen Personality Factor Questionnaire. The non-participator was significantly lower than the participator. This means that to attract the non-participator of the population sampled all the devices of popular advertising must be used. The logical appeal or the overly dignified appeal will not reach these women who may be nearly ready to participate but need a final incentive. This argument assumes that much of popular advertising is effective and is also keyed to the people of lower levels of intelligence.

Once in class, the teaching methods must be directed to the slow learner. Although some books on the market consider the gifted adult and his learning problems, no book found discusses the slow learning

adult. What can be done for her must be inferred from studies of children. However, if it is recognized that the adult in a certain class is a slow learner, she can be taught more carefully, and more frequent evaluation of her learning will indicate the effectiveness of the methods used.

In accordance with the results on the aggressiveness----mild continuum, methods of appealing to the non-participator should be devised which will not only seek the non-participator, since she will not seek the class, but also methods which will assure her that once involved her wish to remain mild and submissive will be respected. She will remain in the class longer if teaching methods eschew the boisterous and hearty in favor of the quiet and gentle.

The problem of dropout is one of the most difficult which the adult educator faces. This promises to be a greater problem if the non-participator of this study is drawn into the classes because she tends to be less dependable and has a score on the personality factor G which indicates she has a tendency to "quit." Extra knowledge and skill will have to be applied to keep this woman satisfied.

If the non-participator is the more sophisticated or polished as the results of the questionnaire indicate, then she must be convinced that the adult class activity is consistent with this desire to be in a sophisticated environment. She will not be so much attracted by a "cracker barrel" approach and will not remain in a "folksy" atmosphere.

The non-participator in the population studied is less secure than the participator. Some commercial advertisers would use this lack of security to help produce the type of response wanted. How far the

adult educator is justified in manipulating the potential participator by means of her anxieties is a question which is beyond the scope of this study. But when the non-participator has become a participator, it behooves the adult educator to sooth rather than aggravate these anxieties.

The implications of the scores on the controlled----lax continuum are varied. If the non-participator has "crystallized for herself a clear, consistent admired pattern of socially approved behavior to which she strives to conform,"¹ then one reason for attending adult classes does not apply. If one seeks merely to learn, there are perhaps more efficient ways than by attending adult classes. The adult class probably has its strongest appeal to the person who is looking for something new and is not sure what it is and to the person who needs for motivation the stimulation of working with others. The uncontrolled and lax individual perhaps wants and needs to throw upon others the responsibility for developing a pattern of socially approved behavior and for encouraging him to strive for it. The results on this factor could lead to a re-examination of the basic questions of who should be a participator in adult education and what are its values.

The difference in age is probably not important even though it is statistically significant. The actual median age difference is only 1.64 years. According to several studies reported in Chapter II, personality factors, especially intelligence, are much more constant throughout life than was formerly supposed. If this is true, then it

¹Ibid., p. 19.

follows that so small a difference could signify nothing to the adult educator either in his efforts to promote the program or in the teaching methods he accepts.

The fact that participators in adult education classes have enrolled in other special schools, trade schools and correspondence schools more than non-participators has little significance here. The same drives or personality factors which have led the participator into current adult classes have contributed to her joining other school activities. This study does not show that we are educating the best educated, as has been suggested elsewhere, but it does show we have as participators those who have been in the habit of participating.

In our two populations we have as participators those with the larger income. This is another situation where the difference, even though statistically significant, is not large. The mean difference of income is two hundred ninety-five dollars. This difference does not suggest implication for adult education.

There were three questions: (1) Do you belong to any service clubs, neighborhood clubs, or any social, recreational, political, or other organized groups? (2) How many times in the last year have you attended an activity in a school building? And (3) In the past five local and national elections, how many times have you voted? The answers to the three questions are related in that each indicates that the participator in adult classes is also a participator in other areas. This suggests, as previously noted, that whatever is behind participation, or lack of it, in adult classes is responsible for a similar pattern in other areas.

The last difference noted in the non-personality section of the survey revealed that class participators had known about the adult education program longer than had the non-participators. This could be very important. It is possible that a certain time lapse is necessary before any idea can be translated into action. If so, it may be that the non-participators lack of knowledge of the program is a large factor in their non-participation. An implication of this for the adult educator would be merely to seek ways of reaching more people sooner. But it is probable that the non-participator was exposed to much the same promotional devices as was the participator, so it may be reasoned that the same methods do not reach, with equal speed, people with different personalities. This must be accounted for in any promotional plan.

These data further suggest that this investigation can only be viewed as an initial exploratory attempt to measure an important but small segment of the population participating in adult classes and an important but small segment of the population not participating. If similar methods could be used on other populations of participators and non-participators, eventually a body of knowledge could be secured which would enable the adult educator to know and better serve an ever increasing number of people.

APPENDIX

THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE

WHAT TO DO: Inside this booklet are some questions to see what attitudes and interests you have. There are no "right" and "wrong" answers because everyone has the right to his own views. To be able to get the best advice from your results, you will want to answer them exactly and truly.

If a separate "Answer Sheet" has not been given to you, turn this booklet over and tear off the Answer Sheet on the back page.

Write your name and other particulars at the top of the Answer Sheet.

First, you should answer the four sample questions below so that you can see whether you need to ask anything before starting. Although you are to read the questions in this booklet, you must record your answers on the answer sheet (alongside the same number as in the booklet).

There are three possible answers to each question. Read the following examples and mark your answers at the top of your answer sheet where it says "Examples". Put a mark, x, in the left-hand box if your answer choice is the "a" answer, in the middle box if your answer choice is the "b" answer, and in the right-hand box if you choose the "c" answer.

EXAMPLES:

1. I like to watch team games. (a) yes, (b) occasionally, (c) no.
2. I prefer people who:
(a) are reserved, (b) (are) in between, (c) make friends quickly.
3. Money cannot bring happiness. (a) yes (true), (b) in between, (c) no (false).
4. Woman is to child as cat is to: (a) kitten, (b) dog, (c) boy.

In the last example there is a right answer—kitten. But there are very few such reasoning items among the questions.

Ask *now* if anything is not clear. The examiner will tell you in a moment to turn the page and start.

When you answer, keep these four points in mind:

1. You are asked not to spend time pondering. Give the first, natural answer as it comes to you. Of course, the questions are too short to give you all the particulars you would sometimes like to have. For instance, the above question asks you about "team games" and you might be fonder of football than basketball. But you are to reply "for the average game", or to strike an average in situations of the kind stated. Give the best answer you can at a rate not slower than five or six a minute. You should finish in a little more than half an hour.
2. Try not to fall back on the middle, "uncertain" answers except when the answer at either end is really impossible for you—perhaps once every two or three questions.
3. Be sure not to skip anything, but answer every question, somehow. Some may not apply to you very well, but give your best guess. Some may seem personal; but remember that the answer sheets are kept confidential and cannot be scored without a special stencil key. Answers to particular questions are not inspected.
4. Answer as honestly as possible what is true of you. Do not merely mark what seems "the right thing to say" to impress the examiner.

DO NOT TURN PAGE UNTIL TOLD TO DO SO

1. I have the instructions for this test clearly in mind. (a) **yes**, (b) **uncertain**, (c) **no**.
2. I am ready to answer each question as truthfully as possible. (a) **yes**, (b) **uncertain**, (c) **no**.
3. It would be good for everyone if vacations (holidays) were longer and everyone *had* to take them. (a) **agree**, (b) **uncertain**, (c) **disagree**.
4. I can find enough energy to face my difficulties. (a) **always**, (b) **generally**, (c) **seldom**.
5. I feel a bit nervous of wild animals even when they are in strong cages. (a) **yes**, (b) **in between**, (c) **no**.
6. I believe it is right to understate how good I am at something, when people ask. (a) **yes**, (b) **in between**, (c) **no**.
7. I make smart, sarcastic remarks to people if I think they deserve it. (a) **generally**, (b) **sometimes**, (c) **never**.
8. I get on better with people who: (a) **keep an open mind and refuse to come to an early conclusion**, (b) **are in between (a) and (c)**, (c) **know exactly what their own opinions are**.
9. If I saw two neighbors' children fighting I would: (a) **leave them to settle it**, (b) **uncertain**, (c) **reason with them**.
10. On social occasions I: (a) **readily come forward and speak**, (b) **respond in between**, (c) **prefer to stay quietly in the background**.
11. I would rather be: (a) **a construction engineer**, (b) **uncertain**, (c) **a teacher of social studies**.
12. I would rather spend a free evening: (a) **with a good book**, (b) **uncertain**, (c) **working on a hobby with friends**.
13. I can generally put up with conceited people, even though they brag or show they think too well of themselves. (a) **yes**, (b) **in between**, (c) **no**.
14. I prefer to marry someone who: (a) **commands general admiration**, (b) **in between**, (c) **has artistic and literary gifts**.
15. I sometimes get an unreasonable dislike for a person: (a) **but it is so slight I hide it easily**, (b) **in between**, (c) **which is so definite that I tend to express it**.
16. I think it is more important: (a) **to teach all people an international language**, (b) **uncertain**, (c) **to abolish the laws which prevent a person's managing his sex life according to his own good judgment**.
17. I am always keenly aware of attempts at propaganda in things I read. (a) **yes**, (b) **uncertain**, (c) **no**.
18. I wake up in the night and, through worry, have difficulty in sleeping again. (a) **often**, (b) **sometimes**, (c) **never**.
19. I feel sure that I could "pull myself together" to deal with an emergency. (a) **always**, (b) **generally**, (c) **seldom**.
20. I think the spread of birth control is essential to solving the world's economic and peace problems. (a) **yes**, (b) **uncertain**, (c) **no**.
21. Many troubles arise today through lack of: (a) **moral and religious idealism**, (b) **uncertain**, (c) **scientific education and thinking**.
22. In constructing something I would rather work: (a) **with a committee**, (b) **uncertain**, (c) **on my own, perhaps with one or two assistants**.
23. Through getting tense I use up more energy than most people in getting things done. (a) **constantly**, (b) **occasionally**, (c) **never**.
24. In my job I appreciate constant change in the type of work to be done. (a) **yes**, (b) **in between**, (c) **no**.
25. I feel an urge to "doodle", make little designs on the corner of the paper, and busy my fingers in some way, when kept sitting still at a meeting. (a) **never**, (b) **occasionally**, (c) **often**.

(End of first column on answer sheet.)

26. With the same work hours and pay, I would prefer the life of: (a) **a house carpenter or cook**, (b) **uncertain**, (c) **a waiter in a good restaurant**.
27. I would prefer to work in a business: (a) **keeping accounts and records**, (b) **in between**, (c) **talking to customers**.
28. "Spade" is to "dig" as "knife" is to: (a) **sharp**, (b) **cut**, (c) **shovel**.
29. I think it best to avoid very exciting, fatiguing events. (a) **yes**, (b) **in between**, (c) **no**.
30. I would rather listen to: (a) **a brass band**, (b) **uncertain**, (c) **a good choir, as in a church**.
31. I doubt my ability to do ordinary things as well as other people. (a) **generally**, (b) **often**, (c) **occasionally**.
32. I tend to feel nervous and harried in the presence of business superiors. (a) **yes**, (b) **in between**, (c) **no**.
33. I sometimes make rash remarks in fun, just to surprise people and see what they will say. (a) **yes**, (b) **in between**, (c) **no**.
34. I am an easygoing person, not insisting on always doing things as exactly as possible. (a) **true**, (b) **in between**, (c) **false**.
35. I get slightly embarrassed if I suddenly become the focus of attention in a social group. (a) **yes**, (b) **in between**, (c) **no**.
36. I am always glad to join a large gathering, for example, a party, dance, or public meeting. (a) **yes**, (b) **in between**, (c) **no**.
37. In school I preferred: (a) **music**, (b) **uncertain**, (c) **handwork and crafts**.
38. I believe most people are a little "queer" mentally, though they do not like to admit it. (a) **yes**, (b) **in between**, (c) **no**.
39. I like a friend (of my sex) who: (a) **seriously thinks out his attitudes to life**, (b) **in between**, (c) **is efficient and practical in his interests**.
40. My deeper moods sometimes make me seem unreasonable, even to myself. (a) **yes**, (b) **in between**, (c) **no**.
41. I think people should make more of their decisions on: (a) **what their natural feelings tell them is right**, (b) **in between**, (c) **cold realism and intelligent logic**.
42. Young people get rebellious, impractical ideas, but as they grow up they should get over them and settle down. (a) **yes**, (b) **in between**, (c) **no**.
43. I am inclined to worry when there is no sufficient reason for doing so. (a) **yes**, (b) **in between**, (c) **no**.
44. I feel grouchy and just do not want to see people: (a) **occasionally**, (b) **sometimes**, (c) **rather often**.
45. I feel a strong need for someone to lean on in times of sadness. (a) **yes**, (b) **in between**, (c) **no**.
46. When I was about fourteen and fifteen, if I had a difference of opinion with my parents I usually: (a) **kept my own opinion**, (b) **in between**, (c) **accepted to some extent my parents' opinion**.
47. When I was about fourteen and fifteen, I joined in school sports: (a) **occasionally**, (b) **fairly often**, (c) **a great deal**.
48. I would rather stop in the street to watch an artist painting than to listen to some people having an argument. (a) **yes**, (b) **uncertain**, (c) **no**.
49. I sometimes get in a state of tension and turmoil as I think of the day's happenings. (a) **yes**, (b) **in between**, (c) **no**.
50. I sometimes doubt whether people I am talking to are really interested in what I am saying. (a) **yes**, (b) **in between**, (c) **no**.

51. I would prefer to be: (a) a forester, (b) uncertain, (c) a grammar or high school teacher.
52. I enjoy music that is: (a) light, dry, and brisk, (b) in between, (c) emotional and sentimental.
53. "Tired" is to "work" as "proud" is to: (a) rest, (b) success, (c) exercise.
54. Which of the following items is different in kind from the others? (a) candle, (b) moon, (c) electric light.
55. I admire my parents in all important matters. (a) yes, (b) uncertain, (c) no.
56. I have some characteristics in which I feel superior to most people. (a) yes, (b) uncertain, (c) no.
57. I have no objection to a job that involves my looking soiled and messy all day. (a) yes, (b) in between, (c) no.
58. I tend toward: (a) a rather reckless optimism, (b) in between, (c) an overcautious pessimism.
59. I think that plenty of freedom is more important than good manners and respect for law. (a) yes, (b) in between, (c) no.
60. I tend to keep quiet in the presence of senior persons (people of greater experience, age, or rank). (a) yes, (b) in between, (c) no.
61. I find it hard to address, or recite to, a large group. (a) yes, (b) in between, (c) no.
62. My friends consider me a highly practical, realistic person. (a) yes, (b) in between, (c) no.
63. If I make an awkward social mistake I can soon forget it. (a) yes, (b) in between, (c) no.
64. I can compete strongly with a rival without much feeling of jealousy or hostility. (a) yes, (b) in between, (c) no.
65. My memory tends to drop a lot of unimportant, trivial things, for example, names of streets or shops in town. (a) yes, (b) in between, (c) no.
66. I would enjoy better: (a) trying to puzzle out a problem story on my own, (b) uncertain, (c) playing a game needing tactical skill of hand and eye.
67. I would prefer to be shown over: (a) a prison for hardened criminals, (b) uncertain, (c) a model town sewage disposal plant.
68. I feel well-adjusted to life and its demands. (a) always, (b) sometimes, (c) hardly ever.
69. People sometimes tell me that I show my excitement in voice and manner too obviously. (a) yes, (b) in between, (c) no.
70. I sometimes find it impossible to get done all that has to be done in the day without getting hurried and cross. (a) yes, (b) in between, (c) no.
71. I prefer to marry someone who can: (a) keep the family interested in its own activities, (b) in between (c) make the family part of the social life of the neighborhood.
72. One can hardly do a thing these days without being regulated or exploited by "big business" or government agencies. (a) yes, (b) in between, (c) no.
73. I can work on most things without being bothered by people making a lot of noise around me. (a) yes, (b) in between, (c) no.
74. I feel that on one or two occasions recently I have been blamed more than I really deserve. (a) yes, (b) in between, (c) no.
75. At times of stress or overwork I suffer from indigestion or constipation: (a) never, (b) just occasionally, (c) sometimes.

76. In starting a useful invention I would prefer: (a) **working on it in the laboratory**, (b) **uncertain**, (c) **selling it to people**.
77. "Surprise" is to "strange" as "fear" is to: (a) **brave**, (b) **anxious**, (c) **terrible**.
78. Which of the following fractions is not in the same class as the others? (a) **3/7**, (b) **3/9**, (c) **3/11**.
79. I would enjoy being a newspaper writer on drama, concerts, opera, etc. (a) **yes**, (b) **uncertain**, (c) **no**.
80. I feel that people are not as considerate to me as my good intentions deserve. (a) **often**, (b) **occasionally**, (c) **never**.
81. The use of foul language, even if not in a mixed group of men and women, still disgusts me. (a) **yes**, (b) **in between**, (c) **no**.
82. I have decidedly fewer friends than most people. (a) **yes**, (b) **in between**, (c) **no**.
83. If people on a team (or anything else) I am managing will just follow ordinary instructions, I will guarantee its performance. (a) **yes**, (b) **in between**, (c) **no**.
84. People sometimes call me careless, even though they think me a fine person. (a) **yes**, (b) **in between**, (c) **no**.
85. My reserve always stands in the way when I want to speak to an attractive stranger of the opposite sex. (a) **yes**, (b) **in between**, (c) **no**.
86. I would rather have a job with: (a) **a fixed, certain salary**, (b) **in between**, (c) **a larger salary, but depending on my constantly persuading people I am worth it**.
87. I prefer reading: (a) **a realistic account of military or political battles**, (b) **uncertain**, (c) **a sensitive, imaginative novel**.
88. When bossy people try to "push me around," I do just the opposite of what they want. (a) **yes**, (b) **in between**, (c) **no**.
89. A person who hurts and damages a close friend or relative can still be reasonably regarded as a decent, normal being. (a) **yes**, (b) **in between**, (c) **no**.
90. I like continually to have to learn to work new gadgets in everyday things, from can openers to cars. (a) **yes**, (b) **uncertain**, (c) **no**.
91. One should be careful about mixing with all kinds of strangers, for there are dangers of infection and other things. (a) **yes**, (b) **uncertain**, (c) **no**.
92. I would like to see a move toward: (a) **eating more vegetable foods, to avoid killing so many animals**, (b) **neither**, (c) **operations to stop people having children who would be idiots**.
93. If acquaintances treat me badly and show they dislike me: (a) **it does not upset me a bit**, (b) **in between**, (c) **I tend to get downhearted**.
94. Those who think "the best things in life are free" are usually the ones who own nothing but what is free. (a) **yes**, (b) **in between**, (c) **no**.
95. It would be better if we had more strict observance of Sunday, as a day to go to church. (a) **yes**, (b) **in between**, (c) **no**.
96. When I was about seventeen or eighteen I went out with the opposite sex: (a) **a lot**, (b) **as much as most people**, (c) **very little**.
97. I like to take an active part in social affairs, committee work, etc. (a) **yes**, (b) **in between**, (c) **no**.
98. The idea that sickness comes as much from mental as physical causes is much exaggerated. (a) **yes**, (b) **in between**, (c) **no**.
99. Quite small setbacks occasionally irritate me too much. (a) **yes**, (b) **in between**, (c) **no**.
100. When annoyed I may blurt out remarks that hurt people's feelings: (a) **never**, (b) **rarely**, (c) **sometimes**.

101. When traveling I like to spend spare time: (a) **talking to people about their work, interests, etc.,** (b) **in between,** (c) **enjoying the scenery.**
102. "Size" is to "length" as "dishonesty" is to: (a) **prison,** (b) **sin,** (c) **stealing.**
103. AB is to dc as SR is to: (a) **qp,** (b) **pq,** (c) **tu.**
104. When people are unreasonable I just: (a) **keep quiet,** (b) **in between,** (c) **despise them.**
105. I can always change old habits without difficulty and without relapse. (a) **yes,** (b) **in between,** (c) **no.**
106. I think I am better described as: (a) **polite and quiet,** (b) **in between,** (c) **lively and active.**
107. I feel some of my gifts have never been expressed enough for people to recognize them. (a) **yes,** (b) **in between,** (c) **no.**
108. I like to go out to a show or entertainment: (a) **less than once a week (less than average),** (b) **about once a week (average),** (c) **more than once a week (more than average).**
109. I make sure that anyone who hurts my good name regrets it in the long run. (a) **generally,** (b) **sometimes,** (c) **not usually.**
110. I have at least as many friends of the opposite sex as of my own sex. (a) **yes,** (b) **in between,** (c) **no.**
111. Even in an important game, I am more concerned to enjoy it than to win it. (a) **always,** (b) **generally,** (c) **occasionally.**
112. I would rather be: (a) **a guidance worker with young people seeking careers,** (b) **uncertain,** (c) **a manager in a technical manufacturing concern.**
113. If I am quite sure that a person is unjust or behaving selfishly, I show him up, even if it takes some trouble. (a) **yes,** (b) **in between,** (c) **no.**
114. Most people resent putting themselves out for others, no matter how politely they deny it. (a) **yes,** (b) **in between,** (c) **no.**
115. My artistic feelings sometimes outweigh common sense. For example, I would not live in a wrongly-decorated apartment even if it saved money. (a) **true,** (b) **uncertain,** (c) **false.**
116. I like to: (a) **be free of personal entanglements,** (b) **in between,** (c) **have a circle of warm friendships, even if they are demanding.**
117. I think it is more important in the modern world to solve: (a) **the political difficulties,** (b) **uncertain,** (c) **the question of moral purpose.**
118. I occasionally have a sense of vague danger or sudden dread for no sufficient reason. (a) **yes,** (b) **in between,** (c) **no.**
119. As a child I feared the dark. (a) **often,** (b) **sometimes,** (c) **never.**
120. On a free evening I would prefer to: (a) **see an historical film about our country's past,** (b) **uncertain,** (c) **read a science fiction novel, or essay on "Science and Society".**
121. It bothers me if people think I am being too unconventional or odd. (a) **a good deal,** (b) **somewhat,** (c) **not at all.**
122. Most people would be happier if they lived more with their fellows and did the same things as others. (a) **yes,** (b) **in between,** (c) **no.**
123. When talking I like: (a) **to say things just as they occur to me,** (b) **in between,** (c) **to wait and say them in the most exact way possible.**
124. Often I get angry with people too quickly. (a) **yes,** (b) **in between,** (c) **no.**
125. If something badly upsets me, I generally calm down again quite quickly. (a) **yes,** (b) **in between,** (c) **no.**

126. If the earnings are the same I would rather be: (a) **a lawyer**, (b) **uncertain**, (c) **a freight air pilot**.
127. "Better" is to "worst" as "slower" is to: (a) **fast**, (b) **best**, (c) **quickest**.
128. Which of the following should come next at the end of this row of letters: xooooxxooooxxx ? (a) **xox**, (b) **oox**, (c) **oxx**.
129. When I have planned and looked forward to something, I sometimes do not feel well enough to go. (a) **true**, (b) **in between**, (c) **false**.
130. I could enjoy the life of an animal doctor, handling diseases and surgery of animals. (a) **yes**, (b) **in between**, (c) **no**.
131. I occasionally tell strangers about the things I am interested in and good at, without direct questions from them. (a) **yes**, (b) **in between**, (c) **no**.
132. I spend much of my spare time talking with friends over social events enjoyed in the past. (a) **yes**, (b) **in between**, (c) **no**.
133. I enjoy doing "daring", foolhardy things "just for fun". (a) **yes**, (b) **in between**, (c) **no**.
134. I think the police can be trusted not to ill-treat innocent people. (a) **yes**, (b) **in between**, (c) **no**.
135. I consider myself a very sociable, talkative person. (a) **yes**, (b) **in between**, (c) **no**.
136. In social contacts I: (a) **express my emotions very readily**, (b) **in between**, (c) **keep my emotions to myself**.
137. I would rather spend an afternoon in: (a) **a game of cards**, (b) **uncertain**, (c) **working on a project with friends**.
138. I try to make my laughter at jokes quieter than most people's. (a) **yes**, (b) **in between**, (c) **no**.
139. When people jostle me about in a crowd I (a) **never mind it**, (b) **sometimes dislike it**, (c) **get irritated**.
140. The teaching of different beliefs about right and wrong is (a) **always interesting**, (b) **something we cannot avoid**, (c) **unpleasant and wasteful**.
141. I am always interested in mechanical matters—for example, in cars and airplanes. (a) **yes**, (b) **in between**, (c) **no**.
142. I like to tackle problems that other people have made a mess of. (a) **yes**, (b) **in between**, (c) **no**.
143. I am properly regarded as only a plodding half-successful person. (a) **true**, (b) **uncertain**, (c) **false**.
144. If people take advantage of my friendliness I: (a) **deeply resent it and act accordingly**, (b) **in between**, (c) **soon forget and forgive**.
145. I am considered a thoughtful person, depending a lot on my own ideas. (a) **yes**, (b) **in between**, (c) **no**.
146. I like to do my planning alone, without interruptions and suggestions from others. (a) **yes**, (b) **in between**, (c) **no**.
147. I sometimes let my actions get swayed by feelings of jealousy. (a) **yes**, (b) **in between**, (c) **no**.
148. I know I do most things at least a *bit* more thoroughly than most people. (a) **yes**, (b) **in between**, (c) **no**.
149. I tend to tremble or perspire when I think of a difficult task ahead. (a) **generally**, (b) **occasionally**, (c) **never**.
150. In the past year I have: (a) **found life "plain sailing"**, (b) **had just average troubles**, (c) **had a bit more than my share of trouble**.

151. I would prefer the life of: (a) **an artist**, (b) **uncertain**, (c) **a secretary running a social club**.
152. Which of the following words does not properly belong with the others? (a) **any**, (b) **some**, (c) **most**.
153. "Flame" is to "heat" as "rose" is to: (a) **thorn**, (b) **red petals**, (c) **scent**.
154. I have vivid dreams, disturbing my sleep. (a) **often**, (b) **occasionally**, (c) **practically never**.
155. If the odds are really against something's being a success, I still believe in taking the risk. (a) **yes**, (b) **in between**, (c) **no**.
156. I like it when I know so well what the group has to do that I naturally become the one in command. (a) **yes**, (b) **in between**, (c) **no**.
157. I prefer to dress: (a) **very quietly and correctly**, (b) **in an average way**, (c) **with a bit of definite style that people can see**.
158. I enjoy more an evening: (a) **with a good hobby of my own**, (b) **uncertain**, (c) **in a lively party**.
159. In thinking of difficulties in my work, I (a) **assume I can handle them when they come**, (b) **in between**, (c) **try to plan ahead, before I meet them**.
160. I always make a point, in deciding anything, to refer to basic principles of right conduct. (a) **yes**, (b) **in between**, (c) **no**.
161. I somewhat dislike having a group watching me at work. (a) **yes**, (b) **in between**, (c) **no**.
162. I keep my room well organized, with things in known places almost all the time. (a) **yes**, (b) **in between**, (c) **no**.
163. In school I preferred: (a) **English**, (b) **uncertain**, (c) **mathematics or arithmetic**.
164. I have sometimes been troubled by people saying bad things about me, behind my back, with no grounds at all. (a) **yes**, (b) **in between**, (c) **no**.
165. Talk with ordinary, habit-bound, conventional people: (a) **is often quite interesting**, (b) **in between**, (c) **annoys me because it is superficial and insensitive**.
166. I find it embarrassing to have praise or compliments bestowed on me. (a) **yes**, (b) **in between**, (c) **no**.
167. I think it is wiser to keep the nation's military forces strong than to seek international agreements. (a) **yes**, (b) **in between**, (c) **no**.
168. People regard me as a kind of solid, unperturbable person they can leave in charge of things. (a) **yes**, (b) **in between**, (c) **no**.
169. I think society should be quicker to adopt new customs and throw aside old habits and mere traditions. (a) **yes**, (b) **in between**, (c) **no**.
170. My viewpoints change in an uncertain way because I trust my feelings more than logical reasoning. (a) **yes**, (b) **to some extent**, (c) **no**.
171. I learn better by: (a) **reading a well-written book**, (b) **in between**, (c) **joining a group discussion**.
172. I have periods when I cannot stop a mood of self pity. (a) **often**, (b) **occasionally**, (c) **never**.
173. I like to wait till I am sure that what I am saying is correct, before I put forward an argument. (a) **always**, (b) **generally**, (c) **only if it's practicable**.
174. Small things sometimes "get on my nerves" unbearably though I realize them to be trivial. (a) **yes**, (b) **in between**, (c) **no**.
175. In physical and mental work I seem to need rest: (a) **only when everyone else is exhausted**. (b) **about like most people**, (c) **before many people, if I am to do my best**.

176. I prefer marrying someone who is: (a) **effective in a social group**, (b) **in between**, (c) **a thoughtful companion**.
177. Which of the following words does not belong with the other two? (a) **wide**, (b) **zigzag**, (c) **regular**.
178. "Soon" is to "never" as "near" is to: (a) **nowhere**, (b) **far**, (c) **next**.
179. I go to sleep just as easily when I drink coffee or tea (or coca cola) before bed as when I do not. (a) **yes**, (b) **in between**, (c) **no**.
180. I have sometimes been described as a rather headstrong person, following my own ideas regardless of the opinions of others. (a) **yes**, (b) **in between**, (c) **no**.
181. I think I am better at showing: (a) **courage in meeting challenges**, (b) **uncertain**, (c) **tolerance of other's views**.
182. I am generally considered a lively, enthusiastic person. (a) **yes**, (b) **in between**, (c) **no**.
183. I like a job that offers change, variety, and travel, even if it involves some danger. (a) **yes**, (b) **in between**, (c) **no**.
184. Everyone could make a success of his life with reasonable effort and perseverance. (a) **yes**, (b) **in between**, (c) **no**.
185. I enjoy work that requires careful, exacting, hand skills. (a) **yes**, (b) **in between**, (c) **no**.
186. I don't believe in persuading friends to go out if they just want to sit around at home. (a) **true**, (b) **in between**, (c) **false**.
187. I am sure there are no questions that I have skipped or failed to answer properly. (a) **yes**, (b) **uncertain**, (c) **no**.

NAME		First		Middle		Last		SEX	AGE	DATE	RAW SCORE															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
EXAMPLES:	1	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	2	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	3	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	4	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	5	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	6	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	7	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	8	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	9	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	10	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	11	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	12	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	13	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	14	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	15	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	16	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	17	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	18	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	19	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	20	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	21	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	22	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	23	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	24	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
	25	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y

END OF TEST

ADULT EDUCATION INTERVIEW SHEET

This is a study designed to secure information both from people attending adult education classes and from those not attending adult education classes. This information will make possible a more worthwhile adult education program.

We appreciate your frank answers. Once the papers are turned in, your name will be removed and it will not be possible at any time for anyone to identify people answering with answers given.

Thank you for your help.

1. Are you attending any adult education class or classes now or have you attended any during the last year? ☐ Yes ☐ No
2. If yes, name the class or classes. _____

3. Have you attended any other adult education class or classes in the last five years? ☐ Yes ☐ No
4. If yes, name these classes. _____

5. What was the last grade or year which you attended regular school?

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

 - 8th grade or less
 - 9th-10th-11th or 12th grade but not graduate
 - 12th grade graduate
 - College but not graduate
 - Four year college degree
 - Graduate work in college
6. Did you enjoy regular school when you attended? ☐ Yes ☐ No
7. Have you enrolled in any special school, trade school or correspondence school since leaving regular school? ☐ Yes ☐ No

8. If yes, name the school or schools. _____
9. If yes, why did you enroll in this special school, trade school, or correspondence school? _____
10. What is your age group?
- | | | | |
|---|--------------------------------|--------------------------------|-------------------------------------|
| <input type="checkbox"/> 20 years or less | <input type="checkbox"/> 31-35 | <input type="checkbox"/> 46-50 | <input type="checkbox"/> 61-65 |
| <input type="checkbox"/> 21-25 | <input type="checkbox"/> 36-40 | <input type="checkbox"/> 51-55 | <input type="checkbox"/> 66 or more |
| <input type="checkbox"/> 26-30 | <input type="checkbox"/> 41-45 | <input type="checkbox"/> 56-60 | |
11. How many years have you lived in Flint?
- | | | |
|---|---------------------------------------|---|
| <input type="checkbox"/> Less than 1 year | <input type="checkbox"/> 4 - 5 years | <input type="checkbox"/> 11 - 15 years |
| <input type="checkbox"/> 1 - 3 years | <input type="checkbox"/> 6 - 10 years | <input type="checkbox"/> 16 years or more |
12. How many different houses have you lived in in Flint?
- | | | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------------------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> More than 5 |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------------------------------------|
13. Do you own your present home or rent? ☐ Own ☐ Rent
14. Where did you live immediately before coming to Flint? _____
15. About how many years ago did you first hear of the Mott Foundation Adult Education Program? ☐ Never ☐ Less than 1 year
- | | | |
|--------------------------------------|--------------------------------------|--|
| <input type="checkbox"/> 1 - 2 years | <input type="checkbox"/> 3 - 5 years | <input type="checkbox"/> More than 5 years |
|--------------------------------------|--------------------------------------|--|
16. How did you hear of this program? (you may check more than one)
- | | | |
|------------------------------------|--------------------------------------|--------------------------------|
| <input type="checkbox"/> Newspaper | <input type="checkbox"/> Pamphlets | <input type="checkbox"/> Other |
| <input type="checkbox"/> Friends | <input type="checkbox"/> Radio or TV | _____ |
17. If you have not taken part in the Mott Foundation Adult Education Program, what would you say are the chief reasons? _____
18. Your total yearly family income would fall in which group?
- | | | |
|--|--|---|
| <input type="checkbox"/> Less than \$1,000 | <input type="checkbox"/> \$4,001 - \$6,000 | <input type="checkbox"/> \$7,001 - \$10,000 |
| <input type="checkbox"/> \$1,000 - \$4,000 | <input type="checkbox"/> \$6,001 - \$7,000 | <input type="checkbox"/> More than \$10,000 |
19. Do you, yourself, work for money? ☐ Yes ☐ No

20. If yes, what is your job? _____
21. How is your health?
- ☐ Often ill or handicapped ☐ Ill sometimes ☐ Almost never ill
22. How many members of your family live in your house with you?
- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 or more
23. Do you feel crowded in your home? ☐ Yes ☐ No
24. Do you have any serious illness among the members of your family or are any members very old or very young? ☐ Yes ☐ No
25. If yes, do these incapacitated persons require much of your time in caring for them? ☐ Yes ☐ No
26. Do you feel busier than you would like to be with housework? ☐ Yes ☐ No
27. Do you have a lawn and garden on which you work? ☐ Yes ☐ No
28. Do the members of your family get along well together?
- ☐ Yes ☐ Usually ☐ No
29. Do the members of your family get along well with their neighbors?
- ☐ Yes ☐ Usually ☐ No
30. How many times in the last year have you visited in a friend's or relative's home?
- ☐ None ☐ 6 - 10 ☐ 21 - 50 ☐ More than 100
☐ 1 - 5 ☐ 11 - 20 ☐ 51 - 100 (twice a week)
31. Do you usually visit alone or with your husband and family?
- ☐ Alone ☐ With husband and family
32. Do you belong to service clubs, neighborhood clubs, or any social, recreational, political, or organized group? ☐ Yes ☐ No

33. What is the name or are the names of your clubs or groups? _____

34. How many times total in the last year have you attended regular meetings of these clubs?

☐ None ☐ 6 - 10 ☐ 21 - 50 ☐ More than 100
☐ 1 - 5 ☐ 11 - 20 ☐ 51 - 100 (twice a week)

35. How many times in the last year have you attended an activity in a school building?

☐ None ☐ 6 - 10 ☐ 21 - 50 ☐ More than 100
☐ 1 - 5 ☐ 11 - 20 ☐ 51 - 100 (twice a week)

36. Do you usually go alone or with a member of your family?

☐ Alone ☐ With member of family

37. What is your church affiliation?

☐ Catholic ☐ Protestant ☐ Jewish ☐ Other or none

38. How many times total in the last year have you attended a regular church meeting?

☐ None ☐ 1 - 5 ☐ 6 - 25 ☐ 26 - 50 ☐ More than 50

39. With which major political party do you usually find yourself

voting? ☐ Republican ☐ Democratic ☐ Neither or varies

40. In the last five local and national elections, how many times have you voted?

☐ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0

July 17, 1959

Dear Friend:

We would like to thank you for your fine co-operation in the adult education survey. We expect the information so obtained will be very helpful in planning future programs.

As a token of our appreciation, if you are interested, we would like you to be our guest (without charge) for a Mott Foundation Adult Education class of your choice. This letter, presented at registration time, will serve in place of the registration fee. (Unfortunately, we are unable to include college credit classes, driver education, and a few other specialized classes in this offer.) If you have any questions, please call the Adult Education Office, CE 8-1631, Extension 365.

Thank you again.

Very truly yours,

Myrtle F. Black, Ph. D.
Director of Adult Education

MFB:mf

TABLE 48 : COSINE MATRIX OF CORRELATIONS AMONG REFERENCE VECTORS^a

Factors	A	G	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄
A	1.00														
C	.13	1.00													
E	.07	.06	1.00												
F	-.01	.05	.00	1.00											
G	.00	.04	-.02	.05	1.00										
H	-.36	-.12	-.18	-.26	.00	1.00									
I	-.29	-.04	-.06	.01	.00	.14	1.00								
L	-.01	-.01	-.06	-.11	-.04	.26	-.04	1.00							
M	.03	.14	.06	.26	-.04	.05	-.14	-.07	1.00						
N	.08	.01	-.11	-.12	.13	-.05	.26	-.05	-.02	1.00					
O	.02	.19	.00	-.04	.02	.13	-.11	-.08	-.06	.04	1.00				
Q ₁	-.15	.05	-.31	-.02	.11	-.09	.02	.01	-.19	.00	.01	1.00			
Q ₂	.07	-.01	.18	.22	.02	.03	-.11	-.01	-.11	.03	.08	-.14	1.00		
Q ₃	.30	-.19	.12	.22	-.19	-.29	-.02	.11	-.04	-.22	.20	.00	.12	1.00	
Q ₄	0.04	0.09	0.02	0.05	-0.05	0.01	0.15	-0.15	-0.01	-0.07	-0.17	0.13	0.01	0.23	1.00

^a Taken from: Raymond B. Cattell, "Validations and Intensification of the Sixteen Personality Factor Questionnaire," Journal of Clinical Psychology, XII (1956), p. 210.

TABLE 49

FORM A, STENS: GENERAL POPULATION (NON-STUDENTS): AMERICAN ADULT WOMEN (20-60 YEARS)
1959 REVISION AND EXPANSION OF NORMS^a

Raw Score	Factors													
	A	B	C	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂
0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	2	1	1	1	1	1
2	1	1	1	1	1	1	2	1	2	1	1	1	1	1
3	2	1	1	1	1	1	2	1	3	1	1	2	2	2
4	2	1	1	1	1	1	2	1	3	1	1	2	3	2
5	3	2	1	1	2	1	3	2	4	2	2	3	3	3
6	4	3	1	2	2	1	3	2	5	3	2	3	4	3
7	4	5	1	2	3	1	4	3	5	3	3	4	5	4
8	5	6	1	3	3	2	4	4	6	4	4	4	6	4
9	6	7	1	4	4	2	4	4	6	4	5	5	6	4
10	6	8	2	4	4	3	5	5	7	5	6	5	7	4
11	7	9	2	5	5	4	6	6	7	6	6	6	8	5
12	7	10	3	5	5	5	6	6	8	6	7	6	8	5
13	8	10	3	6	6	5	6	7	9	7	8	7	9	6

TABLE 49--Continued

Raw Score	Factors															
	A	B	C	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄
14	9		4	7	6	6	6	8	9	7	9	7	10	8	8	6
15	9		5	7	7	7	7	9	10	8	9	8	10	8	9	6
16	10		5	8	7	7	7	9	10	9	10	8	10	9	9	7
17	10		6	8	7	8	7	10	10	9	10	9	10	10	10	7
18	10		6	9	8	9	8	10	10	10	10	9	10	10	10	8
19	10		7	10	8	10	8	10	10	10	10	10	10	10	10	8
20	10		8	10	9	10	9	10	10	10	10	10	10	10	10	8
21			8	10	9		9			10		10				9
22			9	10	10		9			10		10				9
23			9	10	10		10			10		10				10
24			10	10	10		10			10		10				10
25			10	10	10		10			10		10				10
26			10	10	10		10			10		10				10
Mean	9.0	7.7	16.6	12.1	12.7	13.4	12.0	10.6	7.7	10.8	9.9	10.6	8.0	10.0	10.4	12.8
σ	3.1	1.7	3.3	3.3	4.3	2.8	5.0	2.9	3.5	3.2	2.6	3.8	2.8	3.5	2.9	5.1

^aTaken from: R. B. Cattell, D. R. Saunders, and G. Stice, Tabular Supplement to the Sixteen Personality Factor Questionnaire Handbook, Champaign, Ill., Institute for Personality and Ability Testing, Revised 1959, p. 6a.

TABLE 50

BIPOLAR DESCRIPTIONS OF SOURCE TRAITS
(FACTORS) A THROUGH Q_4^a

High Score

Low Score

Factor A

CYCLOTHYMIA
(WARM, SOCIABLE)

Versus

SCHIZOTHYMIA
(ALOCF, STIFF)

Good natured, easy going
Ready to co-operate
Attentive to people
Softhearted, kindly
Trustful
Adaptable
Warm hearted

vs.

Aggressive, critical
Obstructive
Cool, aloof
Hard, precise
Suspicious
Rigid
Cold

vs.

vs.

vs.

vs.

vs.

vs.

Factor B

GENERAL INTELLIGENCE
(BRIGHT)

Versus

MENTAL DEFECT
(DULL)

The measurement of intelligence has been shown to carry with it as a factor in the personality realm some of the following ratings:

Conscientious

vs.

Of lower morale

Persevering

vs.

Quitting

Intellectual, cultured

vs.

Boorish

Factor C

EMOTIONAL STABILITY OR EGO
STRENGTH (MATURE, CALM)

Versus

DISSATISFIED EMOTIONALITY
(EMOTIONAL, IMMATURE, UNSTABLE)

Emotionally mature

vs.

Low in frustration toler-
ance

Emotionally stable

vs.

Changeable (in attitudes)

Calm, phlegmatic

vs.

Showing emotionality

Realistic about life

vs.

Evasive in facing decisions

Absence of neurotic fatigue

vs.

Neurotically fatigued

Placid

vs.

Worrying

TABLE 50—Continued

High Score		Low Score
Factor E		
DOMINANCE OF ASCENDANCE (AGGRESSIVE, COMPETITIVE)	Versus	SUBMISSION ("MILK-TOAST", MILD)
Assertive, self-assured	vs.	Submissive
Independent minded	vs.	Dependent
Hard, stern	vs.	Kindly, soft-hearted
Solemn	vs.	Expressive
Unconventional	vs.	Conventional
Tough	vs.	Easily upset
Attention getting	vs.	Self-sufficient
Factor F		
SURGENCY (ENTHUSIASTIC, HAPPY-GO-LUCKY)	Versus	DESURGENCY (GLUM, SOBER, SERIOUS)
Talkative	vs.	Silent, introspective
Cheerful	vs.	Depressed
Serene, happy-go-lucky	vs.	Concerned, brooding
Frank, expressive	vs.	Incommunicative, smug
Quick and alert	vs.	Languid, slow
Factor G		
CHARACTER OF SUPER-EGO STRENGTH (CONSCIENTIOUS, PERSISTENT)	Versus	LACK OF RIGID INTERNAL STANDARDS (CASUAL, UNDEPENDABLE)
Persevering, determined	vs.	Quitting, fickle
Responsible	vs.	Frivolous
Emotionally mature	vs.	Demanding, impatient
Consistently ordered	vs.	Relaxed, indolent
Conscientious	vs.	Undependable
Attentive to people	vs.	Obstructive
Factor H		
PARMIA (ADVENTUROUS, "THICK-SKINNED")	Versus	THRECTIA (SHY, TIMID)
Adventurous, likes meeting people	vs.	Shy, withdrawn
Overt interest in opposite sex	vs.	Retiring in face of opposite sex
Responsive, genial	vs.	Aloof, self-contained
Friendly	vs.	Apt to be embittered

TABLE 50--Continued

High Score

Low Score

Factor H--Continued

Impulsive and frivolous	vs.	Restrained, conscientious
Emotional and artistic interests	vs.	Restricted interests
Carefree		Careful, considerate

Factor I

PRENSIA (SENSITIVE, EFFEMINATE)	Versus	HARRIA (TOUGH, REALISTIC)
Demanding, impatient, subjective	vs.	Realistic, expects little
Dependent, seeking help	vs.	Self-reliant
Kindly, gentle	vs.	Hard (to point of cynicism)
Artistically fastidious, affected	vs.	Few artistic responses
Imaginative in inner life and in conversation	vs.	Unaffected by "fancies"
Acts on sensitive intuition	vs.	Acts on logical evidence
Hypochondriacal, anxious	vs.	Unaware of physical disabilities

Factor L

(PROTENSION) PARANOID (SUSPECTING, JEALOUS)	Versus	RELAXED SECURITY (ACCEPTING, ADAPTABLE)
Jealous	vs.	Accepting
Self-sufficient	vs.	Outgoing
Suspicious	vs.	Trustful
Withdrawn, brooding	vs.	Open, ready to take a chance
Tyrannical	vs.	Understanding, tolerant
Hard	vs.	Soft-hearted
Irritable	vs.	Composed and cheerful

Factor M

AUTIA (BOHEMIAN INTROVERTED, ABSENT-MINDED)	Versus	PRAXERNIA (PRACTICAL, CONCERNED WITH FACTS)
Unconventional, self-absorbed	vs.	Conventional, alert to practical needs
Interested in art, theory	vs.	Interests narrowed to immediate issues

TABLE 50 --Continued

High Score

Low Score

Factor M--Continued

Imaginative, creative	vs.	No spontaneous creativity
Frivolous, immature	vs.	Sound, realistic, dependable
Generally cheerful	vs.	Earnest, concerned or worried

Factor N

SHREWDNESS SOPHISTICATED, POLISHED	Versus	NAIVETE (SIMPLE, UNPRETENTIOUS)
Polished, socially alert	vs.	Socially clumsy and "natural"
Exact, calculating mind	vs.	Vague and sentimental mind
Aloof, emotionally disciplined	vs.	Warm, gregarious, spontaneous
Esthetically fastidious	vs.	Simple tastes
Insightful regarding self	vs.	Lacking self-insight
Insightful regarding others	vs.	Fails to analyze motives
Ambitious, possibly insecure	vs.	Content with what comes
Expedient, "cuts corners"	vs.	Trusts in accepted values

Factor O

GUILT PRONENESS (TIMID, INSECURE)	Versus	(CONFIDENT ADEQUACY (CONFIDENT, SELF-SECURE)
Worrying, anxious	vs.	Self-confident
Depressed	vs.	Cheerful, resilient
Sensitive, tender, easily upset	vs.	Tough, placid
Strong sense of duty	vs.	Expedient
Exacting, fussy	vs.	Does not care
Hypochondriacal	vs.	Rudely vigorous
Phobic symptoms	vs.	No fears
Moody, lonely, brooding	vs.	Given to simple action

Factor Q₁

RADICALISM	Versus	CONSERVATISM OF TEMPERAMENT
------------	--------	-----------------------------

Factor Q₂

SELF-SUFFICIENCY (SELF-SUFFICIENT, RESOURCEFUL)	Versus	GROUP DEPENDENCY (SOCIABLY GROUP DEPENDENT)
--	--------	--

TABLE 5 Q--Continued

High Score

Low Score

Factor Q₃

HIGH SELF-SENTIMENT FORMATION Versus	POOR SELF-SENTIMENT FORMATION
(CONTROLLED, EXACTING WILL POWER)	(UNCONTROLLED, LAX)

Factor Q₄

HIGH ERGIC TENSION	Versus	LOW ERGIC TENSION
(TENSE, EXCITABLE)		(PHLEGMATIC, COMPOSED)

^aTaken from: Raymond B. Cattell, D. R. Saunders, and G. Stice, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Ill.: Institute for Personality and Ability Testing, 1957), pp. 11-19.

TABLE 51

 \bar{X} OR COLUMN VECTOR (MEANS)

-00113811381

07227722773

00574257425

01485148515

-00396039604

00445544555

00227722772

00079207921

-00475247524

00405940595

-00524752476

-06039603961

03564356437

00009900990

-01019801980

00287128712

TABLE 52

S OR COVARIANCE MATRIX (TRIANGULAR FORM)

00115106270	00028410920	-00080344078	00008095321
	-00228497157	-00740701864	-00207479639
-00129036406	-00050751884	-00406091248	00005559180
07408293076	-00026225909	-00783174188	-00059111725
	00003284023	-00270948997	-00066316111
-00021496032	-00004511288	-00084179998	00004642714
00033741841	-00003299182	-00920107905	00025589719
00228187280	00158947113	00237259098	00006847325
		00771791905	-00051777329
00015427929	00006465132	00121051882	00012654657
00104538754	00013557480	00240089174	00009202974
-00015162262	-00041825283	20458795906	-00316443492
00347646241	00016265982		-20102264514
	00041385186	00035423029	-00002968350
00021806671	-00005110281	00217625673	00272867274
-00072365395	-00080897374	-00126409103	
00033561487	00014435779	00279737336	00000044071
00123901623	00170414518	00248769787	-00010851941
00319619483		00006891427	-00074322178
	00000977352	00363170269	00016527842
00089143170	-00107558133	-00209753979	00023315370
00057896240	-00023222261	00185256353	-00015635740
00003382002	00037535532	00082560628	-00094614243
00028432414	-00032055722	00095931754	00008287365
-00006552323	00001260619	00021213637	00137503306
00116133624	-00030429390	13437309812	00025567077
	00033539827		-00008394212
00057201257	00037869796	-00026522856	01115658313
00110273627	00190134222	00121066572	-00039937309
00047405186		-00029957869	00058189450
00163350671	00017198383	-00008958946	-00104497571
00119812714	-00079894126	-00049168717	00379076435
00043242785	-00012927132	-00001529289	
00441758456	00015813137	-00074478022	
	00008911926	00010289198	
	00021941958	00016581613	
	00038026604	00081543943	
	00025267206	00005695513	
	00003347714	00153964294	
	-00010642181	00104597559	
	00128434380	00183068223	

TABLE
CORRELATION

Factor	A	B	C	E	F	G	H	I
A	1.0000							
B	-.1397	1.0000						
C	-.1326	.0260	1.0000					
E	.0771	.0651	-.0538	1.0000				
F	.1137	-.0470	.1243	.3717	1.0000			
G	.2521	.0624	.0208	.1415	-.0340	1.0000		
H	.2537	.0610	.1493	.4168	.3189	.1909	1.0000	
I	.2100	-.2106	-.2665	-.1116	.0146	-.0332	-.0313	1.0000
L	.0462	.0121	-.2121	.0668	.1773	-.0363	-.2948	.0877
M	.0066	-.0906	-.1115	.1460	-.1300	.0085	-.1050	.1929
N	.1414	-.0819	-.0755	.0748	.0440	.1797	.1596	.1768
O	-.0524	-.0602	-.1883	-.2937	-.1060	-.0546	-.3061	.1316
Q ₁	.0687	.0218	-.0722	.1294	.1200	.0055	.1491	-.1435
Q ₂	-.1827	.1040	-.1466	-.0355	-.2033	-.0105	-.2619	.0603
Q ₃	.0457	-.1456	.0222	-.1919	-.2246	.0261	.0737	.0329
Q ₄	0.0002	-0.0065	-0.2527	0.0455	0.0670	-0.0745	-0.2312	0.0338

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COEFFICIENTS

L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄
1.0000							
.2104	1.0000						
.0226	-.0681	1.0000					
.4133	.0614	.1481	1.0000				
.1224	.0517	.0730	.0013	1.0000			
.0939	.4371	.0371	.0796	.0667	1.0000		
- .2401	.0556	.0492	-.1339	-.0534	-.0133	1.0000	
0 .0541	0.0952	-0.0380	0.4006	-0.0177	0.2209	-0.3249	1.0000

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ROOM USE ONLY

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