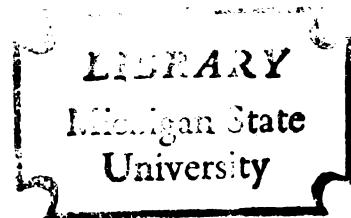




PERSONALITY CHARACTERISTICS OF STUDENTS
ENROLLED IN A FAMILY LIFE COURSE AND A
GENERAL (OR LIBERAL) EDUCATION COURSE AT
MICHIGAN STATE UNIVERSITY

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
MARIAN HOLMES ASTLE
1967

THESIS



ABSTRACT

PERSONALITY CHARACTERISTICS OF STUDENTS ENROLLED IN A FAMILY LIFE COURSE AND A GENERAL (OR LIBERAL) EDUCATION COURSE AT MICHIGAN STATE UNIVERSITY

by Marian Holmes Astle

The designation of the components necessary to develop an effective educational program has been the object of concern and research on the part of many authorities in the educational field. They have ascertained that it is necessary to know the educational objectives of a particular course or curriculum before the program can be efficiently planned or improved.

The objectives of a family life course are usually concerned with the student's gaining insight into himself, his role in his present family, and his role as a marriage partner. A basic knowledge of the student on the part of the instructor would contribute to the attainment of these goals.

The two main purposes of this study were: (1) to determine the personality characteristics of students who voluntarily enroll in a family life course as measured by the Sixteen Personality Factor Questionnaire, and (2) to ascertain the differences in personality characteristics, if any, between these students enrolled in a family life course as compared with students of the general university population.

The study sample consisted of sixty-four female students enrolled in a family life course (HMC 145) during Fall quarter 1966 at Michigan State University. The sample for comparison was made up of

forty-three females drawn from Natural Science 181, a course required of all undergraduate students at Michigan State University. The Sixteen Personality Factor Questionnaire was used to assess the personality characteristics present at the time of testing.

A profile of the means of the HMC 145 students as compared with the norms established by Cattell indicate that they, as a group, tend to:

1. be slightly inclined toward emotional instability (Low Factor C)
2. be somewhat submissive although not beyond what would be considered average or normal (Low Factor E)
3. be somewhat fickle, irresolute, unsteady and quitting; all characteristics attributed to an individual who is casual or is weak in character (Low Factor G)
4. be imaginative, introspective, artistic, fastidious, and excitable. (High Factor I)
5. be unsophisticated, sentimental, unpretentious, and socially naive (Low Factor N)
6. have a mature, unanxious confidence in themselves and their capacity to deal with things. (Low Factor O)

The means of the two samples were compared on each of the sixteen different personality factors. Significant differences were found in the following areas:

1. The students of HMC 145 tend to be somewhat more submissive than the Natural Science 181 students. (Factor E) This trait characterizes individuals who tend to be followers, to be dependent on other people and to take action which goes along with the group.
2. The HMC 145 students tend to be somewhat more unsophisticated, sentimental, unpretentious, and socially naive than the Natural Science 181 students. (Factor N)
3. The HMC 145 students tend to be more considerate, conscientious, and to show more foresight than the Natural Science 181 students. (Factor Q₃) This trait is influenced by age which could account for the younger Natural Science students scoring lower.

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By

Marian Holmes Astle

A THESIS

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

MASTER OF ARTS

Department of Home Management and Child Development

1967

645061
6/28/67

ACKNOWLEDGMENTS

Appreciation is expressed to Dr. Martha E. Dale for her guidance and direction in organizing and conducting the study. Appreciation is also expressed to Dr. Frances Magrabi for her help with the computerization and analysis of the data and to the instructors of the classes which were used for the testing, Mrs. Thelma Dunn Hansen (HMC 145) and Dr. John N. Moore (Natural Science 181). The writer also owes a special debt of gratitude to her husband, Lynn, for his encouragement, patience, and assistance throughout this investigation. His help in the present study can never be adequately acknowledged.

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CHAPTER 1

INTRODUCTION

The designation of the components necessary to develop an effective educational program has been the object of concern and research on the part of authorities in the educational field. One specification which has been ascertained is that if an educational program is to be planned and if efforts for continued improvement are to be made, it is first necessary to have some conception of the desired end goals.¹ In order to study an educational program systematically and intelligently, it is necessary to determine the educational objectives.

Christensen, in his extensive study of the educators in the field of family life on both the high school and college level, found that the two objectives most often pursued were: (1) to assist the student in developing understanding of the relationships in modern marriage and to help him understand himself in relation to other members of his family, and (2) to aid the student in gaining self-understanding through developing an awareness of his needs, desires, and capacities.²

It seems to follow that if the student is to develop an awareness of himself and his relations with other members of his family and society, it would be necessary for the instructor of such a course to have a basic knowledge of the student--his needs, interests, back-

¹Ralph W. Tyler, Basic Principles of Curriculum and Instruction (Chicago: University of Chicago Press, 1950), p. 3.

²Glen A. Christensen, "An Analysis of Selected Issues in Family Life Education" (unpublished PhD. dissertation, Michigan State University, 1958), p. 88.

ground, and aspirations. In his delineation of the educational process Tyler connotes the fundamental need to study the learners themselves. He feels that the ultimate goal of education--behavior change--would be impossible to achieve if the needs, interests, and idiosyncrasies of the students themselves have not been ascertained.³

Cumings⁴ in his discussion of Family Life courses states, "An educational institution may have excellent courses in family life education, but unless there is a general and pervasive awareness of the needs of the individual student, he [the student] may find little help for his particular set of problems."

In speaking specifically of the Family Life course, Bee,⁵ Luckey,⁶ and Wimmer⁷ go a step further in actively promoting the notion that the central core of the field of education for marriage and family life are the emotions, attitudes, feelings, and behavior of people; consequently, the student and not the subject matter should be the major focus.

³ Tyler, op. cit., p. 4.

⁴ Edgar C. Cumings, "Family Life Education in School and College: Work and Philosophy of the American Hygiene Association," Marriage and Family Living, XX (May, 1958), 119.

⁵ Lawrence Bee, "Evaluating Education for Marriage and Family Living," Marriage and Family Living, XIV (May, 1952), 97-103.

⁶ Eleanor Luckey and Gerhard Neubeck, "What Are We Doing in Marriage Education?," Marriage and Family Living, XVIII (November, 1956), 349-354.

⁷ Nancy C. Wimmer, "Trends in Family Life Education in Schools," Journal of Social Hygiene, XXXIX (February, 1953), 69-78.

Foote and Cottrell⁸ feel that the major function or objective toward which family life educators and family researchers should channel their energies is the discovery, the testing, and the implementation of those conditions or experiences which most effectively contribute to interpersonal and thus to intrafamilial competence. Hence the development and actualization of the components of competence in human personality and experience constitute the major problems and tasks for future work in the family.

A study and description of the student is, it seems, necessary in all areas of education in order to effect the desired behavior change. As was pointed out above, however, this delineation seems to be even more pertinent in the field of education for marriage and family life since it is from this point that the program should be launched.

The implications of such a study are more far-reaching than it first appears. Landis⁹ has indicated that the teacher of marriage and family life courses is almost forced to become a counselor on many types of problems whether or not he wishes to counsel. The previously mentioned study of Christensen's¹⁰ would support this, as 80% of the educators in his study indicated they did some personal or individual counseling. This movement toward counseling by family life educators is also reflected in the fact that the majority of respondents in the Christensen study felt that training in counseling should be included in the academic

⁸ Nelson Foote and Leonard Cottrell, Identity and Interpersonal Competence (Chicago: University of Chicago Press, 1955), pp. 134-144.

⁹ Judson Landis, "Marriage of Mixed and Non-Mixed Religious Faiths," American Sociological Review, XIV (June, 1949), 405.

¹⁰ Christensen, op. cit., p. 117.

preparation of future family life educators.¹¹ At any rate, "counseling is generally recognized as an integral part of marriage education . . . " either individually or in a group.¹²

The nature of the material covered in a family life course may provide an atmosphere conducive to the verbalization of student problems. Duvall points out that the "classroom teacher may not do the kind of counseling that she would consider therapy, yet her interest in her students as individuals, and the open relationship which she establishes with them reaches surprising depths that approximate group counseling in many a class."¹³

Purpose of the Study

The two main purposes of this study were: (1) to determine the personality characteristics as measured by the Sixteen Personality Factor Questionnaire¹⁴ of students who voluntarily enroll in a family life course and (2) to ascertain the differences in personality characteristics, if any, between these students enrolled in a family life course as compared with students of the general university population.

¹¹Ibid., p. 273.

¹²Evelyn Duvall, "How Effective Are Marriage Courses?," Journal of Marriage and the Family, XXVII (May, 1965), 176.

¹³Ibid., p. 176.

¹⁴Raymond B. Cattell and Herbert W. Eber, The Sixteen Personality Factor Questionnaire, Form C (Champaign, Illinois: Institute for Personality and Ability Testing, 1956).

Definitions of Terms

The definitions of terms as operationalized in this study were:

1. **Personality** - "that which permits a prediction of what a person will do in a given situation."¹⁵
2. **Factor Source Traits** - "The main dimensions (a) that have been found necessary and adequate to cover all the kinds of individual differences of personality found in common speech and psychological literature (They leave out no important aspect of the total personality.); (b) that are independent of one another; and (c) that are known to be important in the sense of each having a wide area of influence on behavior."¹⁶
3. **The Sixteen Personality Factor Questionnaire** - The Sixteen Personality Factor Questionnaire was developed by Raymond B. Cattell and Herbert W. Eber and is based on research dating back to 1934. The test has been revised, modernized in scoring and increased in validity several times since its initial publication in 1950. It is in questionnaire form with the purpose of delineating "planfully and precisely all the main personality dimensions along which people can differ according to basic factor analytic research."¹⁷
4. **Needs** - drives within a person which are striving for fulfillment thus causing a person to act in a particular way.

Assumptions

1. Students voluntarily enroll in some courses to satisfy specific needs.
2. Students enrolled in HMC 145 (Relationships in the Modern Family) are a representative sample of students interested in family life courses.
3. Students enrolled in Natural Science 181 are a representative

¹⁵ Raymond B. Cattell, Personality: A Systematic, Theoretical, and Factual Study (New York: McGraw-Hill, 1950), p. 2.

¹⁶ Raymond B. Cattell and Herbert W. Eber, Handbook for the Sixteen Personality Factor Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1957 with 1964 Supplementation), p. 2.

¹⁷ Ibid., p. 1.

sample of the general university population.

4. HMC 145 and Natural Science 181 are both freshmen level courses.
5. The Sixteen Personality Factor Questionnaire (The 16 P.F. Test) is a valid and reliable instrument.
6. The t-test used for statistical analysis assumes the following:
(1) The sample is a random sample, (2) The variables are normally distributed, and (3) The variances are equal.

Hypotheses

1. The mean score of the HMC 145 students on Factor A (Warm, Outgoing versus Aloof, Stiff) as tested by the 16 P.F. Test will be significantly higher than the mean score of the Natural Science 181 students on the same factor as measured by the same test.
2. There will be no significant difference between the mean score of the HMC 145 students on Factor B (Bright, Intelligent versus Dull) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
3. The mean score of the HMC 145 students on Factor C (Mature versus Emotional) as tested by the 16 P.F. Test will be significantly higher than the mean score of the Natural Science 181 students on the same factor as measured by the same test.
4. The mean score of the Natural Science 181 students on Factor E (Aggressive, Competitive versus "Milk-Toast," Mild) as tested by the 16 P.F. Test will be significantly higher than the mean score of the HMC 145 students on the same factor as measured by the same test.
5. There will be no significant difference between the mean score of the HMC 145 students on Factor F (Enthusiastic versus Glum, Serious)

as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.

6. The mean score of the HMC 145 students on Factor G (Conscientious versus Casual) as tested by the 16 P.F. Test will be significantly higher than the mean score of the Natural Science 181 students on the same factor as measured by the same test.
7. There will be no significant difference between the mean score of the HMC 145 students on Factor H (Adventurous versus Shy, Timid) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
8. There will be no significant difference between the mean score of the HMC 145 students on Factor I (Sensitive, Effeminate versus Tough, Realistic) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
9. The mean score of the Natural Science 181 students on Factor L (Suspecting, Jealous versus Trustful) as tested by the 16 P.F. Test will be significantly higher than the mean score of the HMC 145 students on the same factor as measured by the same test.
10. There will be no significant difference between the mean score of the HMC 145 students on Factor M (Eccentric versus Conventional) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
11. There will be no significant difference between the mean score of the HMC 145 students on Factor N (Sophisticated, Polished versus Simple, Unpretentious) as tested by the 16 P.F. Test and the mean

score of the Natural Science 181 students on the same factor as measured by the same test.

12. There will be no significant difference between the mean score of the HMC 145 students on Factor O (Insecure versus Confident) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
13. There will be no significant difference between the mean score of the HMC 145 students on Factor Q₁ (Experimenting versus Conservative) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
14. There will be no significant difference between the mean score of the HMC 145 students on Factor Q₂ (Self-Sufficient, Resourceful versus Dependent) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.
15. The mean score of the HMC 145 students on Factor Q₃ (Self-Controlled versus Uncontrolled) as tested by the 16 P.F. Test will be significantly higher than the mean score of the Natural Science 181 students on the same factor as measured by the same test.
16. There will be no significant difference between the mean score of the HMC 145 students on Factor Q₄ (Tense, Excitable versus Phlegmatic, Composed) as tested by the 16 P.F. Test and the mean score of the Natural Science 181 students on the same factor as measured by the same test.

CHAPTER 2

REVIEW OF THE LITERATURE

The studies of Anderson,¹ Christensen,² Kirkendall and Handweek,³ and Landis⁴ have been concerned with the research and investigation of the personalities, background, training, and objectives of the teachers of family life courses both on the high school and college level. The literature, however, reveals no instances where the student of the family life course has been specifically studied to determine the needs, drives, aspirations or goals which he may have. Christensen⁵ in his study of family life educators refers to the student when he points out the similarity between the reasons for teaching a family life course and the reasons given by students for enrolling in the course i.e., desire to help others (60.2%), interest in the family as a result of a happy family background (40.9%), and interest in the family as a result of a stressful family experience (22%).

¹Floyd M. Anderson, "A Descriptive Study of Forty Educators in Marriage and Family Life with Secondary Consideration of Their Courses" (unpublished PhD. dissertation, Teacher's College, Columbia University, 1955).

²Christensen, op. cit.

³Lester A. Kirkendall and E. Handweek, "Preparation of Teachers for Education in Marriage and Family Life," Marriage and Family Living, XII (Winter, 1950), 7-8.

⁴Paul Landis, "Training Teachers for Family Life Education," Sociology and Social Research, XXXII (August, 1948), 938-943.

⁵Christensen, op. cit., p. 100.

Despite the deficiency in the specific area of the family life student, some research findings on the relationship between personality and choice of occupation and/or major field in college can be indirectly related to the present study. Holland's theory of occupational choice is based on the assumption that at the time an individual makes his choice of vocation he is the product of "heredity and of a variety of cultural and personal forces including peers, parents, other significant adults, social class, American culture, and the physical environment."⁶ Out of all these experiences the individual develops a hierarchy of orientations for coping with environmental tasks. "The person making a vocational choice in a sense 'searches' for those environments which are congruent with his personal orientations."⁷ Holland's research has led to the following conclusions: (1) Students with different dominant personal orientations (defined by their high point scale from the SVIB)⁸ have significantly different attributes including scholastic aptitude, self-concepts (ratings), personal traits, originality, daydreams, college majors, career choices, preferred roles, and achievements,⁹ and (2) Students tend to move away from fields in which they are dissimilar to the typical student and to move toward fields in which they are similar to the typical student.¹⁰

⁶ John L. Holland, "Explorations of a Theory of Vocational Choice and Achievement: II A Four Year Prediction Study," Psychological Reports, XII (April, 1963), 547.

⁷ Ibid., p. 547.

⁸ Strong Vocational Interest Blank

⁹ Holland, op. cit., p. 592.

¹⁰ Ibid., p. 593.

Roe, in describing the factors underlying the choice of occupation, states that "The pattern of development of special abilities is primarily determined by the directions in which psychic energy comes to be expended involuntarily. This statement also applies to interests, attitudes and other personality variables."¹¹ "Involuntarily" is used to emphasize the fact that the things to which the individual gives automatic attention are the keys to his total behavior.

The eventual pattern of psychic energies in terms of attention directedness is the major determinant of the field or fields to which the person will apply himself. "This is relevant not only to vocation, of course, but to the total life pattern of the individual. It determines what sort of special abilities and interests will be predominant."¹²

The earliest subdivision of attention directedness and one which has significance for the whole life pattern of the individual is that division referring to persons--either towards persons or towards non-persons. This basic orientation with respect to persons later ramifies into patterns of special interest and abilities. The degree of social interest is clearly related to person-oriented individuals. Scientific and mechanical interest reach their fullest development in those individuals who are concerned with non-persons.¹³

¹¹ Anne Roe, "Early Determinants of Vocational Choice," Journal of Counseling Psychology, IV (Fall, 1957), 212-213.

¹² Ibid., p. 213.

¹³ Ibid., p. 216.

Lanna's¹⁴ study of 243 male high school upper classmen and college lower classmen attempted to explore the relationships between Social Activity and Emotional Adjustment and three types of vocational interest: person-oriented, non person-oriented, and indirect person-oriented. Social Activity was defined in terms of number of friends and acquaintances, facility in conversation, attitudes about social activities, etc. It was found that there is a direct relationship between Social Activity and vocational interest which is person-oriented, and also that there is an inverse relationship between Social Activity and vocational interest which is non person-oriented. These findings indicate that it could probably be expected that students selecting a course in Human Relationships would be somewhat person-oriented.

Forer¹⁵ and Melton¹⁶ have also studied the relationship between personality and choice of occupation. In both cases the data indicate that there are definitely measurable relationships between personality and vocational interest. Specific personality traits which are charact-

¹⁴Matthew George Lanna, "Vocational Interests in Relation to Some Aspects of Personality and Adjustment" (unpublished EdD. dissertation, Columbia University, 1962), as quoted in Dissertation Abstracts, XXIII (May, 1963), 4421-4422.

¹⁵B. R. Forer, "Personality Factors in Occupational Choice," Educational and Psychological Measurement, XIII (Autumn, 1953), 361-366.

¹⁶William Melton, "An Investigation of the Relationship Between Personality and Vocational Interest," Journal of Educational Psychology, XLVII (March, 1956), 163-174.

eristic of certain occupations have also been determined by Blum¹⁷ and Miller.¹⁸

In the area of relating personality to the selection of a particular major in college, Freedman,¹⁹ using a questionnaire as well as direct test measures, found substantial differences among seniors in various major fields. These differences did not appear to be attributable to differential influences exerted by majoring in the fields concerned, but seemed rather to be functions of differences already present at the time of college entrance as indicated by the students' college entrance examinations. Freedman concluded that students who select the same major field tend to have some personality characteristics in common.

The purposes of Bendig's²⁰ study was to determine if the Kuder Preference Record was sensitive to discriminating departmental differences among Honors majors who are quite homogenous in intellectual abilities. (B was average grade.) He also compared the Honors majors in Psychology with similar majors in other departments. The freshmen entrance tests scores on the ACE and the Kuder Preference Record were gathered for the 107 subjects representing eleven subject areas. Significant differ-

¹⁷Stuart H. Blum, "The Desire for Security: An Element in the Vocational Choice of College Men," Journal of Educational Psychology, LII (December, 1961), 317-321.

¹⁸Sutherland Miller Jr., "The Relationship of Personality to Occupation, Setting, and Function" (unpublished PhD. dissertation, Columbia University, 1960), as quoted in Dissertation Abstracts, XXI (May, 1961), 3518.

¹⁹Mervin B. Freedman, "Influence of College Experience on Personality Development," Psychological Reports, VIII (February, 1961), 21-22.

²⁰A. W. Bendig, "Validity of Kuder Differences Among Honors Majors," Educational and Psychological Measurement, XVII (Winter, 1957), 593-598.

ences on the ACE total were found among the departmental groups. After statistical correction for these ACE differences, eight of the nine Kuder scales significantly discriminated interest differences among the departmental groups.

Martin and Bendig²¹ in their study of the personalities of college students who selected teaching as a major found specific traits which were representative of that group of students. Thorpe's²² study indicated an existing pattern of similarity of personality variables among her 255 physical education majors and instructors. Nelson²³ found that industrial arts college students and their instructors were consistently differentiated from the normative group of college men. Morrill²⁴ studied personality differences as related to environment (urban college and suburban college) and area of concentration. Although he found differences between the needs of students enrolled in different environments, at the same time the needs of students majoring in similar curriculum areas at different institutions were similar.

²¹Ann M. Martin and A. W. Bendig, "Personality Needs of College Students Selecting Teaching as a Career," Journal of Psychological Studies, XII (May, 1961), 111-120.

²²J. Anne Thorpe, "Study of Personality Variables Among Successful Women Students and Teachers of Physical Education," Research Quarterly, XXIX (March, 1958), 83-92.

²³Rex Albert Nelson, "Personality Variables of College Students Who Signify Industrial Arts as a Major Field of Educational Preparation" (unpublished EdD. dissertation, Colorado State University, 1964), as quoted in Dissertation Abstracts, XXV (July, 1964), 300.

²⁴W. H. Morrill, "The Relationship of Student Personality, Area of Concentration and College Environment" (unpublished PhD. dissertation, University of Missouri, 1966), as quoted in Dissertation Abstracts, XXVII (October, 1966), 961-A.

Logan's²⁵ study of Home Economics majors at the University of Tennessee is somewhat related to the present study. Forty-eight white female students in four areas (Home Economics, Liberal Arts, Business Administration, and Nursing) were studied in an attempt to identify some of the factors (real and latent) which may have a bearing upon the reasons why students do or do not choose Home Economics as a major field of study, and also, to identify personality characteristics of individuals which tend to be dominant in a selected group of Home Economic majors. Logan's conclusions were that Home Economic students tended: (1) to be less dependent on other people, (2) to give evidence of creative potentialities, (3) to be less conventional in their approach to life, (4) to hold a positive self concept, (5) to place emphasis on self discipline, and (6) to reveal evidence of positive parental identification.

A study within the College of Home Economics was done by Hoddick²⁶ at Ohio State University. This study investigated the need patterns and need satisfactions of three groups of students majoring in different areas of Home Economics i.e., (1) Child Development and Family Relationships, (2) Food and Nutrition and Institution Management, and (3) Housing and Design and Textiles and Clothing. Her conclusions were: (1) Certain needs are more clearly related to the choice of major within Home Economics than to choice between two or more fields

²⁵ Nell P. Logan, "Personality Correlates of Undergraduates Selecting Home Economics as an Area of Specialization in College," Journal of Home Economics, LIII (March, 1961), 232.

²⁶ Nancy Anna Hoddick, "Personality Correlates and Degree of Satisfaction with Undergraduate Field of Specialization" (unpublished PhD. dissertation, Ohio State University, 1964), as quoted in Dissertation Abstracts, XXV (August, 1964), 1005.

outside Home Economics. This was confirmed when it was determined that there were no significant differences between Home Economics students and the Edward's Normative Sample of "College Women." However, statistically significant differences among the three sub groups were found on four of the fifteen needs: exhibition, autonomy, intraception,²⁷ and endurance. (2) Statistically significant differences in the satisfaction of student needs depending on specific areas of concentration within Home Economics were found in five of the fifteen variables. (3) Hoddick's hypothesis that there would be a statistically significant correlation between need satisfaction and strength of need of each group was also confirmed. The coefficient of correlation for the Child Development and Family Relationships group was significant at the .05 level. The coefficient of correlation and need satisfaction for the Housing and Design and Textiles and Clothing group showed an inverse relationship.

Experienced educators in the field of family life have made statements regarding their students. When discussing the effectiveness of teaching material related to marital success, Udry indicates that the family life student does have specific characteristics. "Another problem in measuring effectiveness is student selectivity. Those who go to college are more likely to have 'successful marriages' by most criteria than those who do not. Those who take elective courses in marriage and family life are likely to have characteristics which make them distinctly better than average marriage risks on most counts."²⁸

²⁷ Need to intellectually know and understand.

²⁸ J. Richard Udry, Social Context of Marriage (Philadelphia: J. B. Lippincott Co., 1966), p. 556.

Bee²⁹ in his discussion of family life courses points out that a successful student in family life would be characterized by the absence of ethnocentrism, political-economic conservatism, and anti-democratic trends.

Research in related areas, experience, and observation in the field of family life all point to the possibility that the family life student has personality characteristics in common with other family life students. The sparse research in this area indicates a need for further investigation of specific common traits.

²⁹Bee, op. cit., p. 101.

CHAPTER 3

METHODOLOGY

The concern of this chapter is to clarify the measurements involved in the present study and to describe the selection procedures and the characteristics of the sample. These methodological considerations will be presented in the following order: (1) description of the instrument, (2) selection of the instrument, (3) selection and description of the sample, (4) collection of the data, and (5) statistical analysis of the data.

Description of the Instrument

The Sixteen Personality Factor Questionnaire Form C (referred to as the 16 P.F. Test; see Appendix for test form) was utilized for the collection of the data. The 16 P.F. Test, developed by Raymond B. Cattell and Herbert W. Eber "is a factor analytically developed personality questionnaire designed to measure the major dimensions of human personality comprehensively, in young adults and adults from sixteen or seventeen years to late maturity."¹

The present questionnaire meets the demand for a personality-measuring instrument properly validated with respect to the primary personality factors that are considered in general psychological research. It is at present unique in "(a) having every item possessed of a demonstrated saturation with respect to each of the factors which it

¹IPAT Bulletin #6AA (Champaign, Illinois: Institute for Personality and Ability Testing, 1964), p. 1.

sets out to measure, and, (b) having proof that each of the questionnaire factors corresponds to a primary personality factor found elsewhere,"² i.e., beyond the questionnaire realm, notably in ratings in real-life behavior situations, in the Objective Analytic Factor Battery, in social response patterns, and in abnormal, pathological behavior.

The rationale for sixteen different components of the personality is based on Cattell's belief that the human personality is too complex to be described in terms of only three or four dimensions. "The verdict of many years of research indicates that in nine cases out of ten he [the researcher considering three or four personality dimensions only] will overlook some other, unconsidered, personality dimension that is equally important."³ Through years of research Cattell has outlined sixteen dimensions or factor source traits which he describes as:

(a) necessary and adequate to cover all the kinds of individual differences of personality found in common speech and psychological literature (They leave out no important aspect of the total personality.); (b) that are independent of one another; and (c) that are known to be important in the sense of each having a wide area of influence on behavior.⁴

As stated above, each of these factors is independent of each other which means that (1) it is not possible to obtain a total score for all factors since each must be considered separately, and (2) a specific score on one factor does not influence or preclude a particular score on any of the other fifteen factors.

²Cattell, Handbook for the Sixteen Personality Factor Questionnaire, p. 2.

³Ibid., p. 1.

⁴Ibid., p. 2.

Each factor yields a raw score ranging from 0-12. These scores are considered as a continuum of the specific personality trait involved. In the raw score state, however, what would be considered "normal or average" does not necessarily correspond with the median score of six; but ranges from four to eight depending on the factor.

It is possible to convert the raw score to a standard or "sten" score which places all the scores in a range from one to ten with the median of five to six representing the average or normal range for all factors. In applied use, when comparing person with person, standard scores are necessary. But in research use involving correlations or significance of differences of means, standard scores are unnecessary. In fact, the standard scores may "involve some slight loss of information, because standard scores . . . are more coarsely grouped than the original raw scores and involve some bias in getting the raw scores into either the stanine or sten cells."⁵ Thus, for the purposes of this study the raw scores were utilized even though it necessitated special consideration for each factor when determining the norm.

The scores for each of the sixteen factors can be plotted on a profile which readily indicates the areas where the individual scored high, low, or in the normal range. Since different occupations require different personality characteristics, it may be desirable that the individual score higher on one factor than on another. Through extensive research Cattell has devised "ideal" profiles for at least twenty-eight different occupations, and extensive use of these profiles have been made in both occupational counseling and placement. By comparing profiles the counselor or employer can quickly determine whether or not an individual

⁵Ibid., p. 10.

has personality characteristics suited for a particular occupation or position.

The names of each of the sixteen factors and a brief description of their characteristics follows:⁶ (See also Table 1, p. 22.)

Factor A - Warm, Outgoing (Cyclothymia)
versus Aloof, Stiff (Schizothymia)

An individual who scores high (9-12) on Factor A tends to be good-natured, easy going, ready to cooperate, attentive to people, soft-hearted, kindly, trustful, and adaptable. He likes occupations dealing with people and socially impressive situations. The low-scoring individual (1-6) tends to be stiff, cool, and aloof. He prefers things rather than people, would rather work alone and avoids clashes of viewpoints. The average score for Factor A is 7-8.

Factor B - Bright (Intelligence)
versus Dull (Low General Ability)

The individual who scores high (6-8) on Factor B tends to be quick to grasp ideas, a fast learner, and intelligent. A low-scoring (1-3) individual tends to be slow to learn and grasp, dull, and sluggish. The average is 4-5. "The principal object in measuring this item in the 16 P.F. Test is not to add personality information but to complete the measurement of factors important in most predictions by adding a good general ability measure."⁷

⁶ Note: The descriptive terms are somewhat esoteric.

⁷ Cattell, Handbook for the Sixteen Personality Factor Questionnaire, p. 11.

TABLE 1
THE SIXTEEN PERSONALITY FACTORS AND THEIR RELIABILITY COEFFICIENTS

Factor	High Scoring	Low Scoring	Normal Range	Coefficients of Reliability
A	Warm, Outgoing	Aloof, Stiff	7-8	.54
B	Bright, Intelligent	Dull	4-5	.57
C	Mature.	Emotional	7-8	.47
E	Aggressive, Competitive	"Milk-Toast," Mild	4-5	.42
F	Enthusiastic.	Glum, Serious	7-8	.50
G	Conscientious	Casual	7-8	.41
H	Adventurous	Shy, Timid	6-7	.61
I	Sensitive, Effeminate.	Tough, Realistic	5-6	.55
L	Suspecting, Jealous	Trustful	5-6	.45
M	Eccentric.	Conventional	5-6	.39
N	Sophisticated, Polished	Simple, Unpretentious	5-6	.41
O	Insecure	Confident	5-6	.32
Q ₁	Experimenting	Conservative	5-6	.71
Q ₂	Self-Sufficient, Resourceful	Dependent	6-7	.45
Q ₃	Self-Controlled.	Uncontrolled	6-7	.52
Q ₄	Tense, Excitable	Phlegmatic, Composed	5-6	.55

Factor C - Mature (Ego Strength)
versus Emotional (General Instability)

A high-scoring (9-12) individual on Factor C tends to be emotionally mature, stable, calm, phlegmatic, and better able to maintain high group morale. The low-scoring (1-6) individual on Factor C tends to be emotionally immature, lacking in frustration tolerance, easily annoyed by things and people, and evasive. The average is 7-8. "Occupationally, individuals having to adjust to difficulties thrown upon them from outside, e.g., teachers, engineers, salesmen, firemen run well above average on Factor C, while in occupations not demanding sudden adjustments, or in which the individual can set his own pace, e.g., postmen, clerks, janitors, writers, lower ego strength obtains."⁸

Factor E - Aggressive, Competitive (Dominance)
versus "Milk-Toast," Mild (Submission)

The high-scoring (6-12) individual tends to be ascendant, self-assured, independent-minded, assertive, and bold in his approach to situations. The low-scoring (1-3) individual tends to be dependent, a follower, and to take action which goes along with the group. He tends to lean on others in making decisions. Four to five is considered average for this trait.

Factor F - Enthusiastic (Surgency)
versus Glum, Serious (Desurgency)

The person who scores high (9-12) on Factor F tends to be cheerful, talkative, frank, expressive, quick, alert, and unperturbable. The low-scoring (1-6) individual tends to be taciturn, reticent, and introspective. He is sometimes incommunicative, melancholic, anxious, and depressed. The average score is 7-8.

⁸Ibid., p. 12.

Examination of origins shows that surgent persons have generally had an easier, less punishing, more optimism-creating environment, or that they have a more happy-go-lucky attitude through less exacting aspirations. Surgency increases slightly from waking until late in the day with increasing metabolic rate.⁹ In another publication Cattell points out that surgency declines with age fairly steeply between seventeen and thirty-five years of age. Desurgency may be considered an increasing "load of care."¹⁰

Factor G - Conscientious (Super Ego Strength)
versus Casual (Weakness of Character)

An individual who scores high (9-12) on Factor G tends to be strong in character, persevering, responsible, interested in analyzing people, planful, and consistent. The low-scoring individual tends to be fickle, irresolute, unsteady, and quitting. He is sometimes demanding, impatient, and lacking in internal standards. The average score on this factor is 7-8.

This factor, which has some superficial resemblance to Factor C in that it also is indicative of self-controlled rather than emotional behavior, is characterized most by energy and persistence. It corresponds to the super-ego in psychoanalysis. "On the whole, it would seem that this factor best depicts the regard for moral standards, the tendency to drive the ego and to restrain the id, which are most frequently regarded as marks of the super-ego and which can be distinguished from the inte-

⁹ Ibid., p. 13.

¹⁰ Raymond B. Cattell, Personality and Motivation Structure and Measurement (New York: World Book Co., 1957), p. 114.

grational, more stolid, emotional stability of Factor C."¹¹

Factor H - Adventurous (Parmia)
versus Shy, Timid (Threctia)

A high-scoring (8-12) individual on Factor H tends to be sociable, participating, ready to try new things, spontaneous, and abundant in emotional response. He is able to face wear and tear in dealing with people and grueling emotional situations, without fatigue. However, he can be careless of detail, ignore danger signals. The low-scoring (1-5) individual reports himself to be intensely shy, convinced of his inferiority, slow and impeded in expressing himself, disliking occupations with personal contacts, and preferring one or two close friends to large groups. The average score on this trait is 6-7.

Present evidence indicates Factor H to be one of the most highly inherited of personality factors. The H- person, according to this hypothesis, has, "initially, an over-responsive sympathetic nervous system which makes him especially 'threat-reactive'."¹² (Hence Cattell's technical label "threctia.") The H+ person, on the other hand, shows little inhibition by environmental threat. "This constitutional insusceptibility to inhibition in turn generates the social, sexual, emotional, and general readiness to venture."¹³ It is also important to note that H+ tends to increase with age as people become less "shy."

¹¹ Cattell, Handbook for the Sixteen Personality Factor Questionnaire, p. 13.

¹² Ibid., p. 14.

¹³ Ibid., p. 14.

Factor I - Sensitive, Effeminate (Premsia)
versus Tough, Realistic (Harria)

The high-scoring (7-12) individual on Factor I tends to be imaginative, introspective, artistic, fastidious, and excitable. Women run decidedly higher than men on this factor, and older people run higher than younger people. The individual who scores low (1-4) on Factor I tends to represent some sort of tough, masculine, practical, mature, and realistic ("no-nonsense") temperamental dimension. Average score on this factor is 5-6.

Factor L - Suspecting, Jealous (Protension)
versus Trustful (Relaxed Security)

The individual who scores high (7-12) on Factor L tends to be mistrusting and doubtful. He is often involved in his own ego, and interested in internal, mental life. He is usually deliberate in his actions, unconcerned about other people and a poor team member. The low-scoring (1-4) individual tends to be free of jealous tendencies, adaptable, cheerful, concerned about other people and trusting. The average score for this trait is 5-6.

The term "protension" attributed to the high-scoring individual signifies "projection and inner tension." As indicated the protensive individual shows a "high degree of inner tension which takes the form of a feeling of social insecurity, together with compensatory behavior and projection."¹⁴ Cattell feels that some of the traits popularly attributed to dominance (Factor E) actually belong in this pattern. Also this pattern has rather larger variance in male than female populations.

¹⁴Ibid., p. 16.

Factor M - Eccentric (Autia)
versus Conventional (Praxernia)

An individual who scores high (7-12) on Factor M tends to be unconventional, unconcerned, egocentric, sensitive, and imaginative. In terms of criteria, high M individuals in groups tend to feel unaccepted, but unconcerned. The low-scoring (1-4) individual tends to be anxious to do the right thing, practical, conformist, and concerned with facts. He is often unimaginative. Occupationally, high M occurs in artists, researchers, planning executives, and editors; low M occurs in occupations requiring mechanical sense, realism, and alertness. The average score for this trait is 5-6.

Factor N - Sophisticated, Polished (Shrewdness)
versus Simple, Unpretentious (Naivete)

A high scoring (7-12) individual on Factor N tends to be ingenious, flexible in viewpoint, alert to manners, to social obligations, and to the social reactions of others. "The pattern represents some form of intellectual-educational development, not to be confused with intelligence, though it correlates both with intelligence and dominance."¹⁵ The person who scores low (1-4) on Factor N tends to be unsophisticated, sentimental, unpretentious, socially naive, warm, gregarious, and spontaneous. The average score for this trait is 5-6.

Although this dimension thus looks like a socially acquired pattern of skills, there is "evidence in the clinical field that it is associated with a generalized mental alertness, health, and efficiency. All this points to there being too much efficiency in N+ to tolerate people and their failings and perhaps to more natural warmth and liking for people in N-."¹⁶

¹⁵Ibid., p. 17.

¹⁶Ibid., p. 17.

Factor O - Insecure (Guilt Proneness)
versus Confident (Self Secure)

An individual who scores high (7-12) on Factor O tends to be depressed, moody, is easily downhearted and remorseful, feels that people are not as moral as they should be, is inclined to piety, and prefers books and quiet interests to people and noise. The low-scoring individual (1-4) tends to be placid, calm, with unshakable nerve. He has a mature, "unanxious" confidence in himself and his capacity to deal with things. He is resilient and secure. The average score for this trait is 5-6.

Clinically Factor O is very important, "first as one of the largest factors in anxiety, appearing centrally in the depressive-anxiety syndrome, and, secondly, as tending to be generally high in neurotics and many psychotics."¹⁷ Although it is not to be confused with simple super ego strength (Factor G), it represents a "guilt proneness" and "poorness in spirit" sometimes associated with piety.

Factor Q₁ - Experimenting (Radicalism)
versus Conservative (Conservatism)

An individual who scores high (7-12) on Factor Q₁ tends to be interested in intellectual matters and fundamental issues. He frequently takes issue with ideas, either old or new. He tends to be more well informed, less inclined to moralize, more inclined to experiment in life generally, and more tolerant of inconvenience. The low-scoring (1-4) individual tends to be overly cautious and moderate. He is opposed to any change, inclined to go along with tradition, and tends not to be interested in analytical "intellectual" thought. Five to six is average.

¹⁷ Ibid., p. 18.

Factor Q₂ - Self-Sufficient, Resourceful (Self-Sufficiency)
versus Dependent (Group Dependency)

The high-scoring (8-12) individual on Factor Q₂ tends to be independent, resolute, accustomed to going his own way, making decisions, and taking action on his own. He is not necessarily dominant, however, in his relations with others (see Factor E). The low-scoring (1-5) individual tends to prefer to work and make decisions with other people, likes and depends on social approval and admiration. He tends to go along with the group and may be lacking in resolution.

Factor Q₃ - Self-Controlled (High Self-Sentiment)
versus Uncontrolled (Poor Self-Sentiment)

An individual who scores high on Factor Q₃ shows socially approved character responses, self control, persistence, foresight, considerateness of others, and conscientiousness. In group dynamics high Q₃ score "especially picks out persons who will be chosen as leaders, but even more so those who are effective rather than merely popular."¹⁸ An individual who scores low (1-5) on Factor Q₃ tends to lack will control and character stability. He is not too considerate, careful, or conscientious. Six to seven would be considered an average score.

This factor represents the level of development of the "conscious self-sentiment, i.e., the extent to which the person has crystallized for himself a clear, consistent, admired pattern of socially approved behavior, to which he strives to conform. From its role in many situations of control, Q₃ has aptly been called by Stice the 'gyroscopic' factor in personality."¹⁹

¹⁸ Ibid., p. 18.

¹⁹ Ibid., p. 19.

Factor Q₄ - Tense, Excitable (High Ergic Tension)
versus Phlegmatic, Composed (Low Ergic Tension)

An individual who scores high (7-12) on Factor Q₄ tends to be tense, excitable, restless, fretful, impatient. He is often over fatigued, but unable to remain inactive. He takes a poor view of group unity, orderliness, and leadership. The low-scoring individual (1-4) tends to be calm, relaxed, composed, and satisfied. The average score for this trait is 5-6.

This factor can be confused with O+, though the factors are demonstrably distinct, despite significant positive correlation. Factor Q₄ involves being irrationally worried, tense, irritable, anxious and in turmoil.

"The best general interpretation of Q₄ at present is that it represents a level of excitement and tension, representing undischarged and partly uncontrollable libido . . . High Q₄ is best interpreted as an energy excited in excess of the ego strength capacity to discharge it, and which is therefore misdirected, converted into psychosomatic disturbances, anxiety, etc., and is generally disruptive of steady application and emotional balance. It is for this reason that this trait has been labelled 'ergic tension'."²⁰

Selection of the Instrument

The questionnaire exists in three forms (Forms A, B, and C) with Forms A and B being longer and more time consuming than Form C. Form C, which was utilized for this study, was constructed:

(a) to meet the need for a shorter form, (b) to use, at the same time, a more elementary vocabulary, the request for which often goes with the situation demanding a shorter test, and (c) to include an index to guard against attempts at distortion of the self picture . . . In terms of the personality factors measured, Form C is exactly parallel to Forms A and B . . . Thus, Form C, like Forms A and B, test as much of the total personality as can be

²⁰Ibid., p. 19.

covered by questionnaire, according to the most up-to-date psychological research.²¹

It was through an extensive factor analysis originally based on many hundreds of questions that Form C was developed. It was aimed to give the maximum reliability and validity of measurement possible with only six items per factor. These six questions per factor were designed to be as free as possible of "value" implications, but for items where this objective may fail the Motivational Distortion Scale was introduced. This consists of seven questions which have been "selected by a special study as showing the maximum change of score with the same person when they are switched from a non-motivated to a motivated situation."²² Distortional effects are most likely to affect the scores on Factors H and Q₂. If the motivational score is higher than twelve (possible fourteen), one raw score point is subtracted from Factor H and one is added to Q₂.

The selection of the 16 P.F. Test was based on the test's ability to meet three criteria: (a) comprehensiveness (previously discussed), (b) reliability, and (c) validity. As reported by Cattell,²³ the reliability coefficients for Form C based on a test-retest system for a population of 200 students are found in Table 1, p. 22. Some of these are "not high, but their departure from unity, covers 'function-fluctuation,' i.e., real changes in level of traits over time as well as test unreliability."²⁴ Whenever higher reliability is more important than the in-

²¹Raymond B. Cattell, Handbook Supplement for Form C of the Sixteen Personality Factor Test (Champaign, Illinois: Institute for Personality and Ability Testing, 1962), p. 5.

²²Ibid., p. 7.

²³Ibid., p. 7.

²⁴Ibid., p. 7.

creased demand on testing time, it can be raised by lengthening the test by adding the A and B forms. Reliabilities will then range in the $+.75$ to $+.90$ area for each of the sixteen factors.

In discussing validity Cattell states:

"The validity of the test itself is meant to be an internal validity. . . . The mean correlation of all single items with the factors they represent is $+.37$ and the mean correlation of each group of six items with the factor it represents is about $+.71$, which is decidedly high for so brief a test.

'External' validity (correlation with an outside criterion) cannot meaningfully be calculated with a multiple purpose test since such a test is capable of being related to great numbers of different criteria."²⁵

Selection and Description of the Sample

The Family Life sample consisted of 73 female students enrolled in HMC 145 in the College of Home Economics, Michigan State University, Fall Term, 1966. No male students were enrolled in the course at that time. HMC 145 is a family life course designed for freshmen. It is offered as one of two courses which will fill the requirement of a course in family relationships for Family Life minors with teaching majors.

Since the purpose of the study was to analyze personality traits of students who voluntarily enroll in a family life course, five students who thought the course was required were eliminated. One other student was dropped because her advisor had selected the course. Because Cattell²⁶ feels there are some differences in personality which occur after age 23, three students who ranged in age from 23 to 36 were eliminated. The mean age of the remaining 64 students was 19.5. (Table 2)

²⁵ Ibid., p. 7.

²⁶ Raymond B. Cattell, An Introduction to Personality Study (London: Mayflower Press, 1950), p. 216.

TABLE 2
AGE RANGE OF THE SAMPLES

Sample	Age						Mean
	17	18	19	20	21	22	
HMC 145	2 3.1%	6 9.4%	23 36%	25 39.1%	5 7.8%	3 4.7%	19.5
Natural Science 181	0 0%	32 74.5%	10 23.2%	1 2.3%	0 0%	0 0%	18.2*

*A t-test comparing these ages indicated no significant difference.

Of the 64 students, 5 were Seniors (130 or more credits earned), 11 were Juniors (85-129 credits earned), 29 were Sophomores (40-84 credits earned), and 16 were Freshmen (0-39 credits earned). Three students gave no response to the question of class standing. (Table 3)

TABLE 3
CLASS RANGE OF THE SAMPLES

Sample	Freshmen	Soph.	Jr.	Sr.	No Response
HMC 145	16 25%	29 45.3%	11 17%	5 7.8%	3 4.7%
Natural Science 181	43 100%	0 0%	0 0%	0 0%	0 0%

The Family Life sample represented four majors within the College of Home Economics and eleven majors from other areas. Ten of the students indicated they had not selected a major (No Preference). (Table 4) Forty of the students either had not selected a minor or did not indicate a minor choice. The sample consisted of fourteen students indicating they were Family Life minors. Two of these were dropped from the sample because they thought the course was required, and two more were dropped because of age, leaving ten Family Life minors in the final sample.

TABLE 4

MAJORS OF THE FAMILY LIFE SAMPLE (HMC 145)

Major	Number	Per Cent
College of Home Economics		
Home Economics Education	16	25.0%
Interior Design	2	3.1%
Child Development	1	1.6%
Dietetics	1	1.6%
Elementary Education	13	20.2%
No Preference	10	15.6%
Nursing	5	7.8%
Social Work	4	6.2%
Social Science	3	4.7%
Art	2	3.1%
Business	2	3.1%
English	1	1.6%
Humanities	1	1.6%
Mathematics	1	1.6%
Psychology	1	1.6%
Speech and Hearing	1	1.6%

The comparison sample consisted of a sub-group of the students enrolled in Natural Science 181 in the College of Natural Science at Michigan State University, Fall Term, 1966. The selection of this sample was based on the fact that (a) all undergraduate students at Michigan State University are required to take this course and (b) it is a course designed primarily for Freshmen students.

Of the 47 Natural Science females tested, four were eliminated: three because they had previously enrolled in a course in family life, and one because she was 27 years of age. The remaining 43 students ranged in age from 18-20 years with the mean at 18.2. (Table 2) All were Fresh-

men. (Table 3) Thirteen majors were represented with nineteen students not committed to a major. (Table 5)

TABLE 5
MAJORS OF THE NATURAL SCIENCE 181 SAMPLE

Major	Number	Per Cent
No Preference	19	44.2%
Elementary Education	6	14.0%
English	3	7.0%
Business	2	4.7%
Interior Design	2	4.7%
Nursing	2	4.7%
Advertising	1	2.3%
Art	1	2.3%
Education	1	2.3%
Mathematics	1	2.3%
Political Science	1	2.3%
Social Science	1	2.3%
Speech	1	2.3%

The sampling plan for this study was not random as assumed by the particular t-test used. It was felt, however, that the method of accidental sampling used filled the requirements of the t-test.

Collection of the Data

The data were collected by administering the 16 P.F. Test in regularly scheduled recitation sections of HMC 145 and Natural Science 181. In addition to the 16 P.F. Test, students were asked to give the following information: their age; their class standing i.e., freshman, sophomore, etc.; their major and minor, if known; and their marital status i.e., dating, pinned, engaged, or married. It was requested

that the student not give his name in the hopes that more honest responses would be elicited.

The HMC 145 students were asked why they had enrolled in the course. The Natural Science 181 students were asked if they had ever enrolled voluntarily in a course concerned with marriage and the family.²⁶ If not, they were asked to respond to the following question: "If all conditions were ideal such as credits, location, and time of day, would you be interested in taking a course in marriage and the family?" It was hoped that there would be a distinguishable sub-group which would not be interested in the course. However, only five students or 10.2% responded in the negative, resulting in a sample too small to be significant.

Two sections of HMC 145 were tested on November 18, 1966; the third section was tested on December 9, 1966. Two sections of Natural Science 181 were tested on December 1, 1966; the third section being tested on December 2, 1966.

Statistical Analysis of the Data

The preparation of the raw data consisted of scoring the answer sheets. The raw scores were punched on IBM cards and submitted with a program prepared by Dr. Frances Magrabi to the Michigan State Computer Laboratory for analysis. The following t-test²⁷ was used:

$$t = \frac{\bar{x}_1 - \bar{x}_2 - d}{S_o \left(\frac{1}{n_1} + \frac{1}{n_2} \right)^{\frac{1}{2}}}$$

$$S_o = \frac{\sum_{j=1}^{n_1} (x_{1j} - \bar{x}_1)^2 + \sum_{j=1}^{n_2} (x_{2j} - \bar{x}_2)^2}{n_1 + n_2 - 2}$$

²⁶ Those students who had enrolled in such a course were eliminated.

²⁷ Edwin I. Crow, Frances A. Davis, and Margaret W. Maxfield, Statistics Manual (New York: Dover Publications Inc., 1960), p. 57.

A t-test was done on each of the sixteen factors for the HMC 145 students versus the Natural Science 181 students. The mean scores for each group were plotted on a profile.²⁸ Through this method the personality pattern on all sixteen factors was more readily visualized. Each t-value was also checked for significance at the .05 level.

²⁸The profile is found on page 48.

CHAPTER 4

THE RESULTS OF THE STUDY

The hypotheses comparing the Family Life (HMC 145) sample with the Natural Science 181 sample were stated and tested in regards to each of the sixteen specific factors of the 16 P.F. Test. Each of these factors was explained and discussed in Chapter 3. As stated earlier there is no total score for the sixteen different factors; rather each factor must be considered separately.

Factor A - Warm, Outgoing (Cyclothymia) versus Aloof, Stiff (Schizothymia)

High scoring individuals on Factor A seem to be attentive to people, ready to cooperate, adaptable, and amenable to occupations dealing with people. Because of these characteristics, it was hypothesized that the mean score for the HMC 145 students on Factor A would be significantly higher than the mean score of the Natural Science 181 students on the same factor. The mean score of the HMC students as indicated in Table 6 was 7.64, and the mean score for the Natural Science 181 students was 7.35. Both of these scores would be considered in the average range since the norm for this particular factor is a score of seven to eight. A t-test value of .71 revealed no significant difference between the means of the two groups.¹ Thus the hypothesis that the HMC 145 students would score higher than the Natural Science 181 students was not supported.

¹A t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom.

older than the Natural Science 181 students, it was hypothesized that the mean score of the HMC 145 students on Factor C would be significantly higher than the mean score of the Natural Science 181 students on the same factor. As indicated in Table 6 the mean for the HMC 145 students was 6.86, and the mean for the Natural Science 181 students was 6.16; both scores being lower than the normal or average range. A t-test value of 1.55 revealed no significant difference between the mean scores of the two samples.³ Thus the hypothesis that the HMC 145 students would score higher was not supported.

Factor E - Aggressive, Competitive (Dominance)
versus "Milk-Toast," Mild (Submission)

As stated earlier a high scoring individual on Factor E tends to be independent minded and bold in his approach to situations. The low scoring individual tends to be dependent, a follower, and to take action which goes along with the group. It was hypothesized that the Natural Science 181 students would score significantly higher on this factor than the HMC 145 students. It was thought that enrollment in a marriage course may result from the need to follow, to depend on others in finding "how to" succeed at marriage.

The mean scores for both groups were in the average range; the mean score for the Natural Science group being 5.56 as opposed to the mean score of 4.33 for the HMC group. (Table 6) A t-test value of 2.50 revealed a significant difference at the .05 level. Since a value of only 1.98 was needed for significance with 105 degrees of freedom, the hypothesis that the Natural Science 181 students would score higher in this area was supported.

³ A t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom.

Factor F - Enthusiastic (Surgency)
versus Glum, Serious (Desurgency)

The hypothesis that there would be no significant differences between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students on Factor F was supported. The means as indicated in Table 6 (page 39) were 7.55 and 7.37 respectively both being within the normal range of seven to eight. A t-test value of .34 revealed no significant difference.⁴

Factor G - Conscientious (Super Ego Strength)
versus Casual (Weakness of Character)

It was hypothesized that the mean score of the HMC 145 students on Factor G would be significantly higher than the mean score of the Natural Science 181 students on the same factor. As indicated in Table 6 (page 39) the mean score for the HMC 145 students was 6.11, and the mean score for the Natural Science 181 students was 5.79. A t-test value of .68 was not statistically significant. Since a value of 1.98 was needed for significance at the .05 level with 105 degrees of freedom, the hypothesis was not supported.

However, both groups scored in what would be considered the "low" range indicating the tendency toward characteristics ascribed to a G-individual, i.e., fickle, irresolute, unsteady, and quitting. He is sometime demanding, impatient, and lacking in internal standards. This finding may be a result of the particular age group tested.

⁴A t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom.

Factor H - Adventurous (Parmia)
versus Shy, Timid (Threctia)

It was hypothesized that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students on Factor H. The mean score of the HMC 145 students as indicated in Table 6 (page 39) was 6.44, and the mean score for the Natural Science 181 students was 6.05. Both groups scored within the average range of six to seven. A t-test value of .74 revealed no significant difference between the means.⁵ This finding supported the hypothesis that there would be no significant difference between the samples.

Factor I - Sensitive, Effeminate (Premsia)
versus Tough, Realistic (Harria)

Factor I, which has feminine and masculine characteristics attributed to it, usually runs somewhat higher in women than in men. Since both test groups consisted entirely of women, it was hypothesized that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students. As indicated in Table 6 (page 39) the mean score for the HMC 145 students was 8.68, and the mean score for the Natural Science 181 students was 7.95. Both of these scores are in the "high" range of the scoring continuum which was expected. A t-test value of .71 revealed no significant difference between the mean scores thus supporting the hypothesis.⁶

^{5, 6} A t-value of 1.98 was necessary to be significant at the .05 level of significance with 105 degrees of freedom.

Factor L - Suspecting, Jealous (Protension)
versus Trustful (Relaxed Security)

Because of the concern for other people attributed to the low-scoring individual on Factor L, it was hypothesized that the mean score for the Natural Science 181 students would be significantly higher than the mean score of the HMC 145 students. The mean score for the Natural Science 181 students was 6.40 as opposed to the mean score of 6.06 for the HMC 145 students. (Table 6, page 39) Both of these means are within the average or normal range for the general population. A t-test value of .83 indicates that the hypothesis was not supported since there is no significant difference between the mean scores.⁷

Factor M - Eccentric (Autia)
versus Conventional (Praxernia)

It was hypothesized that there would be no significant difference between the mean score of the HMC 145 students on Factor M and the mean score of the Natural Science 181 students on the same factor. This hypothesis was substantiated as indicated by the mean score of 5.97 for the HMC 145 students and the mean score of 5.98 for the Natural Science 181 students. (Table 6, page 39) Both groups scored in the normal range. The t-test value of .02 indicated no significant difference between the means of the two groups.⁸

Factor N - Sophisticated, Polished (Shrewdness)
versus Simple, Unpretentious (Naivete)

Failure to scrutinize carefully the characteristics of Factor N may lead to some false assumptions with negative overtones. High

^{7, 8} A t-value of 1.98 was necessary to be significant at the .05 level of significance with 105 degrees of freedom.

N is attributed to an individual who is very alert to social manners and graces, etc. The low-scoring individual is unsophisticated, sentimental, unpretentious and socially naive. These terms as used in the 16 P.F. Test are not necessarily negative.

It was hypothesized that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students on this factor. As indicated in Table 6 (page 39) the mean score for the HMC students was in the low range (4.73). The mean score for the Natural Science 181 students, however, was 5.44 which was in the average range. A t-test reveals the value of 2.01. Since a t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom, this finding was significant; the hypothesis that there would be no difference was, therefore, not supported.

Factor 0 - Insecure (Guilt Proneness)
versus Confident (Self Secure)

It was hypothesized that there would be no significant difference between the mean score of the HMC 145 students on Factor 0 and the mean score of the Natural Science 181 students on the same factor. Table 6 (page 39) shows the mean score of the HMC 145 students to be 4.47 and the mean score of the Natural Science 181 students to be 4.12. These means are in the low range indicating that students of both groups tend to be placid, calm, and have a mature, "unanxious" confidence in themselves. A t-test comparing the mean scores of the two groups showed no significant difference at the .05 level. The t-value was .98, and it should have been 1.98 in order to be significant at the .05 level with 105 degrees of freedom. Thus the hypothesis stating that there would be no significant difference between the mean scores of the two samples was supported.

Factor Q₁ - Experimenting (Radicalism)
versus Conservative (Conservatism)

The hypothesis concerned with Factor Q₁ stated that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students. As indicated in Table 6 (page 39) the mean score for the HMC 145 students was 5.58 and the mean score for the Natural Science 181 students was 5.49. The average range for this factor was five to six which includes both test groups. A t-test value of .18 reveals no significant difference.⁹ Thus the hypothesis that there would be no difference was supported.

Factor Q₂ - Self-Sufficient, Resourceful (Self-Sufficiency)
versus Dependent (Group Dependency)

It was hypothesized that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students on Factor Q₂. The mean score for the HMC 145 students was 7.05, and the mean score for the Natural Science 181 students was also 7.05. (Table 6, page 39) Both of these scores fall within the average or normal range. The t-test value for Factor Q₂ was .001 which supported the hypothesis in revealing no significant difference between the mean scores.¹⁰

Factor Q₃ - Self-Controlled (High Self-Sentiment)
versus Uncontrolled (Poor Self-Sentiment)

An individual who scores high on Factor Q₃ shows socially approved character responses, foresight, is considerate and conscientious; it was believed that these were characteristics which would be

^{9, 10} A t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom.

attributable to the HMC 145 students. This factor also represents the level of development of the conscious self-sentiment, i.e., the extent to which the person has crystallized for himself a clear, consistent, admired pattern of socially approved behavior, to which he strives to conform.

Thus it was hypothesized that the mean score of the HMC 145 students would be significantly higher than the mean score of the Natural Science 181 students. As indicated in Table 6 (page 39) the mean score for the HMC 145 students was 6.67, and the mean score for the Natural Science students was 5.67. The score for the Natural Science sample would be classified as "low" by Cattell's norm indicating that this group is not considerate or conscientious and can be characterized by lack of will control and character stability. The mean score for the HMC 145 students was in the normal range. A t-test of 1.99 revealed a significant difference to the .05 level. A t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom.

There is a slight difference in the mean ages of the two test groups which could account for the difference in the mean scores. Since this trait represents the level of development of the conscious self-sentiment, it could be conjectured that the younger Natural Science students have the potentials for the development of this trait but have not obtained the level of the HMC 145 group.

Factor Q4 - Tense, Excitable (High Ergic Tension)
versus Phlegmatic, Composed (Low Ergic Tension)

It was hypothesized that there would be no significant difference between the mean score of the HMC 145 students on Factor Q4 and the mean score of the Natural Science 181 students on the same factor. The mean score for the HMC 145 students was 6.38, and the mean score for the Nat-

ural Science 181 Students was 6.51. (Table 6, page 39) Both of these scores were in the normal range of five to six. A t-test value of .29 was not significant thus supporting the hypothesis that there would be no difference.¹¹

Graph 1 is a profile of the mean scores of the HMC 145 students and the Natural Science 181 students as compared with Cattell's norms. It will be noted that on Factors C, G, and O both groups scored "low." On Factor N the HMC 145 students scored below the norm, and on Factor Q₃ the Natural Science students scored below the norm. Both groups scored high on Factor I.

A profile of the characteristics ascribed to the HMC 145 students reveals that, as a group, they tend to:

1. be slightly inclined toward emotional instability. (Low Factor C)
2. be somewhat fickle, irresolute, unsteady and quitting; all characteristics attributed to an individual who is casual or is weak in character. (Low Factor G)
3. be imaginative, introspective, artistic, fastidious, and excitable. (High Factor I)
4. have a mature, "unanxious" confidence in themselves and their capacity to deal with things. Is resilient and secure. (Low Factor O)
5. be somewhat submissive although not beyond what would be considered average or normal. (Low Factor E)
6. be unsophisticated, sentimental, unpretentious, and socially naive. (Low Factor N)

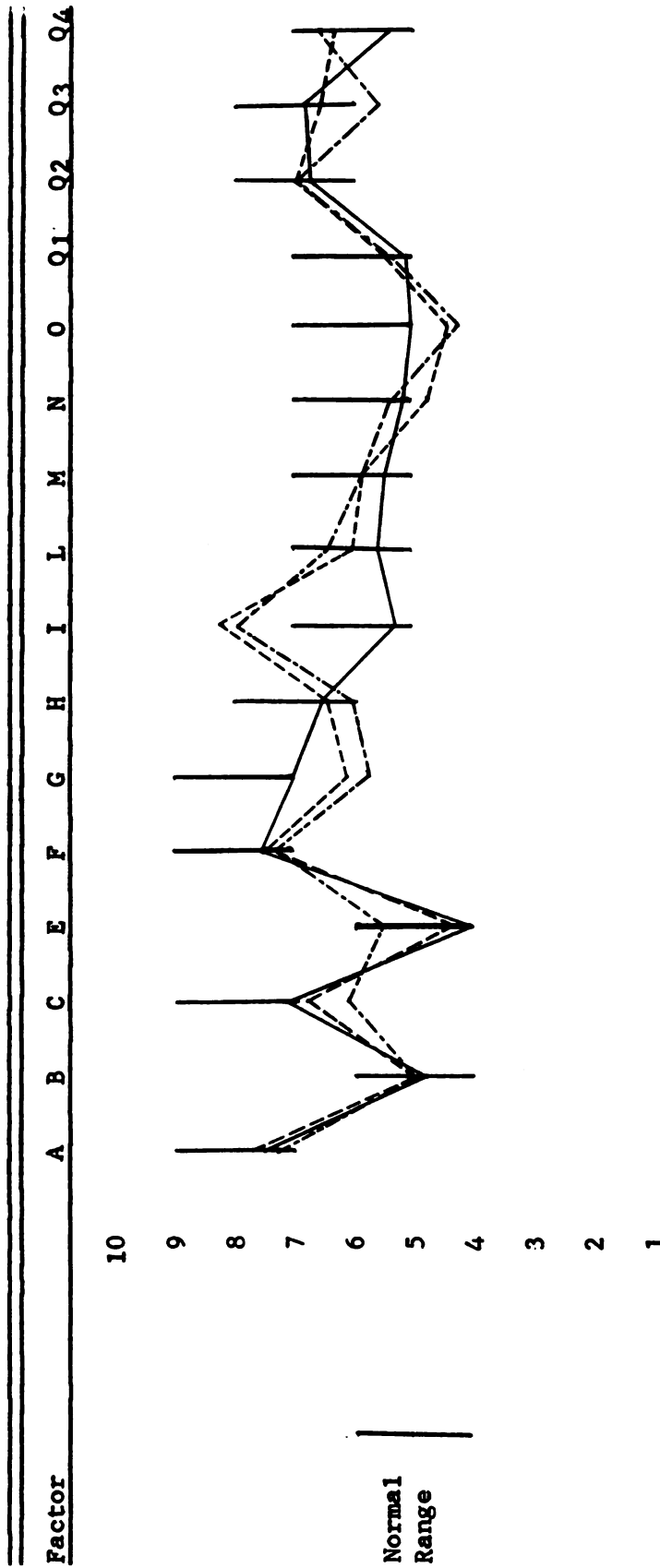
A profile of the characteristics ascribed to the Natural Science 181 students reveals that, as a group, they tend to:

1. be slightly inclined toward emotional instability. (Low Factor C)
2. be somewhat fickle, irresolute, unsteady and quitting; all char-

¹¹A t-value of 1.98 was necessary to be significant at the .05 level with 105 degrees of freedom.

GRAPH 1

PERSONALITY PROFILES OF HMC 145 AND NATURAL SCIENCE 181 STUDENTS



Mean ———																
Standard for																
College Men and Women	7.4	4.6	7.1	4.0	7.6	7.0	6.5	5.3	5.6	5.5	5.1	5.0	5.1	6.8	6.9	5.4
Mean - - - - -																
HMC 145	7.6	4.8	6.9	4.3	7.5	6.1	6.4	8.2	6.0	6.0	4.7	4.5	5.6	7.0	6.7	6.4
Mean																
Natural Science 181	7.3	4.8	6.2	5.5	7.3	5.8	6.0	7.9	6.4	6.0	5.4	4.1	5.5	7.0	5.7	6.5

acteristics attributed to an individual who is casual or is weak in character. (Low Factor G)

3. be imaginative, introspective, artistic, fastidious, and excitable. (High Factor I)
4. have a mature, "unanxious" confidence in themselves and their capacity to deal with things. Is resilient and secure. (Low Factor O)
5. lack will control and character stability; are not too considerate, careful, or conscientious. (Low Factor Q3)

Actually, the HMC students differ from the Natural Science students only in that they are somewhat more submissive and less sophisticated. The Natural Science group, by comparison, lacks will control and appears to be less considerate and conscientious.

CHAPTER 5

SUMMARY, IMPLICATIONS AND RECOMMENDATIONS

Summary

The two main purposes of this study were: (1) to determine the personality characteristics of students who voluntarily enroll in a family life course and (2) to ascertain the differences in personality characteristics, if any, between these students enrolled in a family life course as compared with students of the general university population. Sixty-four female students enrolled in HMC 145, a family life course at Michigan State University during Fall Term 1966, were included in the Family Life sample. This course is an elective offered to all students. The sample for comparison consisted of forty-three female students enrolled in Natural Science 181 at Michigan State University during Fall Term of 1966. Natural Science 181 is required of all undergraduate students at Michigan State University.

The 16 P.F. Test developed by Raymond B. Cattell and Herbert W. Eber was used to assess the personality characteristics present at the time of testing. This test yields a profile of sixteen different personality traits or factors which Cattell believes are necessary and adequate to cover all of the individual differences in personality. Since Cattell describes each trait as being independent of the fifteen other traits, it was necessary to consider each factor separately.

The hypothesis that the mean score for the HMC 145 students on Factor A (Warm, Outgoing versus Aloof, Stiff) would be significantly higher than the mean score of the Natural Science 181 students was not supported.

The hypothesis that there would be no significant difference between the mean scores of the two samples on Factor B (Bright, Intelligent versus Dull) was supported.

The hypothesis that the HMC 145 students would score significantly higher than the Natural Science 181 students on Factor C (Mature versus Emotional) was not supported.

It was hypothesized that the mean score of the Natural Science 181 students would be significantly higher than the mean score of the HMC 145 students on Factor E (Aggressive, Competitive versus "Milk-Toast," Mild). This hypothesis was supported.

The hypothesis that there would be no significant difference between the mean scores of the two samples on Factor F (Enthusiastic versus Glum, Serious) was supported.

It was hypothesized that the HMC 145 students would score significantly higher than the Natural Science 181 students on Factor G (Conscientious versus Casual). This hypothesis was not supported.

The hypothesis that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students on Factor H (Adventurous versus Shy, Timid) was supported.

It was hypothesized that there would be no significant difference on Factor I (Sensitive, Effeminate versus Tough, Realistic). This hypothesis was supported.

The hypothesis that the Natural Science 181 students would score significantly higher than the HMC 145 students on Factor L (Suspecting, Jealous versus Trustful) was not supported.

It was hypothesized that there would be no significant difference between the mean scores of the two samples on Factor M (Eccentric versus

Conventional). This hypothesis was supported.

The hypothesis that there would be no significant difference between the mean scores of the HMC 145 students and the Natural Science 181 students on Factor N (Sophisticated, Polished versus Simple, Unpretentious) was rejected. The Natural Science 181 students scored significantly higher than the HMC 145 students.

It was hypothesized that there would be no significant difference between the mean scores of the HMC 145 students and the Natural Science 181 students on Factor O (Insecure versus Confident). This hypothesis was supported.

The hypothesis that there would be no significant difference between the mean scores of the two samples on Factor Q₁ (Experimenting versus Conservative) was supported.

The hypothesis that there would be no significant difference between the mean scores of the two samples on Factor Q₂ (Self-Sufficient versus Dependent) was supported.

It was hypothesized that the mean score of the HMC 145 students would be significantly higher than the mean score of the Natural Science 181 students on Factor Q₃ (Self-Controlled versus Uncontrolled). This hypothesis was supported.

The hypothesis that there would be no significant difference between the mean score of the HMC 145 students and the mean score of the Natural Science 181 students on Factor Q₄ (Tense, Excitable versus Phlegmatic, Composed) was supported.

A profile of the characteristics ascribed to the HMC 145 students revealed that, as a group, they tend to:

1. be slightly inclined toward emotional instability. (Low Factor C)
2. be somewhat fickle, irresolute, unsteady, and quitting; all char-

acteristics attributed to an individual who is casual or is weak in character. (Low Factor G)

3. be imaginative, introspective, artistic, fastidious, and excitable. (High Factor I)
4. have a mature, "unanxious" confidence in themselves and their capacity to deal with things. Are resilient and secure. (Low Factor O)
5. be somewhat submissive although not beyond what would be considered average or normal. (Low Factor E)
6. be unsophisticated, sentimental, unpretentious and socially naive. (Low Factor N)

A profile of the characteristics ascribed to the Natural Science 181 students revealed that, as a group, they tend to:

1. be slightly inclined toward emotional instability. (Low Factor C)
2. be somewhat fickle, irresolute, unsteady and quitting; all characteristics attributed to an individual who is casual or is weak in character. (Low Factor G)
3. be imaginative, introspective, artistic, fastidious, and excitable. (High Factor I)
4. have a mature, "unanxious" confidence in themselves and their capacity to deal with things. Are resilient and secure. (Low Factor O)
5. lack will control and character stability. Are not too considerate, careful, or conscientious.

Implications

One inherent problem in this particular study was the composition of the HMC 145 sample. For Fall Term 1966 it was primarily made up of Sophomores with the Juniors and Seniors equalling the Freshmen in number. The Natural Science 181 sample consisted entirely of Freshmen making it difficult to draw definite conclusions since the two samples were unbalanced in regards to age, general experience, and experience in college itself.

The study has, however, indicated some tendencies which may be true of other family life students. It appears that a student who voluntarily enrolls in a family life course is more unsophisticated, sentimental, unpretentious and socially naive than his counterparts in the general university population. The fact that the students of the HMC 145 sample were slightly older adds further weight to these findings.

The possibility that a family life student is more submissive, dependent on other people, and more inclined to be a follower raises the question of the effect of the subject matter in a family life course upon the student. Are these students more inclined to accept the biases, either appropriate or inappropriate, of the instructor and/or author of the text used?

The general tendency for both samples in this study to be more emotional, casual, and more confident than the norm devised by Cattell for college students may be attributed to the following influencing factors: (1) the difference between the age of the present samples (Range 17-22) and the age of the sample used by Cattell to standardize the norm (Range 17-30), (2) the present sample consisted entirely of females whereas Cattell's sample was composed of both males and females. Form C of the 16 P.F. Test at the present time does not have a standardized norm for women college students only, and (3) the norm used was standardized by Cattell in the early 1950's. The difference between the samples used in this study and the norm devised by Cattell may be attributable to differences between the college student of today and a college student of ten or fifteen years ago.

Recommendations

A continuation of this study is recommended on the senior level utilizing either Family Life minors or students enrolled in HMC 444 or 446. The differences between two seniors are expected to be of somewhat greater magnitude than the differences between two freshmen because of the following: It is likely that more seniors than freshmen will have resolved the many important problems of late adolescence and young adulthood. A senior is more likely to have defined a philosophy of life because he has made many more value decisions. He is more likely to have learned to cope with the college environment. Students who graduate at the end of four years of college represent a more select sample than freshmen. All of these factors give rise to the possibility of finding more distinct differences between the Family Life senior and a senior of another area.

The 16 P.F. Test proved to be advantageous in terms of limited testing time, scoring efficiency and wide coverage of the personality. However, since it was developed primarily for use in occupational testing where the main use is profile comparison, the results are not easily applied to a limited statistical analysis. In addition there are no norms available for Form C for women college students making it difficult to draw specific conclusions. It is possible that a personality test of another type could be developed to expedite similar research efforts in the future.

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APPENDIX

WHAT TO DO: The questions inside this booklet are to give you a chance to say what sort of a person you are and to state your interests and attitudes. Since each person is different, there are generally no "right" or "wrong" answers, but only what is true for you.

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.

We first give you two examples so that you will know exactly what to do. To the right of each sentence there are three answers indicated. Look at the top left hand side of your Answer Sheet where it says "Examples." Although you are to read the questions in **this** booklet, **you must put your answers on the Answer Sheet**, alongside the same number as in the booklet.

Read the following examples and mark an x for your answers on the Answer Sheet:

EXAMPLES:

1. I find it hard to wake up quickly in the morning..... Yes In Between No
(True) (or Not Sure) (False)
2. I would rather spend an evening:
 - a. listening to good music;
 - b. reading an exciting story..... a Uncertain b
(of either)

Inside you will find more questions like these. When you are told to turn the page, begin with number 1 and go on at your own rate. In answering these questions we would like you to keep these four points in mind:

1. Answer the questions as frankly and truthfully as possible since there is no advantage in giving the wrong impression. Never give an untrue answer about yourself because you think it is the "right thing to say." There are ways of detecting such unfair answers.
2. Although this is an untimed test, we would still like you to answer the questions as quickly as you can. Do not spend time puzzling over the questions. Give the first, natural answer as it comes to you. Some questions are a bit similar to others but no two are exactly alike and your answers will often differ in these cases.
3. Use the middle answer **only** when it is **absolutely impossible** to lean toward one or the other of the answer choices. In other words, the "Yes" (or "a") or the "No" (or "b") answer should be used for **most** cases.
4. Do not skip any questions. Occasionally a statement may not seem to apply to you or your interests, but answer **every one**, somehow. Your answers will be kept confidential.

1. I think my memory is better than it ever was.....	Yes, True	In Between, Not sure	No, False
2. I could happily live alone, far from anyone, like a hermit.....	Yes	Occasionally	No
3. If I say the sky is "down" and winter is "hot", I would call a criminal: (a) a gangster, (b) a saint, (c) a cloud.....	a	b	c
4. When I see "sloppy", untidy people I: (a) just accept it, (b) get disgusted and annoyed.....	a	In Between	b
5. It annoys me to hear people say they can do something better than others.	Yes	Occasionally	No
6. At a party I let others keep the jokes and stories going.....	Yes	Sometimes	No
7. If my income were more than enough for ordinary daily needs, I would feel I should give the rest to a church or other worthwhile cause.....	Yes	In Between	No
8. Most people I see at a party are undoubtedly glad to meet me.....	Yes	Sometimes	No
9. I would rather exercise by: (a) fencing and dancing, (b) wrestling and baseball.....	a	In Between	b
10. I smile to myself at the big difference between what people do and what they say they do.....	Yes	Occasionally	No
11. As a child I felt sad to leave home to go to school each day.....	Yes	Occasionally	No
12. If a good remark of mine is passed by, I: (a) let it go, (b) give people a chance to hear it again.....	a	In Between	b
13. When someone has bad manners I feel: (a) it is not my business, (b) I should show the person that people disapprove.....	a	In Between	b
14. When I meet a new person I would rather: (a) discuss his politics and social views, (b) have him tell me some good, new jokes.....	a	In Between	b
15. When I plan something, I like to do so quite alone, without any outside help.....	Yes	Occasionally	No
16. I avoid spending time dreaming about "what might have been.".....	Yes	Sometimes	No
17. When I am going to catch a train, I get a little hurried, tense, or anxious, though I know I have time.....	Yes	Sometimes	No
(End, Column 1 on Answer Sheet.)			
18. I have sometimes, even if briefly, had hateful feelings towards my parents.	Yes	In Between	No
19. I could be happy in a job that required me to listen to unpleasant com- plaints all day from employees and customers.....	Yes	In Between	No
20. I think the opposite of the opposite of "inexact" is: (a) casual, (b) accurate, (c) rough.....	a	b	c
21. I always have lots of energy at times when I need it.....	Yes	In Between	No
22. I'd be extremely embarrassed to tell people I'd spent my vacation at a nudist camp.....	Yes	In Between	No
23. I greatly enjoy all large gatherings, like parties or dances.....	Yes	Sometimes	No

24. I feel that
 (a) some jobs just do not need doing so carefully as others,
 (b) any job should be done thoroughly if you do it at all..... a In Between b
25. In streets or stores I dislike the way some people stare at one..... Yes In Between No
26. I would rather be:
 (a) a bishop, (b) a colonel..... a In Between b
27. If a neighbor cheats me over small things, I would rather humor him
 than show him up..... Yes Occasionally No
28. I would rather see:
 (a) a good movie of hardy, pioneering days,
 (b) a clever movie farce or skit on the society of tomorrow..... a In Between b
29. When I have been put in charge of a thing I insist that my instructions
 are followed or else I resign..... Yes Sometimes No
30. I find it wise to avoid excessive excitement because it tends to wear
 me out..... Yes Occasionally No
31. If I were good at both I would rather play at:
 (a) chess, (b) bowling..... a In Between b
32. I feel it is cruel to vaccinate very small children, even against contagious
 diseases, and parents have a right to stop it..... Yes In Between No
33. I put my faith more in:
 (a) insurance, (b) good fortune..... a In Between b
34. I can forget my worries and responsibilities whenever I need to..... Yes Sometimes No
- (End, Column 2 on Answer Sheet.)
35. I find it hard to admit when I am wrong..... Yes Sometimes No
36. In a factory I would rather be in charge of:
 (a) machinery or keeping records,
 (b) talking to and hiring new people..... a In Between b
37. Which word does not belong with the other two:
 (a) cat? (b) near? (c) sun?..... a b c
38. My health is affected by sudden changes, causing me to alter my plans
 for that reason..... Yes Occasionally No
39. I am quite happy to be waited on, at appropriate times, by personal
 servants..... Yes, Sometimes No,
 Often Never
40. I feel a bit awkward in company and do not show up quite so well as
 I should..... Yes Occasionally No
41. I think people should observe moral laws more strictly than they do... Yes Sometimes No
42. Some things make me so angry that I find it best not to speak..... Yes In Between No
43. I can do hard physical work without feeling worn out as soon as most
 people..... Yes Sometimes No
44. I think most witnesses tell the truth even if it becomes embarrassing.... Yes In Between No
45. I find it helpful to pace up and down when I am thinking..... Yes Sometimes No
46. I think this country would do better to spend more on:
 (a) armaments,
 (b) education..... a In Between b

47. I would rather spend an evening:
 (a) in a hard game of cards,
 (b) looking at photos of past vacations..... a In Between b
48. I would rather read:
 (a) a good historical novel,
 (b) an essay by a scientist on harnessing world resources..... a In Between b
49. There are really more nice people than objectionable people in the world. Yes In Between No
50. I honestly think I am more playful, energetic, and ambitious than many perhaps equally successful people..... Yes Occasionally No
51. There are times when I do not feel in the right mood to see anyone:
 (a) very rarely, (b) quite often..... a In Between b
- (End, Column 3 on Answer Sheet.)
52. When I know I'm doing the right thing I find my task easy..... Yes, Sometimes No,
 Always Seldom
53. I would rather be:
 (a) in a business office, organizing and seeing people,
 (b) an architect, drawing plans in the back room..... a In Between b
54. Black is to gray as pain is to:
 (a) wound? (b) illness? (c) discomfort?..... a b c
55. I am always a sound sleeper, never walking or talking in my sleep..... Yes In Between No
56. I can look anyone in the eye and tell a lie with a straight face (if for a right end)..... Yes Occasionally No
57. I have been active in organizing a club, team, or social group..... Yes Occasionally No
58. I admire more:
 (a) a clever but undependable man,
 (b) an average man but strong to resist temptations..... a In Between b
59. When I make a just complaint I always get matters adjusted to my satisfaction..... Yes Sometimes No
60. Discouraging circumstances can bring me near to tears..... Yes Occasionally No
61. I think many foreign countries are actually more friendly than we suppose..... Yes Sometimes No
62. There are times, every day, when I want to enjoy my own thoughts, uninterrupted by other people..... Yes In Between No
63. I get annoyed at being held up by small rules and regulations which, I admit, are really necessary..... Yes In Between No
64. I think much so-called modern "progressive" education is less wise than the old rule "spare the rod and spoil the child."..... Yes, Sometimes No,
 True False
65. I learned more in school days by:
 (a) going to class, (b) reading a book..... a In Between b
66. I avoid getting involved in social responsibilities and organizations..... Yes, Sometimes No,
 True False
67. When a problem gets hard and there is a lot to do, I try:
 (a) a different problem,
 (b) a different attack on the same problem..... a In Between b
68. I get strong emotional moods—anxiety, anger, laughter, etc.—that seem to arise without much actual cause..... Yes Occasionally No

(End, Column 4 on Answer Sheet.)

69. My mind does not work as clearly at some times as at others.....	Yes, True	In Between	No, False
70. I am happy to oblige people by making appointments at times they like, even if a bit inconvenient to me.....	Yes	Sometimes	No
71. I think the proper number to continue the series 1, 2, 3, 6, 5, is: (a) 10, (b) 5, (c) 7.....	a	b	c
72. I tend to be critical of other people's work.....	Yes	Occasionally	No
73. I would rather do without something than put a waiter or waitress to a lot of extra trouble.....	Yes	Occasionally	No
74. I love to travel—anytime.....	Yes	Occasionally	No
75. I have sometimes come near to fainting, at a violent pain or the sight of blood.....	Yes	In Between	No
76. I greatly enjoy talking to people about local problems.....	Yes	Sometimes	No
77. I would rather be: (a) a construction engineer, (b) a teacher of social ideas and manners.....	a	In Between	b
78. I have to stop myself from getting too involved in trying to straighten out other people's problems.....	Yes	Sometimes	No
79. I find the conversation of my neighbors dull and boring: (a) in most cases, (b) only in a very few.....	a	In Between	b
80. I generally fail to notice hidden propaganda in what I read, unless someone points to it.....	Yes, True	Occasionally	No, False
81. I think every story and movie should remind us of a moral.....	Yes	Sometimes	No
82. More trouble arises from people: (a) changing and meddling with ways that are already O. K., (b) turning down new, promising methods.....	a	In Between	b
83. I sometimes hesitate to use my own ideas, for fear they might be im- practical.....	Yes	In Between	No
84. Prim, strict people do not seem to get on well with me.....	Yes, True	Sometimes	No, False
85. My memory does not change much from day to day..... (End, Column 5 on Answer Sheet.)	Yes, True	Sometimes	No, False
86. I may be less considerate of other people than they are of me.....	Yes, True	Occasionally	No, False
87. I am more restrained than most people in saying what my feelings are.	Yes	Sometimes	No
88. If the two hands on a watch come together exactly every 65 minutes (according to an accurate watch), the watch is running: (a) slow, (b) on time, (c) fast.....	a	b	c
89. I get impatient, and begin to fume and fret, when people delay me unnecessarily.....	Yes	Occasionally	No
90. People say that I like to have things done my own way.....	Yes, True	Occasionally	No, False
91. I usually would say nothing if the tools given me to do a job are not quite what they should be.....	Yes, True	Sometimes	No, False

92. At home, with a bit of spare time, I:
 (a) use it in chatting and relaxing,
 (b) plan to fill it with special jobs..... a In Between b
93. I am shy, and careful, about making friendships with new people..... Yes Occasionally No
94. I think that what people say in poetry could be put just as exactly in plain prose..... Yes Sometimes No
95. I suspect that people who act friendly to me can be disloyal behind my back:
 (a) yes, generally, (b) occasionally, (c) no, rarely..... a b c
96. I think that even the most dramatic experiences during the year leave my personality much the same as it was..... Yes Sometimes No
97. I tend to speak rather slowly..... Yes Sometimes No
98. I get unreasonable fears or distastes for some things, for example, particular animals, places, and so on..... Yes Sometimes No
99. In a group task I would rather:
 (a) try improvements in organization,
 (b) keep the records and see that rules are kept..... a In Between b
100. To vote well on a social issue I would read:
 (a) a widely recommended novel about it,
 (b) a textbook listing statistical and other facts..... a In Between b
101. I get rather fantastic or ridiculous dreams (in sleep)..... Yes Occasionally No
102. If left in a lonely house I tend, after a time, to feel a bit anxious or fearful. Yes Sometimes No
- (End, Column 6 on Answer Sheet.)
103. I may deceive people by being friendly when I really dislike them..... Yes Sometimes No
104. Which word does not belong with the other two:
 (a) run? (b) see? (c) touch?..... a b c
105. If Mary's mother is Fred's father's sister, what relation is Fred to Mary's father:
 (a) cousin? (b) nephew? (c) uncle?..... a b c

NAME FIRST MIDDLE INITIAL LAST DATE ADDRESS (OR OCCUPATION OR AS INSTRUCTED)SEX (WRITE M OR F) AGE (NEAREST YEAR)

Examples:

1 ☐ Y ☐ I ☐ N ☐
2 ☐ a ☐ U ☐ b ☐Do not write here
Score
Raw Std.
MD
(Experiments)N ☐ c ☐ c ☐s ☐ b ☐ b ☐Y ☐ a ☐ a ☐

103

104

105

N ☐ N ☐ c ☐ N ☐ N ☐O ☐ s ☐ b ☐ O ☐ O ☐Y ☐ Y ☐ a ☐ Y ☐ Y ☐

86

87

88

89

90

N ☐ N ☐ c ☐ N ☐ N ☐I ☐ s ☐ b ☐ O ☐ O ☐Y ☐ Y ☐ a ☐ Y ☐ Y ☐

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N ☐ b ☐ c ☐ N ☐ N ☐s ☐ I ☐ b ☐ I ☐ O ☐Y ☐ a ☐ a ☐ Y ☐ Y ☐

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N ☐ b ☐ c ☐ N ☐ N ☐s ☐ I ☐ b ☐ O ☐ s ☐Y ☐ a ☐ a ☐ Y ☐ Y ☐

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N ☐ N ☐ c ☐ N ☐ N ☐I ☐ I ☐ b ☐ I ☐ I ☐Y ☐ Y ☐ a ☐ Y ☐ Y ☐

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N ☐ N ☐ c ☐ b ☐ N ☐I ☐ O ☐ b ☐ I ☐ O ☐Y ☐ Y ☐ a ☐ Y ☐ Y ☐

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N ☐ b ☐ N ☐ N ☐ c ☐s ☐ I ☐ O ☐ s ☐ b ☐Y ☐ a ☐ Y ☐ Y ☐ a ☐

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N ☐ N ☐ N ☐ b ☐ N ☐O ☐ I ☐ s ☐ I ☐ s ☐Y ☐ Y ☐ Y ☐ a ☐ Y ☐

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N ☐ b ☐ N ☐ N ☐ N ☐O ☐ I ☐ s ☐ O ☐ s ☐Y ☐ a ☐ Y ☐ Y ☐ Y ☐

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N ☐ N ☐ N ☐ N ☐ N ☐O ☐ s ☐ I ☐ s ☐ I ☐Y ☐ Y ☐ Y ☐ Y ☐ Y ☐

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N ☐ b ☐ N ☐ b ☐ N ☐s ☐ I ☐ I ☐ I ☐ O ☐Y ☐ a ☐ Y ☐ a ☐ Y ☐

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N ☐ N ☐ N ☐ b ☐ N ☐s ☐ I ☐ s ☐ I ☐ O ☐Y ☐ Y ☐ a ☐ Y ☐ Y ☐

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N ☐ N ☐ N ☐ b ☐ b ☐s ☐ s ☐ s ☐ I ☐ I ☐Y ☐ Y ☐ Y ☐ a ☐ a ☐

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b ☐ N ☐ N ☐ b ☐ N ☐I ☐ O ☐ s ☐ I ☐ I ☐a ☐ Y ☐ Y ☐ a ☐ Y ☐

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N ☐ N ☐ N ☐ b ☐ N ☐I ☐ I ☐ s ☐ I ☐ s ☐Y ☐ Y ☐ Y ☐ a ☐ Y ☐

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65

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N ☐ b ☐ b ☐ b ☐ N ☐s ☐ I ☐ I ☐ I ☐ I ☐Y ☐ a ☐ a ☐ a ☐ Y ☐

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b ☐ N ☐ N ☐ b ☐ N ☐I ☐ s ☐ O ☐ I ☐ I ☐a ☐ Y ☐ Y ☐ a ☐ Y ☐

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N ☐ b ☐ b ☐ b ☐ N ☐O ☐ I ☐ I ☐ I ☐ O ☐Y ☐ a ☐ a ☐ a ☐ Y ☐

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12

13

14

15

N ☐ N ☐O ☐ s ☐Y ☐ Y ☐

101

102

N ☐ N ☐s ☐ s ☐Y ☐ Y ☐

84

85

b ☐ N ☐I ☐ O ☐a ☐ Y ☐

67

68

N ☐ b ☐O ☐ I ☐Y ☐ a ☐

50

51

b ☐ N ☐I ☐ s ☐a ☐ Y ☐

33

34

N ☐ N ☐s ☐ s ☐Y ☐ Y ☐

16

17

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