

A STUDY OF DIFFERENCES FOUND BETWEEN INTELLECTUALLY-  
ORIENTED AND SOCIALLY-ORIENTED SUPERIOR GIRLS

Thesis for the Degree of Ph. D.  
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**Ruth Schweigert Tukey**

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*Bernard R. Cornman*

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ORIENTED AND SOCIALLY-ORIENTED SUPERIOR GIRLS

By

Ruth Schweigert Tukey

AN ABSTRACT OF A THESIS

Submitted to  
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## ABSTRACT

### A STUDY OF DIFFERENCES FOUND BETWEEN INTELLECTUALLY-ORIENTED AND SOCIALLY-ORIENTED SUPERIOR GIRLS

by Ruth Schweigert Tukey

It was the purpose of this investigation to study the ways in which intellectually-oriented superior girls (i.e. the scholar) differ from socially-oriented superior girls (i.e. the social leader).

The review of the relevant literature led to hypotheses concerning personality characteristics, attitudes toward self, and personal occupational aspirations; also, hypotheses concerning environmental factors such as socio-economic status of the home, level of formal education of the parents, and the ordinal status of the subjects.

There were ninety-six girls selected for the study, taken from the most superior girls (top ten per cent of intellectual ability testing) in the public high schools of Lansing, Michigan, and Michigan State University.

Extensive background material was collected and recorded in two ways; one, by means of an intensive personal interview, and two, by means of a questionnaire which was completed by the subject. The material obtained in the interview dealt with attitudes towards dating, marriage, career,

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future goals and aspirations, and attitudes toward self, especially those attitudes that concerned compatibility or conflict between intellectuality and femininity. The material obtained in the written questionnaire concerned interest in school subjects, recreation, activities in the home, and other interests.

Each girl was given the Rokeach Test for Dogmatism. In addition, the young women in the college sample were given the Edwards Personal Preference Schedule, while in the high school sample the girls took the IPAT (Institute for Personality and Ability Testing) High School Personality Questionnaire.

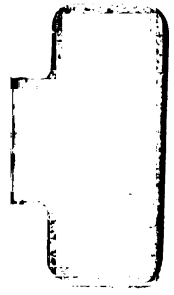
The results indicated there were statistically significant differences between the intellectually-oriented and the socially-oriented girl in both psychological and sociological areas. The intellectually-oriented girls at both high school and college levels were found to have higher needs for achievement and autonomy. All socially-oriented girls had greater needs for deference. Differences in occupational aspirations were significant in the college population, where the intellectually-oriented girl, desiring both marriage plus career, often elected to postpone marriage to fulfill other aspirations. This was in contrast to the socially-oriented college girl who aspired immediately to fulfill the traditional feminine role of marriage. At the high school level differences in aspirations of the two groups

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of girls were not significantly different. The only sociological difference recorded concerned ordinal status where the intellectually-oriented college girls were found more often to be first-born. This relationship did not hold for the high school girls.

In all areas, fewer differences and greater similarities were noted between the intellectually-oriented and socially-oriented high school girl than were recorded for the college sample.

The interpretations made from this study indicate that at the college age, superior girls appear to be able to accept differences which occur between the intellectually-oriented and socially-oriented, while at the high school age, conformity controls to such a degree few differences can be noted between the intellectually-oriented and socially-oriented. This view reinforces the opinion of those educators who have said the greatest loss of talent in the United States is that of the superior girl, and that one of the top priorities for improvement in our educational system must be the counseling and guidance of able and superior girls. This service must begin at an early enough age so that by the time high school is reached, a more realistic appraisal of their own capabilities can be made by talented girls.



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## DEDICATION

To my daughter, Ann, whose gifts and talents have been a continuous inspiration, and whose companionship has been a source of enjoyment and friendly rivalry during the time we both began and completed our Ph.D. degrees.

## ACKNOWLEDGMENTS

Appreciation is expressed to the members of the Guidance Committee: Drs. Cole Brembeck, Bernard Corman, Elizabeth Drews, William Durr, and Charles Wrigley.

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## CHAPTER I

### INTRODUCTION

The changing role of women in our culture creates one of the more pressing and challenging problems of this era. It presents a problem, first of all, for individual women themselves, as they search for fulfillment. The total employment of all of one's abilities is required as a basis for an integrated personality and for general mental and physical health. Leading psychologists, such as Rogers,<sup>1</sup> Maslow,<sup>2</sup> and Allport,<sup>3</sup> stress the importance of this total employment of ability or "self actualization." Allport states, "the one basic motive in life is maintaining and actualizing the capacities of the experiencing organism,"<sup>4</sup> and Jahoda<sup>5</sup> reminds us of the effects of an ever-changing

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<sup>1</sup>Carl Rogers, "The Concept of the Fully Functioning Person" (mimeographed unpublished paper, 1958).

<sup>2</sup>A. H. Maslow, Motivation and Personality (New York: Harper & Bros., 1954).

<sup>3</sup>Gordon W. Allport, Becoming (New Haven: Yale University Press, 1955).

<sup>4</sup>Ibid., p. 16.

<sup>5</sup>Marie Jahoda, Current Concepts of Positive Mental Health (New York: Basic Books Inc., 1958).

environment on self actualization and, in turn, on mental health. The continuous changes in American society and in the role of women in this society, place difficulties in the way of self actualization.

Granted that the problem of self actualization is of great importance to individual women themselves, it is not necessarily the most vital aspect of the problem from the standpoint of society itself. In terms of its own survival American society needs to use its intellectual woman-power. As the Rockefeller Report has stated,

At a time when we face problems of desperate gravity and complexity, an undiscovered talent, a wasted skill, a misapplied ability is a threat to the capacity of a free people to survive.<sup>1</sup>

It is well established that the intellectual abilities of able girls and women are not being fully utilized. Both Wolfle<sup>2</sup> and Cole<sup>3</sup> have indicated that the greatest loss of talent is that of the intellectually superior girl. Of the brightest high school graduates who do not go to college, two-thirds are women. This is a reservoir of able people that can and must be called upon for their unique contribution to society, whatever that contribution may be.

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<sup>1</sup>Rockefeller Report V., The Pursuit of Excellence (New York: Doubleday & Co., 1958), foreward.

<sup>2</sup>Dael Wolfle, America's Resources of Specialized Talent (New York: Harper & Bros., 1954), p. 332.

<sup>3</sup>Charles C. Cole, Jr., Encouraging Scientific Talent (New York: College Entrance Examination Board, 1956), p. 77.

We are witnessing a revolution in society's attitude toward men and women of high ability and advanced training. For the first time in history such men and women are very much in demand on a wide scale. Throughout the ages human societies have always been extravagantly wasteful of talent. Today as a result of far reaching social and technological development in our society we are forced to search for talent and use it effectively.<sup>1</sup>

One of the major deterrents to the fuller utilization of capable women in professional roles is the fact that many talented women and girls seem totally unaware of society's need for their contributions. This can be seen by the lack of high personal goals and aspirations expressed by women.<sup>2</sup>

Another deterrent to the fuller utilization of capable women in professional roles is the fact that in many areas woman's potential contribution is still not sought out. For instance, of the 900 freshmen enrolled in the 1961 class in one of this country's foremost scientific schools (Massachusetts Institute of Technology), only 24 were girls.<sup>3</sup>

Still another deterrent is the fact that in our culture today there are other roles besides the professional one that women are expected to fill. Most importantly is the traditional role of wife and mother. Of course, this is

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<sup>1</sup>John Gardner, Excellence (New York: Harper & Bros., 1961), p. 33.

<sup>2</sup>Pearl Buck, Of Men and Women (New York: The John Day Co., 1941), p. 84.

<sup>3</sup>Cleveland Amory, "First of the Month," Sat. Rev., 44 (May 6, 1961), p. 8.

not a unique role in American society but in our society the modern expectations for this role obligate a woman outside as well as inside the home. Being a successful wife today entails more of a partnership in the work of the husband than it did in the past. Thus, many corporations insist on evaluating wives along with their husbands when hiring new personnel. Often this assessment involves a very critical analysis of both husband and wife and represents a change from the past where the woman, although an important factor in the advancement of her husband, remained in the background as a sort of silent partner so far as the outside world was concerned. Furthermore, today it is important that wives conform to the image created by the business of the husband. As Whyte states,

There is a growing domination of the family by the corporation and the active "wives programs" . . . some large corporations were instructed to make the domination absolute . . . the good wife is one who adjusts graciously to the system, curbs open intellectualism or the desire to be alone . . . corporations wanted highly gregarious wives and highly adaptable wives.<sup>1</sup>

Similarly, the role of mother in the typical middle class American family carries obligations outside the home. The mother is expected to give time and energy to school, parent-teacher, and social organizations for the benefit of her children. To this has been added the role of a

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<sup>1</sup>William H. Whyte, The Organization Man (New York: Simon & Schuster, 1956), pp. 258-259.



community-project participant. Further, there is the strictly social role in which friends and neighbors expect the wife and mother to become the afternoon bridge partner or golfing companion.

In the days of rural America, before the closing of the frontier and up to the 1890's, the approved feminine role was well defined and relatively narrow. There was, in fact, only the one role, that of wife and mother, and that one kept women primarily in the home. Persistence in any other role was at the risk of social ostracism. Women were allowed, around the turn of the century, to enter several typically feminine careers: teaching, nursing and secretarial positions. These were viewed as approved ways to fill the years before marriage or as social "insurance" against the hazards of being unmarried or widowed.

But gradually these attitudes have changed. Especially during and after World War II, women took places in factories and business where they were able to contribute to what had been a man's world. Social approval was extended to the employment of women in unskilled and semi-skilled areas. There was a more limited entry, however, of women into the professions and, in fact, there has actually been a percentage decrease in the number of women entering certain professions in recent years.<sup>1</sup> While the professions and

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<sup>1</sup>Robert L. Sutherland, "The Data on the Problem" (mimeographed unpublished paper, 1957).



occupations which demand extensive training are not socially disapproved, a distinction is still often made between "working" and having a "career." It is more and more accepted that women can, and perhaps should, work to help out with the family finances. But there is still a great deal of resistance to the idea of a woman combining a career with marriage and child rearing.

These attitudes persist even though life in the home has changed and the combination of career and marriage is a practical alternative. Women now have many mechanical aids and families are smaller. (Even though family size is again on the increase, it is still relatively smaller than in the past.) Women are marrying at an earlier age and completing their families earlier. This means that the mother is much younger by the time the last child is in school. Often she will have twenty-five years or more to fill with work or play, with boredom, or with some worthwhile contribution to society.

### Role Choices

In reality there are now three distinct periods in a woman's life when a role choice is possible. The first period is during early adolescence when individual aspirations are being formulated. The second period is when the choice is presented to marry or not to marry, and also to work or not to work. For even those who marry face decisions concerning work, especially those young married women who

may choose to assist the husband in the completion of his education. The third period is when the youngest child enters school, bringing with it relatively greater freedom to the mother and the possibility of entry into an occupation for which training already was obtained or a choice of a new occupation.

These periods are crucial ones as regards the waste of talent; the first especially so, because it involves the making of decisions as to educational plans. If a girl makes a wise choice during this first period she will have more freedom of action in her later choices.

The final choice point, that of entry or re-entry into an occupation after child rearing, is the one which in recent years has come under the sharpest critical scrutiny. The day has passed when the title "housewife" is accepted as satisfactory. One of our leading novelists, Pearl Buck, expresses a commonly held view:

An idle woman ought to be despised as much as an idle man . . . so many women spoiled, petty, restless, and idle, they are our nation's greatest unused resource, good brains going to waste in bridge and movies, lectures and dull gossip instead of constructively applied to the nation's need of them for the good and happiness of all women if nothing else.<sup>1</sup>

In the past it was necessary for women to give generously of their time for charity, voluntary services, and

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<sup>1</sup>Buck, op. cit., pp. 87-89.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

similar causes. Now, much of that work has been advanced technically to such a degree that trained personnel have taken over the duties of the volunteer worker. Highly developed skills and abilities are now needed in these particular areas. Even the role of "Lady Bountiful" is no longer as approved as it was a few decades ago. This was the role played by women who attempted to make their contributions to society by attending social functions where they raised money for their "favorite charities" rather than giving of their time.

Thus, if a woman waits until the third period to make some choice of outside activity it is often too late. She has no marketable skills, and voluntary activities are rapidly being closed to her. The first two of the three choice points are thus the crucial ones, and are the ones with which this study will be primarily concerned.

As our society has come to accept the dual role, that is, the combination of the wife-mother and the career role, more and more younger women must work through to a personal solution, must make choices as to the role or roles they desire and resolve any conflicts which might arise. One of three solutions is typically made. First, there is the resolution that looks forward to the adoption of the traditional role of marriage with an acceptance of part-time work, or work as a wage earner if it is absolutely necessary, but a complete rejection of career. Second, there is the

adoption of a career role with rejection of the wife-mother role. The third solution involves the acceptance of the dual role, a combination of work in a career and as wife and mother.

This study will not concern itself with the second of these alternatives, namely, the rejection of the wife-mother role, simply because studies have shown that there are very few girls who choose this alternative. Most studies show girls want marriage at sometime in their life, although the age at which marriage is sought will vary.<sup>1</sup> So the present research will focus on the choice between the first and third of the possible resolutions. We shall designate as "socially-oriented" girls those who have, by their behavior, indicated that they have probably opted for the wife-marriage role. In contradistinction to this group are the girls we shall call "intellectually-oriented." These latter will assumed to have chosen to combine the career orientation with the wife-mother role.

Just what is meant by the "socially-oriented" and the "intellectually-oriented" in this context? The socially-oriented girl is one who possesses social giftedness. This is sometimes described as the ability to sense the feelings and responses of others, and the ability to handle social

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<sup>1</sup>Aaron Lipman, "Educational Preparation for the Female Role," J. Ed. Soc., 33 (1959), pp. 40-43.

situations.<sup>1</sup> The socially-oriented girl is more interested in people than in ideas. Sociometric studies show that she has many friends, values friends, and is accepted by others.<sup>2</sup> She strives for position by holding important offices and by being a leader in her peer group. She shows great interest in teen-age customs and often is a style setter. She is very interested in extra-curricular activities. She is especially interested in dating, looks forward to marriage, and aspires to be a happy and influential person in her own family relationships. Academically, she may do well, but in this area her goals are often the short term ones of maintaining a high grade point average and winning class awards. The Jex<sup>3</sup> studies have described the educational goals of social leaders in a university population. They were found not to be those of learning for its own sake but for the symbols of learning such as grades, certificates, and degrees. The socially-oriented girl does not have career aspirations although she may plan for periods of work before marriage

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<sup>1</sup>Ruth Strang, Helping Your Gifted Child (New York: E. P. Dutton & Co., Inc., 1959), p. 20.

<sup>2</sup>Elizabeth M. Drews, "A Critical Evaluation of Approaches to the Identification of Gifted Students," in Measurement and Research in Today's Schools, ed. Arthur Traxler (Washington, D. C.: American Council on Education, 1961), pp. 47-51.

<sup>3</sup>F. B. Jex and R. M. Merrill, "Intellectual and Personality Characteristics of University of Utah Students," J. Ed. Res., 53 (1959), pp. 118-120.



or even, in some cases, after marriage, if the family economy necessitates. But she has no commitments toward a career or professional attainment.

The socially-oriented are good organizers and are able to think of interesting things for social groups to do. They desire and are given group approval. In later life these girls would be expected to become interested in club activities, and to become leaders in social situations. In general, one may think of the socially-oriented girl as being very much participation minded.

How would one describe the intellectually-oriented girl who accepts both the marriage-family role and the career role? She is a girl who wishes to remain feminine but at the same time wishes to secure a high level education as a step to a career. She is probably more interested in ideas than in people. This does not exclude an interest in people. But the intellectually-oriented girl's interest in people is more intellectual, and less emotional. Her activities are more likely to be those related to her commitment. She has a great interest in books, in plays, and in the works of the intellectually alert. She is probably more individualistic and less conforming, showing less need for group approval. By accepting the dual role of marriage and career she indicates that she has the stamina and willingness to go against the traditional trend. The intellectually-oriented girl is, thus, primarily, learning-centered.

The remarks of a bright American girl may better describe in her own words the type of intellectually-oriented girl we are seeking to describe:

I want more than anything to live and think to the top of my capacities, to become a truly cultivated individual. One of the places a person can do this is at a good college. However, a lot of what you are exposed to is mechanical, impersonal and ultimately valueless . . . it is what you might call cultured moss, and I don't feel it really extends your thinking and feeling capacities. Education should be a widening and deepening process, not just accumulation of knowledge. As far as people are concerned, I don't go in for large numbers of friends . . . it is emotionally unsatisfying for me. Girls must be intellectually equal or I have nothing to say to them. Men? They must be attractive mentally as well as physically but never just because of good looks . . . it is companionship, not just a buddy or a bore.<sup>1</sup>

The goal for this study emerged as an attempt to understand why some intellectually superior girls have accepted the socially-oriented role while others have accepted the intellectually-oriented role. This study, then, is an investigation of two of the many ways in which giftedness may manifest itself, namely: (1) in the area of interpersonal relationships (i.e. the socially-oriented) and (2) in the area of scholarly attainment (i.e. the intellectually-oriented). So as to encompass the two crucial choice points in a woman's development it was decided to study the superior girl at two different stages, namely, in high school and in the university.

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<sup>1</sup>Ellen Stiskin, "Bright American Girl," Look, 24 (July 5, 1960), p. 30.



What are the merits in conducting such a study? First of all, in terms of our society and its immediate needs, many think it imperative to find new ways of lifting the goals and aspirations of superior girls. Secondly, in terms of woman's self actualization, it seems important to find new ways to help girls achieve the highest level that their potential makes possible. Third, a study such as this may prove of value in discerning the significance of variables that could be used in the counseling and guidance of young women of superior abilities. The fourth and last reason, facetious as it may seem, is one which is expressed most aptly by Aldous Huxley. In his short story, "Young Archimedes," he writes,

The physicists talk of deriving energy from the atom; they should be more profitably employed nearer home in discovering some way of tapping these enormous stores of vital energy which accumulate in unemployed women of sanguine temperament and which, in the present state of social and scientific organization, vent themselves in ways that are generally so deplorable, in interfering with other people's affairs, in working up emotional scenes, in thinking about love and making it, and in bothering men until they cannot get on with their work.<sup>1</sup>

We hope to contribute, modestly, to all of these objectives.

As a first step leading to the goals of this study, a search was made of the literature to identify the differences and similarities found in girls who chose the two

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<sup>1</sup> Aldous Huxley, Little Mexican and Other Short Stories (London: Chatto and Windus, 1924), pp. 279-280.



paths which may be traveled by the superior girl, the social path and the intellectual path.

As will be shown in this review, many writers attribute the girl's choice of orientation to personality variables. Others argue that a predisposition to intellectual pursuits can be attributed to situational determinants in the culture and the environment. As a result of this review a study was designed which would permit an empirical test of the differential relationship of such factors to the choice of a social rather than an intellectual orientation.

The chapters which follow will report on this review of the literature, will detail the hypotheses made from that review, will describe the methods used to test these hypotheses, and will discuss and attempt an interpretation of these results.

## CHAPTER II

### REVIEW OF THE LITERATURE

Two primary areas of research literature about superior high school and college girls were reviewed for this study. The first was essentially psychological in its emphasis and included discussions of personality characteristics and attitudes toward self as these manifest themselves in the superior girl. The second area of the literature selected for review was essentially sociological and included discussions of variables such as cultural impact, parental values, socio-economic status of parents, the level of parental education, and ordinal status as situational determinants of the behavior of the gifted.

Our interest was only in academically-talented and gifted girls and the review was limited primarily to studies of the characteristics of girls who were thought to be "superior." "Superiority" and "giftedness" are terms with an extremely varied set of definitions. Hollingworth,<sup>1</sup> for example, describes "giftedness" in terms of a "power to achieve literacy and deal with abstract knowledge and

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<sup>1</sup>Leta S. Hollingworth, "How Should Gifted Children Be Educated?" Baltimore Bull. Ed., Vol. L (1931), p. 195.





symbols." Others suggest "creativity" as the major component of "superiority."<sup>1</sup> Still others imply that giftedness is the manifestation of special talents as in the artistry of a Picasso, the music of a Corelli, and the mathematical insight of an Einstein. As a practical matter, however, these definitions are beside the point. In most studies "superiority" and "giftedness" are, of necessity, equated with success in school as measured by school grades attained, or by achievement on tests of "intellectual ability." Unless otherwise noted this is the meaning that "superiority" will have in what follows.

In general, it can be said that there was a notable lack of empirical studies of superior girls and women in contrast to what has been done in the study of boys and men. No parallels could be found for the reports that Terman,<sup>2</sup> and Roe<sup>3</sup> have made on eminent men and that Kahl<sup>4</sup> has presented on the educational and occupational aspirations of boys. It is true that much has been written on women and their various

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<sup>1</sup>Jacob W. Getzels and Philip W. Jackson, "The Highly Creative and the Highly Intelligent Adolescent: An Attempt at Differentiation," Amer. Psych., 13 (1958), p. 336.

<sup>2</sup>Lewis M. Terman, Scientist and Non-Scientists in a Group of 800 Gifted Men (Washington, Amer. Psych. Assn., 1954).

<sup>3</sup>Anne Roe, The Making of a Scientist (New York: Dodd, Mead and Co., 1953).

<sup>4</sup>Joseph A. Kahl, "Education and Occupational Aspirations of 'Common Man' Boys," Harvard Rev., 3, 1953, pp. 186-203.



roles in our society, but most of what has been written is philosophical analysis and lacks the warranty provided by a careful test of hypotheses. As far as can be ascertained, there have been no studies which have recognized social and intellectual giftedness, as such, and which have studied their correlates. Therefore, in our investigation of the literature we were limited to a consideration of studies which have explored one of the other of these two kinds of giftedness. Our search was for clues to the differences and similarities that might be expected to exist between groups of superior girls exemplifying these two orientations.

#### Personality Characteristics

It is probable that the personality characteristics that distinguish superior girls, whatever their orientation, from those less able, are similar. The "need to achieve," for example, may be taken as a trait on which both socially and intellectually oriented girls of superior ability (as measured by grades made or intelligence scores) may be expected to differ from girls less endowed. Thus, in a study by Pierce and Bowman,<sup>1</sup> of the motivational patterns of superior tenth and twelfth grade students it was found that this group scored higher on McClelland's measurement of "need to

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<sup>1</sup>James B. Pierce and Paul H. Bowman, "The Educational Motivational Patterns of Superior Students Who Do and Who Do Not Achieve in High School" (mimeographed report, U. S. Office of Education, 1959).

achieve," on DeCharm's measure of the overt emphasis placed on achievement, and on Strodtbeck's scale of the value placed on success. Similarly, Drews'<sup>1</sup> study of 150 gifted adolescents found these students gave evidence of seeking the approval of the so-called "eggheads," universally liked school and the more academic subjects of the curriculum. This was contrasted to an earlier finding by Mead and Metraux<sup>2</sup> to the effect that the average high school student's image of scientists or "eggheads" was not favorable. To the same effect, a study conducted by Jonietz<sup>3</sup> reported that students of superior ability were more likely to be self-motivated toward learning, more often set intellectual goals for themselves, and were more realistic in their choice of goals.

But one feature of the studies of the "need to achieve" made their interpretation difficult in the context of the present exploration. For one thing, the researchers very often bias their measurement of the need to achieve to

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<sup>1</sup>Elizabeth M. Drews, "A Four Year Study of 150 Gifted Adolescents" (mimeographed paper presented to the American Psychological Association, 1957).

<sup>2</sup>Margaret Mead and Rhoda Metraux, "Image of Scientists Among High School Students," Science, 126, 1958, pp. 384-390.

<sup>3</sup>Alice Jonietz, "Achieving and Non-Achieving Students of Superior Ability" (mimeographed preliminary report, University of Illinois, 1959).

favor what has been described here as the intellectually oriented girl. Typical is Edwards' measure of achievement need in which a high level of need is characterized by desires "of becoming an authority in a professional field, writing a great novel or play."<sup>1</sup> Girls who have opted to follow intellectually oriented pursuits may be expected to score high on this and similar measures of achievement. It would not be surprising, then, to find, as did Brandwein<sup>2</sup> that gifted science students, including girls, did not include those whose orientation was primarily social. "The 'cover girl' or 'model' were not in this group." But not all girls, including superior girls, define achievement in this way. Marks'<sup>3</sup> high school social leaders perceived achievement as involving popularity, achieving the leadership in school organizations, being considered attractive, and having sufficient prestige to be considered a "style setter" and a "big wheel." McClelland<sup>4</sup> found this predominantly social definition of achievement was characteristic

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<sup>1</sup>Allen L. Edwards, Manual of Edwards Personal Preference Schedule (New York: The Psychological Corporation, 1954), p. 5.

<sup>2</sup>Paul Brandwein, The Gifted Student as Future Scientist (New York: Harcourt Brace & Co., 1955), p. 58.

<sup>3</sup>J. B. Marks, "Interests and Leadership Among Adolescents," J. Genet. Psych., 91, 1957, pp. 163-172.

<sup>4</sup>David McClelland, The Achievement Motive (New York: D. Appleton-Century-Crofts, 1953), pp. 173-181.

of most girls and that where this social motivation was great, achievement in terms of school grades was also relatively higher. This finding may explain why superior girls, in general, are characterized by higher scores on most typical measures of achievement need than are students of lesser ability, even when the focus of the measurement is on the need for intellectual attainment.

If we limit ourselves to possible differences between groups of superior girls only, however, we might expect to find differences in "achievement need" depending on the nature of the measure of that need. Thus, with the Edwards test, where the need to achieve is equated with a desire for intellectual attainment, we would clearly expect the superior girls we have called "intellectually-oriented" to exhibit higher need levels than do the "socially-oriented."

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The terms "ambition" and "persistence" were personality characteristics often mentioned in discussions of the superior girl, and most often linked together or used interchangeably.

Three studies were noted in which ambition and persistence were found to be associated with social leadership. In a study by Hanawalt<sup>1</sup> of 40 college women, 20 of whom were leaders and 20 non-leaders, "ambition was found

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<sup>1</sup>N. G. Hanawalt, C. E. Hamilton, and M. L. Morris, "Level of Aspiration in College Leaders and Non-Leaders," J. Abnorm. Soc. Psych., 38 (1943), pp. 411-426.



to be higher for the leaders as measured by performance on ten trials on a letter substitution test. In the Moore<sup>1</sup> study of the perception of leadership traits held by college women at Texas College for Women, the student body was asked to name three leaders and state the characteristics that influenced their selection. From the 200 replies received more than half listed "ambition" and "persistence" among the five most important characteristics of a college leader. Ambition and persistence were also among the six traits of women college leaders as rated on the North Carolina Scale of Fundamental Traits in a study by Middleton<sup>2</sup> which evaluated personality qualities of college leaders.

Empirical studies of girls noted for their intellectual attainment have also remarked on the incidence of ambition and persistence. Flesher,<sup>3</sup> in an intensive study of 76 college women at Ohio State University who obtained their degrees in three years or less, was most cognizant of the presence of these two characteristics. Ambition and persistence also were found to be characteristics of the gifted

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<sup>1</sup>L. H. Moore, "Leadership Traits of College Women," Soc. Rev., 20, 1935, pp. 136-139.

<sup>2</sup>Warren C. Middleton, "Personality Qualities Predominant in Campus Leaders," J. Soc. Psych., 11 (1941), pp. 199-201.

<sup>3</sup>Marie A. Flesher, "An Intensive Study of 76 Women Who Obtained Their Undergraduate Degrees in Three Years or Less," J. Ed. Res., 39 (1946), pp. 602-612.



high school students studied by Drews.<sup>1</sup> Cox, in a study of early mental traits of 300 geniuses names persistence as one of the two most important non-intellectual traits, the other being self confidence. Concerning persistence she says;

High but not the highest intelligence combined with the greatest degree of persistence will achieve greater eminence than the highest degree of intelligence with somewhat less persistence.<sup>2</sup>

Thus, on the basis of these reports, there seems little grounds for hypothesizing that socially oriented and intellectually oriented groups of superior girls are likely to differ significantly with respect to ambition and persistence if the measurement is of the general trait.

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Maslow<sup>3</sup> has proposed "dominance" as an important personality characteristic of the superior college girl. This hypothesis has been substantiated in the case of the socially-oriented girl. College leaders as tested by Hanawalt, Richardson, and Hamilton<sup>4</sup> on the Bernreuter Personality

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<sup>1</sup>Drews, op. cit., p. 1.

<sup>2</sup>Catherine S. Cox, Early Mental Traits of Three Hundred Geniuses (Stanford: Stanford University Press, 1926) p. 187.

<sup>3</sup>A. H. Maslow, "Self Esteem (Dominance Feeling) and Sexuality in Women," J. Soc. Psych., 16 (1942), pp. 254-294.

<sup>4</sup>N. G. Hanawalt, H. M. Richardson, and H. J. Hamilton, "Leadership as Related to the Bernreuter Personality Measure," J. Soc. Psych., 11 (1940), pp. 31-41.

Inventory were found to be more dominant, extroverted and self confident than non-leaders. They were also inclined to take additional responsibility in extra-curricular affairs and were freed from feelings of humility and self consciousness. Similarly, school leaders studied by Moore<sup>1</sup> were found to rate higher on "ascendancy" as opposed to "submission."

On the other hand, several research studies have indicated a lack of "dominance" in individuals who chose careers in areas of scholarship or in certain professional fields. Terman,<sup>2</sup> Roe,<sup>3</sup> and Goodrich and Knapp<sup>4</sup> all found this to be true for men, and a recent study of National Merit Scholars of both sexes by Warren and Heist<sup>5</sup> reported that award winners were less "dominant" and less "authoritarian" than other students. Also, at Columbia University 82 undergraduates of superior intelligence were studied by

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<sup>1</sup> Moore, op. cit., p. 137.

<sup>2</sup> Lewis M. Terman and Melita H. Oden, Genetic Studies of Genius: Vol. IV, The Gifted Group at Mid-Life (Stanford: Stanford University Press, 1959).

<sup>3</sup> Roe, op cit., p. 65.

<sup>4</sup> Robert H. Knapp and Hubert B. Goodrich, Origins of American Scientists (Middleton, Connecticut: Chicago Press for Wesleyan University, 1952).

<sup>5</sup> Jonathan R. Warren and Paul A. Heist, "Personality Attributes of Gifted College Students," Science, 132 (1960), pp. 330-337.

Gould and Kaplan.<sup>1</sup> Maslow's Social Personality Inventory for Dominance was administered to all subjects. Results showed that high scores on a measure of aspiration level had consistent but low positive correlations with dominance.

From these studies it seemed reasonable to conclude that the two types of superior girls we have conceptualized would be expected to differ on measures of the personality trait, "dominance."

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At the high school and college age, the adolescent's developmental tasks focus importantly on an adjustment to the opposite sex.<sup>2</sup> While all girls work through this social adjustment in some fashion, conventional wisdom has it that superior girls have considerably more difficulty and that, more importantly, the girls we are calling intellectually-oriented make the choices that they do because of their low level of interest in, and need for, heterosexual relationships. Another "explanation" is that these girls are rejected in these relationships.

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<sup>1</sup>Rosalind Gould and Norman Kaplan, "The Relationship of Level of Aspiration to Academic and Personality Factors," J. Soc. Rev., 11 (1940), pp. 31-40.

<sup>2</sup>R. J. Havighurst, Human Development and Education (New York: Longmans, Green & Co., 1953).



Ramasesh's<sup>1</sup> work with gifted high school students produced some interesting results which challenge these views in part. Three hypotheses were made in her experiment, (1) that the gifted and average do not differ in social adjustment, (2) that boys and girls of the same attainments do not differ in social adjustment, and (3) that the very gifted and the moderately gifted do not differ in social adjustment. Subjects were rated by their teachers on a five point "social adjustment" scale and also on the Washburne Social Adjustment Inventory. The conclusions were that the gifted generally showed superior social adjustment when compared to the average, that girls generally rated higher than boys although there was less disparity between the gifted boys and girls than among the average boys and girls, and finally, that little difference in total social adjustment was noted between the very gifted and the moderately gifted. However, it was reported that the very gifted seemed to have a superior concept of social adjustment. Also, their wishes were superior and the motivation for their expression of goals differed from the moderately gifted.

From this study we might predict very little difference in need for heterosexuality to be found between socially-oriented and intellectually-oriented girls. However, in

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<sup>1</sup>Padmini Hannah Ramasesh, "The Social and Emotional Adjustment of the Gifted" (unpublished dissertation, University of Nebraska Teachers College, 1957).



a comparison of career-motivated and home-making motivated college women by Hoyt and Kennedy<sup>1</sup> the home-making motivated girls scored higher on a measurement of the need for heterosexuality. Hoyt and Kennedy studied 407 freshmen women at Kansas State College. The Strong Vocational Interest Blank and the Edwards Personal Preference Schedule were used to compare the two groups of women. The scores of the career-oriented girls showed: (1) a higher need for "achievement" (i.e., a need to establish one's worth through competitive behavior), (2) a higher need for "intraception" (the intellectual understanding of people), and (3) a higher need for "endurance" (the need to accomplish concrete goals). The home-making motivated girl scored higher on the need for "succorance" (or warmth in reaching for people) and, (2) on the need for "heterosexuality" (i.e., interest in the opposite sex).

The seeming contradiction between the Ramasesh and the Hoyt and Kennedy researches is instructive. It would appear that while both the superior socially and intellectually oriented groups of girls may be expected to be as well, if not better "adjusted" as the average of their age groups,

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<sup>1</sup>Donald T. Hoyt and Carroll E. Kennedy, "Interest and Personality Correlates of Career-motivated and Home-making-motivated College Women," J. Couns. Psych., 6 (1958), pp. 44-49.

this adjustment may take different forms. Cattell<sup>1</sup> suggested as much when he reported that scholars avoid social affairs because of their distaste for the waste of time this involves rather than because of any inherent emotional factor or personality need. Similarly, Maslow<sup>2</sup> explained the quality of detachment, so often noted in the intellectually-oriented, as stemming not from their aloofness or disinterest in people but from their intense preoccupation with their own interests, ideas, and projects. Likewise, Hirsch stated, "It is a grievous error to credit the superior with an innate inclination to shun men, but in his youth he learns by experience that solitude is preferable to suffocation, stupefaction or surrender."<sup>3</sup> If these views are correct, then we would expect our socially-oriented superior girls to express a higher need for heterosexual and other social contacts than would the intellectually-oriented girls, though neither group would differ markedly on measures of intrareception (i.e. the need to relate to and understand people).

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"Autonomy" is a personality characteristic that has

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<sup>1</sup>R. B. Cattell, Personality and Motivation Structure and Measurement (New York: World Book Co., 1957), p. 101.

<sup>2</sup>A. H. Maslow, Motivation and Personality (New York Harper and Bros., 1954), p. 213.

<sup>3</sup>N. D. M. Hirsch, Genius and Creative Intelligence (Cambridge, Mass., Sci Art. Publishers, 1931), p. 324.



often been attributed to the gifted. In Riesman's scale of virtues "autonomy" is highest and is described as "that characteristic of men and women who are not only free but can endure freedom, who can conform or not as they choose and are aware of the choice."<sup>1</sup> Maslow calls it:

A quality of independence propelled by growth motivation. It is one's own development and the continued growth of one's own potentialities and latent resources that supplies the main satisfactions rather than the extrinsic satisfactions that come from other people or from the culture or even the present environment. It is an intrinsic satisfaction dependent on self.<sup>2</sup>

Simmons<sup>3</sup> made a study of two groups of children to observe their acceptance or non-acceptance of suggestion. The intellectually-superior groups (those with IQ scores of 130 to 170) were less suggestible. They were more individualistic in their responses and showed more autonomy than the less talented. Goodenough<sup>4</sup> substantiated this finding in her own studies of bright children and reported evidence that such children were more apt to be autonomous and less "suggestible." Neville,<sup>5</sup> in a study of 78 brilliant children

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<sup>1</sup>Eric Larrabee, "Riesman and His Readers," Harper's (June, 1961), p. 62.

<sup>2</sup>Maslow, op. cit., p. 214.

<sup>3</sup>Rachel McKnight Simmons, "A Study of a Group of Exceptionally High Intelligent Quotients in Situations Partaking of the Nature of Suggestion," N.Y. Bur. of Publ., Teacher's College, Columbia University, 112, 1948.

<sup>4</sup>Florence Goodenough, Exception Children (New York: Appleton-Century-Crofts, Inc., 1956).

<sup>5</sup>E. Mildred Neville, "Brilliant Children With Special Reference to Their Difficulties," Brit. J. Ed. Psych., 7 (1937), pp. 247-257.

with IQ scores ranging from 140 to 180, noted that their need for autonomy was often great enough to create impatience with peers and affect personal relationships adversely. Autonomy was also one of the attributes of superior students in a study by Remmers.<sup>1</sup>

In an experiment concerning the personality adjustment of the superior child, Zachry<sup>2</sup> concluded that the gifted or intellectually-oriented child must make the most adequate all-around adjustment and one in which he must learn to appreciate the difficulties caused by his own needs for autonomy.

Finally, in this vein, there is the evidence reported in studies of the National Merit Scholars.<sup>3</sup> Gifted college students with IQ scores between 130 and 150, were found to be more self sufficient, independent, autonomous, and to have a greater command of themselves. These students were more adventurous and more creative, less tense and less anxious than average students. They showed great interest in reflective thought, in working with ideas and in achieving intellectual independence.

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<sup>1</sup>H. H. Remmers, "Some Attributes of Superior Students," Pers. J., 10 (1931), pp. 167-178.

<sup>2</sup>Caroline B. Zachry, "Personality Adjustment of the Superior Child," J. Nat. Ed. Assn., 21 (1932), pp. 89-90.

<sup>3</sup>Warren and Heist, op. cit., p. 336.

A second study of National Merit Scholars<sup>1</sup> also concerned itself with the personality traits of able students. Here the groups compared were those who chose to attend colleges because of the quality of the programs offered and those who chose colleges for various other reasons, such as interest in athletic reputations of the college, proximity to home, or desire to attend the college choice of friends or relatives. The population was chosen from all of the winners and 10 per cent of those who received certificates of merit (near winners) in 1956. Information acquired included biographical data, socio-economic data, results from the Strong Vocational Interest Blank, the Omnibus Personality Inventory and the Allport-Vernon-Lindzey Study of Values. The conclusions from this study showed that students of high ability attending highly productive institutions had a pattern of traits, values and attitudes which were more closely related to serious intellectual pursuits than students of high ability attending institutions of less eminence. Results were interpreted to show that there was more inner directedness and social independence in the gifted individual selecting the prestige university.

From all of these studies it is reasonable to predict that the intellectually-oriented girl would score higher

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<sup>1</sup> Paul Heist, T. R. McConnell, Frank Matsler, and Phoebe Williams, "Personality and Scholarship," Science, 133 (1961), pp. 362-367.

on measurements of the need for autonomy and related variables like "ego-strength" and "introversion."

### Attitudes Toward Self

In the opening chapter of this study socially-oriented and intellectually-oriented girls were described as those who had made a particular resolution of the choice of roles that adolescents are required to make. The values and attitudes that individuals hold regarding "self," including the extent of acceptance of the sex role, is of extreme importance in any study involving role definition. It is of special importance in this study because the individual superior girl's feeling about her own self worth will be significantly related to the choices that she makes.

Changes in attitude concerning sex roles have been noted along with other advancements in the culture. One major area of change has been in the attitudes concerning sex roles in occupations. Change has occurred in this area to the extent that some people feel it is morally wrong to insist that one's sex must predestine one's vocation and even one's style of life.<sup>1</sup> Useem in reporting some occupational changes in sex role has stated,

Distinctions between men's and women's work which was once based on human strength is now made obsolete as

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<sup>1</sup>David Riesman, "Some Continuities and Discontinuities in the Education of Women" (Third John Dewey Memorial Lecture, Bennington College, Vermont, 1956), p. 12.



power is substituted for animal and human energy. Patterns which once made a division of labor between men and women in a society dependent upon human energy do not make sense for a power energy society. The push-button crane operator and the push-button vacuum cleaner can be done by either men or women.<sup>1</sup>

This indicates a new permissiveness and interchange of sex role that is different from the traditional marriage role of the past.

Many studies have reported this new attitude. Riesman<sup>2</sup> has noted not only the change toward earlier marriages than in the past but toward a total gestalt in which marriage itself is of a new sort, shared, communitative and emancipated, in which the husband takes an active part as more than the breadwinner and the wife an active part as more than the "little woman." Changes in dating and courtship leading to marriage have also been observed by Blood<sup>3</sup> and these were found to be quite different in quality than those of twenty years ago. The attitudes expressed today showed a greater desire to share, rather than to impress. Relationships seemed more sincere, more profound, and more searching with less interest shown in superficialities such as good looks and popularity.

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<sup>1</sup>Ruth Useem, "Women's Lives--Changing Cultural Concepts" (mimeographed address given for Invitational Conference on Counseling Girls in High School and College, American Council on Education, Michigan State University, 1960), p. 3.

<sup>2</sup>David Riesman, "Permissiveness and Sex Roles," Human Dev. Bull., Ninth Annual Symposium, 1958, pp. 48-53.

<sup>3</sup>Robert O. J. Blood, "Uniformities and Diversities in Campus Preferences," Marr. and Fam. Liv., 18 (1956), pp. 37-45.



The new permissive attitude has been indicated, also, by Walters and Ojemann<sup>1</sup> in a study regarding the role of women, in which the partnership role between the sexes was becoming more popular. The subjects in this study were 132 sophomores and seniors in a consolidated high school in Iowa. The subjects were given situations, 100 in all, which placed woman in (1) a subordinate position, (2) a partnership position, or (3) a super-ordinate position. Students were then asked two questions, "Would you do the same? Do you think you should do the same?" The results showed only one-third of all responses placed women in a subordinate position. For those who had siblings only one-fifth of all responses placed sisters in a subordinate position while three-fifths placed sisters in a partnership role. There were interesting responses which showed the difference in attitudes between boys and girls. Boys would place girls more frequently in super-ordinate position in education but subordinate position in play activities. But boys felt they should place girls in a super-ordinate role more often. Partnership roles were popular with both boys and girls. Girls would place girls in partnership roles for both education and play activities but surprisingly, girls would place the wife or mother in a subordinate position except

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<sup>1</sup>James Walters and Ralph H. Ojemann, "A Study of Components of Adolescent Attitudes Concerning the Role of Women," J. Soc. Psych., 35 (1952), pp. 101-110.



for child rearing when she would be placed in a superordinate position.

The new image of modern woman as described by Dichter also noted the partnership role.

The modern housewife is becoming much more of a partner in the whole family operation. The traditional division of labor between the two sexes has changed. Men are deeply interested in household appliances and women, on the other hand have learned to tinker around the house, become the family car drivers . . . man does not want to marry a sweet little creature who is just cute and helpless . . . he wants a woman who can "chip-in," who can take a job, who can drive a car or truck if need be, who can be a partner.<sup>1</sup>

In the area of education Newcomer<sup>2</sup> reports that sex differences are not as rigid in determining roles as they used to be. The earlier distinction between men's and women's professions has in some measure broken down. A quarter of a century ago no woman received degrees in veterinary medicine and no man received degrees in nursing, but such awards are no longer rare. Likewise Brown<sup>3</sup> has stated that in sex role development the direction has become broader, less rigid and more overlapping. There is greater similarity in education, with girls being more accepted in the fields of

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<sup>1</sup>Ernest Dichter, The Strategy of Desire (New York: Doubleday & Co., 1960), p. 184.

<sup>2</sup>Mabel Newcomer, A Century of Higher Education for American Women (New York: Harper & Bros., 1959), p. 180.

<sup>3</sup>Daniel G. Brown, "Sex Role Development in a Changing Culture," Psych. Bull., 55 (1958).

science and mathematics--more women are working outside the home and more men are making contributions in the home. There is a trend towards the equalitarian rather than the hierarchical.

Studies have shown that both men and women are apparently aware of these changes in the definition of sex roles. MacKinnon<sup>1</sup> has observed that the highly effective, creative males he studied gave more expression to the feminine side of their personalities. The subjects in this experiment had wide ranging interests including many which were thought of as feminine. Concerning women, Fand,<sup>2</sup> in the absence of distinct definitions of woman's role in the modern world, chose to hypothesize that each woman now makes a choice between the traditional and modern concept of the feminine role depending on her self concept. Eighty-five college women answered a rating inventory of 34 statements as to needs, rights, and obligations. The inventory was given four times. Each time it was to be answered in a different way (1) as true opinion, (2) as the ideal woman, (3) as the average woman, and (4) as man's ideal woman. In addition, an autobiographical essay was written and a personal interview made. Her conclusions were that women visualized the

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<sup>1</sup>Donald W. MacKinnon, "The Highly Effective Individual," Teacher's Coll. Rec., 61 (1960).

<sup>2</sup>Alexandra Botwink Fand, "Sex Role and Self Concept" (unpublished dissertation, Cornell University, 1955).

feminine role as combining equal amounts of the traditional and of a self-orientation which Fand viewed as the feminine creature striving to fulfill herself as an individual by realizing directly her own potentialities.

It is interesting to note the attitudes of women in their middle years towards their role in life and the relationship of their contentment to their attitude. A study was made of 130 women who were chosen to represent 1,000 women attending an Institute on "How Many Women Are You?"<sup>1</sup> These were mostly clubwomen who were interested in the subject of leisure time and its use. All were between the ages of 25 and 50, and all had one or more natural children. The majority were full-time home-makers with either a high school or college education, mostly of upper class home status, married for approximately fifteen years and with at least one child at home. The conclusions from this study did not substantiate the theory that the well adjusted woman was content to remain home solely as a home-maker. Home-making was enjoyed if domestic help was available at least for part time. But home-making alone did not supply full mental and emotional satisfaction since there were abilities it did not tap. Leisure time was viewed as a problem and women were not

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<sup>1</sup>Gertrude Zeman Gass, "Counseling Implications of Women's Changing Role," Pers. and Guid. J., 7 (1959), pp. 482-487.

proud of their use of it. They wished for part-time work. All expressed contentment at being a woman but all desired more education and more effective vocational guidance for women of their age group.

In light of all these studies, it is puzzling that although women are aware of the choices and alternatives that are available to them in the present era, and which were forbidden to them in the past, many superior women and girls still view themselves in terms of subordination and deference. In comparing the sexes in their attitudes and beliefs it has been found that women do not hold themselves in as high esteem as men hold themselves. The male has always had great respect for himself and places a high value on his own sex. Women seem to agree with him. For example McKee and Sheriffs<sup>1</sup> report that both college men and women regarded men more highly than women. This study rated desirable traits for both men and women. The results showed that both men and women rated women lower on the most desirable traits which were "calmness," "determinedness," and "realism." Also, in research conducted by Williams<sup>2</sup> on the

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<sup>1</sup>John P. McKee and Alex C. Sheriffs, "Men's and Women's Beliefs, Ideals and Self Concepts," Amer. J. Soc., 4 (1959), pp. 356-363.

<sup>2</sup>Josephine J. Williams, "Patients and Prejudice, Lay Attitudes Toward Women Physicians," Amer. J. Soc., 51 (1945), pp. 283-287.

attitudes of American women toward women physicians, women once again rated their sex unfavorably. The experiment was done by means of two questions asked by interviewers in the Chicago area. The first question concerned the selection of the doctor a subject would call first, differentiating between sex, age, faith, nationality, race, and recommendations. On the second question the subject was asked to judge ten objections raised to the doctor of her choice. The first choice of two-thirds of men and women was for a male, white, American, same faith, and well-recommended doctor. As a second choice, women preferred a woman doctor to a very young male doctor or to an experienced Negro male doctor even though they accepted as a normal reaction that men would prefer a male doctor in all cases.

The Hartley<sup>1</sup> studies of 150 girls showed that these girls of ages 8 to 11 had already developed very definite ideas as to appropriate sex behavior. They perceived the world of behavior as being divided into separate sex categories and they rejected for themselves the behavior sex-typed as masculine.

These studies indicate a seeming conflict and confusion with respect to the changes that have taken place in the role of women, and the willingness of woman to defer to others and also in her willingness to accept a position of

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<sup>1</sup>Ruth Hartley, "Development of Concept of Women's Role" (preliminary report, City College of New York, 1957).

inferiority. Educators are showing great concern over this situation and several have voiced their opinions as to the reasons or causes of this attitude on the part of the superior woman especially. Binger discussing pressures on the modern college girl states,

In our culture, women still seem to regard themselves as inferior. Perhaps it is a genuine feeling of their own, or perhaps it is imposed upon them by men. The new freedom has not done away with it--not the vote, nor trousers, nor cigarettes, nor even standards of sexual behavior that are somewhat similar to men's standards. Indeed all of these indexes of equality with men appear often as an uncertain effort to deny the confusion of roles in which modern society has placed women.<sup>1</sup>

Bunting blames society for certain prevailing attitudes of the woman of today, as expressed by the following:

We have not been greatly concerned because we have never really expected women to use their talents and education to make significant intellectual or social advance. We were willing to open the doors but we did not find it important that they enter the promised land. We can use the able boy to plan and work for the contributions he can make in the second half of his life, but we have not encouraged the girl to look beyond her early adult years. With the lack or expectation so prevalent, it is no wonder that most of the gifted children who fail to go to college are girls. When we see able high school girls shunted off from academic courses into the easier vocational courses, even though this means shunting them off from later opportunities, we can be sure the "hidden dissuaders" are at work. These are the subtle undercurrents of our society which shape our attitudes and often go unrecognized. They are inherited influences, the cultural standards which produce, for example, the belief that a scientific career is somehow

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<sup>1</sup>Carl Binger, "The Pressures on College Girls Today," Atlantic Monthly, 207 (1961), p. 40.

"unladylike," or that marriage should be enough of a career for any woman.<sup>1</sup>

Along this same line of thought, Moser expressed the traditional idea concerning woman's role as stated by certain men:

A girl who succeeds is made masculine by her success. A girl is more attractive in need. Every step forward in success means a step backwards as a woman.<sup>2</sup>

Certainly such views are damaging to any young woman with intellectual aspirations and goals. She is urged by the inner voice of conscience to be a success, to stay ahead of others, but to follow that voice is to damage her femininity. Yet, she must be feminine to be attractive to a man and her greater success, she is told, is to get a man who achieves. The door to a career is open to a superior girl, but according to the above statements, every step she takes through the door, she is warned, is a step backwards as a woman.

However, some studies have shown that at least some superior or gifted women have not internalized the prevailing view. Drews'<sup>3</sup> study of gifted adolescents reports the aspirations of these girls was very high with no feeling of inferiority or deference. Their choices of occupations

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<sup>1</sup>Mary Bunting, "A Huge Waste: Educated Womanpower," N. Y. Sun. Times Mag. Sect. (June 7, 1961), p. 23.

<sup>2</sup>Clarence G. Moser, Understanding Girls (New York: Association Press, 1957), p. 232.

<sup>3</sup>Drews, op. cit., pp. 1-3.

were often in the professions such as medicine, law, engineering and science. A great majority said they were above average intellectually.

Of the 531 "distinguished" students from Purdue University who acted as subjects in the study conducted by Remmers,<sup>1</sup> more than half rated themselves as over average on native capacity.

From the studies reviewed, one has the impression that confusion does exist in the attitudes of the superior girl towards herself. We can assume from the studies that the socially-oriented superior girl will be more inclined to avoid conflict in role or resolve it by accepting the still dominant view that women are in a subordinate position. Therefore, we would expect her to show a greater need for deference (to get suggestions from others, to do what is expected, to conform to custom).<sup>2</sup> On the other hand, the intellectually-oriented superior girl, who also faces role conflict, may be expected to be relatively less deferent.

#### Conformity

It is paradoxical that in the eyes of most of the world American women are looked upon as the most pampered and indulged women in modern history. Yet, in the area of

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<sup>1</sup>Remmers, op. cit., p. 170.

<sup>2</sup>Edwards, op. cit., p. 5.



self development, and intellectual development they are greatly underprivileged. Women have been led to believe that the mink coat, not the laboratory coat, is the symbol of success; that beauty and youth is of greater importance than brains and experience; that leisure time is more rewarding than hard work, and that conformity is preferable to originality. Raskin, one of our few well-known woman scientists says,

Russian women are not smarter than American; neither are the Chinese, Indian, European and Scandinavian women who hold top flight technical positions in their respective countries. We have some outstanding female scientists and engineers. True, they are greatly outnumbered by their male colleagues, but this is not due to any intellectual incompetence or lack of creative ability on the part of women. It is the fault of our cultural conditioning and our poor vocational guidance for scientifically capable girls.<sup>1</sup>

Radler quoting Riesman on conformity stated;

Parents make children feel guilty, not about failure to conform to some inner moral standard, but about failure to be popular . . . to conform to an outer standard, in other words. The schools enforce the necessary regularity not through set principles of behavior but through social pressures . . . through demanding of the student that "he play the game." Even researchers in universities and industry, people who ought to know better talk about "team approaches" to research, about "brainstorming" and about "group mind" and not about the individual working alone, concentrating at full power, the only creative approach to scholarship.<sup>2</sup>

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<sup>1</sup>Betty Lou Raskin, "The Untapped Resource," Goucher College Bulletin, 25 (1959), p. 3.

<sup>2</sup>D. H. Radler, "The Teen-Ager's Choice; Popularity or Salvation" (mimeographed paper presented at Purdue University, 1959), p. 2.

Everything conspires to produce conformity. The development of conformity begins in the home, and is reinforced by the school. Roff's<sup>1</sup> report on 39 research studies concerning the intra-family resemblances in personality characteristics, found that daughters tended to resemble and accept their parents attitude and opinion much more than did the sons. This attitude prevailed in girls of all ages, from the grade school child to the female graduate student. Brown,<sup>2</sup> in discussing the need for re-evaluation in sex identification in a changing world, has advocated a cessation of "boy's toys for boys" and "girl's toys for girls," thus reducing the establishment of definite sex roles and setting limitations in the definition of the sex role at a very early age. Fathers extol scholarship while mothers encourage sociability and as long as these two are viewed as separate and incompatible roles it creates an unfavorable psychological climate for the growing and developing girl.

The situation is not the same, however, at all stages of development. Both Brown<sup>3</sup> and Hartley<sup>4</sup> show in early years

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<sup>1</sup>M. Roff, "Intra-family Resemblances in Personality Characteristics," J. Psych., 30 (1950), pp. 199-227.

<sup>2</sup>Brown, op. cit., p. 235.

<sup>3</sup>Ibid., p. 240.

<sup>4</sup>Hartley, op. cit., p. 3.

girls are allowed comparatively greater freedom in role development for a longer period of time than boys. Boys at age five are subjected to a great deal of role pressure, while girls do not experience this factor until near the time of puberty. In other words, a girl may usually be a "tomboy" but a boy is rarely allowed to be a "sissy." It is true that girls in the present era have more freedom at an early age but it doesn't last, it isn't "for real." Conformity, has been in the past, and still is in some degree, one of culture's greatest inhibitors, especially to girls who as a sex have been taught to be conformists. Until very recently they have been admonished to be "little ladies." They have been trained from infants to be passive, personal and maternal, docile, acquiescent and retiring. They have been enjoined not to express opinions too vehemently nor to contradict even when they know the correct answer.

In a study of human potentialities, Murphy<sup>1</sup> has found formal education to be one of the most rigid forces for conformity. Anatasi<sup>2</sup> has reported in a study of teacher ratings of the school child, that teachers expect girls to be more cooperative than boys--the mere fact of being a girl is supposed to lead to a higher rating of cooperativeness.

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<sup>1</sup>Gardner Murphy, Human Potentialities (New York: Basic Books Inc., 1958), p. 5.

<sup>2</sup>Anna Anatasi, Differential Psychology (New York: MacMillan, 1958), p. 276.

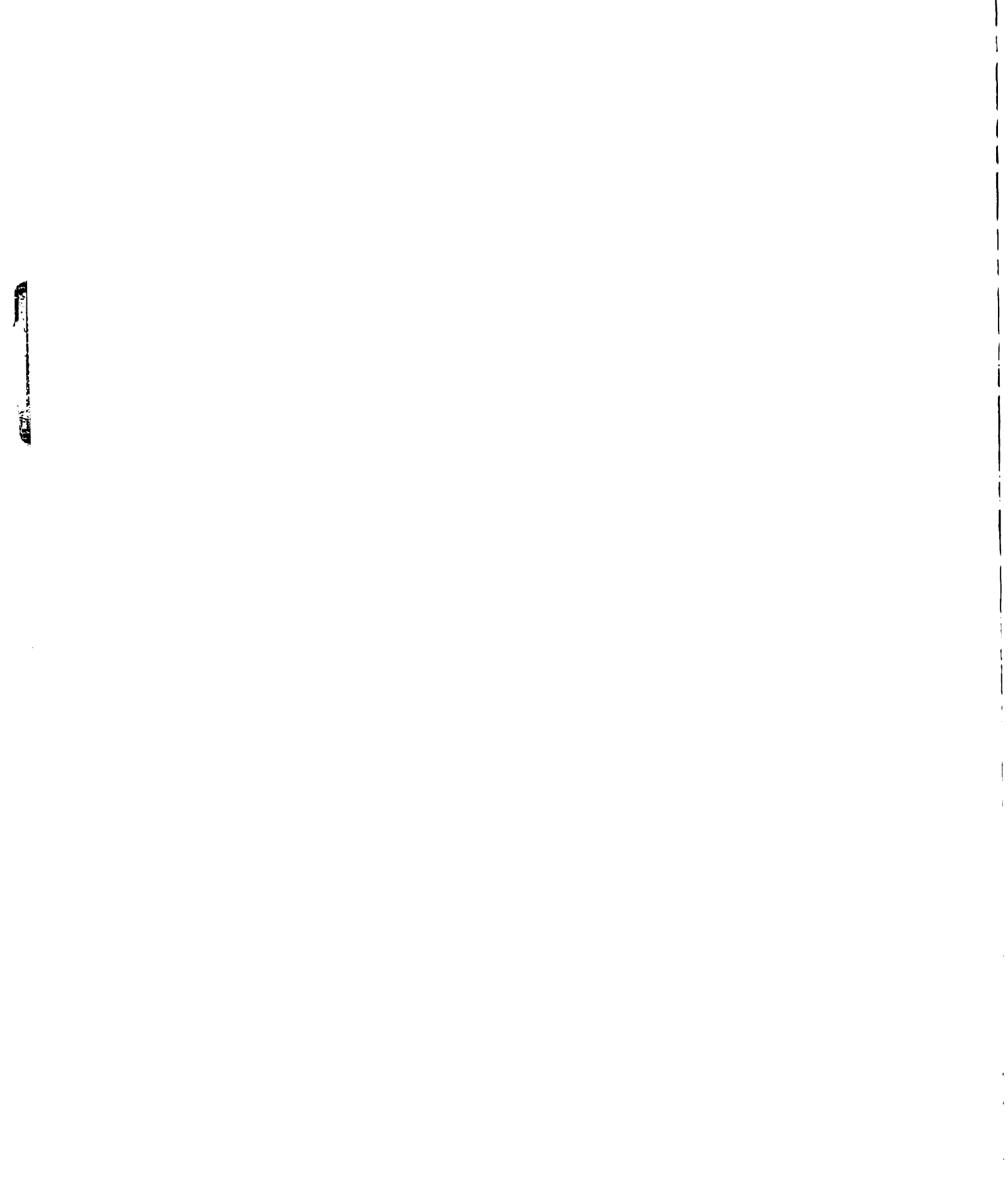
Conformity in reading material was found to be very prevalent beginning in the junior high school and continuing into senior high school. The quality of the reading material selected, deteriorated, especially in the case of girls who did not wish to appear "different," too brainy, or "book-wormish."<sup>1</sup>

One of America's well-known educators in discussing the influence of American culture on education describes two types of high school students which greatly resemble in many respects the socially-oriented and intellectually-oriented students with whom we are concerned. To quote:

The total influence of the culture is to teach the young to run in groups as if America were one consecutive series of which no one wanted to be chairman, and in which everyone must be included . . . there is accordingly, a general type of "American high school student," identified by foreign visitors and others who look at our educational system from the outside. He has absorbed the influences of an extroverted community in his home town, particularly, in the urban and suburban areas, and models his conduct to a large extent on a young American type, itself a product of the movies, the magazines, the television, radio and phonograph records. The boys and girls have a co-educational attitude to teen-age life and a complicated ritual of dating, pledging, riding in cars, attending sports events along with the common vocabulary of popular phrases. They provide the material for the concept used by social workers, journalists and parents --the teen-ager. They also provide the mass market for commercial exploitation by clothing manufacturers, record companies, and television networks. The values are for the most part accepted uncritically. The model for the high school boy is a star athlete who

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<sup>1</sup>Ruth Strang, "Gifted Adolescents View of Growing Up," Excep. Child, 23 (1956), pp. 10-15.



has a straight "A" record, is popular with girls and elected to student office by popular acclaim. The model for the girl is one who is pretty, popular, having a "B"-plus record so that it will not be a threat to her popularity with boys, who likes sports, popular records, movies and has a well-knit social life. She is neither arty or too brainy nor too intense about anything. The over-all value is to think of school as a place where you learn to get along with people, prepare either for getting into college by taking subjects and getting grades that will do that, or preparing for a job or for marriage following the years of high school. . . . Then there is another kind of high school student. His style is slightly different in the attitude of clothes he favors and in some of the books and ideas that are considered fashionable. But the style is similar in its in-groupness and its kind of togetherness . . . the togetherness shows itself in a special form of intellectual attitude--a serious concern for adult ideas and a rejection of the "high school pattern" . . . an additional characteristic of the style is that this student has a genuine concern for the rights and individualism of others and a genuine independence of mind that carries over to life in college, and after it. In the search for identity, this student is clearly concerned with finding an answer, and this clearly means a more intense and complicated struggle than for those who have not undertaken the search. You pay a price for that kind of searching. But the values held are those of equality for all creeds, colors and countries, a sense of social justice and a love of art and learning.<sup>1</sup>

Thus education is working in opposition to its very life goals that should include a spirit of intellectual adventure, discovery, living curiosity, and a feeling of intelligence from cultural clamps, moving in a positive way and resisting the tendency to treat as enemies people who see things in another way. After all, people do differ in

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<sup>1</sup>Harold Taylor, "The Understood Child," Sat. Rev., 44 (1961), pp. 47-49.

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their reactions to culture.<sup>1</sup>

In an experiment concerning the psychological aspects of conformity behavior of men and women, Mouton<sup>2</sup> attempted to discover if women were more susceptible to conformity pressures. Fifty college males and fifty college females were used in the project which presented three tasks. These included attitude statements, arithmetic problems, and answering information-items. Each subject answered after learning responses by two other subjects. Half of the group heard responses by the opposite sex and half by the same sex. Conclusions showed that women were susceptible to conformity concerning unfamiliar material but were not susceptible to conformity concerning familiar material (i.e. those girls who were more informed were less subject to coercive influence). Neither sex was more pressured for conformity than the other. College women were found to be more conforming than college men in a study of 125 seniors at the University of Utah.<sup>3</sup> All subjects had IQ scores of 115 and above. This group represented one-fourth of a class of freshmen who had enrolled, persisted, and become seniors.

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<sup>1</sup>Murphy, op. cit., p. 109.

<sup>2</sup>Jane H. S. Mouton, "Psychological Aspects of Conformity Behavior of Men and Women" (unpublished dissertation, University of Texas, 1957).

<sup>3</sup>Jex, op. cit., pp. 118-120.



It is evident that some individuals are not conforming, otherwise we would not be experiencing the change in role definitions we have not had earlier. Studies show that there is less conformity among the gifted. Lewis,<sup>1</sup> in a study of 4,529 gifted elementary school children noted less conformity, and more originality and individuality than with those of lesser endowments. Drews,<sup>2</sup> found less conformity among the superior high school girls in her study. They showed non-conformity in their interests which were found to be primarily in science and mathematics, usually subjects dominated by boys. Their aims and goals also differed from those usually expected from young women of this age. Pepinsky,<sup>3</sup> who investigated 40 young women at Ohio State University, some of whom were intellectual leaders on the campus, showed definite signs of non-conformity.

In general, superior girls are less conforming. The girl who elects the marriage-career choice and is intellectually-oriented still has to go against cultural norms. This is due to the cultural lag despite changes in society.

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<sup>1</sup>W. D. Lewis, "A Comparative Study of Personalities, Interests and Home Backgrounds of Gifted Children of Superior and Inferior Intellectual Achievement," J. Genet. Psych., 59 (1941), pp. 207-218.

<sup>2</sup>Elizabeth M. Drews, "A Four Year Study of Gifted Adolescents." Paper presented at the American Psychological Association, 1957. (Mimeographed.)

<sup>3</sup>Pauline Pepinsky, "Productive Non-conformity on the Campus." Paper presented at Ohio State University, 1958. (Mimeographed.)

To quote Steiner:

Female roles are changing rapidly but are not yet stabilized to provide women with an unambiguous definition of sanctioned behavior. Undoubtedly, the use of overtly defiant behavior by females is still rather uniformly tabooed but the continuing emancipation of woman has lifted some of the restraints and has made submissive and conforming behavior less completely appropriate than was the case a decade ago.<sup>1</sup>

Thompson<sup>2</sup> substantiates Steiner's theory that submissive behavior is not regarded as entirely appropriate in this changing period. Conformity has been used in the immediate past by women simply as a method of resolving conflicts. Because the culture has been unable to define feminine roles during such rapid period of change, it has left women with no clear direction and has failed to provide a course of action which was unquestionably correct, uniformly sanctioned, and manifestly safe.

We would expect superior girls who elect intellectual orientation with all the obstacles still present concerning that role, to be the least conforming and the most open-minded. The Rokeach<sup>3</sup> studies have shown that open-minded people (i.e. people with an open system of beliefs) score

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<sup>1</sup>Ivan D. Steiner, "Sex and Conformity," J. Pers., 28 (1960), pp. 127-128.

<sup>2</sup>Clara Thompson, "Cultural Pressures in the Psychology of Women," Psychiatry, 5 (1942), pp. 331-339.

<sup>3</sup>Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960), pp. 182-183.

low on dogmatism. According to Rokeach dogmatism is the individual's system of closed belief-disbelief, general tolerance and general authoritarianism. Rokeach has also shown that persons with an open system of beliefs, scoring low on dogmatism, are those who move towards professional occupations requiring longer preparation and those occupations that are more intellectually-demanding.

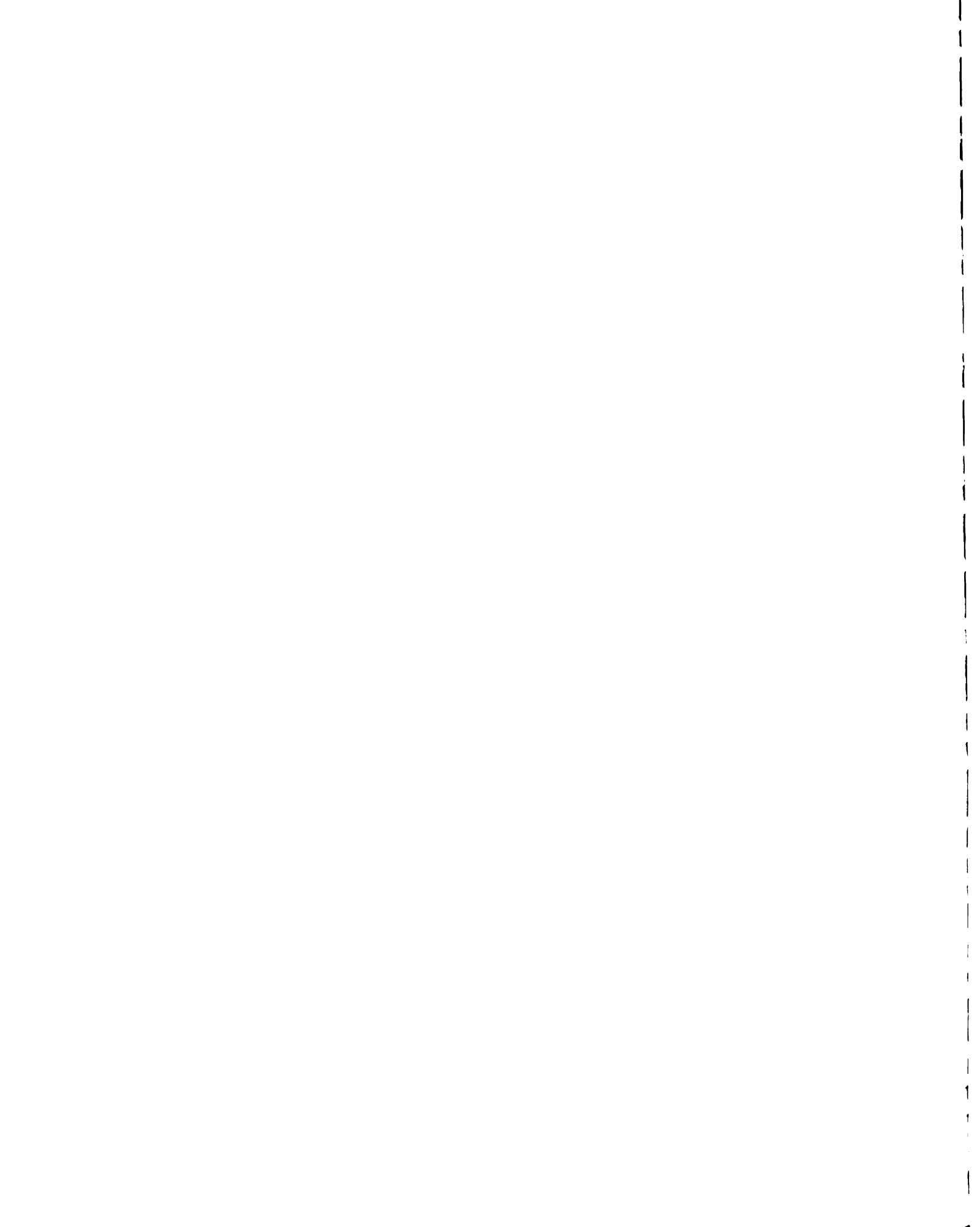
From the review of the literature we would expect the intellectually-oriented superior girl to be less conforming and less dogmatic than the socially-oriented superior girl.

#### Parental Values

As we have seen in the section above, tradition and cultural expectations are extremely important in the development of values that parents accept and incorporate in their own philosophies. These values, in turn, are most important agents in influencing the goals and aims of young men and women. Family value systems, including not only the attitudes of fathers and mothers, but also the attitudes of siblings, are thought to have a strong effect on individual aspirations. The studies of Hartley<sup>1</sup> have shown that such value systems are even more important for girls than for boys. Parents and siblings can inhibit talent or nurture it, by inattention,

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<sup>1</sup>Hartley, op. cit., p. 2.



criticism, ridicule, or hostility toward efforts to explore ideas, to pursue special interest, or to achieve intellectual success. In Houle's<sup>1</sup> work concerning the individual with an inquiring mind, those subjects identified as learning oriented or intellectually-oriented, when asked their opinion as to the origin of their curiosity gave these reasons in the following order of importance: (1) parents with a zest for new facts, (2) native intelligence, and (3) the advantages of education. Barzun would be in agreement with this as he states,

There is no mystery about it--the child who is familiar with books, ideas, conversation, the ways and means of the intellectual life before he begins school, indeed before he begins consciously to think, has a marked advantage. He is at home in the House of Intellect just as the stable-boy is at home among horses, or the child of actors on the stage.<sup>2</sup>

Whatever the "actual" role played by mothers and fathers in the intellectual development of their daughters, the identification pattern of superior girls with social orientation may be expected to differ from that of the intellectually-oriented. A study by Price<sup>3</sup> of leaders and

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<sup>1</sup>Cyril O. Houle, The Inquiring Mind (Madison: University of Wisconsin Press, 1961), p. 64.

<sup>2</sup>Jacques Barzun, The House of Intellect (New York: Harper & Bros., 1959), p. 142.

<sup>3</sup>Mary Alice Price, "A Study of Motivational and Perceptual Factors Associated with Leadership Behavior in a Private School." Unpublished dissertation, Ohio State University, 1948.

non-leaders among 223 junior college women of ages ranging from 16 to 20 made three comparisons of the attitudes and behavior of parents. The first difference noted was that those who hold leadership roles had learned certain social behaviors at home. The second difference noted was that the self perception for the leader groups was more positive (the leaders tended to see themselves as having good ideas and as able to make others share these ideas). The third difference concerned the influence of the home itself. The leaders identified emotionally with both parents equally, although they viewed the mother as the more cautious member of the family and the father as the more likely to express emotion freely. This was in opposition to the findings for the non-leaders. Non-leaders identified more with the father than the mother even though they felt the father was the more cautious member of the family. The non-leader did not wish to emulate the mother. On the other hand, Pierce and Bowman<sup>1</sup> found high achieving girls and boys more often named their fathers as having been the most important influence in their lives. Fathers of these students were found to be somewhat better educated and had somewhat higher social status than the fathers of a comparison group of superior low achievers. Getzels and Jackson<sup>2</sup> note, in a study of family environment

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<sup>1</sup>Pierce and Bowman, op. cit., p. 6.

<sup>2</sup>Jacob W. Getzels and Philip W. Jackson, "Family Environment and Cognitive Style," Ameri. Soc. Rev., 26 (1961), pp. 351-359.

and cognitive style, that the children with high IQ scores had fathers with high level educations.

#### Socio-Economic Status

One of the most generally accepted propositions in educational research is that intelligence, socio-economic status, and level of formal education (as these are usually measured) are positively intercorrelated. For example one might cite Warner, Havighurst, and Loeb<sup>1</sup> in a study of pupils with IQ scores of 110 and above, as to the socio-economic status of their homes, and the education of their parents. Similarly, Bond<sup>2</sup> has reported in his study of National Merit Scholars that homes of high socio-economic status have produced, by far, many more merit scholars. The largest percentage of scholars came from homes in which the father was a professional or manager. The five most productive sub-groups were librarians, college personnel, architects, lawyers and clergymen. The fathers of students in Remmers<sup>3</sup> research of superior university students were primarily from the professions. These findings are consistent

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<sup>1</sup>W. L. Warner, Robert J. Havighurst, and M. B. Loeb, Who Shall Be Educated? (New York: Harper & Bros., 1944).

<sup>2</sup>H. M. Bond, "The Productivity of National Merit Scholars by Occupational Class," Sch. & Soc., 88 (1957).

<sup>3</sup>Remmers, op. cit., p. 175.

with Terman's early report<sup>1</sup> that the great majority of the gifted children came from homes of high socio-economic status.

But while, in general, superior students may be expected to come from advantaged backgrounds when compared to less gifted, it does not follow that this is a one-to-one relationship. Drews<sup>2</sup> found a great number of her 150 gifted adolescents coming from homes other than the managerial and professional (upper middle class level). Also, Brynes and Henmon<sup>3</sup> in their study of parental occupation and mental ability, found somewhat the same results. In a class of Wisconsin high school seniors who fell above the group median in intelligence scores only 7.9 per cent had fathers in the professions while 17.4 per cent had fathers in skilled labor occupations. For the superior girl who comes from a less advantaged family background the choice of a career demanding expensive training might then be limited.

The inability of a family to supply financial aid is known to take its toll of the superior girl. According to Riesman<sup>4</sup> the goals and aspirations of the daughter in the

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<sup>1</sup>Lewis M. Terman, Genetic Studies of Genius, Vol. 1 (Stanford University Press, 1926), p. 49.

<sup>2</sup>Drews, op. cit., p. 2.

<sup>3</sup>Ruth Brynes and V. A. C. Henmon, "Parental Occupation and Mental Ability," J. Ed. Psych., 57 (1936), pp. 284-291.

<sup>4</sup>David Riesman, "Some Continuities and Discontinuities in the Education of Women." Third John Dewey Lecture, Bennington College, Vermont, 1956.



family are considered second to those of the son regardless of ability or capacity. The pinch of financial need is more acute for girls than for boys.<sup>1</sup> In the first place boys have freer access to the family purse for educational purposes than do girls. Secondly, it is harder for a girl to work her way through college than it is for a boy. There are not as many opportunities available to her and some of the part-time jobs she might take are not suitable because of the hours of work, distance from the campus, and other factors. In the scholarship area there are still large corporations that give thousands of dollars annually for scholarships for men but will not give for girls.

David<sup>2</sup> in discussing the factors that affect the decisions concerning the higher education of superior women suggests that many teen-age girls with high ability would postpone marriage if funds were available for a college education.

It is difficult to predict whether socially and intellectually oriented girls may be expected to differ with respect to the socio-economic status and level of parental education. On the one hand, the obstacles against extended

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<sup>1</sup>Anna L. Rose Hawkes, "Motivation of Women for Education; Scope of the Problem." Unpublished paper, Rye, New York, 1957, p. 9. (Mimeographed.)

<sup>2</sup>Opal David, "Factors Influencing Women's Decisions About Higher Education," J. Natl. Assn. Women Deans and Counselors, 23 (1959), pp. 35-38.

training may serve to force those less advantaged to consider marriage as a more practical alternative. On the other hand, those who are disadvantaged and who do elect college may feel compelled to consider training that holds a promise of some future income. At this point it seems wisest to conclude that no differences will be found.

#### Ordinal Status

There is considerable agreement that superiority is correlated in some way with birth position. Where opinions differ is in the extent to which such correlations are explained by heredity or by the environmental advantages of companionship with adults, greater financial aid, and opportunity for education that exists for the first-born.

There is some evidence that ordinal status also, influences occupational aspirations. For example, oldest girls in the Drews<sup>1</sup> study were more apt to have mathematical and science goals and interests. Lewis,<sup>2</sup> in a study of 4,529 gifted elementary school children chosen as the top ten per cent of a total population of 45,000 for the grades four to eight found differences in those who were educationally accelerated (chronologically younger and presumably with higher educational aspirations) and those who were educationally

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<sup>1</sup>Drews, op. cit., p. 2.

<sup>2</sup>Lewis, op. cit., pp. 216-217.

retarded. Of the educationally-accelerated superior students, twelve per cent were only children and thirty per cent were first-born. Of the educationally-retarded superior students, eight per cent were only children and 22 per cent were first born. Koch<sup>1</sup> has pointed out that discipline is much more severe with first-born than with later born children. Much more is expected of the first-born than of other children in the family. The father has been found to be most severe in this instance. Often the unfulfilled aspirations of parents are passed on to the first-born rather than to those children entering the family at a later time. Pierce and Bowmen<sup>2</sup> in their study of the educational motivational patterns of superior students found the high achievers coming from small families and a great many were only or first-born children. In the Brandwein<sup>3</sup> study of students with high science potential 47 out of 89 were only children and 24 were first-born. Likewise, in Remmer's<sup>4</sup> study of superior university students more than twice as many were first born (37.1 per cent against 16.7 per cent).

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<sup>1</sup> Helen L. Koch, "Attitudes of Young Children Toward Their Peers As Related to Certain Characteristics of Their Siblings," Psych. Mono., 70 (1956), p. 429.

<sup>2</sup> Pierce and Bowman, op. cit., p. 7.

<sup>3</sup> Brandwein, op. cit., p. 55.

<sup>4</sup> Remmers, op. cit., p. 174.

It seemed reasonable to predict, therefore, that intellectually-oriented superior girls will more often be first-born children than will those who are socially-oriented.

## CHAPTER III

### HYPOTHESES

The review of the relevant literature described in Chapter II served as a rationale for the following hypotheses:

1. That there would be statistically significant differences between socially and intellectually oriented superior girls on various personality characteristics as follows:

(a) That the mean score of the intellectually-oriented superior college girls would be significantly higher on "achievement" and "autonomy" as measured by the Edwards Personal Preference Schedule; and that for superior high school girls, the intellectually-oriented mean score would be higher on the High School Personality Questionnaire<sup>1</sup> (IPAT) measures of "ego strength," and "individualism."

(b) That the mean score of the socially-oriented superior college girl would be higher on "deference," "dominance," and "heterosexuality" as measured by the Edwards Personal Preference Schedule; and that for the superior

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<sup>1</sup>The Institute for Personality and Ability Testing High School Personality Questionnaire designed by R. B. Cattell, H. Beloff, and R. W. Coan.

socially-oriented high school girl the mean scores would be higher on the High School Personality Questionnaire measures of "super ego," "dominance," and "parmia."

(c) That there would be no significant difference in personality characteristics as measured by the Edwards Personal Preference Schedule and the High School Personality Questionnaire other than those named.

2. That both the socially-oriented college and high school girls would score higher on the Rokeach Test for dogmatism.

3. That both the intellectually-oriented college and high school girls would have different occupational aspirations both with respect to immediate goals and general level of aspirations.

4. That the intellectually-oriented girls would more often rate their ability as being above average.

5. That for both high school and college girls there would be statistically significant differences on background sociological variables as follows:

(a) That the intellectually-oriented and socially-oriented girls would differ on socio-economic status as determined by the level of the occupation of the father.

(b) That the intellectually-oriented and socially-oriented girls would differ with respect to the level of formal education attained by their parents.

(c) That there would be more first-born found within the ranks of the intellectually-oriented girls than would be found within the ranks of the socially-oriented girls.

In determining what would be considered "statistically significant," it was decided to infer that differences which would be expected by chance with a probability of 1 in 20 or less would be taken to be significant ones.

It might be argued the five hypotheses above do little more than check the warranty of the division of superior girls into the two groups we have called the socially-oriented and the intellectually-oriented. As a further check on the hypotheses, and as an aid to their interpretation, it was proposed to engage all girls in both a personal interview and a group meeting. No formal hypotheses were proposed, however, for the material to be elicited in the interviews and the group meetings.

## CHAPTER IV

### THE DESIGN OF THE STUDY

To test the hypotheses put forward in Chapter III, two samples of the most superior girls in the Lansing, Michigan public high schools and Michigan State University were selected. There were ninety-six girls in all, 48 of whom were in college and 48 in high school at the time the study was completed. At each level, there were 23 girls classified as socially-oriented and 25 classified as intellectually-oriented girls.

#### Selection of the College Sample

The following criteria were employed for the selection of the "socially-oriented" college girls:

1. High leadership qualities evidenced by important offices held. Three such offices were to be held simultaneously.
2. Junior or senior class standing at the time of the study.

Discussions with college counselors for women, advisors for clubs and all-college organizations, sponsors for Mortar Board (senior national women's honorary), and student leaders themselves helped to determine which organizations



would be considered "important." Those offices counting toward the first criterion included being a class officer; a social, political or religious club officer; serving as chairwoman of an all-university committee, such as the J-Hop committee or Campus Community Chest committee; being president of a dormitory unit or a sorority; an editorship; and membership on student governing boards. The number of important offices actually held by the college girls eventually classified as socially-oriented ranged from 3-7 with a median of 4.0.

The girls designated as social leaders were located in several ways; by examining all club rosters registered at the office of the Dean of Students; by contacting living units (dormitories, sororities and cooperative living quarters); by examining applications to Mortar Board (Senior Woman's Honorary); by inquiring into student government boards and all-college activities boards and by talking with students themselves in order to find those girls holding offices, elected positions of importance, editorships of the student newspaper or yearbook, or committee chairmanships of all-college extra-curricular activities. Many girls were found who held one important office during the junior or senior year. Fewer were found who held two such offices at the same time, and only 25 girls were found who held three or more such offices simultaneously. The median of offices held by these 25 girls was 4.0.

As to class standing, there were 14 seniors and 11 juniors in the socially-oriented group at the beginning of the study. Two seniors were dropped because of lack of data, thus 23 girls made up the population for the socially-oriented superior college sample.

The American Council on Education Psychological Examination ratings for the socially-oriented girls were found to be equivalent to the Stanford Binet IQ score of 120 as the minimum and 130 as the maximum.

The grade point averages of the socially-oriented girls included a minimum point average of 3.12 (3.00 represented "B" and 4.00 represented "A"), the mean was 3.48 with a standard deviation of 0.19.

The programs or curricula in which the socially-oriented girls were engaged at the time of the study included elementary teaching (7), secondary teaching (5), interior decorating (1), medical technology (2), social work (2), secretarial work (2), nursing (3), and law clerk (1).

All of the social leaders, by the definition used, were thus found to be superior girls though none had ACE scores which might lead to their being designated as intellectually-gifted. The occupations for which they were preparing make it clear that these girls had elected fields traditionally chosen by women, and had avoided demanding career commitment.

In selecting a group to contrast with these superior

girls whose orientation was clearly social it was decided to identify a group whose minimum ACE equivalent IQ score was 130. It was felt that by using this as a minimum cut-off these superior girls whose orientation was more exclusively intellectual would be identified. While this might introduce a confounding factor into the comparison it was justified on the grounds that the motivation to do well in formal examinations might in itself be characteristic of the intellectually-oriented girl.

Therefore, in order to qualify a college girl for the intellectually-oriented designation the following requirements were established:

1. High level of intelligence test performance equivalent to a Stanford-Binet of 130 and above.

2. Junior or senior class standing at the time of the study.

3. The absence of a record of leadership in important campus social organizations.

In the absence of Stanford-Binet scores for the college sample, admission scores obtained by the university were used in determining the intelligence level. The following battery of tests was included at Michigan State University: The American Council on Education Psychological Examination, and the Michigan State University Reading Tests. In determining the equivalence of the ACE with the Stanford-Binet

the results of the Missouri Studies,<sup>1</sup> and the Wilson College Studies<sup>2</sup> were followed.

Permission was granted by the registrar of the university to examine all admission records for junior and senior women in the year the study was to be carried out. The results from the study of records of the total university enrollment revealed that there were only 60 girls out of a total population of more than 20,000 (the total enrollment of women during the three year span) who met the qualification for the intellectually-oriented designation.

However, at the time of the collection of data all 60 girls were not at the university. Four had left for foreign study, two had suffered nervous breakdowns and had returned to their homes, five were engaged in internships away from the campus proper, several had left to study at other institutions, and many had married and were living in other localities.

At the final count there were 25 girls who qualified on this, and all other criteria, and who agreed to participate

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<sup>1</sup>Janeth Turner, Tolan L. Chappell, and Robert Collis, "Equivalent Scores on Several Tests of Mental Abilities," Univ. Couns. Bur. Res. Rep., 70 (1952), pp. 1-7.

<sup>2</sup>Edward E. Anderson, et al., "Wilson College Studies in Psychology of the Wechsler Bellevue, Revised Stanford-Binet and American College on Education Tests at the College Level," J. Psych., 14 (1942), pp. 317-366.

in the study. Of this number 13 were juniors and 12 were seniors.

The intellectually-oriented girls were conspicuous by their absence as officers or leaders in what has been defined as important social or extra-curricular activities on the campus. However, some participation was noted, usually in professional organizations or activities related to career areas. The median number of such offices held was 1.0.

The grade point averages of the intellectually-oriented girls ranged from 3.07 to 4.00; the mean grade point average was 3.48 with a standard deviation of 0.23.

It should be noted that the mean grade point average for both groups, despite their differences on their ACE scores was identical and may serve as a further justification for the decision to select the intellectually-oriented from among those with higher ACE scores. If grade performance, rather than the ACE score is used as the basis for defining "superiority" these groups differed only with respect to the number of important offices held. It is recognized, of course, that the programs in which the intellectually-oriented were engaged were more demanding than those in which the socially-oriented were enrolled.

The programs in which the intellectually-oriented girls were engaged included chemical research (2), psychology (2), university teaching (8), anthropology (2), medicine (3),

mathematical research (2), writing (2), dietetics (1), and foreign service (1).

For the college sample, variables that were essentially psychological (i.e. hypotheses 1-3) were measured by use of the Edwards Personal Preference Schedule, The Rokeach Test for Dogmatism, and by items in an interview questionnaire specifically designed for the study.

Evidence for the reliability of the Edwards Test was presented by Edwards<sup>1</sup> in terms of coefficients of internal consistency for the 15 need variables measured, and also, by test-retest coefficients or stability coefficients. The lowest of all reported coefficients was .60 for "deference" and the median of all reliability coefficients reported was .89.

As to the validity of the Edwards test, various studies have been made comparing ratings and scores on the variables and are reported in the test manual. There would appear to be sufficient warranty for concluding that the Edwards test measures what it purports to measure.

The Rokeach test measures a general trait of dogmatism. Rokeach<sup>1</sup> has defined "dogmatism" as a closed cognitive

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<sup>1</sup>Allen L. Edwards, Manual of Edwards Personal Preference Schedule (New York: The Psychological Corporation, 1954), pp. 11-12.

<sup>2</sup>Milton Rokeach, The Open and Closed Mind (New York: Basic Books Inc., 1960).

structure of beliefs and disbeliefs organized around a set of centrally-located beliefs about authority. He also includes within that framework attitudes of intolerance toward people. Since Rokeach believed that the best single behavioral manifestation of such attitudes is through the employment of opinionated language, his scale was originally built on 66 statements where subjects indicated agreement or disagreement on a scale of -3 to +3 with the 0 point excluded in order to force responses toward agreement or disagreement.

Four major revisions, over a two year period were made to assure reliability. Odd-even item correlations, corrected by the Spearman-Brown formula were used to determine reliability. The fourth revision, Form D, had a reliability of .91 and this form was used in this study. Evidence for the validity of the test is reported in the Rokeach test manual.<sup>1</sup>

Information on the occupational aspirations of the girls, as well as on other relevant matters was secured.

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<sup>1</sup> Milton Rokeach, "Political and Religious Dogmatism --An Alternative to the Authoritarian Personality," Psych. Mono., 70 (1956), pp. 13-21.

through an intensive personal interview conducted by a trained interviewer.<sup>1</sup> Responses were recorded by the interviewer who used a questionnaire designed for the study, and which may be found in the appendix. The interview questions dealt with attitudes and values toward such subjects as dating, marriage, career, future goals and aspirations, and attitudes toward self, especially those attitudes that indicated compatibility or conflict between intellectuality and femininity. Much of the material obtained through the interviews was not used in the present study, but will be reported in later studies.

The sociological material required to test the fifth hypothesis was obtained through use of the Index of Status Characteristics developed in 1949 by W. L. Warner, Marcia Meeker, and K. Eells.<sup>2</sup> An index status is computed for each individual by rating him on a seven point scale on each of four factors: (1) occupation, (2) source of income, (3) house type, and (4) dwelling area. These four ratings are then weighted for an approximation of social status.

The seven point scale for occupation includes the

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<sup>1</sup>The interviews were conducted by graduate students who had completed the requirements for the Guidance and Personnel curriculum including an internship in counseling at the University Counseling Clinic.

<sup>2</sup>W. L. Warner, Marcia Meeker, and K. Eells, Social Class in America (Chicago: Science Research Association, 1954).



following scale points: 1-Professional level including a dentist, lawyer, doctor, professor, engineer, chemist, professor; business men such as top executives, presidents, managers of corporations, utilities or banks; white collar workers such as executive secretary of organizations, C.P.A., editor of reputed newspaper or magazine. 2-Professional level such as high school teacher, trained nurse, architect, minister, undertaker; business men such as assistant office and department managers or supervisors, managers of medium sized branches; white collar workers such as accountants, insurance, stock and bond, real estate salesmen in reputed firms, columnist or editorial writer. 3-Professional level such as grade school teacher, optometrists, pharmacist, city veterinarian; business men such as managers of small branch stores and similar businesses, salesmen of better merchandise and known customers, buyers; white collar workers such as bank and broker's clerks, secretary, railroad agent, elected civic and county officials, newspaper reporters. 4-No professional level; business men and white collar workers, rural mail clerk, auto salesman, stenographer, clothing or book salesman. 5-Drug store, hardware, grocery, and dime store clerk, telephone and beauty operators, practical nurse. 6-Migrant workers, those who do not want to be established with work. 7-Reputed law breakers. A copy of the Index of Status Characteristics will be found in the appendix. Except in the instances where the subject's father was deceased,

the Index was completed using the father's occupation and income. For the exception the mother's occupation and income were used.

Information on the girls' ordinal status, and level of parental education were obtained by personal interviews which have already been described above.

Two group meetings were held with the entire college sample in order to establish the necessary rapport for the testing and interviewing. Each girl was introduced but was not, of course, identified as to membership in the socially-oriented or intellectually-oriented group. The girls were then free to mingle and get acquainted as coffee was served. Following this, a counselor from the University Counseling Clinic gave a general interpretation of the Edwards test as each girl watched her own individual score. A question period followed in which some mutual problems of the superior girl were discussed. The interviewers were present and made some notes of the conversation during the discussion period and observations of their own. While there was no structured plan for data gathering at these meetings the intuitive reports of the interviewers and principal investigator provided many additional hunches about differences between these two groups of girls. Some of these insights will be reported in Chapter VI.

#### Selection of High School Sample

Selection of girls for the high school sample was

more straight forward and their reasons for employing the criteria used were the same as those used with the college girls. The girls were selected from the three public high schools of Lansing, Michigan. The total enrollment included 5,602 girls.

The following criteria were employed for the selection of the "socially-oriented" high school girls:

1. High leadership qualities evidenced by important offices held. Three such offices were to be held simultaneously.

2. Sophomore class standing at the time of the study.

Although the requirements for the first criterion for the selection of the "socially-oriented" high school girl were the same as that used for the college girl, there was a difference in the type of office of the social leader at the high school age. In the high school, those offices designated as important leadership positions included the home-room president, president of the girls athletic association, cheer-leaders, majorettes, offices of the student council, officers of social and recreational clubs, and officers of voluntary service groups operating at the high school level.

The girls designated as social leaders were located with the help of the home-room teachers, and high school counselors who supplied the information as to those holding leadership positions in clubs, student governing bodies

and editorships of the school paper. There were 26 girls who met all the criteria for the "socially-oriented" designation. However, two of that number moved from the city during the study and one was excluded because of lack of data. This left 23 high school girls who participated as socially-oriented subjects. The median number of offices these girls held was 4.0.

Stanford Binet IQ scores were available from the school records for each girl. All scores had been recorded within the past two years. They ranged from 120 to 134 with a median of 129.0.

The grade point averages of the "socially-oriented" high school girl ranged from 3.00 which represented a "B," to 4.00 which represented an "A." The mean was 3.59. The standard deviation was 0.37.

The following criteria were employed for the selection of the intellectually-oriented high school girl;

1. High level of intelligence test performance, the minimum of which was a Stanford-Binet IQ score of 130 and above.

2. Sophomore standing at the time of the study.

3. The lack of a record of leadership in high school social organizations.

The first criterion for the selection of the high school girls designated as "intellectually-oriented" was supplied by the school records. Stanford-Binet IQ scores

were available for all girls. These scores had been recorded within the past two years. The scores ranged from 136 to 167 with a median of 149.0.

The grade point averages of the intellectually-oriented girls ranged from 2.66 to 4.00 with a mean point average of 3.62, and a standard deviation of 0.30.

The intellectually-oriented girls were not prominent as officers or leaders in social or extra-curricular activities at the high school. Some participation was noted, however, the median number of offices held was 1.2.

The tests and procedures used for the college sample were repeated for the high school sample with the major exception of one test.

It was not possible to use the Edwards Personal Preference Schedule with the high school sample since the Board of Education of the Lansing Public School system did not consider the test appropriate for high school age girls because of the inclusion of the items concerning heterosexuality. Therefore, it was necessary to substitute another personality test. After a thorough review of the tests available for this particular age group, it was decided to use the 1958 personality scale developed by Cattell, Beloff, and Coan.<sup>1</sup> This test seemed to correlate more closely with the Edwards

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<sup>1</sup>R. B. Cattell, Personality and Motivation Structure and Measurement (New York: World Book Co., 1957).

test than did any of the other tests examined.

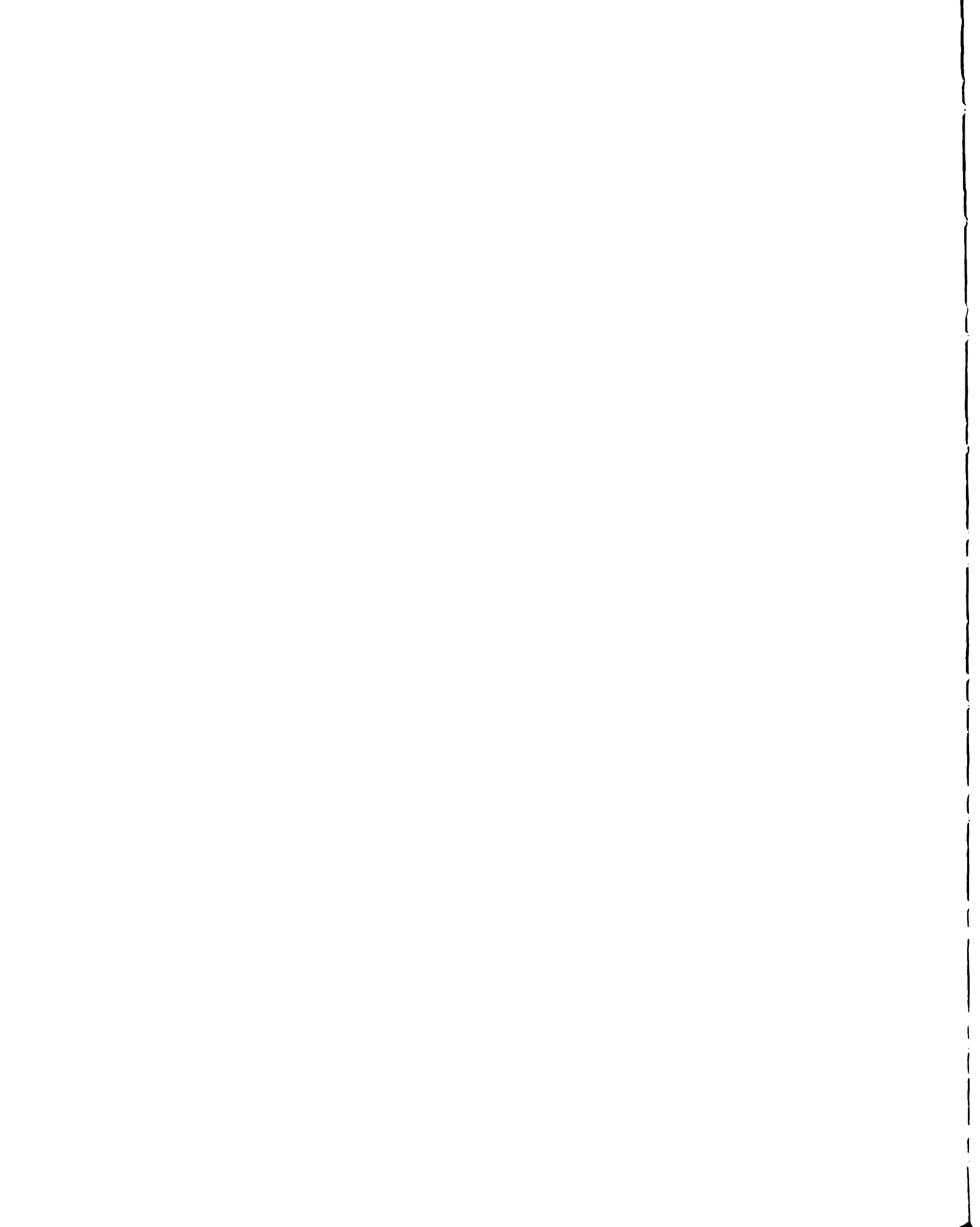
The IPAT Test is a revision of the Junior Personality Test and represents the accumulation of thirty years of work in the field of personality measurement. The test was designed to measure personality characteristics by a bi-polar system, aiming at giving the maximum information in the shortest time about the greatest number of dimensions of personality. The test measures the following characteristics: cyclothymia, general intelligence, ego strength, excitability, dominance, surgency, super ego strength, parmia, premsia, individualism, guilt proneness, self sufficiency, self sentiment, ergic tension.

Reliabilities for the test are expressed in terms of a stability coefficient, a consistency coefficient and an equivalence coefficient. The lowest coefficient reported is .68 for surgency. Evidence is also available on the validity of the tests and is reported in the test handbook.<sup>1</sup>

Minor changes were required to make the interview schedule used with the college sample appropriate for this younger age group. Further, only one group meeting was held with the entire high school sample. This meeting was for the

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<sup>1</sup> R. B. Cattell, H. Beloff, and R. W. Coan, Handbook for the IPAT High School Personality Questionnaire (Champaign, Illinois: Institute for Personality and Ability Testing, 1958), p. 10.



purpose of giving an interpretation of the Cattell Personality Test results and to establish rapport for the interviews.



## CHAPTER V

### RESULTS

The results of the statistical analysis will be presented in this chapter, separately for the college girls and then for the high school girls.

In completing the analysis three statistical tests were used. These were the student's "t" test, the Wilcoxon non-parametric "T" test and the chi square test. As indicated in Chapter III the decision was made to reject chance as an explanation of the results obtained when the choice of level for acceptance-rejection of all such hypotheses was set at the .05 level. The observed difference would have been expected 1 in 20 times or less, if chance alone was operative.

Student's "t" test was used where it was desired to examine differences between two sets of means. Since many of the hypotheses were directional the one-tailed "t" test was often considered appropriate. This meant that where direction was hypothesized the critical value of "t" employed was 1.68. Where non-directional hypothesis was used the critical value of "t" was 2.02.

Where the "t" test was employed, adequate attention was given to testing the tenability of the assumption of

homogeneity of variance. In cases where the "F" test for differences in the variance was found to be too large to argue homogeneity, the data was submitted to the Wilcoxon non-parametric test which is a rank test requiring no assumptions about the distribution of scores, or homogeneity.

For other hypotheses, the chi square statistic was employed in testing the probability that the differences in the observed distributions for the two groups compared were due to chance alone.

#### College Sample

Hypothesis 1(a) and 1(b) were tested by using measurements of the college sample on the Edwards Personal Preference Schedule as described in Chapter IV.

Hypothesis 1(a) stated that the intellectually-oriented girls would have a greater need for both achievement and for autonomy.

The characteristics of achievement is described by Edwards as follows:

To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to do a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.<sup>1</sup>

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<sup>1</sup>Edwards, op. cit., p. 5.

As can be seen from Table 1, the mean score for the intellectually-oriented girls was higher for achievement than it was for the socially-oriented girls. The "t" obtained for the difference in these means made it possible to reject chance as an explanation for the obtained difference in means and, in respect to the populations for which these samples are representative, to infer that the intellectually-oriented girl did, in fact, have a higher need for achievement than the socially oriented college girl. However, as can be seen by inspection of Table 2 in the hierarchy of needs measured by the Edwards test, the two groups are not markedly different.

The characteristic of autonomy is described by Edwards as follows:

To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in a position of authority.<sup>1</sup>

With respect to autonomy the hypothesis was also accepted, but the difference in the importance of autonomy for the two groups should be noted. Autonomy was first in the hierarchy of needs for the intellectually-oriented girl but 13th for the socially-oriented girl. This appeared to be the major

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<sup>1</sup>Ibid.

TABLE 1.--Summary of Differences for Intellectually-Oriented (I-O) and Socially-Oriented (S-O) College Girls on Edwards Personal Preference Schedule

| Variable        | Group            | Mean  | S.D. | t     |
|-----------------|------------------|-------|------|-------|
| Achievement     | S-O <sup>a</sup> | 14.00 | 3.33 | 2.10* |
|                 | I-O              | 16.44 | 4.56 |       |
| Deference       | S-O              | 12.35 | 3.52 | 1.68* |
|                 | I-O              | 10.48 | 4.06 |       |
| Order           | S-O              | 9.35  | 4.39 | .36   |
|                 | I-O              | 8.84  | 5.36 |       |
| Exhibition      | S-O              | 12.48 | 3.40 | 1.76  |
|                 | I-O              | 14.28 | 3.60 |       |
| Autonomy        | S-O              | 10.44 | 4.31 | 9.60* |
|                 | I-O              | 22.24 | 4.06 |       |
| Affiliation     | S-O              | 17.35 | 4.04 | .63   |
|                 | I-O              | 18.04 | 3.58 |       |
| Intracception   | S-O              | 18.26 | 5.17 | .41   |
|                 | I-O              | 17.68 | 4.76 |       |
| Succorance      | S-O              | 12.74 | 5.60 | .28   |
|                 | I-O              | 13.16 | 4.96 |       |
| Dominance       | S-O              | 16.70 | 5.51 | .66   |
|                 | I-O              | 15.72 | 4.78 |       |
| Abasement       | S-O              | 12.88 | 3.77 | .22   |
|                 | I-O              | 12.60 | 5.00 |       |
| Nurturance      | S-O              | 16.57 | 4.36 | .74   |
|                 | I-O              | 17.48 | 4.26 |       |
| Change          | S-O              | 17.35 | 4.22 | .67   |
|                 | I-O              | 16.48 | 4.76 |       |
| Endurance       | S-O              | 12.30 | 5.68 | .21   |
|                 | I-O              | 12.64 | 5.34 |       |
| Heterosexuality | S-O              | 16.04 | 5.36 | 1.44  |
|                 | I-O              | 13.80 | 5.42 |       |
| Aggression      | S-O              | 9.65  | 4.56 | .34   |
|                 | I-O              | 9.20  | 4.71 |       |

<sup>a</sup>S-O = 23; I-O = 25

\*Probability that observed difference is due to chance is equal to, or less than, 1 in 20.

TABLE 2.--Rank Order of 15 Edwards Personal Preference Schedule Means for Intellectually-Oriented (I-O) and Socially-Oriented (S-O) College Samples

| Variables       | Rank Order of Means |                         |
|-----------------|---------------------|-------------------------|
|                 | Socially-Oriented   | Intellectually-Oriented |
| Achievement     | 7                   | 6                       |
| Deference       | 11                  | 13                      |
| Order           | 15                  | 15                      |
| Exhibitionism   | 10                  | 8                       |
| Autonomy        | 13                  | 1                       |
| Affiliation     | 2.5                 | 2                       |
| Intracception   | 1                   | 4                       |
| Succorance      | 9                   | 10                      |
| Dominance       | 4                   | 7                       |
| Abasement       | 8                   | 12                      |
| Nurturance      | 5                   | 3                       |
| Change          | 2.5                 | 5                       |
| Endurance       | 12                  | 11                      |
| Heterosexuality | 6                   | 9                       |
| Aggression      | 14                  | 14                      |

difference in the data and was the one trait of the fifteen on which the two groups differed as extremely with respect to the importance assigned to the measured attitudes (c.f. Table 2).

Hypothesis 1(b) stated that the socially-oriented girls would score higher on deference, dominance, and heterosexuality. Edwards describes deference as stated:

The need to get suggestions from others, to find out what others think, to follow instructions and do what is expected, to conform to custom, to tell others they have done a good job.<sup>1</sup>

In respect to this characteristic the socially-oriented girls showed a greater need than the intellectually-oriented girls, thus supporting the hypothesis at a reliable level.

According to Edwards dominance is described as follows:

To argue for one's point of view, to be a leader in groups to which one belongs, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to to their jobs.<sup>2</sup>

Edwards describes the need of heterosexuality as:

The need to go out with members of the opposite sex, to be in love with someone of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex.<sup>3</sup>

In respect to both of these characteristics the difference in the sample means were in the predicted direction but not

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<sup>1</sup>Ibid.

<sup>2</sup>Ibid.

<sup>3</sup>Ibid.

reliably so. Therefore, the hypothesis concerning dominance and heterosexuality was not supported.

Hypothesis 1(c) stated that there would be no significant differences for the other personality characteristics measured by the Edwards test. This hypothesis was supported. However, it is interesting to focus attention on one other characteristic, namely, "exhibitionism." According to Edwards this is the following need:

To say witty and clever things, to tell amusing stories and jokes, to talk about personal adventures, and experiences, to be the center of attention.<sup>1</sup>

The intellectually-oriented girls scored higher on this need than the socially-oriented girls but not enough to warrant an inference of a reliable difference, given the two-tailed hypothesis. However, the magnitude of the observed difference will justify some special consideration of this variable when we interpret these data in the next chapter.

Hypothesis 2 stated that the socially-oriented girl would be more dogmatic than the intellectually-oriented girl. The characteristic of dogmatism was measured by the Rokeach test. Dogmatism as described by Rokeach is "a measure of the structure of the individual's system of closed belief-disbelief, general intolerance and general authoritarianism."<sup>2</sup>

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<sup>1</sup>Ibid.

<sup>2</sup>Milton Rokeach, The Open and Closed Mind (New York: Basic Books Inc., 1960), pp. 3-10.

The difference in the variances of the two groups was too large to conclude homogeneity in the spread of scores so that student's "t" test was not considered appropriate to test the difference in means.

TABLE 3.--Summary for Intellectually-Oriented (I-0) and Socially-Oriented (S-0) College Sample for Rokeach Test on Dogmatism

| Variable  | Group | N  | Mean   | S.D.  |
|-----------|-------|----|--------|-------|
| Dogmatism | S-0   | 23 | 140.44 | 19.90 |
|           | I-0   | 25 | 145.92 | 12.86 |

An F test for the differences in the variances of the two groups resulted in a value of 2.39. At the five per cent level the critical ratio for 22.24 d.f. is less than 2.03. Thus, it would appear that with respect to dogmatism the socially-oriented girls were considerably more divergent among themselves than were the intellectually-oriented girls.

The data on dogmatism for the college sample was submitted to the Wilcoxon non-parametric T test, a rank test which does not assume homogeneity of the distributions concerned. The results of this test indicated that differences in means were not reliable enough to support the hypothesis.

Hypothesis 3 was tested by using measurements obtained from the Warner Index, the personal interview, and the interest questionnaire.

It was predicted under hypothesis 3 that the intellectually-oriented girls would have different occupational



aspirations than the socially-oriented girls. Two questions from the interviews were used to order girls with respect to their aspirations. One measured the immediate choice she must make on graduation from college and the second measured her more general aspirations, if the choice of career were necessary. (Questions 16 and 21 in the interview schedule, Appendix.)

Concerning the first question on their immediate occupational aspirations it was determined from the personal interviews that 46 of the 48 college girls wanted marriage at some time. (The remaining two of the 48, both from the intellectually-oriented group, rejected marriage for religious careers). However, what was critical was not plans for marriage, but when marriage was contemplated. Several girls expressed a desire for graduate study or a career, thus postponing marriage until a later date. Some desired marriage, but were forced to choose to study or work until the right man appeared to make marriage possible. Others wanted either full-time or part-time work to give financial assistance for the completion of the education of their future husbands, but had no desire for a career for themselves. Finally, there were those girls who were electing to marry immediately and continue with career plans, in some cases as part of a career-team with the husband. These variations in response were combined to discriminate between those girls whose orientation was primarily toward marriage, and

those who sought graduate training and/or a career.

TABLE 4.--Immediate Aspirations of Intellectually-Oriented (I-O) and Socially-Oriented (S-O) College Girls

|       | Graduate Study-Career | Marriage | Total |
|-------|-----------------------|----------|-------|
| (I-O) | 21                    | 4        | 25    |
| (S-O) | 5                     | 18       | 23    |
| Total | 28                    | 22       | 48    |

$$\chi^2 - 19.1$$

Table 4 shows that the intellectually-oriented girl more often aspired toward study or career for the immediate future than did the socially-oriented girl, and significantly so.

A second measurement was concerned with the level of occupational aspiration. The Warner scale of occupational classifications, described in Chapter IV, were used to order the occupations mentioned as follows:

1. Professionals such as doctors, lawyers, judges, top business executives, corporation presidents, professors.
2. High school teachers, registered nurses, architects, editorial writers.
3. Elementary school teachers, pharmacists, civic and county officials.
4. Bookkeepers, salesmen, ticket agents, stenographers, airline hostesses.

5. Clerks, beauty operators, dressmakers.

As can be seen in Table 5 the principal difference was in the greater frequency with which girls in the intellectually-oriented group aspired to occupations in Warner's highest level.

TABLE 5.--Distribution of Occupational Aspirations for College Sample

|        | 1  | 2  | 3 | 4 | Total |
|--------|----|----|---|---|-------|
| (I-0)  | 11 | 10 | 3 | 1 | 25    |
| (S-0)  | 6  | 13 | 4 | 0 | 23    |
| Totals | 17 | 23 | 7 | 1 | 48    |

Categories 2-4 were collapsed to produce the distribution of Table 6 to test the hypothesis that general occupational aspirations would differ.

TABLE 6.--Occupational Aspirations of Intellectually-Oriented (I-0) and Socially-Oriented (S-0) College Girls

|        | 1  | 2-4 | Total |
|--------|----|-----|-------|
| (I-0)  | 11 | 14  | 25    |
| (S-0)  | 6  | 17  | 23    |
| Totals | 17 | 31  | 48    |

$\chi^2 - 1.68$

Thus, while the observed difference was in the hypothesized direction, it was not reliably so. The results were largely explained by four intellectually-oriented girls whose occupational aspirations were out of balance with their tested intellectual ability.

Hypothesis 4 predicted that the intellectually-oriented girls would more often rate themselves "above average in ability. The question was asked "In comparison with your classmates do you consider your ability to be below average, about average, or above average?" (Question 13 in the interest questionnaire in the Appendix.)

TABLE 7.--Self-rating of College Sample

|        | Average | Above Average | Total |
|--------|---------|---------------|-------|
| (I-0)  | 2       | 23            | 25    |
| (S-0)  | 4       | 19            | 23    |
| Totals | 6       | 42            | 48    |

$$\chi^2 = .965$$

Application of the chi square test to the distribution of Table 7 indicated that there was no significant difference between the two groups for this self-rating.

In hypothesis 5 it was predicted that the intellectually-oriented girl would more often come from a home of higher socio-economic status as determined by the occupational

level of the father. The Warner categories were again used here with results shown in Table 8.

TABLE 8.--Distributions of Occupations of Fathers of Intellectually-Oriented (I-0) and Socially-Oriented (S-0) College Girls

|        | Occupational Level |    |   |   |   | Total |
|--------|--------------------|----|---|---|---|-------|
|        | 1                  | 2  | 3 | 4 | 5 |       |
| (I-0)  | 13                 | 6  | 2 | 3 | 0 | 24*   |
| (S-0)  | 10                 | 7  | 3 | 1 | 2 | 23    |
| Totals | 23                 | 13 | 5 | 4 | 2 | 47    |

\*One girl in the intellectually-oriented group had no information concerning her father so the N on all variables concerning paternal parent will be 24 instead of 25 for the intellectually-oriented group.

It is interesting to note that 52 per cent of the fathers of the intellectually-oriented girls and 42 per cent of the fathers of the socially-oriented girls had occupations in the highest socio-economic status. Categories 2-5 were collapsed to produce the distribution of Table 9.

TABLE 9.--Occupations of Fathers of College Sample

|        | Occupational Level |    | Total |
|--------|--------------------|----|-------|
|        | 1                  | 6  |       |
| (I-0)  | 13                 | 11 | 24    |
| (S-0)  | 10                 | 13 | 23    |
| Totals | 23                 | 24 | 47    |

$$\chi^2 = .540$$

There was thus no grounds to support the hypothesis of a relationship between the orientation of the girl and her father's occupation.

Hypothesis 5, also stated that the intellectually-oriented girls would come from homes where the educational level attained by the parents would be higher than it would for the parents of the socially-oriented girls. "Educational level" was ordered in five categories as follows:

1. Formal education completed was below the 12th grade.
2. Formal education stopped with graduation from high school.
3. Formal education included some college training.
4. Formal education included college graduation.
5. Formal education included work towards an advanced degree.

The distribution of the college sample is shown in Table 10.

TABLE 10.--Distribution of Level of Formal Education of Fathers for Intellectually-Oriented (I-O) and Socially-Oriented (S-O) College Girls

|                  | Educational Level Attained |   |   |    |    | Total |
|------------------|----------------------------|---|---|----|----|-------|
|                  | 1                          | 2 | 3 | 4  | 5  |       |
| Fathers of (I-O) | 2                          | 3 | 1 | 11 | 7  | 24    |
| Fathers of (S-O) | 1                          | 5 | 6 | 4  | 7  | 23    |
| Totals           | 3                          | 8 | 7 | 15 | 14 | 47    |

Levels 1-2-3 and 4-5 were combined to produce the distributions of Table 11.

TABLE 11.--Formal Education of Fathers of College Sample

|                  | Some College<br>or Less | College Graduation<br>or More | Total |
|------------------|-------------------------|-------------------------------|-------|
| Fathers of (I-0) | 6                       | 18                            | 24    |
| Fathers of (S-0) | 12                      | 11                            | 23    |
| Totals           | 18                      | 29                            | 47    |

$$\chi^2 = 3.63$$

The chi square obtained for the relationship shown in Table 11 has a probability, if only chance were operating, less than .10 but greater than .05. Although the results were in the direction predicted, the results do not warrant acceptance of the hypothesis.

It was necessary, also, to reject the hypothesis that the mother's level of formal education differed for the two groups. The relevant data is presented in Tables 12 and 13. Even though the hypothesis had to be rejected for both fathers and mothers it is interesting that, for these samples, greater difference was observed for the fathers.

TABLE 12.--Distribution of Level of Formal Education of Mothers for Intellectually-Oriented (I-O) and Socially-Oriented (S-O) College Girls

|                  | Educational Level Attained |   |   |    |   | Total |
|------------------|----------------------------|---|---|----|---|-------|
|                  | 1                          | 2 | 3 | 4  | 5 |       |
| Mothers of (I-O) | 4                          | 6 | 3 | 11 | 1 | 25    |
| Mothers of (S-O) | 5                          | 2 | 4 | 10 | 2 | 23    |
| Totals           | 9                          | 8 | 7 | 21 | 3 | 48    |

TABLE 13.--Formal Education of Mothers of College Sample

|                  | Some College<br>or Less | College Graduation<br>or More | Total |
|------------------|-------------------------|-------------------------------|-------|
| Mothers of (I-O) | 13                      | 12                            | 25    |
| Mothers of (S-O) | 11                      | 12                            | 23    |
| Totals           | 24                      | 24                            | 48    |

$$x^2 = .083$$

It was also predicted in Hypothesis 5 that there would be more first-born found within the ranks of the intellectually-oriented. The data for the test of this prediction are given in Table 14. The test statistic obtained makes it possible to infer with considerable confidence that the results were not due to chance alone, and that girls in the intellectually-oriented group are more often first-born.



TABLE 14.--Ordinal Status of Intellectually-Oriented (I-O) and Socially-Oriented (S-O) College Girls

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|        | First-born | Middle-Youngest | Total |
|--------|------------|-----------------|-------|
| (I-O)  | 19         | 6               | 25    |
| (S-O)  | 8          | 15              | 23    |
| Totals | 27         | 21              | 48    |

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$$x^2 = 8.26$$

#### High School Sample

As explained in Chapter IV the IPAT was used to measure the personality characteristics of the high school girls rather than the Edwards Personal Preference Schedule.

Hypothesis 1(a) stated that the intellectually-oriented girl would score higher on both achievement and autonomy than would the socially-oriented girl.

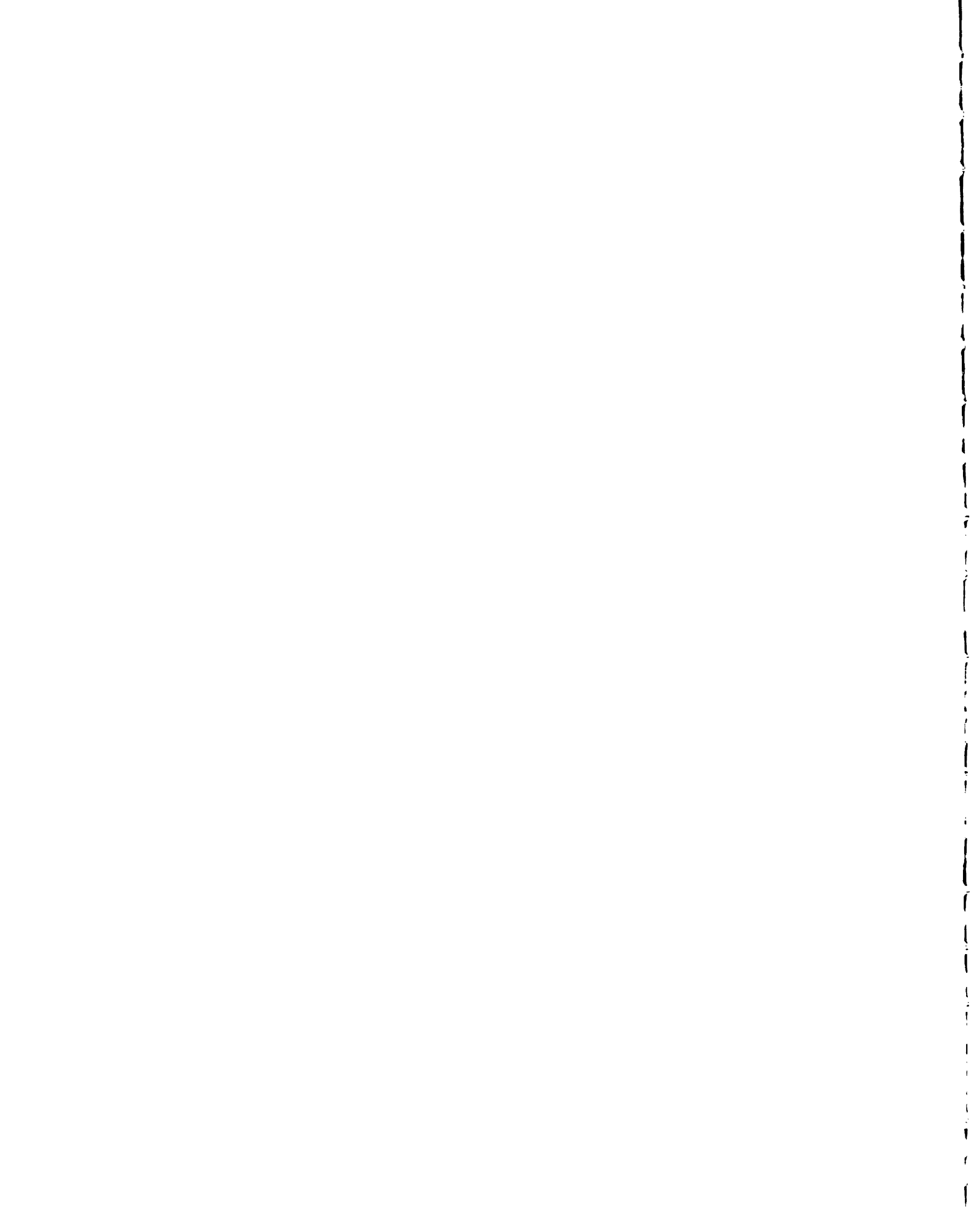
The characteristic of achievement is called Ego Strength in the IPAT. "Ego strength" is described as follows:

Strong motivation for professional status, high rate of effectiveness, more time and mental effort spent on work, perseverance, thoroughness, capacity to show available emotional energy along integrated channels.<sup>1</sup>

As can be seen in Table 15 the mean score for the intellectually-oriented sample was higher than for the socially-oriented

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<sup>1</sup>Cattell, op. cit., p. 101.



sample. The test statistic obtained for the difference in these means made it possible to infer that the intellectually-oriented girls did, in fact, have a higher need for achievement than did the socially-oriented girls.

Cattell describes autonomy, called coasthemia, as measured by his test as follows:

Fastidious individualism, acts individualistically, self sufficient, prefers to do things on his own, has private views that differ from the group, evaluates intellectually.<sup>1</sup>

The variance between the two groups on this characteristic was too large to insure homogeneity (I-0 = 2.81, S-0 = 1.11) so the "t" test was not considered appropriate as a test for the difference in means. In any case, the observed difference in means was so slight as to make further statistical tests of the significance of the difference in means unwarranted. It was concluded that the intellectually-oriented girls tend to vary more widely on "autonomy" than do the socially-oriented girls but that these variations among the intellectually-oriented tend to cancel out with the effect that no difference appeared in the central tendencies of the groups on this measure.

Hypothesis 1(b) stated that the socially-oriented girls would score higher on deference, dominance, and heterosexuality. Deference is described on this test as follows

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<sup>1</sup>Ibid., p. 136.

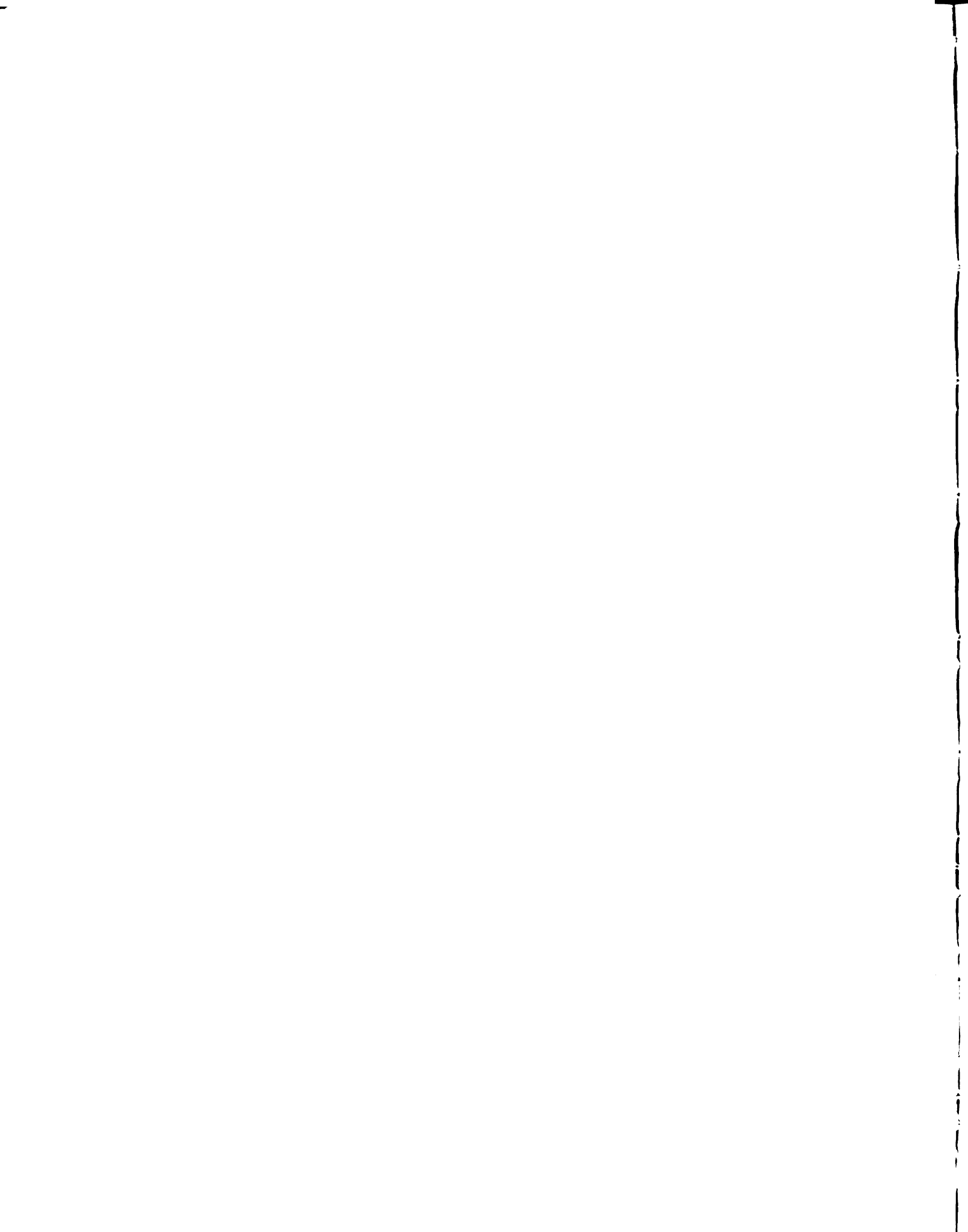
TABLE 15.--Summary of Differences for Intellectually-Oriented (I-O) and Socially-Oriented (S-O) High School Girls on IPAT Test Variables

|                                   | Group            | Mean | S.D.   | t     |
|-----------------------------------|------------------|------|--------|-------|
| Cyclothymia<br>(Warmth)           | S-O <sup>a</sup> | 6.04 | 1.64   | .65   |
|                                   | I-O              | 5.76 | 1.36   |       |
| Intelligence<br>(Brightness)      | S-O              | 8.87 | 1.09   | .17   |
|                                   | I-O              | 8.92 | 1.04   |       |
| Ego-Strength<br>(Achievement)     | S-O              | 3.44 | 1.41   | 3.27* |
|                                   | I-O              | 4.76 | 1.40   |       |
| Excitability<br>(Unrestrained)    | S-O              | 4.48 | 1.86   | .73   |
|                                   | I-O              | 4.84 | 1.60   |       |
| Dominance<br>(Aggressive)         | S-O              | 3.96 | 1.33   | 1.01  |
|                                   | I-O              | 4.40 | 1.68   |       |
| Surgency<br>(Enthusiasm)          | S-O              | 6.44 | 1.53   | .08   |
|                                   | I-O              | 6.40 | 1.38   |       |
| Super Ego-Strength<br>(Deference) | S-O              | 6.48 | 1.62   | 1.95* |
|                                   | I-O              | 5.60 | 1.50   |       |
| Parmia<br>(Heterosexuality)       | S-O              | 5.35 | 2.01   | 1.21  |
|                                   | I-O              | 6.04 | 1.95   |       |
| Premsia<br>(Sensitivity)          | S-O              | 5.39 | 2.01   | .44   |
|                                   | I-O              | 5.16 | 1.65   |       |
| Coasthenia<br>(Autonomy)          | S-O              | 5.26 | 1.05** | --    |
|                                   | I-O              | 5.32 | 1.68   |       |
| Guilt Proneness<br>(Abasement)    | S-O              | 4.52 | 1.90   | .67   |
|                                   | I-O              | 4.88 | 1.81   |       |
| Self-Sufficiency<br>(Resourceful) | S-O              | 4.22 | 1.04   | 1.31  |
|                                   | I-O              | 4.64 | 1.19   |       |
| Self Sentiment<br>(Conscientious) | S-O              | 4.13 | 1.39   | 1.35  |
|                                   | I-O              | 3.60 | 1.32   |       |
| Ergic Tension<br>(Tension)        | S-O              | 4.70 | 1.77   | .49   |
|                                   | I-O              | 4.48 | 1.26   |       |

<sup>a</sup>S-O N = 23; I-O N = 25.

\*Probability that observed difference is due to chance is equal to or less than 1 in 20.

\*\*The obtained F test statistic was too large (2.54) to conclude that the variances were homogeneous. The "T" test was, therefore inappropriate.



Being attentive to people, insistently ordered, conscientious, always ready to cooperate . . . regard for public concern, popular in working with others on assigned tasks . . . wanting to do the right thing . . . very particular about conformity in clothing and property . . . desires social acceptance.<sup>1</sup>

In respect to this characteristic the socially-oriented girls showed a greater need than did the intellectually-oriented girls and the prediction was supported at an acceptable level.

Dominance is designated by Cattell as the following:

Aggressive, competitive, self assured, attention-getting, attempted leadership rather than accepted leadership, socially-poised.<sup>2</sup>

Heterosexuality is characterized by Cattell as follows:

Showing strong and overt interest in the opposite sex, adventurous, bold, friendly, impulsive and frivolous . . . enjoying large parties . . . likes to get "into the swim," talkative, liking occupations with personal contacts.<sup>3</sup>

In respect to both dominance and heterosexuality the differences in the sample means were in a direction opposite to that which had been predicted. In both instances the intellectually-oriented girls had higher needs than the socially-oriented. With respect to these traits the hypothesis was not confirmed.

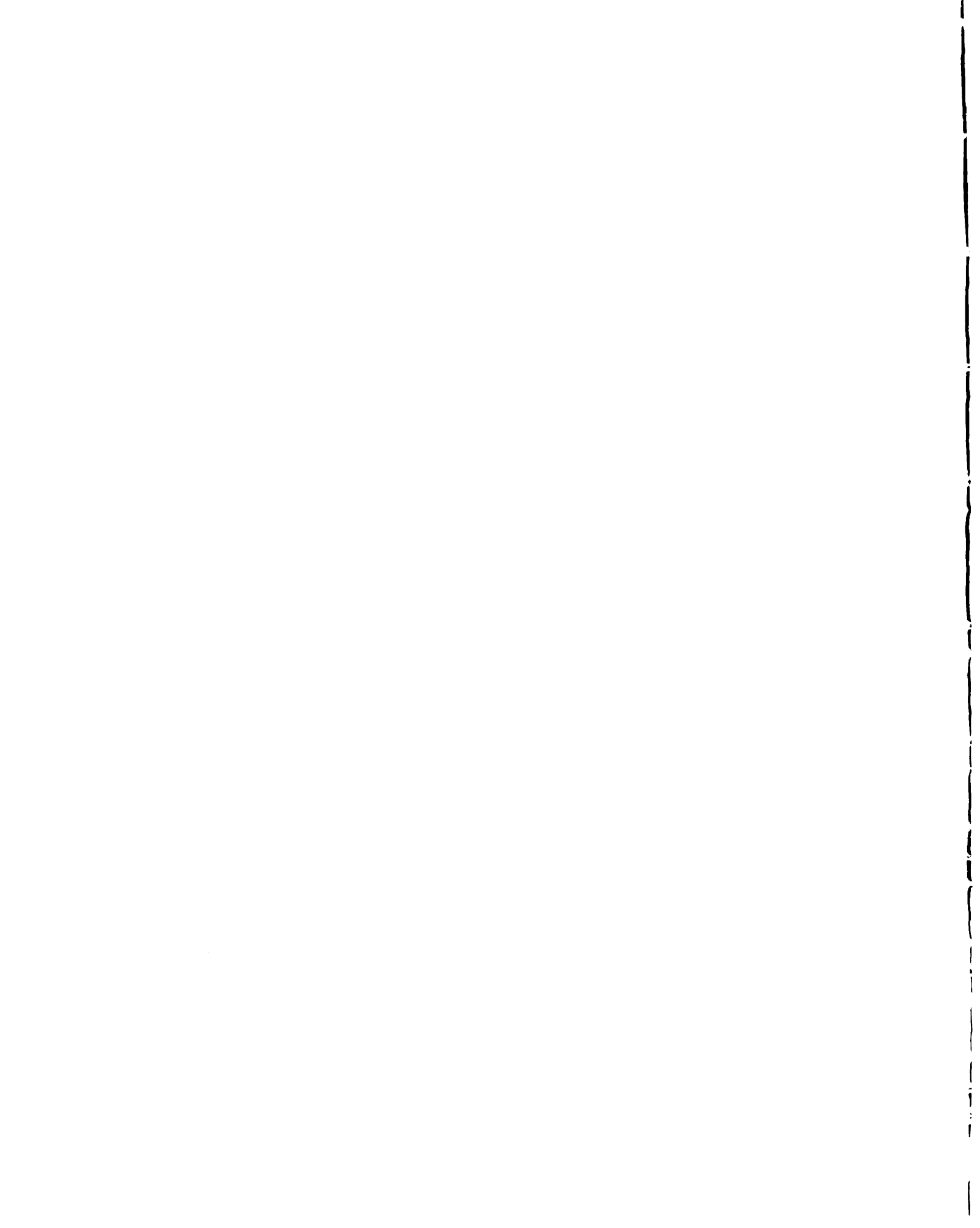
Hypothesis 1(c) stated that there would be no significant differences on other personality characteristics as measured by the IPAT than those named above. This hypothesis was supported.

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<sup>1</sup>Ibid., p. 122.

<sup>2</sup>Ibid., p. 108.

<sup>3</sup>Ibid., p. 126.



Hypothesis 2 stated that the socially-oriented girl would score higher on dogmatism than the intellectually-oriented girl as measured by the Rokeach test. As shown in Table 16 this hypothesis was not supported.

TABLE 16.--Summary for Intellectually-Oriented (I-0) and Socially-Oriented (S-0) High School Girls for Rokeach Test on Dogmatism

| Variable  | Group | N  | Mean   | S.D.  | t   |
|-----------|-------|----|--------|-------|-----|
| Dogmatism | S-0   | 23 | 158.52 | 16.50 | .34 |
|           | I-0   | 25 | 156.88 | 16.56 |     |

Hypothesis 3 stated that the intellectually-oriented high school girls would have different occupational aspirations than the socially-oriented girls. The data for the high school girls was secured and analyzed in the same manner as for the college girls.

TABLE 17.--Occupational Aspirations of Intellectually-Oriented (I-0) and Socially-Oriented (S-0) High School Girls

|        | 1  | 2  | 3 | 4 | Total |
|--------|----|----|---|---|-------|
| (I-0)  | 8  | 13 | 1 | 3 | 25    |
| (S-0)  | 5  | 13 | 4 | 1 | 23    |
| Totals | 13 | 26 | 5 | 4 | 48    |

Categories 2-4 were collapsed to produce the distribution of



Table 18 to test the hypothesis that general occupational differences would appear.

TABLE 18.--Occupational Aspirations of High School Sample

|        | 1  | 2-4 | Total |
|--------|----|-----|-------|
| (I-0)  | 8  | 17  | 25    |
| (S-0)  | 5  | 18  | 23    |
| Totals | 13 | 35  | 48    |

$$x^2 = .637$$

The results shown in Table 17 and Table 18 indicated that the hypothesis was not supported since the probability of the distribution of this sample occurring by chance alone was too great.

Hypothesis 4 predicted that the intellectually-oriented high school girl would more often rate herself "above average" in ability. Question 13 in the interest questionnaire asked "In comparison with your classmates do you consider your ability to be below average, about average, or above average?" The data concerning self-rating is shown in Table 19. Although the results of the chi square test showed no significant differences it was interesting to note that no girl in either group rated herself as below average.

Hypothesis 5 predicted that the intellectually-oriented girl would more often come from a home of higher

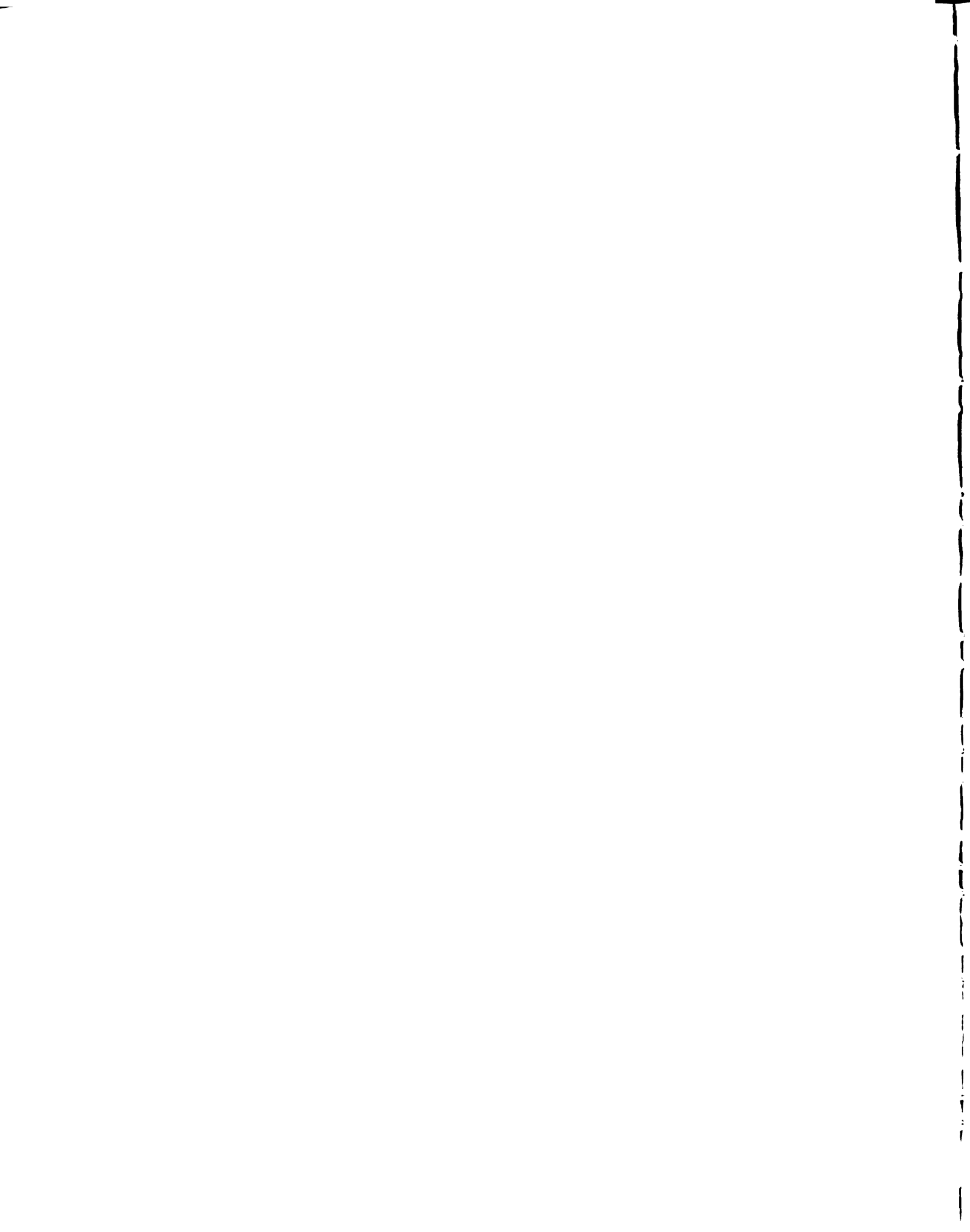


TABLE 19.--Self-Rating for High School Girls

|        | Average | Above Average | Total |
|--------|---------|---------------|-------|
| (I-0)  | 15      | 10            | 25    |
| (S-0)  | 11      | 12            | 23    |
| Totals | 26      | 22            | 48    |

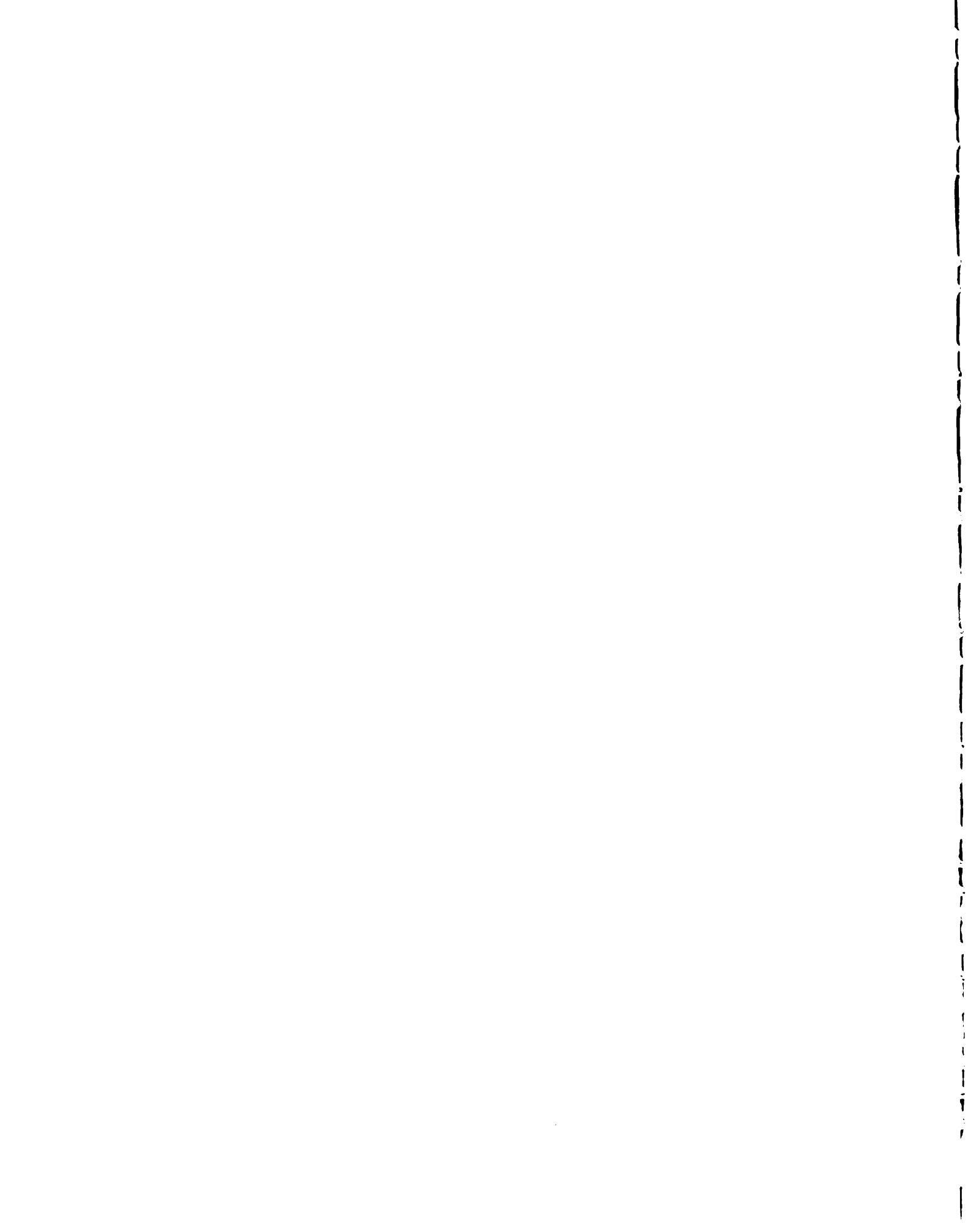
$$\chi^2 = .713$$

socio-economic status as determined by the occupational level of the father. The Warner categories were used here as shown in Table 20.

TABLE 20.--Distributions of Occupations of Fathers of Intellectually-Oriented (I-0) and Socially-Oriented (S-0) High School Girls

|                  | Occupational Level |    |    |   |   |   | Total |
|------------------|--------------------|----|----|---|---|---|-------|
|                  | 1                  | 2  | 3  | 4 | 5 | 6 |       |
| Fathers of (I-0) | 6                  | 8  | 3  | 3 | 3 | 2 | 25    |
| Fathers of (S-0) | 4                  | 6  | 8  | 4 | 0 | 1 | 23    |
| Totals           | 10                 | 14 | 11 | 7 | 3 | 3 | 48    |

Of the high school distributions 24 per cent of the fathers of the intellectually-oriented girls and 13 per cent of the fathers of the socially-oriented girls had occupations in the highest socio-economic status. This is a much lower percentage than was found in the college sample and will be



discussed in the interpretation of results.

TABLE 21.--Occupations of Fathers of High School Sample

|                  | <u>Occupational Level</u> |     | Total |
|------------------|---------------------------|-----|-------|
|                  | 1                         | 2-6 |       |
| Fathers of (I-0) | 8                         | 17  | 25    |
| Fathers of (S-0) | 5                         | 18  | 23    |
| Totals           | 13                        | 35  | 48    |

$$\chi^2 = .637$$

As can be seen in Table 21, categories 2-6 were collapsed to produce the distribution shown. The results show no relationship between the father's occupation and the orientation of the girl.

Hypothesis 5 stated that the intellectually-oriented girl would come from a home where the educational level attained by the parents would be higher than it would for the parents of the socially-oriented girl. "Educational Level" was ordered in the same five categories as shown for the college sample.

TABLE 22.--Distribution of Level of Formal Education of Fathers for Intellectually-Oriented (I-0) and Socially-Oriented (S-0) High School Girls

|                  | <u>Educational Level Attained</u> |    |   |    |   | Total |
|------------------|-----------------------------------|----|---|----|---|-------|
|                  | 1                                 | 2  | 3 | 4  | 4 |       |
| Fathers of (I-0) | 3                                 | 7  | 4 | 7  | 4 | 25    |
| Fathers of (S-0) | 3                                 | 9  | 1 | 6  | 4 | 23    |
| Totals           | 6                                 | 16 | 5 | 13 | 8 | 48    |

Levels 1-2-3 and 4-5 were combined to produce the distribution in Table 23.

TABLE 23.--Formal Education of Fathers of High School Sample

|                  | Some College<br>or Less | College Graduation<br>or More | Total |
|------------------|-------------------------|-------------------------------|-------|
| Fathers of (I-0) | 14                      | 11                            | 25    |
| Fathers of (S-0) | 13                      | 10                            | 23    |
| Totals           | 27                      | 21                            | 48    |

$$\underline{\underline{x^2 = .001}}$$

The results of the chi square test indicated there were no significant relationships between the formal education of the fathers of the girl's group membership, thus the hypothesis was rejected. It was also necessary to reject the hypothesis that the level of formal education of the mothers differed in the two groups. The data for the information concerning the mother's education is presented in Tables 24 and 25.

TABLE 24.--Distribution of Level of Formal Education of Mothers for Intellectually-Oriented (I-0) and Socially-Oriented (S-0) High School Girls

|                  | Educational Level Attained |    |    |    |   | Total |
|------------------|----------------------------|----|----|----|---|-------|
|                  | 1                          | 2  | 3  | 4  | 5 |       |
| Mothers of (I-0) | 2                          | 8  | 6  | 6  | 3 | 25    |
| Mothers of (S-0) | 3                          | 10 | 4  | 5  | 1 | 23    |
| Totals           | 5                          | 18 | 10 | 11 | 4 | 48    |

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Levels 1-2-3 and 4-5 were combined to produce the distribution shown in Table 25.

TABLE 25.--Formal Education of Mothers of High School Sample

|                  | Some College<br>or Less | College Graduation<br>or More | Total |
|------------------|-------------------------|-------------------------------|-------|
| Mothers of (I-0) | 16                      | 9                             | 25    |
| Mothers of (S-0) | 17                      | 6                             | 23    |
| Totals           | 33                      | 15                            | 48    |

$$x^2 = .548$$

The results do not warrant acceptance of the hypothesis but it is interesting to note that greater differences were noted for the fathers than the mothers. The results shown were in the predicted direction even though they were not statistically significant.

Hypothesis 5 also stated that the intellectually-oriented girl would more often be found to have been first-born. The results of this test data are found in Table 26. The test statistic obtained will not permit the inference that the results were not due to chance alone, thus, the hypothesis must be rejected.



TABLE 26.--Ordinal Status of Intellectually-Oriented (I-O) and Socially-Oriented (S-O) High School Girls

|        | First-born | Middle-Youngest | Total |
|--------|------------|-----------------|-------|
| (I-O)  | 16         | 9               | 25    |
| (S-O)  | 12         | 11              | 23    |
| Totals | 28         | 20              | 48    |

$\chi^2 = .689$

## CHAPTER VI

### INTERPRETATION OF RESULTS

As stated in the introduction, the goal of this study has been that of searching for similarities and differences in superior girls who were either intellectually-oriented or socially-oriented. From the review of the literature, the statistically analyzed data, and the personal interviews, it is possible to recognize certain characteristics which distinguish the superior intellectually-oriented from the superior socially-oriented girl. We will proceed to a discussion of the college sample and then the high school sample.

#### College Sample

There were certain differences noted in personality characteristics between superior intellectually and socially-oriented girls as reported in the previous chapter. One of these differences was with respect to the need for achievement. It was found that both groups valued achievement relatively high in their hierarchy of needs, although the intellectually-oriented indicated a significantly higher mean level of need than did the socially-oriented. To some extent the difference in level represented the bias of Edwards' definition of "need achievement" and the fact that a significant

difference was found simply confirmed that the objectives sought in classifying these girls had been obtained. However, the difference in the two groups for need achievement was clarified by the interview material. It uncovered some contrasting viewpoints about achievement which might account, at least in part, for the significant findings of the statistical analysis. The first 15 questions on the interview questionnaire pertained to intellectual achievement (cf. Appendix).

The intellectually-oriented girls were motivated in their studies by long-term goals and career planning. The socially-oriented girls were motivated by short-term goals such as those represented by grades and class awards. Grade point averages serve as a good example; they were very important to the socially-oriented girls since they were perceived as immediate rewards for achievement, and as a means of enhancing their present social position.

In answer to Question 3 "How do you feel about your academic progress at the present time?" the socially-oriented responses tended to be like the following:

(S-0) 8: My grade point average is a definite asset to my sorority and it gives me personal prestige to be able to contribute to our scholastic record.

(S-0) 2: Grades are important to me because I am interested in being elected to a position on the Pan-Hellenic Council and also an office on the student governing board. Grades help a great deal when selections are made for these positions.



(S-0) 18: I am happy that my grades are good, for my parents expect me to do well. It is a real effort, however because extra-curricular activities are always attractive to me.

On the other hand, the intellectually-oriented girls did not consider earning a high grade as either a means to an end or an end itself.

(I-0) 7: Naturally I would like to make an all-A record but the extra time it would take for me to get an A in an area of less interest or in a class that is required but not one of my own choice, is not a worthwhile expenditure of my time, so I will have to be satisfied with taking a grade of B in that subject.

(I-0) 3: Grades are not as important to me as my own interest in the class. Of course I realize much of that depends on me and how much I put into it. If enough effort is made even a dull class can become interesting, but in some cases I just haven't made that effort.

Thus, it would appear that both groups of girls may, in fact, maintain high grade point averages--the socially-oriented because grades are seen as a means to the achievement of an even more highly desired social recognition, and the intellectually-oriented as an incidental effect of the high valuation that is placed on learning for its own sake, or for the sake of the achievement of a career.

This difference was made even more apparent when the responses to a more general question were examined. This was question 8: "How do you feel about your intellectual achievement in general?" The socially-oriented said it was important to them but went on to modify this view as illustrated by these examples:

- (S-0) 10: Getting along with people and learning to live with others is just as important to me as what I learn out of a book.
- (S-0) 16: Going to college is more than just intellectual achievement. I am not interested in the purely bookish-ivory-tower existence. Football games, fraternity dances, friends are important to me and should be a part of college life.
- (S-0) 3: The most important thing is being with and learning about people. Intellectual achievement is just one tool that is helpful in doing that.

The intellectually-oriented, on the other hand, felt intellectual achievement was very important, indeed.

- (I-0) 2: I have very strong feelings about this subject. It should be the most important aspect of college and it is a great disappointment to me to know that it is not considered that way on this campus.
- (I-0) 11: I can do all the socializing I want at home and at other places that exist solely as entertainment places. I came to the university for intellectual training and that is what I want. Furthermore, I am Scotch and I want my money's worth. When I finish here I want to be as well equipped intellectually as it is possible for me to be.
- (I-0) 7: I feel disappointed in my intellectual achievement so far. There is so little opportunity to talk with my professors. I see them in class but so often there are questions I would like to ask but feel I must not monopolize class time. Also, I am required to sit through classes that are not stimulating to me and it is frustrating when there are other things I would rather be doing.

A similar differentiation was noted when "achievement" was defined in terms of the winning of campus recognition. The following question (Question 1 of the interview) was asked: "Are campus position and campus offices worth holding?"

All but two of the 23 socially-oriented girls answered in the affirmative, and their responses, of which the following are typical, demonstrate the importance they attached to immediate rewards.

- (S-0) 5: Definitely yes! They bring you into contact with people from all areas and help you get acquainted with new friends and besides they may even be a source for dates--even if you do not like your date he may have a friend whom you will like.
- (S-0) 22: Any office would be worth holding in my opinion. Being from a small town I feel I need all the social background I can get and this would be one way of developing leadership among people.
- (S-0) 1: Holding an office fills a need of belonging to something. It gives a person a feeling of acceptance and personal satisfaction. Without something like this a person might be lost in a large university.

To contrast, only eight intellectually-oriented girls answered in the affirmative to this question while the remaining 17 answered in the negative or qualified their answers by saying "perhaps." Thus,

- (I-0) 9: In general, no, only if they are connected with one's special interest.
- (I-0) 14: I am not interested in holding a campus office since I did all of that type of thing (clubs, plays, and other important positions) in high school. I feel I am beyond that now and want to get on with my work.
- (I-0) 19: An office in one's living unit might be worthwhile but the all-campus offices are a waste of time and usually chosen on popularity rather than ability. These usually end up as being just social get-to-gethers and I am not interested in that type of entertainment. I can get it elsewhere.

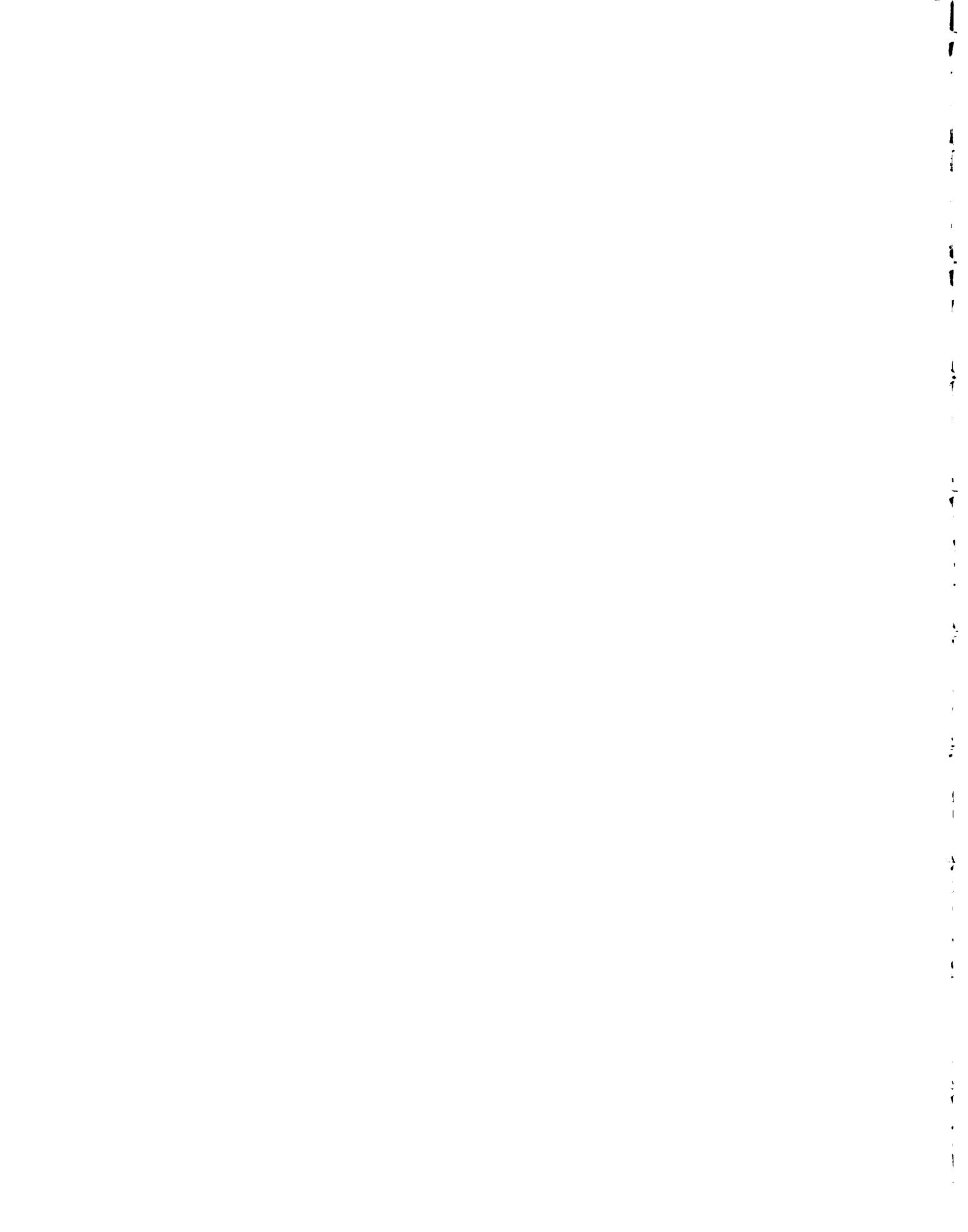
Question 13 asked, "What affect does intellectual achievement have on a girl's social life?" It is interesting, that the majority of both groups of superior girls did not see achievement of this type as a disadvantage. Thirteen of the socially-oriented girls felt intellectual achievement would increase a girl's social life, eight thought it would have no effect and four thought it would act as a disadvantage. But many of the 13 who thought it would increase a girl's social opportunities, qualified their answers in some way or other.

- (S-0) 4: Intellectual achievement will increase a girl's social life unless she becomes too impressed with herself and her grades.
- (S-0) 18: Intellectual achievement will increase a girl's social life if she is with other people who are interested in that type of thing--if they aren't they will be jealous and then, of course, it would not help her.
- (S-0) 7: Intellectual achievement will increase a girl's social life although it will narrow the field because many boys are afraid of girls who are too intellectual.

The majority of intellectually-oriented girls felt intellectual achievement would be advantageous, although here, too, many qualified their answers. Concerning marriage (Question 14 in the interview) all 25 of the intellectually-oriented girls felt intellectual achievement in college would be helpful. This was probably because they differed in the type of mate they were seeking.

- (I-0) 25: Intellectual achievement will increase my social life. The more intellectual I become

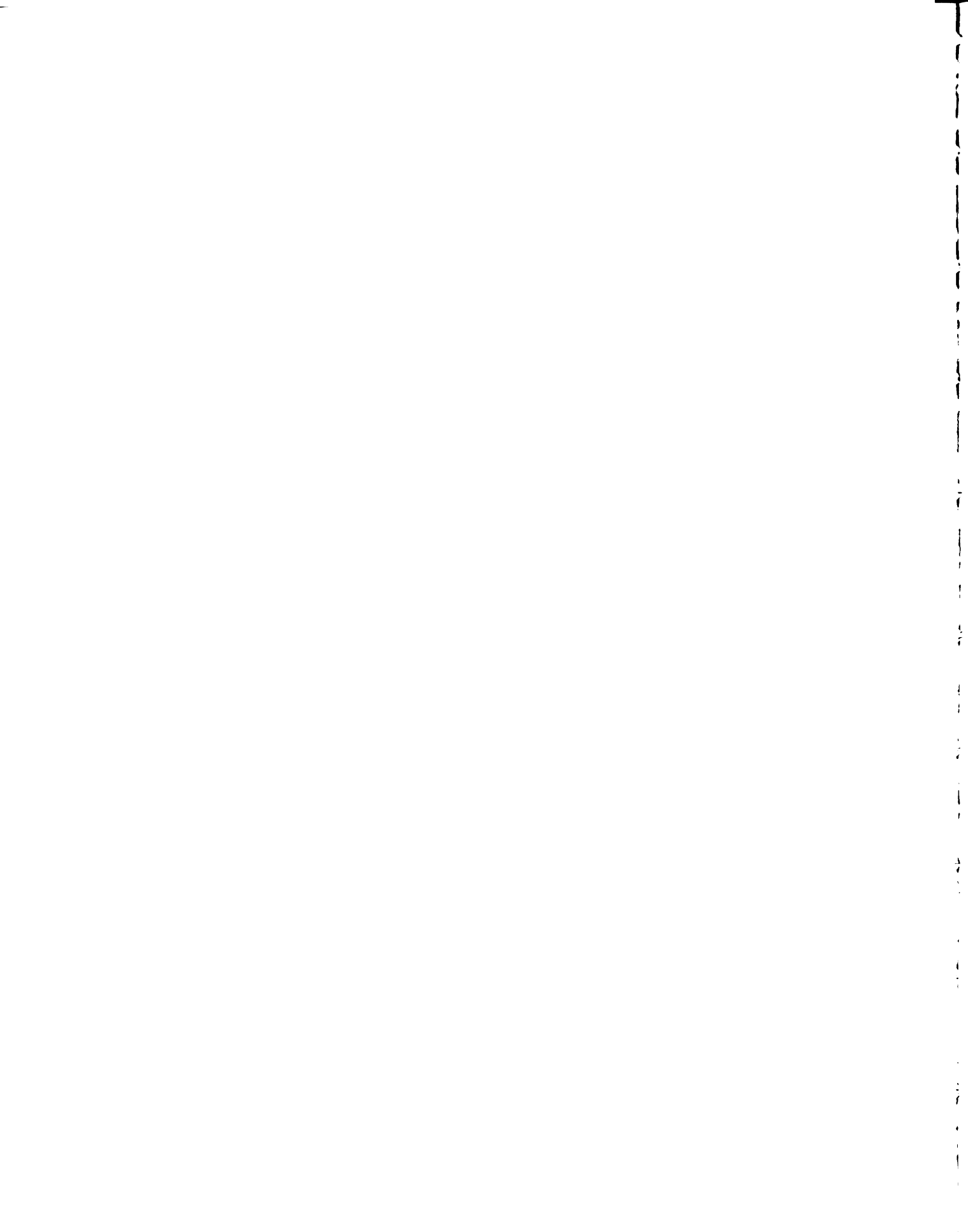




the more attractive I will be to the intellectual-type man and after all that is the type I am interested in.

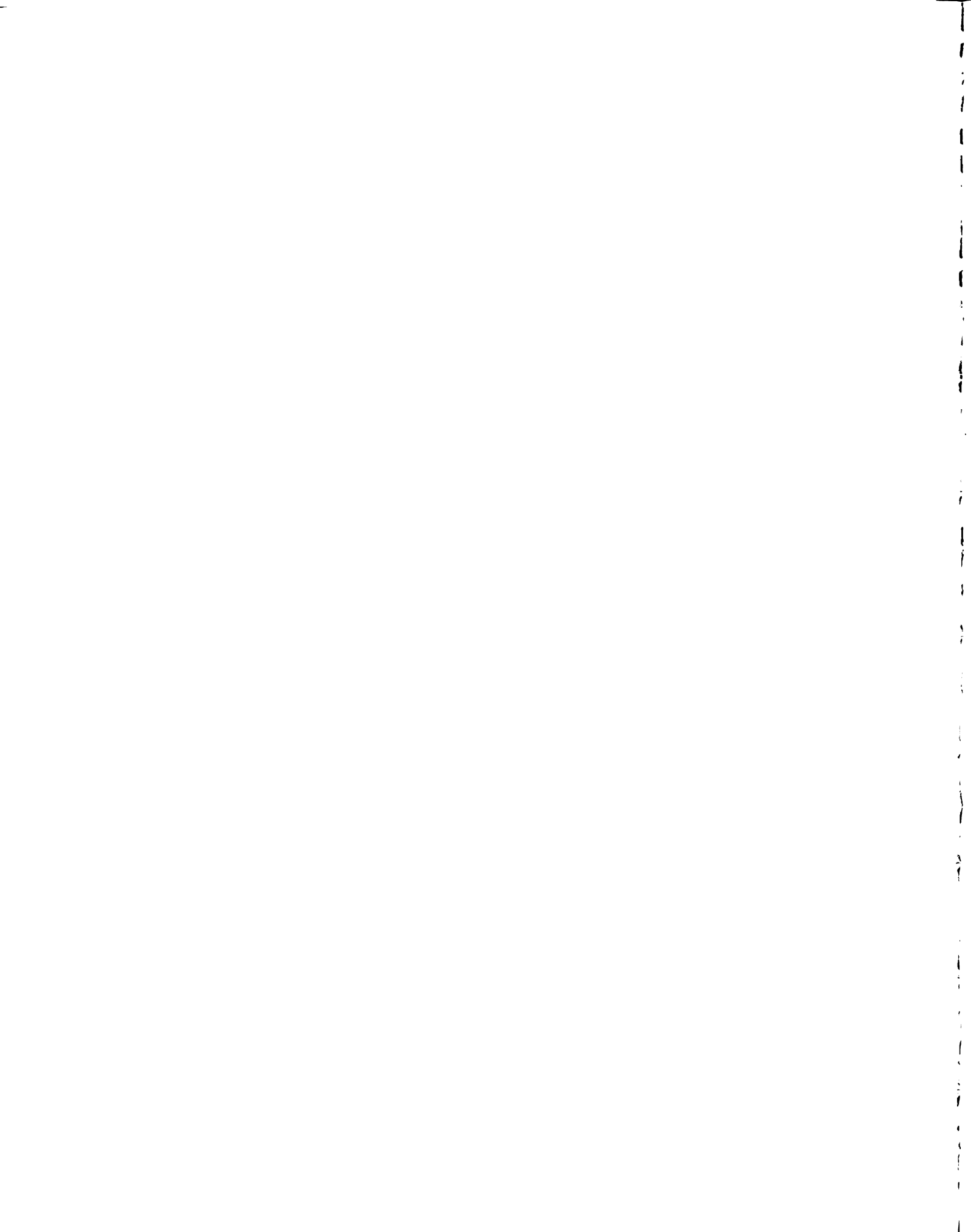
- (I-0) 9 No one likes a conceited person, so if a girl flouts her intellectual achievement she will be lost! She must learn to be subtle about it unless she is with her superiors and then it will be a definite advantage.
- (I-0) 20 Intellectual achievement will act as an advantage. It will help a girl choose a mate that is more compatible and it will discourage boys who have other interests. Of course it means there will be fewer to choose from. One of my great worries is that I may not meet a boy who is interested in books and music and the intellectual atmosphere. Could I be happy with some other type?
- (I-0) 4 It will depend how a girl handles her intellectual achievement. A smart boy will not resent a smart girl but if she is with a boy who is not her intellectual equal it could very easily decrease her social life.

It would appear, then, that the need to achieve will be relatively high among both the intellectually and the socially-oriented girls. The manner in which this need is satisfied will differ, and how achievement is defined will differ. Where achievement is defined in terms of intellectually-oriented goals represented in the Edwards, and similar measures of the need, the intellectually-oriented will, of course, exhibit a higher level of need. Grade point averages, and other immediate rewards, which are sometimes taken as indicators of intellectual performance will be deceptive. Both groups may be expected to earn relatively high grades, the socially-oriented because they see grades and other immediate recognition as means to enhance their social and



leadership positions, the intellectually-oriented because of their interest in their subjects. Neither group, in their majority, shares what is supposed to be a common view, that intellectual achievement is, in and of itself, a bar to social enhancement or marriage.

Another difference between the two groups was with respect to the characteristic of autonomy. The intellectually-oriented girl showed a statistically significant greater need for independence in making her own decisions, avoiding situations where conformity is expected, and in doing things that are conventional. This characteristic was reflected, also, in the personal interviews. One evidence of conformity or lack of autonomy was in the dress of the two groups of girls as they appeared for their interviews. The interviewers noted that all girls, in both groups, were attractive and well groomed but the majority of the socially-oriented were dressed in the fashion that was in vogue on the campus at that particular time. It was evident that great care had been taken in choosing wearing apparel. Casual clothes were chic in their simplicity. Make-up was used in good taste. Hair styles were those considered fashionable by the "college set." There was a certain pattern of dress and appearance that was evident in the socially-oriented girls. On the contrary, there was much more individuality in choice of wearing apparel evident in the intellectually-oriented group. These girls were well dressed but not necessarily in the



latest accepted fashions. Hair styles were not universally alike. Make-up was used by some, but in general was not used as freely as by the socially-oriented girl. These subjective reactions need to be interpreted with some caution, of course, and certainly are not intended to imply that the intellectually-oriented were drab. One girl in this group, at least, was a beauty contest winner!

Better evidence of the need for autonomy of the intellectually-oriented girl was the repeated appearance of this theme in their answers to the question, "What are some of the worries, fears or problems that you face?" (Question 28 on the interview.)

- (I-0) 13: It worries me to be co-chairman with a man and find he expects and wants to make all of the decisions. It not only worries me but it irritates me especially if the ideas under discussion have originally come from me.
- (I-0) 23: Wanting to express my own opinions is often a problem to me. I am not satisfied to just sit and listen.
- (I-0) 17: One of my greatest worries is that I do not have the abilities to do the things I want to do. Time and money are two of my biggest problems. I haven't the time to do nearly all of the things I want to do. I keep wanting to spend money--for books--for a good hi-fi set--for records. If I have to have money it means I have to sacrifice time from other interests to work and get the money. Another worry is that I do not find many friends I am really interested in or who are really interested in me.
- (I-0) 19: At the present time I have no worries that I feel I cannot handle myself. One thing that keeps coming up is that I am just not interested in most of the girls in the dorm and

they do not understand it. I love reading a good book alone, in fact I am alone a great deal of the time but I do not mind it. I get very bored always hearing chatter about clothes and dates. I do enjoy the people in my classes, my lab instructors, and I have a few close friends, one in particular who is also working in the science field. But it bothers me when my room-mates make little remarks such as, "Four-pointers are not supposed to be interested in dancing and parties."<sup>1</sup>

- (I-0) 3: One of my problems is finding some privacy here on the campus. There are times when I like to be alone--I enjoy walking in the woods, listening to music--just having time to think but it is very difficult to get away from people.

The socially-oriented girl's need to conform was also reflected in her answers to the same question.

- (S-0) 21: One of my greatest worries is wondering if I am making the right decisions--it concerns me about my friends, my courses, my whole future. I try to follow the standards set by my parents as I admire them greatly but it does worry me.
- (S-0) 12: Am I taking the responsibilities I should be taking? It is costing my parents money to send me to college and sometimes it seems as if all I want to do is just be with the crowd and have fun.
- (S-0) 6: One of my greatest worries is that now I am finding the beliefs I had in childhood are being questioned. This concerns religion--drinking--smoking and things of this nature. I suppose it is all part of growing up but it does present a problem to me.

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<sup>1</sup>The statement by this subject is very much like the information given by a bright girl in the Stiskin article. (c.f. Stiskin, op. cit.).

A third variable, highly related to autonomy, on which the two groups differed significantly was deference, which was the need to get suggestions from others, to find out what others were thinking and to praise and defer to others. Not only do many of the citations from the interviews made above illustrate the manner in which this need was given expression, but also differences in the manner in which members of the two groups reacted in the group meetings are relevant. Both the intellectually-oriented girls and the socially-oriented girls displayed considerable poise and social ease. But, during the get-acquainted period, the socially-oriented girl appeared to be more interested in the other girls present and in the social amenities. They seemed to welcome the opportunity for meeting new people, they smiled often and easily, and their conversation did not lag. During the same period the intellectually-oriented girl appeared to display a certain reserve, perhaps a studied "holding-back." This was not necessarily a reflection of shyness or social ineptness, but rather like the quality Maslow<sup>1</sup> calls "detachment" in his description of the self-actualizing individual.

As the groups became acquainted and entered into a discussion of the business of the meeting a change was observed in the behavior of the two groups of girls. The

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<sup>1</sup>Maslow, op. cit., p. 227.



intellectually-oriented girls now became more animated and radiated interest and enthusiasm in the ideas being discussed. Their conversation became fluent and stimulating. It was at this point that the socially-oriented girl deferred to the extent of accepting the role of spectator as the intellectually-oriented girl dominated the situation.

While these observations were highly impressionistic, of course, they do illustrate how the needs for autonomy and to defer relate to the behavior of the individual girls.

It was hypothesized that the socially-oriented girl would prove to have a greater need for heterosexual relationships than would the intellectually-oriented. Although the results were in the predicted direction, they were not reliably so. The interviews would indicate, however, that while both groups attach high value to contacts with members of the opposite sex, there may be important differences in the way these are perceived. The intellectually-oriented girl appeared to be less interested in dating as a purely social experience, and certainly rejected dating as an end in itself. She was more concerned with the choice of dating partner and preferred males with interests and goals similar to her own. Two questions shed light on this: "How do you feel about boys who are achieving intellectually?" (Question 10 on the interview.) "Would you accept a blind date in preference to staying at home?" (Question 10(a) on the interview.) The intellectually-oriented girl sought her

dating partner more often in "professional" organizations and among junior staff members and was not interested in "blind dating."

- (I-0) 13: I would rather stay at home than be bored all evening with someone who had no interests that were akin to mine.
- (I-0) 17: I would much prefer to read a good book, listen to my record collection than attend a "beer bust" with people who care nothing about me nor I about them.
- (I-0) 7: Boys who are achieving intellectually are the only kind I am interested in but I do think we must allow for more lopsidedness in men than women. Often men have to do social things that they care nothing about but are required in making their living, for instance, salesmen often have to do social entertaining of clients. It does not mean that they really want to.
- (I-0) 6: One concern to me is that I cannot find too many boys I am interested in dating. I certainly do not want to date football players and I would prefer sitting at home to that but I would most of all like to go out with the right person--where ever he is I haven't found him yet.

The socially-oriented girl, on the other hand, valued dating as a social experience. This meant she would accept "blind dates" or would date a boy of whom she was not especially fond rather than remain at home.

- (S-0) 20: Any social experience, even a blind date can be a worthwhile experience. In the first place it may turn out that I will genuinely enjoy the new acquaintance. Even though I do not enjoy him he may take me to his fraternity house where I have the opportunity to meet other boys which opens more doors for me. Furthermore, just the experience of being with people is worth more than sitting at home and moping while other girls are out for the evening.

- (S-0) 5: I would accept a blind date much in preference to sitting home. At my sorority house prestige is greatly lowered if one has no date especially on weekends.
- (S-0) 10: Naturally I am not interested in stupid boys but I am a little afraid of the boy who is overly interested in intellectual achievement. He is usually a perfectionist and can be a very cold individual. He may be sarcastic and I just do not like a person like that.

One problem that was shared by both the socially-oriented and the intellectually-oriented girl was the problem of "pinnings" and engagements. Many girls in both groups felt they were being pressured by society in general, and by their mothers in particular, to become engaged before leaving the university. This affiliation seems to have become a prestige symbol in the university sub-culture.

- (S-0) 9: If I could only convince my parents that I am not unhappy because I am not "pinned" or engaged even though I am a senior!
- (S-0) 2: The members of my mother's bridge club are making life miserable for my mother by their constant inquiry as to my marital possibilities.
- (I-0) 12: I am disappointed in the attitude of my parents concerning my college life. They do not share my interest in scholastic attainment, their only concern is in my social life, and their constant fear is that I may become an old maid.

This was apparently a particularly sensitive area. Margaret Mead<sup>1</sup> has recently written concerning the tragedy of the too-early marriages which society is imposing on the

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<sup>1</sup>Mead, op. cit., pp. 2-6.

young woman of today. The average age for marriage for the girl of today, according to the 1960 census, has been lowered to 18 years, which means many young girls forego education, travel, and are literally pushed into a situation for which many of them are not properly prepared. Evidence of the pressure was reflected, also, in the replies to the query about their fears (Question 28 on the interview). The responses suggest that the socially-oriented girl is, perhaps because of her greater deference, less able to cope with the pressures.

(S-0) 10: One of my chief worries has to do with marriage. If a girl does not marry in college is it too late, does it mean she has truly been by-passed?

(S-0) 1: One of my biggest problems is the social pressure of being married. All of my friends seem to be either married or engaged. Somehow a girl is blamed if she isn't engaged at a certain age. This seems so unfair to me since it is a situation that a girl cannot control. There is nothing she can do if she just hasn't happened to have met the right fellow.

There is a great deal of "conventional wisdom" to the effect that the intellectually-oriented girl rejects her sex role. To secure some data on this, the following question was included in the interview (Question 27) "How do you feel about being a girl in the world of today?" There was not one girl in the entire population of the study who expressed a desire to have been born a boy! Some of the following are typical expressions of the superior college girl.

- (S-0) 15: I enjoy the preferences of being a woman. I have no problem with men because in some ways I want them to be superior, if they aren't I do not respect them.
- (S-0) 6: I have always loved being a girl. Of course having two older brothers has influenced my feelings I am sure.
- (S-0) 17: The feminine role is still held somewhat inferior by tradition but it is gradually being freed and I feel no handicap or competition with men. I would not want to be a man.
- (I-0) 12: Although, I am not interested solely in home-making and girls activities I find being a girl is no handicap.
- (I-0) 18: Great! Greater opportunities every day for girls!
- (I-0) 2: I still feel women are discriminated against but that would never make me wish to be a man.
- (I-0) 16: I have never wanted to be a boy. The differences are not too great between men and women because more and more equal opportunities are offered to both sexes. Prejudice against sex is breaking down just as other social prejudices are breaking down.

Thus it would appear that, contrary to the popular view, the intellectually-oriented girls are just as much concerned with establishing heterosexual relationships as are the socially-oriented. The socially-oriented, however, in this area, as in the achievement need, showed a concern with the immediate and the winning of social approval in contrast to the intellectually-oriented who were more selective in their choices.

For the college sample, few of the hypotheses relating to socio-economic status were sustained. The majority

of girls in both groups came from homes of high middle or upper class status as measured by the Warner scale. This finding would agree with the majority of studies on the gifted including the Terman study of gifted children.

It was evident from the personal interviews that the majority of girls in this study came not only from high and middle class homes but many came from warm and helpful homes. This is indicated in the answers given in two questions:

"What are some of your worries and problems?" (Question 28 on the interview) and "What are some of the things that give you satisfaction and pleasure?" (Question 29 on the inter-

view). In answers to questions concerning pleasures practically every girl mentioned her parents in some way. It was very apparent that fathers and mothers play a very important part in the lives of young college women. Some

typical responses are the following:

- (S-0) 9: My parents are my greatest pleasure and my greatest asset.
- (I-0) 2: One of the things that brings me the greatest happiness is making my parents proud of me.
- (I-0) 8: One worry I have is how to cope with the double standards I see all around me which are contrary to my up-bringing. In our home we were taught to be concerned with the well being of others as well as ourselves, to be honest in all of our dealings, to do as we say--not to say one thing and do another. But even in high places in our government, in business, and yes, in the university, we see the double standard in operation.

(S-0) 4: I worry about my parents--I am an only child and they have been so wonderful to me but their whole lives center around me. I do not mean that they have ever limited me in any way but I feel it would be very hard for them to be separated from me.

In answer to a question that asked, "Who inspired you the most toward intellectual pursuits?" (Question 30 on the interview) more than 60 per cent answered "father, mother or parents."

Similarly, the educational level of the parents of both the intellectually-oriented and the socially-oriented girls was high, and the two groups did not differ significantly on this count. It is true that the fathers of the intellectually-oriented tended more often to have had more formal education but the difference was not statistically reliable.

Thus, while the intellectually and socially-oriented superior girls may have differed from girls less gifted with respect to their familial background, it was apparent both from the statistical analysis and the more intuitive analysis of the interview material, that the two groups did not differ from each other. While these might be interpreted as negative findings they serve to throw into question many popular explanations of the basis on which these kinds of girls differ.

The situation was somewhat different with respect to the hypothesis on ordinal status. It was found that there were over twice as many first-born or only children within the intellectually-oriented group than within the

socially-oriented group. This meant, of course, that these children had no older brothers or sisters. This could indicate they had the advantages of more adult attention or it could mean they were left more on their own resources, depending on the interpretation one chooses to make.

Since this study concerned the aspirations of superior girls it was of utmost concern to know just what these young women considered their goals to be. As we have seen the two groups differed significantly in this respect. All of the girls in the college sample with the exception of two aspired eventually to marriage, a home, and a family. The two who rejected marriage had planned careers in religious orders. The difference was that the majority of intellectually-oriented girls wanted marriage plus a career, and, in fact, many of these girls had already chosen their field of work and were studying in their special areas. Marriage for them was either an aspiration for the future or if marriage was an immediate goal it often was with a partner studying in their own career field. One intellectually-oriented subject had already signed a contract with a large chemical corporation as part of a husband and wife research team. Another girl in this group was planning an immediate marriage and a career as a medical technician in the hospital where her future husband served as resident physician. The intellectually-oriented girls expressed confidence that a career, either part-time or full-time, could be combined successfully with marriage. None of



the intellectually-oriented girls aspired to marriage alone.

The socially-oriented girl, in contrast, aspired first of all to marriage. Those who had no definite commitments for immediate marriage were interested in working only until the right man appeared but none were interested in long range career plans.

Concerning occupational aspirations two interview questions were asked, "Are all careers open to women?" (Question 17) and "Do YOU think some careers should be closed to women?" (Question 18). Many of the girls in both groups answered negatively to the first question. This, however, did not necessarily mean that they, themselves, felt limited in choice of career. In fact, no college girl in the study felt that she was personally limited or handicapped in a career choice solely because she was a woman. Rather, many of the girls indicated that they believed some careers should be closed to women.

- (S-0) 5: I heartily disapprove of any job that detracts from femininity for instance where women are required to wear men's clothing.
- (S-0) 19: President of the United States--I am not ready for a woman president yet.
- (S-0) 23: I think there are some departments in law enforcement agencies where women fit in very well, especially with juvenile delinquents, but I would not care to see a woman in the position of Chief of Police.
- (I-0) 9: There are very few careers where women cannot contribute but personally I would not care to degrade American women into doing hard labor as they do in Russia where women for instance dig ditches and pour concrete.

- (1-0) 7: There is no career that need be closed to women but there is still the conflict existing. Society on one hand wants wives and mothers--on the other hand it wants educated women and contributing women. The combination has not been accepted universally as yet but it is coming gradually.
- (I-0) 25: I think the majority of girls know that they will have to work harder at their careers and probably will be paid less than men for doing the same job. But that in itself is not discouraging for it will not always be that way. One of my major concerns is that women will accept the responsibilities as well as the privileges and never in any instance use femininity to achieve favors or replace ability.

Information on the goals and aspirations of these girls was also obtained by the question, "What job would you prefer if you had your choice and no holds barred?" (Question 22 on the interview). Also, included in this question was "If you could have one wish what would it be?" The wishes of the socially-oriented girl tended to be more personal, as for example,

- (S-0) 10: I would like to have a happy married life and be in a position to help my parents have everything they desire in their old age.
- (S-0) 14: My only wish would be to live the good life that would insure salvation in the life to follow.

The wishes of the intellectually-oriented girl were more often less personal in scope; thus, many wished for world peace, and for the control of, and the peaceful use of, atomic power. Those who did wish for personal aggrandizement hoped it would come through a contribution to society.

- (I-0) 11: I would wish to discover some benefit for mankind through science, especially in the medical world.
- (I-0) 3: More than anything else I would like to work in atomic research--but not for military purposes, for peaceful uses like the curing of cancer.
- (I-0) 16: I would like most of all to do some original work in art--something that would make the world more beautiful.

Thus, in summary, with respect to their goals and aspirations the socially-oriented girls differed chiefly in the greater emphasis they tended to place on the immediate achievement of the status of wife and mother and tended to perceive the fulfillment of their sex role as a sufficient basis for self-actualization. The intellectually-oriented girl, while not rejecting her sex role, did not see it as sufficient.

#### The High School Girls

In general, fewer statistically significant differences were found between the socially and intellectually-oriented high school girls than for the two groups of college girls. Perhaps this result should have been anticipated. Conformity pressures are especially prevalent both for boys and girls at this particular age.

In the high school sample there were certain personality characteristics on which the intellectually and the socially-oriented superior girl did differ as measured by the Cattell IPAT. As with the college girls one of these

differences was the need for achievement or ego strength, as it is termed in the Cattell test. Here, too, the intellectually-oriented girl gave evidence of a greater need. Additional insight on the meaning of the difference was sought through the personal interviews. But, in contrast to the material supplied by college girls, the responses of the two high school groups did not give any further clues helpful in explaining the difference. The high school girls tended to respond alike to the questions in this area. To Question 3 on the interview, "What are your plans after high school?" 24 out of 25 intellectually-oriented girls answered "College"; of the socially-oriented girls 20 out of 23 answered "College."

Grades were important to both the socially-oriented and the intellectually-oriented high school girl and for both groups winning the approval of parents seemed to be the major motivational force. Question 13 on the high school interview guide asked, "What are the reasons and motivations you have had for intellectual achievement, if any?" Every girl answered either "father, mother, or parents." In addition, 20 of the intellectually-oriented indicated that a desire to learn, or curiosity was of importance, while 15 of the socially-oriented did so.

Another question concerning achievement was asked, "Is intellectual achievement more important for girls or boys?" (Question 12 on the interview). Both groups felt, in their majorities, that such achievement was more important

for boys. Five of the intellectually-oriented girls thought it was equally important for both to achieve and 19 thought it was more important for boys.

(I-0) 6: It is a different kind of achievement--women prepare for family care, men prepare for careers to run the world but one is just as important as the other so I think it is equally important for both boys and girls to achieve.

(I-0) 1: It is a little more important for boys since they have to earn the living and support the family.

(I-0) 24: It is equally important for both. Sometimes the woman has to earn the living so she must be prepared, also she is responsible for teaching the children. Anyway, just because she is a housewife doesn't mean she should fall down in other areas.

Of the socially-oriented group six thought it was equally important for both and 17 thought it was more important for boys to achieve.

(S-0) 18: It is just as important for a girl as a boy. Her home will be a better home if she is achieving.

(S-0) 5: More important for boys. They have to provide for women besides themselves.

(S-0) 2: It is more important for boys. They practically run the world, they are the bosses. Women should not show them up.

From this interview material it was apparent that girls were becoming aware of themselves as individuals but they still felt the need to conform to the status quo and showed this by deferring to boys on this matter.

There were no significant differences noted in the high school group for means on the need for autonomy.

Conformity pressures are very high at this age, as previously stated, and this was very apparent in wearing apparel. In contrast to the college sample there was very little individuality shown in dress in the high school by either the intellectually- or socially-oriented girls. It was not possible to detect any major difference between the groups in this area. However, the greater variance with respect to autonomy among the intellectually-oriented may indicate the beginnings of conflict in this area which perhaps manifests itself in over-reaction by the intellectually-oriented when expressed on a paper and pencil test.

There was no evidence that the socially-oriented girl differed significantly with respect to the need for heterosexuality or dogmatism. Concerning heterosexuality, all the girls indicated in the interviews that they were interested in the opposite sex. Only one question was asked in this area because of the limitations imposed by the school board. "Would you rather date the star athlete or the most brilliant boy in the class?" (Question 11a in the high school interview). Interestingly enough, the majority of both groups expressed the opinion that the star athlete would very likely be among the most brilliant boys in the class!

Nor were there significant differences for the sociological variables. Comments on the parental relationship by the high school girls paralleled the remarks cited by the college girls and will not be elaborated upon further here.

In the area of aspiration the predicted differences between the intellectually-oriented and the socially-oriented were not found. Perhaps this reflects the fact that future goals are in an early state of formulation at this age and definite commitments concerning aspirations are open to constant change. Several questions on the high school interview were related to aspirations and goals. Of the intellectually-oriented 24 out of 25 aspired to go to college. Six of this number were not certain of their plans since they would be dependent on scholarships or other financial aid. Nineteen were planning on combination marriage and career while six preferred the housewife role. Twenty-one of the 23 socially-oriented high school girls aspired to go to college. All 23 expressed the desire for marriage; five said they would marry immediately and give up college if the opportunity presented itself.

Two additional questions concerning future goals and careers were suggestive of future differences, however. "What do you want to study in colleges?" (Question 5 on the interview) and "If you were a boy, which field of study would you choose?" (Question 6). Of the intellectually-oriented 17 stated their choice would differ if they were boys, but only five of the socially-oriented responded in this way.

(I-0) 3: I have always wanted to be an archeologist but this is not a good field for girls, jobs are hard to find and girls are not generally welcomed on expeditions. So I will look for some other branch of science--maybe psychology, that seems to be a field where women are more accepted.

- (I-0) 7: I would love to enter the field of medicine, ever since I was a little girl I have thought of it, in fact it was one of my favorite play activities when I was small. But I know I haven't much chance as a girl of even getting admitted to a medical school so I am going into public health work with the idea of using my profession in a foreign country--maybe India or some place where they really need help.
- (I-0) 20: I am going into nursing. I always wanted to be a lawyer but that is a man's field and I probably would end up being a clerk in some man's law office. Women are considered too emotional and irrational to be good lawyers. I don't believe that. I think in many cases women can handle affairs better than men.
- (S-0) 19: I have always loved math and have done well in it but I am worried that the competition would be too much since math is a man's field. After all boys should be the leaders so I think I will look into the field of education. However, I do think it would be a good thing for boys to have some competition in what they consider their own private professions. Capable girls could do that but I haven't the nerve right now to try it.
- (S-0) 2: If I were a boy I think I would chose either law or engineering but it does not sound at all glamorous to me. They are fields for boys. I have always wanted to be a kindergarten teacher and that is what I expect to do until I get married.
- (S-0) 12: I am going into a homemaking course. If I were a boy I probably would be better in science and I might choose that field but as it is I am satisfied with what I am doing right now.

But signs that tradition was beginning to be resisted were noted among the intellectually-oriented in their responses to the question, "Do you feel certain fields are more appropriate for men than for women?" (Question 19 on the high school interview). While the majority responded in the affirmative,



at least some felt that the situation was discriminatory.

- (I-0) 21: I feel all careers should be open to men and women alike. After all we have the same education and preparation and there is less difference between the sexes all the time.
- (I-0) 24: I believe all careers are just as appropriate for women as men. I think a woman's viewpoint is often invaluable--of course it depends on the woman, some women do not want to do anything but keep house so it doesn't matter to them. But it does matter to me.
- (I-0) 18: I do not feel certain careers are more appropriate for men than for women. Women are being accepted and are needed in most careers right now. By the time I take up my career I think women will be welcomed even in the science and medical fields just as they are in other countries like Russia.

But of the socially-oriented girls all but one indicated that they thought certain fields were more appropriate for men than for women.

- (S-0) 9: I do not like to see a woman in politics or in the position as a business executive directing men.
- (S-0) 23: Many of the out-of-door fields are not appropriate for women.

There was no indication among either the socially-oriented or the intellectually-oriented girls that they were dissatisfied with their sex role. Question 25 on the high school interview asked, "Are you glad you are a girl?" It was interesting that even though some of the intellectually-oriented girls felt boys had advantages not afforded to girls they expressed no desire for any other role than the feminine role.

- (I-0) 25: I wouldn't want to be a boy even though I do think they have the advantage in business and politics. Also, they have many more choices as to what they can do for a living. I think women could add a great deal if given the chance--in politics, for instance.
- (I-0) 11: Although I like boys I wouldn't want to be one. But there is one thing I definitely dislike about being a girl and that is that I like to direct people. Many times I can't do this-- I have to sit and listen and take orders from people I think are inferior, perhaps they aren't inferior as people but their ideas are inferior.
- (I-0) 8: I like being a girl. I am planning on a medical career. I realize I will have to work very hard to compete with boys but I feel if I want to do it badly enough I will make a success of it.

The following replies were typical of the socially-oriented girl:

- (S-0) 14: I am glad I am a girl. I have never wanted to be a boy and I simply could not stand being in the army and having to fight in a war.
- (S-0) 22: I love everything feminine and I think being a mother will be the most wonderful experience a person could ever have.
- (S-0) 22: I never have wanted to be a boy. I like feminine things, I have a wonderful home. My parents want me to have a college education and some travel before I get married. So really, I am well satisfied with my life.

In answer to the question (Number 26), "If you had one wish to be granted as to what you would like to do in the future, what would you wish?" The majority of girls from both groups resembled the socially oriented college girl. Most of their wishes were personal such as "a desire to be happy," "to have a beautiful home," "to have money to help

my parents," "to travel." However, three or four of the intellectually-oriented girls wished for accomplishment, such as "to be prominent in the world," "to do something for others," "to be the first woman president," and "to contribute something helpful to the underprivileged countries."

In summary, the differences were not as pronounced between the intellectually-oriented superior high school girl and the socially-oriented superior high school girl as those differences found within the college sample. However, an awareness of the feminine conflict was beginning to appear, especially as reflected in the interview material.



## CHAPTER VII

### CONCLUSIONS

It was the goal of this study to identify college and high school girls of superior ability and to search for differences and similarities between those who were socially and intellectually oriented.

Before summarizing the data it should be recognized that the decision to use an IQ equivalent of 130 as a criterion for selecting the intellectually-oriented girls may confound the interpretation of the data. The differences found may be attributed either to this variation in IQ or to the differences in social leadership, or to some combination of these variables. It should be noted, however, that the two groups at both the high school and college levels did not differ significantly with respect to grade point averages. In any replication of this study, however, it would be highly desirable to use a single IQ criterion in identifying the socially and intellectually oriented girls. The reader is cautioned to keep in mind this limitation in evaluating the interpretation of the data which follows.

There were more pronounced psychological differences noted both statistically and intuitively, within the college sample, and more similarities among the high school sample, which is as one might expect since, conformity pressures are greater during the period of early adolescence than during the college years. The need and desire to conform had almost

the force of a religion with the high school student. But evidently, with entry into college, that need and desire becomes less intense and expressions of individuality make their appearance for the intellectually-oriented. Evidence of this phenomenon has also been reported in the Gesell<sup>1</sup> developmental scales, and also in the Vassar<sup>2</sup> studies comparing freshmen women with senior women.

The need for achievement and for autonomy were the only measured characteristics that were found to be significantly higher for the intellectually-oriented superior girls at both the high school and college age. Likewise, the characteristics of deference was found to be significantly higher at both ages for the socially-oriented superior girl.

There were similar needs of heterosexual relationships for girls at both ages, and for girls in both orientation groups. But, at the college level, the specific definition of how this need was to be met, differed. The socially-oriented tended to be interested in such relationships as an end; the intellectually-oriented viewed these relationships as means to other ends.

The occupational aspirations of the high school girls in both groups implied that the girls had internalized a view which holds women to be subordinate to men. In their expression of their goals they were held to tradition as to their views concerning woman's place in the world of today. Many

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<sup>1</sup>Arnold Gesell, Frances L. Ilg, and Louise Bates Ames, Youth and Years From Ten to Sixteen (New York: Harper & Bros., 1956), p. 200.

<sup>2</sup>Nevitt Sanford, "Personality Development Through The Years," J. Soc. Issues, 12 (1958).

imposed limitations on their career choices. There was an indication that many girls in the high school sample were not aware of their own capabilities and potentialities. This was especially borne out by the self-rating data. At the college level, however, such uniformity in occupational aspirations was not as prevalent and the girls in both college groups more often recognized their own superiority and exhibited a greater range in their occupational choices.

For both high school and college girls there were no sociological differences that were significantly different with the exception of ordinal status. This difference between the intellectually and socially-oriented girls was apparent only in the college sample where there was a significantly larger number of first-born girls found within the intellectually-oriented group.

At both the high school and college levels, the study has shown that the environmental situation has not been a prime cause for the low aspiration level recorded for many superior girls. The need for financial aid was rarely mentioned. Parental aspirations for the subjects were generally high. The majority of girls indicated their parents encouraged them to make their own career choices. In other words, for all girls, the parents were permissive as to career choice.

The majority of the entire population came from homes of high middle class status or high socio-economic status.

The majority of all parents had attained high educational levels, although the fathers of the college girls had the highest level of formal education.

The expressed wishes of the high school and college girls differed considerably. The wishes of the majority of high school girls centered around the individual's own life and problems. The wishes of the college sample seemed more realistic, less idealistic, and less self-centered.

There were more differences, both psychological and sociological, between the intellectually and socially-oriented college girls than between the high school groups. The intellectually-oriented superior college girl obtained higher scores that were significantly different on the personality characteristics of achievement and autonomy than those of the socially-oriented superior college girl. There were differences noted, also, for the characteristic of deference which favored the socially-oriented girl.

There was a difference noted, also in role choice between the two groups. The intellectually-oriented superior college girl chose marriage plus career. She showed a desire to remain feminine and at the same time achieve a high level education. As a group the intellectually-oriented girls seemed to illustrate a point of view expressed by Sanford:

The attainment of femininity by itself in the culture of today does not seem to be a very notable achievement . . . but for a woman to be highly feminine and at the same time highly educated and highly developed,





however, . . . this is more difficult as well as it is a more worthy undertaking.<sup>1</sup>

The successful combination of marriage and career was not only envisioned as being desirable but also as possible. The intellectually-oriented girls were confident that the twin accomplishments of marriage and career would enrich their lives, offering them the greatest possible fulfillment of which they were capable. As a group, the intellectually-oriented college girl indicated the will to break the ties of tradition in achieving this goal. On the other hand, the socially-oriented group seemed content with the traditional feminine role. In the socially-oriented group, there seemed to be a lack of recognition that woman could be feminine and follow a profession at the same time.

The immediate aspirations of the socially-oriented superior college girl differed from the immediate aspirations of the intellectually-oriented superior college girl. The former desired marriage immediately following college graduation or during college. The intellectually-oriented, on the other hand, more often wished to defer marriage to achieve long range goals. No intellectually-oriented girl desired marriage alone. Thus, the difference in aspirations was really a difference in the time of marriage rather than the

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<sup>1</sup>Nevitt Sanford, "Changing Sex Roles, Socialization and Education," Human Dev. Bull., Ninth Annual Symposium (1958), p. 67.

choice for or against marriage.

Some of the socially-oriented girls expressed a desire to work, after their children had grown. But the majority seemed unaware of the changes in our own culture that would afford them the opportunity of many years of leisure time. They seemed unaware that preparation for the use of those years was necessary; that their skills and knowledge would become inadequate through disuse or outmoded by the fast pace of progress in nearly all fields; and that some way must be found to keep abreast intellectually during the period when they would be raising their families.

There were few differences noted for the sociological variables measured in the college sample. The majority of parents of the college girls in both groups had received a high degree of formal education. The outstanding sociological difference noted was in the ordinal status of the girls in the college groups.

Three general conclusions stand out rather plainly after an analysis of the data; one, that the differences between the socially-oriented superior girl and the intellectually-oriented superior girl are very much smaller at the high school age than at the college age; two, that the situational environment is not a serious factor in distinguishing the socially-oriented superior girl from the intellectually-oriented superior girl of either age; and three, that the immediate goals of the socially-oriented superior girl, both

of the high school age and college age, reflect conformity to the prevailing culture more than do the goals of the intellectually-oriented superior girl of high school or college age.

The study has reinforced the opinions of those educators who have said the greatest loss of talent in the United States is that of the superior girl, and that one of the top priorities for improvement in our educational system must be the counseling and guidance of able and superior girls.<sup>1</sup> The study has shown a great need for guidance at an early age; early enough so that by the time high school is reached, a more realistic appraisal of their own capabilities can be made by talented girls.

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<sup>1</sup>James B. Conant, The American High School Today (New York: McGraw-Hill Book Co., Inc., 1959), p. 40.

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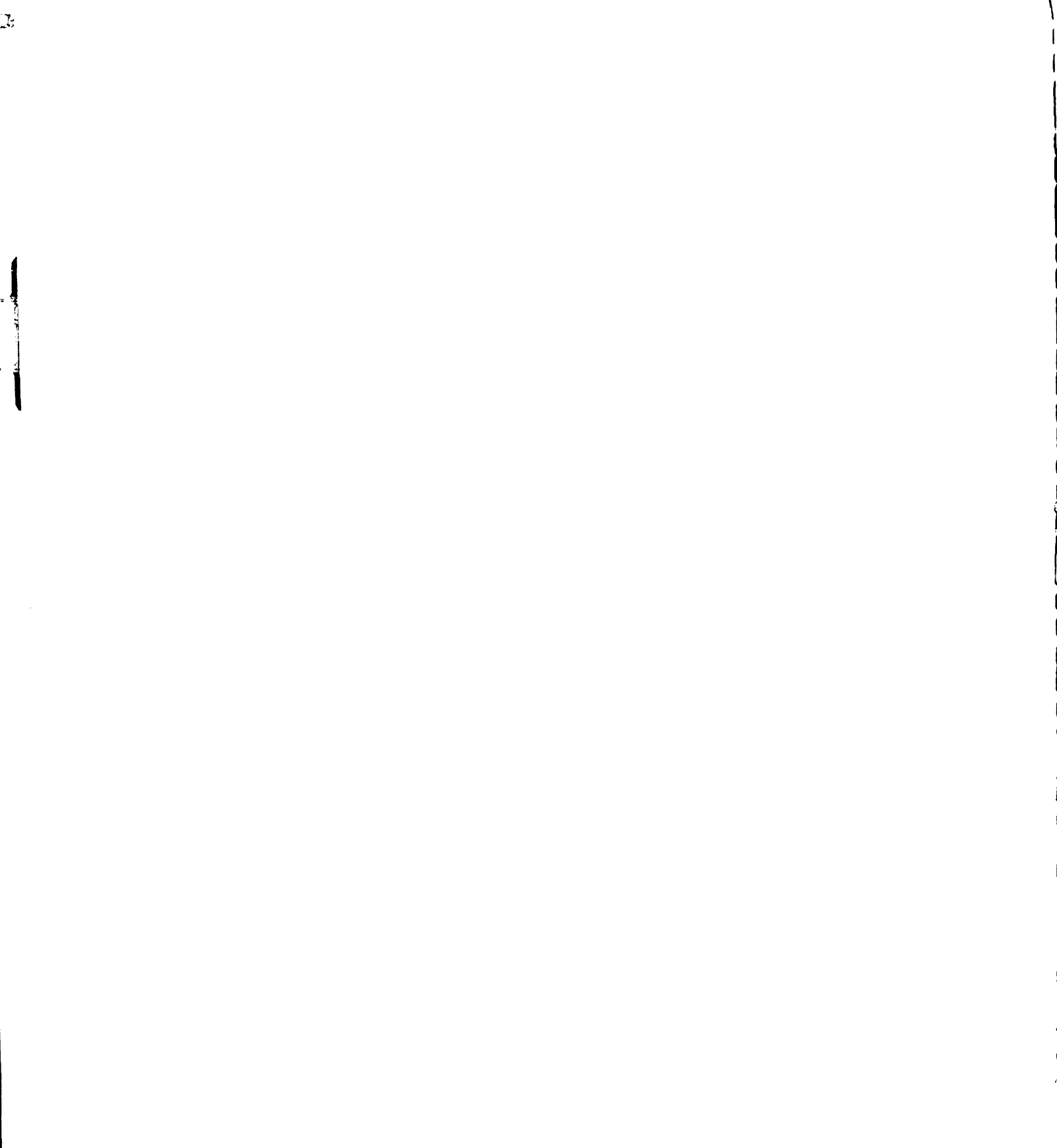
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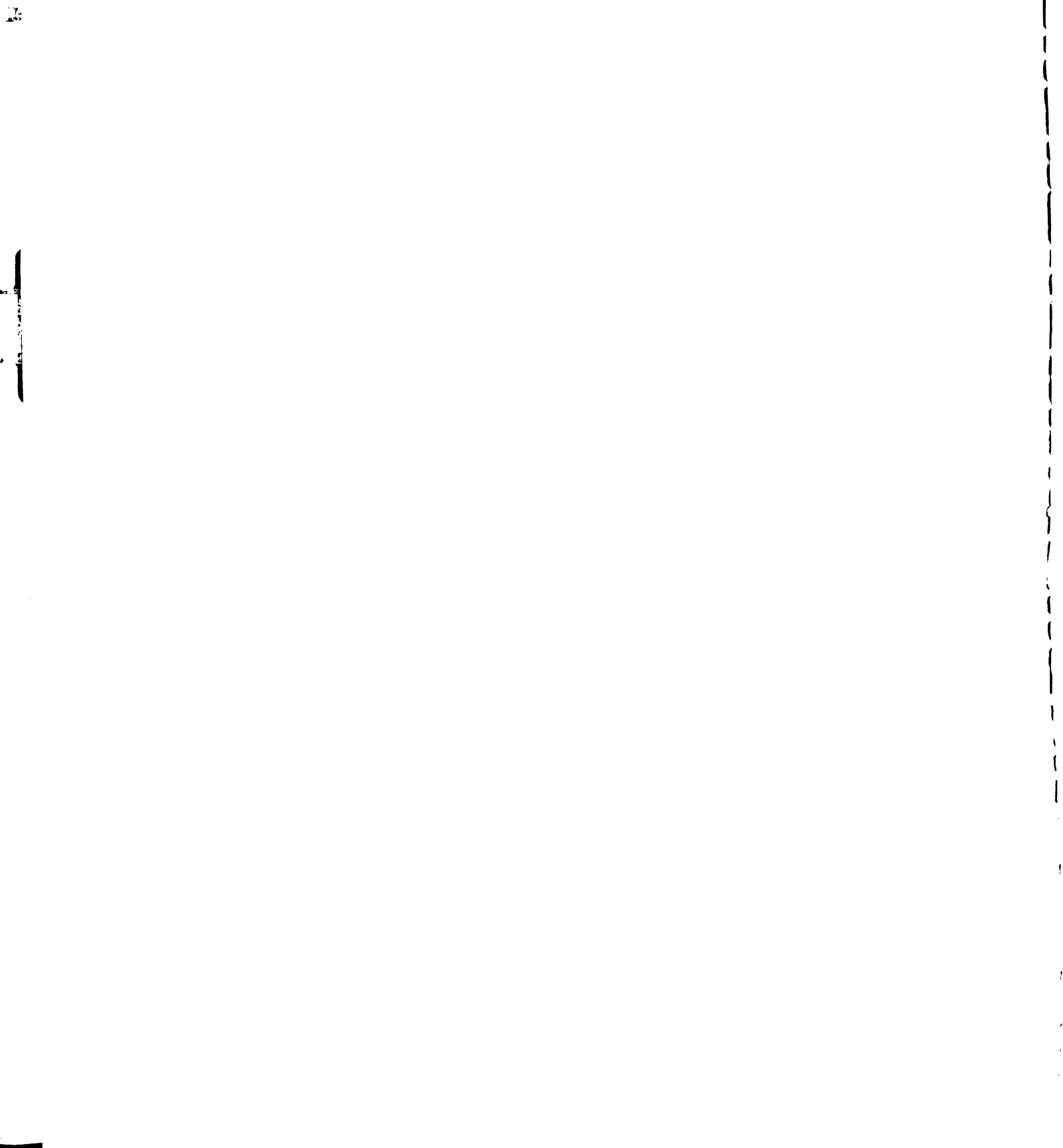


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**APPENDICES**

H

INTEREST SURVEY

1. Name \_\_\_\_\_ Address \_\_\_\_\_

2. Birthdate \_\_\_\_\_ Present Age \_\_\_\_\_ Home Phone No. \_\_\_\_\_

3. Sex: M \_\_\_ F \_\_\_ School \_\_\_\_\_ Grade \_\_\_\_\_

4. Father: Name \_\_\_\_\_ Living? \_\_\_\_\_ Where born? \_\_\_\_\_

Last grade attended: 7 8 9 10 11 12 Col. 1 2 3 4 Grad. Deg.

Occupation \_\_\_\_\_ How employed at present \_\_\_\_\_

5. Mother: Name \_\_\_\_\_ Living? \_\_\_\_\_ Where born? \_\_\_\_\_

Last grade attd: 7 8 9 10 11 12 Col. 1 2 3 4 Grad. deg.

Occupation \_\_\_\_\_ How employed at present \_\_\_\_\_

6. Check extra-curricular activities in which you participate.

Sports \_\_\_\_\_

Dramatics \_\_\_\_\_

Debating \_\_\_\_\_

Music \_\_\_\_\_

Art \_\_\_\_\_

Other (specify) \_\_\_\_\_

7. List any offices you have held and the organization.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. List your hobbies in order of their importance to you.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. List recreational interests in order of preference.

\_\_\_\_\_

\_\_\_\_\_

10. Would you be interested to meet an adult with a similar interest? (check one)

\_\_\_\_\_ very interested

\_\_\_\_\_ Interested

\_\_\_\_\_ Not interested

If so, which interest would you choose to learn more about?

11. School studies liked MOST - (Check one) Easy Hard

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

liked LEAST - Easy Hard (Check one)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. Do you find your studies in general easy \_\_\_\_\_ or hard \_\_\_\_\_?  
(check one) Comment on this: \_\_\_\_\_

13. In comparison with your classmates do you consider your  
ability to be (check one) \_\_\_\_\_ belcw average  
\_\_\_\_\_ about average  
\_\_\_\_\_ above average

14. Is school work interesting to you? Yes \_\_\_\_\_ No \_\_\_\_\_  
Why?

15. What do you want most to get out of school?

16. What really interests you the most? (number 1 to 6 in  
order of interest)

- \_\_\_\_\_ Hobbies
- \_\_\_\_\_ Extracurricular activities
- \_\_\_\_\_ Recreation
- \_\_\_\_\_ Friends
- \_\_\_\_\_ School subjects
- \_\_\_\_\_ An outside job

Discuss your activity in your first choice:

17. Have you had any vocational counselling? Yes \_\_\_\_\_ No \_\_\_\_\_  
If yes, where? \_\_\_\_\_

What was its nature (discussion, tests, etc.) \_\_\_\_\_  
\_\_\_\_\_

18. Name the jobs in which you have been employed (clerical,  
factory, etc.) \_\_\_\_\_  
(Circle the job which you have enjoyed most)

19. If you have a job at present, what is it? \_\_\_\_\_  
\_\_\_\_\_ No. of hours per week \_\_\_\_\_

20. List, in order of preference, four occupations in which  
you would like to earn your living. Do not consider your  
abilities or opportunities for employment, but only  
whether you would enjoy the work.

| Occupation | Reason for Interest |
|------------|---------------------|
| _____      | _____               |
| _____      | _____               |
| _____      | _____               |

21. What is your present vocational choice? \_\_\_\_\_  
Date selected \_\_\_\_\_

22. Reasons for your present choice? (check one or more)

Family wish \_\_\_\_\_ Family tradition \_\_\_\_\_  
Friend's advice \_\_\_\_\_ Have some experience \_\_\_\_\_  
Special aptitude for it \_\_\_\_\_ Like working conditions \_\_\_\_\_  
Financially profitable \_\_\_\_\_ Have special opportunity \_\_\_\_\_  
Intellectually stimulating \_\_\_\_\_ Other reasons \_\_\_\_\_

Comment on your reasons: \_\_\_\_\_

23. What do your parents want you to do? \_\_\_\_\_

24. Are you considering any school or type of training other than high school to attain your vocational choice?

Yes \_\_\_\_\_ No \_\_\_\_\_

How many years of training would this be?

Years of college \_\_\_\_\_ Years of special school \_\_\_\_\_

Discuss your plans: \_\_\_\_\_

25. How do you plan to finance any further education? \_\_\_\_\_

26. List below any questions you may have regarding your future educational plans: \_\_\_\_\_

27. If you had the opportunity to meet with someone in the field of your choice would you be

(check one) \_\_\_\_\_ Very interested  
\_\_\_\_\_ Interested  
\_\_\_\_\_ Not interested

Name the field \_\_\_\_\_

28. Would you want (check those you would like) \_\_\_\_\_ a personal interview  
\_\_\_\_\_ a discussion with others also interested  
\_\_\_\_\_ seeing the job in action  
\_\_\_\_\_ working in connection with the job

(Now double check those you want very much)

29. If it were possible for you to work NOW in this field, would you prefer (check one)

\_\_\_\_\_ work after school  
\_\_\_\_\_ work on weekends  
\_\_\_\_\_ work on a cooperative basis with your school program  
\_\_\_\_\_ work during a vacation period

(Now double check those you want very much)

30. Discuss anything you do very well or any skills or talents you have.
31. Discuss any of the types of activities and work that are difficult for you.
32. What in your life so far has given you the most satisfaction?
33. What do you consider to be your most serious problem?
34. What do you worry about most?
35. Do you consider yourself to be (answer all three)

well liked by \_\_\_\_\_  
Misunderstood by \_\_\_\_\_  
Not liked by \_\_\_\_\_

36. Do you consider your health to be (check one)  
\_\_\_\_\_ Excellent                      \_\_\_\_\_ Average                      \_\_\_\_\_ Poor

37. Do you have any health handicaps: Yes \_\_\_\_\_ No \_\_\_\_\_  
Discuss

38. If you could have your wish for what you desire most, what would it be?
39. What sort of a person would you like to be ten years from now?

40. My three wishes: \_\_\_\_\_  
\_\_\_\_\_

41. What I like best in school: \_\_\_\_\_  
\_\_\_\_\_

42. What I like best outside school (that is, away from  
school, when I'm not at school): \_\_\_\_\_  
\_\_\_\_\_

43. What I like least at school: \_\_\_\_\_  
\_\_\_\_\_

44. What I like least outside school (that is, away from  
school, when I'm not at school): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

45. What I like most about myself: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

46. What I like least about myself: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

47. The most interesting thing I have done at school during  
the last week or so: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THE A-E TEST

On this page write a personal history of a completely fictitious person whom you would like to be. You are to make up the name, age, sex, race, and all personal history items of the character and to tell some of the most important experiences he or she has had. Do not plan to spend more than 15 minutes on this. Use the reverse side of the paper to complete your story if you need to do so. Remember this is not a story of your real self.



ADDITIONAL ITEMS FOR INTEREST SURVEY

1. Name \_\_\_\_\_ Age \_\_\_\_\_  
School \_\_\_\_\_ Grade \_\_\_\_\_

2. Check your religious preference:

Protestant (give denomination) \_\_\_\_\_

Cathloic \_\_\_\_\_

Jewish \_\_\_\_\_

Other \_\_\_\_\_

None \_\_\_\_\_

3. List the following about your brothers and sisters:

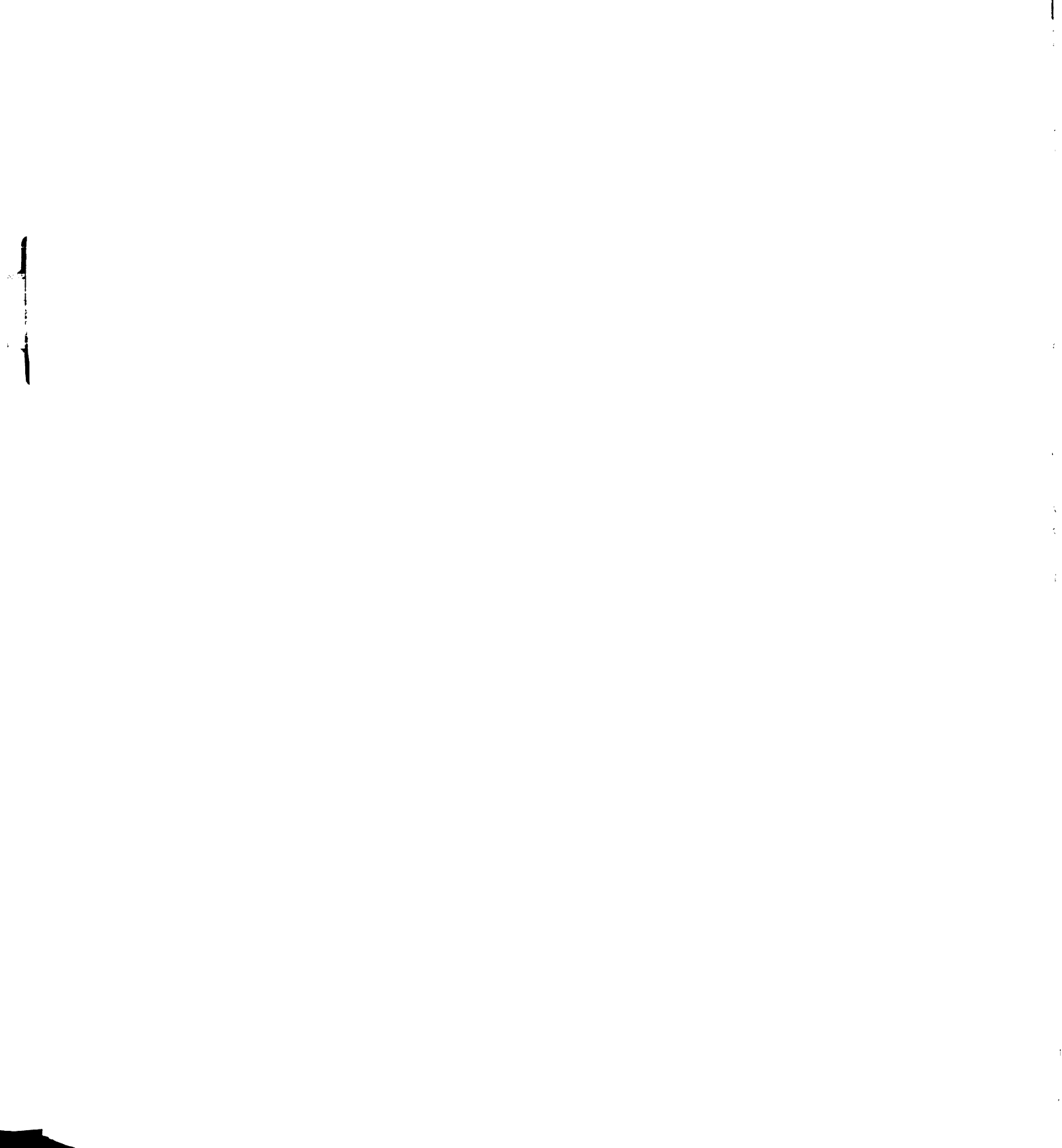
| Name  | M or F | Age | Education  | Married |    | Occupation |
|-------|--------|-----|------------|---------|----|------------|
|       |        |     | Last Grade | Yes     | No |            |
| _____ |        |     |            |         |    |            |
| _____ |        |     |            |         |    |            |
| _____ |        |     |            |         |    |            |
| _____ |        |     |            |         |    |            |
| _____ |        |     |            |         |    |            |

4. From what foreign country or countries did your family come from originally?

|       |       |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Survey of College Women

1. Name \_\_\_\_\_ Campus Address \_\_\_\_\_ Phone \_\_\_\_\_
2. Home address \_\_\_\_\_ Phone \_\_\_\_\_
3. College major \_\_\_\_\_ Class \_\_\_\_\_
4. Birthday \_\_\_\_\_ Present age \_\_\_\_\_ Place of birth \_\_\_\_\_
5. Father: Name \_\_\_\_\_ Living? \_\_\_\_\_ Place of birth \_\_\_\_\_  
Last grade attended: \_\_\_\_\_ Graduate degree? \_\_\_\_\_
6. Mother: Name \_\_\_\_\_ Living? \_\_\_\_\_ Place of birth \_\_\_\_\_  
Last grade attended: \_\_\_\_\_ Graduate degree? \_\_\_\_\_
7. Occupation of father \_\_\_\_\_
8. Occupation of mother \_\_\_\_\_
9. Number of children in family \_\_\_\_\_  
Older boys \_\_\_\_\_ Older girls \_\_\_\_\_ Younger boys \_\_\_\_\_ Younger girls \_\_\_\_\_



The first set of questions has to do with life on the college campus.

1. Are campus positions and offices worth holding?

- a. Yes \_\_\_\_\_
- b. Perhaps \_\_\_\_\_
- c. No \_\_\_\_\_

Explain why

2. Which ones are worth holding?

3. How are campus positions filled?

- a. High level of popularity \_\_\_\_\_
- b. High level of ability \_\_\_\_\_
- c. Other methods (Please specify) \_\_\_\_\_

4. How do you feel about your academic progress at the present time?

- a. Pleased \_\_\_\_\_
- b. Satisfied \_\_\_\_\_
- c. Dissatisfied \_\_\_\_\_

Explain why

5. Are your classes of interest to you? Comment if you wish.

- a. Yes \_\_\_\_\_
- b. Somewhat \_\_\_\_\_
- c. No \_\_\_\_\_

6. Are there other classes you would rather be taking? If so, which ones?

a. Yes \_\_\_\_\_ Which? \_\_\_\_\_

b. No \_\_\_\_\_

7. If yes, why are you not taking these classes now? Explain briefly.

The next set of questions involves your reactions to intellectual achievement in college and in the future.

8. How do YOU feel about intellectual achievement in general?

a. It is the most important aspect of college \_\_\_\_\_

b. Important, but no more so than other things \_\_\_\_\_

c. Other things are more important \_\_\_\_\_

9. How do you feel about other girls who are achieving intellectually?

a. Makes them more attractive \_\_\_\_\_

b. No effect \_\_\_\_\_

c. Makes them less attractive \_\_\_\_\_

10. How do you feel about boys who are achieving intellectually?

a. Makes them more attractive \_\_\_\_\_

b. No effect \_\_\_\_\_

c. Makes them less attractive \_\_\_\_\_

11. Is it more important for girls or boys to achieve intellectually?

12. How do you feel about your own intellectual achievement?

a. Make you more attractive \_\_\_\_\_

b. No effect \_\_\_\_\_

c. Makes you less attractive \_\_\_\_\_

13. What effect does intellectual achievement have on a girl's social life?
- a. Increases it \_\_\_\_\_
  - b. No effect \_\_\_\_\_
  - c. Decreases it \_\_\_\_\_
14. How do you feel intellectual achievement will affect your chances of marriage?
- a. Act as an advantage \_\_\_\_\_
  - b. No effect \_\_\_\_\_
  - c. Act as a disadvantage \_\_\_\_\_
15. Does a woman's intellectual achievement have an effect on marriage?
- a. Helps to maintain a good marriage \_\_\_\_\_
  - b. No effect \_\_\_\_\_
  - c. Tends to produce marriage problems \_\_\_\_\_

Explain if you wish.

The following group of questions is designed to see how you feel about your plans after college and about careers in general.

16. What are your plans after college? Check any or all.
- a. Graduate work \_\_\_\_\_
  - b. Job or career \_\_\_\_\_
  - c. Marriage \_\_\_\_\_
  - d. Other plans \_\_\_\_\_
17. Are all careers open to women?
- a. Yes \_\_\_\_\_
  - b. Some (Specify, please) \_\_\_\_\_
  - c. No " " \_\_\_\_\_

18. Do YOU feel some careers should be closed to women?

a. Yes (Specify, please) \_\_\_\_\_

b. No \_\_\_\_\_

If yes, explain briefly.

19. What career areas are you most interested in?

a. Science \_\_\_\_\_

b. Fine Arts (Music, art, literature, etc.) \_\_\_\_\_

c. Social sciences (Psychology, economics, etc.) \_\_\_\_\_

d. Others \_\_\_\_\_

20. How would you rate a woman's chance for success in these fields?

A. Science  
1) Good \_\_\_\_\_  
2) Fair \_\_\_\_\_  
3) Poor \_\_\_\_\_

B. Fine Arts  
1) Good \_\_\_\_\_  
2) Fair \_\_\_\_\_  
3) Poor \_\_\_\_\_

C. Social Sciences  
1) Good \_\_\_\_\_  
2) Fair \_\_\_\_\_  
3) Poor \_\_\_\_\_

D. Others (Please specify)  
1) Good \_\_\_\_\_  
2) Fair \_\_\_\_\_  
3) Poor \_\_\_\_\_

If there is a discrepancy between number 19 and 20, please discuss how you have been influenced and motivated to continue in the field of your choice, although you feel a woman's chance for success in the field is poor.

21. What job are you sure you can get?
  - a. When your schooling is finished -
  - b. When you are about 35 years old -
  
22. What job would you prefer if you had your choice and no holds barred?
  - a. When your schooling is finished -
  - b. When you are about 35 years old -

Since the arrival of Sputnik we have been reading and thinking about the most able students in our country and their development in many fields. Let us consider the field of science.

23. What does science mean to you?
  
24. What is your feeling about science? Are you
  - a. Interested \_\_\_\_\_
  - b. Mildly interested \_\_\_\_\_
  - c. Not interested \_\_\_\_\_
  
25. Were you ever greatly interested in science: as a career possibility or a hobby?
  - a. Yes \_\_\_\_\_
  - b. Somewhat \_\_\_\_\_
  - c. No \_\_\_\_\_

If your answer is no, skip the next question.

26. When did you lose your interest in science?
  - a. Junior high school \_\_\_\_\_
  - b. High school \_\_\_\_\_
  - c. College \_\_\_\_\_

The last three questions are general in scope.

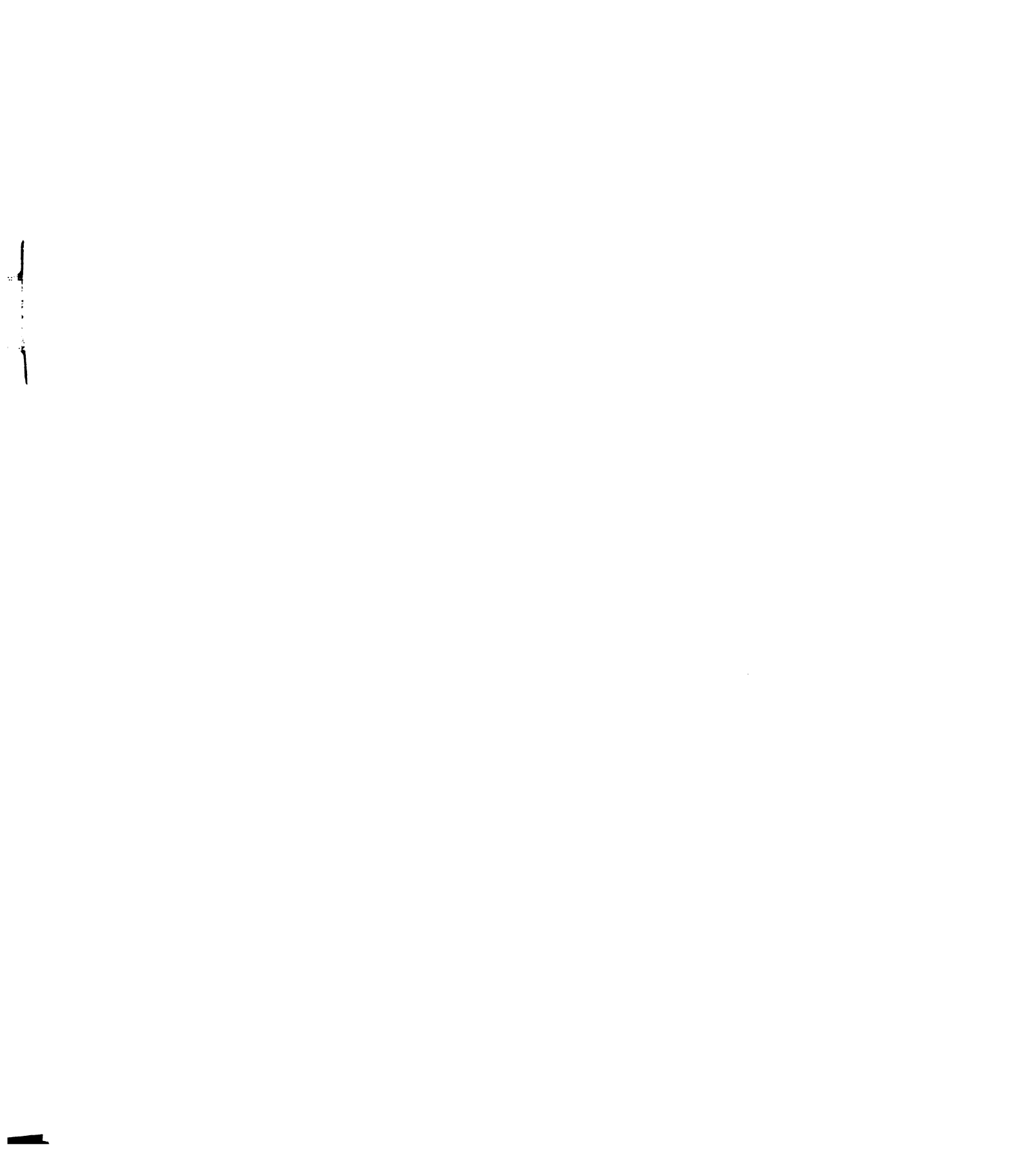
27. How do you feel about being a girl in the world of today?
28. What are some of the serious problems that you face?
29. What are some of the things that give you satisfaction and pleasure?



SURVEY OF HIGH SCHOOL GIRLS, 1960

NAME \_\_\_\_\_

SCHOOL \_\_\_\_\_



I. EDUCATION

1. What is your favorite subject in school now? Second?
  - A. Social Studies \_\_\_\_\_
  - B. English \_\_\_\_\_
  - C. Math. \_\_\_\_\_
  - D. Science \_\_\_\_\_
  - E. Other (specify) \_\_\_\_\_
  
2. In what subject do you do your best work? (circle)  
A. B. C. D. E.
  
3. What are your plans for after high school?
  - A. Work \_\_\_\_\_
  - B. College \_\_\_\_\_
  - C. Other \_\_\_\_\_
  
4. If you plan to go to college, do you expect to earn a degree? (Realistic)
  - A. A.B. \_\_\_\_\_ B.D. \_\_\_\_\_
  - B. M.A. \_\_\_\_\_ M.S. \_\_\_\_\_
  - C. Ph.D. \_\_\_\_\_ Other \_\_\_\_\_
  
5. Which degree would you like to earn? (Ideally)  
A. \_\_\_\_\_ B. \_\_\_\_\_ C. \_\_\_\_\_ Other \_\_\_\_\_
  
5. What would you like to study in college? (Number in order of preference)

|                       |                       |
|-----------------------|-----------------------|
| Math. _____           | Social Sciences _____ |
| Science _____         | English _____         |
| Medicine _____        | Education _____       |
| Law _____             | Nursing _____         |
| Engineering _____     | Social Work _____     |
| Other (specify) _____ | Other (specify) _____ |
  
6. If you were a boy, which field of study would you choose?  
If there is a difference between 5 and 6, please explain.
  
7. What is your feeling about science?
  - a. Interested \_\_\_\_\_
  - b. Mildly interested \_\_\_\_\_
  - c. Not interested \_\_\_\_\_
  
8. Were you ever interested in science? (circle) Yes No
  
9. When did you lose your interest (become interested) in science?
  - A. Elementary school \_\_\_\_\_
  - B. Junior high school \_\_\_\_\_
  - c. At home \_\_\_\_\_
  - D. Other (specify) \_\_\_\_\_

## II. INTELLECTUAL ACHIEVEMENT

10. How do you feel about girls who are achieving intellectually?  
A. Makes them more attractive \_\_\_\_\_  
B. Has no effect \_\_\_\_\_  
C. Makes them less attractive \_\_\_\_\_
11. How do you feel about boys who are achieving intellectually?  
A. Makes them more attractive \_\_\_\_\_  
B. Has no effect \_\_\_\_\_  
C. Makes them less attractive \_\_\_\_\_
12. Is intellectual achievement more important for girls than boys?

|      | GIRLS<br>WOMEN | (Circle) | BOYS<br>MEN |
|------|----------------|----------|-------------|
| Why? |                |          |             |

13. What are the reasons or motivations you have had for intellectual achievement if any?  
A. Parents  
    1. Mother \_\_\_\_\_  
    2. Father \_\_\_\_\_  
B. Teachers \_\_\_\_\_  
C. Club sponsors \_\_\_\_\_  
D. Self \_\_\_\_\_  
E. Other \_\_\_\_\_

14. What were your special interests in grade school? \_\_\_\_\_  
What are your special interests now? \_\_\_\_\_  
If there was a change in interests, can you explain why?

## III. MARRIAGE AND CAREER

15. Do you think you will want to be married someday? When?  
A. After high school \_\_\_\_\_  
B. During college \_\_\_\_\_  
C. After working a while (after college) \_\_\_\_\_  
E. Never \_\_\_\_\_
16. Which would you most like to be, a housewife or a career woman?  
Would you like to be both? \_\_\_\_\_
17. In what careers, if any, are you most interested? List in order of preference: First choice \_\_\_\_\_ Second choice \_\_\_\_\_  
Third choice \_\_\_\_\_

18. What do you think you will probably do after college or training? (What work are you sure you can get?)  
A. Immediately after college \_\_\_\_\_  
B. When you are about 35 \_\_\_\_\_  
If there is a difference between 18 and 17, please explain.

19. Do you feel there are certain fields more appropriate for men than for women?  
How would you rate a woman's chances for success in the following fields?

- |              |                     |
|--------------|---------------------|
| A. Science   | C. Social Sciences  |
| 1. Good      | 1. Good             |
| 2. Fair      | 2. Fair             |
| 3. Poor      | 3. Poor             |
| B. Fine Arts | D. Others (specify) |
| 1. Good      | _____               |
| 2. Fair      | _____               |
| 3. Poor      | _____               |

20. Do you feel this will make a difference in your plans for the future?  
A. Will you completely change your plans? \_\_\_\_\_  
B. Will you modify your plans? \_\_\_\_\_  
C. Will you have to work harder? \_\_\_\_\_  
E. This will make no difference in your plans \_\_\_\_\_

IV. PRESSURES AND INFLUENCES

21. Do most of your friends have the same or similar plans for the future?  
A. Same \_\_\_\_\_  
B. Similar \_\_\_\_\_  
C. Different \_\_\_\_\_

22. What do your parents think of your plans for the future?

- A. Mother
- |                          |                  |
|--------------------------|------------------|
| 1. Agrees _____          | Encourages _____ |
| 2. Disagrees _____       |                  |
| 3. Has other ideas _____ |                  |
| 4. Other _____           |                  |
- B. Father
- |                          |                  |
|--------------------------|------------------|
| 1. Agrees _____          | Encourages _____ |
| 2. Disagrees _____       |                  |
| 3. Has other ideas _____ |                  |
| 4. Other _____           |                  |

23. Can you think of anyone besides your parents who have encouraged or discouraged you in regard to your future plans?  
A. Teacher \_\_\_\_\_ B. Other (specify) \_\_\_\_\_

24. What group memberships or activities have inspired you along career or educational lines? Explain.

- A. \_\_\_\_\_
- B. \_\_\_\_\_
- C. \_\_\_\_\_

V.

25. Are you glad you're a girl? (What is good about, bad about it).

26. If you had one wish to be granted as to what you would like to do in the future, what would you wish? Why?

Warner, W. L., Meeker, Marcia, and Eells, K.  
Chicago: Sci. Res. Assoc., 1949      Social Class in America

I.S.C.  
INDEX OF STATUS CHARACTERISTICS

Directions: Assign the individual or the status parent appropriate values on the scale from "1" (high) to "7" (low) for each of the characteristics selected for the index to be used in the study.

A. AREA LIVED IN

1. Select residential area (or areas) of highest repute in the community.
2. Better suburban and apartment house area; homes with large grounds.
3. Preferred residential areas, adequate grounds; good apartment buildings.
4. Residential neighborhoods with no deterioration; reputed to be average.
5. Area beginning to deteriorate; business or industry entering into it.
6. Area considerably deteriorated but not a slum area; depreciated reputation.
7. Slum Area (or areas) of the community; neighborhood in bad repute.

B. HOUSE TYPE

1. Large houses in good condition; adequate grounds--1A, 2A, 1B, 2B.
2. LH in medium condition; MH in good condition; best apartments--3A, 3B, 1C, 2C.
3. MH in medium condition; large apts. in well-kept buildings--3C.
4. LH and MH in fair condition; apt. buildings in medium condition--1D, 2D, 3D.
5. SH in good condition; good apts. in remodelled houses --4A, 4B, 5A, 5B.
6. SH in medium condition or fair condition; apts. in fair condition--4C, 4D, 5C, 5D.
7. All houses and apts. in bad condition; store fronts et al. - 1E, 2E, 3E, 4E, 5E.

Note: Houses are rated according to size--(LH) 1 or 2, MH = 3, (SH) = 4 or 5 -- and condition (good) = A or B, (medium) = 2C, (fair) = D, (bad) = E. The twenty possible types are fitted into the seven ratings.

C. OCCUPATION

Classify the individual or status parent according to kind of occupation--professional, proprietor, business man, white-collar worker, manual worker, service and miscellaneous, landowners and farmers--and then rate the person concerned according to level, consulting the accompanying chart for guidance.

D. SOURCE OF INCOME

1. Savings and investments, inherited--50% or more of the income.
  2. Savings and investments, gained by the earner--not retirement pensions.
  3. Profits and fees--including higher executives who share in profits.
  4. Salary or commission--including retirement earned thereby. ("Check List")
  5. Wages, based upon hourly rates or piece-work. ("Time Card" personnel)
  6. Private aid or assistance--may be supplemented by part-time work.
  7. Public relief and non-respectable income, according to reputation.
- 

Alternate and Modifying Indices.

E. EDUCATION

1. Completed one or more years of graduate work at college or university.
2. Graduated from four-year college, university, or professional school.
3. Attended college for two or more years, or equivalent higher education.
4. Graduated from high school, or equivalent secondary education.
5. Attended high school, completed at least one year but did not graduate.
6. Third to eight grade (older persons), shifting to below eighth (young adults).
7. Below third grade (older persons), shifting to below eighth (young adult).

F. ETHNIC GROUPS--ETHNICITY AND ETHNIC SECTS--COLOR CASTS

1. Old American or Anglo-Saxon
2. Assimilated American
3. French Canadian or Irish Catholic
4. Northern European ethnic group or sect
5. Southern European or Jewish
6. Eastern European or Near East
7. Color Casts- Negro, Oriental



OCCUPATIONAL RATINGS

| <u>Level</u> | <u>PROFESSIONALS</u>   | <u>PROPRIETORS</u>   | <u>BUSINESS MEN</u>  | <u>WHITE COLLAR WORKERS</u>   |
|--------------|--|--|--|---|
| 1.           | Lawyer, doctor<br>dentist, judge<br>minister, pro-<br>fessor, engineer,<br>ind'l. Chemist,<br>school suptd.,<br>coun. vet'n.             | Value \$75,000<br>plus depending<br>upon nature<br>of the community. | Top execu-<br>tives; pres-<br>ident, mgr,<br>etc. of cor-<br>porations,<br>public util-<br>ities, banks<br>et al.                  | Executive<br>secretary of<br>status or or-<br>ganizations;<br>C.P.A; editor<br>of reputed<br>newspaper<br>or magazine.  |
| 2.           | High school<br>teacher; trained<br>nurse (RN); Chir-<br>op'ist, chiro-<br>practors, archi-<br>tect, undertaker,<br>minister (no college) | Value \$20,000<br>to \$75,000  | Asst. of-<br>fice &<br>dept.<br>managers or<br>supervisors;<br>mgrs. of<br>medium sized<br>branches;<br>mfrs. agents               | Accountant;<br>insurance,<br>stock and<br>bond, real<br>estate sales-<br>men in re-<br>puted firms;<br>columnist or<br>editorial<br>writers, etc.   |
| 3.           | Grade school tea-<br>cher, optometrist,<br>undertaker's asst.<br>pharmacist (em-<br>ployee); city vet.                                   | Value \$5,000<br>to \$20,000<br>or similar<br>equity                 | Mgrs. of<br>small branch<br>stores & sim-<br>ilar business-<br>es; salesmen<br>(better mdse.<br>& known cus-<br>tomers)<br>buyers. | Bank & broker's<br>clerk; secty.,<br>sr. postal<br>clerk; R.R.<br>agent, spvsy,<br>staff of tele-<br>graph, R.R.<br>pub. utilities,<br>elected civic<br>and county of-<br>ficials, news-<br>paper reporter, etc |
| 4.           |  | Value or equity<br>\$2,000 to<br>\$5,000.                            |  | Stenographer, bookkeeper,<br>rural mail clerk; ticket<br>agent, auto salesman;<br>auto, clothing, book,<br>drygoods salesman.   |
| 5.           |  | Value or equity<br>\$500 to \$2,000<br>(Small propri-<br>etors)      |  | Drug store, hardware, gro-<br>cery, dime store clerks,<br>telephone & beauty opera-<br>tors, dressmaker,<br>practical nurse.  |

6. Value or equity  
less than \$500

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7.

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Level MANUAL WORKERS SERVICE & MISCELLANEOUS LANDOWNERS & FARMERS

1. Gentlemen farmers;  
large landowners  
& operators who  
patronize the local  
activities

---

2. Managers & land  
operators with  
active urban  
life. (20M)

---

3. Small contractor Commercial pilot. Owners and opera-  
who works at or tions of good  
superintends his jobs. mechanized farms  
(10M).

---

4. Construction, fac- Police captain et al; Small landowners  
tory, or mine fore- butcher, tailor, dry and the "for-  
man; carpenter, cleaner (small town); gotten farmer"  
electr'n, plumber, Pullman conductor who owns a "decent"  
welder, master mech; place.  
RR engineer & train-  
men; linotype operator,  
printer.

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5. Apprentice to skilled Policeman; barber, Tenants on good  
trades; time-keeper; gas station oprs.; farms; owners  
RR firemen & brakemen; butcher apprentice; of farms who just  
tel. & tel. linemen: bar tender, liquor manage to make a  
medium-skilled factory salesman; head living.  
workers; lead hands, waiter.  
section chiefs.

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6. Semi-skilled factory Taxi & truck driver; Sharecroppers;  
and production workers baggagemen; delivery established farm  
warehousemen; janitor man; gas-station at- laborers; sub-  
watchman; cook. tendant; waiter or sistence farmers  
waitress. who "work out."

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- |   |                                    |  |
|---|------------------------------------|--|
| 7. Laborer, miner,<br>mill hand; migrant<br>worker; section<br>hand; scrub woman,<br>laundress. | Domestic servant; bus<br>boy, etc. | Migrant workers,<br>unestablished<br>and does not<br>want to be. |
|---|------------------------------------|--|

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