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The Relation of Certain Factors in Farm Family Life to Personality Development in Adolescents

Leland H. Stott

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COLLEGE OF AGRICULTURE UNIVERSITY OF NEBRASKA
AGRICULTURAL EXPERIMENT STATION
RESEARCH BULLETIN 106

The Relation of Certain Factors in Farm Family Life to Personality Development in Adolescents

Leland H. Stott
Department of Home Economics

LINCOLN, NEBRASKA
OCTOBER, 1938

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SUMMARY

This study is concerned with the problem of determining the relation between certain home environmental influences and successful family life. "Success" in family life was defined in terms of the personality development of the children of the family. A battery of nine personality scales was administered to representative groups of adolescents of Nebraska and scores on these scales were interpreted as indices of success of the families in which the young people lived. A questionnaire furnished information on various factors in the home environment. Relationships between these home-life factors and the personality ratings were determined. Data were obtained on a city group, a small-town group, and a farm group. This report is concerned with the farm group, which consisted of 325 boys and 370 girls. Their ages ranged from 11 to 22 years. All were living in farm homes and were attending high school in neighboring small towns.

The relationships were determined in terms of correlation coefficients and critical ratios of differences between extreme groups. All the correlations between separate items in the home environment and personality scores were quite low, ranging from zero to .44. Less than one-third of the 300 coefficients were large enough for statistical significance. However, since personality traits are multiply determined, such low correlations are to be expected. Furthermore, certain of them may be regarded as of real significance. The findings were, in general, as follows:

1. When all the correlations were taken into consideration the home-life factors, grouped roughly according to their importance, were:

- (a) Those which involved to the greatest extent the activities, participation, and person-to-person interaction of the youngsters themselves. Some of the items of this group were: an attitude of welcome on the part of parents toward the child's friends in the home, having enjoyable times together in the home as a family group (playing games, music, stories, etc.), frequency of punishment, and affectionate and confidential relationships with parents.
- (b) Those items concerned with the activities and the health, physical and emotional, of the parents, such as the extent to which the mother participated in the work outside the home, the amount of nervousness, as judged by the youngster, in mother and father, and illness of parents.
- (c) The physical aspects of the home environment, *i.e.*, economic level and cultural level of the family.

2. Certain small but reliable sex differences in personality characteristics, and in the relation of these characteristics to the home environment, were revealed.

- (a) Girls, on the average, showed slight superiority over boys in brightness (Otis intelligence quotient), honesty scores, ethical judgment, personal responsibility in maintaining satisfactory relationships with others, and resourcefulness in the group situation. Boys, on the other hand, were superior to girls in independence of decision in meeting personal problems and difficulties, and in personal and social adjustment.
- (b) The results also suggest a slight tendency for boys to become less emotional and irrational in their thinking and better adjusted personally as they grow older. On the other hand, the tendency is for girls, more than boys, to gain better judgment in ethical matters, and to regard work with less favor or to appreciate leisure time activities more as they grow older.
- (c) In general, boys' scores on the personality scales were more closely associated with home-environmental factors than were the girls' scores, which suggests that boys are somewhat more deeply affected by home and family influences than are girls. Items of the home environment involving group activities and social life of the family are of most importance to boys, while those involving the more intimate personal relationships with the parents are of most importance to the girls. Apparently it may not safely be assumed that what is favorable to the best personal development of the boy is also favorable in the same degree to the personal development of the girl. Farm boys and girls are not always affected in the same way or to the same degree by specific factors in the home environment.

3. Certain differences in results appeared between the present study and previous studies. Nervousness of parents, as judged by their children, and illness of parents previously had been placed among the most important unfavorable factors in relation to the personal adjustment of children, and particularly of girls. In the present study "nervousness" of parents and illness of mother were negatively related to some extent to boys' adjustment, but neither "nervousness" nor illness of either parent showed an unfavorable relationship with girls' adjustment. In fact, there was a slight but reliable positive association between illness of father and the farm girl's adjustment.

For the most part, however, the present findings agree with those of previous studies. The subtle, more intangible factors of the social environment of the home are of much greater importance to personality development of children than the material aspects of the home.

The Relation of Certain Factors in Farm Family Life to Personality Development in Adolescents

LELAND H. STOTT¹

Although "the family" has been much written about, and studied from many points of view in the past, relatively little attention has been given by investigators to the problem of determining the factors which make for successful family life. The need for information of this sort is obvious, and in recent years a few studies have been made from this point of view.² The present study was undertaken for the purpose of gathering further information about "normal" families and some of the home-environmental factors which are thought to contribute to, or hinder, the achievement of successful family life.

The first requisite to an investigation of this problem is a definition of "success" in family life, and a criterion or set of criteria by which the success of a particular family may be judged. Any such definition, or set of criteria, must of necessity be arbitrary. "Family success" may be defined in several different ways, depending upon the point of view, or upon the aspect of family life being considered. Some students have defined successful family life in terms of family happiness and the lack of tension.

The assumption is that the success of a family is directly proportional to the satisfaction, and inversely proportional to the tension, involved in the various relationships of the family. Thurow's³ study of family-life factors as revealed in autobiographies was based upon this general definition of success.

Another way of defining success in family life is in terms of the personality adjustments of the individuals composing the family. If a family produces efficient, well adjusted, and socially useful individuals, to that extent it may be regarded as a successful family. From this point of view the lack of tension and an abundance of happy person-to-person relationships within the family might be regarded as environmental factors which influence the personality development of the family members and hence the success of the family. This latter way of defining family success underlies the present study. The purpose of the study, therefore, was to determine the relationships between a socially desirable sort of personality development and the presence or absence of certain specific items of the home environment. The problem may be stated thus: What are some of the characteristics of the home environment of the "successful" family (the family which has produced individuals with desirable personality

¹ Much credit for the accomplishment of this study is due the superintendents, teachers, and the several hundred pupils of the ten high schools of Nebraska through whose fine cooperation and assistance the data were obtained.

² The most notable of these studies was that of the White House Conference on Child Health and Protection, Committee on the Family and Parent Education. This study entitled "The Adolescent in the Family" was a questionnaire study of 13,000 public-school children from various sections of the United States.

³ Mildred B. Thurow, *A Study of Selected Factors in Family Life as Described in Autobiographies*, Cornell Univ. Agr. Exp. Sta. Mem. 171, Feb., 1934.

traits) and to what extent are they different from the characteristics of the home environment of the family which has not been so successful?

To measure personality completely is, of course, impossible. It is likewise impossible, at the present stage of our knowledge, to say which particular pattern or organization of traits, attitudes, abilities, desires, or habits constitutes the most desirable "personality adjustment." Consequently any criterion of family success in terms of a set of personality test scores is at best merely provisional and is only one of many possible selections. Furthermore, one particular pattern of personality characteristics might be quite adequate and desirable for one individual and not for another, or for one type of community or culture and not for another. There are, however, certain traits, habits, and attitudes that are quite generally agreed upon as desirable and as those which should be fostered in the development of children. Among them are the personality variables selected for measurement in this study.

THE PERSONALITY SCALES⁴

In addition to the difficulties already mentioned are those of reliably measuring personality variables after they are once selected for study. Tests and scales for measuring personality traits are far from perfect. In many instances we have relatively little assurance that they actually measure what they were designed to measure. The time required to administer a battery of tests also presents a practical difficulty. Our testing program was carried out with the cooperation of selected high schools of the state, and since the actual testing was done during school hours the amount of time which we could justifiably use was definitely limited. In selecting and devising our tests, therefore, these matters were given consideration.

The personality variables on which scores were obtained were (1) rationality of thinking (freedom from emotionalized associations), (2) personal and social adjustment (freedom from neurotic tendencies such as undue worry, fear, extreme shyness, etc.), (3) honesty in the school situation, (4) ethical or moral judgment, (5) self-reliance or independence of decision in meeting and solving personal problems, (6) resourcefulness in the group situation, (7) personal responsibility (a measure of the extent to which the young individual is able to maintain satisfactory personal relationships with others), (8) attitude toward work, and (9) attitude toward home life. Scores on the first four of these variables were obtained by the use of J. B. Maller's CASE Inventory. This inventory consists of four separate tests and is an outgrowth of the use, over a period of years, of longer forms of those tests. Reliability coefficients for the four tests based on 248 cases reported by Maller are as follows:

Adjustment .....	.96
Rationality of thinking .....	.92
Honesty .....	.95
Ethical judgment .....	.90

These coefficients were obtained by combining the two forms of the inventory and correlating scores based upon the odd-numbered items with

⁴ Copies of the scales prepared by the author may be obtained on request.

scores based upon the even-numbered items. The tests were found, during the process of validation, to differentiate reliably between normal individuals (children and adults) and delinquents, problem children, and psycho-neurotic individuals.

The five other variables in the above list were measured by means of tests and scales developed in preliminary studies connected with the present project. "Independence in personal matters," "resourcefulness in the group situation," and "personal responsibility" were among the unitary factors found in a test of "self-reliance."⁵ The number of items in the test was increased to 100 and scoring keys were developed making it possible to score the test for the three separate aspects or varieties of self-reliance.

Estimates of the reliability of each of these measures was determined by correlating scores based upon half the items as weighted for that particular factor with scores based upon the remaining similarly weighted items. Such correlations were computed for two separate samples of 100 subjects each. These reliability coefficients, when corrected for the complete test by use of the Spearman-Brown formula, were as follows:

	First sample	Second sample
Independence .....	.88	.82
Resourcefulness in the group.....	.87	.84
Personal responsibility.....	.86	.70

While the reliabilities are not as high as might be desired they are similar to those usually found for tests of personality variables. Our measures of these three aspects of self-reliance, and especially those of "independence" and "resourcefulness in the group situation," may be regarded as satisfactorily reliable.

The method of "equal-appearing intervals" as developed by Thurstone and Chave⁶ and modified by Seashore⁷ was used in the construction of the scales to measure attitude toward work and attitude toward home life. The cooperation of the entire staff of the College of Agriculture, University of Nebraska and of several hundred University of Nebraska students was obtained in the construction of these scales. The reliability coefficient for the work attitude scale, using the half against half method, was .88 and for the home life attitude scale it was .82.

In order to obtain for each individual a single personality rating in which the ratings on all nine of the separate personality scales were equally weighted, the crude scores were converted into standard scores. This was done by making the standard deviation of each distribution of crude scores the new unit of measurement. Each individual's deviation from the mean for the group was divided by the standard deviation. In order to eliminate the negative signs for those below the mean a constant, 6, was added to every individual standard score. Averages of these modified standard scores on the nine personality scales for each individual was then computed.

⁵ Leland H. Stott, An Analytical Study of Self-reliance, Paper No. 202, Journal Series, Nebr. Agr. Exp. Sta. Published in The Journal of Psychology 5:107-118, 1938.

⁶ L. L. Thurstone, and E. J. Chave, The Measurement of Attitude, University Chicago Press, pp.xii, 96, 1932.

⁷ R. H. Seashore, A Simplified Method of Scaling, Journal of General Psychology 14:366, 1933.

These averages were corrected to the first decimal place and the decimal point was dropped. They ranged between 41 and 74 in size.

Intelligence ratings were obtained by use of the Otis Self-Administering Tests, Higher Examination Form A.

THE HOME LIFE QUESTIONNAIRE

One of the important findings of previous studies in this field is that the physical aspects of the home environment such as housing arrangement, material goods, etc. "are not nearly so significant for personality development of the child as are the subtler and more intangible aspects of family life, such as affectionate behavior, relations of confidence, inculcation of regularity in health habits and reactions to illness or nervousness of parents."⁸ In making up the home life questionnaire for the present study, care was taken to include as many items representing these social activities and person-to-person relationships of home life as seemed feasible. Here again it was necessary to select from the large number of home environmental situations only a few which had been suggested as representing important factors in relation to personality adjustment. A number of them were taken directly from the questionnaire used in the White House Conference study. Our questionnaire as finally used contained forty items in question form.⁹ These were to be answered either by underlining the proper alternative answer or by filling in a blank. The information which the questionnaire was designed to furnish may be roughly grouped into the five following classes:

(1) Classification data—information concerning place of birth and places of residence. This information was used in separating the subjects into the "farm group," the "town group," or the "city group."

(2) Data concerning the socio-economic status¹⁰ of the family. These items, sixteen in number, furnished information as follows: whether or not the family had a telephone, furnace heat, a bathroom, an automobile other than a truck; whether the father was employed, what his occupation was, what part, if any, of the business he owned and how many men he employed; whether the father and mother had attended high school, or college, the number of books in the home, and the number of magazines taken regularly. These items were first scored as a single scale rendering scores in "socio-economic status." By correlating these scores for 250 sibling pairs, a reliability coefficient of .91 was obtained. Obviously, however, certain of the items are concerned with the economic success of the family, while others are concerned more with the cultural aspects of the home and family. Hence the items were grouped into these two categories and scored a second time, furnishing separate scores on "economic level" and on "cultural level."

⁸ The Adolescent in the Family, Committee on the Family and Parent Education, Section IIIA, White House Conference on Child Health and Protection, D. Appleton-Century Co., N. Y., 1934, p. 7. Thurrow's study also emphasized the importance of the social aspects of the home environment.

⁹ A copy of the questionnaire may be obtained from the author upon request.

¹⁰ The items of this part of the questionnaire were adapted from the Sim's Score Card for Socio-Economic Status, published by the Public School Publishing Company, Bloomington, Illinois. The development of the score card is described in the *Measurement of Socio-Economic Status*, by V. M. Sims, Public School Publishing Co., 1927.

(3) Data concerning the personnel of the family. Ten items are included in this grouping. They furnish information as follows: whether the father and the mother were living; the number of children of each sex in the family; whether the subject was living with both parents, one parent alone, a step-father or step-mother or someone else; whether roomers lived in the home; whether the mother worked outside the home, and if so what proportion of her time; whether father or mother had been sick in bed during the past year and if so for about how long; the amount of nervousness shown by the father and mother.

(4) Personal relationships, confidential and emotional, between parents and child. These items were seven in number. They furnished information on the extent to which the child confided in his mother and in his father (told them of his joys and troubles); whom he liked best, his father, or mother, or someone else, or whether he liked his father and mother the same; how often he kissed his mother; whether or not his mother or father habitually did anything that he did not like; whether or not the child had been punished during the previous week, and by whom.

(5) Family group activities and social life in the home. The five items of this group asked whether or not the family made a practice of having meals together as a family at regular hours; how often the child went *with the family* on visits, trips, picnics, and to church gatherings, shows, or other entertainments; how often the family had enjoyable times together in the home engaging in such activities as playing games, telling stories, or singing and playing instruments, etc.; whether or not the parents liked to have the child entertain his friends in the home, and whether or not the child himself liked to bring his friends to his home.

SELECTION OF SUBJECTS AND TESTING PROCEDURE

The total home environment as well as the effectiveness of any particular item depends to some extent upon the general setting of the home, *i.e.*, whether it be in the city, small town, or open country. A given home-environmental item, which is objectively the same item in the three situations, *e.g.* a bathroom in the house, or the existence of a confidential relationship between child and parent, may have a much greater significance in the total environmental picture in one of these general home settings than in another. The study was planned, therefore, so as to obtain for separate study, and for any possible legitimate comparison, representative samples of adolescent boys and girls from each of these three general home settings.

The high-school situation presented itself as the most immediately available grouping from which to draw such samples. Boys and girls living on farms usually travel back and forth each day to attend high school in the near-by towns. About 50 per cent of the students of high schools in Nebraska towns of approximately 1,000 population are farm residents. Such high schools furnished ideal situations for our purposes. Both the farm sample and the small-town sample were obtained from the same high-school groups.

Ten Nebraska towns, ranging in population from 600 to 1,350, were therefore selected so as to represent each general type-of-farming area¹¹ of the state. Contact was first made by letter with the school superintendents who in every case agreed to cooperate in the project. An appointment was made with each school for a day, convenient for both the school and the investigator, on which the whole student body could be used for testing purposes.

TABLE 1.—*Age distribution of subjects (farm group).*

Age in years to nearest birthday	Boys	Girls	Boys and girls together
11	1	..	1
12	3	1	4
13	11	27	38
14	48	69	117
15	79	98	177
16	75	85	160
17	73	53	126
18	23	28	51
19	10	7	17
20	2	1	3
22	..	1	1
Total	325	370	695
Mean age (years)	15.8	15.6	15.7
σ	1.5	1.5	1.5

The tests and scales were administered personally by the author during the months of November and December, 1936. In every case some of the regular teachers at the school were present and lent assistance wherever possible in the way of passing papers and general supervision. The testing time was divided into two periods, one in the morning and one in the afternoon of the same day. Usually the Otis test was administered first, followed in order with the self-reliance scale and the work-attitude scale. In the afternoon the Maller CASE Inventory was usually presented first, followed by the home-life questionnaire and the home-attitude scale.

The ten student groups ranged in number between 90 and 204. In all 1,335 students were tested. A few more than half of the total, 695 in number, were living in farm homes in the open country. These will hereafter be referred to as the "farm group" and it is mainly with this group that the present report is concerned.

In this farm group there were 325 boys and 370 girls. Their average ages were 190 months or approximately 15 years and 10 months for the boys, and 188 months or approximately 15 years and 8 months for the girls. Distributions according to sex, age, and school grade are given in Tables 1 and 2.

¹¹ Harold Hedges and F. F. Elliott, Types of Farming in Nebraska, Nebr. Agr. Exp. Sta. Bul. 244, May, 1930.

TABLE 2.—*School grade distribution of subjects (farm group).*

Grade in school	Boys	Girls	Both sexes
9	93	99	192
10	74	113	187
11	88	78	166
12	70	78	148
Post graduate	0	2	2

RESULTS

Our main purpose in the analysis of the results was, of course, to determine the relationships between the personality scores and the home-environmental factors as reported by the subjects. The greater portion of this section of the report deals with that problem. First, however, three other matters may be briefly considered. These are (1) the question of the interdependence of the "traits" measured by our personality scales, (2) the relation of age and intelligence to the personality scores, and (3) sex differences.

INTERCORRELATIONS OF PERSONALITY SCORES

Students of personality differ in point of view on the question of the interdependence of traits. Those who approach the study of personality through the technique of "factor analysis," although they admit that some "primary traits" may be intercorrelated, tend toward the view that the search should be for unitary and independent, primary traits of personality. Their research is gradually revealing "factors" which are statistically independent, and some of which have been rather definitely identified and found to correspond quite closely to certain traditional personality traits. On the other hand, some psychologists regard the "independent trait" view as absurd in the light of what is known or assumed about the nature of personality and its development.¹² From this point of view, traits are expected to be related to each other, and no particular concern is felt when correlations of considerable magnitude are obtained between tests which are presumed to measure different aspects of personality. As a matter of fact the different "traits" as measured by scales in use at the present time often do show substantial intercorrelations. However, when the purpose is to measure a number of different aspects of personality in a given population it is essential that the intercorrelations be low enough at least to furnish assurance that different aspects are actually being measured.

The intercorrelations of the personality variables as measured in this study are shown in Table 3. A number of them, and particularly those of the three aspects of self-reliance (variables 5, 6, and 7) and those between these three variables and adjustment are much too high to justify the assumption of independence. Variables 5, 6, and 7, it will be recalled,

¹² I. Lorge writes "To be useful in psychology a trait must be regarded as freed from the influence of other traits," *Jour. Educ. Psych.* 26:278, 1935. G. W. Allport, writing on the subject, says: "Such an assumption (independent traits) is highly artificial. So interwoven is the fabric of personality that it seems almost impossible to think of any patterns that are wholly unrelated to others," *Personality, A Psychological Interpretation*, p. 245, Henry Holt, N. Y., 1937.

TABLE 3.—*Intercorrelations of the nine personality variables, farm boys and girls separately. (Boys: av. N 303. Girls: av. N 254. Standard errors range between .053 and .062 for the boys and between .050 and .059 for girls.)*

Personality variable		2	3	4	5	6	7	8	9
1. Rationality of thinking	boys	.252	.017	.001	.208	.094	.111	.017	.074
	girls	.109	.111	.019	-.003	.065	.062	-.039	-.002
2. Adjustment, personal and social	boys	...	-.164	.032	.561	.318	.461	.245	.245
	girls	...	-.056	.053	.435	.388	.411	.097	.164
3. Honesty in the school situation	boys	...	...	.087	.171	-.199	.000	.011	-.034
	girls	...	...	.076	-.169	-.116	.015	-.087	-.017
4. Ethical judgment	boys	...	...	...	-.014	.103	.081	.067	.202
	girls	...	...	...	.115	.034	.111	.041	.028
5. Independence in personal matters	boys	...	...	...	...	.412	.710	.280	.172
	girls	...	...	...	...	.387	.556	.295	.048
6. Resourcefulness in group situation	boys	...	...	...	...	...	.435	.127	.014
	girls	...	...	...	...	...	.489	.124	.154
7. Personal responsibility	boys	...	...	...	...	...	...	.288	.236
	girls	...	...	...	...	...	...	.320	.248
8. Attitude toward work	boys	...	...	...	...	...	...	...	.202
	girls	...	...	...	...	...	...	...	.161
9. Attitude toward home life	boys	...	...	...	...	...	...	...	...
	girls	...	...	...	...	...	...	...	...

TABLE 4.—*Correlations¹ of the nine personality variables with chronological age, Otis mental age, and Otis intelligence quotient for boys and for girls. (Standard errors of r's, .053 to .062 for boys and .049 to .056 for girls.)*

Personality variable		C.A.	M.A.	I.Q.
1. Rationality of thinking	boys	.123	.139	.073
	girls	-.006	.046	.016
2. Adjustment	boys	.119	.075	-.031
	girls	-.015	.038	.061
3. Honesty	boys	-.072	.083	.178
	girls	-.052	.112	.197
4. Ethical judgment	boys	.103	.261	.279
	girls	.143	.370	.357
5. Independence in personal matters	boys	.138	.109	.014
	girls	.039	.124	.143
6. Resourcefulness in group situations	boys	.067	-.037	-.101
	girls	-.055	-.027	.052
7. Personal responsibility	boys	-.002	.063	.078
	girls	-.023	.110	.196
8. Attitude toward work	boys	-.002	.130	.170
	girls	-.116	.093	.036
9. Attitude toward home life	boys	-.036	.075	.138
	girls	-.040	-.031	.005
Average personality score	boys	.100	.160	.153
	girls	-.009	.201	.269

¹ The coefficients which are large enough to be statistically significant are printed in italics in the table.

represent three of the factors which resulted from an analysis of our test of self-reliance. These factors are theoretically independent of each other. The correlations which appear between them here are undoubtedly due very largely to the fact that the same items, which were themselves inter-correlated, were in many cases given weight in the scores on the different factors. This difficulty is always encountered in multiple-trait tests where the same items are scored for different traits. Even though complete independence among our variables can not be assumed the intercorrelations are, in general, low enough to indicate that something different is involved in each measure.

THE RELATION OF AGE AND INTELLIGENCE TO PERSONALITY SCORES

In Table 4 are shown the correlations of the personality variables with age, with degree of mental maturity (Otis M.A.), and with brightness (Otis I.Q.). The correlation coefficients that have statistical reliability¹³ are printed in italics. Age in boys was found to correlate to a slight but reliable degree with our measure of rationality of thinking, personal and social adjustment, and independence of decision in personal matters. These coefficients were only .123, .119 and .138 respectively and can only be regarded as suggesting a very slight trend in relationship. In girls, however, even these suggestions of relationship did not appear. Within the range of ages involved in this study, girls apparently do not become more rational in their thinking, more adequately adjusted, or more independent in meeting their personal difficulties and problems as they grow older. The correlation of age with ethical judgment in girls, however, was .143. There was also in girls a negative correlation of *-.116* between age and attitude toward work. These suggest a slight tendency for girls to gain better judgment in ethical matters, and at the same time to regard the chores and tasks about the farm home with more disfavor, or to appreciate leisure time activities slightly more as they grow older. There was a slight suggestion of a relationship between age and average personality score in boys. The coefficient is too small, however, even for statistical significance.

Ethical judgment, as might be expected, was significantly correlated with intelligence in both boys and girls. These correlations of .261 and .370 with mental age and .279 and .357 with I.Q. are the largest ones in Table 4. Honesty also was found in both sexes to correlate slightly with I.Q., the coefficients being .178 and .197 for boys and girls respectively. The other variables which showed a statistically reliable degree of association with the intelligence factor were the attitudes toward work and to-

¹³ In determining the reliability of our correlations, Fisher's "test of significance" was used. (See J. P. Guilford, *Psychometric Methods*, pp. 335-6 and 548, McGraw-Hill, N. Y. [first edition], 1936.). This test gives the probability that a correlation coefficient as large as the one obtained could arise by random sampling in a population where no real correlation exists. For groups as large as those dealt with in the present investigation (over 300 in each sex group) a correlation coefficient which is as much as 2.6 times its standard error ($C.R. = r/\sigma_r = 2.6$) may be considered, according to Fisher's test, "very significant," since the probabilities are less than 1 in 100 that a coefficient as large as the one obtained could have occurred by chance. Likewise a coefficient with a C.R. as large as 1.97 may be regarded as "significant," there being only 5 chances in 100 that one of similar magnitude could have occurred by chance. Thus, in the following pages a correlation is spoken of as "statistically reliable" when it meets Fisher's requirements as "significant" or "very significant."

ward home life in boys, and independence of judgment in regard to personal matters and personal responsibility in girls. These coefficients were all very small but positive. They ranged from .110 to .196. The average personality scores were reliably associated with intelligence in both sexes and especially in girls. This suggests that some of the same innate factors which determine intelligence also have something to do with personality development as here measured.

SEX DIFFERENCES

Certain small sex differences in the degree of relationship of age and intelligence to scores on the personality scales have already been pointed out. In Table 5 are presented means (M) and standard deviations (σ) for boys and for girls in age, intelligence, socio-economic status, and in each of the nine personality variables. Differences (D) between means for boys and girls, standard errors of those differences (σ_D), critical ratios ($CR=D/\sigma_D$) and the probabilities that differences as large as those obtained could have occurred by chance are included in the table.

The boys of our farm group averaged 2.29 months older than the girls. This difference falls a little short of meeting the test of significance, but the probabilities are still rather large that such a sex difference actually exists in the farm high-school population of the state at large. In mental age, however, there was no difference between the sexes. They were equal in average mental ability (degree of mental maturity attained), but since the boys had a greater average chronological age the difference of 2.15 points in I.Q. was in favor of the girls. This difference is 2.5 times its standard error and may, therefore, be taken to represent a true sex difference in that direction. This is, of course, in agreement with the generally accepted belief that girls attain mental as well as physical maturity somewhat earlier than boys. Other differences favoring the girls are those in "honesty," ethical judgment, resourcefulness in the group situation, and personal responsibility. All of these differences are large enough to be significant statistically (C.R.'s 3.76, 3.10, 2.26, and 3.02). In the case of ethical judgment, the sex difference may be connected with the earlier intellectual maturity of girls since that variable is significantly correlated with M.A. and I.Q. The same may also be true to some extent in regard to honesty and personal responsibility. The difference favoring the girls in resourcefulness in the group, however, is not explainable in terms of the difference in I.Q.

There was, on the other hand, a difference more than three times as great as its standard error in favor of the boys in independence of decision in personal matters. This variable showed in boys a small but reliable correlation with chronological age (.138) but no relation whatever with I.Q. In girls, however, the opposite was true—zero correlation with age and .143 with I.Q. (Table 4). This difference in independence cannot, therefore, be accounted for in terms of age or intelligence differences. A second personality difference which favored the boys was that in personal and social adjustment. Although this difference *cannot be taken as certain* (C.R.=1.70) the chances are many that a true difference is represented.

TABLE 5.—Sex differences¹ in age, intelligence (Otis), socio-economic status and the nine personality variables.

Variable	Boys			Girls			D (Diff. between means)	σ_D	C.R.	Prob- ability
	N	M	σ	N	M	σ				
Chron. age, months	310	<i>190.08</i>	17.55	359	187.79	17.95	2.29	1.36	1.68	95:5
Mental age, months (Otis) . . .	317	189.33	25.95	361	189.44	25.65	0.06	1.99	0.03	....
Intelligence quotient (Otis) . .	318	99.92	11.62	363	<i>102.07</i>	10.77	2.15	0.86	2.50	99:1
Socio-economic status	322	19.64	6.13	363	19.21	5.94	0.43	0.46	0.93	....
Rationality of thinking	318	36.96	6.29	363	37.33	6.62	0.39	0.50	0.78	....
Personal and social adjustment	317	<i>36.82</i>	6.88	363	35.92	6.81	0.90	0.53	1.70	95:5
Honesty	319	7.11	2.45	364	7.75	1.99	0.64	0.17	3.76	99:1
Ethical judgment	246	23.34	4.71	279	<i>24.58</i>	4.50	1.24	0.40	3.10	99:1
Independence, personal matters	310	39.96	9.42	357	37.61	9.57	2.35	0.74	3.18	99:1
Resourcefulness in group	311	18.86	9.43	356	<i>20.51</i>	9.41	1.65	0.73	2.26	95:5
Personal responsibility	309	20.88	5.45	357	22.12	5.21	1.24	0.41	3.02	99:1
Attitude toward work	316	76.90	17.06	356	77.80	15.40	0.90	1.26	0.71	....
Attitude toward home life . . .	313	83.73	9.59	357	83.48	10.41	0.25	0.77	0.32	....

¹ In comparisons where reliable differences exist the larger of the two means is printed in italics.

This difference is also consistent with the findings of others that girls tend to score in the direction of poor adjustment more frequently than boys.

To sum up, then, in terms of test scores, girls on the average surpassed boys in honesty, ethical judgment, personal responsibility, brightness (I.Q.), and resourcefulness in the group situation. These differences were small but statistically significant. Boys, on the other hand, surpassed girls in independence in meeting personal problems and difficulties and in personal and social adjustment.

THE RELATION OF HOME-LIFE FACTORS TO PERSONALITY SCORES

Economic and cultural status.—The home-life questionnaire used in this study was designed to obtain information concerning both the physical and the social aspects of the young person's home environment. Those items which had to do with the physical aspects were subdivided into two classes and scored so as to furnish measures of "economic level" and "cultural level" of the home. The relationships between these measures and scores on the personality scales and also the average personality score were calculated in terms of product-moment correlation coefficients. There were in all 40 of these correlations. Only six of them were large enough for statistical significance according to Fisher's test (page 13). These six reliable coefficients, together with the corresponding coefficients for the other sex, are given in Tables 6 and 7.

TABLE 6.—*Association between economic level of the family and scores on personality scales.*

Variable		r	σ_r	C.R.	Odds
Resourcefulness in group situation	boys	.251	.053	4.74	99:1
	girls	.086	.052	1.65	...
Attitude toward work	boys	.115	.055	2.09	95:5
	girls	-.035	.052	0.67	...
Average personality score	boys	.128	.055	2.33	95:5
	girls	.033	.052	0.63	...

TABLE 7.—*Association between cultural level of the family and scores on personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	.078	.055	1.42	...
	girls	.116	.050	2.32	95:5
Resourcefulness in group situation	boys	.050	.056	0.89	...
	girls	.140	.052	2.69	99:1
Average personality score	boys	.131	.055	2.38	95:5
	girls	.087	.052	1.67	...

Economic level apparently is of some little significance to boys but not to girls (Table 6). The average personality ratings and scores on resourcefulness in the group situation and attitude toward work were correlated to a slight but reliable degree with this factor. These correlations were .128, .251, and .115 respectively. That economic level of the farm family should be somewhat related to these aspects of personality development in the boy seems reasonable. Where the economic level is relatively high the family would be less frequently dependent upon the boy's help. Hence he would have more time and opportunity for participation in social and extra-curricular activities and would consequently score higher in resourcefulness in such activities than the boy whose family was less fortunate financially; moreover, his work on the farm would be more frequently motivated by interest instead of necessity. With better facilities and equipment to work with, his attitude toward work would be more favorable than the attitude of the boy who must work harder and under less favorable conditions.

Interestingly enough, economic level had no relation to either boys' or girls' attitude toward home life. The correlation of economic level with personal and social adjustment in boys, however, approached significance (.105, C.R.=1.91).

The situation was somewhat different with cultural level as is shown in Table 7. This item showed a slight degree of association with personal and social adjustment, and with resourcefulness in the group situation in girls but not in boys. On the other hand average personality rating in boys gave a suggestion of relationship with cultural level. As was the case with economic level it is interesting to note the absence of correlation between cultural level and attitude toward home life and the other personality variables.

The social environment of the home.—The items of the questionnaire having to do with the social aspects of the home environment could not be weighted and scored in any *a priori* fashion so as to furnish composite scores. They seemed, however, to fall logically into groupings such as those presented on page 9, *i.e.*, those asking for information concerning the personnel of the family group, the work activities of the mother, and the health, physical and emotional, of the parents, those concerning the person-to-person relationships between parents and child, and finally those concerning the family group activities and social life in the home. The factors involved in the first set of items exist more or less independently of the youngster. They do not directly involve his participation, his interaction with persons or with the group, but they presumably affect him nevertheless as part of his home environment. The other two sets of items are concerned with the activities and reactions of the youngster himself. Those of the second set are concerned with his reactions *to* persons and interactions *with* persons, while those of the third are concerned more with the wider family group activities in which he participates, or might participate as a member of the family.

In an attempt to place the item grouping upon an empirical basis, the interrelationships among them were computed in terms of tetrachoric

TABLE 8.—*Intercorrelations¹ of fifteen home-life questionnaire items for boys and for girls.*

		2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Mother working	boys	.034	.208	.150	.068	.090	-.063	-.009	.065	.105	-.095	-.049	-.074	.054	-.009
	girls	.146	.074	-.068	.036	.116	.155	-.084	-.125	.120	-.175	-.150	-.083	-.074	-.033
2. Mother's	boys	...	.300	.260	.160	.145	.145	.180	.010	-.035	.213	-.053	.110	-.020	.120
	girls	...	.410	.390	.175	.177	.147	.210	-.041	.110	-.075	-.108	-.175	-.030	-.073
3. Father's	boys	...	...	.100	.290	.050	.030	.100	-.200	-.098	-.100	-.173	-.008	.100	.132
	girls	...	...	.190	.187	.180	.250	.210	.020	.100	.003	-.168	-.148	.040	.090
4. Nervousness	boys	...	...	...	.620	.190	.167	.120	-.040	-.093	.204	.200	.110	.060	-.060
	girls	...	...	...	.550	.233	.067	-.003	-.176	-.090	.160	-.155	-.135	.010	.060
5. Nervousness	boys	...	...	...	...	.067	.133	.167	-.071	-.113	-.028	-.105	.090	-.060	-.089
	girls	...	...	...	...	.033	.120	-.115	-.110	-.190	-.020	.040	-.083	.010	.000
6. Not liking something	boys	...	...	...	...	...	.880	.470	-.110	-.128	-.040	-.121	.030	.000	-.067
	girls	...	...	...	...	...	.900	.200	-.125	.080	-.096	-.200	.040	.000	-.020
7. Not liking something	boys	...	...	...	...	...	...	.515	-.033	-.975	-.008	-.153	.000	-.095	-.100
	girls	...	...	...	...	...	...	.173	-.040	.080	.048	-.020	.075	-.050	.020
8. Punished during	boys	...	...	...	...	...	...	...	-.200	-.023	-.160	-.150	.030	-.210	-.200
	girls	...	...	...	...	...	...	...	-.035	.120	-.120	-.045	-.020	-.060	-.036
9. Shares joy and troubles	boys	...	...	...	...	...	...	...	...	.928	.276	.439	.253	.224	.250
	girls	...	...	...	...	...	...	...	...	.610	.490	.155	.310	.261	.380
10. Shares joy and troubles	boys	...	...	...	...	...	...	...	...	...	.150	.176	.330	.340	.310
	girls	...	...	...	...	...	...	...	...	...	.293	.026	.190	.580	.173
11. Kisses	boys	...	...	...	...	...	...	...	...	...	...	.055	.333	.321	.200
	girls	...	...	...	...	...	...	...	...	...	...	.179	.166	.130	.276
12. Meals together at	boys	...	...	...	...	...	...	...	...	...	...	...	...	.321	.167
	girls	...	...	...	...	...	...	...	...	...	...	...	...	.269	.123
13. Goes places with	boys	...	...	...	...	...	...	...	...	...	...	...	...	.380	.210
	girls	...	...	...	...	...	...	...	...	...	...	...	...	.460	.140
14. Enjoyable times	boys	...	...	...	...	...	...	...	...	...	...	...	...	...	.375
	girls	...	...	...	...	...	...	...	...	...	...	...	...	...	.343
15. Parents welcome child's	boys	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	girls	...	...	...	...	...	...	...	...	...	...	...	...	...	...

¹ Those coefficients large enough for statistical significance are printed in italics.

correlation coefficients.¹⁴ Table 8 shows the intercorrelations among 15 of the 22 items. The other seven, because of their extremely asymmetrical distributions, or their complex nature, were excluded. Most of these latter were from the group having to do with the personnel of the family.

It will be noted that the first eight items are negative in nature (presumably involving unfavorable environmental factors), while the remaining six are "favorable." Most of the intercorrelations—all that were large enough to be significant—within each of these two groupings were positive, and on the average larger than those involving both favorable and unfavorable items.

The highest correlations among the "unfavorable" items in both sexes were those between not liking something in father and not liking something in mother. These were .880 in boys and .900 in girls. The next highest pair were those between reporting nervousness in father and reporting nervousness in mother (.620 and .550 in boys and girls respectively). These high correlations may reflect a certain degree of similarity in personality between spouses¹⁵ but they also suggest the presence, in varying degrees, of a critical or fault-finding attitude in the youngsters. Those who found something to criticize in the father also found something to criticize in the mother. Fairly high correlations were also found between the reports of illness in father and illness in mother for both boys and girls.

Greater proportions of reliable correlations among the "favorable" items were found in both sexes but particularly in boys. Confiding in mother, for example, correlated reliably with each of the other six favorable items in boys, and with one exception in girls also. The highest coefficient for both sexes was that between confiding in father and confiding in mother. These were .928 in boys and .610 in girls. Here again the general attitude of the boy or girl toward the whole home situation as well as the tendency for married partners to be similar in personal make-up are probably jointly responsible for these high correlations.

The 56 coefficients involving both "favorable" and "unfavorable" items were, in both sexes, generally negative. In girls, only two of the whole lot may be considered significant. These were the negative correlations between having meals together at regular hours and something not liked in mother, and between sharing joys and troubles with father and nervousness in father. Of the corresponding 56 correlations in boys, eight were significantly large. Two of these, that between kissing mother and mother's illness and between kissing mother and mother's nervousness, were *positive*. These positive relationships are not especially surprising. Boys whose mothers are not well physically or emotionally apparently pay more attention to their mothers and demonstrate their affection for them more frequently than boys whose mothers are healthy physically and emotionally.

¹⁴ For a discussion of this measure of relationship see T. L. Kelley, *Statistical Method*, pages 253-8, Macmillan Co., N. Y., 1923, or J. P. Guilford, *Psychometric Methods*, pages 351-2. The computing diagrams for tetrachoric correlation coefficient, by Chesire, Saffir, and Thurstone, (Univ. of Chicago Press) were used in our computations.

¹⁵ Numerous studies have shown a definite tendency toward similarity in mates in regard to many physical, mental, and personality traits.

This suggests that for an adolescent boy frequently to kiss his mother may not indicate a particularly favorable emotional relationship from the point of view of his personal development. The correlation of kissing mother with mother's nervousness for girls was also positive but hardly high enough for statistical reliability.

The highest correlation found in any combination of "favorable" and "unfavorable" items was that of $-.975$ between boys' confiding in father and not liking something in father. Other negative relationships of a much lower order but still significant in boys were between confiding in mother and father's illness, between confiding in mother and having been punished during the previous week, between having enjoyable times together in the home and having been punished during the previous week, and between parents' welcome of the child's friends in the home and having been punished during the previous week.

In general, the intercorrelations of Table 8 do not suggest any very clear-cut groupings of the items except, perhaps, those of "favorable" and "unfavorable." It was decided, therefore, to treat each item separately. Since each item had been scored dichotomously (as either existing or not existing for each individual) separate biserial correlation coefficients¹⁶ were readily computed between each home-life item and each personality variable. In the tables that follow are given those biserial correlations which were large enough to be statistically significant in either boys or girls or both for each home-life item in turn.

Mother working outside the home.—"Mother working outside the home" usually means something quite different for the farm family than for the town or city family. In town or city it would ordinarily mean that the mother is employed by some business, industry, or agency not connected with the family. Such employment might lend any degree of prestige or honor, or the opposite, to herself and family. But when a farm mother works outside the home it usually means that she helps with the field work, or with the daily "chores," such as caring for the poultry and animals, milking the cows, etc.—all connected in some way with the family enterprise. In general, work of this sort is regarded as the work of the men and boys of the family, and for the mother to take part in it, either from interest or from necessity, usually does not enhance her womanly dignity or increase her efficiency as a homemaker. Twenty-seven per cent of the boys and twenty-four per cent of the girls reported that their mothers worked outside the home.

Only four of the twenty correlations between this item and the personality scores were large enough for statistical significance. These four coefficients are given in Table 9. Mother working outside the home was correlated to the extent of $-.142$ and $-.203$ with personal adjustment in boys and girls respectively. There was, then, a slight tendency, somewhat stronger in girls than in boys, for children whose mothers worked outside the home to be less well adjusted personally and socially than children of farm mothers who did not work outside the home.

¹⁶ J. P. Guilford, *Psychometric Methods*, pp. 349-51, or T. L. Kelley, *Statistical Method*, pp. 245-49.

TABLE 9.—*Correlations between mother working outside the home and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	-.142	.074	1.92	95:5
	girls	-.203	.068	2.99	99:1
Attitude toward work	boys	-.032	.076	0.42	...
	girls	-.147	.071	2.07	95:5
Average personality score	boys	-.123	.073	1.68	...
	girls	-.151	.071	2.13	95:5

The other correlations for this home-life item were $-.147$ with attitude toward work and $-.151$ with average personality rating in girls. Girls whose mothers worked outside were probably left more frequently and under more discouraging conditions with the full burden and responsibility of the household, and of course, without the companionship of the mother. Furthermore, for a girl to observe her mother doing work too heavy or otherwise inappropriate might also influence unfavorably her attitude toward work in general.

Illness of mother.—Thirty-five per cent of the boys and 37 per cent of the girls reported that their mothers had been ill in bed during the previous year. The two reliable correlations for this item, both for boys, are given in Table 10.

Illness of the mother apparently was of some significance in the home life of farm boys, but oddly enough it was not significant for the girls. The two personality variables with which this item was correlated in boys were rationality of thinking ($-.153$) and personal and social adjustment ($-.158$).

The score on rationality of thinking is based upon the youngsters' reactions to a list of 50 stimulus words selected from the "free association" tests of Jung, Kent-Rosanoff, etc. He is asked to indicate which of two words, following each stimulus word, is most connected in his mind with the stimulus word. One of these words represents the "normal" or usual association and the other is one which is "very uncommon, personal, emotional, or involves superstitious ideas."¹⁷ The "rationality" score is the number of "normal" response words underlined. The size of the score, it is presumed, indicates the degree of freedom of the youngster from emotionalized and irrational associations.

Illness of the mother apparently was one factor which influenced the formation of these unusual or emotionalized associations in farm boys. It also influenced to about the same small degree the social and personal adjustment of the boys as shown in the adjustment scores. As to why this was the case with boys and not with girls we can only guess. It may be that girls, either by nature or from more personal contact and experience, tend to assume a sort of motherly, self-reliant, or perhaps

¹⁷ J.B. Maller, Manual of Directions, The CASE Inventory (mimeographed).

nurse-like attitude toward ill people, while boys tend more to assume an attitude of worry, or perhaps intolerance especially if the illness interferes with the normal processes within the home connected with his meals or the satisfaction of his other needs. Again, cases of "mother fixation" among the boys might be suggested as a possible factor causing, in those cases, worry and undue concern over the illness of the mother, and a consequent lowering of the adjustment scores, and a greater number of emotionalized word responses on the rationality test.

TABLE 10.—*Correlations between illness of mother and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Rationality	boys	-.153	.071	2.15	95:5
	girls	.048	.068	0.71	...
Adjustment	boys	-.158	.073	2.16	95:5
	girls	.045	.068	0.66	...

TABLE 11.—*Correlations between illness of the father and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	-.016	.085	0.19	
	girls	.149	.076	1.96	95:5
Honesty	boys	-.166	.082	2.02	95:5
	girls	-.064	.075	0.85	...
Resourcefulness in group situation	boys	.063	.084	0.75	...
	girls	.152	.074	2.05	95:5

Illness of the father.—Relatively few of the subjects, only 17 and 22 per cent of the boys and girls, respectively, reported illness of father. Again only three of the 18 correlations of this item with personality test scores were large enough to consider. These three small correlations, however, suggest some interesting and rather puzzling sex differences. Father's illness, unlike mother's illness, showed no relation to rationality and adjustment scores in boys but it did show in that sex a reliable negative correlation (-.166) with honesty. Why the tendency to claim information dishonestly should be related to a report of illness of the father is hard to conjecture. Father's illness was correlated, not negatively but positively, with adjustment and with resourcefulness in the group situation in girls. These coefficients, again, were very small but statistically reliable (.149 and .152 for adjustment and social resourcefulness respectively). It was suggested above in connection with mother's illness that the lack of a negative correlation in girls between that item and adjustment and rationality of thinking might be due in part to a tendency in girls to

assume a self-reliant, maternal attitude rather than one of worry or intolerance toward the ill parent. It is conceivable also that for a farm girl to help nurse her father (one with whom she might otherwise have relatively little opportunity for intimate association) through a brief¹⁸ period of illness might in some cases give her valuable experience and training in emotional poise and social resourcefulness. In cases of long continued illness of the parent, however, it could hardly be expected that the effects upon the girl's personal development would be desirable. Hence the data were re-examined for evidence upon this point. It was found that for those farm girls with adjustment scores within the lower 15 per cent of the total group who reported illness of the father, the average number days of sickness reported was 48. One of these girls, who reported only 14 days' illness for her father, reported that her mother was ill "almost all the time." Those scoring very high in adjustment (within the upper 15 per cent of the whole group) who reported sickness of the father reported an average of only 10 days of illness for the year. This bit of evidence, then, along with the positive correlation of adjustment with the report that the father was ill during the previous year, suggests that although long periods of serious illness of the father are probably detrimental, brief and infrequent periods of father's illness in the home may even contribute to the emotional and social development of the farm girl.

Nervousness in parents.—Nervousness in farm parents as judged by their adolescent children was much more common in mothers than in fathers. Sixty-one per cent of the boys and 67 per cent of the girls judged their mothers to be nervous "sometimes" or "most of the time," while only 31 per cent of the boys and 39 per cent of the girls gave such reports regarding their fathers.

Some suggestive sex differences again appeared in connection with the report of nervousness in parents. Nervousness in mother or father as judged by the girls apparently did not operate as an unfavorable influence in their home environment according to our results. On the contrary, nervousness in mother showed a small positive correlation with ethical judgment as is shown in Table 12. Could it be that the teachings of the nervous, anxious mother concerning ethical and moral discriminations were more effective, on the average, in their daughters than those of the less nervous mothers? For boys, on the other hand, mother's nervousness was correlated negatively with three of the nine separate personality variables and with average personality rating. These correlations (Table 12) were $-.203$ with adjustment score, $-.216$ with independence in personal matters, $-.196$ with personal responsibility and $-.176$ with average personality score. Boys' scores in adjustment and in independence in personal matters as well as their average personality ratings were also negatively correlated to a lower but still reliable degree with nervousness in father (Table 13). These coefficients were $-.152$, $-.158$ and $-.147$ respectively.

¹⁸ The great majority of the cases of father's illness reported were of brief duration (one week or less for the entire year).

TABLE 12.—*Correlations between reported nervousness in the mother and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	-.203	.070	2.90	99:1
	girls	-.002	.070	0.03	...
Ethical judgment	boys	-.014	.083	0.17	...
	girls	.192	.074	2.59	99:1
Independence in personal matters	boys	-.216	.070	3.09	99:1
	girls	-.066	.069	0.96	...
Personal responsibility	boys	-.196	.070	2.80	99:1
	girls	-.045	.069	0.65	...
Average personality score	boys	-.176	.070	2.51	95:5
	girls	-.016	.069	0.23	...

TABLE 13.—*Correlations between reported nervousness in the father and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	-.152	.074	2.05	95:5
	girls	-.070	.062	1.13	...
Independence in personal matters	boys	-.158	.074	2.14	95:5
	girls	.000	.068	0.00	...
Average personality score	boys	-.147	.073	2.01	95:5
	girls	.075	.067	1.12	...

Since the adjustment score indicates roughly the degree of freedom from such neurotic tendencies as worry, anxiety, and nervousness, these small negative correlations with adjustment, so far as the boys are concerned, tend to support the view that there is a direct relation between the personal adjustments of the parents and those of the children. Our results from the girls, however, do not support previous findings. In the White House Conference study an even closer relationship was found for girls than for boys between adjustment and the report of nervousness in mother. The subjects of that study, however, were all of junior-high-school age and were from the urban population while ours covered the age range of the four-year high school and were all living on farms. These differences may or may not be related to the discrepancies in results.

Our correlations of reported nervousness in parents with independence and personal responsibility in farm boys are interesting in view of the recent discussions of the need, on the part of the child, of gradually achieving self-reliance and independence from his parents. This "nervousness" of parents probably in many instances takes the form of, or is associated with, too much concern about the activities and well being of

the child. This tendency to protect, to direct the activities, and to solve the problems of the child beyond the time when he needs such protection and help would presumably tend to retard the development of independence of decision and personal responsibility in the boy. The question why these effects do not show up in the girls cannot be answered from the data at hand.

Criticism of parents.—The items concerning the social environment of the home so far discussed have had to do with certain characteristics (activities and health, physical and emotional) of the parents. The group of items now to be considered has to do more directly with the personal relationships, confidential and emotional, between parents and child. The first one asked, "What does your mother do that you do not like?" and the second one asked the same question regarding the father. These two items, it will be recalled (Table 8), are so highly correlated with each other as to indicate that they represent practically a single factor (.88 in boys and .90 in girls). Thirty-eight per cent of the boys and 36 per cent of the girls mentioned something the mother did which they disliked, while 37 per cent of the boys and 39 per cent of the girls similarly criticized the father.

Tables 14 and 15 give the reliable correlations between these items and the personality scores. In boys attitude toward home life was the only single personality score that was reliably correlated with either. These coefficients were $-.191$ for criticism of mother and $-.246$ for criticism of father. Criticism of mother by the boys was also related to average personality rating to the extent of $-.156$. In girls both items were correlated negatively with attitude toward home life ($-.206$ for criticism of mother and $-.195$ for criticism of father) and also with personal responsibility ($-.180$ and $-.150$). In addition, criticism of father was negatively correlated with personal and social adjustment in girls ($-.192$).

The fact that these two items (criticizing mother and criticizing father) were so highly correlated with each other probably means, as has already been suggested, that they together represent in the youngster a single, critical, unappreciative attitude toward home life in general. In girls a tendency not to assume personal responsibility in maintaining satisfactory relationships with others was also added to the picture. The suggestion

TABLE 14.—*Correlations between mentioning something not liked in mother and scores on personality scales.*

Variable		r	σ_r	C.R.	Odds
Personal responsibility	boys	$-.114$	.072	1.58	...
	girls	$-.180$	.067	2.69	99:1
Attitude toward home life	boys	$-.191$	.070	2.73	99:1
	girls	$-.206$	.066	3.12	99:1
Average personality score	boys	$-.156$	.070	2.23	95:5
	girls	$-.151$	.068	2.22	95:5

TABLE 15.—*Correlations between mentioning something not liked in father and scores on personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	-.088	.072	1.22	...
	girls	-.192	.065	2.95	99:1
Personal responsibility	boys	-.085	.073	1.16	...
	girls	-.150	.066	2.27	95:5
Attitude toward home life	boys	-.246	.070	3.51	99:1
	girls	-.195	.065	3.00	99:1
Average personality score	boys	-.121	.072	1.68	99:1
	girls	-.175	.065	2.69	...

is that some of the same factors which produced an unappreciative attitude toward home life and, in girls, a lack of personal responsibility probably had some part in creating a tendency to criticize the parents. Among those causal factors may have been, in many instances, certain undesirable personal characteristics and habits of parents such, for example, as the habit of scolding and nagging, or irritability, which were among those faults most frequently mentioned. The correlation of criticizing father with adjustment in girls, though slight, suggests that the person-to-person relationships between father and daughter are of some significance in her home life.

Punishment.—Another item in this group was one which asked, "Were you scolded or punished at home last week?" Twenty-seven per cent of the boys and twenty-five per cent of the girls answered in the affirmative. There was in boys a correlation of .213 between having been punished and scores in rationality of thinking. This was one of the three coefficients among the thirty-four with that personality variable which were large enough to be statistically significant.

TABLE 16.—*Correlations between admitting having been punished during previous week and scores on personality scales.*

Variable		r	σ_r	C.R.	Odds
Rationality	boys	-.213	.073	2.92	99:1
	girls	-.026	.072	0.36	...
Adjustment	boys	-.270	.071	3.80	99:1
	girls	-.252	.068	3.71	99:1
Attitude toward home life	boys	-.225	.072	3.13	99:1
	girls	-.230	.070	3.29	99:1
Average personality rating	boys	-.231	.073	3.16	99:1
	girls	-.161	.071	2.27	95:5

The correlations between admitting punishment and personal and social adjustment, attitude toward home life, and average personality rating were reliable in both boys and girls. These coefficients were, for boys and girls respectively, $-.270$ and $-.252$ with adjustment, $-.225$ and $-.230$ with home attitude, and $-.231$ and $-.161$ with average personality rating.

It is probable that for those who admitted having been punished during the previous week, punishment at home was more frequent on the average than for those who made no such admission. Adolescence is the stage of development when it is normal to strive toward the status of independent adulthood. To subject a youngster of that age frequently to the humiliation of being punished as a child, presumably might produce in him violent emotional reactions and persistent emotionalized attitudes. These might reveal themselves in the form of "abnormal" responses to the words of the association test (low scores in rationality of thinking) and also in the form of low scores in the test of personal and social adjustment.

Confiding in mother.—"Do you tell your mother your joys and troubles?" was the fourth item of this group. Thirty-two per cent of the boys and 57 per cent of the girls stated that they thus confide in their mothers. Five of the twenty correlations of this item with the personality scores were reliable. The highest of these in both boys and girls were the correlations with attitude toward home life ($.201$ for boys and $.310$ for girls, Table 17). For boys, confiding in mother was slightly correlated with scores in ethical judgment ($.190$), while for girls, but not for boys, it was correlated to a similar degree with scores in resourcefulness in the group situation ($.184$). Girls' confiding in mother was also correlated with average personality rating.

The above results suggest that the farm boy, perhaps more frequently than his sister, finds himself faced with problems involving ethical and moral judgment and that it is in that sphere that he gains most through talking things over with his mother. The girl, on the other hand, is perhaps more concerned in succeeding socially—in acquiring social competence—and consequently the problems and joys which she shares with her mother tend to be of a social nature.

TABLE 17.—*Association between telling mother joys and troubles, and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Ethical judgment	boys	.190	.077	2.47	95:5
	girls	-.013	.073	0.18	...
Resourcefulness in group situation	boys	-.080	.074	1.08	...
	girls	.184	.066	2.79	99:1
Attitude toward home life	boys	.201	.072	2.79	99:1
	girls	.310	.062	5.00	99:1
Average personality rating	boys	.087	.073	1.19	...
	girls	.173	.065	2.66	99:1

Confiding in father.—Confiding in father had some significance for girls but none whatever for boys. This item correlated .214 with personal and social adjustment, .160 with attitude toward work, and .226 with average personality rating in girls. Only 27 per cent of the boys and 23 per cent of the girls admitted confiding in the father. Of these girls who admitted confiding in the father not one scored in the lower third of the range of adjustment scores. Girls with fairly adequate personal and social adjustment, in other words, were the ones who tended to share their joys and troubles with their fathers. This was also true but to a lesser degree in boys. Whether being able to confide in the father is a causal factor determining adequacy of adjustment and attitude toward work in girls, or whether those possessing these characteristics naturally tend to confide in the father cannot be determined from our present data. This item was the only one of the six concerning person-to-person relationships between parents and child which did not show some relationship to attitude toward home life.

TABLE 18.—*Association between telling father joys and troubles, and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	.079	.076	1.04	...
	girls	.214	.070	3.06	99:1
Attitude toward work	boys	.080	.076	1.05	...
	girls	.160	.072	2.22	95:5
Average personality rating	boys	.129	.075	1.72	...
	girls	.226	.059	3.83	99:1

Kissing mother.—Fifty-three per cent of the boys and 76 per cent of the girls answered that they kissed their mothers "occasionally" or "every day." Kissing mother showed some correlation in boys with the same two personality variables as did confiding in mother, *i.e.*, ethical judgment (.176) and attitude toward home life (.270). In girls it was correlated with resourcefulness in the group (.159) and attitude toward home life (.288), as was the item confiding in mother, but in addition it was correlated with adjustment (.156) and negatively with honesty (-.200). As with the other items involving actual behavior of the youngsters themselves, we cannot determine from our data which is most frequently the causal factor, the behavior or the personal qualities correlated with it. Girls who tend to be socially resourceful, who appreciate their home life, and who have an inclination to claim information dishonestly, and boys who are more ethical in their judgments of social situations and who appreciate their home life, we know, were those who more frequently admitted kissing their mothers. We do not know, however, to what extent the mother-child relationship which involved that demonstration of affection was actually a factor making for the development of those *personal qualities* in the youngsters.

TABLE 19.—*Association between kissing mother and scores on personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	.068	.074	0.92	...
	girls	.156	.073	2.14	95:5
Honesty	boys	-.023	.072	0.32	...
	girls	-.200	.071	2.82	99:1
Ethical judgment	boys	.176	.080	2.20	95:5
	girls	.025	.082	0.30	...
Resourcefulness in group situations	boys	.111	.072	1.54	...
	girls	.159	.073	2.18	95:5
Attitude toward home life	boys	.270	.069	3.91	99:1
	girls	.288	.071	4.06	99:1

Meals together as a family group at regular hours.—The group of home life items yet to be discussed are those involving family group activities and social life in the home. One of these is the custom of having meals together as a family group at regular hours. Approximately two-thirds of both sexes responded "nearly always" to this question. Only two of the personality variables yielded reliable correlations with this family custom (Table 20). These were ethical judgment and attitude toward home life. Average personality ratings for both sexes, however, showed some relationship with this item. The reliable coefficients were, for boys and girls respectively, .223 and .189 for ethical judgment, .256, .184 for attitude toward home life, and .184 and .145 for average personality ratings. It will be noted that the correlation was somewhat higher in each case for boys than for girls.

TABLE 20.—*Correlations between the custom of having meals together as a family at regular hours and the personality test scores.*

Variable		r	σ_r	C.R.	Odds
Ethical judgment	boys	.223	.083	2.69	99:1
	girls	.189	.076	2.49	95:5
Attitude toward home life	boys	.256	.071	3.61	99:1
	girls	.184	.069	2.67	99:1
Average personality rating	boys	.184	.072	2.56	95:5
	girls	.145	.069	2.10	95:5

That there should be some connection between an appreciative attitude toward home life and the custom of regularly gathering as a family group for meals seems reasonable. On a farm where activities are so hurried and so ill-organized that meals are snatched more or less individually and at all hours, there would likely be little to appreciate about the home life.

On the other hand, meal time for a family group, and particularly for a farm family group where outside social contacts are not so immediate, may conceivably come to be one of the most valuable, from the point of view of social training, as well as one of the most happy and memorable features of family life. The positive correlations, even though they are small, indicate that some generalized habits of ethical behavior and judgment do tend to become established in young people who grow up in families of which the custom of regular family meals is characteristic.

Going places with the family.—Another item related to the social environment of the family was one which asked, "Do you go *with your family* on visits, trips, picnics, to church gatherings, shows or entertainments, etc.?" Sex differences appear again with this item. Fifty-three per cent of the boys as compared with 66 per cent of the girls reported that they went "often" with the family. For boys the reliable correlations were with ethical judgment (.307), personal responsibility (.148), and attitude towards life (.268). Scores in ethical judgment and personal responsibility in girls did not correlate significantly with this item. Resourcefulness in the group situation, however, which correlated zero in boys, did correlate in the girls to the extent of .208 with going places with the family. Average personality ratings for both boys and girls were related to this home life factor.

TABLE 21.—*Correlations between joining the family group on visits, trips, picnics, in going to church gatherings, entertainments, etc., and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Ethical judgment	boys	.307	.070	4.21	99:1
	girls	.090	.074	1.22	...
Resourcefulness in group situation	boys	.003	.071	0.04	...
	girls	.208	.065	3.20	99:1
Personal responsibility	boys	.148	.069	2.14	95:5
	girls	.050	.067	0.75	...
Attitude toward home life	boys	.268	.066	4.06	99:1
	girls	.145	.069	2.10	95:5
Average personality rating	boys	.147	.068	2.16	95:5
	girls	.172	.065	2.65	99:1

All of the personality variables involved in the above correlations have a social reference. The ethical judgment score is based upon judgment of the relative social desirability of a number of possible reactions to common social situations. Personal responsibility was described as the tendency on the part of the young person to be "conscientious in keeping his agreements, meeting his obligations, and keeping up his end generally in his relationships with others." Adolescent boys as a rule are less inclined, perhaps, to accompany the family group on trips and visits or to

church and entertainments, than are girls of the same age. It may be, therefore, that the family that can interest the boy in such group activities to the extent that he will frequently participate with the rest is of the sort of family that especially fosters the development of these socially desirable habits in the boy. Again it may be that the boy who has acquired such habits from his various other social contacts is more inclined to join with the family in such activities. At any rate, adolescent farm boys who scored high on the scales of ethical judgment and personal responsibility tended to be the ones who claimed frequently to accompany the family group in its social and recreational activities. Likewise those girls who scored high in resourcefulness in group situations were the ones who more frequently joined the family party. As might be expected, attitude toward home life was somewhat related to such participation, especially in boys.

Having enjoyable times together in the home as a family group.—One of the two items of the home-life questionnaire which showed relationship to the largest number of personality scores was the one which asked: "Does your family have enjoyable times together in your home playing games, reading aloud, telling stories, or singing and playing instruments, etc.?" Boys and girls, however, apparently differed as to what they regarded as a "good time" since only 46 per cent of the boys as compared with 58 per cent of the girls reported that their families often had good times in the home.

The correlations for this item are given in Table 22. Seven of the nine personality variables showed some relationship with this item in either boys or girls and four of them in both boys and girls. These latter were as follows: adjustment, .259 for boys and .150 for girls; independence in personal matters, .223 for boys and .161 for girls; attitude toward home life, .241 for boys and .172 for girls; attitude toward work, .190 for boys and .164 for girls. All of them are again quite low but in each case the correlation is higher in boys than in girls. In addition to these relationships common to both sexes the item was correlated in boys to the extent of .185 with personal responsibility, and in girls to the extent of .200 with resourcefulness in the group situation. These sex differences are quite similar to those which appeared in connection with joining in the social and recreational activities of the family outside the home.

The remaining significant correlation for this item was one of $-.202$ with honesty in boys. That the socially undesirable tendency to be dishonest should be associated in boys with the family custom of having good times together in the home seems somewhat inconsistent with the results described above. At least three possible interpretations suggest themselves:

(1) The correlation may be due to a tendency to lie for prestige both for self and for family. The boy who is inclined dishonestly to hide his ignorance in the school situation may be inclined also to lie in order to present his home situation in a desirable light. If this were true, dishonesty would not be related in any true sense with enjoyable times in the home,

TABLE 22.—*Correlations between admitting having enjoyable times together (games, stories, music, etc.) as a family group and the personality variables.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	.259	.067	3.87	99:1
	girls	.150	.064	2.34	95:5
Honesty	boys	-.202	.067	3.01	99:1
	girls	-.092	.066	1.39	...
Independence in personal matters	boys	.223	.068	3.28	99:1
	girls	.161	.065	2.48	95:5
Resourcefulness in group situation	boys	.107	.070	1.53	...
	girls	.200	.064	3.13	99:1
Personal responsibility	boys	.185	.069	2.68	99:1
	girls	.104	.065	1.60	...
Attitude toward home life	boys	.241	.068	3.54	99:1
	girls	.172	.065	2.63	99:1
Attitude toward work	boys	.190	.068	2.79	99:1
	girls	.164	.065	2.52	95:5
Average personality rating	boys	.252	.066	3.82	99:1
	girls	.183	.064	2.86	99:1

but the obtained correlation would be due to a certain consistency in being dishonest in regard to different matters. This interpretation is probably not acceptable for certain reasons. In the first place studies of honesty and deceit¹⁹ indicate that honest or deceitful behavior at any time in a given child depends pretty largely upon the particular situation and upon the motivation involved, and that there is no such thing as a generalized trait of honesty or of deceitfulness which consistently operates in many different situations. Secondly, the other results of the present study stand against this interpretation. If it were merely a matter of consistency in lying for self and family a similar degree of negative correlation would be expected between honesty and the other items dealing with desirable features of family life. Such correlations did not appear.

(2) It may be that the family that engages very frequently in pleasurable activities in the home gives relatively little consideration to such serious matters as honesty or veracity of statement. Consequently boys from such families could more easily claim information dishonestly without qualms of conscience than those from families characterized by a more serious atmosphere. The obtained correlation would then indicate a true relationship between this particular type of family life and dishonesty in boys. The fact that no similar correlation appeared in girls may be due to a difference in motivation in the particular situation

¹⁹ H. Hartshorne and M. A. May, *Studies in Deceit*, and Hartshorne, May, and F. K. Shuttleworth, *Studies in the Nature of Character*, Parts I and III, Macmillan Co., 1928 and 1930.

presented by the honesty test and not to any actual sex difference in the general tendency to dishonestly claim information. This is a possible, but perhaps not a very plausible, interpretation of the matter.

(3) Another possibility is that the correlation may be due in part, at least, to the nature of the test of honesty. The test is entitled, "What do you know about sports and hobbies?" It consists of five facts about sports and famous individuals in the field of sports, invention, and industry so commonly known that all should know about them, and ten other items in the same fields so difficult to remember that, it is assumed, no boy or girl of that age would know them. The honesty score is the number of these difficult items which the subject admits he does not know. Now it may be that young people, and particularly boys of the family which is interested in and engages in sports and games and group activity of various sorts, may, because of their interests, actually know more difficult items of information such as those asked for in the test. Or perhaps, not knowing them, they may be more strongly motivated to claim knowledge than the boys of other families. Since honesty has been shown to be rather specific to situations and not a generalized trait which carries over into all situations, it may be that these young people would be even more honest than the average in different situations in which they considered trustworthy or honest behavior of real importance.

At any rate with the exception of this one negative relationship, our results concerning this item are consistent with the view, often expressed, that happy relationships and little tension between members of the family are characteristic of successful family life. Both boys and girls of the family in which these group activities are enjoyed show a slight tendency to be better adjusted socially and personally, more self-reliant in meeting their personal problems and difficulties, more appreciative of home life and of the importance of work as well as leisure and play. Moreover, the boys from these families were somewhat more inclined to assume personal responsibility in keeping their appointments and agreements with others, and the girls tended to be more self-reliant and resourceful in group situations. These are all socially desirable personal qualities, and according to our criterion the family which turns out such personality products is the successful family. The family custom of enjoying games, stories, singing, and other recreational activities together in the home may be regarded, therefore, as one of the important characteristics of the successful farm family.

Parents' attitude toward child's friends in the home.—The remaining item concerned with the social life of the family asked whether or not the parents liked to have the youngster bring his friends, or have them come to his home. Again, a greater proportion of girls than of boys answered this item in the affirmative. These proportions were 71 per cent for girls and 58 per cent for boys. This factor also proved to be one of the more significant ones, particularly in the case of the boys. It was, for them, reliably correlated with scores on seven of the nine personality scales (Table 23). The highest of these correlations was with personal

and social adjustment (.441). The other variables which showed some correlation in boys with this item were rationality of thinking (.145), independence in personal matters (.218), resourcefulness in the group situation (.216), personal responsibility (.201), attitude toward home life (.181), and attitude toward work (.229). Three of these variables, resourcefulness in the group situation, personal responsibility, and attitude toward home life, were also reliably correlated in girls with parental acceptance of her friends. These coefficients were .208, .227, and .271 respectively.

TABLE 23.—*Correlations between parents' approval of child's friends in the home and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Rationality of thinking	boys	.145	.069	2.10	95:5
	girls	.046	.068	0.68	...
Adjustment	boys	.441	.059	7.47	99:1
	girls	.119	.068	1.75	...
Independence in personal matters	boys	.218	.069	3.16	99:1
	girls	.086	.068	1.26	...
Resourcefulness in group situation	boys	.216	.068	3.18	99:1
	girls	.208	.067	3.10	99:1
Personal responsibility	boys	.201	.070	2.87	99:1
	girls	.227	.067	3.39	99:1
Attitude toward home life	boys	.181	.069	2.62	99:1
	girls	.271	.066	4.11	99:1
Attitude toward work	boys	.229	.067	3.42	99:1
	girls	.060	.069	0.87	...
Average personality rating	boys	.355	.064	5.55	99:1
	girls	.221	.066	3.35	99:1

As has been the case with other items of the questionnaire, various possible interpretations might be suggested for these relationships. They may mean that the adequacy of the young person's adjustment, his freedom from irrational and emotionalized associations, the degree of independence of judgment which he manifests in regard to his personal problems, the extent to which he manages well his appointments and relations with others, etc. all depend to some degree upon whether or not his parents trust his judgment in the selection of his friends and accept and welcome them into his home. The happy tensionless association with his friends in his home and elsewhere with the knowledge of his parents' approval would presumably contribute to his development in these socialized habits and attitudes. On the other hand, the correlations may be at least in part due to the fact that the youngster who possesses these attributes tends to select friends which are acceptable from the parents' point of view and hence welcomed into the home. It may well be that

this parental attitude is in some cases a causal factor, along with the many others, which makes for more socially desirable personality development in children, and in other cases a consequence of such development, probably more often both. In any case parental welcome of the child's friends in the home is, according to our results, one of the more important characteristics of the successful farm family.

The discussion of the separate home life items in relation to personality scores may be briefly summarized as follows:

(1) Many of the items were found to be correlated with relatively few of the aspects of personality measured. Such statistically reliable correlations as were obtained were all low and most of them very low. This, of course, is to be expected since the factors associated with personality development are unnumbered and to establish even a small degree of relationship between a socially desirable personality trait and a single item of the home environment is of some importance.

(2) Those items of home life which involved the farm youngster's activities—his interactions with individuals and his participation in family group activities—were found to be most clearly related to his personality development. These facts are shown in the following summary tabulation:

Class		No. significant correlations	Av. no. per item	Av. size significant correlations
1. Items involving no activity on part of child (5 items)	boys	8	1.6	.175
	girls	5	1.0	.169
2. Person-to-person rela- tionships (6 items)	boys	9	1.5	.220
	girls	15	2.5	.205
3. Group activities and social relations in home (4 items)	boys	18	4.5	.230
	girls	12	3.0	.190

Not only was there, in general, a greater average number of statistically significant correlations per item for classes 2 and 3 but the average size of those correlations was larger than for those of class 1.

(3) Several items of home life appeared to be of some importance for one sex and not particularly so for the other. Family group activities and parental attitude toward friends in the home were of most significance for boys, while in general the more intimate, person-to-person relationships were perhaps more important for girls. The items of class 1 above were of slightly greater importance to boys than to girls.

Composite home life ratings.—It seemed desirable, in view of the facts summarized above, to determine for each individual two composite home-life ratings, one based upon the items having to do with the work of the mother and the health of the parents and the other from those items involving personal relationships and family group activities. The simple arbitrary scheme of allowing zero, one, and two points credit for the three alternative responses to each item was adopted. For example the alternative responses to the item which asked whether the mother was nervous were "most of the time," "sometimes," and "almost never." Since the first

response is, presumably, the least desirable of the three it received zero credit. The other two were scored one and two respectively. The first set of ratings (home life rating I) based upon only five items gave a range from 0 to 10; while the second set (home life rating II) based upon ten items ranged up to 20.

Product-moment correlations were computed between these home-life ratings and the personality scores. For the first set of ratings only two of these correlations were large enough to pass the test of statistical significance. Those were .191 with personal adjustment and .176 with average personality rating for boys. The corresponding coefficients for girls were practically zero. These results emphasize again our previous conclusion that those items of home life which did not involve the activity or participation of the youngster were of very little importance in his personality adjustments. When grouped together to form a composite rating they appear to be of some little importance to boys but of no consequence whatever to girls.

Home life rating II, based upon items involving social interaction and participation, on the other hand, was found to correlate to some extent with six of the nine personality variables in boys and with four of them in girls. It was also significantly correlated with average personality rating for both boys and girls. Most of these relationships, given in Table 24, are quite low. The highest among them were those with attitude toward home life which were .408 and .397 in boys and girls respectively. The correlations with personal adjustment and with personal responsibility (dependability in maintaining satisfactory relationships with others) were the next highest in order. The young farm person's appreciation of his

TABLE 24.—*Association between home life rating II and scores on the personality scales.*

Variable		r	σ_r	C.R.	Odds
Adjustment	boys	.246	.053	4.64	99:1
	girls	.217	.052	4.17	99:1
Ethical judgment	boys	.148	.064	2.31	95:5
	girls	.025	.053	0.47	...
Independence in personal matters	boys	.150	.056	2.68	99:1
	girls	.087	.052	1.67	...
Personal responsibility	boys	.222	.055	4.04	99:1
	girls	.192	.052	3.69	99:1
Attitude toward home life	boys	.408	.052	7.85	99:1
	girls	.397	.046	8.63	99:1
Attitude toward work	boys	.155	.055	2.82	99:1
	girls	.097	.052	1.87	...
Average personality rating	boys	.331	.050	6.62	99:1
	girls	.259	.050	5.18	99:1

home life is clearly related to the group activities and social life in the home in which he may participate, as well as the intimate person-to-person relationships with his parents. His personal adjustment and personality development in general are also related to some extent with those same factors of home life.

Criteria of family success.—As was stated in the beginning, the success of a family may be evaluated in terms of its personality products. Even though human personality is extremely varied and complex, and even though every individual personality is unique in its combination and organization of traits, capacities, attitudes, and habits, nevertheless it is possible by means of standardized scales to measure certain common aspects of personality in large numbers of individuals and to place each individual on a continuum for each measured aspect in relation to the group. Each of the personality variables dealt with in this study represents one aspect of the socially desirable personality. A given child's position on any one continuum may therefore be taken as an index of family success in so far as the development of that particular aspect of personality in that particular child was concerned.

In the last section it was shown that certain of the items of the home environment were more closely associated with the development of a larger number of aspects of personality than were others. These items were, according to our criterion, more frequently characteristic of successful farm family life. An examination of the tables revealed also that certain of the variables of personality were apparently affected by (correlated with) larger numbers of home-life factors. This was true, in particular, of attitude toward home life and personal adjustment. These two variables were also found to be most highly correlated with the composite home-life rating II. They clearly represent more general aspects of personality development than the other variables. They, together with the average personality score, were selected as the three most adequate criteria of family success.

The characteristics of successful farm family life according to the criterion of appreciation on the part of young people (attitude toward home life).—Working on the assumption that the attitude of a boy or girl toward his home life is one sort of index of the "success" of his family, the distribution of attitude scores was cut, as nearly as was feasible, at one standard deviation on each side of the mean. As before, the data for the two sexes were treated separately. These two extreme home-attitude groups were then compared as to the proportion of the individuals in each who answered in the affirmative each of the fifteen separate home-life items. These differences in proportion were converted into standard values (critical ratios) by dividing each by its standard deviation, and are shown graphically in Figure 1. In cases where the differences in proportion of affirmative answers were on the side of the non-appreciative (low attitude score) group they are shown as negative values. No difference is considered reliable which is less than two times its standard error (has a value less than 2 or -2 in the figure).

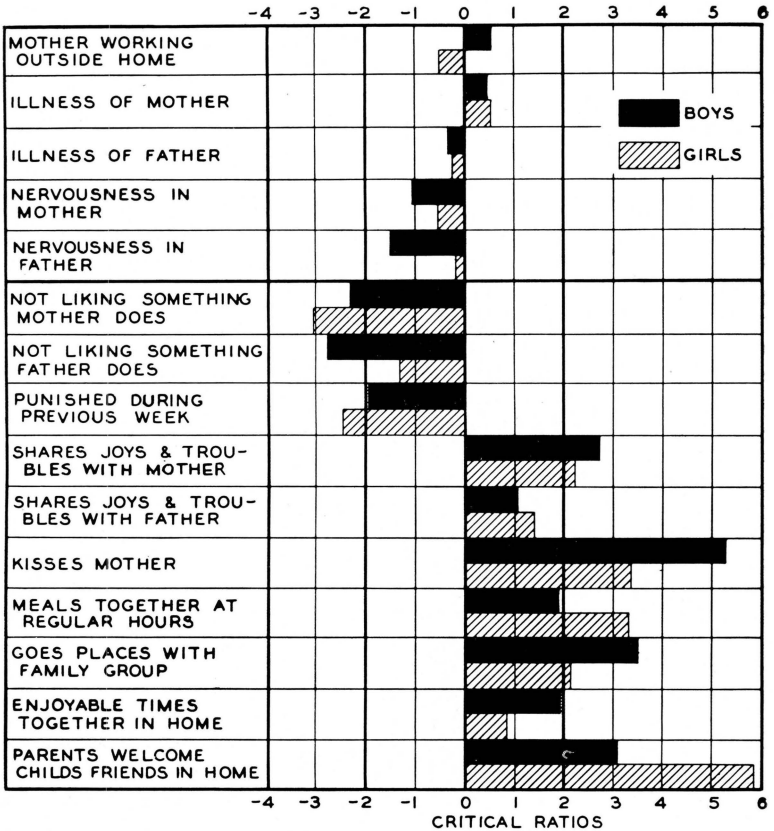


FIG. 1.—Relation of home-life items to "successful" family life, with appreciation of (attitude toward) home life as the criterion of success. Differences in proportions of farm boys and girls with appreciative attitude toward home life and those with non-appreciative attitude, who answered each home-life item affirmatively, are shown.

The same general facts that were shown in the correlational analysis are pictured here. The items having to do with the work of the mother and the illness and nervousness of the parents were not related to any reliable degree with the appreciation of home life in either boys or girls. The items most characteristic of "successful" family life, according to the present criterion, from the viewpoint of the farm boy were: (1) an affectionate relationship between the boy and his mother (expressed by the boy kissing his mother), (2) frequent family recreation such as picnics, visits, church gatherings, entertainments, etc. in which he participates, (3) an attitude of welcome on the part of parents toward the boy's friends in his home, (4) nothing in the behavior of the father which the boy

particularly dislikes, (5) a confidential relationship with the mother, and (6) nothing in the behavior of the mother which he particularly dislikes.

All but one item in the above list are also included, with some additional ones, in the list for the girls. Successful farm family life from the point of view of the girl's appreciation, then, includes the following characteristics: (1) an attitude of welcome on the part of the parents toward the girl's friends in her home, (2) an affectionate relationship between the girl and her mother (frequently kisses her mother), (3) the custom of having meals together as a family group at regular hours, (4) nothing in the behavior of the mother which the girl particularly dislikes, (5) no recent punishment, (6) a confidential relationship with the mother, and (7) frequent family excursions (picnics, visits, church entertainments, etc.) in which she participates.

In order to present a similar graphic representation of the importance of the composite home environmental ratings in determining "successful" farm family life (appreciation of home life) the same extreme attitude groups were compared as to average ratings in (1) economic level, (2) cultural level, (3) health (physical and emotional) of parents (home life rating I), and (4) family group activities and social life in the home (home life rating II). The differences are presented in terms of their critical ratios in Figure 2. The relatively great importance of the rating

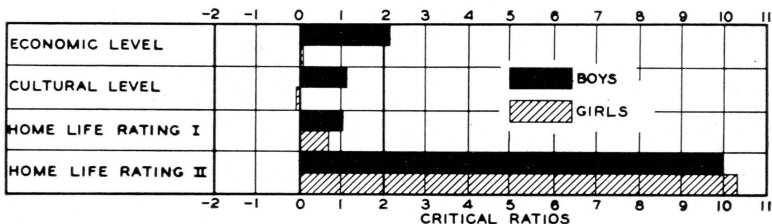


FIG. 2.—Composite home-environmental ratings and "successful" family life, with appreciation of (attitude toward) home life as the criterion of success.

in family-group and social activities in both sexes is again made obvious in the figure. Economic level of the family was of some significance for the boys but not for the girls. In general, we may say that the degree of appreciation and regard farm boys and girls express toward their home life depends, not so much upon the economic or cultural level of the family, and not upon whether the mother works outside or whether the parents are ill or nervous, but rather upon the various activities the family members join in as a family group and the social life in the home, and the intimate personal relationships between parents and child.

Characteristics of successful farm family life according to the criterion of personal and social adjustment.—Figure 3 shows graphically the differences in proportions between well adjusted boys and girls and poorly adjusted boys and girls (in terms of adjustment test scores) who answered each home-life item affirmatively. With personal and social adjustment in children as the criterion of family success the social environmental

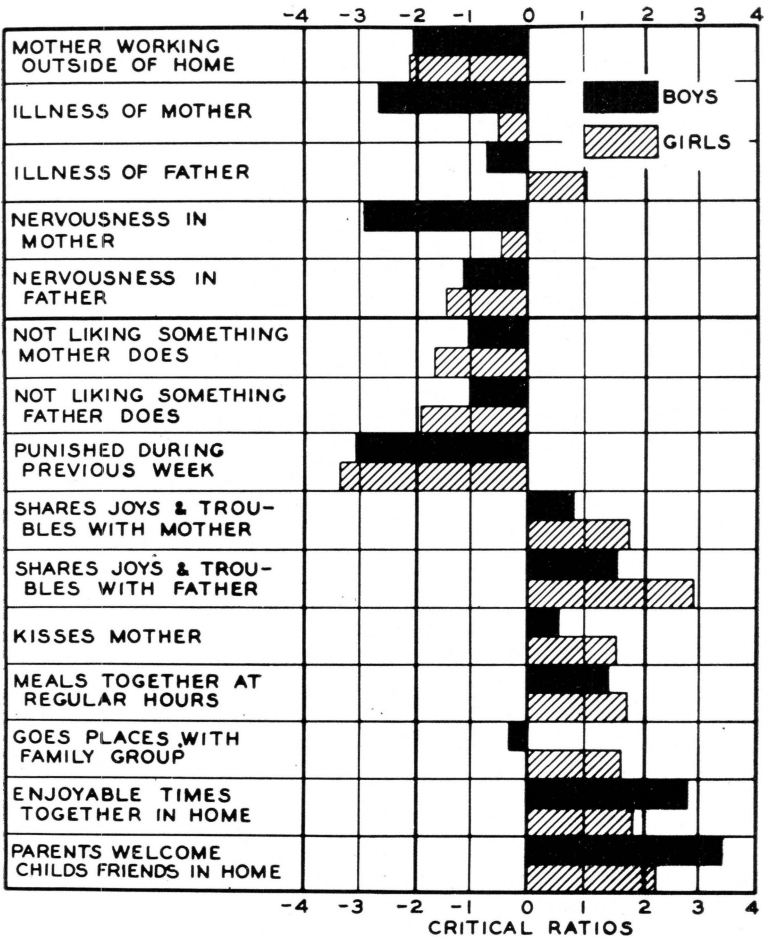


FIG. 3.—Relation of home-life items to "successful" family life with adequacy of personal adjustment as the criterion of success.

picture here is somewhat different from that presented above. Some of the items involving relatively little personal interaction or participation showed significant differences between the two extreme groups in this case, particularly in boys.

The characteristics of successful farm family life from the point of view of the personal adjustment of the boy were, in the order of their significance, as follows: (1) an attitude of welcome on the part of parents toward the boy's friends in the home, (2) no recent punishment, (3) a minimum of nervousness manifested in mother, (4) frequently having enjoyable times together in the home as a family group, engaging in such

activities as playing games, telling stories or singing and playing instruments, (5) relatively little illness of mother.

From the point of view of the girl's adjustment, the four following items were characteristic of successful family life: (1) no recent punishment, (2) a confidential relationship with the father, (3) an attitude of welcome in parents toward the girl's friends in the home, and (4) a minimum of participation of the mother in the work outside the home.

The relation of each of the composite home-environment ratings to this sort of family success is shown in Figure 4. The differences between

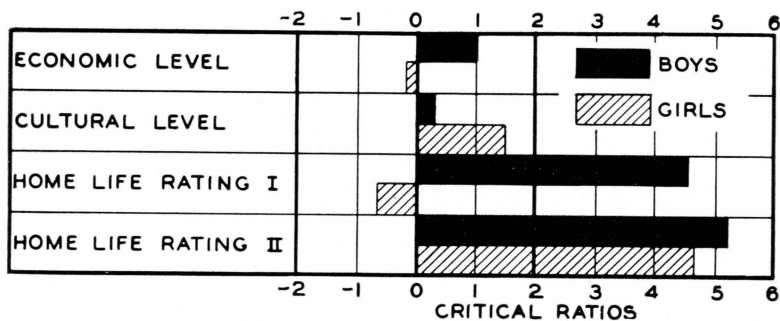


FIG. 4.—Composite home-environmental ratings and "successful" family life, with adequacy of personal adjustment of young people as the criterion of success.

extreme adjustment groups in average rating in group and social activities (home life rating 11) are not so great as those between the home life attitude criterion groups. For girls, however, no other difference is large enough to be significant. Home life rating I regarding mother's work and the health of the parents is again shown here to represent an important factor in the adjustment of the farm boy, but not in that of the girl. Economic level and cultural level were not important factors in successful farm family life according to the personal adjustment criterion.

Characteristics of successful family life with average personality rating as the criterion.—Groups representing the "successful" and the "unsuccessful" family life as judged by the average personality scores of the youngsters were selected in the same manner as with the criteria of appreciation and personal adjustment. Differences in proportions between the extreme groups answering each single item affirmatively and differences in average home environment ratings are shown in Figures 5 and 6. In general the items on which the extreme groups differed most were also most highly correlated with average personality scores.

According to this criterion, then, the items of home life most characteristic of the "successful" family from the point of view of the farm boy are as follows: (1) an attitude of welcome in parents toward the boy's friends in the home, (2) frequently having enjoyable times together in the home as a family group, (3) a minimum of nervousness manifested in the father, (4) no recent punishment, (5) a minimum of nervousness

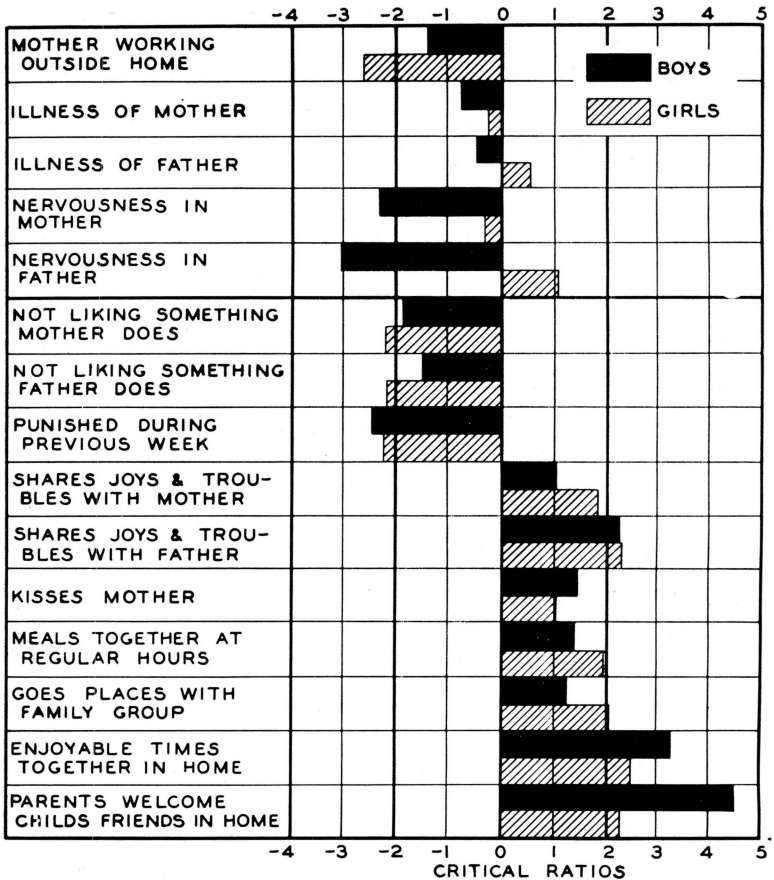


FIG. 5.—Relation of home-life items to "successful" family life with average personality ratings as the criterion of success.

manifested in the mother, and (6) a confidential relationship between the boy and his father.

Successful farm family life from the viewpoint of the girl's general personality development has the following characteristics: (1) a minimum of participation of the mother in the work outside the home, (2) frequently having enjoyable times together in the home, (3) no recent punishment, (4) a confidential relationship between the girl and her father, (5) an attitude of welcome in parents toward the girl's friends in the home, (6) nothing in the behavior of the mother which the girl particularly dislikes, (7) nothing in the behavior of the father which she particularly dislikes, and (8) frequent family excursions (picnics, visits, church, etc.) in which the girl participates. Two other items, namely, the custom of having regular

meals together as a family group and a confidential relationship between the girl and her mother, should perhaps be included in the list, since the differences as shown in Figure 5 approach very closely statistical significance, and since both items correlate significantly with average standard scores (Tables 17, 20). Except for the item concerning the mother's outside work all items of the list have to do with the group and social activities.

The composite home environmental rating II involving these group and social activities was the only one of the four in which the high and low criterion groups of girls differed significantly (Figure 6). For the

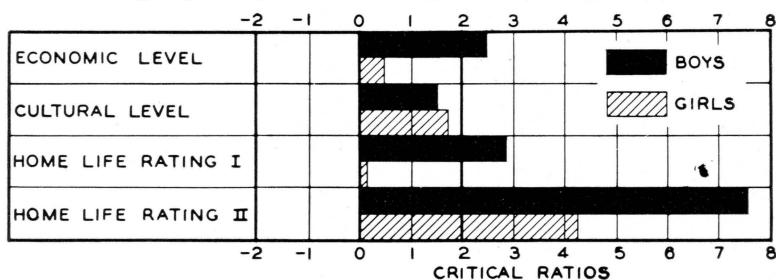


FIG. 6.—Composite home-environmental ratings and "successful" family life, with average personality ratings as the criterion of success.

boys, however, significant differences were found in economic level and in both the home life ratings. The difference in home life rating II is by far the greater in boys.

DISCUSSION AND GENERAL CONCLUSIONS

One of the noticeable features of this study of farm youth is the consistently low order of the correlations between the various factors of the home environment and the personality scores. Sixty-seven of the 270 separate coefficients of correlation among the 9 personality variables and the 15 home-life items (boys and girls treated separately) were large enough for statistical reliability. Of the 67 reliable coefficients, 32 were greater than .20. This, however, is to be expected. Personality qualities are multiply determined. Unnumbered experiences and activities in a great variety of life situations such as those furnished by family life, by the school, and by the work on the farm all presumably play their part, in connection with hereditary inclinations, in the development of the many-sided personality. It would be surprising, therefore, to find a high degree of relationship between any single item of the environment and a single "trait" of personality as measured by the available tests. Hence it is significant to show, for example, that mother's working outside the home is negatively correlated with the personal adjustment of her adolescent daughter to the extent of .20. It is also important, in the light of what is generally believed to be true, to find that no reliable degree of correlation existed in either boys or girls between confiding in mother and personal adjustment.

A number of differences between boys and girls in average scores on the personality tests were pointed out. Although most of these differences were small their standard errors were also small because of the size of the samples, and consequently they may be relied upon as representing genuine sex differences in rural adolescents of Nebraska. One of these was a slight difference in favor of the girls in brightness, or I.Q., as measured by the Otis test. This is in harmony with the generally accepted view that girls mature physically and mentally somewhat earlier than boys. Girls also excelled in average scores in honesty, in ethical discrimination, in personal responsibility in regard to maintaining satisfactory relationships with others, and in resourcefulness in the group situation. All of these qualities involve to some extent social relationships. Most of them, however, were somewhat correlated with intelligence quotient. Female superiority in them, therefore, is probably due in part to cultural differences and also in part to differences in degree of maturity between boys and girls of adolescent ages.

Boys on the other hand were superior to girls in independence of decision in meeting personal problems and difficulties, and also to a slight degree in personal adjustment. In view of the relationships shown between these qualities and intelligence in both sexes the differences favoring boys were most likely due to environmental causes.

This apparently greater susceptibility of boys to environmental influences was most clearly shown in the correlations between the home-life factors and the personality scores. Again the differences between the sexes were very small but in general rather consistent. The partial correlation between the average personality scores and the composite home-life ratings based upon the items of the questionnaire involving most social interaction and participation (home-life rating II), with intelligence quotient held constant, for boys and girls respectively were .334 and .281. Similar correlations between average personality scores and intelligence quotient, with the home-life factor held constant, were .159 and .290 for boys and girls respectively. Home-environmental factors were more closely related to personality scores in boys than in girls, while intelligence (Otis I.Q.) was more closely related to personality score in girls than in boys. The two factors, I.Q. and environment, were of approximately equal importance in girls, while the environmental factor was of relatively greater importance in boys.

It might be argued that the true relationship between environmental factors and personality scores was obscured to a greater extent in girls than in boys because of the tendency to respond to the personality scale items with what they regarded as the desirable responses rather than to rate themselves accurately as they were. The girls, being a little brighter and perhaps motivated even more strongly so far as the characteristics involving social relationships were concerned, were a little more successful in discriminating between the socially desirable and undesirable responses. This explanation, were it acceptable, might at least account for the average superiority of girls in most of the personality tests. How-

ever, the fact that the girls' scores as well as the boys' scores on the honesty test correlated more closely with I.Q. than did scores on any other personality test except ethical judgment seems not to support that interpretation. A set of responses to the honesty test which would give a high score in honesty would, from the point of view of the subject, mean a low and presumably undesirable score in information about sports and hobbies. On the average, then, the personality development of farm girls according to our results is related to a relatively greater extent to general physiological maturation and to a relatively lesser extent to home-environmental influences than is personality development of farm boys. Perhaps it is partly because of the fact that home life for boys is not so closely identified, on the average, with their daily work and hourly existence, but more closely identified with the satisfaction of their needs, and with their comfort and recreation, than it is for girls. Home life and its relationships more frequently mean an escape—a place to rest from work, rather than work itself—to the boy.

What we have said of the home-life factors in general of course does not apply to each particular item studied. Certain items showed closer relationship with personality development in girls than in boys. Among these were mother working outside the home, criticizing the behavior of the mother and of the father, and confidential relationships between parents and child. Most of these items involve, in one way or another, person-to-person relationships.

So far as the young person's appreciation of his home life is concerned, the physical aspects, such as economic level and cultural level, as well as those items of the home life which involved to a minimum degree his personal interaction with his parents or his participation in family activities, such for example as nervousness or illness of either parent, were of little or no consequence to either boys or girls. In general those items involving family group activities and social life in the home, such as having regular meals together, going places with the family group, and having enjoyable times together in the home, were of most significance in their relation to the boy's appreciation of his home life, while those involving person-to-person relationships such as a confidential relationship with mother, or a critical attitude toward the behavior of the mother, were most closely related to the girl's feeling of appreciation of her home life. Both sets of items, however, were of considerable importance to both boys and girls so far as this appreciative attitude was concerned.

When all our criteria of successful family life are considered in combination, some of the more important characteristics of the successful farm family from the standpoint of the personal development of the boy and of the girl, according to the results of this study, are roughly in the order of their importance as follows:

Boy

1. An attitude of welcome on the part of parents toward the child's friend in the home.
2. Frequently to have enjoyable times together in the home as a family group.
3. Infrequent punishment.
4. An affectionate relationship between the boy and his mother (expressed by frequently kissing mother).
5. A minimum of nervousness manifested in the mother.
6. A minimum of nervousness in father.
7. Nothing in the behavior of the mother which he particularly dislikes.
8. Nothing in the behavior of the father which he particularly dislikes.

Girl

1. An attitude of welcome on the part of parents toward the child's friends in the home.
2. Infrequent punishment.
3. Nothing in the behavior of the mother which she particularly dislikes.
4. A minimum of participation of the mother in the work outside the home.
5. A confidential relationship between the girl and her father.
6. An affectionate relationship between the girl and her mother (frequently kisses mother).
7. A confidential relationship between the girl and her mother.
8. Frequent family excursions (picnics, visits, church, etc.) in which she participates.

Certain differences in results between the present study and the White House Conference study²⁰ were noted. For example, according to the results of the previous study, illness of parents was found to be negatively related to personal adjustment. In our present results, illness of mother showed a small negative relationship with adequacy of adjustment in boys but no relationship whatever in girls. Furthermore, illness of father, while it showed no relationship with adjustment in boys, was positively correlated to a low but reliable degree with adequacy of adjustment in girls.

Nervousness in parents, another important item related to adjustment according to the results of the White House Conference study, was of no significance to the girls according to our results. As has already been suggested, these differences may be due to differences in age between the two groups of children, or perhaps to the fact that only farm children were included in the group considered here. At any rate, it is apparent that boys and girls do not always react in the same way to a given home environmental situation. It may not safely be assumed that what is desirable or undesirable in the home life of the boy is equally desirable or undesirable in the home life of the girl. Such sex differences have not been shown in previous investigations.

In general, however, our results from the farm group are in agreement with the findings of previous investigations. We may conclude, therefore, in much the same words as the White House Conference report, that "the subtler and more intangible aspects of family life," including the intimate person-to-person relationships and the various forms of social interaction and participation, are most important in relation to the personality development of the children, and hence, to the "success" of the farm family.

²⁰ Cited on page 5.