

EATING BEHAVIOR OF PRESCHOOL CHILDREN IN RELATION TO
CONTROL PATTERNS IN IOWA RURAL FAMILIES

by

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Chapter I

Introduction

During the last few years, much interest has developed in the causal relationship between the procedures used in the home and social groups to control children and the personality adequacy of these children. It is believed that one of the best ways to study the personality adequacy of children is through their behavior in situations.

This study proposed to explore the relationship between patterns of control used by the mother in selected rural families in dealing with their preschool children and the behavior and apparent adequacy of these children in eating situations.

Review of Literature

Little research evidence appears in the literature, concerning the relationship of patterns of family control and eating behavior of children. The research on preschool children's eating behavior deals primarily with food likes and dislikes and feeding problems of preschool children. Furthermore, it is centered in nursery school situations rather than in the home. Stanford¹ found evidence to indicate

1. Stanford, Katherine Elnor, "A Comparative Study of Likes and Dislikes of Two Groups of Nursery School Children". Master's Thesis. Cornell University, June, 1946.

that food likes of children are learned and that children's responses to food will depend on their opportunity for learning.

Sanders² studied likes and dislikes of food in children on the basis of food selection. Although she found that children tended to select protein foods and strongly flavored vegetables, she concluded that there were too many uncontrolled factors in the study to make the findings significant.

Roberts³ concluded, from three master's theses done under her supervision, that children in the upper socio-economic groups portray more feeding problems than those in the lower socio-economic groups.

That these apparent problems in eating cause concern for the mothers of the upper middle class is attested to by such statements as the following from Brannermon⁴, "A pediatrician acquaintance of mine paid for his house with anorexia and it was no small house"

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2. Sanders, Rachel W. "A Study of Children's Selection of Food and Some of the Factors Influencing It". Master's Thesis, Cornell University, 1929.
 3. Roberts, Lydia, Nutrition Work With Children, University of Chicago Press, Chicago, Ill., 1935.
 4. Brannermon, Joseph. "Psychological Aspects of Nutrition in Childhood", Journal of Pediatrics, 1, 1932 (145-171)

The foregoing research agrees with generally accepted opinion that among children of the middle and upper social groups eating problems are common phenomena.

Some research in the literature attempts to study factors associated with these early eating problems. Aldrich⁵ feels that "feeding behavior must be regarded as a major key to the understanding of infant personality".

It is suggested that any feeding problem can be related to two general influences, namely, the psychological and the physiological. Both constantly function in every situation. At times they work together but too often they are in opposition.⁶

Baldwin⁷ studied the relationship of a child's eating habits to his home background and his social adjustment in an unselected group of children. Seventy-six mothers were interviewed about eating habits of their children. The children were rated by (1) appetite,

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5. Aldrich, Charles and Aldrich, Mary. Babies Are Human Beings, Macmillan Company, New York, N. Y., 1939.
 6. Aldrich, Charles A. Cultivating the Child's Appetite, Macmillan Company, New York, N. Y., 1929.
 7. Baldwin, Alfred L. "An Analysis of Children's Eating Behavior", Journal of Pediatrics, 25 (1944) pp. 74-78.

(2) finicalness, and (3) table behavior. On each of the variables a majority of the children were rated unsatisfactory by the interviewers. Good appetite and good table behavior were found where strict discipline was combined with approval of the child. Good appetites also were found in homes which were strict on a few essentials but in which the child's activities were not dominated by the adult. A wide acceptance of food and lack of finicalness were most generally obtained by an abundance of affection and attention. No difference in social adjustment was found among the children in the above groups.

Ciccorelli⁸ suggests that the most common cause of refusal to eat in children is conflict in will between parent and child.

The relationship between emotional behavior and poor eating is further emphasized by Ridenour and Williams⁹ when they state, "Emotions affect eating and digestion at every stage of the process. Fear and anger destroy appetite. Loss of appetite may be the first symptom of poor adjustment in the child and adult. Eating is our first social experience. Forcing the child to eat is a common error of parents and the beginning of eating problems".

8. Ciccorelli, Eugene, "Emotional Factors Operating as a Primary Cause of Malnutrition". Understanding the Child, April, 1942, p. 7, School Psychiatrist Bureau of Child Guidance, Board of Education.

9. Ridenour, Nina and Williams, Edith. "Balanced Diets - Balanced Personalities". The Nervous Child, Vol. 11, p.11, April, 1942.

The few studies in the literature on the feeding of preschool children as suggested by this review deal with food likes and dislikes of children and selected factors associated with general eating behavior.¹⁰

No research was found which attempted to study the relationship between eating behavior of preschool children and control patterns of adults in the home.

Reasons for Study

It is a generally accepted belief that early established psychological and physiological habit patterns are very important in shaping the type of adult a child becomes, i.e., the basic eating patterns as well as behavior patterns laid down in early childhood tend to persist into adulthood. Thus, it becomes extremely important that the right type of behavior is established early.

At the present time there is great difference in the advocated procedures on the part of specialists for the handling of children in the feeding area, with little scientific evidence as to how the child is fed and the effect of these varying procedures in home situations upon the personality development and physical well-being of the child.

10. Newton, Miles. "Association of Early Feeding With Later Behavior." Study in Progress at University of Pennsylvania. The author thinks that her exploration of data indicates that some types of feeding experiences seem to be associated with certain types of behavior.

Objectives of the Study

1. To ascertain the characteristic control patterns used by a selected group of rural mothers.
2. To ascertain the relative success of the preschool children in eating situations.
3. To study the association between the selected control patterns on the part of the mother and the apparent success of the preschool child during eating.
4. To study the association between the eating behavior of the preschool child and selected factors in the life of the mother.

Procedure

The data for the study were obtained from three sources. The eating behavior of each child was observed in two family-eating situations. The investigator, as a guest in the family, ate with the family during an evening and noonday meal, observing the behavior of the child. The child's responses were recorded on a schedule especially designed for this purpose. (See appendix for copy of schedule)

The behavior of the mother, while feeding her preschool child, was observed by the investigator during the meal situations, reported in paragraph one, and was recorded on a schedule designed for this recording. The verbal responses of the mother relative to customary

procedures used by her when handling the child were obtained by the interview technique. The schedules used for these interviews may be seen on page viii of the appendix. Data on the work, leisure time, and problem patterns of these mothers, as well as the socio-economic characteristics of families, were obtained by the interview technique.

The observations of the eating situations and interviews with the mothers of the 23 families included in the study were made during February, March, April, and May of 1951. All families in the study were well known to the investigator since the investigator had taught in the community for two years. The observations were made at a time agreed upon by the mother and the investigator.

Preliminary to the selection of families for the study, the investigator sought the names of all the families in the community with children of preschool age, i.e., children five years of age or younger. The families to be used were to be non-broken, non-indigent, and were to be families in which the mother was at home during meals. The names of the families were obtained from high-school, home-economics students, the kindergarten, first and second grade teachers, and selected residents of the community. A total of 30 families were listed from these sources. Of these 30 families three were eliminated because the mothers, working away from home, were away at meal time. Four were eliminated because of unwillingness to cooperate in the study. The remaining 23 families not only were willing to cooperate but expressed

considerable interest in the study.¹

Contacting the Families

The first contact with the families was by letter. An explanation of the purpose of the study and the methods to be used in collecting the data was contained in the letter. Of the 30 families to which letters were sent, 26 mothers responded. Of the 26, three were eliminated because the mothers worked. The investigator, by telephone or letter, arranged a date for the first observation. The date for the second visit of the investigator was made at the termination of the first observation.

The first visit was at the evening meal. The investigator arrived approximately two hours before the meal time. During the time before the meal the data on the mother's attitudes, work, leisure, and problem patterns, as well as the socio-economic characteristics of the family were obtained. In most cases the investigator sat on the kitchen stool and interviewed the mother while she prepared the evening meal. The second observation was at the noon meal. At this time the investigator took data only on the eating behavior of the child and the mother's response. When in the homes the investigator sat at the table and ate with the family as a guest. No recording was made during the meal or in the presence of the mother. The investigator had memorized the score

1. Four indigent families had preschool children, but these families were not included in the study.

sheet for recording the mother's and child's behavior, and made her recordings as soon as she returned to the car after the meal.

Validating Observations

In order to establish reliability in observing children and adults in eating situations, the investigator and two other graduate students did preliminary testing on the children at the Virginia Polytechnic Institute nursery school. The three students observed selected children and staff members, recording the behavior of the children and adults. These test observations were made for two purposes: (1) To test the reliability of the definitions of response items on the child's score sheet as well as the mother's score sheet and (2) to establish reliability in interpreting the responses of the child and the mother. The test periods were continued until the three observers reached a 95% agreement on interpretation of the responses made by the child and the adult during the eating situations.

Families in Study

The 23 preschool children in the study lived in southern Iowa rural families. Twelve of the families lived on and made their livelihood from the farm, while the remaining 11 lived in a small village of five hundred population. The occupations of the breadwinner in these families were as follows: four had clerical occupations, four

were engaged in private businesses, and three were day laborers.

Four of the 23 mothers had occupations outside the home, two as public-school teachers, one as a newspaper reporter, and one assisted her husband in business.

The average annual money income of these families was between three and four thousand dollars.

The incomes were distributed as follows:

Income	No. families
\$1000-2000	2
2000-3000	7
3000-4000	7
4000- over	7

None of the families had experienced unemployment in the past five years, except when shifting from military to civilian status. Economically these families would be considered stable.

Of the total group, 74 per cent owned their own homes or farms. Fifty-six per cent of the homes were equipped with running water and central heating. An additional three farm families had pumps in the kitchen for their water supply. All of the families owned automobiles.

The academic education of the parents was above the average of the state which is 8.7 years for adults in 1940. The fathers averaged 10.5 years of schooling and the mothers averaged 11.7 years. Thirty-nine per cent of the mothers had gone beyond high school.

The ages of the parents in the families ranged from 26 to 60 years. The mothers averaged 33 years of age and the fathers 39 years.

The families ranged in size from one to seven children with an average of three. Of the total group, three had one child, nine had two children, while the remaining 11 families had three or more children.

If the statements of these mothers can be relied upon the health picture of these families was unusually good. The health of the mothers, fathers, and children studied, as reported by the mothers, was as follows:

Health Condition

	Number of Individuals		
	Poor	Fair	Good or Excellent
Mothers	1	1	21
Fathers	0	1	22
Children	0	1	22

Work and Leisure Time Patterns of Mothers

The household work of these families was done by the mother, with some family assistance. These mothers spent from 16 to 82 hours per week in household activities with an average of 55.6 hours. The extent

of the mother's participation in household activities is shown in Table 1. The average number of hours spent by these mothers in household work was not excessive. In a study made of 310 rural homemakers in Bedford County, Virginia¹ the homemakers averaged 63 hours per week in household activities. A study of Oregon homemakers revealed an average of 61 hours per week spent in household activities.²

The mothers spent from 14 to 58 hours in leisure time activities with an average of 40.2 hours per week. The extent of the leisure time activities is shown in Table 2. It will be noted that much of the mother's leisure time was spent listening to the radio, an average of 14 hours per week. In many of the homes the radio was on most of the day but only the time which the mother spent listening to the radio exclusively was counted as leisure. Visiting with friends and family members was next greatest in importance, averaging 7.9 hours per week.

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1. Tate, Mildred T. "Virginia Homemakers: Their Activities, Interests and Problems" (unpublished) Home Economics Department, Virginia Polytechnic Institute, pp. 12.
 2. Wilson, Maud. "Use of Time of Oregon Farm Homemakers." Ore. Agri. Exp. Sta. Bul. 256, 1929.

Table 1

Participation of the 23 Mothers in Household Activities

Type of Activity	In Home		Responsible for Activity		Attitude of Mother Toward Activity		Hours Spent by Mother in Activity Weekly	
	Per cent	Per cent	Per cent	Per cent	Like	Indifferent	Per cent	Average Hours
Bread making	73	61	08	04	70	04	0	.8
Pastry and cakes	91	83	08	04	91	0	0	2.1
Washing clothes	86	86	0	0	73	08	04	3.0
Ironing	96	04	0	04	52	18	26	3.6
Mending	100	100	0	0	18	43	39	1.0
Sewing	73	73	0	0	65	08	0	1.7
Dish washing	100	65	26	08	52	30	04	8.2
General cleaning	100	86	08	04	70	22	04	9.2
Food Preparation	100	86	13	0	86	08	0	13.4
Keeping account	26	08	04	13	08	04	04	0.1
Buying supplies	100	26	30	0	96	04	0	1.9
Raising vegetables	83	08	57	18	70	0	0	2.7
Raising fruit	26	04	18	04	18	04	0	0.2

Table 1 (continued)
 Participation of the 23 Mothers in Household Activities

Type of Activity	In Home		Responsible for Activity		Attitude of Mother Toward Activity		Hours Spent by Mother in Activity Weekly	
	Per cent	Per cent	Per cent	Per cent	Like	Indifferent	Per cent	Average Hours
Raising poultry	52	35	13	04	35	13	04	2.
Canning	100	57	43	0	100	0	0	4.1
Care of yard	100	08	39	48	39	04	0	0.5
Care of furnace	83*	13	35	30	04	43	0	0.9*
Total								55.6

* Automatic oil furnaces were used in 22% of the homes.

Table 2

Participation of the 23 Mothers in Listed Leisure Activities

Leisure Time Activity	Per cent Participating	Average Hours per Week
Listening to or playing piano	30	.6
Listening to radio	96	14.*
Playing other instruments	0	0
Riding in car	57	.9
Riding horseback	0	0
Playing cards	48	.9
Shows, movies	52	.5
Playing outdoors	35	.6
Playing indoors	26	occasion- ally
Giving and attending parties	57	.3
Playing with children	96	5.6
Visiting with neighbors and friends	96	3.5
Visiting family	96	4.4
Needle work	48	1.
Shopping	96	2.2
Organized games	91	2.5
Reading:		
Newspapers and magazines	100	3.2
Books	57	Average 5 books per mother per year
Total		45.1

* The time listening to radio is probably high since many rural homemakers do some type of sewing or hand work while listening to the radio.

Summary of Family Background

The 23 preschool children used in the study were in rural, southern Iowa families. Economically, the families were secure. The average size of these families was three children. The parents were above the average of the state in education, with good health. The average age of the mothers was 33 years and the average age of the fathers was 39 years.

The mothers were responsible for the household activities averaging 55.6 hours per week in such activities. The mothers averaged 40.2 hours of leisure per week, 14 of these hours were spent in listening to the radio.

Chapter II

Eating Behavior of the Child

When making the observations for this study the investigator ate with the family as a guest. The investigator had memorized the check sheets used in recording the eating behavior of the child and the control responses of the mother and made mental notations during the meal. As soon as the investigator returned to her car the check sheets were marked. (See appendix for check sheets). Two observations were made of each child, one at the evening meal and the other at the noon meal.

In all of the 23 families, the meals were served family style with the food being passed and each person old enough serving his own plate. In all cases during meal time, the child studied was assisted by the person sitting nearest him; usually this was the mother, but in five cases the father or an older child assisted the child studied. On one occasion the investigator sat by the child and served his plate, at the child's insistence.

At the evening meal in 22 of the 23 families (95%) the entire family was present and ate together. In the remaining one family, the father was absent during the meal observed by the investigator. The work of this father was such that he usually was away from home in the evening.

At the noon meal 35 per cent of the fathers were away from home

because of their work. The noon meal was the light meal of the day and the investigator was in the home only long enough to observe the eating behavior of the child and the control responses of the mother.

In evaluating the eating behavior of each child, the child's responses during the two meals observed were given numerical scores.¹ The final score of each child was an average of his scores for the two meals observed. The highest score possible for a child to attain was +30 and the lowest score obtainable was a -30. The eating scores of the 23 children in this study range from -8 to +25. The scores grouped themselves as follows:

		Range	No. of children
Group I	Best eaters	+18 to +25	5
Group II	Second best eaters	+15 to +17½	6
Group III	Third best eaters	+8 to +14½	6
Group IV	Poorest eaters	-8 to +7	6

-
1. In order to have comparable scores for the children, a method was devised for rating numerically the responses of the children. Items on the score sheet were given scores ranging from +10 to -10 according to the degree of independence or dependence which the item suggested. (The scoring sheet is shown on page vi in the appendix.) The score for the meal was the algebraic sum of the scores for the various items. The final score for each child was an average of the scores on the two meals.

The 23 children in the study were placed into four groups relative to eating performance.

Group I eaters were the children who ate independently or satisfactorily for their age-level with little or no adult assistance for all foods served at meals.

Group II eaters, with some adult help, were successful in eating almost all of the foods served at the meal.

Group III eaters required more adult help in eating than their age-level would warrant or ate only part of the foods served at the meal.

Group IV eaters did not do an acceptable job of eating or had much more adult help than their age-level would warrant.

Responses of Mothers While Feeding Children

The behavior response scores of the 23 mothers while feeding their children ranged from -10 to +30¹. A perfect score for a mother was +30 and the lowest score obtainable was -30. The scores for the mothers arranged themselves as follows:

		Range of scores	No. of mothers
Group I	Best responses	+25 to +30	6
Group II	Second best responses	+22½ to +24½	6
Group III	Third best responses	+16½ to +21½	6
Group IV	Poorest responses	-10 to +13	5

Group I mothers were those who were able to anticipate the child's needs and to give help when the child needed it to achieve success in the eating situation.

-
1. In order to compare the mother's behavior, the device of rating numerically the control responses of the mothers was made. Items on the score sheet were given scores ranging from +10 to -10 according to the degree and quality of help given by the mothers to their children in eating situations. (See appendix page vii for a copy of scoring scale). The meal was divided into three parts and the mother's response was scored for each part. Each mother's score was calculated as follows:

$$\text{Total score} = \frac{\text{algebraic sum of response scores} \times 3 \text{ parts of meal}}{\text{number of responses}}$$

Group II mothers were those who usually anticipated the child's needs in the eating situation and usually were able to give the child the correct amount of help although their performance was not as good as that of Group I.

Group III mothers were those who in anticipating the needs of the child, had difficulty which at times resulted in too much or too little help or the wrong kind of help.

Group IV mothers were those who frequently gave too much or too little help, or help of the wrong kind, to their children in eating situations.

Factors Associated With Eating Behavior of Children

Control Responses of Mothers

It is generally assumed that the attitude of the mother is more important than any other factor in determining the eating behavior of the child.

Table 3

Child's Eating Behavior and Mother's Control Responses

Eating Behavior of Children ¹	Mother's Responses ²				Total
	Group I	Group II	Group III	Group IV	
Group I	4	1	0	0	5
Group II	0	2	3	1	6
Group III	2	0	3	1	6
Group IV	0	3	0	3	6
Total	6	6	6	5	23

$$\chi^2 = 23.1$$

$$P > .001$$

-
1. Group I is composed of the children who were the most independent eaters, Group II the second most independent, Group III the third most independent, and Group IV the least independent.
 2. Group I is composed of mothers with the most acceptable procedures, Group II the second most acceptable, Group III the third most acceptable, and Group IV the least acceptable.

If these data are representative the above statement has weight. It will be noticed in Table 3 that there is a definite tendency for the better eaters to be found in the homes in which the mother's control responses were the most desirable and the poorest eaters to be found were in the homes in which the mother's control responses were the least desirable. The three Group IV eaters among the Group II mothers cannot be explained by any unusual factors in these families. It may be due to the small sample used in the study and fluctuations like this may occur without affecting the validity of the findings. The relationship between the child's eating behavior and the mother's control responses is highly significant.

Problems of Mothers

The 23 mothers were asked to respond to a list of 35 problem items, indicating the extent to which each item was a problem for them; i.e., was each item a problem for them frequently, occasionally, or seldom, if ever. The extent to which these items were thought to be problems by the mothers is shown in Table 4.

It will be noted that personal adjustment problems were highest on the list. The eight most frequent problems were: attempting more than you can do, difficulty in making decisions, nervousness, worry, shyness in meeting people, lack of self-confidence, getting fatigued or tired easily, and budgeting time for recreation,

Those of the least concern were: not being accepted socially, disagreement with husband, changing religious views, unemployment of husband, fear of nervous breakdown, and too much time on hands.

Problems of these women were similar to those found in other studies, although perhaps less pronounced.¹

1, Foster, Robert G. and Wilson, Pauline P. in Women After College found that 98% had personality problems, 97% health problems, 89% husband-wife relations, 88% problems in relation with associates, 84% recreational problems, 82% housekeeping problems, 80% problems in relation with relatives, 78% problems in area of parent-child relationships, 60% problems with in-laws, 56% sex problems, 52% religious problems.

Tate, Mildred T. "Virginia Rural Homemakers, Their Activities, Interests and Problems." An unpublished study done at the Virginia Polytechnic Institute, 1939, found the problems of greatest concern to the women were: attempts more than can do, getting fatigued and tired easily, nervousness, not being able to do things wish most to do, insufficient money for family needs, lack of conveniences or unsatisfactory housing conditions, insufficient money for self, and worry. Problems of least concern were: disagreement with husband over religious problems and views, fear of having children or too many children, disagreement with husband over handling family income, disagreement with husband over handling children, lack of common interest or mutual friends with husband, quarrels with neighbors or associates, not being accepted by social group of your choice, and health of children.

Table 4 (continued)

Problems of the Twenty-Three Mothers

Problems (Ranked from first to last in importance ²)	Degree of Presence of Problems ¹		
	Per cent of mothers		
	much	medium	little
7. Lack of conveniences or unsatisfactory housing	0	43	57
7. Getting job outside home	0	22	78
8. Insufficient money for self	4	9	87
8. Feels failure easily	4	9	87
9. Loneliness	4	4	92
9. Health of husband	0	13	87
9. Lack of common interest or mutual friends with husband	4	4	92
9. Fear of having children or too many children	4	4	92
9. Difficulty with in-laws	4	4	92
9. Insufficient money for family needs	0	13	87
10. Not having own income	0	8	92
10. Disagreement with husband over handling family income or money	4	0	96
11. Quarrels with neighbors and associates	0	4	96
11. Fear of not meeting expectations of husband	0	4	96
11. Fear of becoming bored with marriage	0	4	96
11. Finding outlets for personal interest in religion	0	0	100
12. Not being accepted by social group of choice	0	0	100
12. Too much time on hands	0	0	100
12. Fear of nervous breakdown	0	0	100
12. Unemployment of husband	0	0	100
12. Changing religious views	0	0	100
12. Disagreement with husband over religious problems and views	0	0	100

Table 4
Problems of the Twenty-Three Mothers

Problems (Ranked from first to last in importance)	Degree of Presence of Problems ¹		
	Per cent of mothers		
	much	medium	little
1. Attempt more than you can do	39	39	22
2. Nervousness	18	52	30
2. Difficulty in making decisions	18	52	30
3. Shyness in meeting people	4	48	48
3. Worry	0	61	39
4. Getting fatigued or tired easily	13	17	70
4. Lack of self-confidence	0	43	57
5. Carrying out necessary household routine	0	39	61
5. Budgeting time for recreation	0	39	61
6. Not being able to do things you wish most to do	0	35	65
7. Answering demands of family relatives	4	13	83
7. Lack of intimate friends	0	22	78
7. Poor health	4	13	83

1. The following method was used in transposing the mothers estimate of problems into numerical ratings. If a problem were checked "much", a score of four was given; if checked "medium", a score of two was given; if checked "little" a score of zero was given. The final score for any item was the sum of the scores given the item by the 23 mothers.

2. Items with identical rank had the same average scores.

Table 5
 Eating Behavior of Child and Problems of Mother

Eating Behavior of Children ¹	Problems of Mothers ²				Total
	Group I	Group II	Group III	Group IV	
Group I	0	3	1	1	5
Group II	1	1	2	2	6
Group III	1	2	1	2	6
Group IV	3	1	1	1	6
Total	5	7	5	6	23

$$X^2 = 6.54$$

$$P > .70$$

-
1. Group I represents the most independent eaters, Group II the second most independent eaters, Group III the third most independent eaters and Group IV the least independent eaters.
 2. Group I represents the mothers with the fewest problems, Group II the mothers with the second fewest problems, Group III the mothers third fewest problems and Group IV, the mothers with the most problems.

Table 5 indicates that little relationship exists between the extent to which these mothers had personal problems and the eating behavior of the children. The P value is $> .70$.

None of the best eaters were found among the mothers with the least personal problems, while three of the six poorest eaters were among these mothers. Again four of the Group II eaters were among the Group III and IV mothers. The investigator does not know the explanation for this. A possible explanation for this lack of relationship may be that the mothers with more personal problems were less objective in their ratings of themselves and thus scored themselves leniently. On the other hand, the mother's personal problems i.e., the way she feels toward herself may not show up in the way she handles her child.

Does this mean that there would be no association between personal adjustment of mothers and the eating behavior of children? Standardized Personality Inventories were not made on these women; however, there is reason to assume that ratings on Standardized Personality Inventories would group these women, in adjustment, in a manner similar to that of their own statements concerning their

personal problems.¹

Education of Mothers

The education of these mothers ranged from seventh grade to college graduate, with an average of 11.7 grades.

The relationship between the education of the mother and the eating behavior of the child was highly significant. The P value was < .001.

-
1. Wolfe, Virginia Anne Masick. "The Problems of Individuals While in College and Five Years Later, and Their Relationship to Marital and Personal Happiness". Master's Thesis, Department of Home Economics, Virginia Polytechnic Institute, 1947, pp. 32. Wolfe found a significant association between the scores of the individuals studied on the Bernreuter Personality Inventory and their own ratings of their problems by a check list similar to the one used in this study.

Table 6
 Eating Behavior of Child and Education of Mother

Eating Behavior of Children ²	Education of Mothers ¹			Total
	Group I	Group II	Group III	
Group I	0	2	3	5
Group II	1	4	1	6
Group III	1	3	2	6
Group IV	2	3	1	6
Total	4	12	7	23

$$\chi^2 = 29.3$$

$$P < .001$$

-
1. Group I represents mothers with grammar grades or less, Group II mothers with one to four years high school, and Group III mothers with one to four years of college.
 2. Group I represents most independent eaters, Group II represents second most independent eaters, Group III third most independent eaters, and Group IV the least independent eaters.

As the academic education of the mother increased the eating behavior of the child improved. None of the best eaters were found in the homes of the mothers with the least education. On the other hand only one of the poorest eaters was found in the home of a mother in the highest educational group. This one child's poor eating behavior can be accounted for, in part, by the fact that he was cared for by his grandmother during the day while the mother worked. The fact that usually he was allowed to eat when and what he chose affected his appetite at meal time. For example, the day the noon meal was observed by the investigator this child had eaten a large piece of pie about thirty or forty minutes before the noon meal and thus had little interest in food.

This relationship between the education of the mother and the eating behavior of the child may be due in part to the type of education of these mothers as well as the amount. Of the seven Group III mothers, i.e., those with 1 - 4 years of college, all had had some child psychology, while three of the 12 Group II mothers had some child-care and guidance work in high school. Of the three Group II mothers with some child care and guidance work in high school, two were in the most acceptable group of mothers for control practices. The other seemingly neurotic, fell in Group IV.

Leisure Time of Mothers

The average number of hours per week spent in leisure-time activities by these mothers was 45.1. For the individual mother the amount of leisure weekly varied from 14 to 58 hours. If these data are representative there is little association between the amount of leisure time of the mother and the eating behavior of the child.

Table 7

Eating Behavior of Child and Leisure Time of Mother

Eating Behavior of Children ²	Leisure Time of Mother ¹				Total
	Group I	Group II	Group III	Group IV	
Group I	1	1	3	0	5
Group II	1	2	2	1	6
Group III	0	3	0	3	6
Group IV	3	1	1	1	6
Total	5	7	6	6	23

$$\chi^2 = 10.1$$

$$P > .30$$

-
1. Group I represents mothers with the greatest number of leisure hours, Group II mothers with the second greater number, Group III mothers with the third greater number, and Group IV those with the least number of leisure hours.
 2. Group I represents most independent eaters, Group II second most independent, Group III third most independent, and Group IV least independent.

In Table 7 it will be noted that three of the six poorest eaters were in homes in which the mothers had the most leisure, while three of the best eaters were with Group III mothers so far as leisure went.

Work Load of Mothers

The work load of the mother was no more closely associated with the eating behavior of the child than was her leisure time. The number of hours per week spent by individual mothers in household activities ranged from 16 to 82. The weekly household work load of these mothers was as follows:

Groupings based on amount of work	Number of hours of household work per week	Number of mothers
Group I	70 to 82	6
Group II	64 to 68	5
Group III	56 to 62	6
Group IV	16 to 55	6

In Group IV was one mother who maintained that she was sick, and most of the household work fell upon a 13 year old daughter who was a freshman in high school. The next lowest number of hours for any woman was 42.

An analysis of Table 8 shows that none of the best eaters were with the mothers with the heaviest work load, and none of the poorest eaters with the mothers with the smallest work load. However, this trend is not sufficient to be statistically significant.

Table 8

Eating Behavior of Children and Work Load of Mothers

Eating Behavior of Children ²	Work Load of Mothers ¹				Total
	Group I	Group II	Group III	Group IV	
Group I	0	1	2	2	5
Group II	2	1	2	1	6
Group III	2	0	1	3	6
Group IV	2	3	1	0	6
Total	6	5	6	6	23

$$\chi^2 = 10.61$$

$$P = .30$$

-
1. Group I represents mothers with heaviest work load, Group II mothers with second heaviest work load, Group III mothers with third heaviest, and Group IV those with lightest work load.
 2. Group I most independent, Group II second most independent, Group III third most independent, and Group IV least independent.

Home-Control-Practices

In order to get some indication of general control practices in the homes, the investigator asked the mothers to check the extent to which a list of 39 practices were always, sometimes, never, or rarely used in the home. A summary of the mother's responses is shown in Table 9.

If the estimate of these mothers can be relied upon, the practices of these families on the whole were good. The possible range in scores for those items shown in Table 9 was 55 to 275. These families scored from 147 to 218¹. The scores grouped as follows:

202 - 218	6 families
191 - 199	6 families
183 - 187	6 families
147 - 173	5 families

-
1. The families were scored on the basis of the degree of presence of the listed control items. If the item indicated satisfactory practice and it usually was found in the home, a score of five was given; sometimes present, a score of three; and if never or rarely present, a score of one. For practices considered not good the degree of presence was scored in reverse. Each family's score was the algebraic sum of the scores on the individual items.

Table 9

The Per cent of Families Using the 39 Listed Control Items

Control Items	Extent Practice is Used Per cent of Families			
	Always or usually	Sometimes	Never or rarely	Does not apply
1. Get up early enough in the morning to allow plenty of time for preparation for breakfast and school	83	04	0	13
2. Insist upon unquestioned obedience	22	70	08	0
3. Insist upon prompt obedience	35	65	0	0
4. Nag	04	74	22	0
5. Slap, spank, or whip	0	70	30	0
6. Take part in child's disagreements with other children	14	43	43	0
7. Scold	13	83	04	0
8. Threaten punishment which is seldom administered	13	22	65	0
9. Praise child for good conduct	83	17	0	0
10. Send child to bed without food for misconduct	0	0	100	0
11. Make full investigation before judging child's behavior	61	22	18	0
12. Discuss child's peculiarities in his presence	0	30	70	0
13. Mother and father discuss matters before decisions are made	61	39	0	0
14. Mother punishes child	17	83	0	0

Table 9 (continued)

The Per cent of Families Using the 39 Listed Control Items

Control Items	Extent Practice is Used Per cent of Families			
	Always or usually	Sometimes	Never or rarely	Does not apply
15. Father punishes child	0	83	17	0
16. Children go to mother for permission	22	78	0	0
17. Children go to father for permission	0	91	08	0
18. Fulfill promises made to child	91	08	0	0
19. One parent backs up the other if any decisions made	87	13	0	0
20. Discuss family matters with children before decisions are made	31	43	22	4
21. Help child to deceive other parent	0	0	100	0
22. Argue with other parent about child in his presence	0	13	87	0
23. Give away child's possessions without his knowledge or consent	0	08	91	0
24. Permit child to make his own decisions	08	91	0	0
25. Plan social functions for the child	26	61	13	0
26. Play games with the children	31	65	04	0
27. Encourage child to bring his friends to his home for play	83	17	0	0
28. Permit your child to go to dances or other social functions of his group	35	39	08	18

Table 9 (continued)

The Per cent of Families Using the 39 Listed Control Items

Control Items	Extent Practice is Used Per cent of Families			
	Always or usually	Sometimes	Never or rarely	Does not apply
29. Mother discusses child's problems with him	39	61	0	0
30. Father discusses child's problems with him	22	78	0	0
31. Permit child to select his own clothes, according to his age	70	30	0	0
32. The child is antagonistic toward family control	08	27	61	04
33. The child is happy in his home	87	13	0	0
34. The child respects his mother's advice or decisions	65	35	0	0
35. The child respects his father's advice or decisions	73	27	0	0
36. Children use each others' things	22	61	04	13
37. Child uses mother's or father's things	08	84	08	0
38. Child seems nervous	0	18	84	0
39. Child complains about his home	0	13	87	0

These mothers state that they get up in time to get children off to school without hurry. Only 22% insist upon unquestioned obedience; however, 35% admit that they insist upon prompt obedience. Four per cent of the mothers state that nagging is a usual occurrence in the home, while 74% admit that it sometimes occurs. On the whole these parents feel that they praise the child for good conduct, fulfill their promises to the child, back up each other in decisions made, and encourage the child to bring his friends home.

Is the grouping of the families on the basis of the mother's statement concerning home practices similar to that based on the investigator's observations? Table 10 indicates that the mother's ratings and those of the investigator are not the same. In fact, the difference is significant.

Table 10

Comparison of Investigator's and of Mother's Ratings of Family's Control Patterns

Investigator's Rating of Homes from Best to Poorest	Family Rated by Mother Grouped From Best to Poorest				Total
	I	II	III	IV	
I	1	1	4	0	6
II	4	2	0	1	7
III	1	1	2	1	5
IV	0	2	0	3	5
Total	6	6	6	5	23

$$\chi^2 = 18.2$$

$$P < .02$$

In Table 10 it can be seen that of the six Group I mothers on the basis of the investigator's observation, the mother's estimate placed only one in Group I, one in Group II, and four in Group III. Of the six mothers in the best group on the basis of the mothers' estimates, the investigator placed only one in Group I, four in Group II, one in Group III, and none in Group IV. Again, of the five mothers placed in Group IV by the investigator, on the basis of the mothers' estimates, two fell in Group II and three in Group IV.

This difference may be due in part to the fact that the mother's responses were related to home-control practices in general while the observers were related to eating situations. It is possible that a mother might do a better or a poorer job while feeding her child than she does in other areas of control. Another explanation may be the inability of the mothers to judge accurately their behavior due to lack of knowledge of developmental norms, or inability to evaluate their own responses in relation to these norms. If these data are representative, one must question the reliability of any type of research based upon the adult's statement concerning the presence or absence of particular practices in the home.

When studying the eating behavior of the child in relation to home-control practices as estimated by the mothers, one finds frequencies significantly different from what might have been expected.

Table 11

Eating Behavior of Child and Mother's Estimate of
Control Practices

Eating Behavior of ¹ Children	Control Practices of Homes Grouped from Best to Poorest				Total
	I	II	III	IV	
Group I	2	1	2	0	5
Group II	3	1	0	2	6
Group III	0	1	4	1	6
Group IV	1	3	0	2	6
Totals	6	6	6	5	23

$$\chi^2 = 17.01$$

$$P < .05$$

-
1. Group I represents the most independent eaters, Group II second most independent eaters, Group III third most independent, and Group IV least independent eaters.

It will be noted that only two of the five best eaters were in the Group I families, one in Group II, and two in Group III. Of the six poorest eaters, one was in Group I, three in Group II, and two in Group IV. None of the best eaters were found in families using the poorest procedures. However, Group IV eaters were scattered through the groups of mothers from the best to poorest.

Time Required for Eating

It is generally assumed that the child who is the better eater not only eats more independently, but in a shorter period of time. Frequently, mothers give, as their reason for a dominating attitude toward the child, the unusually long period of time required for the child to finish his meal. This raises the question: is there an association between the length of time the child uses in completing his meal and acceptability of the mother's procedures?

Table 12

Time Used in Eating by the Child and Mother's
Observed Procedures

Child's Eating Time Minutes	Procedures of Mothers ¹				Total
	Group I	Group II	Group III	Group IV	
15 - 21	2	2	2	1	7
21½ - 26	2	2	2	2	8
26½ - 31	0	0	2	1	3
31½ - 37	2	2	0	1	5
Total	6	6	6	5	23

$$\chi^2 = 4.4$$

$$P > .80$$

-
1. Group I is composed of those mothers using the most acceptable procedures, Group II those using second most acceptable, Group III those using third most acceptable, and Group IV those using the least acceptable procedure.

The data in Table 12 indicate no relationship between the acceptability of the mother's responses while feeding her preschool child and the length of time the child takes to eat. The seven children who used 21 minutes or less for eating were scattered throughout the group of mothers. Of the five children who required more than $31\frac{1}{2}$ minutes for eating, four were with the two best groups of mothers. Perhaps this is due to the fact that Table 13 indicates no relationship between eating behavior of child and length of time for eating.

Table 13

Eating Behavior of Child and Length of Time for Eating

Child's Eating Time Minutes	Eating Behavior of Child ¹				Total
	Group I	Group II	Group III	Group IV	
15 - 21	1	1	2	2	6
21½ - 26	1	4	3	1	9
26½ - 31	0	1	1	1	3
31½ - 37	3	0	0	2	5
Total	5	6	6	6	23

$$X^2 = 12.8$$

$$P > .20$$

-
1. Group I most independent eaters, Group II second most independent, Group III third most independent, and Group IV least independent eaters.

It is difficult to measure the relationship between the length of time required for eating and the quality of eating. The best eaters were more often found among those requiring more time while the poorest eaters were among those requiring less time. This observation may be of little value, for some of the children rated as poor eaters did not stay at the table long enough to complete the meal. It is not known whether they would have eaten more if forced to stay at the table a longer time. Although the best, as well as the poorest, eaters were scattered through the various time groups, the best eaters tended to use a longer time. None of the children used an excessive length of time for eating.

Eating Problems of Child

In the literature the statement is made frequently that poor eating during the preschool period is associated with a past history of poor eating. In order to check this assumption, the mothers were questioned concerning feeding problems of the child at the present as well as in the past. On the basis of the mother's statements, the children were grouped into three groups: those with many problems in eating; those with some problems in eating; and those with few or no problems in eating. Only two of the mothers rated their children with having many food problems, while 10 of the mothers rated their children as having no problems.

Table 14

Observed Eating Behavior of Child and Mother's Estimate of
Child's Feeding Problems

Child's Eating 1 Behavior	Mother's Estimate of Feeding Problems Number of Problems			Total
	Many	Some	None	
Group I	0	3	2	5
Group II	1	1	4	6
Group III	0	4	2	6
Group IV	1	3	2	6
Total	2	11	10	23

$$\chi^2 = 7$$

$$P > .30$$

-
1. Group I represents the most independent eaters, Group II the second most independent, Group III the third most independent and Group IV the least independent eaters.

The eating problems of the child as observed by the investigator and the statement of the mothers had little in common. Of the 10 children considered by the mothers to have no food problems, the investigator rated two in Group I, four in Group II, two in Group III and two in Group IV for eating performance. Of the two children rated as having many problems by the mothers, one was placed in Group III and one in Group IV by the investigator.

This discrepancy between the mother's and the investigator's rating may be due to a number of factors. In the first place, many mothers have little knowledge of developmental norms of children, and thus may have little ability for judging a particular child's performance. Secondly, inability of the child to perform in keeping with his age-level may not be considered a problem by the mother. In fact, some children in their efforts to be independent may present problems to the untrained mothers who do not recognize the behavior on the part of the children as stepped to a higher level of development.

Socio-Economic Factors and Eating Behavior of the Child

Child's Eating Behavior and Number of Children in the Family

It is generally assumed that children in large families are better eaters than those who are only children or than those in a small family.¹

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1. Roberts, Lydia, J. Nutrition Work With Children. pp. 535. University of Chicago Press, Chicago, Illinois. Roberts reports children who ate with hungry parents and hungry brothers and sisters rather than alone to be much better eaters than a group of well-to-do children.

Table 15

Eating Behavior of Child and Number of Children in the Family

Child's Eating Behavior	Number of Children in the Family				Total
	1	2	3	:4 or more	
Group I	1	2	1	1	5
Group II	1	1	2	2	6
Group III	1	0	3	2	6
Group IV	1	3	1	1	6
Total	4	6	7	6	23

$$\chi^2 = 12.7$$

$$P > .20$$

-
1. Group I most independent eaters, Group II second most independent eaters, Group III third most independent, and Group IV least independent eaters.

It will be noted that there is little relationship between the number of children in the family and the eating behavior of the child. Of the four only children, one was found in each eating group. Of the six families with four or more children, one was in the best group of eaters, two in Group II, two in Group III, and one in Group IV.

Behavior of Mother and Size of Family

Not only was the number of children in the family not significantly related to the eating behavior of the child, but neither was it related to the way the mother performed while feeding the child.

Table 16

Observed Responses of Mother While Feeding Child and Number of Children in Family

Number of Children in Family	Responses of Mother ¹				Total Families
	Group I	Group II	Group III	Group IV	
1	1	2	0	1	4
2	2	2	1	1	6
3	2	1	3	2	8
4 or more	1	1	2	1	5
Total	6	6	6	5	23

$$\chi^2 = 6.3$$

$$P > .70$$

-
1. Group I mothers with most acceptable responses, Group II second most acceptable responses, Group III third most acceptable responses, Group IV those with least acceptable responses.

The six mothers using the most acceptable practices were distributed throughout the families from one child to four or more. A similar distribution will be noted for the mothers using the least acceptable practices.

The Eating Behavior of the Child and the Income of the Family

Family income showed no relationship with the eating behavior of the children. Of the five best eaters, two were in the lowest, one in the middle, and two in the highest income groups. The lack of association may be due to the small income range in these families. None of these families would be classed in the low, nor in the high, income group.

Table 17

Eating Behavior of Child and Money Income of the Family

Child's Eating Behavior ¹	Money Income of Family			Total Families
	Less than \$3000	\$3,000 - 4,000	\$4,000 or over	
Group I	2	1	2	5
Group II	1	3	2	6
Group III	3	1	2	6
Group IV	3	2	1	6
Total	9	7	7	23

$$\chi^2 = 3.37$$

$$P > .70$$

-
1. Group I represents most independent eaters, Group II second most independent eaters, Group III third most independent, and Group IV least independent.

Chapter III

Summary

The purposes of this study were to determine the relationship, if any, between eating behavior of rural preschool children and control patterns used by mothers, and other selected factors in the families. The children in the study were selected from 23 southern Iowa rural families. The data for the study were gathered by interview and observations. The data on the attitudes, personal problems, work load, and leisure-time activities of the mothers and the socio-economic background of the families were obtained through interviews with the mothers. Data on the behavior of the mother and child during eating situations were obtained by observations in the home. The data for the study were collected during the spring of 1951.

The families used in this study were economically secure. The average size of the families was three children. The parents were above the average of the state in education. They had good health. The average age of the mothers was 33 years, and the average of the fathers was 39.

The mothers were responsible for the household activities, averaging 55.6 hours per week in such activities. The mother averaged 40.2 hours of leisure per week, 14 of which were spent listening to the radio.

The findings of this study were as follows:

1. The adequacy of performance during eating of the individual children varied greatly for these 23 preschool children. It ranged from complete independence to partial refusal of all food on the part of the individual children.
2. The performance of the mothers during the feeding of their preschool children varied almost as greatly as the behavior of the children. It ranged from those who were able to anticipate the child's needs and to give help, only when the child needed it to achieve success in the eating situation, to those who frequently gave too much or too little help or help of the wrong kind to the child while eating.
3. There was a significant tendency for the children who ate the most satisfactorily to be with the mothers who made the most desirable control-response during the feeding of the children.
4. The eating performance of the child showed no association with the extent of personal problems listed by individual mothers.
5. The eating behavior of the child improved as the academic education of the mothers increased.
6. The eating behavior of the child appeared not to be associated with the amount of leisure time available to the individual mothers.

7. The eating behavior of the child was not significantly associated with the work load of the mother.
8. The mother's responses to a list of 39 control items indicated that the control practices in these homes on the whole were good. However, the ratings of the families from the best to poorest, based upon the mother's statements, differed significantly from ratings based upon the observations of the investigator during eating situations.
9. The eating behavior of the child was significantly different from what may have been expected by the mother's statements concerning control practices in the family.
10. There was no relationship between the length of time the child used in eating and the acceptability of the mother's responses while feeding the preschool child, nor the adequacy of the child's behavior.
11. There was no relationship between the adequacy of the eating behavior of the child as observed by the investigator, and the mother's estimate of the child's feeding problems.
12. Neither the adequacy of the eating behavior nor that of the mother's performance showed any significant association with the number of children in the family.
13. The eating behavior of the child was not related to the size of the family.

Conclusions

In view of the findings of this study the following conclusions seem tenable:

1. The mother appears to be the key factor in determining the eating performance of the child.

The adequacy of the child's eating behavior was significantly associated with the adequacy of the mother's responses while feeding the child.

Several factors, such as personal problems of the mother, number of children, leisure time available to mother, and work load of mothers, which generally are assumed to be connected with adequacy or inadequacy of eating in children, showed no association.

2. Formal education offers an avenue for training mothers to perform more adequately in feeding their children.

More academic education on the part of the mother was associated with better performance on the part of the mothers as well as of the child during eating.

3. Knowledge of how to handle children in eating situations, and norms of development are more closely associated with adequacy of the child during eating than the degree of personal adjustment of the mother.

There was no relationship between the mother's estimate

of the child's feeding problems and the child's performance in eating. Furthermore, there was no relationship between the child's performance in eating and the mother's estimate of her own personal problems.

Limitations of Study

1. The small number of cases used in the study limits the reliability of the general conclusions that may be drawn. The sample is adequate for the community studied, since it represents 23 of the possible 30 families in the community.
2. The families used in this study were rural farm and non-farm, with a fairly stable economic basis, and with parental education above the average for the adult population of the state as a whole.
3. The extent to which a mother or a child behaves customarily when a guest is in the home has not been established scientifically. This factor should not decrease the reliability of the observations, but might bias judgments concerning the adequacy of mothers and children during eating situations.
4. Only two observations were made in each of the individual families. It is not known whether more observations would have given a similar picture for each family. It was later established in a similar study that the same picture would be obtained at the end of the three observations as at the end of six observations.

Recommendations

On the basis of the findings of this study, it is recommended that:

1. Replications of this study be made using:
 - (1) Rural families in other areas
 - (2) Urban families
 - (3) Families of varying cultural groups
2. In all similar studies, attempts be made to get more information on the general adjustment pattern of the mother and the child as a factor influencing the eating behavior of children.
3. Similar studies, in which data are obtained on the children's response in one or more routines in addition to eating be made to answer the question: are children's responses patterned relative to a particular routine or to the adult-child relationship irrespective of routine?
4. In further studies, more than one child in each family be considered since such comparative data would give some indication of the extent to which the child's responses, relative to adult control, are influenced by the basic personality traits of the child or the home situation.

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M.A.K.

Appendix

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Definition of Terms - Mothers' Score Sheet

Expectant calm attitude: The mother appears confident that the child will eat as well as he is able and in a reasonable length of time, and that she has the ability to see the eating situation through to a successful termination.

Encourages child when situation is difficult: The mother gives only the amount of approval, verbal, or physical help needed for the child to be successful in eating, or to continue the eating process. Example, Approval help . . . "That's fine, you're almost through" . . . Verbal help, "It is time to eat," . . . Physical help, mother puts food on child's spoon or even into his mouth to start him in the process.

Offers child a choice when situation is difficult: Permits the child an alternative action to the difficult one, both of which are acceptable. Example: Do you wish to drink your milk now or eat your sandwich with your milk?

Modifies expectations with situation: Mother takes into account new or unusual factors in the situation and alters help expectations relative to the child's performance. For example, if the child were fatigued, or a guest were present, etc., the mother may give some physical help to a child in finishing his meal who ordinarily could eat independently.

Compromises with child: The mother does not require the child to carry through as expected in all parts of the eating behavior, or permits him to select another course of action more to his liking.

Example: The child is permitted to eat only a part of some food on his plate, or to substitute a liked or preferred food for the food being served.

Matter-of-fact attitude: The mother assumes a business-like attitude, shows little concern for child's eating behavior, and more or less takes it for granted that whatever the child does is all right. **Example:** Mother is busy with other things and allows child to proceed on his own.

Always carries through: The mother insists that the child perform according to her expectancy of him in eating behavior and does not allow herself or the child to be diverted from this course. **Example;** Mother tells child he will need to eat vegetables before dessert. She keeps him at the table and does not give dessert until vegetables are eaten.

Firm but gentle: Mother does not become emotional or demanding. In a calm voice she helps the child to succeed with his eating, even if she has to step back to physical help. **Example:** The child has stopped eating. The mother puts food on the spoon and says, "It is time to take a bite".

Firm but harsh: Mother uses a tone indicating anger or disapproval in her voice, or demands performance from the child in relation to eating behavior. **Example:** John you must eat your meat now!

Ignores: The mother is aware of the child's eating behavior but purposely seems not to notice him. **Example:** Child is showing off. Mother appears to be unconscious of child's behavior or seems to be

unconcerned about his eating behavior. Example: Child eats one food to the exclusion of others. The mother does nothing to stop him or to help him eat the other foods.

Inconsistent in procedure: The mother uses one method one time and the opposite method at another, or the mother's expectancy may vary. Example: Insists child drink his milk one time and allows him to leave it in his glass the next.

Underestimates or over-estimates child's ability: Mother does not know what to expect of a child of this age in an eating situation and expects more than the child is able to do or allows the child to use procedures below his maturity level. Example: Feeding a child when he is able to eat independently or with only a little help.

Gives help when not needed: Mother steps in and gives help before the child has a chance to succeed, or gives more help than needed. Example: Mother pours child's milk to prevent any spilling when child could do an acceptable job on his own.

Too much or too little approval: The mother approves the child for an accomplishment below his age level or fails to approve him for success in an activity at or above his age level. Example: Approving a three year old for eating with his spoon. Failing to approve a three year old for eating with his fork.

Demands performance: Mother, in an authoritative manner, asks for performance in keeping with her standards. Example: "Young man, you eat that potato right now," or "There is no excuse for not drinking that milk".

Dominating: The mother's supervision allows the child no independence in his eating behavior or little opportunity for choice relative to procedures. Example: Mother insists on child's conforming to standards beyond his developmental level and allows no independent behavior on the part of the child.

Submissive: The mother allows the child to control the situation. Example: Child states he doesn't like a food. Mother says, "All right, you don't need to eat it."

Offers bribes: Mother offers a reward such as dessert or extra privilege if the child will eat as his mother wishes him to. Example: "Eat your meat and tomorrow you may ride on the tractor with daddy".

Pleads, acts hurt if child doesn't eat, Mother appeals to child's emotions to motivate him to successful performance. Example: Mother pretends to cry or says, "If you love mother, you will eat for her".

Belittles or threatens: The mother threatens to punish the child for inadequate performance or says, "If you don't eat, you cannot go to the show". "Look at your little sister, she eats better than you".

Shows anger or distress: The mother shows emotion when she tries to induce the child to eat. Example: Anger or distress shows in the mother's facial expression as she commands in high pitched or loud voice that a child do a given thing.

Punishes: Child is given some form of punishment for lack of proper performance in eating behavior. Example: Child is spanked for not drinking his milk, and then sent back to the table. Child is isolated from the group until he decides to eat.

SCHEDULE OF CHILD BEHAVIOR

CHILD'S BEHAVIOR	: Whole : meal	: More : than : 1 food:	: One : food	: Parts of : some food	: Part of : one food
<u>A. Eats Independently</u>	:	:	:	:	:
1. As well as expected for age and development level	: 10	: 9	: 8	: 7	: 6
2. Evident appetite and enjoyment (with relish)	: 10	: 9	: 8	: 7	: 6
3. Expresses satisfaction in achievement	: 10	: 9	: 8	: 7	: 6
<u>B. Cooperative</u>	:	:	:	:	:
1. Eats most suitable foods as matter of course	: 8	: 7	: 6	: 5	: 4
2. As well as expected for his age and developmental level	: 8	: 7	: 6	: 5	: 4
3. Carries through but no apparent satisfaction in his achievement	: 8	: 7	: 6	: 5	: 4
<u>C. Accommodates or Complies</u>	:	:	:	:	:
Slow with eating but will continue according to schedule with adult help	: - 3	: - 2	: - 1	: - 1	: - 1
<u>D. Complete Dependence on Adult</u>	:	:	:	:	:
Requires more physical or verbal help from adult than would be expected from his age and developmental level	: - 4	: - 3	: - 2	: - 1	: - 1
<u>E. Resists</u>	:	:	:	:	:
1. Passive	:	:	:	:	:
a. ignores	: - 6	: - 5	: - 4	: - 3	: - 2
b. dawdles	: - 6	: - 5	: - 4	: - 3	: - 2
2. Active	:	:	:	:	:
a. cries	: - 6	: - 5	: - 4	: - 3	: - 2
b. pushes food away	: - 6	: - 5	: - 4	: - 3	: - 2
c. leaves table	: - 6	: - 5	: - 4	: - 3	: - 2
d. drops food on floor	: - 6	: - 5	: - 4	: - 3	: - 2
e. talks or argues	: - 6	: - 5	: - 4	: - 3	: - 2
f. temper tantrum	: - 6	: - 5	: - 4	: - 3	: - 2
g. regurgitates	: - 6	: - 5	: - 4	: - 3	: - 2
h. refuses to come to table	: - 6	: - 5	: - 4	: - 3	: - 2
<u>F. Complete Refusal</u>	:	:	:	:	:
1. Legitimate	: 0	: 0	: 0	: 0	: 0
2. Unwarranted	: - 6	: - 5	: - 4	: - 3	: - 2

Length of time child takes to complete meal _____

Schedule of Adult Behavior

Adult's Behavior	First Part	Second Part	Third Part
Expectant, calm attitude	10	10	10
Encourages child when situation is difficult	10	10	10
Offers child choice when situation is difficult	10	10	10
Modifies expectancies with situation	10	10	10
Compromise with child	5	5	5
Matter-of-fact attitude	5	5	5
Always carries through	5	5	5
Firm but gentle	5	5	5
Firm but harsh	0	0	0
Ignores	0	0	0
Indifferent	0	0	0
Inconsistent in procedure	0	0	0
Underestimates or overestimates child's ability	0	0	0
Gives help when not needed	-5	-5	-5
Too much or too little approval	-5	-5	-5
Demands performance	-5	-5	-5
Dominating	-10	-10	-10
Submissive	-10	-10	-10
Offers bribes	-10	-10	-10
Pleads - acts hurt if child doesn't eat	-10	-10	-10
Be-little or threatens	-10	-10	-10
Shows anger or distress	-10	-10	-10
Punishes	-10	-10	-10

Schedule No. _____

Home Ec. Dept.

Date _____

V.P.I.

INFLUENCE OF SELECTED PATTERNS OF FAMILY LIFE UPON THE
WHOLESONE DEVELOPMENT OF BOYS AND GIRLS

Personal data:

Name of subject _____

After each practice listed below, check in the columns marked "usually or always", "sometimes", "never or rarely", the one which most nearly describes your practice or attitude.

Family Control:	Always or usually	Sometimes	Never or rarely	Does not apply
1. Get up early enough in the morning to allow plenty of time for preparation for breakfast and school
2. Insist upon unquestioned obedience
3. Insist upon prompt obedience
4. Nag
5. Slap, spank, or whip
6. Take part in child's disagreements with other children
7. Scold
8. Threaten punishment which is seldom administered
9. Praise child for good conduct
10. Send child to bed without food for misconduct
11. Make full investigation before judging child's behavior
12. Discuss child's peculiarities in his presence
13. Mother and father discuss matters before decisions are made
14. Mother punishes child
15. Father punishes child
16. Child go to mother for permission
17. Children go to father for permission
18. Fulfill promises made to child
19. One parent backs up the other in any decisions made
20. Discuss family matters with children before decisions are made
21. Help child to deceive other parent
22. Argue with other parent about child in his presence
23. Give away child's possessions without his knowledge or consent
24. Permit child to make his own decisions

	Always or usually	Sometimes	Never or rarely	Does not apply
Family Control (cont'd.)				
26. Help child with his studies
26. Plan social functions for the child
27. Play games with the children
28. Encourage child to bring his friends to his home for play
29. Discuss business affairs with child
30. Permit your child to go to dances or other social functions of his group
31. Mother discusses child's problems with him
32. Father discusses child's problems with him
33. Permit child to select his own clothes, according to his age
34. Permit child to select his own friends
35. The mother gives advice to the dau- ghter or son about				
money
clothes
jobs
girl or boy friends
other boys or girls
social activities
sex
36. The father gives advice to the dau- ghter or son about				
money
clothes
jobs
girl or boy friends
other boys or girls
social activities
sex
37. The child is antagonistic toward family control
38. The child is happy in his home
39. The child respects his mother's advice or decisions
40. The child respects his father's advice or decisions
41. Children use each others' things
42. Child uses mother's or father's things
43. Child seems nervous
44. Child complains about his home

Religious Pattern:

1. All members of the family attend church	.....	.....	.....	.....
2. All members attend Sunday School	.....	.....	.....	.....
3. Child can choose whether he wishes to go to church	.....	.....	.....	.....

FAMILY QUESTIONNAIRE

Name _____ Date of birth _____

Address _____

Age of Mother when child was born _____

Age of Father when child was born _____

Religious Preference of Family _____

Father's Name _____ Age _____ Occupation _____

Education:

1. High School _____

2. College _____ Major _____

3. Post-Graduate _____ Major _____

4. Formal Child Development or Parent-Education Training

5. Other Specialized Training Related to Child Guidance

Mother's Name _____ Age _____ Occupation _____

Education:

1. High School _____

2. College _____ Major _____

3. Post-Graduate _____ Major _____

4. Formal Child Development or Parent-Education Training

5. Other Specialized Training Related to Child Guidance and Nutrition

6. What articles in magazines on child feeding have you read in the last six months? _____

7. Do you earn money through your own activities? _____
How much time per week do you devote to this? _____

Date of Marriage _____

Names of Children:

- 1. _____ Sex _____ Date of birth _____
- 2. _____ Sex _____ Date of birth _____
- 3. _____ Sex _____ Date of birth _____
- 4. _____ Sex _____ Date of birth _____
- 5. _____ Sex _____ Date of birth _____
- 6. _____ Sex _____ Date of birth _____
- 7. _____ Sex _____ Date of birth _____

Names of Adults (other than Parents) in Home, including Servants:

- 1. _____ Age _____
- 2. _____ Age _____
- 3. _____ Age _____
- 4. _____ Age _____

Name of person (or persons) preparing child's meals _____

Name of person (or persons) supervising child's eating routines _____

Does child eat alone or with other family members? _____

If child eats with others, who are the usual eating companions?

- 1. _____ 3. _____ 5. _____
- 2. _____ 4. _____ 6. _____

Usual breakfast time _____ Length of meal _____

Usual noon-meal time _____ Length of meal _____

Usual evening meal time _____ Length of meal _____

Is meal service interesting to you? (Mother) _____

Do you (Mother) enjoy serving meals? _____

What plans do you make for food preparation and meal service? _____

Adjustment of Child when eating _____

Much Medium Little

Seems to enjoy it _____

Looks forward to meal _____

Meets crisis with no _____

apparent fear or emotional upset _____

Accepts or rejects suggestions _____

with no apparent emotional upset _____

What are his best features or strengths? _____

What are his poorest features or weaknesses? _____

Has your child been ill recently? _____

Have any special events taken place in family during past week or day visited?

List any problems presently associated with feeding of child:

List any problems associated with feeding of child in earlier period:

List any problems other than feeding ones:

Any comments by parents that might improve observer's insight into the eating situation:

Does your family own an automobile? _____ Do you drive? _____

Can you generally arrange to use the automobile when you wish? _____

Cash income of family (Check figure that approximates tht total family cash income.)

Under \$500 __, \$500 to \$1000 __, \$1000 to \$2000 __, \$2000 to \$3000 __.

\$3000 to \$4000 __, \$4000 to \$5000 __, over \$5000 __.

Has husband been unemployed during last 5 years? _____ How long? _____

Fill in the following information about the places where you have lived since

marriage:	<u>Name of place</u>	<u>No. years lived there</u>	<u>Reason for moving</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Were you born on a farm? _____ in a village? _____ or in a city? _____

Was your husband born on a farm? _____ in a village? _____ or in a city? _____

How many brothers and sisters do you have? _____

How many brothers and sisters does your husband have? _____

Do tou own your home? _____ Check the following information about your home:

Number of bedrooms _____, bathrooms _____, dining room _____, kitchen _____, living room _____, closets _____.

Health rating of family:	<u>Excellent</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>
Yourself	_____	_____	_____	_____
Husband	_____	_____	_____	_____
Child studied	_____	_____	_____	_____

Check equipment you have: Telephone ____, Electric toaster ____, Vacuum Cleaner ____, Refrigerator, ice ____, or Electric ____, Sewing machine ____, Electric iron ____, Waffle iron (use on stove) ____, or electric ____, Central heating ____, running hot water ____. List any others not mentioned above: _____

Check the type of flooring and the condition it is in: (Use flooring which you have in most rooms)

Large rugs or carpets ____ rooms. Linoleum in ____ rooms.

Condition _____	Conditions of floors: good _____
Pine floors _____	average _____
Hardwood floors _____	poor _____
Tile floors _____	

Do you feel that your storage space is adequate? _____

What fuel do you use for cooking _____

Can you plug your electrical equipment in where you need it? _____

Do you feel that you have: 1. Too much work to do _____
 2. Just the right amount _____
 3. Too little work to do _____

Fill in the following information for the listed activities:

	Is it carried on in home?	Is it your responsibility?	Time spent in this activity ea.wk.	Check your attitude toward it:		
				Like	In-different	Dislike
Bread making						
Pastry baking						
Washing clothes						
Ironing						
Mending						
Sewing						
General cleaning of the home						
Washing dishes						
Food preparation						
Keeping household accounts						

Activities (cont'd.)

	Is it carried on in home?	Is it your responsibility?	Time spent in this activity ea.wk.	Attitude		
				Like	Ind.	Dis.
Buying supplies						
Raising vegetables						
Raising fruit						
Raising poultry						
Canning fruit and vegetables						
Care of yard						
Tending furnace						
Others: _____						

Leisure Time Activities: List the amount of time you spend in each of the following activities. If you do not take part in these activities please give your reason for not taking part.

	No. of times per week	No. of hours per week	Why not engaged in?	With whom do you play or go?
Actual playing of: Golf				
Tennis and Badminton				
Ping pong				
Swimming				
Hiking				
Croquet				
Bowling				
Attendance at: Baseball games				
Basketball				
Boxing				
Track				

Do you like to read books? _____ How many books did you read last year? _____ Where did you get the books? _____

List in order the types of books you enjoy most (1) _____, (2) _____ (3) _____, (4) _____

Why do you like these most? _____

Do you like to read magazines? _____ Check the magazines that you read in the following list. Place a U after the magazines if you usually read it, and an O if you occasionally read it.

	U	O	Do you take it in your home?
Cosmopolitan			
Ladies' Home Journal			
Red Book			
McCall's			
Reader's Digest			
Good Housekeeping			
Saturday Evening Post			
Colliers			
American			
Liberty			
Better Homes and Gardens			
Woman's Home Companion			
American Home			
Screenland or other movie magazines			
Time, or Newsweek			
Life			
True Story			
Professional magazines			
Religious magazines			

How many hours a week do you spend reading magazines? _____ Do you like to read newspapers? _____ List the newspapers that you have in the home (1) _____ (2) _____, (3) _____ (4) _____

How much time do you spend each day reading the newspaper? _____ Do you have a vacation away from home? _____ How many days? _____ With or without your husband? _____ Where do you usually go? _____

How much time do you have each day free from work activities? _____

How is this time used? _____

How would you like to use it? _____

List the amount of time you spend in each of the following activities. If you do not take part in these activities please give your reason for not taking part.

Activity	No. times per week	No. hours per week	Reason for not taking part
Playing or listening to the piano			
Listening to radio			
Playing other musical instruments			
Riding in car			
Riding horseback			
Playing cards			
Attending shows or movies			
Playing outdoor games			
Indoor games			
Giving or attending parties			
Playing with children			
Visiting with friends and neighbors			
Visiting with family members			
Doing handwork such as knitting, crocheting, or weaving			
Shopping			
Attending adult homemaking classes			

Social Activities:

How many times per month do you have friends or relatives to meals at your home? _____
 How many times per month do you have meals at home of friends or relatives? _____

Attend dances _____ per month
 Give dances _____ per month
 Attend afternoon parties _____ per month
 Give afternoon parties _____ per month
 Attend other parties _____ per month
 Give other parties _____ per month

Fill in the desired information about the following:

Name of Club	Are you a member now?	Hours a month spent	Have you been a member at sometime?	Why did you drop out?	If you hold an office in any club, give name of office.
Card Club					
Sunday School					
Church					
Ladies' Aid					
Missionary Society					
Lodges					
Literary Clubs					
Extension					
Grange					
Others:					

		Much	Little	None
Visit with neighbors	___ in morning	_____	_____	_____
	___ in afternoon	_____	_____	_____
	___ at night	_____	_____	_____
Neighbors visit you	___ in morning	_____	_____	_____
	___ in afternoon	_____	_____	_____
	___ at night	_____	_____	_____
Play eard games at home	___ with husband	_____	_____	_____
	___ without husband	_____	_____	_____
Play card games away from home	___ with husband	_____	_____	_____
	___ without husband	_____	_____	_____

Home Relations:

Do you and your husband enjoy similar activities: _____ Do you like the things that you do with your husband better than those you do without him? _____
On what subjects do you usually agree with your husband? _____

To what extent are you satisfied with your marriage: Completely? _____
More often satisfied than dissatisfied? _____ dissatisfied? _____

Problems

	Much	Medium	Little
Shyness in meeting people			
Nervousness			
Difficulty in making decisions			
Attempt more than you can do			
Not being able to do the things that you wish most to do			
Loneliness			
Worry			
Answering demands of the family and relatives			
Lack of intimate friends			
Quarrels with neighbors or associates			
Not being accepted by the social group of your choice			
Poor health			
Getting fatigued or tired easily			
Lack of self-confidence			
Feels failure easily			
Health of husband			

Problems (cont'd)

Much Medium Little

Carrying out necessary household routine

Budgeting time for recreation

Too much time on hands

Fear of not meeting expectations of husband

Securing capable domestic help

Lack of conveniences or unsatisfactory

housing condition

Getting a job outside the home

Insufficient money for self

Insufficient money for family needs

Fear of nervous breakdown

Fear of becoming "bored" with marriage

Not having own income

Unemployment of husband

Lack of common interests or mutual friends with husband

Disagreement with husband over

handling family income or money

Fear of having children or too many children

Difficulties with the in-laws

Finding outlets to satisfy personal interests in religion

Changing religious views

Disagreement with husband over religious problems and views

What changes would you make in your life if you had the opportunity to do so?

(1) _____ (2) _____
(3) _____ (4) _____

Why have you not made these changes? _____

What changes would you make in your self if you had the opportunity and power to do

so? (1) _____ (2) _____
(3) _____ (4) _____

Why have you not made these changes? _____

Explanation of χ^2

The extent to which the child's eating behavior was related to selected factors was measured by χ^2 . χ^2 is found by using the following formula:

$$\text{Ex.N.} = \frac{\text{Column Total} \times \text{Line Total}}{\text{Total Number}}$$

$$d = \text{Obs} - \text{Ex.N.}$$

$$d^2 = d \times d$$

$$rd = \frac{d^2}{\text{Ex.N.}}$$

$$\chi^2 = \sum R.D.$$

(Obs) observed number, (Ex.N.) frequency expected, (d) deviation = the difference between observed and expected values, (d^2) deviation squared and (rd) is d^2 divided by Ex.N. and χ^2 the sum of R.D.

The following table illustrates finding χ^2 :

		Behavior of Parents				Total
Child's Eating Behavior	Obs. N.	4	0	2	0	6
	Exp.N.	1.3	1.6	1.6	1.6	
	d	2.7	1.6	.4	1.6	
	d ²	7.3	2.6	.16	2.6	
	rd	5.6	1.6	.1	1.6	
	Obs.N.	1	2	0	3	6
	Exp.N.	1.3	1.6	1.6	1.6	
	d	.3	.4	1.6	1.4	
	d ²	.09	.16	2.6	1.9	
	rd	.07	.1	1.6	1.2	

$$\chi^2 = 5.6 + 1.6 + .1 + 1.6 + .07 + 1 + 1.6 + 1.2$$

The probability factor (P) indicates whether or not X^2 is significant i.e., it indicates whether or not the association between the variable may be due to chance. For example, a "p" value of .10 means that in ten out of 100 cases the association could be due to chance alone. If "p" is equal to or smaller than ($<$) 0.05 X^2 is considered significant. This means that there would be less than five chances in 100 that the indicated association could be due to chance.¹

1. Yule, George. An Introduction to the Theory of Statistics. Charles Griffen Company, London, 1924, pp. 66.