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An Objective Study of the Informational Needs of Parents in Child Psychology

William Ferdinand Bublitz

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AN OBJECTIVE STUDY OF THE INFORMATIONAL NEEDS
OF PARENTS
IN CHILD PSYCHOLOGY

1934
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A Thesis
Submitted to the Graduate Faculty
of the
University of North Dakota

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by
William F. ^{Ferdinand} Bublitz
In Partial Fulfillment of the Requirements
for the
Degree of
Doctor of Philosophy in Education
August, 1934

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This thesis, offered by William F. Bublitz, as a partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education in the University of North Dakota, is hereby approved by the Committee under whom the work has been done.

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CHAPTER 1

INTRODUCTION

Parent education today finds itself at a stage of development calling for evaluation and organization of its materials with respect to parental needs. This call is the result of the rapid and sporadic growth of those materials in the past few decades. Child study, a major portion of the materials of parent education, has developed into a literature which by its very bulk is rendered unassimilable to the average parent. Rescued from the decline into which it had fallen by the passing of its principal leader in this country, G. Stanley Hall, and stimulated by the work of such leaders as Watson, Gesell, Baldwin and Terman in this country, Piaget in France, Buhler in Austria and Stern in Germany, to say nothing of the writings of Freud and his disciples, child study has ceased to be a course and has become a curriculum. As such it should be divided into its component courses and each course reduced to its minimum essentials if the task of reaching the parent is to be attained. To borrow a figure from curriculum revision with respect to the work of Coffman and Jessup in arithmetic, the cube-root, bank discount and longitude and time of child-study must be sacrificed for the fundamental operations.

The recognition of the need of inventory and isolation of objectives in parent education is general. The Twenty-Eighth Yearbook of the National Society for the Study of Education, after listing over ninety city, state and national agencies

promoting parent education and over one hundred national, regional and local conferences devoted to the cause, offers the following general conclusion:

"One of the greatest dangers of the parental education movement which has resulted from its sudden and energetic stimulation has been the tendency to plunge ahead in a pathless field without a clear idea of the scope or limitations. The area of parental education is large. Progress will be hindered and valuable energy dissipated unless there is an effort to make more systematic, concentrated attacks upon its various problems."¹

With respect to the need of effort to make available to the "many" what is available only to the "few" Bridgman, looking into the future after a resume of a decade of progress in parent education says:

"The future of this toddling movement would seem to depend: first, upon whether or not it can evolve an educational procedure that will be scientifically valid, educationally effective, and at the same time releasing and satisfying to participating parents; and second, upon the degree to which the parent education activities of private experimental agencies can be taken over by public educational and welfare agencies without becoming stereotyped and ineffective."²

Agreement with the point of view expressed in the foregoing quotations has been the attitude prompting the study being reported. An experience of a number of years as a

¹Twenty-Eighth Yearbook of the National Society for the Study of Education, Bloomington, Illinois, Public School Publishing Company, 1929, p. 803.

²Ralph P. Bridgman, "Ten Years' Progress in Parent Education." Reprint from The Annals of the American Academy of Political and Social Science, Philadelphia, Pennsylvania, September 1930, Publication No. 2420, p. 12.

public school official has brought the writer into contact with many parents and the conviction has grown with him that much of present parent-education, at least as conducted in the communities of the Middle West with which he is acquainted, is ineffective. The agency most frequently found to be devoted to parent education is the local Parent and Teachers' Association and it is the opinion of many, both parents and teachers, that much of what passes for parent education is ineffective. That ineffectiveness is suspected to be due to the factors so far suggested and others. To be specific, this study assumes those factors to be, (1) invalidity of much of the materials, (2) triteness, prompting the statement of parents, "I knew that before." (3) unavailability of the materials, either because too voluminous or because of its technical form of presentation. No doubt there are other factors responsible for the short comings of parent education, such as the lack of trained leaders and the large number of parents not reached by any agencies, but with those assumptions the present study does not deal.

THE PROBLEM

The present study is confined to one section of child-study, albeit a large section; that of the psychology of the normal child. The problem is to determine the most important facts and principles of child psychology that have emerged thru research and experimentation, the relative degree to which parents stand in need of them, and to suggest one plan for presenting them in the light of the facts and principles so identified and of supplementary information concerning the parents. The problem resolves itself into three major tasks: (1) the identification of the principles of most importance to parents on the basis of the judgment of experts, (2) the testing of parents to discover the relative degree to which these most important facts and principles are apprehended by parents, and (3) the organization of a brief suggestive course of study on the basis of the findings. The method of attack employed included the following procedures:

1. The organization of a check-list of some one hundred and sixty statements of facts and principles in general, educational and child psychology which might have value to parents as relating to the child.

2. The evaluation of these facts and principles by twelve competent judges. (See appendix 2 for summary)

3. The development of a test for parents to determine which of the facts and principles of those judged to be of most importance to parents (those of the first quartile)

stand most in need of emphasis.

4. The administration of the test to twelve experts in the field of child psychology, in order to establish its validity.

5. The administration of the test to three hundred parents, one hundred each from the city, village and rural districts.

6. The preparation of a list of forty common parental problems and the checking of these by the same parents taking the test.

7. The preparation and administration of a data sheet for the parents taking the test. (The data sheet, check-list of problems and the test were stapled together and the whole instrument is designated as the interview guide-sheet. (See appendix 3.) The interview guide-sheet was administered by trained workers thru personal interview.)

8. The organization of a suggestive course or study-outline in the light of the data at hand.

Each of the procedures will be discussed more fully in following chapters. At this point, however, an underlying assumption in the present study should be set forth, namely, that a knowledge of the facts and principles of child psychology is an important condition of parental efficiency. The establishment of the validity of that assumption would in itself be a separate problem but one bit of evidence growing out of the present study tends to substantiate it. A group

of thirty-eight parents with whom the writer had had contacts over a period of nine years were judged on a scale with reference to their general efficiency as parents, and their ratings correlated with the scores they made on the test of information. The r obtained was .48 with a probable error of .08. A similar rating by another teacher with a service period of eleven years in the same community, when correlated with the score on the test yielded an r of .36 with a P. E. of .08. The writer had recorded the scores of parents some time before so the latter value for r is probably the more reliable since the rating was performed by a person who had no knowledge of the nature of the test and was not connected with the general study in any other way. There are twenty-eight items in the test and the mean scores as will be shown later, tend to approach the half-way point. The scale was constructed with ~~an equal number~~^{twenty-eight} of units. An inch represents one unit on the scale. An average parent was assigned the rating of 14; a perfect parent, 28; and one who was judged to fail altogether was assigned a rating of 0. Slips with the names of the parents were simply placed opposite the inch rulings on a yardstick to represent their standing. The rank-order method of correlation was not used because of the large number of tie-scores on the test.

The validity of the basic assumption in this study, that knowledge of child psychology is an important factor in parental success, would hardly call for comment were it not for

the fact that workers in the field have repeatedly averred that knowledge does not assure its application in the parent-child relationship, because of the emotional component. The position of the writer is, however, that tacitly assumed by educators in general, namely, that knowledge in any field is an aid to adjustment within that field. The correlation offered between the score on the test and an outside criterion of parental efficiency is in no means presented as establishing a causal relationship between knowledge and the efficiency of the parent in the parent-child relationship; it is offered rather as circumstantial evidence.

Related Studies

The few studies found which bear a resemblance to the present inquiry in their general conception are relatively recent and none were identical either in procedure or scope. The recency of the inquiries into the validity of generalizations and of parental needs suggests that studies of the kind will become more prevalent in the future.

One of the first attempts to discover parent-needs by means of objective tests was that of Laws in 1927. Four objective tests were administered to determine practices of parents. The tests were of the attitude type in which a quick emotional reaction to stimulus words dealing with parent-child relationships was recorded. Laws concluded that tests dealing with practices of parents were definitely limited in their use because not sufficiently diagnostic to serve as

a means of identifying needs of parents.³

Tilson in 1929 tried to ascertain the relation between various behavior problems and such factors as age, mental age of the child and the education, occupation, religion, and nationality of the parents. While some relationships between the factors studied and problems of pre-school children were found, the study did not identify definite needs. Such relationships serve to reflect parental needs rather than to isolate the needs themselves.⁴

Stoddard in 1930 prepared a questionnaire of fifty-three selected topics and administered it to 277 widely separated educational groups to rate on a four point scale, the emphasis that should be accorded to each. He found a great diversity in the emphasis given but considerable agreement in that the content of a course should be based upon parent needs.⁵

The study which bears nearest resemblance to the present inquiry is that of Ackerly who in 1932 reported her investigation of the attitudes possessed by parents of elementary school children as revealed by measuring scales. Ackerly secured the opinion of competent judges as to the generalizations and attitudes regarding mental, emotional, social

³Gertrude Laws, Parent-Child Relationships: a study of the attitudes and practices concerning social adjustment of Children, Teachers' College, Contributions to Education, Columbia University, No. 283, 1927, p. 57.

⁴Marie Agnes Tilson, Problems of Pre-School Children; a basis for parental education, Teachers' College Contributions to Education, 1929, p. ix-90. No. 356

⁵George D. Stoddard, The Problem of Content in Parent Education, Childhood Education, Vol. 7, 1930, pp. 227-232.

and physical development, use of money, sex education, vocational guidance, and vocational guidance that should function in child development, and compared them with those which parents possess. The differences represent the needs of parents and are used in developing a course of study or outline for guidance in parent education. The following distinct differences between Ackerly's and the present study are:

1. Ackerly's study goes beyond the field of Psychology in dealing with physical growth, vocational guidance, sex education and the use of money. The present study is confined to parents' knowledge of child psychology.
2. Ackerly employed a battery of tests and scales of different types. The present study confines itself to the use of one test (which may be considered as a battery of tests of a single type).
3. The earlier study relied upon the results from different groups, that is, not all of the parents took all of the tests. In this study all parents were tested by the same instrument.⁶

The points of resemblance between this and Ackerly's study are that both tested parents to determine needs and both used the difference between the results from parents and a jury of experts to determine those needs.

⁶Lois Alberta Ackerly, The Information and Attitudes regarding Child Development Possessed by Parents of Elementary School Children, Unpublished Doctor's Dissertation, Department of Child Welfare, Graduate College, State University of Iowa.

Before presenting the study in detail, the general statement is made at this point that the writer fully realizes the limitations and shortcomings of his attempt. Testing in the day-school, where more homogeneous groups are tested in relatively small segments of subject-matter, is far from being an exact science. The student who has the temerity to measure information in an entire field, with a test that can be administered at one sitting under varying conditions should concede that his efforts constitute an initial, illustrative attack upon a problem rather than the final solution of that problem. The writer however claims the indulgence which is usually accorded workers in a new field in social science.

Related References

Richard Olding Beard, Parent Education, University of Minnesota Press, 1927, pp. 166-185

Joseph V. Breitwieser, Psychological Education, New York, Knopf, 1926, p. 6

Florence L. Goodenough and Alice M. Leahy, The Effect of Certain Family Relationships upon the Development of Personality, Pedagogical Seminar and Journal of Genetic Psychology, Vol. 34, pp. 45-71

Hazel Spencer Schaus, An Experimental Investigation of Methods in Parent Education, Researches in Parent Education, Vol. 6, New Series No. 241, 1934, pp. 117-134

W. I. Thomas, The Child in America, New York, Knopf, 1926, pp. 295-329, (History and Development of the Movement.)

Twenty-eighth Yearbook of the Society for the Study of Education, Bloomington, Illinois, 1929, pp. 275-353; 443-449; 789-806.

CHAPTER 2

THE GENERALIZATIONS AND THEIR EVALUATION

In approaching the task of securing a measure of parental information in the field of child psychology, one is confronted by the seeming infinite multiplicity and diversity of the individual items, or elements, of which a comprehensive knowledge would consist. To be measurable anything must be capable of being divided into some sort of unit and the degree of refinement of measurement will depend to a great degree upon the nature of the unit employed. Thus one might measure roughly a pile of rocks by counting the number of individual rocks in the pile, the unit being a single rock without respect to its size, or one might weigh the pile and express the result in pounds. The latter unit is of course preferable but in measuring imponderables one must be content with some admittedly less objective and less consistent unit of measurement.

The Generalization as a Unit of Measurement

In selecting a unit of measurement, it is necessary not to lose sight of the objective of determining the needs of parents with regard to information. Information may have different forms; it may be in the form of a command of specific facts, the irreducible elements, or it may be in the form of generalizations that have grown out of the facts. With respect to the relative value of the two types of information Judd says:

"We are justified in concluding the discussions of particular subjects and their psychology with the statement that the highest powers of the mind are general, not particular, that mental development consists not in storing the mind with items of knowledge nor in training the nervous system to perform with readiness particular habitual acts but rather in equipping the individual with the power to think abstractly and to form general ideas."¹

So far as the needs of parents are concerned it may be said that problems seldom exist in isolation and that knowledge will probably function best which applies to the largest number of the different problems they meet. Applying the criterion then of value to the type of unit to be selected there is justification for using the generalization as the best form. A related justification is that the unit of measurement may be made the basis of curriculum construction.

There is, however, another reason for using the generalization as the unit of measure in this study. It simplifies the problem of securing a wieldy and representative body of materials in which to test parents. The essence of any systematic body of knowledge is the body of generalizations into which it can be reduced. Science begins inductively and grows into generalizations.

There is difficulty, however, in using the generalization as the unit of measurement as has been suggested earlier in the figure of the rock-pile. Two generalizations do not necessarily represent equal amounts of information because

¹Charles H. Judd, *The Psychology of Secondary Education*, New York, Ginn and Company, 1927, p. 441.

they may differ in generality. The same difficulty, however, would be met with in the choice of any other type of unit of measurement which the writer could conceive. The difference in the degree of generality between two statements does not render them altogether unserviceable as units of measurement; the resulting measurements are relative rather than absolute. In other words, the after measurement of individual A one is not justified in asserting that he "knows" or "apprehends" a given fractional part of all that is to be known of child psychology; one is justified in comparing his performance to that of individual B on the same test items.

The Check-list

Appendix 1 presents the check-list of generalizations taken from general, educational, and child psychology and submitted to a jury of twelve competent judges for evaluation.

Selection of the Generalizations

As first conceived the intention was to select the generalizations on the basis of frequency of mention in a body of material to which the criteria of recency of publication, mention of the author in standard bibliographical collections and supporting experimental evidence were applied, but it became evident that such a procedure would involve the expenditure of more time than was available. The work actually done in that direction is not reported because it was abandoned. Some use was made of the results, however, in that the general divisions of the check-list were decided upon after a comparison

of a number of standard text-books in child psychology. Once the general divisions were decided upon each was developed by the addition of new generalizations not previously found. It became evident as the work progressed that tho the phraseology differed infinitely there was a decided repetition from one author to another. It became evident too that many of the generalizations were not based upon experimental investigation. Where such experimental support has been found, it has been incorporated into the bibliography of the check-list.

One feature of the check-list should be noted - that the generalizations collected were not confined to those from materials purporting to deal with child psychology alone. Child psychology is not yet a fully matured science and the inclusion of materials from general, educational, and social psychology is justified on the ground that it has borrowed from those sources in the past.

The check-list necessarily has its limitation. It is not fully comprehensive; to develop such a list would be a highly laudable undertaking but it would require access to the best libraries in the country and the resources of an agency with a staff of workers. Then too, the statements have not been fully refined as to wording. The ideal wording of the generalizations could hardly be attained. In a preliminary trial it was found that it seemed preferable to state the generalizations in a brief, suggestive, tho positive manner, rather than in a detailed and highly qualified manner.

The suggestive manner of statement permits of individual interpretation without a temptation to lose sight of the central issue.

Evaluation of the Generalizations

As may be seen from the foreword to the check-list (See appendix 1) judges were asked to rank the statements on a five-point scale with respect to their value or "importance" to parents. Items accorded first rank were marked "1"; those of little importance "5". Intermediate values were of course assigned to those generalizations of intermediate importance. The purpose of the evaluation was dual; the primary purpose was to determine the materials upon which parents were to be tested. Since the number of generalizations in the list was too great to be tested for, it was necessary to select a part of them. "Importance", or value to the parents, was decided to be the best basis of selection. Expert opinion must serve in the evaluation of materials until more direct means of determination of values are developed. Some pioneer work is being done at the University of Iowa in determining the value of materials in parent education by direct measurement of the reactions of parents before and after instruction, notably that under the direction of Van Cleave Berne, but the devices are as yet imperfectly developed and few. The judges who made the evaluations are here given. Six of them are nationally known specialists in the field of child study and the others are general psychologists of high standing.²

Marion Faegre, Institute of Child Welfare, University of Minnesota, Minneapolis, Minnesota.

Martha D. Fink, National College of Education, Evanston, Illinois.

Dr. Katherine B. Greene, School of Education, University of Michigan, Ann Arbor, Michigan

Dr. Edwin Raymond Guthrie, Department of Psychology, University of the State of Washington, Seattle, Washington.

Dr. S. O. Kolstoe, Professor of Education, State Teachers' College, Valley City, North Dakota.

Dr. Frank S. Lloyd, Associate Professor of Education, New York University, New York.

Dr. Chas. W. Telford, Department of Psychology, University of North Dakota, Grand Forks, North Dakota.

Dr. John W. Todd, University of Southern California, Los Angeles, California.

Hazel Spencer Schaus, M.A., Acting Head of Division of Child Study and Parental Education, Iowa Child Welfare Research Station, University of Iowa.

Dr. Rachel Stutsman, Merrill Palmer School, Detroit, Michigan

Dr. Winnifred Rand, Merrill Palmer School, Detroit, Michigan.

Dr. Arland D. Weeks, Director of School of Education, North Dakota State College, Fargo, North Dakota.

Selection of the Generalizations for the Test

The generalizations upon which parents were tested were determined by the ratings of the judges. Appendix 2 shows the rating accorded each generalization by each of the judges. The generalizations are numbered to correspond with those of the check-list. It will be seen by consulting Appendix 2 that the mean of the ratings and the standard deviation have been computed. The purpose of computing the standard deviation was

to aid in the selection of items for the test. The number of items in the test was somewhat arbitrarily fixed by the length of the test. A preliminary trial indicated that thirty would be about the maximum number that could be tested for at one sitting with the type of test used. Since a number of the generalizations were equal in rating, on the basis of comparing arithmetic means alone, the standard deviation plus the mean was used as an index for selection. The procedure can best be understood by reference to Table 1.

The check-list has ten categories. They are arbitrary but conform to general practice in presentation of subject matter as determined by a comparison of text-books in child-psychology. There is, of course, an over-lapping of generalizations from one category to another, that is, the factor of individual differences for example may apply to moral development, learning and others. It is impossible to devise a general classification of topics that is mutually exclusive. The general divisions used in the list have a defect that is apparent rather than real; it is that no single division is devoted to emotional development. That omission was by design because of two facts; one is that we know that emotions affect human reactions profoundly we know too little about the emotions themselves to generalize safely about them; the other is that the emotional component is present in so many reactions that one may not confine their influence to one category. Curti, for example, does not have a chapter devoted directly to the

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Table 1
The Rankings Accorded Forty Generalizations
by the Twelve Judges, on the Basis
of Importance to Parents

No.	Generalization	Standard		
		Mean	Deviation	M+S
1.	The child learns most efficiently when satisfaction attends his activities. (derived)	1.08	.27	1.35*
2.	Social approval and knowledge of success the most effective stimulants to moral behavior.	1.17	.36	1.53
3.	The desire for the approval of others is an important motive.	1.17	.37	1.54
4.	Attitudes of inferiority, compensation, revenge, etc., may be symptoms of present mishandling of the child by parents or others.	1.17	.47	1.64*
5.	Performing for the child many functions he is able to perform himself renders him over-dependent.	1.17	.47	1.64*
6.	The child learns by doing. (derived)	1.25	.42	1.67*
7.	Individual differences exist with respect to learning.	1.33	.40	1.73*
8.	Heredity provides potentialities; environment provides the means for attaining them.	1.33	.47	1.80*
9.	Interest in the opposite sex is characteristic of adolescence.	1.33	.47	1.80*
10.	Children often persist in objectionable behavior because they find it a means of satisfying their wants.	1.25	.59	1.84*
11.	A child learns desirable moral responses only when they are associated with satisfying responses.	1.36	.48	1.84

Table 1 (continued)

No.	Generalization	Standard		M+S
		Mean	Deviation	
12.	Punishment for failure to put forth effort does not motivate desired conduct very effectively.	1.33	.62	1.95
13.	Play is an aid to adjustment of life.	1.33	.62	1.95*
14.	All-around morality can not be taught; all that can be taught is response to situations.	1.45	.50	1.95*
15.	Facing reality is a condition to mental health.	1.33	.64	1.97*
16.	The conditioned reaction is an important factor in learning.	1.41	.63	2.04*
17.	A closer relation exists between parents and children as to ideas of right and wrong than between the child and any other group.	1.42	.64	2.06*
18.	Children are inferior to adults in seeing relationships.	1.59	.51	2.09*
19.	The child learns more efficiently when in a state of readiness to react than otherwise.	1.50	.64	2.14*
20.	Between the ages of about two and four the child tends to react negatively to suggestion.	1.50	.64	2.14*
21.	Very poor economic status exerts an unfavorable influence upon behavior.	1.50	.65	2.15*
22.	Stammering is most generally due to social maladjustment of some sort.	1.54	.67	2.21*
23.	Undesirable emotional attitudes are often due to early experiences.	1.58	.64	2.22

Table 1 (continued)

No.	Generalization	Standard		
		Mean	Deviation	M+S
24.	The child deprived of parental companionship and sympathy may develop compensatory fancies.	1.58	.64	2.22*
25.	Attitudes controlling later social adjustments have their pattern established in the home.	1.41	.86	2.27*
26.	Orderly association is a condition of mental health.	1.63	.64	2.27
27.	Intense demonstrativeness of parental affection may entail later social maladjustment on the part of the child.	1.66.	.62	2.29*
28.	Meaningful material is learned more readily than meaningless material.	1.67	.65	2.32*
29.	Social adjustment is a condition of mental health.	1.58	.75	2.33*
30.	Physical condition of the child affects the rate of learning.	1.58	.75	2.33
31.	Intense demonstrativeness of parental affection may lead to varying degree of over-dependence of children upon parents.	1.58	.76	2.34
32.	Discernment of right and wrong is not a sudden development.	1.45	.89	2.34
33.	The desire to be physically active is an important motive.	1.50	.87	2.37*
34.	Young children readily confuse ideas of reality and imagination.	1.66	.74	2.40*
35.	Development takes place most readily in a rich and varied environment.	1.66	.85	2.51*
36.	Attitudes acquired in the home are often acquired thru the mechanism of the conditioned reaction.	1.67	.85	2.52

Table 1 (continued)

No.	Generalization	Standard		
		Mean	Deviation	M+S
37.	Individual differences exist with respect to mental ability.	1.64	.88	2.52
38.	Anger, as a social response, is usually exhibited in response to opposition.	1.67	.85	2.52*
39.	Mental ability is partly a function of inborn capacity and partly a function of experience.	1.67	.89	2.56
40.	At first the child thinking is strikingly egocentric.	1.58	1.06	2.64*

The generalizations marked (*) were those selected for the test.

The ranking is in terms of the sum of the mean and the standard deviation of the ratings. The smaller the index the greater the "importance".

emotions in her recent book in child psychology. As a matter of fact, ten of the generalizations rated as belonging to the first quartile on the basis of importance might be classified under the head of emotionally affected responses.

Table 2 gives the generalizations rated as the forty most important, classified according to the divisions of the checklist.

Table 2
The Generalizations selected as the Forty
Most Important from a List of 160
Numbered According to Table 1.

General Division	Generalizations	No.
1. The Child and his Inherited Nature.	(8)	1
2. The Child and his Environment, (Learning)	(1)(6)(7)(16)(19) (28)(30)(35)	8
3. The Child and the Mental Processes involved in the Development and Organization of Meanings.	(18)(34)(40)	3
4. The Child and his Mental Traits and Abilities.	(37)(39)	2
5. The Child and Social Adjustment	(4)(5)(9)(10)(20) (24)(27)(14)(25)(38) (36)	11
6. The Child and Language.	(22)	1
7. The Child and Morals.	(2)(11)(17)(21)(32) (31)	6
8. The Child and Play.	(13)	1
9. The Child and Motivation	(3)(12)(33)	3
10. The Child and Mental Health.	(15)(23)(26)(29)	4

Table 2 is intended simply to show at one glance the relative emphasis the judges accorded the generalizations when they are viewed categorically. The emphasis is fairly well in harmony with present day educational thought. Heredity

is assigned a minor emphasis as compared with environment and social adjustment is stressed. As has been suggested, some of the items might be classified under one or more heads but the table serves to show in a broad way the content of materials in child psychology which should be used in parental education in the opinion of a group of competent judges. As will be shown in the next chapter, the test was built from these materials.

The Problem of the Validity of Generalizations

Of the need of determining the validity of generalizations Ojemann has said:

"The problem of validity arises from the fact that the body of knowledge in any field including the fields of child development and family life is continually growing. This growth results from the application of more highly refined techniques of investigation. In a field where little work has been done, knowledge is based upon crude observations of limited experience. As soon as opportunities are made available more refined methods of discovering knowledge are applied. Different portions, however, may share unequally in this development with the result that at any moment the body of knowledge may represent large difference in refinement. Some of the principles may be based upon carefully controlled research studies; others may represent nothing more than the opinion of a few workers who are generalizing from everyday experiences."³

This somewhat lengthy quotation is offered because it states the general problem and represents testimony to the effect that the need of evaluating generalizations is recognized in centers of child study.

³Ralph Ojemann, The Construction of a Curriculum in Child Development and Family Relationships, Paper read at the Session on Experimentation, National Council of Parent Education, New York, 1932.

The author quoted goes on to say that at the University of Iowa, workers are engaged in establishing the validity of generalizations by two means, by bibliographical research in which the experimental evidence for the generalizations is filed with the generalization to which it applies and by means of the opinion of judges.

In the present study both means were employed. The checklist is accompanied by references to such experimental work as could be found and the ratings on the basis of importance are likewise a check on validity. Some question may be raised as to the advisability of using one rating for two purposes, and as a matter of fact, such a procedure is seldom wise. In the present instance, however, it is doubtful whether a separate rating on validity would result very differently from the rating on importance of the items selected as most important since a generalization can not be important if invalid. A judgment of any kind implies the consideration of the influence of all factors determining a decision and validity is such a dominant factor in determining importance that it can not be ignored. Tho the word "validity" does not appear in the instruction to judges, most of the judges accompanied their reactions with a statement of the factors considered in giving the "importance" rating and in all such cases validity was mentioned as a factor considered. The agreement of the judgments as determined by the standard deviation suggests a high degree of consistency in the factors considered by the

judges in rendering a verdict on importance.

Related References

Ralph H. Ojemann, A Standard for Evaluating the Validity of Child Development Principles, Studies in Child Welfare, University of Iowa, 1932, Vol. 8, New Series No. 241, pp. 95-114.

Ralph H. Ojemann, The Construction of a Curriculum in Child Development and Family Relationships, Paper read at the session on Experimentation, National Council of Parent Education, November, 1932.

Josephine Pollock, A Study of the Validity of Current Periodical Literature on Child Study, Studies in Child Welfare, University of Iowa, March, 1934, New Series No. 270, pp. 81-218.

CHAPTER 3

THE TEST

Part 2 of APPENDIX 3 shows the test as it was developed. It is seen to be in the form of a "best answers" test approved quite generally as being superior to most of the other objective or "new type" tests found in school-room procedure. The steps in its development will be presented briefly.

Selection of the Generalizations

In referring back to Table 1 it is obvious that some duplication of ideas exists between those rated as the forty most important. This was of course anticipated because of the difficulty in devising mutually exclusive categories in the check-list, and because of the obvious difference in the degree of generality of the items. No effort was made in the original check-list to avoid duplication of ideas because such a procedure would tend to defeat the ideal of attaining comprehensiveness and would inject at the outset the subjective element of interpretation. Once the number of generalizations to be dealt with is reduced as it was in the rating, the factor of duplication can be better apprehended and deletions can be made without seriously affecting results.

The generalizations starred in Table 1(*) are those for knowledge of which the instrument tests directly. The other generalizations are arbitrarily held to be subsumed under those starred. Thus generalizations numbered 2, 3, 11, 12, are interpreted to represent special manifestations of the Law of

Effect, 30 the same idea as 14, 32 to be embraced in 31, 36 a special application of 16, 37 not essentially different from 7, and 39 another statement of 8. In several instances, generalizations tho virtually subsumed under a broader generalization are tested for directly because of the emphasis they are generally accorded in literature or because they have in them an element not subsumable to the more inclusive generalization. Thus, 12, tho related to the Law of Use is tested for directly. 33 because of the emphasis of the physical element is tested for directly tho closely related to No. 1. This somewhat high-handed method of further reducing the number of generalizations finds some justification in the fact that the length of the test was thereby reduced. Preliminary trial with a longer test convinced the writer that some reduction in its length was necessary in order to render it practicable. With reading ability of the less schooled parent in mind, thirty items such as the test employed seemed to be the optimal length. Some parents required two hours to complete it under personal guidance. The elimination of ten of the generalizations is rendered further less objectionable in that some of them ^{are} presented in the course of study where the results from testing on the generalization representative of the type warrant ~~it~~ it.

Devising the Test-items

Reference to Part 2, APPENDIX 3, will show the general nature of the problems. The central idea dominating the construction of the items was that a generalization upon which

the parent was to be tested should be presented along with others relating to the same situation and that the parent should select that generalization which to him seemed to have the highest applicability in solving similar problems, in most cases. An important point to be kept in mind is that the situations are intended to represent typical, illustrative segments of the field of parental experience in which the generalizations might apply rather than isolated problems and particular children, even tho the typical characters are assigned names in some cases. Workers were instructed to impress upon parents the importance of making a decision on the basis of their general experience, observation, and reading rather than upon the basis of experience with their own children alone. Some parents had difficulty in getting the point of view desirable as was indicated by the illustrative remark, "All of the answers might be correct depending upon the particular child", or "Any of the factors named might apply or they might be cumulative in their effect." "That is probably very true but you are asked to underline the statement which would be true in the majority of cases." were the instructions given to the workers should objections be raised.

Gestalt psychology has rightfully emphasized the relatedness of experience; cause and effect does not often represent a one to one relationship in the realm of human behavior. In other words, human behavior is highly unpredictable; yet, that fact does not deny that within broad limits human beings tend to develop and react in the same general way in similar situations, granted a fairly common environment. To deny some

degree of predictability in human reactions is to deny the possibility of generalization in the field; to admit the possibility of predictability is to recognize the applicability of generalizations to situations and to admit ^{the recognition} of similarities between situations on the part of those who are able to generalize concerning human reactions. The "best answer" is the one which best apprehends the similarity between situations and the consistency in the reactions of individuals with respect to those situations.

Where it was possible, situations were selected which represented actual problems within the experiences of every day home life. In some cases the situations were highly general because a more concrete setting was hard to devise without suggesting the answer. Where possible too, one answer representing a supposedly common misconception was included in order to secure data on the popular misconceptions against which parents should be warned. The suggested answers were presented in a chance order as determined by putting the answers on slips of paper (120) and assigning them to the appropriate problem in the order drawn from a box. An extra space was provided for answers which the parents cared to provide when no suggested answer seemed correct.

The Validity of the Test

The most direct way of determining whether the test measures what it purports to measure is probably to try it out on a jury of competent judges. This was done. The assumption was that if a competent judge failed to answer according to a key which indicated which answer was considered best by the maker of the test, then the test required revision at the points of deviation from the key. A preliminary tryout resulted in a number of revisions. The test was then submitted to additional judges for final validation. A test-item was retained for the test if 480 of the judges marked it according to the prepared key. On the basis of the final validation two items were deleted. These were No. 26 and No. 30 of TABLE 1. It should be noted that the judges did not question the validity of the generalizations themselves; they turned thumbs down on the measuring devices. The study had, however, progressed too far to revise the items and they were deleted. Those who submitted to the test in helping establish its validity were;

Dr. R. H. Ojemann, Iowa Child Welfare Research Station,
University of Iowa, Iowa City, Iowa.

(Three reactions combined-other two judges not named.)

Dr. J. Allen Hicks, Director of Child Development and
Parent Education, State College for Teachers, Albany, New York.

Dr. Ruth Andrus, Director of Child Development and Parent
Education, The University of the State of New York, Albany,
New York.

Dr. Gertrude Laws, Department of Education, State of
California, Division of Adult and Continuation Education

Dr. L. C. Wagoner, Wells College, California.

Dr. Ada Hart Arlitt, Professor of Child Care and Training,
School of Household Administration, University of Cincinnati.

Dr. M. V. Peterson, Teachers' College, Columbia University.

Prof. Raymond Peterson, State Teachers' College, Mayville,
North Dakota.

Prof. J. B. Fuller, Department of Psychology, Ellendale
Industrial School, Ellendale, North Dakota.

Dr. Grant Noren, Psychology, Department of Education,
State Teachers' College, Minot, North Dakota.

Dr. S. O. Kolstoe, Department of Education, State Teachers'
College, Valley City, North Dakota.

Dr. C. W. Telford, Department of Psychology, University
of North Dakota, Grand Forks, North Dakota.

Figure 1 shows the returns from the judges. The numbers represent the items of the test. The test items numbered 29 and 30 do not appear in the test because they were deleted. One reaction represents the combined reaction of three judges making the total number of reactions in reality fourteen. The number of reactions is small but the quality of the judges is of a high order. The difference between the reactions of the judges and that of the parents will serve also to identify the selection of materials for parental instruction, as will be shown later.

Figure 1
Showing the Reactions of Twelve Judges
to the Test Administered to Parents.

Test items		Judges numbered from one to twelve												% of "Hits"
No.		1	2	3	4	5	6	7	8	9	10	11	12	
1				x		x								83.33
2														100.00
3														100.00
4														100.00
5														100.00
6														100.00
7				x										91.00
8				x										91.00
9				x										91.00
10				x										91.00
11					x									91.00
12												x		91.00
13					x									91.00
14														100.00
15											x		x	83.33
16									x	x				83.33
17												x		91.00
18			x		x									83.33
19														100.00
20									x					91.00
21						x								91.00
22			x	x		x								75.00
23					x					x				83.33
24														100.00
25					x				x					83.33
26									x					91.00
27														100.00
28														100.00
29		x	x			x	x	x	x	x				41.00
30		x	x	x	x			x		x				50.00

To identify the generalizations tested for see Appendix 4 which is the key for the test.

Test items 29 and 30 were deleted from the original test on the basis of the returns from judges. "x" indicates that the judge being tested differed from the prepared key on the item numbered at the left.

Another check was made on the validity of the test. If a test gives a reasonable result when applied to a group about which one is in position to make predictions on the basis of other criteria, he is justified in assuming that it might be used with some assurance when applied to groups about which one can make no predictions. Thus one would expect that a class in child psychology would make a better score on the test than would a group of parents selected with some attention to fair sampling. The test was applied to such a class. The results were in the expected direction. The range in the scores of the city parents was from 9 to 23 with a mean of 15.85 while the range for a class in child psychology at the University of North Dakota was from 18 to 23 with a mean of 20.5. A comparison was also made between the scores of those city parents who had had courses in child psychology with those of the group as a whole. The mean score of the former was 17.75 as compared to 15.85, again, the expected direction. Again, to refer to a later section of this study, it will be seen in Table 4 that city parents made a better score than did those from small towns who in turn surpassed rural parents. These differences are also in the expected direction.

The Reliability of the Test

The best way to determine the reliability of the test would probably be to repeat it after the memory effect of an earlier trial had worn off. The time and labor necessary to repeat the test for any considerable number of parents seemed hardly justified in view of the fact that the object of the

study was not primarily to develop a test. The development of the test was incidental but necessary in getting at the information of parents, but even as such it should possess some measure of reliability. When the reliability of a test is determined from the results of one application, it is usual to attempt a measure by correlating the composite score on the odd items with a composite of the scores on the even items, that is, some consistent half of the results is compared to another consistent half. In the present study that method was not directly applicable because the items of the test are assumed to be unequal in difficulty; in fact, they are as is proved by the returns. In the absence of any better way of determining the reliability, two halves of the test were roughly equated on the basis of returns from 100 city parents and the resulting scores correlated. The r was but .29 which when substituted in the Spearman Brown formula yields a coefficient of .46 P. E. .067. Kelly says that a reliability of .40 is satisfactory if the instrument is intended to be used for the comparison of group results but not for a test intended to be used for individual diagnosis.¹ The uses made of the test in this study are for group comparisons and the reliability is probably greater than is indicated by the method used, because of the difficulty in equating halves of the test. The manner in which reliability was computed is shown in Appendix 5.

The preceding paragraph suggests an important implication concerning the reliability of the test with reference to its

¹William S. Foster and Miles A. Tinker, *Experiments in Psychology*, New York, Henry Holt and Company, 1923, p. 230

use. It will be recalled that in an earlier paragraph it was pointed out that the generalizations as units of measure of information were open to the objection that they are not equal in the sense that inches or pounds are equal. For that reason, simply enumerating the number of generalizations which individual A apprehends as compared to B without identifying the generalizations, will not enable one to assign complete reliability to comparisons of total information possessed. But when attention is directed to the question of how individuals or groups compare with respect to knowledge of a specific generalization, comparisons are not affected by inequalities of units because differences which appear are in terms of a common unit. The major service which the test is intended to perform is to identify the generalizations parents do not know; the inequality of the generalizations does not affect reliability. Where comparisons are made between groups with respect to the total number of generalizations known, the object is secondary to the main purpose of the test.

Administration of the Test

The test was administered in person by trained workers. The workers had special qualifications such as training in psychology and experience in dealing with people. Each worker was given a set of printed directions which read as follows:

1. Secure reactions only from parents in the right attitude of mind. If conditions for taking the test are not satisfactory make another appointment if possible.

2. Be sure to impress upon parents the importance of making decisions on the basis of their observation and reading and not entirely on the basis of observations of their own children alone.

3. Try to get a fair sample, that is, call upon all classes of people somewhat in the proportion in which they are found in the community.

4. When parents say that all answers apply rather than one alone, agree but ask them for a decision in terms of what is true in the majority of cases.

5. If parents seem reluctant to give any of the information called for in the data-sheet, do not press them.

6. If anything out of the ordinary about the home or the parents or children strikes your attention, make a note of it after you leave the house. Keep notes also of anything parents say about children or about the situation they are marking.

In the city and small towns workers were met with courtesy and interest. This was not so generally true in the rural districts. It was found difficult to get returns from men and the idea of comparing the answers of men and women was abandoned because of the relatively few returns from the former. In some cases it was necessary to leave the interview guide-

sheet with the parent to be filled out because of the difficulty in securing an interview. This was not done in any instance in securing the returns from city parents. A comparison of the results from such returns with the returns from parents under supervision did not reveal any consistent difference except that the scores from rural parents obtained by leaving the interview guide-sheet to be filled out, tended to run somewhat lower than those secured by interview. Some were discarded because they were facetious or carelessly done. The writer tried to get returns from a rural P. T. A. group, as a group, but was obliged to discard a number of the returns.

The city returns were obtained by one worker in Fargo and Minot, North Dakota. The villages or small-towns contributing most of the returns from that group were Enderlin (population 1800) and Hatton, (population 800). The rural returns were secured from the rural territory adjacent to Enderlin, North Dakota, Valley City, North Dakota. A few returns from the rural group were secured in rural communities in Minnesota and South Dakota by members of the writer's family residing in those districts.

One difficulty encountered was that of securing an unbiased sample. The difficulty was greatest in the rural district because there is no objective way of making a fair sampling. The practice was therefore followed of securing returns from all parents in a rural community so far as possible. In the small town the sampling was controlled

somewhat arbitrarily by blocking the towns into districts and calling upon a given number in each district. Economic status was checked to serve as an additional criterion of sampling but little reliability can be attached to the findings on economic status as will be shown in a later chapter. In Fargo and Minot several devices to control sampling were used, evidently with some success as will be shown in Table 2. From the United States Department of Commerce, Bureau of the Census, statistics for 1930 on occupational distributions for the city of Fargo, were secured. These were not available for Minot since occupational statistics are not compiled for cities under 25,000, the population of Minot being only 16,099 in 1930. It was assumed that the distribution of occupations in Minot were fairly comparable with those of Fargo so the percentages of males 10 years old or over in each occupation was computed and compared with the number and percent in each occupational group taking the test. As is shown in Table 2 the sampling is fairly representative so far as occupational distribution is a measure of the fairness of a sample. Indirect evidence points to the suspicion that in the small towns and villages the sampling was somewhat biased in favor of the better parents, but to what extent that is true can not be determined very satisfactorily with the data at hand. Enderlin is a rail-road town where the average income is probably somewhat higher than in other towns of its size in the state but that advantage is somewhat balanced by the fact that there are few college

graduates among the rank and file of workers in transportation. Hatton, the other small town from which reports were collected, is in a thriving agricultural community with a fair sprinkling of high school and college graduates among the adult population.

Table 2

Showing the Percentage of Parents in Each Occupational Group in the City of Fargo and the Percentage of Parents in Each Occupational Group to Whom the Test was Administered

Occupational Groups in Fargo according to U.S. Department of Commerce (1930).	Number in each group.	Per Cent in each occupational group.	No. of City parents in each grouping taking test	Per Cent in each group taking test.
All gainfully occupied males 10 years and over 8,224				
Agriculture	255	.031	1	.01
Forestry and Fishing	2	.0024	0	.00
Extraction of minerals	4	.0048	0	.00
Manufacturing and mechanical industries	2358	.28	15	.15
Transportation and Communication	1067	.13	18	.18
Trade	2236	.27	29	.29
Public Service	177	.021	7	.07
Professional Service	733	.089	10	.10
Domestic and Personal Service	588	.067	7	.07
Clerical	834	.10	10	.10
Not Reporting			3	.03

Fifteenth Census of the United States: Washington D.C.

Gov. Printing Office, 1931 Occupation Statistics, N. Dak., p.10-11

*The number of city parents in each group taken the least may be considered as percentages since there are 100 in the group.

Figure 2

Showing the curve of distribution for 300 scores
of city, village and rural parents together.

41

With reference to Figure 2 it may be said that the curve is fairly smooth, that is, there are not many irregularities in it. Smoothness of curves of distribution is in part a function of the number of measures since deviations in opposite directions from a central tendency tend to neutralize each other and Figure 2 suggests that the point is being approached at which the addition of new measures would not greatly affect the smoothness of the obtained curve. The curves of distributions for the scores of each of the groups is not shown but it is obvious from Table 3 that such curves if drawn would be much more irregular than for the group as a whole. This observation suggests that it would probably be desirable to increase the number of cases in each group if special emphasis were to be placed upon group comparisons. It is in point to remark here that when the test is used in a later section to identify the generalizations which need emphasis in parental education, deductions are made from the group as a whole rather than from the groups separately.

Group Comparisons with Reference to Total Score

Further deductions as to the validity and reliability of the test may be made in terms of the results where generalizations are assumed to represent equal amounts of information. Table 4 presents data as to the variability of the distributions of scores on the test for the three groups of parents and for the three groups as a whole. The reliability of the means and for the differences between means as determined by the probable errors of these measures are also given. It should be remembered that the number of cases in each of the groups was not large enough to result in a perfectly smooth curve, which suggests that if more measures had been made the means and differences would be more representative

Table 4

Showing the Range of Scores, Arithmetic Means, Standard Deviations of the Distributions, and the Probable Error of the Obtained Means and of the Differences Between Means.

Parents	Ranges in scores	Means	Standard Deviations	P. E. of Means	Diff. of Means	P. E. of Diff. of Ms
City	9-23	15.67	3.03	.2043	A-B= .60	$\frac{.60}{.3027} = 1.9$
Village	7-25	15.97	3.36	.2246	B-C=1.69	$\frac{1.69}{.3358} = 5.03$
Rural	5-21	13.38	3.70	.2495	A-C=2.29	$\frac{2.29}{.3929} = 5.82$
Total	5-25	14.70	3.10	.2090		

Table 4 presents a further bit of evidence as to the validity of the test in that the performance of the city parents as measured by the mean exceeds that of the village group, which in turn exceeds that of the rural parents. This difference is in the expected direction because in Fargo and Minot there are more agencies influencing directly or vicariously parent-child relationships in a positive manner than in small towns and rural districts. Some of these are (1) better trained leaders for parent and teacher associations and study groups, (2) more agencies within the school for general adjustment of the child, such as the junior high form of organization, kindergartens, and better health supervision which in their interpretation to parents would be expected to affect the parent in a positive manner, (3) more public agencies which would be expected to have a similar influence, such as hospitals,

child-clinics, Boy and Girl Scout organizations. The cities and small towns represented in this study were not actually surveyed for the purpose of comparing the actual difference in number and types of agencies suggested. However, ordinary observation would lead one to infer that such a survey would show a superiority for the city as compared to the small town and a greater superiority as compared to the rural districts. The small towns represented in this report are rather progressive and prosperous which fact may have a bearing upon the small difference between the mean performance of the city and village parents. Both groups made a definitely higher score than did the rural parents. In order to assign validity to the test on the basis of the differences in performance being in the expected direction, it will be necessary to inquire into the reliability of the measures employed in making comparisons.

The reliability of the means was measured in terms of the probable error. Since the variability of the distributions of the scores is shown to be in the ascending order of city, village and rural parents, the reliability of the means is in the same order, the number of cases in each group being the same, by the application of the formula $P.E.(av.) = \frac{.6745 \sigma (dist)}{\sqrt{N}}$. The value of .2043 is to be interpreted as indicating that the chances are even that the average or 15.67 does not differ from the average which would be obtained if all parents of the type represented by the city group had been measured, by more than .2043 of one unit of score, in either a positive

Henry C. Garrett, *Statistics in Psychology and Education*, Longmans, Green and Co., New York, 1926, p. 125

or negative direction, or that the chances are 99 in 100 that the true average lies within the limits of $4 \times .2043$ of one unit of score on either side of the obtained mean. (between 16.48-14.86)

Referring again to Table 4 it will be seen that the reliability of the differences of the means is greater when comparison is made between that of city and rural, or village and rural performance, on the test than when city groups and village groups are compared. The probable error of the difference between means was employed according to the formula $P. E. (diff) =$

$\sqrt{P.E.^2 (av.1) + P.E.^2 (av.2)}$.¹ The value obtained was divided into the difference between the obtained means and interpreted according to Garrett. Thus $\frac{D}{P.E. (diff.)}$ in the case of city parents and rural parents yields a value of 5.82 which insures complete reliability that the true difference is greater than zero.² However, the similar value of 1.9 as an index of the reliability of the difference in the means of city and village parents indicates that the chances are only 90 in 100 that the true difference is greater than zero, a value of 4.00 being necessary to insure complete reliability of a difference greater than zero.

¹Henry E. Garrett, *Statistics in Psychology and Education*, Longmans, Green and Company, New York, 1926, p. 153

²Ibid, p. 135

An obvious implication for parental education, which is suggested by the fact that rural parents made a lower median score on the test than did city parents or parents living in small towns, is that there is a greater need of parental education in the rural districts than in cities and towns. That implication will be discussed in greater detail in another section.

Identification of Specific Needs

If it is conceded that the test may lay claim to some degree of validity and reliability in distinguishing between groups on the basis of total score, the test must be accorded a greater dependability with respect to identifying those test items (and the generalizations they embody and for which they purport to test) upon which parents fail.

The preceding statement may be clarified by a figure.

Figure 3

Illustrating the Major Use to Which the Test is Assigned,
the Identification of Parental Needs

Parents	Test items						Total Score
	1	2	3	4	5	6	
No. 1	A	B	C	D	E	F	3
No. 2	A	B	C	D	E	F	3
No. 3	A	B	C	D	E	F	3
No. 4	A	B	C	D	E	F	3
No. 5	A	B	C	D	E	F	3
	2	1	5	3	4	0	15

Figure 3 assumes that five parents are tested on six test items similar to the twenty-eight of the test. The test items, no two of which are exactly alike and some of which are probably more complete in illustrative value than others, are represented by capital letters A to F. Each test-item embodies a generalization, no two of which are exactly equal in degree of generality. At the right the total score for each individual is given in terms of the number of correct solutions, a solution being indicated by a mark of cancellation. It is obvious from the figure that the parents may make the same total score, their background of information may be qualitatively different. To be sure, in comparing performance between groups on the basis of total score, the test items and the generalizations they embody were assigned an equality in order to deal with the results statistically, but an equality which they do not necessarily possess. (It may be parenthetically asserted here that Binet did practically the same thing in devising his tests.) In comparing the performances of individuals or groups of individuals on specific test-items however, there is no question of the equality of the devices (the test-items) or the unit (the generalization) because they are identical with respect to the individuals to whom they are applied.

Item 6 in Figure 3 represents a test-item on which all parents failed. Item 5 represents an item on which all parents succeeded. Is the conclusion justified that the generalization embodied in item 6 is one upon which parents need instruction?

To what extent is the failure on item 6 a function of the wording or other defects of the test-item and to what extent is it a function of the lack of information of the parent? In attempting to answer these questions the test items were tried out on a number of judges with adequate information as has been shown in Figure 1. If the judges solved the test-items it was assumed that failure on the part of the parents was a function of lack of information since the wording was in simple language, and that the difference between the reaction of the judges and that of parents represents the need of instruction on a particular item. The related question, to what extent is a perfect or nearly perfect score on an item by a group of parents a function of the test-item rather than information is not satisfactorily answered by using the responses of judges, but the information necessary to solve the problems which in this study were solved as satisfactorily by the parents as by the judges, is so trite (in three cases) that triteness is suggested as a factor in making for high score. Statements which seemed trite, tho rated important, were not deleted a priori because doing so would inject a subjective element on the part of the test-maker.

Table 5 gives the percentage of correct solutions by the three groups separately and as a whole on the individual items of the test. It repeats also the percentage of correct responses on each item for the experts on whom the test was tried for convenience in making comparisons. The table presents

the items in the order in which they appear in the test and gives the generalization for knowledge of which the test-items purport to test.

The point should be kept in mind that in its use in identifying the generalizations on which parents need information, the test is intended to reveal group needs and not individual needs. The reliability of the test is too low for individual diagnosis but satisfactory when applied to groups. Dividing the parents into environmental groups is justifiable on the ground that comparison of data may be of value in indicating relative group performance and in suggesting causes for consistent differences in trends but in determining the generalizations upon which parents most need information it is best to consider the performance of the group of 300 parents as a whole. Table 6 presents the data of Table 5 for the three groups and for the composite group arranged in the order of ascending values for the composite group. Curves are drawn from the data in order to show (1) that the trend of the curves for the three groups is in the same direction suggesting common needs with respect to information; (2) that the number of cases in each of the three groups is too small to permit very reliable interpretation of unique group-needs (city, village, rural) since the curves are very irregular; but that (3) relative common needs with respect to information may be inferred from the composite curve with some assurance since it is fairly smooth. It is obvious of course from a comparison of the curves that rural parents make scores rather

Table 5

Showing the Percentages of Correct Solutions by 100 Each of
City, Village and Rural Parents on the Specific Items.

Number of test-items	Generalization tested for	Per-cent of Correct Responses			
		City	Village	Rural	Judges
1.	The child learns by doing (derived)	48	40	42	83.33
2.	The child learns most effi- ciently when satisfaction attends his activities.	56	42	32	100.00
3.	The child learns more effi- ciently when in a state of readiness to react.	52	57	54	100.00
4.	Conditioned Reaction	34	34	29	100.00
5.	Individual Differences exist with respect to learning	71	69	67	100.00
6.	Meaningful material is lear- ned more readily than mean- ingless.	93	92	90	100.00
7.	The young child is strik- ingly ego-centric.	47	54	29	91.00
8.	Attitudes controlling soc- ial adjustment have their pattern established in the home.	60	57	57	91.00
9.	Performing for the child many functions he is able to perform renders him over-dependent.	52	46	39	91.00
10.	Intense demonstrativeness of parental affection may entail later social mal- adjustment for the child.	25	25	22	91.00

Table 5 (continued)

Number of test-item	Generalization tested for	Per-cent of correct responses			
		City	Village	Rural	Judges
11.	Children often persist in objectionable behavior because they find it a means of satisfying their wants.	75	72	65	91.00
12.	Heightened interest in the opposite sex is characteristic of adolescence.	60	61	56	91.00
13.	Anger as a social response is usually exhibited in response to opposition.	45	41	43	91.00
14.	Development takes place most readily in a rich and varied environment.	33	32	18	100.00
15.	A closer relation exists between parents and children as to ideas of right and wrong than between the child and any other group.	79	83	65	83.00
16.	All around morality can not be taught; all that can be taught is response to situations.	20	22	29	83.00
17.	Play is an aid to adjustment to life.	94	85	85	91.00
18.	Between the ages of about two and four the child tends toward negativism more than before or later.	42	30	27	83.00
19.	The desire to be physically active is an important motive with children.	88	90	80	100.00
20.	Children are inferior to adults in seeing relationships.	35	42	37	91.00
21.	Young children readily confuse ideas of reality and imagination.	48	45	40	91.00

Table 5 (continued)

Number of test-item	Generalization tested for	Per-cent of correct responses			
		City	Village	Rural	Judges
22.	Speech defects like stammering are most often due to social maladjustment of some sort.	45	39	42	75.00*
23.	Very poor economic status exerts an unfavorable influence upon behavior.	47	49	25	83.00
24.	Facing reality is a condition of mental health.	65	76	64	100.00
25.	Attitudes of inferiority, dominance, compensation, and revenge may be symptoms of present mishandling of the child by the parent or others	32	33	14	83.00
26.	Social adjustment is a condition of mental health.	74	66	85	91.00
27.	The child deprived of parental companionship and sympathy may develop compensatory fancies.	97	92	81	100.00
28.	Heredity provides potentialities; environment the means for attaining them.	48	35	27	100.00

*No. 22 tho below the arbitrary percentage of 80 for judges is retained because one judge marked both the change from the left to the right hand and social maladjustment as factors which were about equally balanced in their influence.

consistently lower than the average for the composite group while the city parents score quite consistently higher than the average of the total group, but that is about as far as one may go in the direction of distinguishing between the needs of city, village and rural parents from the data at hand.

and A
Showing the percentage of correct solutions of city, village and rural

Table 6

Companying Curve

53

tion of specific items on the test by 100 each
 arents and for the group as a whole.

Legend

City ———

Village - - - - -

Rural - · - · - ·

All - - - - -

Judges ······

The curve at the top of the page represents the relative performance of the experts on whom the test was tried. It will be recalled that if .80 of the experts (referred to as judges) underlined the generalization which the test-maker considered the correct solution of a test-item, the test-item was accorded a satisfactory validity. The straight line across the page at the 80 per cent level on the ordinate indicates a criterion of validity but it also indicates that the information of the experts embraced a knowledge of the generalization embodied in the test-item being measured for validity. It seems reasonable therefore to employ the same standard as a criterion of satisfactory information on the part of the parent with respect to a specific generalization embodied in a test-item. On that basis the generalizations embodied in test-items numbered 19, 17, 27, and 6 are considered sufficiently well known by parents to omit them from a brief course of study for parents.

Some may consider such an admittedly arbitrary standard of satisfactory performance as objectionable and may inquire why some other level on the ordinate, say 90 or 50, might not be employed with equal justification. The question is pertinent and deserves more consideration than can be given it in this paper. In brief, however, it may be urged that the same arbitrary positing of standards obtains in much of reputable psychological measurement in the absence of more objective devices and units of measurement. A procedure at least analagous is found in employment of the concept of the "just noticeable

difference" used by Thorndike in the measurement of handwriting and defined as that difference which is correctly judged 75 per cent of the time. The standard of "75 per cent of the time" is an arbitrary standard even tho selected because it lies half way between a chance difference of 50 per cent correct and a difference so large as to be always correctly perceived. A standard of 80 percent of correct judgments on the part of experts was chosen too for the empirical reason that when the judges descended below that point(except in the special instance noted) there was a decided drop; (40 and 50) per cent "correct" viewed in terms of information rather than validity. (No. 22 was retained even tho the response of one of the judges was ambiguous.)

With reference to Table 6 a question previously mentioned is again brought to the foreground; to what extent are the high scores on the four test-items which score above 80 per cent a function of information and to what extent a function of the nature of the test-item? As evidence that information is the more determining factor in influencing size of score, attention is called to the nature of test-items 15 and 16, both in the middle of the test and alike in construction in that both begin with the question, "Which of the following factors do you consider to be most effective" and ask the parent to make a choice between four factors suggested. No. 16 ranks lowest in percent of correct answers while No. 15 is fifth from the top, the former being solved by 23.6 per cent

of the parents and the latter by 75.6 per cent, a difference of over 50 per cent. It is admitted that test-items Nos. 6 and 17 might have been improved in their construction by the employment of more involved situations but triteness of the information called for in solving them, however stated, is a factor that would make for a high score according to the basic assumption of the test.

The fact that so few generalizations were deleted on the basis of trying the test on experts raises the question of the value of the procedure. Would not a test developed on the basis of rating the generalizations with respect to their importance to parents have resulted in the selection of practically the same set of generalizations for curriculum construction? The answer is that it happens that the difference would not be great so far as the number of generalizations selected is concerned, but that the relative emphasis which they should be accorded in terms of parent needs is not revealed by the rating. The composite curve of Table 6 indicates by its progression the relative needs for instruction on the different generalizations and may be used as a guide in according emphasis to them in a course of study, but a better basis would probably be one which considers both factors, importance and information. The first use of the rating was to provide assurance that the most valuable materials would be selected since not everything may be included in a treatment brief enough not to discourage by its bulk; the second use is to

lend aid in determining emphasis. Table 7 gives the rankings of the generalization with respect to both information and importance and offers a third rating in terms of both. The "composite ranking" was made by simply adding the rankings of the other two columns and securing the averages which were ranked.

To be sure, the emphasis that should be accorded can not be determined mathematically. Practically, emphasis is partly determined by the nature of the materials themselves; some ideas may be transmitted without the expenditure of much time or words, others of possibly less importance may necessitate longer treatment. Thus the idea of the conditioned reaction (involved in test-item No. 4.) is probably more difficult to convey than the idea that anomalous behavior on the part of the child may be a symptom of present maladjustment, (No. 25) yet the latter ranks No. 1 and the former No. 4 in composite rank. The point to be made is however that Table 7 may be used as a rough guide in deciding the emphasis which materials should be accorded.

Other Uses of the Test

Tests developed for a specific purpose sometimes may be used in ways other than those for which they were intended primarily. Thus, classification tests in the school are sometimes used for diagnosis or inventory. While the reliability of the test is too low for individual diagnosis it may have some value in group diagnosis in the sense that it may reveal something of the interpretations which parents actually do place upon situations when

Table 7

Ranking of the Generalization on Three Bases to Indicate
Differences in Emphasis in the Development
of Curriculum Materials.

Number of test-item	A Ranking on basis of needs. (Test results)	B Ranking on basis of importance to parents. (Opinion)	C Composite rank. (A+B)
16	1	10	2.00
10	2	21	10.00
25	3	2	1.00
14	4	26	15.50
4	5	12	5.50
18	6	16	8.50
28	7	6	3.00
20	8	14	8.50
23	9	18	13.50
22	10	17	13.50
7	11	28	22.50
13	12	27	22.50
1	13	4	5.50
2	14	1	4.00
21	15	25	24.00
9	16	3	7.00
3	17	15	18.00
8	18	20	21.00
12	19	7	11.50
24	20	11	17.00
5	21	5	11.50
11	22	8	15.50
26	23	23	27.00
15	24	13	20.00
19	25	24	26.00
17	26	9	19.00
27	27	19	25.00
8	28	22	28.00

they fail to react in the specific way considered correct in the development of the test. A best-answer test when used in this way is open to the objection that it suggests "wrong answers" in the proportion of three to one for "right answers", which fact, so far as the operation of the law of chance is concerned, favors the commission of wrong responses. A better procedure in getting at the actual interpretations which parents place upon situations would be to propose problems and ask for solutions without making any suggestions. Underlining one of several suggested answers in the face of a problem is in a sense a consummatory reaction with respect to the problem and even where an extra blank is provided for "other answers" parents do not utilize them to any great extent. However, altho inquiring into the interpretation parents make as revealed by an analysis of "wrong answers" is aside from the main purpose of the study and calls for a different procedure, there is a limited application to which a comparison of such answers may be put in this study as will be shown.

In devising the situations an attempt was made to include one answer which from his contacts with parents seemed to the writer to represent a popular psychological fallacy or inadequate explanatory conception. Such an answer did not suggest itself for all situations and the procedure is therefore not consistent but an examination of the data suggests that some such ideas stand out because of their relatively high incidence, and represent conceptions which parents should

should be put on guard against. A comparison was made between the city group and the rural group with respect to faulty conceptions and the results are presented in Table 8 for what they may be worth. Incidentally, tho this part of the study claims little in the way of reliability or validity it in no wise affects the acceptability of the major findings. It suggests that a more adequate procedure with respect to the problem raised might reveal facts of real value to the student in parent education.

The comparison of percentages representing particular reactions in Table 8 is not very revealing so far as differences in group needs is concerned for the percentages are fairly parallel. The total number of "errors" of the types represented is somewhat higher for the rural group as might be expected from the previous results considered. The outstanding difference is between percentages for No. 18. This difference is possibly related to the fact that in the cities there are kindergartens and nursery-schools not found in the rural districts.

Other suggested answers which were thought to represent fairly current misconceptions did not prove to be such. Thus parents seem not to be mislead in test-item No. 15, (Not represented in Table 8).by the suggestion that Sunday schools were most influential for ideas of right and wrong which children possess than are parents, nor in test item No. 17 do many parents consider * play a waste of time.

Table 8

Showing the Percentage of Rural and City Parents Who Held
 Certain Inadequate or Erroneous Conceptions
 in Child Psychology.

Number of Test-item	Explanatory Conceptions	Rural Parents Percent	City Parents Percent
No. 2	That depriving the child of privileges is the best means of motivating desired behavior.	26	29
No. 8	That an attitude of inferiority may be inherited.	20	21
No. 11	That emotional instability, such as crying easily, is due to prenatal experiences of the mother.	16	14
No. 12	That adolescence is not different from the earlier period in child life with respect to interest in the opposite sex.	26	27
No. 14	That "ear-mindedness" is the most dominant single causal factor in determining the number of words which the child understands when he hears them spoken.	38	30
No. 18	That the child is not more negativistic between the ages of about two and four than before or after.	62	36
No. 21	That children have more power of imagination than do adults.	36	36
No. 22	That imitation is the dominant cause of stuttering and stammering.	10	12
No. 24	Resolutely ignoring the unpleasant and looking on the bright side of life is more conducive to mental health than facing things as they are.	26	30

Table 8 (continued)

Number of test-items	Explanatory conceptions	Rural Parents Percent	City Parents Percent
No. 25	That cruelty to animals on the part of older children is due to an in-born tendency to cruelty.	52	48
No. 28	Everything is possible to anyone with the right kind of environment and training.	30	22
No. 28	Given the right heredity development must follow; the superior mind creates its own best environment.	12	11

The percentages are not given for some of the less clear-cut conceptions it is obvious that parents in general have a high regard for exhortation of a direct kind. The "point out" statements were quite popular.

The above statements are numbered to correspond to the test-items in which they appear as one of the suggested answers.

With reference to the blanks provided for answers which the parents might suggest, it may be said in general that little use was made of them by parents. Some parents who did utilize them did not add anything not suggested, with a few exceptions, and it is doubtful whether many new ideas could be gained by making a canvass of parents to secure their ideas concerning the matter of parent-child relations. As first conceived the study reserved a portion of the interview for free contributions by the parent but the feature was discarded after several trials. One observation made by a father may not be new but it was less trite than most.

He offered the suggestion that mothers in general do not keep up with the development of their children because they are so constantly near to them that they tend to develop an over-infantile ideology with respect to their children.

In concluding this chapter the general statement is made that tho the test makes no claim of ideal comprehensiveness, the fact of its validity and fairly satisfactory reliability suggests that it may have a possible broader applicability than that for which it was used in this study; that it may have some value in serving as an inventory in study groups to determine the general level of information possessed by a group and may indicate the general direction which study should take. It may also have value in suggesting the possibilities of the general procedure employed in the development of a better test. A more comprehensive list of generalizations more highly refined with respect to validity, more nearly uniform test-items and a broader sampling more rigidly determined would result in a measuring device of undoubted value in parent education.

Related References

K. J. Holzinger, On Scoring Multiple Response Tests, *Journal of Experimental Psychology*, Vol. 15, 1924, pp. 445-447.

D. A. Laird, A Comparison of the Essay and the Objective Type of Examinations, *Journal of Experimental Psychology*, Vol. 14, 1923, pp. 123-124.

D. G. Patterson, Preparation and Use of New Type Examinations, Yonkers Hudson, World Book Company, pp. 1-87

H. H. Remmers et al., An Experimental Study of the Relative Difficulty of True-False, Multiple Choice, and Incomplete-Sentence Types of Examination Questions, *Journal of Experimental Psychology*, Vol. 14, 1923, pp. 366-371.

Ruch and DeGraff, Corrections for Chance and 'Guess' versus Do not Guess Instructions in Multiple Choice Tests, *Journal of Experimental Psychology*, 1926, pp. 368-375.

Chas. W. Telford, Experimental Study of Some Factors Influencing the Social Attitudes of College Students, Unpublished paper on File, Department of Psychology, University of North Dakota.

L. L. Thurstone and E. J. Chave, *The Measurement of Attitude*, Chicago, University of Chicago Press, 1929, xi-96.

CHAPTER 5

OTHER USES OF THE INTERVIEW GUIDE-SHEET

A glance at Appendix 3 which is a copy of the interview guide-sheet will give a general idea of the rest of the instrument. It will be seen that the first section represents a personal data sheet and the second section a list of problems which parents were asked to check. This chapter will deal with the purposes and results of their administration but in the reverse of the order presented to parents in order to facilitate the treatment.

Problems in Parent-child Relationships

It will be seen that the list of problems which parents were asked to check is confined to those which have in them a psychological element. Physical illness or nutrition problems are for example not included. The purpose in asking parents to check those which they had experienced was to illustrate the application of the generalizations selected for curriculum materials on the basis of previously mentioned procedures and not to include or reject materials on the basis of the checking by parents.

The list is a composite of several. The "Parent's Magazine" kindly offered the use of a list being developed in the editorial offices. The present writer kept on file for several years clippings from a daily newspaper which published a column for parents. Text-books in child-psychology and "The Mother's Encyclopedia" published by the "Parent's Magazine"

were examined for other problems which when found were added to the list. The list is probably not fully comprehensive the most problems involving psychology will be found to be included under one of the headings. Table 9 gives the percentages of city, village and rural parents who checked the list, again 100 in each group.

Problems as an Index of Parent Needs

The present writer does not feel that responses of parents in checking problems are reliable indices of parent needs. In the first place, problems do not represent needs themselves but are symptoms of more fundamental needs on the part of parents, need of information being one of the more fundamental. In the second place, parents are not reliable in checking problems. The fact that masturbation in children appears to be almost nonexistent when as a matter of fact studies of the incidence of masturbation show rather high percentages, throws doubt on the ability or willingness of parents to admit faults in their offspring when any social stigma is attached.¹ The writer is intimately acquainted with the children of many of the parents making the reports. As a public school-teacher, he is struck by the fact that parents of problem-children sometimes check fewer problems than do those of well adjusted children. The value of the checking for this study lies in the use of the results in presenting materials in those cases where a high percentage indicates that parents recognize symptoms of maladjustment. Problems afford a good starting

¹Robert L. Dickinson and Henry H. Pierson, *The Average Sex Life of Am. Women*, *Journal of Am. Med. Assoc.*, Vol. 85, October 10, 1925, p. 1113.

point in the presentation of materials, in that the teaching principle of proceeding from the familiar to the unfamiliar is thereby observed. Beginning with problems which a considerable number of parents admit they actually experience is probably superior to selecting hypothetical problems which might fall outside of the experience of a particular group.

Table 9 suggests one or two conclusions which may prove to be justifiable if the list is applied to more parents and if it can be assumed that city, village and rural parents do not differ greatly in reliability in checking problems. (The rural parents were in general less frank in their general reactions.) At any rate the table shows that village parents checked fewer problems on the average than did city or rural parents, the average number being, 9.23 for city parents, 6.76 for village parents and 8.24 for the rural group. This difference between the averages is in the expected direction. The congestion of the city with its more complex mode of living on the one hand may account for a recognition of problems in social relations in the city whereas the isolation of the country child leads to a higher incidence in problems of mental hygiene such as day-dreaming (No. 6) and in problems relating to the poverty of stimuli such as lack of reading materials (No. 26). The table suggests too that differences in incidence of particular problems may be due to the fact that parents do not distinguish carefully

Table 9

Showing a List of 40 Problems and the Per Cent of Parents
in Each of Three Groups, Checking Each Problem.

	Percentage checking		
	City	Village	Rural
1. Bashfulness	52	27	51
2. Bed-wetting	33	18	33
3. Bad company	15	13	9
4. Cruelty to animals	5	3	14
5. Day dreaming excessively	11	12	24
6. Destructiveness	21	12	18
7. Discourtesy	16	16	20
8. Disobedience	50	36	36
9. Domineering child: "bullies" others, etc.	16	11	7
10. Crying too easily	53	34	33
11. Fear: of dark, storms, strangers	42	26	45
12. Fighting at school, or at home.	30	25	28
13. Gangs: organized groups of bad boys	3	4	7
14. Imagination: imaginary playmates, etc.	24	20	11
15. Inferiority: child feels he is inferior.	15	11	8
16. Jealousy	31	18	19
17. Laziness	23	27	48
18. Lying	20	15	8
19. Leadership: lack of how to develop	15	21	24
20. Learning: child has difficulties	20	19	21

Table 9 (continued)

	Percentage Checking		
	City	Village	Rural
21. Money: child spends all he can get	39	31	23
22. Nervousness: nail-biting, twitching.	43	29	15
23. Over-dependence upon parents, wants sympathy, complains.	28	13	15
24. Property: "takes" things of others	11	9	0
25. Running away	17	11	10
26. Reading: what books to provide, how to get children to read.	10	18	23
27. Irresponsibility: how to overcome.	28	11	25
28. Selfishness	28	12	16
29. Irregularity: in routine, schedules.	21	20	22
30. Sex: masturbation or playing with organs of sex.	4	0	5
31. Showing off.	22	13	23
32. Smoking.	6	9	26
33. Speech problems; stuttering	10	8	11
34. Swearing.	15	7	25
35. Teasing.	42	40	39
36. Untidiness.	21	24	18
37. Obstinacy	30	17	9
38. Temper outbursts	51	23	45
39. Unsocial child: prefers to play alone.	13	7	7
40. Other problems	5	6	3
Average number of problems per parent.	9.39	6.76	8.24

between their own problems of adjustment and those of the child. For example, No. 17, which refers to laziness, shows a steep rise for rural parents. Rural life makes more family demands upon children than does urban life and rural children are probably not more lazy than urban children; there are more tasks for them to perform.

Attention is called to one surprising fact shown by the table; smoking and swearing are checked more often by rural parents than by city parents. If this difference is reliable as shown by further study and if differences which appear are not due to differences in parental conscience or other factors, the traditional "Wickedness" of the city and its influence upon children in some respects may be questioned as compared to the rural environment. If the difference is proved to be real, the suggestion arises that the monotony of rural life and the problem of the influence of the "hired hand" upon children can be related to the problems of swearing and smoking.

According to the returns on problems too, "gangs" seem not to represent much of a problem in the cities from which results were obtained. Both cities are progressive in child-welfare activities such as Boy Scout Organizations and bands and school clubs which tend to direct the gregarious tendency of children into positive channels.

Tho the reliability of the checking procedure is admittedly low, problems which seem to be recognized by all three groups with considerable agreement are, bashfulness,

disobedience, crying too easily, fear of some sort, nervousness, temper outbursts and teasing. In a later table it will be shown that little correlation exists between the number of problems checked and score on the test, but limiting the use of the checking to illustrative purposes, is in no way objectionable and the seven problems which stand out as being commonly recognized with considerable agreement will justify their being given more emphasis in the development of related study materials than others not so frequently and consistently mentioned.

Personal Data Relating to Parents

The first page of the interview guide-sheet (Appendix 3) is seen to call for data relating to the parents who were tested and who checked the problems. The purpose in collecting the personal data was to secure information which might throw light upon the nature of the study materials to be developed and the best way of preparing them for presentation. Some of the data called for are not utilized in this study either because returns were too incomplete or because they are irrelevant. Thus nationality, church preference, sex of parents, sex of children, club membership other than that of Parent-Teacher Associations are not considered here, tho they may serve as points of departure for the study of related the special problems. With reference to the sex of parents it may be said that the original intention was to consider the factor because of its close relation to the problem of the development of materials with respect to

unique needs. Every child is influenced by two individual parents whose background of information may differ and if consistent sex differences with respect to information can be found, they should if possible be recognized in the development of study materials. It was found practically very difficult to secure returns from fathers who are at work during the day and the returns from fathers are not sufficient to make sex comparisons of any great value, and none are made.

Table 10 presents group-averages with respect to some of the more important items considered, and makes rough comparisons possible. Average scores on the tests have already been dealt with in detail. The variability of the measures and the reliability of the differences between averages are not computed for the other factors because the use made of the results is somewhat incidental to the major purpose of the study which is to identify common parental needs with respect to information. Differences between means are obviously too small to be significant in some cases in view of the low reliability of the actual checking itself (as was pointed out in connection with problems which parents checked). The measure of economic status is of undetermined reliability. Early in the administration of the personal data-sheet it was found practically impossible to secure an estimate of present income, and workers were instructed to ask parents to make an estimate in terms of

normal times. This parents seemed glad to do, and as is generally true in such cases, it is probable that the estimates were in a self-flattering direction. It is probably true, however, that this tendency to exaggerate income during normal times was fairly consistent which may give the figures some advantage over a guess as a relative index of income.

With reference to the application of the findings shown in Table 10 to the form which a presentation of information should assume one is justified in concluding that the materials should be in simple untechnical language. Less than 25 per cent of the parents have had any course in child-psychology and the average education of the group as a whole is about that of a sophomore or junior in high school. The finding is of course trite, but establishing the approximate educational level of a group is a desirable procedure before developing materials. Technical terminology must be avoided but there is a danger too in over-simplification, for parents are quick to resent anything which savors of "talking down". Table 10 also suggests that newspapers and magazines and radios afford a better vehicle of dissemination of information than do books because it appears that parents do not possess many books tho most of them subscribe to newspapers and periodicals. A fact not shown by the mere average in the case of books is that some parents have very few books and some none at all. Averages here are misleading because of the occasional large library. A better idea of how books were found to be distributed is presented by Figure 4. It represents the

Table 10
Showing Data Relating to Parents of Three
Groups, 100 in Each Group.

	City Parents	Village Parents	Rural Parents	Mean of Means
Mean Score	15.85	14.87	13.38	14.66
Mean Age	37.2	41.3	44.1	40.86
Final Grade Attained in School. (mean)	11.3	11.2	9.7	10.6
Mean number of books in Home Library	110	165	82	112
Mean Size of Family	2.8	3.16	3.49	3.15
Mean Economic Income	2140.00	2210.00	1690.00	2013.00
Mean number of Prob- lems checked per Parent	9.39	6.76	8.24	8.13
Per cent of Parents Belonging to P. T. A.	50	51	18	39+
Per cent having a Daily Paper	88	87	90	88+
Per cent having at least one Magazine	84	89	88	87
Per cent having a Radio in the Home	86	94	76	89.6
Per cent having an Automobile	71	80	89	80
Per cent having had some Psychology	31	31	16	22.66

distribution as found for city parents. The city home libraries are chosen for illustration because the returns from the city group are more reliable in that the worker administered all interview guide-sheets personally. The distribution of books for the other two groups is in general

Figure 4

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Showing the number of city parents having
home libraries of various sizes.

* The numbers on the abscissa may be considered as percentage since there were 100 parents in the group.

like that of the city. It is of course true that the urban population may rely upon public libraries to a considerable extent which fact probably is related to the finding that the village group of 100 parents owns more books than does an equally large group in the city. The point to be made is that home libraries can not be depended upon to supply information.

Table 10 shows that less than forty percent of the parents tested belong to parent and teacher organizations. Reliance for the education of parents can not be placed upon that organization with any degree of assurance because it does not reach enough parents.

The data on economic status is presented for another reason, namely as a further check upon sampling. Mention has been made of the difficulties experienced in securing a sample which is truly representative of the groups. Dividing the parents into three groups was in itself a sampling precaution but the writer feels that within the village the sampling tended to include an undue proportion of parents of better economic status. It is generally conceded that education and intelligence tend to correlate positively with economic level, and if the sampling represents the better groups unduely, it will be reflected in the score. The number of radios and automobiles tends to bear out the evidence from the items on income and on education that the sample is weighted in favor of the superior parents in the village group which means that scores on the test run somewhat

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higher than they would if a truly representative sample could be secured. Figure 5 shows income during normal times as actually reported.

The chief difficulty in securing a better sample is not readily overcome. The cooperation extended by parents decreased as one went down on the economic scale. Some parents from the poorest homes refused to grant interviews and the attitude of some of the poorer rural homes was such that some records were discarded because of evident low reliability, while some of the more prosperous parents in the villages actually asked for interviews when they were not approached. The ideal way to secure a sample would be to rate the homes on the Whittier scale before securing interviews. Such a procedure would require the resources of an agency with money and workers at its disposal. It is felt however that the value of the study is not altogether vitiated by the defects in sampling.

The Influence of Certain Factors on Test Scores

Incidentally a few correlations were run between some factors considered on the personal data sheet (See Table 10) and scores on the test. As was anticipated the values for r are too small to be significant in most cases, and when the factor of education is held constant they tend to approximate zero. Tho the coefficients are small they are present for two reasons which will be shown.

Figure 5

Showing the number of city, village and rural
parents receiving annual incomes of given
denominations in normal times.

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Number of Parents in each Group							
City	2	22	54	7	11	3	1
Village	4	20	43	27	2	4	
Rural	1	51	39	3	4	2	
Total	7	93	136	37	17	9	1

Table 11

Showing Coefficients of Correlation between Magnitude of
Score on the Test and Factors of Personal Data.

(For City Parents Only.) N=100.

Factors	Coefficient of Correlation	Probable error
Age and score	$r = -.02$	$\pm .06741$
Size of family and Score	$-.13$	$.06621$
Income and score	$+.16$	$.06557$
Number of problems checked and score	$-.05$	$.06727$
Number of books in home and score	$+.38$	$.06615$
Final grade attained and score	$+.51$	$.0494$
Final grade and age	$-.25$	$.0631$
Final grade and size of family	$-.31$	$.0608$

*The last two coefficients were computed in order to apply a partial correlation to the r for age and score and to the r for size of family and score.

The first purpose in presenting Table 11 is to show that the coefficient for education and score is definitely higher than the others. Tho the r 's are small their relative size has significance. Since the reliability of the check procedure itself is probably about the same for education and the number of books in the home, the closer relationship

between education and score than for books and score suggests that at present general education can be relied upon more than can home libraries. to raise the general informational level with reference to child-nature. It raises the question too of the possibilities of preparation for parenthood thru the medium of the public school, a possibility as yet not fully explored and extended.

The size of family seems to tend toward a negative correlation with the score tho the coefficient is not sufficiently high as compared to its probable error to justify any assertions, and when education is held constant by partial correlation by application of the formula $r = \frac{r_{12} - (r_{13} \times r_{23})}{\sqrt{(1-r_{13}^2)} \sqrt{(1-r_{23}^2)}}$ the value of r for size of family and score changes from -.1355 to 0 or .024 to be exact.

Incidentally it is intriguing to speculate upon the question of whether parents are improving in our generation as compared to older parents. Our data does not answer the question but suggests an hypothesis which is that the modern young parent is somewhat superior with respect to information in matters of child psychology than were parents of the same age in earlier generations. The correlation between the final grade and age is of -.2536 and is statistically reliable as measured by its probable error. This means that the younger parent has had more education (and probably better education) than his elders in terms of number of years of schooling, and the score correlates with education. However,

age and score do not show any relationship. The apparent paradox may possibly indicate that length of experience as a parent is a factor in determining score, and that when age and score are correlated, the advantage of more education on the part of younger parents is compensated for by the greater length of experience in favor of the older parents. On this hypothesis a partial correlation was computed for age and score with education partialled out. In the computation the r 's for (age and score) (age and education) and (score and education) were considered as r_{12} , r_{13} , and r_{23} respectively and the effect was to raise the coefficient for age and score from $-.024$ to $+.11$ which was in the expected direction according to the hypothesis. This computation is of course speculative. Incidentally it illustrates the difficulties in dealing with intangibles statistically, such as are met in the field of parent education. The factors are so highly inter-related that influences in one direction may mask those in another direction.

The most important deductions to be made from a consideration of the personal data are that study materials should be presented in simple language and that the agencies which reach most parents are newspapers, periodicals, and radio programs. So far as can be determined, the one factor most closely related to the amount of information parents possess with respect to child psychology, is general education. No direct measure of the intelligence of parents was employed but so far as economic status and education are measures of

intelligence the evidence is that intelligence is a definite factor in determining the score.

Related References

Richard O. Beard, Parent Education, University of Minnesota, 1927, pp. 166-172.

S. P. Breckinridge, and Edith Abbott, The Delinquent Child and the Home Charities Publication Committee, 1912, pp. 70-74.

F. S. Fearing, Some Extra-intellectual Factors in Delinquency, Journal of Delinquency, 1923, Vol. 8, pp. 145-153.

Gertrude Hill Nystrom, A Study of Fifty Home Libraries with Special Reference to their Function in Child Development, University of Iowa, Studies in Child Welfare, 1932, New Series No. 241, pp. 151-192.

H. D. Meyer, Pre-school Child Study Programs, University of North Carolina, 1927.

Marie Agnes Tilson, Problems of Pre-school Children: a basis for parental education, Teachers' College Contributions to Education, Columbia University, 1929, No. 356, pp. ix-90.

CHAPTER 6

CONTRIBUTIONS AND PROPOSALS

Some of the evident limitations of the study attempted are due to the fact that the project represents a relatively new line of inquiry; the testing of parents to discover needs had not been carried out far enough by others to suggest many guiding principles at the time the study was undertaken. The study had its inception in 1931 when an outline of the project was developed as a trial thesis in a seminar in Educational Research at the University of North Dakota. The date is here given simply to show that more recent studies, emanating from centers of child-study and referred to in the chapter references were not available at the time the project was conceived. Had they been discovered earlier one or two procedures would have been modified. So far as the writer has been able to determine, his study represents the first effort to discover informational back-grounds of parents thru the medium of a best answers test in which the answers suggested are in the form of a generalization. Further studies of the same kind will demonstrate the possibilities and limitations of that major procedure but the writer is of the opinion that refinements in determining the validity of generalizations and in devising the test-items which embody them, will when developed by others, result in a measuring devise of definite value in parent education. The illustrative value of the major procedure as outlined in this study is conceived by the writer to represent his major

contribution.

Secondary Contributions

Specifically as of immediate value to parent education, the following findings, devices and materials are considered by the writer to represent contributions of varying degrees of value as yet undetermined. Their actual value can be determined only by measuring the information of parents before and after application. The plan to be followed in discussing the contributions will be to enumerate them briefly and to suggest improvements in the light of the experience offered in the development of the study.

1. The development of a list of principles and generalizations in the field of child psychology.

With reference to the initial list of generalizations it may be said that it affords the starting-point of a larger list including subdivisions of which principles in child-psychology would be one. Other subdivisions might be, physical growth, nutrition, use of money, and health. The ideal list should be made up of those generalizations which have as evidence of their validity, some experimental support.

2. The identification of certain of the more important generalizations in child psychology on the basis of the opinion of judges. The list of "important" generalizations might be used by study groups in various manners. Program committees might make use of it in planning topics for study or parents might vote upon the selection which should be made. In the face of the difficulty of administering tests the latter

procedure would come closer to considering the needs of parents than would a random sampling by a committee.

The rating of the principles on the basis of importance was presumed to be a check on validity. It would be desirable in future similar studies to have a separate rating on validity.

3. The development of a test of information which has validity and a reliability high enough to be used for group comparisons.

Adult education seems to be in the ascendency, especially during this period in which a federal attempt is being made to provide employment for unemployed teachers. It is probable that the movement will acquire momentum if such a study is found profitable. One way to help insure its value is to make use of approved procedures of the day-school so far as they can be applied to adults. An inventory test is highly desirable in the instruction of any group and would seem to be especially so in the case of adults because of their variability in matters of education. In other words, parents are not graded as are children in the day-school and even there inventory tests make for efficiency in instruction.

The test has been demonstrated to have validity in that it distinguishes between those known to possess information and others not so well equipped. Its reliability as determined by the means used is not so high as it should be ideally, but its reliability is probably higher than as indicated by the coefficient. A few parents have repeated the test after an

interval of a year and tho the cases are too few to make coefficients worthwhile, the correspondence between scores was evident. The second tests scored higher in five cases out of six but the same test-items were represented in both scores (with one exception) the increase being due to more "right" answers in the second test. The repetition was abandoned because of the fact that the tests had been discussed and results would not be reliable even if carried out at length. The ideal procedure would be to make two forms of the same test, equate them on the basis of trials and to establish the degree of reliability by correlating the two sets of scores. To do so was beyond the resources of the writer.

6. The collection of data which may serve as a starting point for future study.

7. The demonstration that the checking of problems which parents encounter is not an adequate procedure in determining needs of parents, since there was no correlation between number of problems checked and score on the test. The use of the checking was shown to have a special function in this study.

8. The organization of the materials identified as representing concepts upon which parents need information. This refers to the suggested outline for study materials found in the second part of the study, but mentioned here because it comes under the head of contributions.

Use of Study Materials

As to the use to which the materials may be put it should be said that they are planned primarily for presentation in study-groups. The newspapers and periodicals (of a good quality) were found more frequently than well stocked libraries and the radios were found in surprising numbers, we know too little about the reading habits or radio habits of parents to rely upon newspapers and radios. Preparing the materials for newspaper presentation would call for the organization of materials into small units and the difficulty would be that parents might get too small segments of materials at one time to permit of organization and integration. So far as reading habits of adults are concerned it seems from the study that the magazine is supplanting the home library. No effort was made to analyze the libraries or list the frequencies in which the different magazines were found, but in general it was true that they were of the better of the popular type such as "The Saturday Evening Post", "The Literary Digest", "McCalls", "Colliers", "The American Magazine", "The Country Gentleman", "Time", and others of that level. Few subscribed to "The Parents' Magazine", and relatively few to "The Atlantic Monthly" or similar ones.

The illustrative unit as will be seen is written in popular style and would probably lend itself to magazine publication better than to newspaper presentation. In mimeograph form such units may be distributed at Parent-Teacher Associations and other study-groups.

Suggested Studies

The study as carried out has touched upon the shores of many problems as yet not satisfactorily explored. A few have already been suggested but a brief list is here appended.

1. Analysis of home libraries.
2. Analysis of the reading habits of adults.
3. The extent to which parents attend parent and teacher organizations and other study-groups.
4. A study of the extent to which parents gain ideas relating to child-welfare from radios, books and periodicals.
5. Sex differences in attitudes and information of parents in various fields.
6. The experimental verification or disproof of current generalization in child psychology.
7. A study of popular superstitions and inadequate conceptions of parents in the field of child psychology (or in other fields of child welfare.)
8. A study of behavior problems of school children in relation to the homes from which they come as measured by the Whittier scale.

Some work has been done and is being done on a few of the problems but so far as the writer knows, Nos. 4, 6, and 7 represent fields in which little work has been done.

Foreword to Part 2

In Part 2 of the study is presented the study outline for materials selected by procedures which have been described. The plan which will be followed is that of grouping the generalizations identified, under six heads, or units. The units with the generalizations numbered as in Table 5 are as follows:

1. The Conditioned Reaction. (4)
2. Other Aspects of Learning. (1) (2) (3) (16) (14) (5)
3. Social Adjustment of the Child. (8) (11) (12) (13) (15)
(23) (23)
4. Certain Developmental Stages (7) (18) (21) (20)
5. Heredity and Environment. (28)
6. Mental Hygiene. (24) (9) (10) (25) (26)

Other generalizations considered as important but not tested for because they were regarded as subsumed under one or more of those selected for the test, will be introduced. They may be distinguished by the fact that they are not underlined nor annotated.

Unit One will be presented as a fully developed unit in which the text materials are written out and in which supplementary exercises are suggested. The other units will be presented in outline form. The purpose in writing out the text material for Unit One is to illustrate the writer's conception of how the materials may be adapted for use. It illustrates how materials should be treated for average groups such as were tested. The language is popular; dramatic incident is introduced to lend interest; the unit begins

with a problem and illustrations are supplied. It is not prepared for a superior parents group; such would find it over-simplified.

The outlines supply the materials which may be developed in various manners, depending upon the nature of the groups for which they are intended. Groups differ with respect to background, interests and sex-representation. In general however, the treatment should be kept popular for superior parents will seek more extensive materials.

The desirable emphasis to be accorded each of the generalizations is roughly indicated by the symbols Q/1, Q/2, Q/3, Q/4, which refer to their quartile rank with respect to their estimated importance (rating by judges) and the relative degree to which they are recognized by parents as revealed by the test. The percent of the parents who recognized each generalization is also given. Brief comments indicating applications, related misconceptions to be warned against and related problems will be suggested for each generalization.

Bibliographical materials are supplied for each generalization separately. This plan is believed by the writer to be superior to referring to a standard list by key for the reason that parents of the type here in mind are not trained in reference procedures. The references are of two types: "standard" and "additional". The standard references are given at the end of Unit One and represent titles of a type in which the treatment is general. These will be referred

to in succeeding units by repetition of the surname of the author only. The additional references for each unit are given in full since they vary for the different generalizations. Those of the latter type are more highly specialized and extensive than for those of the standard list. Many of the additional references as well as those of the standard list contain excellent bibliographies which may be used by the more advanced parents. It is thought best not to suggest so many titles that the average parent will be over-whelmed at the outset.

CHAPTER 7

UNIT 1

THE CONDITIONED REACTION

Margie, age two, had found a beautiful blue bit of something shiny and hard. If she held it up to her eyes, everything was changed to blue - the garage, the sky and even the flowers. When she touched her skin with it something "funny" happened: the "bleed" would come. It hurt too, a little. It was like pins that way. She must show it to mother.

When mother looked up from her sewing and beheld her daughter's forearm covered with blood, blood on her white pinafore, she screamed, "Margie! Margie! What have you been doing? What is that! You're all blood! Glass! Hasn't mother told you never to play with glass? Come here." Margie was rushed to the bath-room.- Bandages, salve, scolding. Margie cried and cried harder when Kathryn, having heard the commotion, came in and screamed at the sight of the blood. Now, when Margie pricks herself or scratches herself so that blood appears, be it only a drop, she becomes frightened and cries. She has other peculiarities. For instance, she is afraid of bugs and worms and mice and snakes. She is a lot like her mother in those ways. Did she inherit those traits from her mother? Not at all.

The Problem of Fear

In a study of the problems which three hundred parents report, unreasoning fear is reported as one of the most frequently met, nearly forty percent of the parents naming it as a problem. Most of us as adults have fears of some kind or other which seem to us foolish but which we can not completely control. Fear of the dark, of strangers, insects, or animals. These are more general and perhaps do not affect our adjustments greatly but some individuals have special fears which amount to "obsessions" or "phobias", called so because of their intensity and unfortunate influence exerted upon ones behavior in a variety of situations. Even the milder forms of fear may exert an influence upon our behavior in a way definitely to affect success in life. Such fears are not easily eradicated by "taking thought". Thus the writer admits to an uneasiness in social positions which bring him into contact with persons in positions of authority—policemen, mayors, college presidents, conductors, bank presidents, ship captains and army officers. The uneasiness extends to his speech and at times he must seem to such persons to be an inefficient, confused sort of person; yet, tho he feels quite sure that he knows the cause of his "complex", he is not able to throw it off. Some are afraid of crowds and do not attempt speech-making; others deny themselves the joys of the out-of-doors because they fear bugs and insects.

How Fears Develop

So general is the phenomenon of fear that some have believed we are born with certain ready-made fears. It has been definitely established, however, by experimental investigation that most fears are learned—that they are the product of experiences. Watson, one of the first to experiment with infants, found for example that the only fear responses shown by infants were fear of loud noises and fear of falling. Children are so often afraid of rats and mice that it seemed to many that such fears were native. Watson found, however, that young children played with white rats without any hesitancy; moreover, he succeeded in demonstrating how fears develop. A white rat was presented to a boy of eleven months. The boy liked it and reached for it. Just as his hand touched the rat, a bar was struck making a loud noise behind him. He jumped but did not cry tho he buried his face in the mattress. After several repetitions of presenting the rat and the noise together the boy actually cried when the rat was presented alone. It was found too that the fear of the rat transferred to other furry animals such as rabbits and dogs. A month later the fear of the rat was still present.¹ It seems quite likely that many fears and dislikes such as that of snakes, storms, strangers, dark places, are learned in the same way in which the boy learned to fear the white rat,

¹J. B. Watson, *Psychology from the Standpoint of a Behaviorist*, Phil. J. B. Lippencott, 1924, p. 231.

that is, they are connected with some other experience which is fear provoking. However, let us examine in detail just what takes place in such cases of learning fears.

The Conditioned Reaction

In the case of Margie in which she took on the mother's attitude toward blood, we might dismiss the matter so far as its explanation is concerned by attributing it to imitation. However, such an explanation would be superficial and would not account for the fact that Margie had not taken on her mother's attitude before, that is, by copying it directly since it had been there before a particular combination of experiences induced it in the little girl. As a matter of fact, imitation is no longer regarded as an elemental principle in explaining behavior. In order to best study what goes on when children acquire fears it will be necessary to make a short detour and look into a laboratory where experiments are being performed.

About 1907 a Russian with a very bushy name, Krasnogorski, using the methods of an earlier investigator working with dogs, found that he could make children's mouths water by ringing a bell or by stroking with a brush. That suggests magic but his method was very simple. He would feed chocolate to blind-folded children and at the same time ring a bell. The chocolate of course caused the saliva to flow; the surprising fact about the matter is that after a time during which both the chocolate and bell were presented, the children's mouths would water without the chocolate if the bell were

sounded. Instead of a bell, a light may be flashed or the skin stroked with a brush. The essential factor is that second sense impressions must come at the same time or a little before the chocolate is presented if the experiment is to result in success.²

This curious fact which had been discovered somewhat earlier in the case of animals was so new and so important in explaining behavior that it was necessary to coin some new words just as one must learn new terms in taking up a new game like contract-bridge. The word "stimulus", meaning a sense impression such as the taste of chocolate, was of course already in use as was the word "response", which refers to the resulting act, mouth-watering for example. Now in all cases of the type described it was necessary to make a distinction between two kinds of stimuli (1) those which at birth were capable of being stimulated to call forth a response (taste) and (2) those which were learned, that is, which could be substituted for the natural one in causing a certain response (bell). The first is sometimes called the "biologically adequate stimulus" and the second, the "conditioned stimulus" in which the word "conditioned" means modified or changed. In contrast to the "conditioned" stimulus the natural stimulus is sometimes called the "unconditioned stimulus". A diagram will help to illustrate the meanings of the terms.

²Krasnogorski, N. L., "The Conditioned Reflexes and Children's Neuroses", American Journal of Diseases of Children, Vol. 30, 1925, pp. 753-768.

Figure 1

Diagram Showing the Use of Traditional Terms in Describing
the Conditioned Reaction.

S' chocolate R Mouth-watering.
S²

In the diagram S' represents the stimulus which naturally brings forth a certain response-R. S² is the "conditioned" or "substitute" stimulus. In the case of Margie, the mother's scream was the S' or the biologically adequate stimulus; the sight of blood was the S² or the "conditioned" stimulus. The reaction R is of course the same act but it has been changed in the sense that it is called forth by a stimulus which has been substituted for the natural one.

The conception of learning known as the conditioned reaction is important in that it explains not only how fears are taken on but helps in gaining an understanding of how words are learned, how children are motivated to activity, how certain mental attitudes or peculiarities of behavior may become established. For that reason it is taken up first and given some little emphasis. A few of its features are discussed to show its importance and applications.

Features of the Conditioned Reaction

Conditioned reactions may be established very early in the life of the child. It has been shown that conditioning may take place in very simple animals such as insects, suggesting its occurrence in a simple stage of human development.

Conditioning too may take place without the subjects awareness. Cason's work with the pupillary reflex of the eye illustrates such learning. It is well known that the pupil enlarges in the dark and contracts in strong light. The subjects in Cason's experiment were not aware that a change in the size of the pupils had taken place. Certain likes and dislikes, fears and phobias are hard to combat because the subject, even if aware of them, does not know how he came to possess them.³

Cason's work illustrates one other fact about the conditioned reaction that should be mentioned in passing; it is not a thought process. It is unwise to punish children for failures to adjust themselves on the assumption that such failure is symptomatic of wrong thought action.

Controlled Conditioning

We have considered the question of how conditioning may take place accidentally and in a negative direction. There is another point of view from which it may be regarded, namely, as a conscious device in the training children. A few rules must be observed if success is to result. A few will be illustrated.

1. The conditioned and unconditioned stimulus must be REPEATED together. Thus, suppose that you wish to train a child to go to sleep when placed in his crib. In this case the feeling of fatigue is probably the greatest single factor in the unconditioned situation (we must recognize

H. Cason, The Conditioned Pupillary Reaction, Journal of Experimental Psychology, Vol. 5, 1922, pp. 108-146.

that stimuli seldom occur singly) and that the bed and its covers, feelings from muscles and joints, constitute the conditioned stimuli. To "train" him to go to sleep when placed in the crib, it will probably be necessary to put him there several times when he is sleepy before he will invariably go to sleep.

2. The second requirement is that the conditioned stimulus must begin to operate at the same time or before the natural or unconditioned stimulus has resulted in a response. Thus, it will be necessary to place the baby in the crib before he goes to sleep if the crib and its accessories are to become a conditioned stimulus. In other words, if you rock the baby to sleep and then put him in the crib he will not learn to go to sleep when placed in the crib.

3. Surrounding conditions must be kept uniform. To return to the illustration, if the mother places the baby in the crib in order to induce sleep she should continue to do so rather than to allow someone else to "put him to sleep". As has been said, in most situations, stimuli are seldom experienced alone; the mother, the crib, the bedding - all together constitute a complex stimulus, and when the situation is materially changed the child is learning something else from that with which he started. There are other factors which may affect the success of positive conditioning but the most important have been mentioned.

Reconditioning

A word has come into use which has a somewhat special meaning. Suppose in the case of Margie the mother realizes that it was due to her screaming that Margie became conditioned negatively to the sight of blood. Is there anything she may do to "cure" Margie? Yes, she may do several things to make amends. In the first place, she should be careful not to reinforce the bond already established. Margie may "outgrow" it if the former unfortunate circumstance is not repeated in some form or other. But there is a more direct way to effect a cure. She can associate blood with something pleasant. Suppose that Margie likes cranberry sauce very much. The mother might in a playful mood put a few drops of the red sauce on Margie's arm and laugh while Margie is eating the sauce. Later she may call it blood, again in a cheerful mood. In time we may expect Margie to overcome her aversion. Of course, it is necessary to exercise caution here for if Margie's aversion to blood is very strong indeed, amounting to "shock", such an act by the mother might turn Margie against cranberry sauce. The illustration serves to illustrate the idea which is to set up a pleasant association between the object or experience toward which one wishes to "recondition" a subject. If for any reason a child happens to be afraid of strangers, one may arrange to have "strangers" bring her candy. In time the idea of "stranger" will be associated with the pleasant one of candy and her reaction to a strange individual will be positive rather than negative.

As has been suggested it is sometimes difficult to isolate the factors of a given situation into terms of S^1 , S^2 , and R. In re-conditioning we have the obverse of conditioning and one response is substituted for another. Reference to the books listed will enable the student to find diagrams which will help isolate the elements. (See Sandiford, 173).

Assimilative Exercises

1. An experiment: Blind-fold a subject and place his hand on one electrode of an induction coil so that a slight electric shock may be administered by touching his finger with the other electrode. Connect a small electric bell to the circuit so that it will ring both when a shock is administered and when the circuit is "shorted". Administer a shock severe enough to cause the subject to withdraw his hand. The bell will ring at the same time. After ten trials ring the bell without giving the shock. Notice whether or not the hand moves. If it does, a conditioned reflex has been initiated. If it does not, repeat the shock together with the sounding of the bell for ten more trials before ringing the bell without shock. Repeat until the subject withdraws his hand upon the ringing of the bell alone. This experiment illustrates the fundamental conditions found to exist in the acquisition of all conditioned reactions. Try several subjects and keep a record of the number of trials required in each case to establish a reaction by the substitute stimulus.

2. In the following case indicate which element is the unconditioned stimulus, the conditioned stimulus, and the conditioned reaction.

A child that objected strenuously to bathing was given a bit of sugar immediately afterward. The child gradually submitted to the bathing without protest. (See Curti, page 151)

3. Suppose a child had become afraid to go to bed in a dark room, how could one go about curing him of the fear? Why does a baby usually love its mother best? Is it because mother-love is inborn?

4. Why is unfortunate conditioning in early life more difficult to cure than conditioning in later life?

5. Describe some fear or peculiar aversion of your own and account for it in terms of the conditioned response.

6. Look up the meaning of the term "free association" and show why it is sometimes employed by psychopathic workers in attempting to get at the causes of nervous troubles, such as aversions and phobias.

7. Which are more easily conditioned, dull children or bright children?

8. How has the conditioned response phenomena been applied in determining sensory defectiveness in the new-born? (See Morgan, page 49)

9. Why is travel so often prescribed in cases of nervous break-down?

10. A boy who disliked any form of sweet vegetables such as parsnips, squash and sweet potatoes learned to like parsnips when he ate them at the home of a friend whom he admired and who was particularly fond of parsnips. This newly formed toleration for parsnips "transferred" to sweet potatoes and squash. This illustrates how a "positive conditioning" may spread to help adjustment to environment. Can you cite an example of a "negative conditioning" which may transfer to other elements of the environment?

Topics for Floor-talks

1. The conditioned response and mental health. (See Burnham).
2. The conditioned response and food problems. (See Arlitt, pp. 337-49.)
3. The conditioned response in the school room. (See Burnham).

Standard References

William H. Burnham, The Normal Mind, New York, Appelton, 1924
pp. 144-164.

Mental hygiene is so important that it seems highly desirable to include a book of this type. The book may be thought by some to over-work the concept of the conditioned reaction but the author's point of view is so directly helpful that it can not well be omitted.

Margaret W. Curti, Child Psychology, New York, Longmans, Green, 1931, pp. 131-165.

A general text in the psychology of the child, comprehensive, scientifically reliable, and understandable.

John B. Morgan, Child Psychology, New York, Richard Smith, 1931, pp. 18, 48, 135, 247.

The book par excellence for parents. It is written in popular style yet replete with references to experimental findings. A work-book to accompany the text is available enhancing the value of the book for groups working without a trained leader.

Mother's Encyclopedia, New York, The Parents' Publishing Association. 4 Volumes, Vol. 2, p. 285.

Expertly edited, practical, concise. While it does not confine its treatment to psychology the set is well indexed making it easy to find materials dealing with child psychology.

Car. Murchison, Handbook of Child Psychology, Wochester, Clark University, Press, 1931, pp. 71-92.

Somewhat technical for the average parent. However, in every group, sooner or later, questions arise which lead to further discussion and study requiring experimental evidence for disposal. The Handbook is a compilation of materials of experts in various phases of child psychology.

Peter Sandiford, Education Psychology, New York, Longmans Green, 1930, pp. 167-81.

While not a text in child psychology the book is listed here because of its value as a general reference book. Teachers will be members of many study-groups and the book has direct value for them. The objective approach is constantly maintained.

W. I. and D. S. Thomas, *The Child in America*, New York, 1928, pp. 507-15.

A comprehensive and rather technical work which is a source book in matters relating to the child.

Twenty-eighth Yearbook of the National Society for the Study of Education, Bloomington, Public School Publishing Company, 1929.

A book for leaders of study-groups. Contains a valuable bibliographical abstract.

M. V. O'Shea, *The Child: His Nature and his Needs*, Valparaiso, The Children's Foundation, 1924.

This book is listed, not because it is the best of its kind but because it may be obtained for one dollar, paid as a subscription to the publication fund of the foundation. The work "instinct" is used too broadly in parts of the book.

Ada Hart Arlitt, *The Psychology of Infancy and Early Childhood*, New York, McGraw - Hill, 1930.

S. B. and M. G. Blanton, *Child Guidance*, New York, Century, 1927.

Written in an informal, anecdotal fashion. The book is very readable.

Additional References for Unit 1

E. R. and G. H. Groves, *Wholesome Parenthood*, New York, Houghton Mifflin, 1929, pp. 51-71.

E. R. Guthrie, *Conditioning as a Principle of Learning*, *Psychological Review*, Vol. 36, 1930, pp. 412-28.

Mary Cover Jones, *The Conditioning of Overt Emotional Responses*, *Journal of Educational Psychology*, Vol. 22, 1931, pp. 127-30.

G. W. Valentine, *The Innate Bases of Fear*, *Journal of Genetic Psychology*, Vol. 37, 1930, pp. 394-421.

J. B. and Raynor R. Watson, *Conditioned Emotional Reactions*, *Journal of Experimental Psychology*, Vol. 3, 1920, pp. 1-14.

UNIT 2

OTHER ASPECTS OF LEARNING.

This unit deals with those generalizations which may be grouped under the topic of learning. The first four generalizations relate to acquisition and the last two to motivation of learning. "Learning" is here used in a broad sense to include conduct of any kind assumed to be acquired.

Acquisition

1. The Child learns by doing. (Derived from Law of Use.)
(Q/1) 43 per cent of the parents recognize.

Too much help robs the child of practice. Problems of learning often result. Office of the teacher is to provide conditions for optimal results from self-activity of the child. Parents have too much faith in the efficacy of verbal directions. Activity looms large in the child-centered school and in the child-centered home.

Standard References

- Burnham, 662
Morgan, 96-98; 165-166.
O'Shea, 52-71.
Sandiferd, 200.

Additional References

- Ada Hart Arlitt, *Psychology of Infancy and Early Childhood*, New York, McGraw-Hill, 130, pp. 186-88
Arthur I. Gates and G. A. Taylor, *The Acquisition of Motor Control in Writing by Pre-school Children*, Teachers' College Record, Columbia University, 1923, Vol. 24, pp. 459-68.

Harold Rugg and Ann Shumaker, *The Child-Centered School*, Yonkers-on-Hudson, World Book Company, 1928, pp. 3-5; 459-68.

Ed. L. Thorndike, *Educational Psychology*, Teachers' College, Columbia University, 1913, p. 12.

(14) Learning goes on most efficiently in a rich and varied environment. (Q/3) 27.6 per cent of the parents recognize.

This principle is closely related to the preceding one. Relates to perceptual-motor learning as well as to ideational learning. Application to speech development and to reading. Importance of books and toys, excursions, moving pictures.

Standard References

Curti, 67-69.

Handbook of Child Psychology, 128-157.

O'Shea, 337-39.

Sandiford, 19-20.

Additional References.

Frank N. Freeman, Karl Holzinger, and B. C. Mitchell, *The Influence of Environment on the Intelligence, School Achievement, and Conduct of Foster Children*, Twenty-Seventh Yearbook of the National Society for the Study of Education, Bloomington, Illinois, Public School Publishing Company, 1928, pp. 103-217.

Harold Rugg and Schumaker, *The Child-Centered School*, Yonkers-on-Hudson, World Book Company, 1928, pp. 310-312.

(16) All around morality can not be taught; all that can be taught is response to situations. (Q/1) 23+ per cent of parents recognize.

Morality not a sudden development. Law of Specificity in morals. Laws of habit apply in development of personality

traits. Parents have too much faith in exhortation and direct moral instruction. Afford opportunities for children to practice the trait desired. Experimental work of Hartshorne and May.

Standard References.

Handbook of Child Psychology, pp. 470.

O'Shea, 97-106.

Thomas, 293-294.

Additional References.

Chicago Association for Child Study and Parent Education, Intelligent Parenthood, Chicago, University of Chicago Press, pp. 98-111.

C. E. and E. G. Germane, Character Education, New York, Silver Burdette, 1929, Pt. 2, A Program for the Home.

(5) Individual differences exist with respect to learning. (Q/1) 69 per cent of the parents recognize.

This important principle is fairly well understood by parents but it deserves some attention because when not observed results in maladjustment of child. Has wide applicability. Extends to include capacities of many kinds. Provisions should be made at school for such things as Physical examination, homogeneous grouping, individual instruction. Provisions should be made at home for home-discipline, parental attitudes, utilization of home facilities.

Standard References.

Twenty-eighth Yearbook of National Society, pp. 749-762.

Mother's Encyclopedia, pp. 778-783.

O'Shea, Intellectually Inferior Children, pp. 26-276;
Intellectually Superior Children, pp. 277-299.

Blanton and Blanton, pp. 225-234.

Additional References.

R. O. Beard, Parent Education, University of Minnesota, 1927, pp. 100-104.

M. P. E. Grossmann, Parents' Manual, New York, The Century Publishing Company, 1923, Vol. 1, pp. 159-74.

Minnesota University, Institute of Child Welfare, Child Care and Training, 2nd Ed. pp. 246-249.

K. E. Maxfield, The Blind Child and his Reading, American Foundation for the Blind, 1928.

J. D. Wright, Little Deaf Child, Wright Oral School, 1928.

Motivation of Learning (and Conduct).

(2) The child learns most efficiently when satisfaction attends his activities. (Q/1) 43+ per cent recognize.

(3) The child learns more efficiently when there is a state of readiness to respond. (Q/3) 53+ per cent of parents.

These two principles are related and together with the phenomena of the conditioned reaction provide the means of motivation. State Law of Effect. Illustrate. Limitations of punishments in motivation. Types of rewards. Knowledge of progress and social approval as most effective stimulants to effort. Habit of success the main objective.

Standard References

Curti, 287-328.

Morgan, 158-191.

O'Shea, 91-96.

Blanton and Blanton, 188-92; 192-211.

Additional References

- Ada Arlitt, *The Child from One to Six*, New York, McGraw - Hill Book Company, 1930, pp. 23-38.
- J. W. Dashiell, *Fundamentals of Objective Psychology*, New York, Houghton Mifflin Company, 1928, pp. 229-274. (Emphasises role of conditioned reaction).
- E. R. and G. H. Groves, *Wholesome Parenthood*, New York, Houghton Mifflin, 1929, pp. 49-50; 132-34; 185-187.
- Minnesota State University, *Child Care and Training*, Minneapolis, University of Minnesota Press, 162-167.
- Angelo Patri, *Problems of Childhoods*, New York, Appleton, 1926, pp. 215; 241-242; 247-248.

Other generalizations not tested for because subsumed to more or less degree or because apparently well known are: (See Table 1.) The desire to be physically active is an important motive with children. The desire for the approval of others is an important motive. Punishment for failure to put forth effort does not motivate desired conduct very effectively.

UNIT 3

THE SOCIAL ADJUSTMENT OF THE CHILD

This unit is the largest of the six and includes a variety of generalizations loosely bound together by the fact that they relate to social adjustment. We are realizing more and more that much of behavior is in part the result of social stimuli; the individual alone and the individual in the group react differently to stimuli common to both situations. Moral behavior is behavior having social sanction and for that reason the generalizations relating to moral conduct are included in this unit.

(8) Attitudes controlling social adjustment have their patterns established in the home. (Q/3) 58 per cent of parents recognize.

Child most impressionable in early years. Attitudes of inferiority, dominance, revenge, rationalization, compensation taken on by mechanism of conditioned reaction. Calls for well adjusted parents. Illustrations. Special problems. Attitudes resulting from illness, parent fixations. The only child; the eidetic child. Broadening the social environment.

Standard References

Morgan, 365-393.

Mother's Encyclopedia, 774-775.

Additional References

Allport, J. E., Social Psychology, New York, Houghton Mifflin Company, 1924, pp. 353-379.

L. A. Palmer, Play Life in the first Eight Years, New York, Ginn and Company, pp. 40-72.

(15) A closer relation exists between parents and children as to ideas of right and wrong than between the child and any other group. (Q/3) 75+ per cent of parents recognize.

Need not be emphasised greatly for parents recognize. Work of Hartshorne and May has most specific reference to the main point.

Standard References

Handbook of Child Psychology, pp. 459-460.

Blanton and Blanton, pp. 171-174.

(23) Very poor economic status exerts an unfavorable influence upon behavior (with respect to morals). (Q/2) 40 per cent of parents recognize.

Economic status a symptom of more fundamental factors making for maladjustment. Often indicates poor educational status of parents. Meagre stimuli, lack of supervision, improper food, lack of recreational facilities.

Standard References

Curti, pp. 403-405.

Handbook of Child Psychology, p. 460.

Additional References

S. P. Breckinridge and Edith Abbott, The Delinquent Child and the Home, Charities Publication Committee, 1912, pp. 70-74.

W. Healy and A. F. Bronner, Delinquents and Criminals, New York, MacMillan, 1926, pp. 117-121.

(11) Children often persist in objectionable behavior because they find it a means of satisfying their wants. (Q/3)

70+ per cent of parents recognize.

Rather well known fact not calling for much emphasis.

Over-solicitous parents need to be reminded.

Standard References

Blanton and Blanton, pp. 165-166.

Morgan, pp. 93-94.

(13) Anger as a social response is usually exhibited in response to opposition. (Q/4) 43 per cent of parents recognize.

Unwise to anger child unnecessarily. May result in extreme form of negativism, or irritability. Problem of temper tantrums. Do not permit child to get what it wants thru display of anger. "Teasing" reported as a problem by 40 per cent of parents, and temper outbursts by over 50 per cent. Teasing by parents is copied by children.

Standard References

Arlitt, pp. 149-161.

Blanton and Blanton, pp. 179-180.

Morgan, 147.

Additional References

John B. Watson, Psychological Care of Infant and Child, New York, W. W. Norton and Company, pp. 88-112.

Jessie C. Fenton, A Practical Psychology of Babyhood, New York, Houghton Mifflin Company, 1925, pp. 222-225.

Ruth Strang, An Introduction to Child Psychology, New York, The Macmillan Company, 1931, pp. 69-72.

(22) Speech defects like stammering are most often due to social maladjustment of some sort. (Q/2) 40+ per cent of parents recognize.

Change from left-handedness to right-handedness slightly correlated with stammering. Social pressure and sense of being different aggravate. Stammerers usually able to speak well when alone. Treatment is to adjust child. 50 per cent are cured.

Standard References

- Curti, pp. 196-197.
 Morgan, pp. 107.
 Blanton and Blanton, 107-110.
 Handbook of Child Psychology, p. 34.
 Thomas and Thomas, 475-476.
 Burnham, 435.

Additional References.

- Ruth Strang, An Introduction to Child Psychology, New York, The Macmillan Company, 1931, pp. 311-312.
 H. A. Bruce, Handicaps of Childhood, New York, Dodd Mead and Company, 1917, pp. 207-240.
 Blanton, Smiley and Margaret G., Speech Training for Children, New York, Century, 1919, pp. 100-116.

(12) Heightened interest in the opposite sex is characteristic of adolescence. (Q/2) 59 per cent of parents recognize.

This generalization is not in itself the most fundamental fact concerning adolescence but is in its implications. The maturation of sex organs and functions is the fundamental fact of adolescence. Problems of adolescence and their treatment. New interests. Encourage a wide range of activities.

Dances, petting, athletics, reading, vocational guidance.

Sympathetic understanding by parents called for.

Standard References

O'Shea, 300-321.

Handbook of Child Psychology, p. 108.

Additional References.

Fowler D. Brooks, The Psychology of Adolescence, New York,
Houghton Mifflin Company, 1929, pp. 378-454; 597-602.

Douglas A. Thom, Normal Youth and its Everyday Problems, New York,
D. Appleton and Company, 1932, pp. 37-72.

UNIT 4

CERTAIN DEVELOPMENTAL STAGES IN CHILD NATURE

The concept of periodicity in the development of the child has disappeared in modern child psychology. We no longer hold that growth is saltatory but that it proceeds according to a curve more or less straight in its progression. However, the little child is not a miniature adult except in potential capacities. It is the failure on the part of parents to fully apprehend that the child's abilities are quantitatively and sometimes qualitatively different from those of an adult that leads to unnecessary problems in the parent-child relationship. The comprehension of a few of these differences was tested for and the generalizations embodying the differences are presented here together in one group. There is no other justification for considering them together in one unit.

(7) The young child is egocentric in thinking.

(Q/4) 42 per cent of parents recognize.

The young child should not be accused of selfishness. Selfishness implies a breadth of experiences and an appreciation of ethical values which the child does not possess. He interprets his world of experiences in terms of his own sensations and responses only. He has but one point of orientation, himself. The efforts of parents should be directed toward enlarging his field of social experiences rather than to be directed toward the thwarting of natural impulses.

Standard References

Curti, pp. 255-258.

Morgan, pp. 251-252.

Additional References

D. McCarthy, A Comparison of Children's Language in Different Situations and its Relation to Personality Traits, *Journal of Genetic Psychology*, 1929, Vol. 36, pp. 583-591.

Jean Piaget, *The Language and Thought of the Child*, New York, Harcourt Brace, 1927, Chapters 1-3.

(18) Between the ages of about two and four the child tends toward negativism more than before or later. (Q/2) 33 per cent of the parents recognize.

Sometimes referred to as the period of "obstinacy" but unjustly so. Related to ego-centricity. Parents sometimes make the mistake of interpreting negativism of this period as a symptom of anti-social tendency which if allowed to develop will result in violation of law. Best method in dealing with it is to allow child freedom, within limits of course. Some authorities consider the ready adaptation of those children who do not oppose the adult as unfavorable to the child's later development.

Standard References.

Blanton and Blanton, pp. 252-253.

Handbook of Child Psychology, p. 402.

Morgan, 251-252.

Additional References.

E. R. and G. H. Groves, *Wholesome Parenthood*, New York, Houghton Mifflin, 1929, pp. 47-48.

M. M. Reynolds, *Negativism of pre-school Children*, New York, Teachers' College, Columbia University Press, 1928.

Ruth Strang, *An Introduction to Child Psychology*, New York, The Macmillan Company, 1931, pp. 128-130.

(21) Young children readily confuse ideas of reality and imagination. (Q/4) 44+ per cent of parents recognize.

Young children have not had sufficient contact with reality to match adults in distinguishing between ideas of reality and imagination. Some parents regard "whoppers" as a symptom of innate depravity. 36 per cent of parents believe that children have much greater power of imagination than have adults. Problem of "fairy stories". Balance of opinion is that they do no harm, if well selected.

Standard References.

Curti, 238-244.

Arlitt, 250-264.

Handbook of Child Psychology, p. 377.

Additional References

E. R. and G. H. Groves, Wholesome Childhood, New Yor, Houghton Mifflin Company, pp. 152-154.

B. C. Gruenberg, Educational Guidance of Childhood and Youth, New York, Macmillan Company, 1926, pp. 60-68.

Minnesota University, Institute of Child Welfare, Child Care and Training, Minneapolis, University of Minnesota, pp. 190-196.

(20) Children are inferior to adults in perceiving relationships. (Q/2) 38 per cent of parents recognize.

This principle emphasises the necessity of using concrete materials in the instruction of children. It suggests too that much of verbal instruction of children, in which relative terms are employed by parents, is lost so far as its effect is concerned. The principle is related to the child's ego-centricity, and calls for an enrichment and extension of environment.

Standard References

Curti, pp. 261-264.

Additional References.

Jean Piaget, The Language and Thought of the Child, New York,
(Translated by M. Warden) Harcourt Brace, 1926, pp. xxiii-
246.

UNIT 5

HEREDITY AND ENVIRONMENT

(28) Heredity provides the potentialities; environment the means for attaining them. (Q/4) 37 per cent of parents recognize.

Parents tend to over-emphasize the role of heredity. If a trait or peculiarity seems hard to account for it is ascribed to heredity. The importance of environment should be emphasized for all parents. It is the only means at hand for improving the raw materials. Studies in foster-children show importance of home environment.

Standard References.

Curti, pp. 28-73.

Morgan, pp. 25; 400.

Sandiford, pp. 13-50.

Arlitt, pp. 10-33.

Blanton and Blanton, pp. 10-21.

Additional References.

H. A. Bruce, *Psychology and Parenthood*, New York, Dodd Mead, 1915, pp. 113-157.

H. D. Chapin, *Heredity and Child Culture*, New York, Dutton, 1922.

S. M. Gruenberg, *Your child Today and Tomorrow*, Philadelphia, Lippencott, pp. 234-255.

Winifred, Rand, M. E. Sweeney, and E. L. Vincent, *Growth and Development of the Young Child*, New York, Saunders, 1930, pp. 80-116.

D. A. Thom, *Everyday Problems of the Everyday Child*, New York, Appleton, 1927, pp. 1-11.

UNIT 6

MENTAL HYGIENE

Mental hygiene looms large in present day literature dealing with the psychology of the child. In most text-books, the chapter on mental hygiene comes last in order because it represents the applications of psychology to the problem of the subjective adjustment of the individual. Life today is complex and makes demands upon men and women which in many cases result in attitudes inimical to efficiency and happiness. Childhood is the period par excellence for the establishment and maintenance of those habits which make for integration of the personality. The importance of mental hygiene in present day psychological thought is reflected in the relatively large number of principles of psychology which the judges who assisted in this study selected as being among the most important. Because of these considerations the unit on mental hygiene is presented last.

The number of generalizations presented is, of course, but a small fraction of those which might be identified and isolated. Those given, however, may be considered as a sampling of the field, and the hope is expressed that their consideration will lead to a wider study on the part of those parents who are here introduced to the general field.

(26) Social adjustment is a condition of mental health.
(Q/4) 73 per cent of the parents recognize.

The general fact expressed in the principle is apparently

well known and deserves relatively little emphasis. The principle is perhaps violated to a considerable degree nevertheless. Materials dealing with this unit may well be of the anecdote variety in order to develop an awakened sympathy with a consequent sharpening of the ability to detect the symptoms of social maladjustment.

Standard References.

Burnham, 231-278; 664.

Morgan, pp. 69-71.

O'Shea, pp. 197-199.

Additional References.

P. H. Furvey, *Social Problems of Childhood*, New York, Macmillan, 1930, pp. 110-130.

E. R. Groves, and Phyllis Blanchard, *Introduction to Mental Hygiene*, New York, Holt, 1930, pp. 95-128.

W. C. Reavis, *Pupil Adjustment in Junior and Senior High Schools*, Boston, D. C. Heath and Company, 1926.

(25) Attitudes of inferiority, dominance, compensation, and revenge may be symptoms of present mishandling of the child by parents or others. (Q/1) 26 per cent of parents recognize.

This important principle is not very well recognized by parents. Parents are so continuously with the child that they lose perspective. Psychiatric procedures are applied only in pathological cases but milder forms of anomalous behavior often are passed over with the result that idiosyncracies develop and persist into adult life. The task is to sharpen the sense of identification and interpretation of symptoms on the one hand without developing over-solicitousness on the other.

Standard References.

Blanton and Blanton, pp. 231-234.

Curti, pp. 501-510.

Morgan, pp. 436-448.

O'Shea, pp. 201-202.

Additional References.

A. L. Inskip, Child Adjustment in Relation to Growth and Development, New York, Appleton, 1930, pp. 363-386.

Ruth Strang, An Introduction to Child Psychology, New York, Macmillan, 1931, pp. 515-516.

E. J. Swift, The Psychology of Childhood, New York, Appleton, 1930, pp. 158-163.

Miriam, Van Waters, Nineteen Ways of Being a Bad Parent, The Survey, Graphic Number, Vol. 57, 1927, pp. 433, 439.

(10) Intense demonstrativeness of parental affection may entail later social maladjustment of the child. (Q/2)
24 per cent of the parents recognize.

(27) The child deprived of parental sympathy and companionship may develop compensatory fancies.

No. (27) was recognized by 89 per cent of the parents so it is not developed here but it should be considered in relation to (10).

Over-demonstrativeness leads to over-dependence and in some cases to "parent-fixation". On the other hand the child deprived of a normal sympathy and companionship may develop compensating fancies. The present emphasis is upon "Psychological weaning" or a gradual cessation of fondling and caressing. Individual differences, of course, indicate different types of treatment.

Standard References.

Arlitt, pp. 161-169.

Blanton and Blanton, pp. 254-257.

Morgan, pp. 71-72.

Additional References.

Elisabeth Cleveland, Training the Toddler, Philadelphia, Lippencott, 1925, pp. 92-94.

E. R. and G. H. Groves, Wholesome Parenthood, New York, Houghton Mifflin, 1924, pp. 241-256.

F. H. Richardson, Parenthood and the Newer Psychology, New York, Putnam, 1926, pp. 3- 10.

John B. Watson, Psychological Care of Infant and Child, New York, W. W. Norton and Company, pp. 69-87.

(9) Performing for the child many functions he is able to perform himself renders him over-dependent. (Q/1) 45 per cent of parents recognize.

Standard References

Blanton and Blanton, pp. 169-173.

Morgan, p. 69.

Additional References.

E. A. Cowan and A. D. Carlson, Bringing up your Child, New York, Duffield, 1930, pp. 183-190.

J. C. Foster, and M. L. Mattson, Nursery School Procedure, New York, Appleton, 1929, pp. 156-158.

E. R. Groves, and G. H. Groves, Wholesome Childhood, New York, Houghton Mifflin, 1924, pp. 49-54; 125-129.

E. B. Waring and Marguerite Wilker, Behavior of Young Children, Vol. 2, New York, Charles Scribner's Sons, 1929, pp. 107-51; 3-58.

(24) Facing reality is a condition of mental health.

(Q/3) 68 per cent of parents recognize.

Parents seem to recognize the importance of facing reality but the principle deserves some attention because of its application to children. Day dreaming may be a symptom of maladjustment or an escape, and if not checked, the child may develop into an impractical, dissatisfied adult.

Standard References.

Blanton and Blanton, p. 259.

Curti, p. 328.

Morgan, p. 227.

Burnham, pp. 668-669.

Arlitt, pp. 135-137.

Additional References.

H. A. Bruce, *Your Growing Child*, New York, Funk and Wagnalls, 1927, pp. 314-325.

E. R. and G. H. Groves, *Wholesome Childhood*, New York, Houghton Mifflin, 1924, pp. 150-157.

Angelo Patri, *Problems of Childhood*, New York, Appleton, 1926, pp. 107-108.

APPENDIX 1

A CHECK LIST

Psychological principles and generalizations that relate to child psychology. Judges are asked to evaluate each item on a five point scale with the following question in mind: what is the relative value of this fact or generalization to a parent? If the fact or generalization seems of great importance, to a parent, place the number "1" in the space provided; if it seems of little importance, mark it "5".

I. The Child and his Inherited Nature.

Rank	
1.	() Children tend to resemble their parents, physically and mentally. (11) p. 48
2.	() Law of Variation. If the children tend to resemble their parents, the resemblance is never absolute. (11) pp. 44; 47.
3.	() In successive generations, variants tend to move toward the average of the species of which they form a part. (34) p. 28 See also (11) p. 48 as related to I. Q. with reference to work of Hollingsworth and Cobb.
4.	() If a large number of unselected, homogeneous individuals of a given species be measured for a varying trait, the measure will be found to be distributed according to the law of chance or on the probability curve. (34) p. 24.
5.	() Mendel's Law. Biological inheritance often expresses itself in the Mendelian ratio. (34) pp. 30-49.
6.	() Nature and Nurture. Heredity provides whatever potentialities we possess; environment or nurture determines whether or not they shall be realized in actuality. (34) p. 117.
7.	() At birth man is largely restricted, to inherited forms of behavior of a non-variable kind. (24) p. 117.

Rank

8. () As he grows older, the proportion of non-variable elements rapidly diminishes until at the adult stage only those non-variable forms that are directly life conserving seem to remain. (34) p. 117.
9. () Most reflexes at first appear with uncertainty and variability, and become fixed with practice. (35) pp. 53-55.
10. () Relatively few complex forms of reaction can be proved to be inherited. (11) pp. 99-130.

II. The Child and His Environment.

1. () Malnutrition of the mother during the intra-uterine life of the child may cause mental defectiveness of varying degrees. (11) p. 51. (48) p. 55.
2. () Prolonged and wasting diseases (tuberculosis, diabetes, pellagra) may at times produce results in the child similar to those resulting from malnutrition. (39)
3. () Malnutrition in the early life of the child may cause mental retardation. (11) p. 51.
4. () Important mental effects may be related to parental alcoholism. (4)
5. () Toxins may affect the normal growth of the embryo unfavorably. (11) p. 51.
6. () Deficiency, or excess of some glandular secretion, may be acquired before birth and condition later mental development. (Example, congenital endemic cretinism.) (11) p. 54.
7. () Anatomical, and hence mental growth, may be influenced before or after birth thru mechanical injury. (11) p. 54.
8. () Law of Use. The child learns by doing. (restatement) (45).
9. () Law of Effect. The child learns most efficiently when satisfaction attends his activities. (45) p. 12.
10. () Attitude or physiological "set" is a factor in determining which response a child will make in a given situation. (45) p. 24.

- Rank
11. () Law of readiness. The child learns most efficiently when he is in a state of readiness to react. (restatement) (45) p. 1.
 12. () Law of Associative shifting or the conditioned reaction. A response may be shifted from one situation to another which is presented at the same time. (32) p. 202.
 13. () If the unconditioned stimulus precedes the conditioned stimulus, a new reflex is formed. (40)
 14. () Undesirable conditioned reactions may be weakened thru disuse or extinguished by repetition without the accompaniment of the conditioned stimulus. (40)
 15. () Law of prepotent elements. An element or an aspect of a situation may determine the particular reaction which a child will make. (45) p. 13.
 16. () Law of analogy. In a situation having no original or acquired responses, a child may respond in the same way, as for previous, analagous situations.
 17. () Learning as integration. Learning is a complex process in which diverse experiences are integrated into harmonious, uniform responses. (7) p. 72.
 18. () Development takes place most rapidly in a rich and varied environment. (7) p. 72.
 19. () Experience should be properly selected and facilitated. (7) pp. 72-73.

Improvement in Learning.

Few Experiments with Children.

Perceptual-motor habits are here in the forefront rather than the development of meanings. This distinction, i.e. between so-called "motor" and "ideational" elements, is of course arbitrary and perhaps not psychologically valid, but is here employed for the sake of classification and because of its traditional significance in distinguishing between types of response.

- Rank
20. () Children, as well as adults, when learning new co-ordinations in acts of skill, reveal much initial, diffuse and excessive activity with gradual elimination as such practice continues. (31) pp. 316-373. Specifically 321.
 21. () The Learning Curve. Learning of motor responses proceeds, usually not at a uniform rate, but according to a curve which is steepest in its first portion. (8) p. 345.
 22. () Within the curve there are often plateaus, or portions representing periods of no apparent progress. (8)
 23. () The length of practice periods. Results of investigations favor practice periods of thirty minutes or less as compared with longer periods. (17) p. 225.
 24. () Distribution of practice. Practice periods should be so arranged that the newly formed bonds have not had time to fade greatly. (24)
 25. () Age. Age affects the rate of learning, the first years of life being the most impressionable. (13)
 26. () Individual differences. Children differ in their rates of learning because of differences in native capacity and environment, as they in turn involve the specific factors of attention, interest, application, life-bents, and dispositions. (34) pp. 228-233.
 27. () Physical condition affects the rate of learning. (includes sense defects) (34) p. 230.
 28. () Methodical procedure in study favors rapid learning. Whipple, G. M., How to Study Effectively, Bloomington, Illinois, Public School Publishing Company, 1926.
 29. () Prolonged mental activity does result in mental fatigue.

Permanence of Learning

(Memory as Habit)

30. () Factors favorable to the initial formation of habits are also conducive to their permanence. (Frequency, vividness, attention, recency, resultant satisfaction, mood) (34) p. 238.

- Rank
31. () Over-learning favors retention. (use) (34) p. 251.
 32. () Meaningful material is learned and retained better than meaningless. (34) p. 251.
 33. () As a rule pleasant experiences are retained longer than the unpleasant. (ibid)
 34. () On the whole, children who learn fastest, retain best. (34) p. 251.
 35. () The transfer of training may be negative, positive, or zero. It is usually positive but the amounts are usually much nearer zero than to one hundred per cent. (34) p. 293.
 36. () The greatest single medium of transfer is language and a good vocabulary. (34) p. 298.

III. The Child and the Mental Processes Involved in the Development and Organization of Meaning.

This section deals with that portion of child psychology usually found in chapters on the origin and development of meanings, in which experiences are analyzed into the elements of perception, association of ideas, concepts, imagination, etc. Only the more general principles are listed here since it seems hazardous to attempt a detailed treatment of an aspect of psychology which is so highly inferential.

- Rank
1. () Common perceptions are the outcome of gradual growth thru the trial and error experiences of childhood. (11) p. 221. (39)
 2. () The perception of an object is a function of the total situation of which it is a part. (11) p. 226. (5)
 3. () Perceptions tend to grow more analytical as the child grows older. (less syncretistic) (11) p. 232. (48)
 4. () Images are the product of past experiences. (11) p. 239.

Rank

5. () Confusion between ideas of meaning and those of imagination is a prominent feature of the thought life of the child. (11) p. 240.
6. () Capacity for remembering events is much lower in children than in adults. (11) p. 241
7. () The reports of children are uniformly inferior to those of adults. (11) p. 241
8. () Concepts, (symbol for the common element in a number of experiences) develop in connection with continued trial and error experiences in reacting to objects. (11) p. 244.
9. () Young children make abstractions with difficulty if experiences are not selected for them. (11) p. 247
10. () Great individual differences exist between children in the accuracy, richness, and adequacy of their ideas. (11) p. 249.
11. () At first the child's thinking is strikingly ego-centric. (11) p. 255.
12. () Children are inferior to adults in understanding relationships. (11) p. 281.
13. () All reasoning starts in a problematic situation. (11) p. 313.
14. () Solution of a problem is achieved thru trial and error, whether the successful response is ideational or one involving overt behavior. (11) p. 274

IV. The Child and His Mental Traits and Abilities

1. () Mental ability is partly a function of native or inborn capacity and partly a function of experience. (14)
2. () Growth in mental ability is continuous rather than salutatory and increases fairly regularly from birth to the age of about sixteen. (11) p. 88. (35) p. 148.
3. () Development proceeds at the pace at which it starts. (11) p. 90. (6)

Rank

4. () On the average, weakness in one trait (unitary mental ability) implies weakness in others: mediocrity in one implies mediocrity in others, and strength in one, strength in others. Gates, A. I., Elementary Psychology, New York, 1925, p. 580.

Relation between Physical and Mental Growth.

5. () The general level of the physical development of the children who rate high in intelligence is distinctly superior to that of those who rate low in intelligence. (19).
6. () The relation between anatomical age and mental age is one of positive correlation, tho not one of perfect correlation. (11) pp. 93-98.
7. () In general, the number of physical defects decreases as the I. Q. increases. (21).
8. () Birth injuries may cause deficiencies in intelligence. (38)
9. () It is quite probable that malnutrition, especially when it occurs very early in the life of the child, may produce intellectual deficiencies. (30) p. 415. (36).
10. () Mental age divided by actual age is an appropriate index of relative mental ability (brightness) of children. (15) Chap. 7.
11. () A quotient of .90 to 1.00 (multiplied by 100 in practice) indicates normal or average intelligence; quotients above or below that range indicate varying degrees of superiority or inferiority. (42) p. 79
12. () Mental tests have value in classifying pupils for the purpose of instruction and for educational and vocational guidance. (20).
13. () Children differ in mental ability. (34) pp. 142-165.

V. The Child and His Social Adjustments. (Within the Family).

1. () Loves, hates, selfishness or consideration and all the attitudes which control our adjustments to other persons have their pattern established in the home. (30) p. 69 (23)
2. () These attitudes are acquired thru the mechanism of imitation and the conditioned reaction. (1)

3. () Performing for the child too many functions which he is capable of performing for himself, robs him of valuable practice and renders him over-dependent upon others. Morrison, H. C., University of Chicago Lecture.
4. () Intense demonstrativeness of parental affection for children may lead to varying degrees of over-dependence upon parents. (3) pp. 361-365.
5. () Such demonstrativeness of parental affection for children may entail subjective conflict for the child and later social maladjustment with reference to sex. (3) pp. 360-361.
6. () The child deprived of parental sympathy and affection, (on the other hand) often develops compensatory fancies, imaginary play-mates and other imaginal ways of satisfying his desire for love and social approval. (3) p. 364.
7. () Attitudes of inferiority, dominance, and revenge may have their inception in early home experiences such as severe punishments. (3) p. 368 (2)
8. () Children often persist in objectionable social behavior because they have found it to be effective in getting what they want. (30) p. 93.
9. () The only child is more likely to encounter difficulties in general social adjustment than the child with brothers and sisters. General social adjustments (not necessarily within the family) (9)
10. () At about the age of six months the child begins to react to the human voice and glance differently than he does to all other noises and visible objects. The baby smiles. (9) p. 396.
11. () Even in the first year of life there are marked differences in the equilibrium and assurance of infants in the social situation. (9) p. 400
12. () The child normally passes thru a strongly individualistic period between the ages of two and four. (9) p. 402.
13. () From the age of eighteen months on there is a continuous increase in the size of spontaneous groups. (9) p. 396.
14. () Girls between the ages of eleven and thirteen and boys between thirteen and fifteen pass thru an "anti-social" period, during which they do not participate in group games to the same extent as before or after. (9) p. 404

- Rank
15. () Interest in the opposite sex is characteristic of adolescence. Brooks Psychology of Adolescence.
 16. () Gang life is a symptom of a transitional social need of the adolescent. (46)
 17. () Among the prominent social attitudes of the child is the love of approbation. (16) p. 95
 18. () The young child exhibits rapid alterations of mood. (16) p. 95
 19. () Anger as a social phenomenon is commonly exhibited in response to opposition. (16) p. 100
 20. () There are individual differences in the social attitudes of children. (16) p. 105

VI. The Child and Language.

1. () The first stage in speech development is that in which cries and gestures are performed on the reflex level without recognition of their expressive or communicative value. (between third and fifth week.) Waddle, Chas., An Introduction to Child Psychology, New York, Houghton Mifflin Company, p. 159.
2. () Cry and gesture stage; Follows upon the reflex stage, roughly -coincident with the child's first true smile, marking the beginning of crudely purposeful use of primitive expression. (ibid) p. 160
3. () Babble stage. At first mechanical, later passing to "circular reflexes" between the sound of the syllable and response of speaking it and hence a purposeful reaction to his environment. (at its height between the sixth and eighth month) (ibid) p. 161. (11) p. 192.
4. () Plateau stage: coincident with learning to walk. (between ninth and eighteenth month) (41)
5. () True speech: begins when the child purposely uses words to express or communicate his thoughts and feelings. (between ninth and eighteenth month) McCarthy, Dorothy, Handbook of Child Psychology, p. 289
6. () Great individual variations exist with regard to speech development depending upon intelligence, social, and economic status, etc. (ibid) p. 289

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7. () Gifted children talk at a little over eleven months or on the average of about four months earlier than the average child. (43)
8. () Vocabulary increases rapidly under normal conditions during the first six years of life to about 2500 words. (The investigators differ so greatly that it may be hazardous to accept any reported size of vocabulary as typical). (37)
9. () Richness of experience contributes both to size of vocabulary and apprehension of full meaning of words. (12)
10. () Inhibition of children's babbling and early speech efforts may retard speech development. (Waddle op. cit) p. 174
11. () It seems clear that association with adults is conducive to precocious linguistic development. McCarthy, Dorothy, Handbook of Child Psychology, Clark University Press, p. 306.
12. () The printed word as a symbol of speech is most economically learned as an undifferentiated unit. (30) p. 261.
13. () Wide reading promotes vocabulary growth.
14. () The use of words in individual thinking is probably important. (30) p. 273.
15. () Speech defects may be due to defective vocal organs, poor training, and acquisition of faulty habits of articulation, and to social maladjustments in early childhood. (30) p. 274.

VII. The Child and Morals. (Behavior having Social Sanction)

1. () There are individual differences in morals just as truly as there are differences in general intelligence. Jones, Vernon, Handbook of Child Psychology, Clark University Press, p. 433. (These differences tend to be distributed according to the normal curve.) Hartshorne and May, Studies in the Organization of Character, New York, Macmillan, 1930, pp. 480-483.

- Rate
2. () It seems probable that no children are entirely truthful. Zillig, M., Experimentelle Untersuchungen uber die Kinderluge, Zsch. fur Psychol., 1931, No. 114. pp. 1-84.
 3. () Complexity of the situation and strength of motivation influence a trait like truthfulness. (Jones, Op. Cit.) p. 436.
 4. () Intellectually gifted children surpass unselected children in tests of honesty, truthfulness, and similar moral traits. (43)
 5. () The most frequent offense for which boys are brought before courts of delinquency is stealing (70 per cent of all offenses) while that for girls is sex offenses. (62 per cent) Healy and Bronner. A. F., Delinquents and Criminals; their making and unmaking, Macmillan, New York, 1926.
 6. () Native tendencies toward action (drives) may influence behavior of children as judged by moral standards. (Controversial ground because there is little agreement as to what are the "native drives". Curti quotes authority on both sides.) (Jones Op. Cit.) pp. 455-58.
 7. () There is a closer relationship between parents and children as to ideas of right and wrong than there is between moral ideas of children and those of any other group of associates. Hartshorne and May, Testing Knowledge of Right and Wrong, Religious Education, 1926, Vol. 26, pp. 539-554.
 8. () Very poor economic situation exerts an unfavorable influence upon behavior. (Jones Op. Cit.) p. 460.
 9. () Religious training correlates higher with moral conduct than does intelligence. Taylor, H. R., and Powers, F. F., Bible Study and Character, Journal of Genetic Psychology, 1928, Vol. 35, pp. 294-302.
 10. () Companions play an important part in affecting moral behavior. Healy, The Individual Delinquent, Boston, Little, Brown and Company, 1915, p. 293.
 11. () Group membership exerts an important influence upon moral conduct. Voelker, F. F., The Function of Ideals and Attitudes in Social Education: and Experimental Study, Teachers' College Contribution to Education, 1921, No. 112, P. 126.

Rank

12. () Opinion of experts is that reading of cheap, erotic literature exerts a demoralizing influence upon children, Healy W., *The Individual Delinquent*, (Jones, Op. Cit.) p. 305.
13. () There is no time in life when one is suddenly endowed with the ability to discern right from wrong. (Jones, Op. Cit.) p. 467.
14. () The child can not be taught all-round morality; all that can be done is to teach responses to situation. (Jones Op. Cit.) p. 477.
15. () A child learns desirable moral responses only when satisfaction is associated with desirable responses and annoyances associated with those that are undesirable. (Jones, Op. Cit.) p. 470. (Application of law of effect.)
16. () A reward is valuable in eliciting moral responses only in so far as it becomes less and less necessary. (Jones Op. Cit.) p. 473.
17. () Social approval and knowledge of progress seem to be the most effective stimulants to moral behavior. (ibid) p. 472.
18. () Transfer effects. Ideals have value to the extent to which generalizations from a number of specific instances take place. (Jones, ibid) pp. 475-476.

VIII. The Child and Play.

1. () The play of infants consists largely in the muscular activity of arms and legs and in the exercise of vocal organs. (30) p. 347.
2. () The number of play activities engaged in increases with the ages between eight and sixteen. Lehman, H. C. and Witty, Paul A., *The Psychology of Play Activities*, Barnes, 1927, pp. 35-43.
3. () Individual variation in play activities decreases with age. Lehman, Harvey, and Witty, Paul A., *The Psychology of Play Activities*, New York, A. S. Barnes, pp. 35-43.
4. () The great majority of play activities reach their peak of popularity before the age of eleven. (ibid).

- Rank
5. () Play is an aid to adjustment to life. (ibid)
 6. () Play may indicate certain maladjustments; it may be an escape from unpleasantness, a revenge activity, or a compensatory activity. (30) pp. 359-80
 7. () Gifted children are more mature in their play activities than are children of average intelligence. (43)
 8. () Desirable play activities are those which:
Involve free use of entire body.
Require precision of action.
Employ the expression of the rhythmic sense.
Require cooperative action.
Require attention.
Result in mental exhilaration.

IX. Motivation. (Why children behave as they do.)

1. () Motives may be native. Included in this class are internal stimulating conditions such as hunger, sex tensions, glandular secretions. (11) pp. 292-294.
2. () Motives may be acquired. Substituted stimuli (substituted for the native stimulus) sensori-motor habits, ideas and thoughts may function as acquired motives. (11) p. 294.
3. () The desire to be active is a motivating influence. (30) p. 165
4. () The desire to achieve and to overcome obstacles is an important motive. (30) p. 166.
5. () The desire for the approval of others is an important motive. (30) p. 169.
6. () Punishment for failure to put forth effort does not motivate desired conduct very effectively. (30) pp. 162-163; 182.
7. () Extraneous awards are very likely to miss their objective by intervention of some unexpected circumstance. (30) p. 163.
8. () Rewards inherent in the activity being encouraged are more valuable than awards not so related. (30) p. 187.
9. () Rivalry is not the highest form of motivation. It does not motivate all children and it emphasizes failure. (30) p. 190.

- Rank
10. () The aim of all controlled motivation should be to implant the habit and attitude of success. (30) pp. 190-191.

X. The Child and his Mental Health.

1. () Pre-occupation with the present task is a condition of healthy mindedness. (16) p. 297. (10) p. 642
2. () Orderly association is a condition of mental health. (10) p. 650 (Calls for definite tasks, straightforward reactions and concentration on the task at hand.)
3. () Work is conducive to mental health. (10) p. 652.
4. () The proper alternation of work and rest is conducive to mental health. (10) p. 653.
5. () Normal reaction to feeling seems to be essential for the organism, otherwise pathological, protective attitudes arise. (10) p. 655.
6. () Self-control of impulse and actions is necessary for mental health. (10) p. 662. (Calls for substitute reactions and avoidance of undue habitual excitement.)
7. () Confidence in self promotes mental health. (10) p. 664. (Calls for task assignments according to a gradient which permits of a series of successes.)
8. () Normal social reactions condition mental health. (10) p. 664.
9. () Adjustment to one's environment is requisite for mental health. (10) p. 665. (A broad generalization which overlaps others but which particularly emphasises the relation between capacity of the individual to meet peculiar demands.)
10. () A normal sense of dependence is desirable for mental health. (Both positive and negative implications, i. e., religion and parental dependence on the one hand and avoidance or over-dependence on parents on the negative side.) (10) p. 667.
11. () The attitude of facing reality is important to mental health. (10) p. 668. (Freeman's "objective attitude", and calls for demand for facts from childhood and the abjuration of superstition.)

Rank

12. () Undesirable emotional attitudes are often due to early experiences. (16) p. 313.
13. () Personality traits such as introversion, extroversion, ascendancy, submissiveness, etc., may have their origins in early childhood experiences. (3) Chap. 5, pp. 99-125.
14. () Mental health is promoted by general bodily health. (16) p. 310.
15. () Malfunctioning of ductless glands may cause emotional disturbances. (48) p. 626.
16. () The emotions are normally relatively stronger and less well controlled in childhood than in adulthood. (Waddle) op. cit. p. 109.

BIBLIOGRAPHY AND REFERENCES

The list here given refers to books and periodicals to which page references are given in the preceding list of generalizations. These have been selected because, for the most part, they deal with experimental evidence supporting the generalizations given.

- (1) K. Abraham, *Coinciding Phantasies in Mother and Son*, *Internat. Zeitschrift fur Psy.*, 3, No. 2.
- (2) H. Adler, *The Study of Organic Inferiority and its Psychical Compensation*, (Translated by Jelliffe) *Nervous and Mental Disease Monographs*, No. 24, 1924.
- (3) F. H. Allport, *Social Psychology*, New York, Houghton Mifflin Company, 1924.
- (4) Ada H. Arlitt, *Influence of Alcohol on the Intellectual Behavior of the White Rat*, *Psychological Review Monographs*, University of Chicago, No. 155, 1919.
- (5) H. C. Bingham, *Size and Form of Perception in Gallus Domesticus*, *Journal of Animal Behavior*, 3, 1913, pp. 63-113.
- (6) T. Bird and L. I. Stecher, *University of Iowa Studies in Child Welfare*, 2, No. 1, 1922.
- (7) J. V. Breitwieser, *Psychological Education*, New York, Alfred Knopf, 1928.
- (8) Bryan and Harter, *Studies in the Physiology and Psychology of the Telegraphic Language*, *Psychology Review*, 15, 1897, pp. 27-53; 6.
- (9) Charlotte Buhler, *The Social Behavior of the Child*, *Handbook of Child Psychology*, Clark University Press, 1931, pp. 392-431.
- (10) W. H. Burnham, *The Normal Mind*, New York, D. Appleton and Company, 1924.
- (11) Margaret W. Curti, *Child Psychology*, New York, Longman's Green and Company, 1931.

- (12) J. Drever, A Study of Children's Vocabularies, *Journal of Experimental Pedagogy*, 1915-16, 3, pp. 34-43; 96-103; 182-183.
- (13) Frank N. Freeman, Influence of Environment upon Intelligence, School Achievement, etc. of Foster Children, *Twenty-Seventh Yearbook of the National Society for the Study of Education*.
- (14) Frank N. Freeman, An Evaluation of the Evidence in Part 1 of the 1927 Yearbook and its bearing on the Interpretation of Intelligence Tests, *Journal of Educational Psychology*, 1928, pp. 103-217.
- (15) Frank N. Freeman, *Mental Tests*, New York, Houghton Mifflin Company, 1926.
- (16) Frank N. Freeman, *How Children Learn*, New York, Houghton Mifflin Company, 1927.
- (17) Arthur I. Gates, and Grace Taylor, Acquisition of Motor Control in Writing by Pre-School Children, *Teachers' College Record*, Teachers' College, Columbia University, New York, 34, 1923, pp. 459-469.
- (18) Arthur I. Gates, *Psychology for Students of Education*, New York, Macmillan and Company, 1926.
- (19) Kenneth L. Heaton, Physical Development of Children with High and Low Mental Ability, *American Physical Education Review*, 30, 1925, pp. 127-30.
- (20) Gertrude Hildreth, *Psychological der School Problems*, Yonkers on Hudson, World Book Company, 1931.
- (21) G. A. Kempf and S. D. Collins, A Study of the Relation between Mental and Physical Status of Children in two Counties in Illinois, (5000 cases) *Bulletin 44, Public Health Reports, Illinois*, 1743, July, 1929.
- (22) H. C. Lehman and Paul A. Witty, *The Psychology of Play Activities*, New York, Barnes, 1927.
- (23) D. M. Levy and H. K. Patrie, Relation of Infantile Convulsions, Head-banging, and Breath-holding to Fainting in Parents, *Archives of Neurology and Psychology*, 1928, pp. 865-887.

- (24) D. Lyons, The Relation between the Time taken for Learning and the Optimal Distribution of Time, *Journal of Experimental Psychology*, 1, (January, February, and March) 1914.
- (25) Helen Marshall, Children's Plays, Games and Amusements, *Handbook of Child Psychology*, Clark University Press, 1931, pp. 515-526.
- (26) Dorothy McCarthy, Language Development, *Handbook of Child Psychology*, Clark University Press, 1931, pp. 278-315.
- (27) G. D. Mead, Time and Age of Walking and Talking with Relation to Intelligence, *Pedagogical Seminar*, 20, pp. 460-484.
- (28) R. T. Melcher, Mental Deficiencies Resulting from Birth Injuries, *Vineland Training School Bulletin*, No. 26, 1929, pp. 8-10.
- (29) A. Moyerson, Inheritance of Mental Diseases, *Williams and Wilkins*, 1925, pp. 42-47. (Place of publication not given.)
- (30) J. B. Morgan, *Child Psychology*, New York, Richard Smith, 1931.
- (31) J. Peterson, Learning in Children, *Handbook of Child Psychology*, Clark University Press, 1931, pp. 316-376.
- (32) J. R. Pelsma, A Child's Vocabulary and its Development, *Pedagogical Seminar*, 17, pp. 322-369.
- (33) Jean Piaget, The Language and Thought of the Child, *Harcourt, Harcourt Brace and Company*, Chapters 1, 2, 3, 1927.
- (34) Peter Sandiford, *Educational Psychology*, New York, Longmans Green and Company, 1930.
- (35) M. Sherman, and I. C. Sherman, Sensori-Motor Responses in Infants, *Journal of Comparative Psychology*, 5, 1925, pp. 53-f.
- (36) A. J. Smith and A. M. Field, A Study of the Effects of Nutrition on Mental Growth, *Journal of Home Economics*, 18, 1926, pp. 686-690.
- (37) M. E. Smith, An Investigation of the Development of the Sentence and Extent of Vocabulary in Young Children, *University of Iowa Studies in Child Welfare*, 1926, 3, No. 5, p. 92.
- (38) W. Stron, *Beitrage zur Psychologie*, Barth., 1904.

- (39) G. M. Stratton, Vision Without Inversion of the Mental Image, *Psychological Review*, 4, 1897, pp. 341-360; 463-481.
- (40) P. M. Symonds, Laws of Learning, *Journal of Experimental Psychology*, 18, 6, (September) 1927.
- (41) R. Taine, The Acquisition of Language by Children, *Mind*, 1877, VI, pp. 252-259.
- (42) Lewis M. Terman, The Measurement of Intelligence, New York, Houghton Mifflin Company, 1916, p. 79.
- (43) Lewis M. Terman, Genetic Studies of Genius, Stanford University, 1921, pp. 1-134.
- (44) E. L. Thorndike, Mental Fatigue, *Psychological Review*, 7, 1900, pp. 466-482; 547-579.
- (45) E. L. Thorndike, Educational Psychology, New York, Teachers' College, Columbia University, 1913.
- (46) F. Thrasher, The Gang, University of Chicago Press, 1929.
- (47) A. F. Tredgold, Mental Deficiency, New York, William Wood, 1908, pp. 296-299.
- (48) H. Volkelt, Fortschritte der experimentellen Kinderpsychologie, Fisher, Jena, 1926, pp. 29-32.
- (49) Hildegard, Hetzer, Soziale Umwelt und Entwicklung der kindlichen Persönlichkeit, Verlag Kurt Stengert-Erfurt, 1930

A few references, used after this sheet was prepared are found in the body of the list of principles.

APPENDIX 2

RATINGS GIVEN THE GENERALIZATIONS BY TWLEVE COMPETENT JUDGES.

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M+S.D.
I. 1	3	3	3	3	3	3	3	1	2	3	2	1	2.5	.76	3.26
2	3	1	1	1	3	3	1	1	4	2	1	1	1.91	1.91	2.93
3	2	2	3	5	3	4	4	2	4	4	2	1	3.00	1.15	4.15
4	3	1	5	5	1	4	2	1	3	5	5	1	3.00	1.68	4.68
5	2	2	5	5	0	5	3	5	3	5	3	2	3.63	1.33	4.96
6	1	2	1	1	1	1	1	2	2	1	1	2	1.33	.47	1.80
7	1	5	5	3	4	2	4	3	5	5	4	4	3.75	1.22	4.97
8	2	4	5	3	1	2	3	2	5	4	4	4	3.25	1.23	4.48
9	1	5	5	1	4	4	5	2	5	4	4	3	3.57	1.44	5.01
10	1	3	1	1	2	3	3	2	1	1	4	1	1.91	1.03	2.94
II.															
1	2	1	5	1	1	2	5	4	1	3	5	4	2.83	1.37	4.20
2	2	1	4	1	1	2	0	2	2	4	5	4	2.55	1.22	3.77
3	3	1	5	1	1	4	0	3	2	2	4	2	2.55	1.30	3.85
4	3	1	3	1	1	5	0	4	3	3	5	4	3.00	1.53	4.53
5	2	1	3	1	1	4	5	2	2	3	3	4	2.58	1.25	3.83
6	0	2	3	1	1	5	4	1	4	3	5	1	2.50	1.55	4.05
7	1	1	4	1	2	4	5	2	4	4	4	3	2.91	1.38	4.29
8	1	2	1	1	1	1	1	1	2	1	2	1	1.25	.42	1.67
9	1	2	1	1	1	1	1	1	1	1	1	1	1.08	.27	1.35
10	1	0	1	1	3	1	2	2	3	2	2	3	1.90	.79	2.69
11	1	2	1	1	1	1	2	2	3	2	1	1	1.50	.64	2.14

II. (Continued)

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M+S.D.
12	1	2	1	1	1	2	1	2	1	3	1	1	1.41	.64	2.05
13	0	4	1	3	0	0	0	4	4	4	5	3	3.50	.87	4.37
14	0	4	1	3	2	1	3	4	3	3	5	1	2.72	1.28	4.00
15	1	4	3	1	1	1	2	2	5	3	2	5	2.50	1.25	3.75
16	2	4	3	3	1	2	3	3	2	3	1	5	2.66	.98	3.64
17	1	4	1	1	1	2	4	2	5	3	4	3	2.58	1.38	3.96
18	1	3	1	1	1	1	3	3	1	1	2	2	1.66	.85	2.51
19	1	3	3	1	1	1	3	3	2	3	2	5	2.33	1.18	3.51
20	1	2	1	1	2	3	2	2	3	2	2	1	1.83	.69	2.52
21	1	2	2	1	2	2	4	1	3	3	4	2	2.25	1.01	3.26
22	1	2	2	1	2	2	2	1	2	3	4	2	2.00	.64	2.64
23	1	2	4	1	2	2	3	1	2	2	5	3	2.33	1.18	3.51
24	1	2	4	1	1	2	4	1	3	2	3	2	2.17	1.07	3.24
25	1	3	1	1	1	1	2	5	5	3	3	5	2.58	1.32	3.90
26	1	3	1	1	1	1	1	1	3	1	1	1	1.33	.40	1.73
27	1	3	1	1	2	1	2	1	3	1	2	1	1.58	.75	2.33
28	1	3	4	1	2	3	3	1	3	2	4	1	2.33	1.10	3.43
29	2	5	4	1	3	1	0	1	3	5	3	1	2.64	1.49	4.13
30	1	3	1	1	1	2	1	1	4	2	2	5	2.00	1.28	3.28
31	2	3	1	3	3	2	1	1	2	2	3	1	2.00	.82	2.82
32	2	2	1	1	1	1	1	2	4	1	2	2	1.67	.65	2.32
33	2	3	1	5	1	1	1	2	4	3	1	5	2.41	1.5	3.56
34	1	3	3	3	3	3	1	3	3	4	3	4	2.83	.85	3.68
35	2	2	5	3	3	4	0	1	2	3	4	1	2.72	1.21	3.93
36	1	2	5	1	2	1	1	1	3	3	2	1	1.91	1.18	3.09

III.

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M+S.D.
1	3	3	5	1	2	1	3	2	2	5	2	2	2.41	1.55	3.96
2	3	4	5	3	1	5	2	3	3	4	2	2	3.08	1.19	4.27
3	3	4	4	3	2	2	2	3	3	3	5	3	3.08	.86	3.94
4	2	3	4	1	4	2	2	3	3	4	5	1	2.83	1.26	4.09
5	2	2	1	1	2	1	1	3	2	3	1	1	1.66	.74	2.40
6	0	2	2	1	2	2	1	2	3	5	2	2	2.18	1.03	3.21
7	0	2	2	1	5	3	1	1	3	3	3	2	2.38	1.15	3.53
8	3	4	4	1	2	2	2	4	3	2	3	2	2.67	.85	3.52
9	2	4	5	1	1	2	2	3	2	2	4	4	2.67	1.25	3.92
10	2	2	2	1	3	1	2	2	3	3	2	3	2.17	.67	2.84
11	1	2	1	4	4	1	1	2	2	1	1	1	1.58	1.06	2.64
12	2	2	2	1	2	1	1	1	2	2	2	1	1.58	.51	2.09
13	1	3	2	1	1	1	2	4	2	3	2	1	1.91	.96	2.87
14	1	3	2	1	3	2	2	5	3	2	2	1	2.25	.90	3.15

IV.

1	2	2	1	1	3	1	1	1	2	2	3	1	1.67	.89	2.56
2	1	3	1	5	0	2	2	2	2	5	2	1	2.36	1.37	3.73
3	2	5	1	5	0	5	2	5	3	5	3	4	3.63	1.43	5.06
4	2	3	3	3	5	3	1	0	2	5	4	5	3.27	1.28	4.55
5	2	5	1	2	5	3	2	3	3	4	2	4	3.00	.91	3.91
6	2	5	5	3	5	3	2	3	3	5	2	3	3.41	1.19	4.60
7	3	5	5	2	5	3	4	2	4	5	2	3	3.58	1.20	4.78
8	3	3	5	1	4	2	5	4	2	5	5	1	2.92	1.46	4.38
9	2	2	1	1	3	3	0	4	1	3	4	5	2.64	1.30	3.94

IV. (Continued)

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M+S.D.
10	2	0	5	4	0	5	5	2	4	5	0	2	3.77	1.32	6.09
11	2	2	5	4	5	3	5	1	3	5	3	2	3.33	1.37	4.70
12	1	0	1	1	5	3	1	1	3	3	2	1	2.00	1.38	3.28
13	1	0	1	1	3	1	2	1	3	1	3	1	1.64	.88	2.52

V.

1	1	4	1	1	2	1	2	1	1	1	1	1	1.41	.86	2.27
2	1	3	1	1	2	1	2	1	1	3	1	3	1.67	.85	2.52
3	1	2	1	1	1	1	1	1	1	1	2	1	1.17	.47	1.64
4	1	2	1	1	1	1	3	1	2	2	1	3	1.58	.76	2.34
5	1	2	1	1	2	1	3	1	2	2	2	2	1.67	.62	2.29
6	1	3	1	2	1	1	1	2	2	2	2	1	1.58	.64	2.22
7	1	2	1	1	1	1	1	1	2	1	1	1	1.17	.47	1.64
8	1	3	1	1	1	1	2	1	1	1	1	1	1.25	.59	1.84
9	4	2	1	1	1	2	2	1	3	4	1	5	2.25	1.36	3.61
10	2	4	5	2	3	3	3	3	4	4	3	2	3.17	.89	4.06
11	1	4	1	2	3	2	3	2	4	2	2	2	2.33	.94	3.27
12	1	1	1	1	2	1	2	2	3	1	1	2	1.50	.64	2.14
13	2	3	5	2	3	2	2	5	3	2	4	5	3.27	1.22	4.49
14	2	2	1	2	3	3	5	5	0	5	4	5	3.36	1.43	4.79
15	1	2	1	1	2	1	1	1	0	2	2	1	1.33	.47	1.80
16	1	3	1	1	1	1	2	4	2	4	2	5	2.25	1.36	3.61
17	1	3	1	1	3	1	1	1	1	2	1	5	1.75	1.23	2.98
18	1	3	1	1	2	1	2	1	3	5	2	5	2.25	1.42	3.67
19	1	3	1	1	3	1	3	1	2	2	1	1	1.67	.85	2.52
20	1	3	1	1	1	1	2	3	4	2	2	5	2.17	1.28	3.45

VI.

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M _T S.D.
1	2	3	5	3	3	2	2	5	4	3	4	2	3.17	1.07	3.34
2	2	3	4	3	3	2	3	5	4	3	3	4	3.25	.83	4.08
3	2	3	4	3	3	2	3	4	4	3	3	3	3.08	.64	3.72
4	2	3	1	3	3	2	2	5	3	3	4	5	3.00	1.15	4.15
5	1	3	4	2	3	2	2	0	0	2	2	3	2.40	.80	3.20
6	1	2	1	2	1	1	3	1	3	1	2	4	1.83	1.06	2.89
7	1	3	1	3	4	2	3	1	3	4	3	3	2.58	.95	3.53
8	1	1	3	2	5	1	3	2	3	2	3	3	2.42	1.11	3.53
9	1	3	1	1	1	1	2	1	2	1	4	5	1.92	1.32	3.24
10	1	2	1	1	2	2	3	5	2	2	5	3	2.42	1.32	3.74
11	1	2	1	1	2	2	1	4	1	2	4	1	1.83	1.07	2.90
12	3	2	1	4	2	2	2	1	1	2	5	1	2.17	1.21	3.38
13	1	2	1	1	1	0	1	1	2	2	4	3	1.73	.96	2.69
14	2	2	5	4	5	0	2	2	2	5	2	3	3.09	1.31	4.10
15	1	2	1	1	1	0	2	1	2	2	3	1	1.54	.67	2.21

VII.

1	2	2	5	3	2	0	2	1	4	3	5	1	2.73	1.30	4.03
2	1	4	5	2	2	1	1	1	3	2	2	1	2.08	1.26	3.34
3	1	3	1	3	1	0	2	1	2	3	2	5	2.18	1.19	3.37
4	2	2	4	3	3	0	3	1	3	3	3	2	2.64	.77	3.41
5	1	1	4	4	3	0	3	1	2	4	4	5	2.91	1.38	4.29
6	2	4	3	5	5	0	2	4	4	5	4	5	3.91	1.08	4.99
7	1	1	1	1	1	1	2	1	2	1	2	3	1.42	.64	2.06
8	1	2	3	1	1	1	2	1	1	2	2	1	1.50	.65	2.15

VII. (Continued)

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M+S.D.
9	2	4	5	4	3	0	3	4	1	2	5	5	3.45	1.31	4.76
10	1	2	1	1	3	1	1	1	2	2	3	4	1.83	.98	2.81
11	1	1	1	1	1	1	1	4	3	2	3	5	2.00	1.35	3.35
12	1	1	1	1	2	1	3	2	2	4	3	5	2.17	1.28	3.45
13	1	4	1	1	0	1	1	1	2	1	1	2	1.45	.89	2.34
14	2	1	1	1	1	0	2	2	2	1	2	1	1.45	.50	1.95
15	1	2	1	1	1	0	2	1	1	2	1	2	1.36	.48	1.84
16	1	2	1	1	5	0	2	1	2	2	2	3	2.00	1.13	3.13
17	1	2	1	1	1	1	1	1	1	1	1	2	1.17	.36	1.53
18	1	1	1	4	3	0	1	1	3	1	3	5	2.18	1.40	3.58

VIII.

1	1	3	1	1	3	0	1	3	5	2	2	2	2.18	1.19	3.37
2	1	3	1	3	3	0	1	5	5	4	3	2	2.82	1.40	4.22
3	2	4	5	3	3	0	3	5	4	4	3	3	3.55	.89	4.44
4	2	4	5	2	3	0	2	4	4	4	3	5	3.45	1.08	4.53
5	1	2	1	1	1	1	2	1	3	1	1	1	1.33	.62	1.95
6	1	3	1	1	2	1	2	4	2	2	2	3	2.00	.91	2.91
7	1	3	1	3	4	0	3	2	3	4	2	2	2.54	.99	3.53
8	1	2	5	1	0	1	1	1	1	2	2	5	2.00	1.48	3.48

IX.

1	1	3	1	1	4	0	1	1	5	2	3	1	2.09	1.38	3.47
2	1	3	1	1	4	0	1	1	4	3	2	1	2.00	1.21	3.21
3	1	3	1	1	1	1	2	1	3	1	2	1	1.50	.87	2.37
4	1	2	1	1	4	1	3	1	2	1	3	3	1.91	1.01	2.92
5	1	2	1	1	1	1	1	1	1	2	1	1	1.17	.37	1.54

IX. (Continued)

Judges	1	2	3	4	5	6	7	8	9	10	11	12	Mean	S.D.	Sum of M+S.D.
6	2	1	1	1	1	1	1	2	1	1	1	1	1.33	.62	1.95
7	1	3	1	1	3	0	1	1	2	2	2	3	1.81	.83	2.64
8	1	2	1	1	5	1	1	1	1	2	2	2	1.66	1.15	2.81
9	1	2	1	1	4	1	3	2	2	1	2	2	1.83	.90	2.73
10	1	1	1	1	1	0	3	3	3	1	2	3	1.81	.93	2.73

X.

1	2	2	1	1	1	0	3	3	5	2	5	2	2.45	1.37	3.82
2	1	2	1	1	1	0	2	1	3	2	2	2	1.63	.64	2.27
3	1	2	5	1	1	1	2	1	2	3	1	5	2.08	1.13	3.21
4	1	3	1	1	1	1	1	3	2	1	2	5	1.83	1.21	3.04
5	1	4	1	1	1	0	5	1	3	1	5	5	2.55	1.78	4.33
6	1	2	1	1	1	1	3	1	3	3	4	5	2.17	1.34	3.51
7	1	2	1	1	1	1	2	2	3	4	2	4	1.83	.90	2.73
8	1	2	1	1	1	1	3	2	2	1	1	3	1.58	.75	2.33
9	1	1	1	1	1	1	3	2	5	1	5	5	2.25	1.69	3.94
10	2	3	1	1	1	1	2	3	3	1	5	5	2.33	1.43	3.76
11	1	2	1	1	1	1	2	1	3	1	1	2	1.33	.64	1.97
12	1	2	1	1	3	1	1	2	2	2	2	1	1.58	.64	2.22
13	1	4	1	1	4	2	1	2	2	3	2	3	1.92	.95	2.87
14	1	3	1	1	1	1	3	2	3	2	1	5	2.00	1.23	3.23
15	2	2	2	1	2	2	5	2	3	4	3	1	2.42	1.11	3.53
16	1	2	1	1	4	1	1	2	3	2	5	5	2.08	1.44	3.52

* 0=no rating offered by the judge in which cases N=11.

A five point scale was used. 1 represents highest rank, 5 represents lowest rank. The mean, standard deviation and the sum of the two measures are given for each generalization.

APPENDIX 3

PART 1
INTERVIEW GUIDE-SHEET

Foreword to Parents: The purpose of this study is to gather from parents information that will be helpful in developing a brief and condensed course of study relating to the most important principles of child nature. Workers in Parent and Teacher Associations and in Child Study groups have long felt the need of such a course. The literature relating to the study of children is so extensive that the average person can not master all of it and he is at a loss to know which is authentic and most worth while. It is believed that a study of the many factors involved will make it possible to develop an outline presenting the most important general principles. The cooperation of parents in this undertaking is solicited. Children represent our most important concern and anything done in their interest should be encouraged.

Parents may be assured that all information will be regarded as strictly confidential, and that they may unhesitatingly answer frankly and accurately. Names need not be given, tho it is desirable to have them in order to make it possible to check on points which may develop after the interview.

A. Personal data.

1. Name of parent _____ age _____ sex _____
optional _____ man _____ woman _____
2. Occupation _____ of the father _____ of the mother if employed _____
3. Nationality _____ Birth-place _____
exact address _____
4. Memberships _____ P.T.A. _____
church _____ (check x) lodge _____
5. Other organizations _____
6. Offices held _____
school-board _____ P.T.A. _____ lodge _____
- township-village-city _____ Church _____ others _____
7. Residence (check x) _____
rural _____ town (less than 2000) city _____
8. Approximate yearly income (check) \$250-\$999 _____ \$1000-\$1999 _____
\$2000-2999 _____ \$3000-\$3999 _____ \$4000-\$4999 _____ \$5000 or more _____.
9. Final grade reached in school _____ 10. About how many books
are there in your home library counting 28 books to a 32 inch
shelf _____.

11. To what newspapers do you subscribe? daily

12. Have you a radio?(check) weekly magazines Automobile?(check) magazines

13. What courses in psychology have you had if any? _____

B. Information Relating to Children:

1. Number of children: Boys ages _____. Girls ages _____

2. How old were you at the time of your marriage? marriage partner

3. How old at time of birth of first child? marriage partner

4. Which of the following problems have you had in dealing with your children? Check in two ways: Single check (x) those you have had occasionally; and double-check(xx) those you have had frequently.

1. Bashfulness _____
2. Bed-wetting _____
3. "Bad company" _____
4. Cruelty to animals _____
5. Day-dreaming excessively _____
6. Destructiveness _____
7. Discourtesy _____
8. Disobedience _____
9. Domineering child: "bullies" other children, etc. _____
10. Crying too easily _____
11. Fear: of dark, storms, strangers _____
12. Fighting at school or at home _____
13. Gangs: organized groups of bad boys _____
14. Imagination: imaginary play-mates or other peculiarities _____
15. Inferiority: child feels he is not so able as others _____
16. Jealousy _____
17. Laxness _____
18. Lying _____
19. Leadership: how to develop _____
20. Learning: child has difficulties in school-work _____
21. Money: child spends all he can get _____
22. Nervousness: nail-biting, muscle-twitchings, restlessness _____
23. Over-dependence upon parents: wants sympathy, complains _____
24. Property: takes things belonging to others _____
25. Running away _____
26. Reading: what books to provide _____ How to get children to read.
27. Irresponsibility: how to over-come.
28. Selfishness _____
29. Irregularity: in following schedules, routine _____

30. Sex: masturbation or playing with sex organs_____
 31. Showing Off_____
 32. Smoking_____
 33. Speech problems: stuttering_____
 34. Swearing_____
 35. Teasing_____
 36. Untidiness_____
 37. Obstinacy_____
 38. Temper outbursts_____
 39. Unsocial child: prefers to play alone_____
 40. Other problems you have had:_____
-

Part 3

The purpose of this section is to discover those principles relating to child-nature with which parents are unfamiliar. Twenty-eight general principles were selected from a large number on the basis of the rating given them by a group of experts with respect to their importance to parents. Each principle represents the best answer to a problem or question and is presented along with others as the solution to the problem or question asked. The task is to discover and underline that principle in each problem.

In attacking the problems you may feel that the answer would depend upon the nature of the particular child being considered or that two answers are equally good or that all answers might apply in some particular cases. Do not think of the problems or situations as special cases. Think of the problems rather as representing typical cases such as you have observed, read about, or experienced not only with your own children but others. Keep before you always the question of what would be true in the MAJORITY OF SIMILAR CASES. It would of course be impossible to get returns if all possible combinations of situations and differing individuals were to be presented for such a list of problems would be endless. Though there are individual differences between children, there is considerable truth in the old saying that "Human nature is pretty much the same everywhere." So underline the one answer which seems to you the best in most cases. If you feel that none of the answers is satisfactory, add one of your own in the blank marked (e).

1. Suppose that a father is helping his ten-year old son who is of average intelligence, in arithmetic at home. The problem is, let us say, to find the cost to a dealer of two car-loads of automobiles of a certain make, when the price per automobile is given and the number in each box-car. Let us assume that the boy knows his multiplication tables but that he is careless and makes several mistakes in multiplication so that he does not get the right answer. In most cases of that type, what should the father do? Underline the answer which seems to you the best.

- (a) Point out exactly where the mistakes occur but let the boy make the corrections himself.
- (b) Tell the boy that he has made mistakes in multiplication but that he must find them himself and make corrections.
- (c) Work the problem for the boy, showing each multiplication corrected and point out how important it is to be careful.
- (d) Let the boy do the work again but stop him as soon as he makes an error, correct it for him, and let him go on.
- (e) _____

2. A group of mothers was discussing the problem of getting children to practice their piano lessons faithfully. Several suggestions were made. As a general rule, which of the following suggestions do you think best? (It is assumed that practice periods are not too long).

- (a) Deprive the child of privileges if he doesn't practice faithfully.
- (b) Point out patiently the importance of practice and show how famous players practiced for hours when they were children.
- (c) Commend the child for some part he plays best and select a teacher who gives many recitals for those who can play at all.
- (d) Select a teacher who is severe and who has recitals only for those who make good progress.
- (e) _____

3. A mother had determined that her ten-year old son should learn to play the violin. However, he was not interested in the violin but was "crazy" to play the drums in a juvenile band. In cases of this kind which of the suggested plans is the best to use in your opinion, in most cases?

- (a) Let him play the drums but only after he has finished his practice period on the violin.
- (b) Insist on his playing the violin, refusing to let him play the drums at all.
- (c) Reason with him, showing him how greatly superior the violin is as a musical instrument.
- (d) Let him play the drums for the present, with the hope that he will turn to the violin later.
- (e) _____

4. A mother was in the habit of humming while putting her baby to sleep. After a time the baby would not go to sleep unless the mother hummed. Which of the following do you consider the best answer as the cause of the child's behavior?

- (a) Singing causes sleepiness.
- (b) The singing had become a cause because it was connected with the whole situation of going to sleep.
- (c) The child was musical and became relaxed and contented under the influence of humming and for that reason slept more easily.
- (d) The child had a "mind of its own" and insisted upon what it liked.
- (e) _____

5. A mother came to a principal and protested that the first grade teacher was neglecting her son. The child's older brothers and sisters had made normal progress in learning to read under the same teacher, whereas the youngest son was not making satisfactory progress. The teacher admitted that the boy "tried" to do his best. Which of the following statements do you think offers the best explanation of the boy's difficulty and of learning difficulties in similar situations?

- (a) The child happened to be slower than his brothers and sisters.
- (b) The teacher was probably at fault because the boy came from a family of "good students".
- (c) The youngest child of a large family is likely to be slow.
- (d) The child probably did not put forth real effort tho he seemed to be doing so.
- (e) _____

6. Which of the following series do you think would be memorized most easily by the average American boy of ten?

- (a) dab, vub, bef, sig, ruc, dir, gom, vak, kif, nal.
- (b) sib, vim, wry, eke, ban, yak, gnu, jut, fir, kip.
- (c) boy, hat, toy, can, rug, fun, gun, dig, tag, pan.
- (d) moi, lui, sur, mal, joi, dix, non, lac, bas, sac.
- (e) _____

7. At a birthday party for her daughter of five, a mother asked the little hostess to carry the dessert to the guests. One of the pieces of cake was larger than the others. Among the guests was a special friend of the little girl and another girl who was new in the community. From what you know of children of that age, which of the following actions would you expect in such cases, provided that no special training had been given on the point?

- (a) She gave the largest piece to the newcomer.
- (b) She did not notice the difference in the sizes of the pieces and served them in the order in which guests were seated.
- (c) She gave it to her best friend.
- (d) She kept it for herself.
- (e) _____

8. Robert, a senior in high school, was timid in social situations and felt himself inferior to others. His father was likewise a timid person, dominated by his wife, the boy's mother. The boy had not been strong as a child and had not taken an active part in play with other children who regarded him as a "sissy" and bullied him. The school authorities did what they could to prevent the bullying but the mother held that the school was responsible for what she termed the boy's "inferiority complex" in that it had not been prevented altogether. With these facts in mind and regarding the case as typical, which of the following factors would you regard as the major reason for the boy's timidity?

- (a) It was acquired at home.
- (b) It was acquired at school.
- (c) It was due to the fact that he was not physically robust.
- (d) It was inherited from his father.
- (e) _____

9. James, a junior in high school, depended too much upon others. He seemed incapable of carrying out instructions alone and seldom undertook tasks on his own initiative. A study was made of his case and the following facts were brought out. Which do you think was most responsible for his over-dependence upon others in the light of your observation and experience?

- (a) He was awkward, and his sensitiveness on the point extended to a distrust in his ability.
- (b) His parents were wealthy, and as a child, he had been washed and dressed and taken care of in other ways long after most children learn to do such things for themselves.
- (c) His hobby was reading wild-west stories and he spent at it much time which should have been devoted to games requiring initiative and action.

9. (Continued)

(d) The boy had been ridiculed by an unsympathetic teacher early in his school experience for some bit of awkwardness.

(e) _____

10. Gordon, a freshman at college, quit during the first semester. He was very homesick while at college. Which of the four facts brought out in a study of his case do you think would be most fundamental in explaining his action when it is regarded as a typical case of its kind?

(a) The young man's mother had always been very demonstrative in her affection for him.

(b) The boy had been away from home very little before going to college.

(c) He was handled somewhat roughly during the hazing of freshmen.

(d) Little effort had been made by college authorities to adjust him to college life.

(e) _____

11. Marie, ten years old cried easily. Her mother was disturbed and asked school officials to help discover the reason. Physical examination proved her to be in good general health tho she was somewhat below the normal weight for her age. Her parents were both slight in body-build. Of the facts brought out in a study of her case, which do you consider to have the closest relation to her tendency to cry?

(a) The mother cried much during pregnancy before Marie was born.

(b) Marie was ten per cent below the average for her age.

(c) Marie was seldom denied anything if she cried for it.

(d) During a period of illness she had cried much because of an ear-ache and the crying may have become a habit which persisted.

(e) _____

12. Girls at about 11 to 13 and boys about two years later on the average enter upon a period of rapid physical growth known as adolescence. The period is claimed by some to be marked by certain mental characteristics in the mental life of youth.. Underline the statement below which seems to you to be best established.

(a) Adolescence is a period of selfishness.

(b) Adolescence is a period of respect for authority.

(c) Adolescence is a period of heightened interest in the opposite sex.

(d) Adolescence is not different from the earlier period in the life of the child with respect to the modes of social behavior mentioned here.

(e) _____

13. It is quite generally agreed that it is unwise to anger children unnecessarily. Below, underline the statement which seems to you to represent the most common cause of anger in young children.

- (a) Anger is usually the result of unfair treatment.
- (b) Anger is usually a habit established by the success of an angry response.
- (c) Anger is usually caused by nervousness or some form of physical ailment.
- (d) Anger is usually caused by opposition to the child's wishes or by restraint of some kind.
- (e) _____

14. It is probable that various factors contribute to determine the size of the child's recognition vocabulary, that is, the number of words of which he knows the meanings when he hears them spoken. Which of the factors below do you consider the most important?

- (a) Being "ear-minded", that is, learning most readily when impressions are made thru the ear.
- (b) Curiosity on the part of the child.
- (c) Being the youngest child in a large family.
- (d) Many and varied experiences.
- (e) _____

15. Which of the four following factors do you consider the most influential as to the ideas of right and wrong which children possess?

- (a) The influence of parents.
- (b) The influence of relatives.
- (c) The influence of public school teachers.
- (d) The influence of Sunday-school teachers.
- (e) _____

16. Which of the following means do you consider the best in teaching a trait like honesty?

- (a) Provide instruction of a direct kind thru which honesty is presented as an ideal. (Sunday schools, books, discussions, talks on honesty.)
- (b) Provide situations of various kinds in which the child is called upon to make the honest response. (Making change, reporting events, keeping score).
- (c) Provide examples of honest dealing by parents.
- (d) Provide highly emotional religious experiences in which the child pledges to "Turn over a new leaf" and to embrace an all-round morality.
- (e) _____

17. Some regard undirected play as a waste of time; others feel it has value. Of course much depends upon the kind of activity it represents, but assuming that play is not over-strenuous and not in itself dangerous to health or morals, what is your attitude toward it? To make the problem more specific, let us assume it to consist of games like kitten-ball, hide and seek, dominos, playing with dolls or toys - the usual types of play-activities found in the average school or home. Underline the statement which best represents your attitude.

- (a) Play is usually a waste of time.
- (b) Play is usually harmless but profitless.
- (c) Play usually helps the child to adjust himself to life, both in the present and for later years.
- (d) Play is usually definitely harmful in that it develops a "play habit" which extends to adult life. (Many things adults must do are not in themselves fun.)
- (e) _____

18. A young mother complained that her daughter Margie, a child of three, was stubborn. She had been docile enough until about the age of two when for some reason she began to insist on having her own way. From your experience, reading, and observation, indicate which statement below seems best to explain Margie's behavior.

- (a) The child happened to become unusually self-willed just as some children happen to develop infected tonsils.
- (b) The father was strong willed and the child inherited the trait.
- (c) The child was probably not more "negativistic" than she had been but was better able to assert her individuality because she was older.
- (d) Between the ages of about two and four or five the child normally passes thru a period of negativism when they resist suggestion more than before or later.
- (e) _____

19. A parent was desirous of getting his boys interested in the out-of-doors and nature. Which of the several plans suggested here do you think would prove to be most successful?

- (a) Taking them out on hunting and fishing trips and bird-study excursions.
- (b) Having them read books on the out-of-doors and wild life.
- (c) Taking them to movies which present out-of-door life.
- (d) Taking them to museums of natural history, zoological and botanical gardens, aquariums, etc.
- (e) _____

20. Suppose that a problem like this is presented to a child of eight years of age. If John is taller than Harry and Harry is shorter than William, do you know who is taller, William or John? Answer yes or no. In problems of that type children do not do so well as adults. Of the reasons for the inferiority of children as compared to adults in such problems, which of these suggested do you think the best one?

- (a) Children are inferior to adults in the power of attention.
- (b) Children are inferior to adults in seeing relationships.
- (c) Children are inferior to adults in mental imagery.
- (d) Children are inferior to adults in getting the full meaning of words.
- (e) _____

21. Duane, age six, told "Whoppers". For example, he related how a big bear had chased him into the house. The stories were the cause of much concern to his father who was a clergyman. Below, underline the statement which seems to you to give the best explanation of the boy's behavior?

- (a) The boy was naturally untruthful.
- (b) Children readily confuse ideas of reality and imagination.
- (c) Children have much more power of imagination than do adults.
- (d) The boy had been told too much about the unseen deity.
- (e) _____

22. Herbert began to stutter shortly after entering school. He was in good health and his vocal organs were not defective. He had no striking peculiarities except that his skin was rather dark and his lips heavy, giving him a somewhat negroid appearance, which circumstance probably suggested the nicknames of "Smokey" and "Nigger" invented by his school-mates. He resented the nick-names. He was left-handed but tried to write with the right hand when he entered school because the teacher asked him to. A careful study was made of his case. Of the facts below brought out, which do you think would have the nearest connection with his stuttering?

- (a) Trying to write with the right hand when he was naturally left-handed.
- (b) Another boy in the same room stuttered.
- (c) Contact with an electric light wire carrying 115 volts shortly before entering school.
- (d) Teasing by other children because of his negroid appearance.
- (e) _____

23. Juvenile delinquency (law violation by minors) in one section of a large city was found to be much higher than for the average of the city as a whole. A survey of the situation by a crime commission disclosed the following facts among others. Of those suggested, which do you think the most fundamental in explaining the great amount of juvenile delinquency in the district?

- (a) The average annual income per family was much below that of the average for the city as a whole.
- (b) There were few Sunday schools in the district.
- (c) Most of the employed adults worked in a meat-packing plant and slaughter house. It is claimed by some that such work is demoralizing.
- (d) The adults in the district were mostly of foreign birth.
- (e) _____

24. Four high school graduates were candidates for a responsible and exacting position demanding good mental health. They were much alike in appearance, physical health, scholarship, and industry but quite unlike in their mental attitudes. Each statement below describes the characteristic mental attitude of one of the candidates. Which do you think would be best to recommend for the position.

- (a) Looked upon the bright side of things, resolutely ignoring the unpleasant so far as possible.
- (b) Looked upon the darker side of things and kept his mind occupied with the problems he had to meet.
- (c) Faced things as they are.
- (d) Spent much time imagining things as they would be ideally.
- (e) _____

25. While it is true that apparent cruelty to animals of children at play is often the expression of curiosity, or the desire to manipulate things, it is likewise true that some children who have passed thru early childhood are knowingly cruel to animals. When children of ten years or more are cruel to animals, which of the four following reasons would you consider the real cause in most cases?

- (a) Such children have an inborn tendency to cruelty.
- (b) Such cruelty is the result of unwise punishment or of repressions.
- (c) Such children have not suffered enough to know the meaning of physical pain.
- (d) Such children have an unusually strong "hunting instinct" which is stimulated by the sight of an animal.
- (e) _____

26. Margaret was failing in high school. She was intelligent and sound in body. She brooded and seemed depressed. She admitted she was "blue" but said she didn't know why. She was in good general health as determined by a doctor's examination. A study was made of her case and several possible causes for her depression came to light. Which of those suggested seems to you the most fundamental? It is admitted that any one of them might be related to the problem but you are asked to underline the answer which seems to you as the one which would be most important in the majority of cases of that type.

- (a) She wanted nicer clothes than she had.
- (b) She read many books dealing with ideal situations making her own life seem drab by contrast.
- (c) She admired very much an older girl who paid little attention to her.
- (d) She had a newly acquired step-mother who scolded her and made her feel that she was not wanted at home.
- (e) _____

27. James, a boy of ten, had the peculiarity of playing with an imaginary playmate. He was the only son in a middle class family. His father and mother were actors in vaudeville and his education was in the hands of a governess who accompanied the family on the road. The father and mother were busy at the theatre afternoons and evenings and slept late in the morning, so the boy was left much of the time to the governess who was not unkind but who showed him little affection. Which of the following suggested causes of his peculiarity do you think the real one.

- (a) Being denied normal companionship and sympathy.
- (b) The nurse had read fairy stories to him when he was six and seven.
- (c) The peculiarity indicated a mental weakness of some kind.
- (d) The father was a magician which fact stimulated the boy's interest in the unusual and unreal.
- (e) _____

28. Four men were discussing the relation between heredity and environment. Heredity is sometimes spoken of as "nature" in contrast to "nurture" or environment. Environment includes training as used here. Several statements were made each representing a different point of view. Of those offered below, which best represents your conception of the relation between environment and heredity in relation to their influence upon the development of the child?

- (a) Everything is possible to anyone with the right kind of surroundings and training.

28. (Continued)

(b) Heredity sets the limits to what is possible for one to become; environment determines to what extent those limits are attained.

(c) Given the right heredity, development must follow; the superior mind creates its own best environment.

(d) Nature is responsible for 83 per cent of one's success and environment is responsible for 17 per cent.

(e)

* A few changes in wording have been made from the test as administered. These were for the most part minor. The introductory material in No. 17 has been much reduced but the essential nature of the test-item has not been altered.

One difficulty experienced in constructing the test was to avoid overlapping in the answers. This could not be avoided altogether but was more successfully carried out in some items than in others.

The writer considers the following test-items to be most reliable and clear cut. Nos. 3, 12, 22, 25, 30 so far as overlapping of answers has been controlled. The best procedure would probably be to simply ask a question to which four answers are suggested and to follow the same procedure thru-out consistently.

APPENDIX 4
KEY TO THE TEST

Test-item				Correct Response (a, b, c, d.)
1.	-	-	-	(b)
2.	-	-	-	(c)
3.	-	-	-	(d)
4.	-	-	-	(b)
5.	-	-	-	(a)
6.	-	-	-	(c)
7.	-	-	-	(d)
8.	-	-	-	(a)
9.	-	-	-	(b)
10.	-	-	-	(a)
11.	-	-	-	(c)
12.	-	-	-	(c)
13.	-	-	-	(d)
14.	-	-	-	(d)
15.	-	-	-	(a)
16.	-	-	-	(b)
17.	-	-	-	(c)
18.	-	-	-	(d)
19.	-	-	-	(a)
20.	-	-	-	(b)
21.	-	-	-	(b)
22.	-	-	-	(d)
23.	-	-	-	(a)

KEY TO THE TEST (CONT'D)

Test-item				Correct Response (a, b, c, d.)
24.	-	-	-	(a)
25.	-	-	-	(b)
26.	-	-	-	(d)
27.	-	-	-	(a)
28.	-	-	-	(b)

The generalizations themselves may be found by referring to Table 5. Some of the generalizations as they appear in the test have been restated in Table 5, since the forms of the test-items were necessarily different in some cases. Thus, for test-item (6) the generalization tested for is not directly expressed in the correct answer.

APPENDIX 5

SHOWING HOW THE RELIABILITY OF THE TEST WAS DETERMINED.

The test was of such nature that it could not easily be given twice. For that reason its reliability was estimated by correlating the scores on one half of the text with those of another half. A problem was encountered because the test-items are not equal in difficulty; as a matter of fact, the assumption in the construction of the test was that parents would find certain test-items more difficult than others. In this situation two halves of the test were equated on the basis of the returns; that is, items upon which parents made comparable scores were paired as opposites in two series of variables. Scores on test-items 6, 17, 26, 5, 12, 8, 9, 1, 7, 23, 28, 4, 25, and 16 constituted the x series of variables while scores on test-items 27, 19, 15, 11, 24, 3, 21, 2, 13, 22, 20, 18, 14, and 10 made up the y series. The coefficient obtained was .43 which when submitted to the Spearman-Brown formula to reveal the effect of doubling the length of the test became .60. The reliability of the value for r as determined by computing its probable error was .043.

The series of variable are reproduced here and the computations. The formula used in computing the coefficient of correlation is derived from the normal equations which assume that the line of best fit for the scatter diagram of the points if plotted would be a straight line.

The coefficient of correlation is computed only for the city group of parents, N being 100. The data for the city

group is probably somewhat more reliable than for the other groups but the coefficients of reliability for all groups should tend to be approximately the same.

Parent	x	y	Parent	x	y
1	7	7	24	6	2
2	8	7	25	5	4
3	7	8	26	10	8
4	10	10	27	7	7
5	4	9	28	7	6
6	8	7	29	8	7
7	6	8	30	7	10
8	8	7	31	12	7
9	8	7	32	8	6
10	9	9	33	10	8
11	9	7	34	7	4
12	8	8	35	8	9
13	10	8	36	9	5
14	11	12	37	6	7
15	9	8	38	8	8
16	10	10	39	10	7
17	6	6	40	5	9
18	9	6	41	8	8
19	10	13	42	9	6
20	8	7	43	9	13
21	11	11	44	7	9
22	8	9	45	6	10
23	6	4	46	9	8

Parent	x	y	Parent	x	y
47	6	8	74	8	9
48	6	9	75	6	9
49	9	8	76	9	8
50	7	10	77	8	9
51	7	9	78	8	6
52	10	7	79	8	7
53	5	5	80	9	10
54	9	5	81	6	5
55	7	9	82	11	8
56	9	9	83	6	8
57	6	8	84	10	11
58	5	6	85	12	10
59	3	6	86	11	8
60	9	8	87	7	8
61	8	6	88	8	8
62	7	5	89	7	7
63	6	9	90	7	6
64	9	10	91	5	5
65	6	11	92	6	8
66	9	8	93	8	5
67	10	11	94	9	9
68	6	6	95	8	6
69	7	8	96	9	6
70	6	7	97	11	8
71	6	7	98	12	10
72	6	7	99	6	9
73	6	6	100	7	8

APPENDIX (CONTINUED)

x series of variables = scores on one of equated halves of test.

y series of variables = scores on the other half.

APPENDIX 5

The formula used in computing the coefficient of correlation is:

$$r = \frac{N \sum xy - \sum x \sum y}{\sqrt{N \sum x^2 - (\sum x)^2} \sqrt{N \sum y^2 - (\sum y)^2}}$$

in which

$$N=100$$

$$\sum x=783$$

$$\sum y=783$$

$$\sum x^2=6471$$

$$\sum y^2=6467$$

$$\sum xy=6232$$

$$\sum x \sum y=613087$$

$$(\sum x)^2=613089$$

$$(\sum y)^2=613089$$

which values when substituted yield

$$r = \frac{10111}{33810} = .2990 = 0.30$$

.43 when submitted to the Spearman-Brown "prophecy" formula to reveal the effect of doubling the test, becomes .46 P.E. $\pm$.06.

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