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The American Psychological Association

REPORT OF THE COMMITTEE

ON THE

ACADEMIC STATUS OF PSYCHOLOGY

A SURVEY OF

I GENERAL AND EXPERIMENTAL PSYCHOLOGY

II CHILD PSYCHOLOGY

III APPLIED PSYCHOLOGY

PRINTED BY THE COMMITTEE

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To the American Psychological Association:

Your Committee on the Academic Status of Psychology presents herewith a printed Report on: General and Experimental Psychology, Child Psychology and Applied Psychology, as shown by a survey of the views of members of the American Psychological Association and a limited number of Psychologists in recognized colleges. Part I has been prepared by Margaret Floy Washburn; Part II by Bird T. Baldwin; Part III by Clarence S. Yoakum. The form of the Report is similar to those submitted by your Committee in 1915 and 1916.

BIRD T. BALDWIN, *Chairman*

V. A. C. HENMON

CHARLES H. JUDD

MARGARET F. WASHBURN

CLARENCE S. YOAKUM

Cambridge, December 30, 1919.

PART I. REPORT OF QUESTIONARY ON GENERAL AND
EXPERIMENTAL PSYCHOLOGY

The heads of Departments of Psychology in all the colleges which are mentioned in the U. S. Bureau of Education's Report and of which the sender of the questionnaire had ever heard, were asked to report on the following points; the last three years being the period to be covered:

I. Any changes in the instructing staff for general and experimental psychology which indicate either progress or decline, for instance: increase or reduction of the teaching force; increase or reduction of salaries; raising or lowering of the official rank of members of the staff.

II. Any changes in the number of courses offered: subjects of courses either added or dropped.

III. Any changes in the position of general psychology in the curriculum: has its department been separated from or combined with any other department during the last three years; has it been opened to any class of students not previously allowed to enter it; has it been changed from a required to an elective subject, or the reverse?

IV. Any changes in the number of students electing general and laboratory psychology. Any changes in the amount of research work published and in progress.

V. Any changes in the material equipment, number of rooms, noteworthy additions of apparatus or books. Any special forms of apparatus constructed.

VI. Any other conditions which seem to you relevant to the status of general and experimental psychology in your institution.

VII. Any marked effects of the war.

Answers were received from the following institutions:

State Universities

Arizona, Arkansas, California, Colorado, Florida, Idaho, Illinois, Iowa, Kansas, Maine, Michigan, Minnesota, Missouri,

Montana, Nevada, New Mexico, Ohio, Oklahoma, Oregon, Tennessee, Texas, Virginia, West Virginia, Wyoming.

Large Private Universities

Brown, Chicago, Harvard, Johns Hopkins, Princeton, Stanford, Syracuse, Yale, Clark.

Smaller Private Institutions

Ohio, Wabash, Haverford, Lafayette, University of the South, Wesleyan, Cornell College, St. Lawrence, Purdue, Miami, Fargo, Washington and Jefferson, Allegheny, Rochester, Bates, Ripon, Colorado College, Knox, Earlham, Coe, Hamilton, Union, Franklin and Marshall, Pennsylvania State College, Williams, Dartmouth, Northwestern, Colgate, Lehigh, Rutgers, Pennsylvania College, Marietta, Ursinus, Connecticut, Sweetbriar, Rockford, Western College for Women, Barnard, Randolph-Macon, Wellesley, Simmons, Mt. Holyoke, Smith, Beloit, Vassar.

Hunter College and the University of Cincinnati, although both city institutions, are included in this group.

From the replies to these questions I have tried to extract statements that have general significance and state facts that are not due to purely local conditions.

I. Salary increases have been noted only when they were general throughout the institution, since an increase of the salary of one or two teachers has no more than a personal significance. The question of salary increases is of interest to the progress of education at large rather than to that of psychology as a department. Twenty-seven percent of the state universities report general increases of salary; fifty-eight percent of the smaller private institutions and thirty-seven percent of the large private institutions report such an increase. Among the small private institutions are a number in which salaries must have been very low, a fact that will probably account for their high percentage of cases where salaries have been raised. But the figures suggest that *the state universities have done less than the private institutions to raise the salaries of their teachers.*

Thirty-nine percent of state universities, twenty-seven percent of smaller private institutions, and thirty-seven percent of large private institutions report the addition of one or more members to the staff of instruction. The smaller percent for the smaller institutions no doubt means that their staffs were already adequate to deal with their numbers of students.

II. Although the questionnaire called for data on general and experimental psychology only, many of the respondents included courses in applied psychology among those whose addition to the curriculum they reported. In going over this material I included courses on the following subjects as belonging to pure (general and experimental) rather than applied psychology: introductory and advanced general, introductory and advanced experimental, animal, social, psychology of learning, psychology of thinking, individual psychology, physiological, psychology of emotions, psychology of sensation, "theoretical," abnormal, human behavior, differential psychology, quantitative psychology, history of psychology, psychology of religion, genetic, child psychology.

It is gratifying to find that *despite the prominence of applied psychology during the past few years, there has been a marked growth in the number of courses in pure psychology. Eighty-two percent of the state universities, seventy percent of the smaller private institutions, and sixty-two percent of the large private institutions* have added one or more courses in pure psychology during the past three years. The smaller percent for the large private institutions probably means that their curricula were better stocked in this respect at the beginning of the period.

Experimental psychology is the course which has been added in the largest number of institutions (10); seven of these were small institutions, which have just established laboratories, and three were state universities. The large private universities were already sufficiently well equipped in this line. Abnormal psychology comes next to experimental, having been added in eight institutions, five of which were colleges for women. This probably indicates an important new direction of interest. Social psychology comes third, having been added in three small institutions, one large private uni-

versity and one state university; genetic psychology fourth having been added in three smaller institutions, two of them women's colleges; physiological psychology and "human behavior" were added in two institutions each.

III. Two of the smaller private institutions and one state university report that the department of psychology has been separated from that of education during the past three years while the same number of each of these two classes report that psychology has been separated from philosophy. One large private university states that this latter change will probably be effected within the next year. *There is still much to be accomplished in securing the independence of psychology from the departments of education and philosophy.*

There is a not very marked tendency to admit students to courses in psychology in the Freshman and Sophomore years. About thirteen percent. of the smaller institutions have opened psychology to Sophomores in the last three years. No other institutions reported this change, and reference to the catalogues shows that psychology was already open to Sophomores in most of the others. One state university and two of the smaller institutions have opened psychology to Freshmen; "a few Freshmen," "with restrictions," the reports say. At Vassar the restrictions are that the Freshmen must offer a science for entrance and must have unusually good records.

There is a distinctly increasing tendency to use psychology in pre-professional training. Thus four state universities report that it has recently been made a requirement for such training, while two state universities report that it is being largely elected by pre-professional students; two of the smaller institutions have lately made it a requirement in this connection and one comments upon the tendency of pre-professional students to elect it.

IV. As regards the relative increase in the numbers of students in general and experimental psychology and in research, in the first place, the great majority of institutions report a remarkable increase in the numbers of the student body as a whole in this, the first year after the war.

Fifty percent of the state universities, thirty percent of the smaller private institutions, and twenty-two percent of

the large private institutions report a marked increase in the number of students in general psychology.

Twelve percent. of the state universities, seventeen percent of the smaller private institutions, and twenty-two percent of the large private universities report marked increase in experimental work.

Research has been so much interrupted by the war that nothing significant as to its progress can be determined.

V. The only really significant data contained in answers to this question related to increase in laboratory space. This was reported by twenty-four percent of the smaller colleges and large private universities, and by thirty-four percent of the state universities. Four of the smaller institutions have just established laboratories. One state university has just done the same, and two state universities confess that they have none.

VI. and VII. Among the effects of the war, aside from the obvious one of decreased registration during the war, twenty percent of the state universities, and four percent of the smaller institutions report a disproportionate *increase in the number of students in psychology this year*; one state university, three smaller institutions and two large private universities refer to increased interest in the whole subject of psychology as an effect of the war. Increased seriousness of attitude on the part of students is noted by several. The most important effect, however, is the great impulse towards applied psychology and mental tests. I do not know whether there is any real significance in our figures on this point, but they suggest that the interest in tests has hit the state universities less hard than the private institutions; sixteen percent of the former and twenty-nine percent of the latter reporting it. Other effects of the war noted are increased interest in problems of morale and mental hygiene, and in the psychological aspects of sociology; the loss of members of the staff to positions in applied psychology; a tendency for psychologists to be consulted by those seeking to reconstruct curricula in professional courses and by manufacturing and business organizations. From a state university comes the following, which, it will be agreed, represents *perhaps the*

most profoundly important single condition noted in this report: "The war seems to have increased the popularity of psychology and run the professor's living expenses \$800 above his salary."

In view of the strong trend towards applied psychology which is now under way, it may be well to close the report by quoting the suggestive words of Professor Frank Angell: "It looks as if we should have to run along a department of Applied Psychology to keep psychology, on the other side, pure. The idea is to give stiff work in straight psychology before entering on the applied."

PART II. CHILD PSYCHOLOGY

Assuming that Child Psychology may be defined in a very general manner as an analysis, description and explanation of the mental development of the normal and abnormal child from infancy through adolescence, will you please state:

I. Significant Changes that have taken place in the Courses in Child Psychology in Universities and Colleges during the last Three Years.*

The replies to this question as gleaned from the reports of 125 members of the American Psychological Association, indicate some significant changes in the courses in Child Psychology. Few courses have been dropped; a number of new ones have been added; there have been some distinct changes in content with a trend toward mental tests.

Minnesota has discontinued "Child Study" and "Mental Retardation"; Clark has eliminated one course in "Child Psychology," and George Washington has dropped "Child Psychology."

New courses have been added at Chicago, "Psychopathic and Delinquent Children"; Minnesota, "Child Mind"; Colum-

* The material for the Report has been secured through a questionnaire submitted to the Members of the Association and the writer wishes to thank them for responding so generously at a time when many were returning to their former positions from war service. Fifty letters have been received from members who are not actively engaged in Child Psychology, but the detailed replies to thirteen questions by 125 Members furnishes the basis of the survey included. The Outline follows the order of the questions submitted. The writer acknowledges with appreciation, the aid of two of his research assistants, Dr. Martin Luther Reymert and Mr. H. J. Peterson, in compiling the data included in this Report.

bia, "Training Volunteers for Club Leadership and Religious Work for Girls"; Teachers College, "Psychology of Adolescence"; Northwestern, "Genetic Psychology" and "Psychology of Adolescence"; Iowa, graduate course on "The Normal Child" and research in a new Graduate Division of the University, (The Iowa Child Welfare Research Station); Goucher, "Child Psychology"; Smith, "Mental Tests"; Temple, "Child Psychology"; Adelphi, "Educational Psychology (Child)"; Dartmouth, "Educational Diagnosis"; George Peabody, "Diagnosis and Treatment of Subnormal Children"; Pittsburg, "Child Psychology", (Clinical). Carnegie Institute of Technology has cancelled "Genetic Psychology" and added "Exceptional Children."

The normal school members report no changes. The question of the content of psychology courses in normal schools in general is being investigated by Professor Bagley and one of his letters to the writer is quoted here for future reference by members of the Association.

"Whatever recommendations I have made regarding the place of psychology in normal school curricula are to be considered as entirely provisional. They have been based largely upon the criticisms brought out by the publication of the suggested curricula distributed by the Carnegie Foundation two years ago. There has been a good deal of dissatisfaction with the courses in general psychology that most of the normal schools have required. The direct applicability of most of this material to the actual problems of school work seems to be almost negligible. Whether such a course is essential to an adequate understanding of the psychology that is of undisputed value in teaching is the question that I am raising. I have felt inclined toward the opinion expressed by Judd (in his U. S. Bureau Bulletin on Normal School Standards), and by Whipple's committee that reported to the American Psychological Association in 1910 (or 1911), that the formal work in pure psychology can be dispensed with pretty largely in the normal schools.

As to the applied phases of psychology, there is in my mind no question. The topics that are significant to educational psychology (especially instinct, habit, memory, learning, individual differences, and mental testing) should be expanded, better organized, and much more thoroughly linked with the courses in subject matter, the courses in educational theory, and the courses in participation and practice teaching."

A steady increase may be noted in the organization of Public School Clinics, Psycho-educational Bureaus, and a Research Station for Investigations in Child Psychology. Among the members who have recently gone into such work are Mitchell and Johnson in the Bureau of Educational Measurements in New York; Maxfield in Newark; Sylvester in Des Moines;

B. M. Lucky in Cleveland; E. L. Woods in Pasadena; Towne in Kansas City; Doll in New Jersey; Healy in Massachusetts; Haines in Mississippi; Goddard and Mateer in Ohio; B. T. Baldwin and Stecher in Research Station, State University of Iowa.

II. (a) Differentiations between Child and Educational Psychology
(b) Differentiations between Courses in Physical and Mental Development

As a rule, Child and Educational Psychology are not clearly differentiated. In some institutions Child Psychology is found: (1) in the Department of Psychology; (2) in the Department of Education; (3) in both Departments, Psychology and Education.

Among the first group are: Pennsylvania, Iowa, Princeton, California, Colorado, Ohio, Wyoming, Indiana, Washington, Smith and Wellesley.

Among the second group are: Harvard, Cornell, Columbia, Chicago, Texas, Stanford, Michigan, Minnesota, Brown, Missouri, Wisconsin, Kansas, Northwestern, Bryn Mawr, and Goucher.

Among those in the third group are: Clark, Pittsburgh, Illinois, Tufts, Rochester and Washington University.

A few quotations will indicate the wide range of conflicting points of view in regard to the purpose of Child Psychology. These may be classified into those institutions where Child and Educational Psychology are separated in (a) aim and scope; and those (b) dealing with different periods of childhood. In the first group (a) are: Minnesota, Iowa, Newcomb College, Iowa State College, Nebraska, New York University, University of Georgia, Ohio, Sweet Briar College, California. Among the institutions where the two branches of learning deal with different periods of childhood, group (b), are: Beloit College, Mt. Holyoke College, Northwestern, and State College of Washington. A few quotations may be cited.

Minnesota: "Child Psychology is taught as a general science apart from any application to education." *Iowa* (Starbuck): "Child study I regard as a direct, empirical study of the mentality of children, while educational psychology is con-

cerned with the methods of learning, of habit formation, etc." *Iowa State College*: "Educational psychology puts special emphasis upon the psychological principles the teacher needs to know, while the other course has the point of view of the parent." *Newcomb College*: "The difference is largely a matter of purpose." *Nebraska*: "The one dealing with children (the child mind in action), the other with adults, the application of psychology to the methods of instruction." *New York University*: "Educational psychology deals principally with control of mental development; child psychology with mental development under natural conditions. The distinction is arbitrary but useful." *University of Georgia*: "Child psychology means a course of the type of Miss Tanner's book, 'The Child'; Educational psychology is a course of the type of Thorndike's 'Educational Psychology.'

Ohio University: "In paidology the study of child life is emphasized; in educational psychology the psychological principles underlying educational theories and methods are considered." *Beloit College*: "Child psychology more psychological; educational psychology more educational. Child psychology applies in the whole, to lower ages than educational psychology. Child psychology is assigned to instructor in psychology; educational psychology to instructor in education." *Mt. Holyoke College*: "Infancy and early childhood are studied in my course in Genetic Psychology. The child in school comes in the courses given in the Education Department." *Northwestern*: "Educational psychology is devoted more to the psychology of learning; genetic psychology is concerned more with early development of child life." *State College of Washington*: "The courses in educational psychology cover especially the laws of learning for the adult, while the principles often enter into the child psychology course; we consider the law as it has been worked out for children." *Sweet Briar College*: "Educational psychology deals specifically with teaching problems." *California*: "Child psychology deals mostly with the abnormal; educational psychology is more general."

The few returns from normal schools show no differentiation between these courses.

III. The Scope of Child Psychology

A brief summary of the list of courses given in universities and colleges will indicate in general the scope of the larger field of Child Psychology. Among the courses given are: history of child psychology, original nature of the child, early childhood, adolescence, physical development, intellectual development, moral development, social development, mental hygiene, corrective speech, clinical psychology, mental measurements, normal child, exceptional child, superior child, defective child, mental abilities, experimental child psychology, research in child psychology. *The emphasis on the content of these courses is influenced directly by the fact that the course is given in the Department of Education, in the Department of Psychology or in both Departments.*

IV. Class Texts and Supplementary Books in Child Psychology

Instructors in Child Psychology in the universities and colleges represented by members of the Association, as a rule do not use regular class text books but rely on lectures, supplementary books and magazine articles. The texts, listed alphabetically, are: Betts, "Mind and its Education"; Claparede, "Experimental Pedagogy and the Psychology of the Child"; Colvin, "The Learning Process"; Freeman, "How Children Learn"; Hall, "Adolescence"; King, "High School Age"; Kirkpatrick, "Fundamentals of Child Study" and "Individual in the Making"; Norsworthy and Whitley, "Psychology of Childhood"; Terman, "Hygiene of School Child" and "Measurement of Intelligence"; Thorndike, "Educational Psychology"; Waddle, "Introduction to Child Psychology"; Wallin, "Mental Health of the School Child"; Woodrow, "Brightness and Dullness in Children."

The authors most used for supplementary references are: Bagley, Baldwin, B. T., Baldwin, M. J., Bower, Bigelow, Binet, Chamberlain, Coe, Dearborn, Dewey, Drummond, Ernst and Meumann, Fiske, Forbush, Goddard, Gordon, Gross, Hall, Harvey, Healy, James, Johnson, Kidd, Lucky, McKeever, Major, Mateer, Meumann, Mitchell, Moore, K., Montessori, Norsworthy and Strayer, Oppenheim, O'Shea, Perez, Puffer, Rousseau, Rowe, Sandiford, Seguin, Shaw, Starch, Stern,

Sully, Swift, Towne, Tracy, Tredgold, Tyler, Wallin, Washburn, Wells, Weisenberg, Whipple, Woodrow, Yerkes.

V. Additions and Modifications of Laboratory Equipment

As to additions, modifications and eliminations in laboratory equipment for child psychology in the last three years, few changes have taken place in most institutions. The general additions made consist of a fuller equipment for mental testing, motor tests, clinical tests, anthropometric measurements and mazes adapted to children. One normal school reports having bought one thousand dollars worth of standard laboratory equipment.

It should be noted as a significant trend in the advancement of psychology as a science that many of the laboratories in General and Experimental Psychology are using children in schools and institutions for experimental purposes.

VI. Sources for material for Experiments in Child Psychology:

(a) Institutions, (b) Hospitals, (c) Homes, (d) Schools

Of the one hundred and thirty replies to question Six, the results may be summarized in terms of:

Universities or colleges making tests or carrying out investigations in Schools.....	40%
In miscellaneous institutions	26%
In homes	22%
In hospitals	12%

Among the miscellaneous institutions are: Juvenile Courts, Orphanages, Reform Schools, Institutions for Feeble Minded, Institutions for Deaf and Blind.

VII. Description of Type Experiment

A number of the members of the Association outlined briefly a few type experiments, but as a rule the writer was referred to recent articles by the experimenter. Among those mentioned of special interest in this connection are: Watson's new book on behavior, publications from Book and others from Indiana, Hollingsworth's spelling investigations, Pinter's studies in mental tests, Pechstein's comparative studies, Seashore's musical tests, Baldwin's study in Johns Hopkins Demonstration School, Cole's mental age and school entrance, Freeman's psychology of learning, Starch's studies in school

subjects, clinical studies of Healy, Goddard, Smith, Wallin, Gesell and others; Woodrow's studies in association, Woodworth's work in special mental traits, Hayes' reports on the blind, Gray's work in reading, Wooley's psycho-educational studies, Downey's will profile, Terman's intelligence tests, child and adult studies under Carr, and investigations by Thorndike and his students.

VIII. The Methods of Child Psychology

A summary of methods in use in Child Psychology shows that of the colleges and universities 19 are using *physiological methods*; 24, *psycho-physical methods*; 10, *auto-biographical methods*; 10, *questionnaire methods*; 38, *behavioristic methods*; 2, "*other methods*"; 27, *group methods*; 40, *individual methods*; and a few both individual and group methods.

IX. X. Table Showing Distribution, by Type of Institution, of Mental Tests Listed in the Questionary

	Universities		Colleges		Normal Schools		Other Institutions		TOTAL	
	Actually Used	Studied by Students	Actually Used	Studied by Students	Actually Used	Studied by Students	Actually Used	Studied by Students	Actually Used	Studied by Students
Army Alpha -----	21	2	10	6	2	1	4	1	37	10
Army Beta -----	10	4	6	4	2	0	4	1	22	9
Army Performance _	13	5	6	4	2	0	4	1	25	10
Binet-Simon -----	12	16	6	7	2	1	3	3	23	27
De Sanctis -----	3	4	1	2	0	1	2	2	6	9
Decroly -----	2	0	0	1	0	0	2	1	4	2
Fernald -----	3	5	1	5	0	0	1	3	5	13
Franz -----	3	2	0	3	0	0	1	2	4	7
Goddard -----	9	6	3	6	0	1	3	2	15	15
Healy -----	11	7	3	9	0	0	3	3	17	17
Knox -----	10	6	3	7	0	0	5	4	18	17
Pintner & Patterson_	12	13	3	6	0	2	2	2	17	23
Porteus -----	7	6	1	6	0	1	3	1	11	14
Stanford -----	25	4	11	8	2	0	10	0	48	12
Stenquist -----	3	5	1	3	0	1	1	2	5	11
Stern -----	1	5	0	1	0	0	0	1	1	7
Thorndike -----	10	9	1	6	0	1	2	2	13	18
Wallin -----	1	4	1	1	0	0	2	1	4	6
Weidensall -----	1	1	0	1	0	0	0	1	1	3
Whipple -----	11	16	4	10	0	2	1	6	16	34
Witmer -----	2	6	0	1	0	1	2	2	4	10
Wooley & Fisher ----	1	5	0	4	0	0	3	0	4	9
Woodworth & Wells _	11	9	3	7	1	0	5	2	20	18
Yerkes (Point Scale)	9	17	7	9	0	1	2	3	18	30

In addition to the tests listed, the following are reported in use in one or more institutions: Those by Brigham, Colvin (Moral Judgment Test), Dearborn, Kelly, Kent, Kuhlmann, Lowell, Mulhall, Otis, Pressey, Rossolimo, Seguin, Seashore, Thurstone.

XI. Laboratories for "Clinical Psychology"

Thirteen universities and five colleges report laboratories for so-called "clinical psychology." Six other institutions also report laboratories but no normal school. (*The term "clinical" is strongly objected to by a number of members of the Association.*)

Clinical Record Blanks

1. From the Yale clinic Gesell sends: Introductory Report to be filled out in advance by teacher, parent or social worker; Interview Record; Mental Test (Terman Revision); Clinical Summary. Records are easily distinguished because they are kept on sheets of various colors.

2. MacMillan blanks are: General history, family and development History; Pedagogical Tests; Defects of Speech; Special Records for Deaf and for Crippled Children; Record of Examination to be sent to school principal and Record for filing.

3. Maxfield uses the following blanks: Child History; Physical Examination; Stanford Revision; Mental Examination—a series of performance tests which includes the Witmer form board and cylinders; Healy, Gwyn, Knox, Woodworth and Wells and Dearborn tests as well as estimate of ability in school subjects.

4. Stevenson Smith: Record of Family Development and School History, Physical Examination, Mental Examination (performance tests); Tests of Component Mental Processes Involved in Reading; Record of Speech Defects with space for noting improvement.

5. Wallin's blanks are: Physical Examination (Defects, Diseases, Disorders, and Stigmata); Pedagogical, Personal and Family History; Mental Examination for Recording results of the Terman Revision; Healy and Wallin Tests and

anthropometrical measurements; Report of Examination—a summary for official use; Recommendation or Assignment of Pupil; and School Report of Special Class Pupil.

Doll writes: "Following your suggestion, I am able to describe the procedures which I am following in applied child psychology in the correctional institutions. The New Jersey Department of Institutions and Agencies has added to its psychiatric clinic a section of psychology whose functions are to conduct psychological measurements of inmates of all the correctional institutions of the State. The work which is of interest for child psychology is in the institution for juvenile delinquent boys, namely, the State Home for Boys at Jamesburg, N. J., and the institution for juvenile delinquent girls, namely, the State Home for Girls at Trenton, N. J. In these institutions we are conducting group psychological tests with a view to making a general mentality survey for the purposes of administration, particularly with reference to the educational and vocational aspects of training. These group survey tests give us a perspective of the population in each institution and serve as preliminary mental age ratings of the individual inmates. As rapidly as possible we follow the group tests with clinical examinations. In these individual examinations we make mental diagnoses, analyze personality, make-up, determine vocational aptitudes and probable social adaptability. We work in conjunction with the institutional physicians and the institutional psychiatrists, the latter being members of the psychiatric clinic of the New Jersey State Hospital assigned to this work."

XII. Publications

Of the publications during the last three years listed by members, the percentage distribution is:

Intelligence and general mental tests	46%
Clinical Child Psychology	6%
Applied Child Psychology	29%
"Pure Child Psychology"	19%

The writer of this Report believes that much emphasis should be placed at this time on the need for detailed consecutive analytic studies in what might be called, "Pure Child Psychology," and the applications which may be derived from these basic findings. Marked progress is being made in this direction.

XIII. Some Fundamental Problems in Child Psychology in which experimental studies could profitably be undertaken for periods from 1 to 10 consecutive years

The outlook for the future development of Child Psychology may be prophesied from the problems formulated by the members of the Association who were so generous as to reply

to the above statement, expressed in the form of a question. These problems are worthy of serious consideration and if our science is to progress, each investigator should know what fields are being investigated in order to cooperate and to avoid needless duplication. *A Cooperative Research Committee should be appointed by the Association to formulate, coordinate, standardize and as far as possible evaluate the wide range of psychological experimental research now extant in Child Psychology.* This is also suggested by Book.

For purposes of general grouping, the problems submitted may be conveniently classified into those dealing with (a) Early Infancy; (b) Special Mental Traits; (c) Mental Tests, individual and group; (d) Physical and Mental Development; (e) Mental Deficiency and Psychopathology; (f) Vocational Guidance; (g) Special School Subjects.

Problems Suggested

(a) Early Infancy.

Bradford: "Proper age for pupils to enter school or chronological or mental and physical age to enter. My belief is that seven, sometimes eight years is better generally than six, for entering school."

Dashiell: "Do the various natural instincts and dispositions appear in any definite order and manner?"

English: "More conditioned reflex studies like Florence Mateer's."

Harvey: "How children acquire a notion of directions."

"The extent of any quantity that is actualized in thought beyond which quantity becomes symbolic. How and when a child distinguishes a percept from an hallucination."

Howes: "Should like to have tests over 10 years to determine how authentic are the earliest indications of taste and talent. My two children have been sharply differentiated in this respect from six months on."

Jastrow: "The formation and use of words: the step from understanding to using in the 8th to 18th month." "Individual differences in infancy related to later development." "Thorough study by mental tests and otherwise of "true" children and adopted children in same family to differentiate similarities due to heredity and to environment. Same for step-children; also similarity with parents."

Murray: "Study of the early instinctive reactions (especially of the gregarious, sympathetic, competitive and constructive tendencies; self-display, etc.) as diagnostic of social and vocational aptitudes observable ten years later."

Johnson: "The appearance and development of emotional responses in infancy and childhood, considering especially fears, anger, and love."

Ruckmich: "The matter of color perception in the earlier years is by no means adequately and satisfactorily solved." "We also find conflicting statements concerning childhood memories."

Watson: "Early differentiation of activities—whole gamut of in-

stincts." "Imitation—conditioned reflex which appears before explicit habits begin to form."

Vance: "A differentiation of native and acquired reactions."

(b) Specific Mental Traits.

Douglass: "A transfer of training problem on children of different ages to see how much, if any, transfer increases with age."

Edwards: "Tests for the development of emotional age."

Janet: "Investigation of tests which do not diagnose present ability so much as capacity to improve in the future."

Maxfield: "Tests for mental qualities, traits, abilities, etc., not included in the concept of 'intelligence'." "Tests for kindergarden children to determine where they are ready to begin first grade work."

Miner: "The significance of border lines on test scales." "The study of some special ability analogous to musical ability, literary talent or drawing, painting and sculpture."

Snoddy: "We are now undertaking two investigations on the development of motor co-ordination, one with boys and the other with girls. The problem, par excellence, is an adequate standardization of the point scale idea, which should be worked out by a group of psychologists."

Teagarden: "Different types of imagery used by children both in and out of school."

Woodworth: "Tracing rate of advance of individual children by repeated measurement of abilities of the same children through a series of years." "Speech development and defects in children under school age."

Starbuck: "An attempt to establish certain 'norms' of efficiency in the mental life of children. To trace out lines of development of various powers and functions."

Truman: "Learning abilities of children at different ages."

(c) Mental Tests, Individual and Group.

Achilles: "I think there is great need for experimental work on elementary education to eliminate waste of time. Normal or superior groups (IQ over 90) should be used to see if they could not cover more work in a school year, thus shortening the number of years now spent in elementary education."

Colvin: "Standardization of various intelligence tests for different social and racial groups." "The role of the conditioned reflex in the learning of school subjects."

Downey: "Fluctuations in intelligence quotient." "Physical development and intelligence quotient." "Study of development of special capacities."

Gordon: "Standardization of alternative questions for the Stanford Scales—eliminating the possibility of coaching. This is very important where one examiner is working in an orphanage or school."

Jones, E.: "A study of Intelligence Quotients of Children during the Elementary School Period."

Kirkpatrick: "Relation of Group Intelligence tests to Binet age and to problems of promotion and teaching." "Establishing of reliable but easily determined tests for classifying children mentally or planning educational treatment."

Kuhlman: "Group intelligence tests." "Educational tests for individual examination."

Cole: "Stammering might very well have as much energy devoted to it as the problem of defective children has had in the past few years."

Hollingsworth, L. S.: "Subsequent histories of children manifesting

neurotic and psychopathic symptoms." "Experimental corrective education of children with neurotic personality."

Miner: "The relation of delinquency to heredity, environment, and training."

Moore: "Mental and environmental factors of juvenile delinquency." "Psychological analysis of the cause of retardation in special branches of reading, writing, etc."

Sutherland: "Recognition and treatment of neurotic tendencies in children."

Terman: "Education of dull and feeble minded children."

Wallin: "The study of mental deficiency and specific mental defects in all types of mentally and educationally abnormal children."

(f) Vocational Guidance.

Book: "State survey of High School pupils' abilities."

Coe: "The great problem for education is: In what occupations and problems of adult society can children of different ages take an interested and happy part?"

Malmberg: "Vocational guidance of the exceptional child."

White: "Special abilities and disabilities."

(g) Special School Subjects.

Clark: "The rate of progress of gifted pupils as shown by intelligence tests and by school promotions."

DeVon: "Problems of children's learning of school subjects. Problems of the nature of intelligence."

Moore, H. T.: "Study of retardates over a period of 5 to 7 years to determine validity of suggested corrective measures."

Henmon: "Tests, psychological and educational, repeated with the same children each year are greatly needed. General intelligence tests, standard psychological and psychological tests, and tests in school abilities would give a knowledge of mental development in children which we do not now possess."

MacMillan: "The intelligence level of 10 year old children throughout the nation on the basis of other than information tests."

Malmberg: "Group testing of mentality of school children."

Reed: "A scale by which the intelligence of children may be satisfactorily measured in groups."

Starch: "A repetition of mental tests on the same children for a period of years to get a measure of their growth."

Stetson: "Standardization of Binet tests for American kindergarten children."

Wallin: "The standardization of the technique of administration of innumerable tests and the establishment of norms based on a much larger number of cases."

White: "Psychological Testing and Child Life."

Terman: "Intellectual growth." "Gifted children."

(d) Physical and Mental Development.

Bolton: "Physical and mental growth of a group of 100 through a period of 16 years."

Douglass: "A growth problem, after Crampton or Baldwin, correlating the facts of growth with intelligence tests and with pedagogical tests."

Gordon: "More data on estimation of physiological age, especially on dentition."

Johnson: "Follow the physical and mental growth of the same group children throughout a long period including X-Ray study of ossification and calorimeter measures of metabolism."

Kelly: "The collection of records giving growth of same subjects, in succeeding years in many physical and intellectual functions."

Luckey: "The richest field to-day is in clinical psychology. All children upon entering school should have the benefit of both physical and mental tests by experts, and a repetition of the tests at least every two years throughout the course. Much permanent good would thus be obtained and many incipient difficulties be overcome. The purpose of education is to make healthier and better men and women."

MacMillan: "The rate of maturation of 100,000 children from 6 to 5 years."

Moore H. T.: "Relation between care of teeth and efficiency in school. Select a group for especial dental care and observe the effects on school marks."

Pechstein: "Development of the powers of reasoning." "The normal mental picture for the junior high school entrant."

Peterson, H. A.: "The fatigue condition of children of 6 to 9 years of age during the school day."

Woodworth: "Minor maladaptations ('neurotic phenomena') in children of different ages."

Woodrow: "Scale for measuring anatomical age, extending over a number of years, and its use in estimating brightness or dullness."

e) Mental Deficiency and Psycho-pathology.

Bean: "The effects of deafness upon mental growth. (According to teachers in institutions for the deaf and for the blind the judgements of complex types, such as moral judgements are very crude in the deaf, but not in the blind.)"

Breese: "The relation of feeble-mindedness to physiological abnormalities."

Peterson, J.: "Selection and training by less formal methods than schools use of children of greatly superior intelligence."

Smith, F. G.: "Correlation between mental retardation and ability in specific school subjects."

Sutherland: "The learning process on school and manual materials."

Swindle: "The effects of teaching children to concentrate while reading. It isn't possible to overestimate the importance of concentration and accordingly teach children to read more or less automatically while they are thinking primarily of things foreign to the reading. If this is the case, then we might have an explanation for the cause of certain types of neurotic adults who are distressed because of their inability to concentrate while reading."

Webb: "What are the fundamentals in drawing ability; also methods of testing drawing ability."

h) Moral Education.

Henderson: "A study of the force and effect of the motives used to influence children. This field is yet largely a matter of opinion."

Malmberg: "A study of the amount of religious training given to children—made in connection with the churches."

Terman: "Moral development (potential delinquency.)"

PART III. APPLIED PSYCHOLOGY

Three hundred copies of the questionnaire were sent out. One hundred and four replies were received by December 15, 1919. These replies cover the principal universities and colleges of the United States. Just after sending out the blanks word was received that no separate study would be made covering educational psychology. From the number of replies indicating interrelations of the fields covered and educational topics, the inclusion of the educational field would probably have brought us a much richer and more significant set of replies. We have attempted no summary of the questionnaire. The problems are obviously new in the majority of institutions and trends only can be illustrated. Answers are summarized under the questions and some overlapping of subjects occurs in consequence.

I. Indicate the significant changes that have taken Place in the Courses in Applied Psychology in your college or university.

(a) Old courses cancelled.

Eleven courses were dropped, transferred to other departments or expanded into several special courses. One introductory course in "Applied Psychology" was dropped and advanced courses offered in its place. Courses entitled, "The Structure and Process of Consciousness," "Genetic Psychology," "Faculty Psychology" were dropped. Other courses such as "Mental Tests," "General Psychology of Religion," "Applied Psychology" were expanded into two to five courses; each with a separate title. Two courses with philosophical titles or content were transferred to philosophy.

(b) New courses added.

The total number of courses indicated as "new" under this heading is 70; 46 of the 104 institutions replying report these additional courses, the other 58 report no additions in applied psychology.

Twenty of these new courses are introductory and bear the title of "Applied Psychology."

In question III the inquiry was made whether an intro

tory survey was given in this field. Thirty-eight institutions answer "Yes" to this question. With some reservation may be assumed then that 18 institutions had been giving course entitled "Applied Psychology" and that 20 are introducing such courses for the first time. The titles of the other courses are in some instances so near this general title that one might conclude the content of the courses conforms more or less definitely with the courses called "Applied Psychology." For example, Vocational Psychology is offered as a new course at three institutions, the "Psychology of Human Action" in one institution. Of the special courses mentioned under this survey Mental Tests and Business Psychology lead with 7 new courses apiece. Mental Measurements is offered five times; Advertising and Selling, three times; the Psychology of Advertising, twice. New courses in Social Psychology occur four times, in the Psychological Theories of Religion, four times, Abnormal Psychology, three times. The Psychology of Character, Psychology of Music, Mental Hygiene, and Personnel Management are offered twice, each; Individual Psychology, the Psychology of the Christian Life and Clinical Psychology are offered as new courses once each.

(a) Do you consider any portion of your courses in general and experimental psychology "applied" in nature and content?

Eighty-seven institutions replied to this question. Of these 20 considered the question ambiguous. One reply is quoted: "I think the psychology of our recent Applied Psychology courses is about this: We suddenly woke up and realized that certain bits of psychology had some practical value. We were amazed that this was true that we immediately shouted it from the house-tops, namely, announced courses in Applied psychology.

"What we ought to do is to present the most interesting and useful material in the realm of Psychology to beginning students just as the elementary course in Physics is supposed to do and then, beginning with the second year, give courses especially training students to be psychologists or advertisers or salesmen or what not. In many of these cases today, 'psychology' subject matter will be very short and insignificant compared with the detailed content presented to a student."

Twenty-one indicated by their answers to the other sections of the question that they considered the courses in Applied Psychology distinct in nature and content from those in General Psychology; fourteen stated definitely that they kept the content of their general and experimental psychology clear of anything but the most incidental references to applications; fifty replies stated that they brought in material from texts and references that they considered "applied" in nature as illustrations and content for their general courses.

Many of the institutions replying are teaching only Educational Psychology and the questionnaire unfortunately failed to cover this important field. The nature of the replies from this source makes it fairly clear that Educational Psychology is considered by such institutions as applying to the general field covered by this questionnaire.

(b) From what sources are students recruited for courses in Applied Psychology?

Of the institutions replying under this heading 25 mention General Psychology; 17 give Business Administration and commercial courses; 16 report the sources of students in Applied Psychology as teachers or those intending to become teachers; 13 state that their students are recruited from the general student body; 8 mention specifically pre-medical students; 7 mention recruiting from practical occupations—horticulture, agriculture, shop work; 3 institutions mention journalism; 3, social psychology; 3, law; and 3, economics; 2 recruit practically all their students from theological courses and 1 states that Applied Psychology is given to all students who "elect life activities."

(c) How do you differentiate courses in Applied Psychology from other courses in Psychology as to pre-requisites in General Psychology?

The great majority require elementary psychology as pre-requisite to courses in Applied Psychology. A few state that no policy is yet established; several indicate that they take students into special courses, such as Advertising and Busi-

ness Psychology, if they are in those departments or evince an interest in the subject or have had "general training." No sequence or order of courses is indicated in any case. Several mention the fact that these courses are open only to seniors or graduate students. Many courses in general applied psychology or in its separate fields are evidently open to students without any previous training in psychology. In certain instances where an introductory course in psychology is required of arts or general students, several of the special courses are open to students whose major subject is business, medicine, etc., without preliminary work in psychology.

(d) What pre-requisites do you specify in other subjects, such as law, economics, sociology, medicine, etc.?

With very few exceptions the answers to this question indicate that no prerequisites in such subjects are required for the courses in applied psychology. A few institutions indicate physiology and general biology as prerequisite to their courses in the applied field; 3 institutions mention sociology; one small college states that commercial law is a prerequisite to one of its courses and biology prerequisite to all advanced courses in psychology, both general and applied. If the answers to these questions can be taken as any criterion, are we to assume that merely a general interest in life's activities is demanded of the students entering courses in applied psychology? We seem forced to conclude that supecific information in such a field as advertising, for example, is not necessary to understand the work of a course in the psychology of advertising. The use of illustrations from the field of advertising for the general course in Applied Psychology is feasible, but the possibility of giving a full course of one quarter or more without some knowledge of the technique and problems of the advertising man seems unusual.

(e) Do courses in Applied Psychology overlap with courses such as Advertising, Psychiatry, or Public Speaking, given in other departments? What is being done to correct this?

Overlapping is mentioned as occurring in 18 institutions. In only two cases, however, does it seem to be serious. Most

institutions replying felt that the overlapping is very slight or that it is in reality stimulating to instructor and students; eight institutions report definite cooperative arrangements with the other departments concerned. The overlapping, while slight, occurs most frequently between courses in Abnormal Psychology and work in Psychiatry. This overlapping is mentioned ten times. Overlapping in the advertising field is mentioned four times. Overlapping between Social Psychology and courses in the Analysis of Character and Temperament with courses in Sociology is mentioned. We may assume, however, from the replies, that this is not yet a serious problem in the development of work in applied psychology. It is quite probable that the fact that prerequisites in these other subjects are not required by the instructors in psychology is responsible for the lack of friction and overlapping in the courses given in the departments of psychology. The give and take of students in economics who are also in psychology is not yet at the point where friction between theories is apparent.

III. Indicate by check mark the scope of the work in Applied Psychology covered in your department

This question failed to bring out the number of special and distinct courses in the topics listed. Many replied in the manner intended, but the majority indicated by check topics taken up within such courses as Applied Psychology. By independent treatment is thus meant frequently one section of a course rather than a distinct course. Below is given the number of times a topic was checked regardless of its status as a topic or separate course.

Title of topic or course	No. of items checked	Title of topic or course	No. of items checked
None at all -----	1	Business -----	10
Incidental treatment only--	27	Selling -----	13
Introductory survey -----	38	Advertising -----	19
Statistical and Biometrical Technique -----	19	Office Organization and Management -----	4
Mental Test Technique-----	43	Personnel Administration --	11
Proficiency (trade) Test Technique -----	8	Vocational Psychology for Women -----	1
Experimental Technique ---	19	Industrial Personnel -----	1
Psychology of Character---	1	Industry -----	3

Title of topic or course	No. of items checked	Title of topic or course	No. of items checked
Personnel Management	11	Religion	21
Industrial Relations	4	Government and Politics	5
Morale	4	War	1
Industrial Management	4	Military Psychology	3
Efficiency of the Worker	6	Community Life	7
Motion Studies	4	Deficiency and Delinquency	15
Industrial Hygiene	1	Public Speaking	4
Psychology of Training	1	Vocational Psychology	12
Evidence	7	Vocational Guidance	13
Crime	9	Character Analysis	6
Medicine	4	Literature	3
Abnormal Psychology	30	Art	2
Psycho-analysis	10	Drama	0
Psychotherapy	9	Music	4
Mental Hygiene	2		

A few courses occurring only once or given to special groups of students not found in many institutions may be listed: Rural Church Methods, Psychology of the Synoptic Gospels, Moral and Religious Morbidities, Faith Cures, Ethics taught according to Behavioristic Theory, Psychology of Shakespeare's Plays.

IV. (a) List texts used, if any, in the different courses in Applied Psychology

Practically all of the texts or books published by psychologists are indicated as texts one or more times. The great majority are referred to, however, by a single institution. Such books as Terman's, "The Measurement of Intelligence," and Hollingworth and Poffinberger's "Applied Psychology" are referred to more frequently. Under the heading, "Supplementary References," a much larger list of books is given. Perhaps the most notable omissions are references to books and pamphlets published by men in industry on the separate fields in which courses are offered. A few books in Business Management, in Motion Study, and in Vocational Guidance are mentioned, but the long list of references on Business Practice, Advertising and Selling, and Labor Problems, published by men actively engaged in these fields are scarcely ever mentioned. Link's recent book in Employment Psychology is mentioned twice, but Hawkins', "The Selling Process," gets no mention.

V. What laboratory equipment have you found valuable for these courses?

Seventeen institutions stated that the usual equipment of psychological laboratory is used for the work in applied psychology; 16 report the students use all mental test blanks and the standard equipment for giving individual examinations. Time measuring apparatus is mentioned six or more times. Several institutions reported that no apparatus is used in their courses, others state that it is used only for demonstration purposes. Advertisements are used; rating scales, and clinical test materials are mentioned. Only two institutions give definite evidence that the laboratories are in constant use for such courses.

VI. What sources of material for experiment and field work do you use, e. g., philanthropic organizations, state and federal offices, courts, industrial concerns, etc.?

The sources of material for experiment with work cover a large variety of institutions. The more common ones in use are schools which are mentioned explicitly some 20 times; police, juvenile and federal courts are mentioned; hospitals for the insane, industrial concerns are each mentioned seven times. Among the less frequently mentioned sources of material are trade unions, once; schools for the blind, three times; cotton mills, once; municipal civil service, once; football squad, once; retail stores are mentioned three times, and advertising agencies, once.

VII. Describe briefly or send studies of a type experiment in VI.

No type experiments were sent. Among the studies in progress are mentioned college grades in comparison with instructors' ratings; study of children in special classes; college ratings of blind students; types of reactions of patients in hospitals for the insane; study of personal, family and school histories; measurements of musical talent; the analysis of proof reading for a printing house; and employment tests.

VIII. Are you emphasizing any special methods of investigation?

(a) The use of mental tests for occupational fitness is mentioned 11 times; for determining social status, 5 times; tests for the detection of crime are mentioned 4 times; clinics, 7 times; job analyses are mentioned as methods of investigation in four institutions and laboratory time studies in three institutions. Mental tests are also used to measure educational progress.

(b) Questionnaires are still in use, according to the report, in 7 institutions. One reply states that he does not use them and believes in the golden rule.

(c) Nine institutions state that they do field work. Two say that they make individual investigations; 2 refer to group tests in city school systems and 2 are using group tests in rural school surveys; others make no qualification covering their work.

(d) Under other methods we obtained two replies. One merely states they are using other methods, the other, that he combined methods of ethnology with psychological methods.

IX. (a) To what extent is statistical knowledge required in your work in Applied Psychology? Underscore once for general students and twice for advanced students of Applied Psychology

The following table gives the frequency with which the different topics in statistics in the questionnaire were underscored once. In several instances the writer states that this work is given in the Department of Mathematics, and that they do not have a regular course in the Psychology Department. One reply adds, "psycho-physical methods and their interrelations, logic of interpretation of statistical data and graphical and tabular modes of presentation."

All topics were underscored twice in a few instances. This is probably due to the misuse of the phrase "advanced students," and does not indicate the topics they would use in a second course in statistics. Where the distinction is made on the latter basis such topics as analytical procedure with percentile curves, correlation tables, regression and correlation coefficients, rank correlation and empirical correlation for-

mulae, multiple correlation procedure, logical assumptions underlying correlation work and the determination of diagnostic value of mental tests are most frequently underscored twice.

Measures of central tendency	39	Graphical and analytical procedure with percentile curves	20
Measures of variability	37	Calculation of regression coefficients and correlation coefficients	20
Plotting and interpreting frequency surfaces	36	Determination of diagnostic value of mental tests	17
The standard deviation	32	Logical assumption underlying correlation work	13
Rank correlation and empirical correlation formulae	27	The four-fold table	5
Scatter diagrams and correlation tables	23	Multiple correlation procedure	5
Measures of skewness	11	Theory of common factors	5
Ogive curves	10	Empirical equations	4
Correlation for attenuation	9	Use of biometric tables	3
Transmuting measures	8		
Interpretation of regression lines	7		

IX. (b) To what extent is mental test technique required?

Mental test technique is required definitely in 29 institutions. From question III we find it checked as a topic, either given as a special course or as part of the general course in applied psychology, in 43 institutions. Its use in educational psychology is not indicated by this questionnaire.

X. List, so far as you deem advisable, investigations now in progress in Applied Psychology

Investigations are in progress using Army mental tests, new group tests for school children, motor tests, tests for stenographers and typists, and testing for musical talent in school children. A mental survey is being made of Indians in one institution; morale, industry, efficiency, color in art, lines in art, detection of criminals, delinquency, mental diseases, incentives, and variations in affective processes are each mentioned once. Four studies in character analysis are in progress. The separation of heredity and environment by the study of mental similarities is the subject of two investigations. Another investigator is studying the legibility of auto licenses. Hearing tests for incipient hearing troubles are also

being developed. An important and suggestive topic for investigation is stated in one reply as "elemental characteristics of measures of capacity."

XI. Discuss briefly or list general Psychological concepts for which you have found important specific applications

In most instances the concepts mentioned under this head have merely been listed, no specific statements are given concerning the applications found. Several replies state that all concepts in psychology have been found of use. Among those given special mention are tendencies, the reflex arc concept, the original nature of man, stimulus and response, the learning process, standards of development, differences between men and women, children and adults, savage and civilized peoples and the relation of the individual to society. In more common psychological terminology we find mentioned mental images, habit, memory, imagination, association, perception, appreciation, thinking, attention, interest, feeling, emotion, will, attitudes, disposition; Freudian concepts, mental complexes and the sub-conscious are found applicable. Individual differences, general intelligence, mental traits and the dynamic point of view are also mentioned. One reply states that behaviour rather than conscious processes is fundamental for applications. Another called attention to the need for training in introspection and in experimental psychology if we are to avoid rejection of an important part of the evidence. He thinks that the neglect of introspection leads to too great dependence on methods and inability to interpret results in a vital psychological way.

XII. What concepts of systematic Psychology, as currently taught, have you found most inadequate and in need of revision when dealing with problems in the applied field?

Nearly all of the concepts stated under question XI. as having specific applications recur under question XII. as being inadequate and in need of revision. Consciousness, mental elements, attention, reasoning, and the structural point of view are cited most frequently. Instinct, feeling and mental

images are indicated as in need of revision. One reply states, however, that applied psychology will always be limited by the development of general or systematic psychology.

XIII. This question requested outlines or pages from the college catalogue that would indicate the nature and scope of the work undertaken. So few were received, five outlines of courses and eleven excerpts from catalogues, that a summary of them would inadequately represent the general situation. Several state, moreover, their work is so new that outlines in full are not yet available. Of outlines given those from Columbia, Northwestern University, Carnegie Institute of Technology, Syracuse, the University of Wyoming, the University of Iowa and Ohio State are most complete and suggestive.







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