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A STUDY OF THE TEACHING OF HIGH SCHOOL PSYCHOLOGY
AND A PROPOSED TEXT PLAN

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NELDA S. NEBERGALL

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A STUDY OF THE TEACHING OF HIGH SCHOOL PSYCHOLOGY
AND A PROPOSED TEXT PLAN

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A STUDY OF THE TEACHING OF HIGH SCHOOL PSYCHOLOGY AND A PROPOSED TEXT PLAN

CHAPTER I

Statement of the Problem

A controversy has long existed concerning the feasibility as well as desirability of teaching psychology in high schools. Although disagreement continues, at the present time the argument has become merely academic. Some kind of psychology course is being taught in most states in some high schools and the number is increasing rapidly (Young, 1964). More fruitful questions for research concern the quality of instruction, factors influencing the quality of instruction, and the availability of text books.

A considerable body of literature has accumulated in the professional journals indicating that the content and quality of instruction in high school psychology courses vary widely (Coffield, 1959; Engle, 1956, 1960, 1963; Engle and Bunch, 1956; Lucas, 1963). The consensus of opinion is that most high school psychology teachers are poorly prepared to teach the course and the quality of instruction is poor. Certification requirements vary widely and are non-

existent in some states. Universities and colleges at this time are not to any practicable extent training undergraduates as teachers of high school psychology. The need for such training has only recently become a subject of investigation. At the present time a few pilot studies are underway in several universities (Kent, 1964a; Lucas, 1963; Ojemann, 1961; Ratner, 1961), but these studies offer little help in the improvement of instruction in the immediate future on any wide scale application. Although the American Psychological Association has urged more contact between its members and high school psychology teachers, at this time such contact is minimal and high school teachers generally read no professional psychological journals. At least one statement has been made that high school instruction in psychology actually fosters misconceptions concerning the legitimate body of knowledge which is the concern of professional psychologists (Kent, 1964b).

However, one important aspect which has received little attention is the availability of suitable texts for teaching psychology at the high school level. A survey of high school texts now being used indicates two in wide use and one new book with uncertain acceptance (Coffield, 1964; Provinse, 1964). Since teachers often have little or no training in psychology, the class text may be their own main source of information. One survey (Engle, 1961) indicated that high school teachers tend to depend to a far

greater extent upon the text than do college teachers of psychology. Whereas introductory classes in college may have little relation to the text except for criticisms by the professors and for testing purposes, most secondary school courses follow the book carefully. Sometimes the teachers require students to outline chapters.

Purpose of the Study

The purpose of this study is to investigate the history and present status of instruction in psychology in high schools, examine those texts currently being used widely, and on the basis of this investigation to propose an additional text. The text is a single, but very important determinant of course quality in any instructional program. A text should be the core around which a psychology course could be built which would have roughly the same relationship to college introductory psychology now present between secondary school biology, physics, and chemistry and their corresponding college courses. As is true of the latter courses, the psychology course should be a valuable experience for both students terminating their education at the secondary level and for those college-bound. A text accomplishing these objectives would present a problem solving orientation to the normal adjustment of an individual reacting in his physical and social environment in the process of daily living.

CHAPTER II

HISTORY OF THE PROBLEM

Present Day Training and Certification Requirements for Teachers of Psychology

Some agreement exists among interested members of the American Psychological Association that provision for certification of high school teachers of psychology and specifications for professional training are completely inadequate in most states at the present time. Further, the problem is magnified because of the increasing number of students studying psychology in high school (Young, 1964).

A survey reported by Engle (1960) indicated that the mean number of semester hours of undergraduate preparation in psychology including educational psychology of high school teachers of psychology was only 12.0 semester hours. For undergraduate plus graduate training, 6.2 hours in educational psychology was reported and the average total training in this field was 10.2 semester hours. Approximately one-third of the states in which psychology is taught have teaching license requirements of some course work in psychology for those who teach the subject, the requirements

ranging from twelve to twenty-four semester hours. Sixty to seventy-five per cent of high school teachers of psychology have a master's degree or better. A few hold a doctor's degree. However, much of the training is in education rather than in psychology, often taken after they have become engaged in teaching.

Division 2 of the American Psychological Association is especially interested in the teaching of psychology in high school. A questionnaire sent to 150 randomly selected members yielded 100 replies. One question asked was, "In those high schools in which a course in psychology is offered, should it be taught as a science or as a social study?" Replies showed that 10 per cent thought it should not be taught at all, but of the others, 48 per cent thought it should be taught as a social study, and 23 per cent suggested that it should be taught either as a science or as a social study (Engle, 1960).

The phrasing of the question in the survey provides the dichotomy "either, or" as choices for answering, or making a choice between science and social study as methods of teaching psychology. An additional category of "social science" would seem to be appropriate. Obviously, the degree to which a psychology course is scientifically oriented will depend to a great extent upon the preparation and preference of the teacher. However, it is a truism that for a number of years psychology has been designated as a field of study

within the social sciences.

One survey indicated that the number of semester hours considered minimum ranged from 9 to 66 with a mean of 28.8 hours in psychology (Engle, 1960). Preparation considered desirable ranged from 14 to 100 semester hours with a mean of 44.6. While general agreement existed that a minimum of hours preparation in psychology should be specified, acknowledgment was also taken of the fact that requiring an unreasonable number of semester hours preparation would result in widespread practice of emergency certification, which would be undesirable.

Coffield (1964) states that most teachers of psychology in high school are social science teachers who pick up a section or two to make a full teaching load. Under these circumstances, the lack of preparation is understandable, although not commendable.

Experimental Training Programs for Teachers and Students

The National Science Foundation has sponsored several summer institutes for social science teachers, including high school psychology teachers. Dr. Frederick Courts has been highly involved in the planning and direction of some of these institutes (Young, 1964).

Summer Institutes for high school teachers of psychology, biology, and other social sciences have been held at Claremont, California, under the direction of Dr. Graham

Bell. These institutes were for the purpose of giving sufficient training in psychology to permit more efficient teaching by teachers in service but not adequately prepared to teach psychology. Intensive training continued for six weeks in four areas of psychology judged most essential by a selected group of psychologists (Lucas, 1963). These areas were: statistics, testing, research design, and adolescent psychology.

Another effort sponsored by the National Science Foundation involved the design of several lecture-demonstrations on topics in psychology to be integrated into the Traveling Science Demonstration Lecture Program in 1958-59 (Ratner, 1961). This program included four traveling science teachers' centers. The program at Michigan State University included a selection of twenty secondary school science teachers with above average backgrounds in science and science teaching. Intensive training of the teachers during a three-month period was under the direction of subject matter specialists. Sixteen lecture-demonstrations suitable for presentation at the secondary school level were planned. The traveling science teachers visited a total of 572 schools in seven states during the school year, making reports and evaluations of the program later. The psychology lecture-demonstrations which were presented in an integrated science program were considered very successful both by the visiting teachers and the schools visited.

Young (1964) states that he is impressed by the number of teachers of biology and general science who are introducing behavioral science concepts into their courses where appropriate. Certainly the traveling science teacher program is providing some training for teachers who are not psychologists. Perhaps they are being encouraged to venture to include lectures on psychology. However, the study of psychology in this manner relegates it to a rather insignificant place in the curriculum. Furthermore, selection of biology and general science teachers to teach psychological studies likely will result in over emphasis of "science" and under emphasis of "social."

Three summer institutes for high school students have been held at Grinnell College under the direction of Neil D. Kent. He presented a paper based on his experiences with these institutes which indicates they are a novel experimental situation. He is careful to point out that students for these institutes were carefully selected exceptional students who were already highly motivated to become scientists.

One interesting observation he made was that of all scientific disciplines, psychology seems to attract the greatest proportion of students who major in the field because of what he calls "irrelevant motivation" (1964a). Some have chosen the field because of personal problems and they wished to sharpen their powers of intuition in order

to understand themselves better; or because they "like to work with people"; or because they were unable to think of anything else to major in. He states that among college students he personally knows very few who have selected psychology as an area of work because they were basically interested in a science of behavior or because they were highly motivated to make a contribution to knowledge by applying the methods of science to the study of the behavior of organisms. He suggests that one reason the discipline fails to attract undergraduate students in college who have a potential for scientific work is that the students have not had an opportunity for exposure to psychology as a natural science at the primary and secondary grade levels. About the three summers he has spent working with high school students, he writes, "I have yet to encounter a single student who felt that his course in high school psychology was worthwhile." Apparently, if they knew anything at all about psychology, it was in terms of mental hygiene or personal adjustment, all in some way related to psychiatry, psychoanalysis, and Freud. He concludes that these students have had the typical layman's conceptions, or misconceptions of the field.

The choice of texts to use in the Grinnell Institutes has presented difficulties. This highly selected group of high school students had a strong interest in science and a mean Wechsler I.Q. in the vicinity of 130. For

students of this type, who have the "usual misconceptions," the institute next summer plans to use Psychological Research (Underwood, 1957) and Method and Theory in Experimental Psychology (Osgood, 1953). The first of these books is a simplified approach to experimental techniques and design, but contains little of the known body of knowledge in the field of psychology. It would necessarily be supplemented by lectures and/or another text. For this particular group, as a reference book, Osgood's volume may be suitable. It contains summaries of virtually all the important research, particularly in learning, completed at the time it was published. In spite of the 1953 publication date, as a reference it is invaluable and not outdated. Furthermore, the Osgood book is organized so that particular areas of interest could be explored out of sequence or without study of the complete volume. However, it is of sufficient difficulty that the way it is utilized will do much to determine its suitability for any group. Ordinarily, it is studied by college graduate students or used as a professional reference book. These two books are experimental books which do not provide a survey of the field of psychology. These choices reflect Kent's own areas of professional interest. If only material from these texts is used for the class, students who arrive at Grinnell with a set of misconceptions about the concerns of psychologists may leave with a biased view, albeit accurate. No information on personality and

social problems is included in these two books.

Obviously, the Grinnell Summer Institute is looking for the ceiling of difficulty in psychological materials with which gifted high school students can cope. In the usual classroom, a teacher is faced with quite different problems in selecting a text. The description of the students at the institutes indicates that Kent (1964a; 1964b) has teaching situations which would probably not be duplicated in many, if any, classes in public secondary schools.

However, Kent does suggest that a suitable text in ordinary high school courses might be any good introductory text. He further states in qualification of this statement that there are not too many introductory texts at the college level which present the content of psychology in a systematic and integrated manner.

The available evidence is in agreement with Kent's suggestion that one reason undergraduate college students, who are potential high school psychology teachers, are not majoring in the discipline in college is that they have misconceptions or no conception of the nature of psychology as the science of the study of behavior. A very important need is not being met in the social sciences if psychology is inadequately taught below the college level.

Some research is being done in the area of teaching behavioral sciences at the elementary and secondary levels at the State University of Iowa by Ralph H. Ojemann (1958;

1959; 1961). The basic purpose in their program is providing education in human behavior to help pupils acquire insight into the forces operating in human behavior and gain the emotional capacity and skill to use this knowledge. Further extrapolation of these purposes is also enlightening: "Another way of describing the basic purpose is to say that it is to help the pupil acquire a 'causal' orientation toward his social environment just as education in a natural science attempts to develop a 'causal' orientation toward his physical environment."

If this program is achieving results which indicate that students realize behavior is caused and can be analyzed and investigated just as can physical events and objects, then one of the major teaching goals in psychology is being achieved. Students are acquiring scientific attitudes toward the study of human behavior. Some testing in the program has produced objective results indicating changes in "causal orientation" as well as changes in behavior of both students and teachers. The program is still in the experimental stages with teaching units developed from first grade through sixth, with plans for extension upward. A problem associated with it is that cooperating teachers are also receiving training, which is a slow process. A legitimate question might be asked as to the feasibility of introducing on broad scale a teaching program which requires intensive training for the teachers.

Participation of High School Teachers in
the American Psychological Association

The American Psychological Association has urged a close association between its members and between the state organizations and high school teachers. There is some doubt that a close relationship or any relationship exists outside those formally participating in Division 2 of the national association and those teachers who are currently in training in colleges and universities. Most often high school teachers of psychology have little contact with professional psychologists and do not read professional journals (Engle, 1961). Only recently a class of membership has been created in the American Psychological Association for high school teachers. They may become Divisional Affiliates of Division 2. However, very few high school teachers belong to the organization or express any interest in it.

A real effort has been made on the part of some Division 2 members to improve teaching in high schools. One important effort is that of Louis Snellgrove, chairman of a Division 2 committee which collects materials for classroom experiments that are easy to perform and do not require elaborate apparatus. Many of these are pencil and paper tasks. He also maintains a mailing list which is sent to anyone inquiring about materials for teaching introductory psychology in high school. Names of those inquiring are added to the list. At the present time this list indicates inquiries and interest of about 1,000 people in most states

in the United States.

Division 2 also publishes a newsletter edited by Mrs. Elaine Provinse, a high school teacher, who is a Divisional Affiliate of Division 2 of APA. The content of this newsletter concerns experiences and problems encountered by high school teachers.

Summary

In spite of the fact that most high school courses in psychology are taught by inadequately trained teachers (Engle, 1960), the number of these classes taught continues to increase (Young, 1964). Although teacher certification requirements exist in about a third of the states where psychology is taught in high schools, the requirements are extremely variable (Engle, 1960). Teachers of psychology in high schools have traditionally been social science teachers who teach a class or two of psychology (Coffield, 1964).

Although ten per cent of college students are known to have studied psychology in high school (Engle, 1960), most undergraduate college students enter college with no conception or misconceptions of psychology as a field of study. In college, few choose to major in psychology because of a desire to teach in the field. New teachers coming from universities and colleges may be no better prepared in the foreseeable future.

Some experimental programs are underway for training teachers in summer institutes. These programs are help-

ful but inadequate in scope and number to make any significant difference in the teaching of high school psychology in the near future.

Few texts are available for high school teachers today, only two having widespread use. However, the most-used resource of the high school teacher of psychology is the class text. Introductory college texts are a possible substitution for inadequate high school texts, but these are usually prepared as a supplement for lectures and not to provide the major content of the course.

A ridiculous situation has developed with the increasing popularity of psychology courses in high schools, in spite of the generally recognized fact that these courses are poorly taught and have highly variable content, with a limited variety of texts available. No adequate substitute can be found for adequately trained teachers in any field. However, since surveys do show that these teachers rely heavily upon the text for course content, an integrated text embodying a set of teaching goals for a high school course should contribute to the improvement of teaching of psychology in high school. Such a text should reflect a problem-solving approach to the study of normal people reacting and adapting to their physical and social environments. It should give an accurate picture of the topics studied in psychology, including the body of knowledge available and something of the scientific thinking and

methodology applied in the social sciences, psychology in particular.

CHAPTER III

AN ANALYSIS OF AVAILABLE TEXTS

Introduction

According to Coffield (1964), only two texts are widely used in the United States high schools at this time. These are: Psychology: Its Principles and Applications (Engle, 1964), Psychology for Living (Sorenson and Malm, 1964). A new book, Psychology: The Science of Behavior (Branca, 1964), has also been published recently. However, according to Mrs. Elaine Provinse (1964), editor of the Division 2 Newsletter, Engle's book has approximately ninety per cent of the sales market in the United States at the present time.

These three books have been reviewed in order to present a survey of those texts likely to be considered for high school courses. Psychology: Its Principles and Applications and Psychology for Living have each been published in several editions within the past ten years. This fact would seem to indicate that both books have enjoyed some degree of popularity. Although the Branca book contains no statement that it is appropriate for high school students, there is some agreement that it is more suitable for high

school than for a higher level of instruction (Williams, 1964).

Reviews of these texts will provide the basis of a rationale for the need of still another high school introductory textbook.

A Review of Psychology for Living

Psychology for Living (Sorenson and Malm, 1964) is a second revised edition. Sorenson is now Distinguished Professor of Educational Psychology at the University of Kentucky and Malm is Professor of Psychology at Indiana State College. Both authors have had previous experience teaching in high schools. This edition is very similar in appearance and content to the 1957 edition. The main changes are the addition of a new introduction and inclusion of some more recent data. Some of the illustrations have been replaced by new ones. The illustrations are very striking, both because of the number of drawings and photographs included and the attractive content.

The preface of this book summarizes quite appropriately the type of approach favored. The suggestion is that adolescents want to study psychology because of a desire to know more about themselves so they can understand and analyze their own behavior as well as that of others. The authors suggest, further, that special needs of students can be met through the study of psychology during the difficult period of adolescence. A statement is made to the effect

that schools recognize their responsibility for guidance of the student and that the student's study of psychology should facilitate such guidance.

The mental health approach taken in this book is very clearly reflected in the five section titles under which the twenty-five chapters are grouped. These titles are listed below:

- Part I. Your Personality Growth
- Part II. Your Mental and Emotional Health
- Part III. Your Physical Growth and Learning
- Part IV. Your Intelligence and Thinking
- Part V. Your Courtship, Marriage, and Lifework

Mention is made of the fact that Psychology for Living is suitable for courses in psychology, social problems, home economics, health, human relations, personal problems, mental hygiene, marriage and family, occupations, or any other courses with the purpose of helping young people understand themselves better and make a satisfactory adjustment to society. Throughout the book references are made to the students' health habits. Suggestions for developing "good" habits are made along with suggestions for avoiding the development of "bad" habits. Rules to follow concerning eating, sleeping, cleanliness, handling money, etc., are listed, each topic having its own numbered list. At one place lists of things to do and things not to do to improve your "likeability" are listed. The need for a sense of security is discussed along with a remonstrance that one should not allow the need for security to dominate his be-

havior to the extent that he becomes overly cautious. All sorts of advice is freely spread through the book. So far as can be determined, this advice is opinion based with little research substantiation. A pervasive theme is the assumption that all behavior is rationally determined. The unconscious determinants of behavior are generally ignored.

This book could be used only in schools which are permissive about religious instruction in the curriculum. The "good" life which religion teaches us to live is suggested as an aid to adjustment. The adherence to principles of "our" belief with its emphasis on good morals, helps to avoid disapproved behavior which leads to guilt feelings and to unwise suppression or repression, according to the text. Further, religion is suggested as a help for bearing shame and guilt, since forgiveness of sins follows when repentance is sincere. The teachings of Christianity provide the underlying philosophy of this book, and sometimes this philosophy is identified as "religious." In other places the connection seems obvious but is not specified.

At the end of each chapter is a section entitled "Applying Your Knowledge." This is an attempt to help the student apply his knowledge gleaned from this book to his own life and his relationships with other people. Specific "rights" and "wrongs" leading to desirable and undesirable consequences are discussed. Essentially, formulas are bases for "good" versus "bad" behavior, and no allowance is made

for shades of grey between black and white. Or, to state the problem another way, no consideration is given to the many variables which make each psychological situation a unique problem solving event for the person or persons involved at any particular time.

With the exception of the last section, "Your Courtship, Marriage, and Lifework," the content and level of presentation would appear far too simple for average high school seniors, although that last section would seem to suggest the book was written for them. The level of understanding would seem to be suitable for sixth or seventh grade students. A comparison of this text with several used for the introductory courses of psychology in colleges indicates that the content of Psychology for Living (Sorenson and Malm, 1964) has little relevance to material included in college texts. On the contrary, a high school student could well receive a false impression of the content of the field of psychology as a discipline from this source. A course based on this book would probably not improve performance in a beginning psychology course in a college or university. Whether or not this book accomplishes its stated aims concerning personal adjustment of the student is problematical.

A Review of Psychology: The Science of Behavior

This book, written by Albert A. Branca, is published under a 1964 copyright and includes a small separate teach-

ers' manual pamphlet. The book was briefly reviewed in Contemporary Psychology by Stanley B. Williams (1964), who at the same time considered nine other introductory books for colleges. The reviewer states that the book was puzzling to him until he was able to decide from close inspection that it was meant for high school students. He mentions the picture of a family skiing together and smiling together, captioned, "Human beings never stop learning. Father and Mother can join their children in learning new skills and new responses to a sunny day and a snowy slope."

That quotation is a good example of the treatment of some important topics in psychology in this book. Each concept introduced is in successive steps reduced to a level of simplicity which is actually misleading. Williams (1964) suggested that it might be considered for the tenth grade. However, it should be carefully inspected before a decision is finally made about its use in a one semester course. The text, including glossary, totals 573 pages which include that material considered suitable for study in a psychology course, and point out folklore and common misunderstandings which are not the legitimate concern of psychology. Branca implies in the preface that this is a systematic experimental psychology text. The apparent lack of any unifying theoretical basis to provide organization for the data reported along with the broad coverage of topics in very simplified presentation results in a book which is neither a

good introduction to the study of psychology nor a good experimental reference book.

The presentation of facts or evidence is not combined with consideration of the aspects of experimental psychology which produce scientific evidence. No effort is made to present students with problem-solving situations. The activities suggested are often related to commonly observed phenomena which may be illustrated by a class demonstration. (One of the suggested activities is demonstration of the mixing of colors on the color wheel, which is a worthwhile experience.) Nowhere are students presented with the opportunity to draw conclusions from evidence. Systematic procedures for gathering evidence, formulating hypotheses, controlling relevant variables, and relating results to hypotheses for interpretation are not consistently related to the topics covered. Material is not provided which would be useful in guiding discussion in the class along lines which would teach the scientific method of thinking. In fact, mastery of the data and narrative content of the text would require so much time that this deficiency in the text could not be corrected by the use of supplementary texts.

Since A Review of Psychology: The Science of Behavior is a very new book, no evidence of response from high school teachers is yet available. However, if adopted as a text, it might be useful at about the tenth grade level because of the low level of difficulty in reading and because

of the constant reiteration of experimental findings, applied to increasingly more common sense levels. It provides light reading about psychology which is rather entertaining. It would be much more useful in any class if we could assume that high school teachers would be able to present in lecture sections some opportunities for discussion of experimental procedures used in scientific observation in conjunction with the reading of the text. However, most high school teachers of psychology are naive concerning scientific techniques and do not have sufficient sophistication and knowledge to teach at a level which supplements the text. Rather the courses are limited by the limitations of the text. Since most high school teachers teach four or five classes each day, sometimes different subjects, most are inclined to rely heavily upon the material in the text. Whatever is to be taught and essentially how to teach it must be included in that text.

This text does not constitute a stimulus for critical thinking or encourage a scientific attitude of skepticism in any way. It presents information. This is not a book of advice for better personality adjustment of the student. Mental health problems are successfully relegated to secondary importance.

A Review of Psychology: Its Principles
and Applications

This high school psychology text written by T. L.

Engle is in its fourth edition, copyright dates being 1945, 1950, 1957, and 1964. The available information indicates that in the United States about ninety per cent of high school psychology classes use this text (Provinse, 1964). Teaching aids developed to supplement the text are a student workbook entitled Record of Activities and Experiments, With Programmed Units (Engle, West, and Milton, 1964), and Teacher's Manual and Objective Tests (Engle, 1964). The workbook is delightfully designed for a learning experience that allows a student to check his answers to questions immediately to determine accuracy. It is an instructional tool. Further, it contains some supplementary simple experiments and exercises tabulating and graphing data for student individual activities. The Teacher's Manual and Objective Tests is a book consisting mostly of a series of matching, completion, and multiple choice questions designed to cover each chapter.

An examination of Engle's Psychology quickly reveals many reasons why it is clearly the most popular high school psychology text now in use. This text more closely resembles a college text than any other recent publication for high school psychology. The scientific approach is truly integrated into the specific body of knowledge accumulated in psychology at this time. This presentation is particularly exciting in the following sections of the book:

Unit I: The Science of Psychology; Unit II: Learning; and

Chapter 9: Heredity and Environment. Studies in these areas are presented in such a way that they can be and are evaluated. The research techniques commonly used in connection with particular types of studies are simplified and evaluation is possible. Particularly the learning chapters reflect the enthusiasm of a research scientist and the need for exact controlled observation and evaluation of results which characterize the scientific method. The presentation of the studies is in an easy narrative style, precisely reporting very thoroughly relevant details to the extent they will be appreciated by the beginning student in psychology. Study of these chapters should give a student many good ideas about the ways in which more simple problems of behavior may best be approached.

The foregoing evaluation covers roughly half of the complete text. Other sections of the book are not so strong. The stimulus-response approach so successfully used in studying more simple aspects of behavior is inadequate to encompass the more complex problems of personality and social behavior. A trait approach is used in the description of personality, then other related topics are viewed from an applied angle which depends upon the analysis of components of personality. Largely, personality is treated in terms of the sub-title, "What It Is and How It Is Measured." Further listing of titles creates a meaningful impression of the content of the last section of the book.

The titles are as follows: Unit 5: Mental Health; Unit 6: Love and Marriage; Unit 7: You and Society; and Chapter 7 in Unit 3: Popularity and Leadership, with subtitles, Popularity, Helping Others to Like Us, and Leadership. The "how-to-do-it" application includes the assessment of traits of personality and relates them to specific problems. This part of the book does not adequately convey impressions of the typically complex nature of a person's integrated behavioral responses to his continually changing environment. A mental health focus on adolescence describes symptoms and what to do about symptoms. Crime is discussed in terms of what is being done to rehabilitate prisoners, rather than as a phenomenon of social living which is causally determined. The fact that human behavior is an on-going process in each unique situation is ignored.

Therefore, one of the strengths as well as one of the weaknesses of this text is the fact that it is written from one consistent point of view which provides a frame of reference for evaluation of data presented, but allows inadequate treatment of certain important topics.

Conclusions

The three high school texts reviewed differ widely in content and in instructional level.

Psychology for Living (Sorenson and Malm, 1964) is little related to psychology as taught in colleges and would probably not be a source of helpful information for students

continuing the study of psychology in college. The stated aim of this book is to help students attain better personal adjustment as adolescents. This aim implies justification for inclusion of some advice and rules concerning "desirable" and "undesirable" behavior. The phenomena of human behavior are viewed as consciously determined and little attention is given to the unconscious aspect of thinking processes. The book is recommended by the authors for a great variety of courses, including psychology. Examination of the text does not indicate where it might be most successfully utilized.

Psychology: The Science of Behavior (Branca, 1964) is an encyclopedic coverage of many topics in psychology. Emphasis is placed on facts. An apparently eclectic approach provides no unifying point of view as a basis for understanding and evaluating the information included. Experimental data presented does not reflect the spirit of discovery or the nature of evidence as opposed to fact in supporting a position.

Psychology: Its Principles and Applications (Engle, 1964) is the text most widely used now. This popularity is well-deserved as indicated by critical reading. It is interestingly written in clear, precise language and style. A stimulus-response theoretical approach provides the integrating principle for presenting an important body of knowledge in certain areas of psychology. Theory is not empha-

sized as such, but the consistency in point of view provides a frame of reference within which information can be evaluated. In particular problem areas an extraordinarily good treatment of the content emphasizes the scientific nature of evidence and the value of a scientific attitude in investigating psychological problems. Neither of the other books reviewed approaches this goal. However, about half way through the book when the more complex problems of personality are considered, the stimulus-response approach is not as fruitful as in the study of more simple discrete problems. The trait approach to personality is integrated into mental health and other applied problems. No apparent unifying thread provides a framework for predicting and understanding human behavior as an ongoing process of problem solving in social settings.

CHAPTER IV

RATIONALE FOR PROPOSED TEXT

Introduction

An examination of high school psychology texts available at the present time indicates that only one (Psychology: Its Principles and Applications [Engle, 1964]) is a systematic introduction to the content and methods of study of psychology. It is the only high school text in wide use. No high school text was found which presented an adequate conception of personality to account for individual behavior in the stream of unique problem solving situations occurring in everyday life. Clearly, the group of books from which a high school text is likely to be selected is small. A need does exist for an additional text in this area. The rationale for an additional text includes a discussion of teaching goals, format, and theoretical considerations. These basic considerations are essential to the planning of a particular book for a particular purpose.

Teaching Goals

Primarily, this text is to be written for high school students of psychology, some of whom may be expected

to continue the study of psychology in college, though the majority will not. A minimal goal for college-bound students is to provide accurate data concerning psychology as a field of study as well as a background which will facilitate learning in a college class. However, some students may be able to begin their college study with low level courses above the introductory level. The text contains much the same type material found in college introductory courses, but the presentation is adapted for high school students and their teachers. All students, including those who do not continue the study of psychology after completing high school, should find that they have a better understanding of how and why people behave as they do in their worlds as well as something of the scientific method of inquiry.

The entire book is to be based on sound experimental data and established theoretical concepts. However, theory as such will not be emphasized, since the use of numerous and various theoretical models in a survey course of this level would be confusing to beginning students. Likewise, the experimental evidence presented will demonstrate the application of the scientific method of inquiry as related to problems in context. Scientific method, as such, need be discussed but very briefly.

The contention is that a thorough understanding of the etiology and dynamics of normal human behavior and the wide range of its variability is likely to lead to a more

realistic and accurate conceptualization of mental hygiene and personal adjustment than the study of those particular topics. For this reason, and also because the student of psychology is inclined to relate his newly acquired knowledge to his own life, little attention will be given directly to mental hygiene problems.

Every effort will be made to include guidelines for class discussion which is oriented in the direction of subject content rather than personal adjustment problems. Generally, high school teachers are not sufficiently trained to conduct therapy, group or individual, or to deal with the problems of unusually disturbed students. Another reason for holding the discussion close to the book is to avoid random speculation and the type of conversation which has been called "exchange of ignorances."

Format

Because the conceptualization of ideas unique to the discipline of psychology requires knowledge of special meanings for standard vocabulary words or learning of new words, technical vocabulary will be included, but carefully integrated into the context with a view toward easy assimilation. The students will have an opportunity to learn the language, but every effort will be made to convey precise meanings in standard vocabulary. A glossary at the end of each chapter will list the new words introduced in the chapter and definitions.

Within each chapter at appropriate breaking points blocks of questions will be inserted in smaller print in paragraph form. Such questions will not necessarily require factual answers and may have no "right" or "wrong" answers. (This device has been used by Cronbach (1956) as a means of stimulating thinking and discussion.) The important point that no one correct answer is expected will be made in the text and should be helpful for teachers who are not well-trained in the scientific methods of inquiry. The idea of gathering empirical evidence to support an hypothesis will be emphasized. Questions which have no definitive answer will support a position which allows the teacher to say, "I don't know," or, "That's a good question. How could you find an answer?"

Theoretical Considerations

A survey of the field of psychology is an attempt to touch on all topics appropriately studied under that title. Because of the diverse beginnings of the problems studied in psychology, as shown by the history of psychology as a discipline, and because of personal preferences of those individuals who have made significant contributions to the body of knowledge known as psychology, the advancement in the study of psychology has and continues to go forward within various systems of theoretical formulations. At some points, conflict between theoretical formulations concerned with the same problems is inevitable. However, more

and more we tend to realize that a theory of behavior is more than a theory. It is a way of working and thinking which in large part determines the degree and kind of analysis to be attempted, the way of attacking the task, and even the kind of problem selected for study (Wickens, 1963).

Consequently, in certain broad areas of the discipline, contributions from a particular theoretically oriented group can be judged more or less important than those of another group.

Another suggestion of Wickens (1963) is that a most useful way of characterizing groups of psychologists of various theoretical orientations is in terms of stimulus-response theorists and non-stimulus-response theorists. The basis for this categorization is that a difference is present in the way in which a research problem is generated by these groups. Wickens states as follows:

The research of the stimulus-response theorists seems to be theory generated; they seem to look at a domain of behavior and ask at the outset what their theory has to say about the domain. They are interested in extending their theoretical concepts into behavioral domains that are only a very little bit more complicated than those from which the theoretical concepts have been developed. Maybe, they would seldom think of researching an area unless the theory is suspected by them of having something to say about the behavior in question.

The non-stimulus-response theorists may begin in a problem area, perhaps from disciplines other than psychology, and develop a theory to account for their empirical findings.

Wickens suggests a further dichotomy between these

groups is their tendency to either approach a problem from a theoretical position or to build theory from empirical findings. This position does not mean unilateral progress in either theory building or gathering empirical evidence. Any soundly based system must incorporate both processes alternately, and/or concurrently. Rather, he seems to mean that the non-stimulus-response psychologists are more inclined to create new conceptualizations when stimulus-response theorists are more inclined to fit empirical data into existing theoretical frameworks.

These differences in orientation have been present throughout the history of psychology and the body of knowledge accumulated reflects gross philosophical differences. Engle (1964) presented so well that material which has been accumulated under a stimulus-response orientation and, therefore, is best explained by reference to that orientation. Generally, the problems are related to more simple forms of behavior. However, in the study of more complex behavior, the major contributions have not been made by people of the stimulus-response orientation. Stimulus-response psychologists have studied problems of personality and social behavior, but their most important contributions are not in those areas.

To study or write about any area in psychology, one must take a stand which will provide a unifying principle for understanding and evaluation in that area. Since various

problem areas are usually quite different and differently handled, the survey of psychology is not best presented from one theoretical stand. Rather, the teaching goals should determine the underlying theme and continuity for conceptualization of behavior at particular levels of complexity.

It is proposed that the most complex human behavior involves social interaction and can best be understood from the standpoint of the individual behaving in his society in various roles as a member of many groups in his society. As a result of interaction with important other people in his society, he forms a concept of himself as a behaving person. This concept can be thought of as a constellation of attitudes about himself as a person and can be measured in relevant situations (Sherif, 1962). Certainly, one way this stand can be labeled is "non-stimulus-response." Further, this position may be more accurately characterized as "interactional."

Important study in learning has developed under the stimulus-response orientation, but perception, thinking, and creative problem solving have generally been best conceptualized within the frameworks of non-stimulus-response theories.

Some psychologists (Wickens, 1963) are beginning to be more tolerant of theoretical formulations to which they do not necessarily subscribe. The difficulties in understanding are to a large extent communication problems. The

diversity of problems and related theoretical constructs involve a diversity of conceptualizations and language constructs, which are a tremendous barrier to communication. Perhaps understanding and tolerance are more probable where problem areas overlap least, if theoretical positions are conflicting.

This book, then, will be eclectic in one sense: No one theory will be considered basic to the consideration of all empirical data in the field of psychology. However, the theoretical basis for consideration of certain areas will differ and the theoretical basis for a particular area considered will be that which seems most unifying for that area and best incorporates the teaching goals heretofore stated. Less complex behavior will be considered within the context of stimulus-response theories and more complex behavior will be considered within the context of non-stimulus-response theories. This rule should avoid the too-frequent problem of eclecticism: incorporation of many theories which robs the presentation of its organization and bases for evaluation and interpretation.

The first half of the book will be concerned with the simpler phenomena of behavior while more complex problems will be included in the last part.

General Organization

The book will be divided into four logical sections, each section consisting of several chapters. The first sec-

tion will be an introduction to the field of psychology, the subject-matter and methods of study, followed by a discussion of the influences of heredity and environment which determine psychological development of the individual. Many interesting examples have been collected throughout the years, some demonstrating good methodology and documentation while others illustrate problems in methodology which interfere with accurate interpretation of the data.

The second section will concern the more simple aspects of learning phenomena and include problem solving and complex behavior as well as specific information concerning effective study methods.

Section Three will describe measures of individual differences, kinds of tests, test construction, and interpretation of scores, including the necessary elementary statistical methods used in constructing and interpreting tests.

Section Four will include physiological, emotional, and motivational factors which are characteristic of the organism.

Section Five presents information on sense receptors and perception. Section Six considers the interrelated topics of personality and social behavior. This very complex behavior must be understood to result from the interaction of many factors, including those discussed in the first five sections of the book. These last two sections proceed from a description of the sense receptors which pro-

vide the data of an individual's perceptions, through an examination of the relationship between perceptual reality and physical reality, to provide a basis for understanding perception of self, or the self-concept and personality. The self-concept is a part of personality, which, in turn, is related for social interaction which occurs in a cultural setting of a particular society.

List of Sections and Chapter Titles

- I. Introduction
 - 1. What is the Study of Psychology
 - 2. Influences of Heredity and Environment
- II. Learning
 - 3. Conditioning and Skills
 - 4. Transfer and Problem Solving
 - 5. Effective Study Methods
- III. Measurement
 - 6. Measures of Individual Differences
 - 7. Test Construction and Interpretation
- IV. Characteristic Responses of the Organism
 - 8. Physiological Factors in Behavior
 - 9. Emotions
 - 10. Motivation
- V. Perception
 - 11. The Sense Receptors
 - 12. Perception
- VI. Personality and Social Behavior
 - 13. The Self Concept
 - 14. Personality
 - 15. Cultural Influences in Personality Development
 - 16. Attitudes and Beliefs
 - 17. Language and Communication
 - 18. Social Relationships

CHAPTER V

CONTENT SUMMARIES FOR CHAPTERS OF
PROPOSED TEXT

Conceptualization of Content

A brief summary of the content of each proposed chapter indicates the general content. These summaries are conceptualizations of the chapters with some specific material mentioned. When a summary is enlarged to the size of a chapter, expansion and explanation will include many relevant examples to present in a concrete fashion evidence supporting general statements. The abstract nature of the summaries is not an indication of the style in which the text will be written. However, this abstract, compact summary for each chapter reflects the basis of continuity within the expanded chapter.

Summary I: What Is the Study of Psychology?

Psychology is the study of how and why individuals behave as they do. Knowledge of differences and similarities in individual behavior is essential to achieving a common basis for understanding which is necessary for peaceful and cooperative living between individuals, societies,

and cultures in the modern world where increasingly greater contact is made possible through technological advances in communication and travel (Sherif, Sherif and Nebergall, 1965).

The behavior of any individual at any moment in time is always complex. Many variables interact to produce integrated purposive behavior of the organism. However, in the study of individuals we may justify isolating a portion of behavior for our attention at any particular time, even though eventually any specific activity of learning, perceiving, thinking, remembering, or believing, for example, must be understood in the total context of the individual as a person behaving in his particular environment at that time.

In the field of psychology, many areas have been delineated for special study. Several of the best known areas are listed and explained. Often a specialist in one area also maintains interest in other special areas. This is understandable in view of the fact that all aspects of human behavior are interrelated. In research as well as in applied psychology in schools, military service, and industry, for example, psychologists perform highly specialized duties.

One purpose of this text is to present a survey of the accumulated body of knowledge in the field of psychology. However, at least as important is a second goal which is to help the student develop a scientific attitude toward the

study of human behavior (Engle, 1955, Kent, 1964, Ojemann, 1961).

The complexity of the study of psychology is indicated to some extent by showing how psychology overlaps into other disciplines including physiology, sociology, anthropology and education.

Because psychology is a specialized field, a technical vocabulary has been developed for describing special concepts. New words may emerge or familiar words may be given special meaning. Acquisition of this special vocabulary is important if a student is to understand precisely the new concepts peculiar to the discipline of psychology.

Some methods of scientific observation used in psychology are described. The role of the observer in certain observational situations is discussed. The scientific attitude is described as objective, open-minded, and a desire to find the true nature of reality regardless of personal preferences. The question is discussed of whether order exists in the Universe or is imposed by man's organization with a tentative conclusion that order perceived in the Universe is a combination of both factors. The "empirical" point of view is distinguished from the "rationalistic" approach.

The relative complexity of experimental designs and problems studied is compared with the kind of data yielded. Several types of experimental designs are outlined briefly.

Sampling procedure is discussed. Particular attention is given to two methods of sampling which will be repeatedly mentioned in various chapters throughout the text: cross-sectional studies which include a number of samples of behavior taken at about the same time, and longitudinal samples which are projected over a long period of time and consist of a number of measures on one or a few subjects at various intervals.

The point is made that inferences are made on the basis of evidence collected, and that these inferences are neither true nor false, but statements of probability (Whitehead, 1925).

Summary II: Interaction of Heredity and Environment

A review of the genetic determination of heredity will be diagramed and explained in the text. The point made is that heredity is set at the time of conception and that development of this hereditary capacity will be modified within limits set by heredity during the process of growth and maturation in the pre- and postnatal environment.

Recognition will be taken of the developmental sequence which by and large is the same for all children, or general to the species. Individual differences in rate, but not usually sequence, show that some children develop faster than others. Physical responses become more specific and more controlled progressively during the processes of maturation. Gesell (1928) has provided a narrative summary

of normative motor development at various ages from one month to five years. This is reproduced.

The newborn child exhibits an undifferentiated emotion which might be described as undifferentiated excitement. A diagram from Bridges (1931) indicates the approximate ages of differentiation of the various emotions during the first two years of life. Eleven emotional responses are identified in the two-year old child. As physical and emotional maturity proceed, the child is developing his ability to distinguish between himself and the world around him. He cannot become a socialized person until he has developed the ability to distinguish between me and not-me. The development of language facilitates the ability to discriminate between objects and things. Hurlock (1956) has recorded the characteristic sequence and time at which various aspects of language occur between the ages of one week and five years. This summary is reproduced.

Many case studies, more or less well documented, have been reported as evidence that minimal physical stimulation is necessary for normal maturation of the sensory capacities and that normal adult behavior develops only through the interaction with other people. Some classic studies of children found living with animals or alone in the forests are reported along with an indication of the difficulty involved in interpretation of these studies to provide information about the effects of heredity and en-

vironment. Other studies of children remaining in comparative isolation during early life are reported.

Efforts to assess differential effects of heredity and environment are reported in studies of identical twins reared apart or together. The book, Ape and Child (Kellogg and Kellogg, 1933) is summarized for a comparison across species.

These studies are very interesting to read. The evidence, however, is conflicting in many examples. The conclusion reached is that results are inconclusive concerning the differential effects of heredity and environment during the developmental period. However, all evidence points to interdependent and interactional relationships.

Summary III: Conditioning and Skills

The view has been taken that heredity sets the limits within which any individual learns, or modifies his behavior. Learning of simple skills may occur when any tendency to respond occurs in relation to some stimulation from the environment. It can be said that a general tendency to respond has been modified by learning when an organism seeks a particular object associated with that response and when he can differentiate the results of his activity.

Examples of differentiated responses are described in detail. An object touching the lips of a hungry baby elicits a sucking response which becomes more efficient as nourishment continues to be provided. Crying in a state of

general excitement which cannot be differentiated in early childhood is later modified so that different kinds of crying can be observed and related to a particular state of discomfort: hunger, temperature, or pain, for example.

Such simple levels of learning are thought to be basic to learning of more complex behavior. For this reason, any number of ways of studying the acquisition of simple learning have been devised. One of the best known approaches has been in the study of conditioned responses which may be experimentally established with people as well as other animals (Bugelski, 1960; Hilgard, 1962).

The classic experiments of Pavlov are illustrated and described. The terms unconditioned stimulus, unconditioned response, conditioned response and conditioned stimulus are described in examples and as related to each other in the experimental situation. The process by which the conditioned stimulus comes to elicit the conditioned response and the relationship between the conditioned response and the previous unconditioned response is explained. The stimulation of one sensory modality is shown to lead to behavior originally elicited by stimulation of a different sense.

Conditioning is discussed in relation to avoidance of painful stimulation. Negative conditioning in which the organism learns not to make a response already learned is discussed. The concept of reinforcement as a reward which

leads to reduction of drive is discussed along with negative reinforcement described as painful rather than comforting, increasing tension or drive rather than reducing it. Sequences and time relations for stimuli and responses are discussed (Osgood, 1953).

Conditioning in human beings in laboratory situations is illustrated along with various phenomena associated with conditioning, such as experimental extinction and spontaneous recovery, secondary reinforcement, and higher-order conditioning. As school age is approached, children become more susceptible to conditioning in experimental conditioning, but less susceptible after the preschool age. The older child and adults may analyze the situation and control the response. For this reason, responses which are not subject to voluntary control, such as rapidity of heart beat, may be conditioned (Munn, 1956).

Verbal skills, described as differentiation of vocal ability present at birth, are related to conditioning as well as trial and error and imitative activity.

Some memory experiments are described briefly. Also, levels of complexity in learning motor skills are described.

Types of measures of progression in learning, such as number of errors, increases in speed, and number of trials necessary for attaining particular degrees of efficiency in performance are discussed. A table of data indicating errors per trial is included on one page with the same data

plotted on a graph on the next page. Thus, early in the book the student learns the utility of graphic representation which will be used repeatedly. Various learning curves for various learning tasks and situations are reproduced. The variability in the shapes and gradients of these curves provides the basis for a discussion of the impracticability of the search for a learning curve to describe the progress of all human learning.

An explanation of the physiological limit beyond which performance does not improve because of limitations of the organism is also included.

(Conditioning alone is a rather difficult concept to understand and requires considerable explanation and numerous examples. If this chapter should prove too long, then two chapters will be written: "Conditioning and Simple Motor Skills" and "Learning and Remembering." The latter chapter would emphasize graphic representation of the acquisition of learning.)

Summary IV: Transfer and Problem Solving

The learning of motor and verbal skills in one situation may contribute to problem solving in another situation more or less similar to the original. If learning a skill influences the acquisition of other skills, then we say transfer occurs. Transfer may be either positive or negative. Positive transfer facilitates acquisition of a second skill. Examples of motor and verbal skills influenced by

transfer effects of previous learning are described. The bases for transfer described by Munn (1956) are: (1) similarity of contents; (2) similarity of techniques; (3) similarity of principles; or, (4) a combination of these. Explanation of each of these factors operating in examples is included.

When skills necessary to solve a problem have been acquired, the additional factor of understanding or comprehending the nature of the problem and the skill requirements and sequences of behavior necessary for solution must precede solution. One approach is trial and error. More or less random behavior is tried until procedures accidentally lead to a solution. Once a solution occurs, the procedures followed may be repeated until errors are reduced, unnecessary efforts eliminated, and the performance is more efficient.

People may solve a problem conceptually by observing the relationships of the parts and thinking through the steps for solution so that no errors are made and one trial solution is possible. Learning by imitation or from demonstrations is more efficient than trial and error solutions, but any of these types of learning may occur without understanding principles involved, or relationships between steps in the solution.

In some instances of problem solving, all elements necessary for solution of the problem may be present, but

relationships may not be apparent. An indirect approach may be necessary. Illustrations are included. A child tries to reach through a piece of glass instead of around it for a toy. Chimpanzees join sticks to reach food outside the cage (Kohler, 1926). A person tries to tie the ends of two strings hanging from the ceiling, which can only be done when one string is swinging so that the ends of both can be caught at the same time (Maier, 1945). These and other classic examples of complex problem solving clarify the need to see relationships in complex problem solving.

In the solution of any problem, man's verbal and conceptual ability enable him to think through possible solutions. Any aids to more effective thinking or any influences which interfere with effecting thinking will help to determine his abilities in problem solving. Emotional factors may stimulate interest which facilitates problem solving, but excessive emotion may interfere by distorting the perceptual formulation of the nature of the problem and/or the information available. Previous experience may provide positive or negative transfer. Knowledge of the use of the rules of logic may provide unity in a step-by-step solution.

At the present time many aspects of problem solving and complex behavior are not very well understood. The underlying processes of thinking are not observable phenomena, so that the end product of problem solving is observed but the processes producing solution may only be inferred.

Summary V: Effective Study Methods

The general principles which have been formulated in relation to learning behavior in experimental situations in many instances have led to a better understanding of practical problems in study methods. Better study methods should be helpful to good as well as poor students. Better students may learn no more, but more efficient learning should lead to time saving and better retention of material learned. However, the one most important factor determining learning is motivation. The student who is not motivated to study and learn will be unable to benefit from superficial application of "techniques."

Since motivation is a necessary but not sufficient condition for efficient learning, we must assume that the student is motivated before he can take advantage of suggestions for improving his study methods. Motivation as such is not included in this chapter.

A schedule for studying should be arranged with a certain time allotted for any particular subject. Preferably, the time should be close to the class period, before a recitation class period, but after a lecture class period when notes can be reviewed. Each person must decide for himself how much time he can and needs to allow for study. Such a schedule helps to prevent procrastination and establishes habit patterns.

In general, it is much more important to work for

short periods with intense concentration than to work longer periods aimlessly flipping pages. Rest periods should be relatively frequent, but of short duration. Rest periods should occur at logical breaks in the material being studied and in relation to the difficulty of the material. Rest periods of a few seconds may be as effective as rest periods of several minutes or hours.

As a part of establishing effective study habits, a place which is regularly available should be located where little extraneous noise and distraction is present.

Basic to efficient learning is knowledge of the underlying skills necessary to any subject being learned. Effective study will depend, in varying degree according to what is being studied, upon knowledge of elementary mathematics and language skills, including reading especially. Remedial study in a particular skill may prove a very efficient way of improving performance in a particular subject.

Some recommendations concerning reading skills will be included, particularly the need to adapt reading speed to the type and difficulty of material being read. The importance of adequate vocabulary in determining both speed and comprehension is stressed (Harris, 1961).

A basic premise is that more learning occurs when more than one sensory modality is involved in the process. Probably a number of routines could be judged equally effective if based on this premise. However, a particular set

of rules worked out at Ohio State University is called the Survey Q3R Method (Deese, 1956). It consists of five steps: Survey, Question, Read, Recite, and Review. Each of these steps is explained in sequence.

Any study routine must be adapted to the type of material being studied as well as practical limitations of time and space.

Summary VI: Measures of Individual Differences

Many differences between people are readily observed and conveniently measured. Other differences are not subject to direct observation but must be inferred from behavioral acts. Typing speed can be measured from a sample of work, but the ability to learn to type is more difficult to assess when the individual has had no experience with a typewriter.

Intelligence, or general ability to learn, is also difficult to measure. A valid test must measure ability to acquire knowledge rather than knowledge already acquired. Measures of personality depend upon the definition of that quality "personality" which is subject to many definitions. To understand the score on any test, one must understand the definition of the characteristic the test is meant to measure. Measures of interest and aptitudes are sometimes confounded. Interest in a particular vocation may give no indication of the probability of success in that vocation, or aptitude. Probably the type of test most related to the

characteristic it is meant to test is the achievement test which usually consists of a sample of work from the area being investigated.

The first type of test considered is the intelligence test, in particular the Simon-Binet test designed to predict school success for children in Paris, France. Using the concept of mental age, they were able to compare progress in school of different children in the same age group with their scores on the testing scale. The Stanford-Binet revision of the test adapting it for use with people in the general culture of the United States is currently the most popular individually administered intelligence test used for children. Adult levels are also included in the scale.

David Wechsler designed the Wechsler Adult Intelligence Scale for adults and later added a scale for children. Items are arranged according to level of difficulty. A score is compared to the scores of others in the same age group, so that a mental age score can be derived which is comparable to that derived from the Stanford-Binet Age Scale.

These tests contain both verbal and performance items which are highly related to cultural environment. Therefore, the scores on these tests are meaningful only when they are administered to people who have had approximately the same opportunity to learn in approximately the

same environments. They are said to be "culture-fair."

Performance tests which do not involve language are less relative to culturally determined experiences, but only the lower levels of intelligence are tested by most of these. One of the exceptions is the recently developed Raven Progressive Matrices.

Thurstone has developed a test of primary abilities which he considers a measure of discrete factors which determine intelligent behavior in conjunction with a general factor. This test is described.

The tests mentioned are individually administered. Several tests of intelligence have been designed for group administration. The advantages and disadvantages of group testing are discussed. Some group tests are discussed.

Personality tests are used to get a quick summary of a person's attitudes, values, beliefs, interests, and thinking patterns. The concept of tests structured in degree is presented. Very structured tests are questionnaires with multiple choice answers. The special use of the word "structure" in connection with tests and the general concept is explained in this context. The Minnesota Multiphasic Personality Inventory and the Allport-Vernon-Lindzey Study of Values are examples of structured tests. The Thematic Apperception Test is described as less structured and the Rorschach as still less structured. Samples of the type of items found on these tests are illustrated and described in

terms of degree of structure.

Self-rating scales as well as ratings by experts are mentioned as methods of personality evaluation. Interviews, structured and unstructured, are explained as methods of evaluation.

Achievement tests sample acquired skills or knowledge. Tests of scholastic achievement are used widely in educational institutions. When an achievement score is used to predict future performance, it becomes an aptitude score. Tests of scholastic achievement such as the Graduate Record Examination and the American College Tests (ACT) are used increasingly to predict success in college.

Aptitude tests have been developed on the assumption that different occupations require different kinds of abilities. Tests of mechanical and clerical aptitudes, finger dexterity, reaction time, and many others have been constructed and used with varying success in prediction of future performance or ability to benefit from training. One of these tests is the Seashore Test for musical ability, measuring ability to discriminate musical notes differing in pitch, intensity, time, rhythm, and timbre. These abilities are necessary for success in musical performance, but not sufficient. A good score may not predict success for a particular individual in a particular undertaking. However, the test is good for screening large numbers of people.

Two tests of interests widely used are the Strong

Vocational Interest Blank and the Kuder Preference Scale.

Throughout the chapter typical tests are described in terms of content, administration, scoring, and usefulness, with illustrations of possible items. The fact that a single test score is meaningless unless evaluated relative to many factors is emphasized. Those factors which enable us to evaluate a test score meaningfully are discussed in the next chapter.

Summary VII: Test Construction and Interpretation

The first step in constructing a test is to conceptualize the characteristic to be measured and define it operationally in order to determine the observable behavior to be quantified. Intelligence cannot be seen or touched; we must infer from certain observed behavior that a person is more or less intelligent than another. Two general positions have been taken in the definition of intelligence:

(1) Intelligence is considered a general ability which may be measured in a number of activities; (2) Intelligence is a combination of primary abilities which may be measured individually.

The Stanford-Binet test was based on the concept of intelligence as the ability to acquire knowledge, a general trait. Procedures of construction permitted a child to be tested at several age levels on items which were passed by children of that chronological age 60 to 75 per cent of the time. The score was the sum of credit in months and years

allowed for each item passed and was called a mental age or MA. Standardization involved normal and feeble-minded children. Later the mental age was compared with the chronological age of the child to yield a score called an intelligence quotient, or IQ. If a child's mental age is the same as his chronological age, the IQ is 100, or average for his age group. Children of the same chronological age vary considerably on either side of this score, very low scores indicating mental retardation and very high scores indicating unusually high abilities (Cronbach, 1960).

The Weschler Adult Intelligence Scale was also constructed on the theory of intelligence as a general ability, but is not an age scale. Items are in order of difficulty. However, IQ scores can be derived by comparing the scores with scores of others in the same age group.

Items on intelligence tests are designed for the average child in a culture. Ability to acquire learning varies at different ages. However, if a child progresses normally in his age group, the IQ score should show little or no change and reflects normal growth and development of intellectual ability. Children who are deprived of normal experiences and opportunities for learning may not show a constant IQ score, although an improved environment may also affect the score. In the event the score fluctuates on the basis of change of environment, then we may safely say the test is not "culture-fair" for a particular child.

An IQ score is simply a score on a test. The tests are not perfect and often incorrectly administered under circumstances which do not allow the person tested to perform at maximum efficiency. He may be scared, ill, or otherwise unable to do his best. Such conditions result in errors and any person who receives a score on any test which seems contrary to his usual standard of behavior in natural situations should be re-tested.

Factor analysis based on a theory of specific abilities comprising intelligence is discussed in terms of correlations between abilities tested. This discussion is narrative without computations.

Included in this chapter is an explanation of correlation in connection with notions of validity and reliability. Descriptions of the test-retest method of determining reliability and the split-half correlation method are included. Reliability is characterized as the extent to which a test measures consistently whatever it is meant to measure. Validity is defined as the extent to which a test measures what it is supposed to measure. Diagrams of degrees of correlation, some positive and some negative, illustrate possible relationships between scores on typical criterion variables and intelligence test scores.

The distribution of scores and the normal curve are presented along with the notion of standard deviation. Percentiles, deciles, and quartiles are illustrated and ex-

plained. The fact that a score may be in the top quartile for one population and in the lowest quartile for another population is illustrated and discussed. Interpretation of a score means reference to a standardization group which must be defined.

Meanings of very high scores and very low scores are discussed in terms of the behaviors associated with severely retarded and extremely gifted individuals. There is some evidence that gifted children tend to have overall superior development while retarded children tend to have an overall pattern of slow development including development of socially acceptable behavior (Angelino and Shedd, 1956).

Much emphasis is placed on interpretation of scores because high school students must evaluate themselves very frequently in terms of standardized test scores and should have some conception of what these scores mean. While the IQ score is generally related positively to achievement, some individuals are able to use whatever ability they possess to attain higher achievement than the intelligence score would have predicted. Others are handicapped in ways which prevent the degree of achievement predicted.

This chapter on test construction and interpretation will explain the methods of constructing various tests and means of interpreting the scores. The view is taken that interpretation of a score is highly related to the methods of construction, validity, and reliability. In

turn, these methods are most easily explained in concrete examples of particular tests, whether in relation to intelligence, achievement, interests, or talent. Intelligence testing is explored here as an example of the type of treatment to be given other kinds of tests, with reference to specific tests.

Summary VIII: Physiological Factors in Behavior

Normal behavior for any one person may cover a wide range of levels of activity which bring about drastic shifts in the physiological equilibrium within minutes or seconds. Adjustments at a behavioral level have physiological accompaniments. The body is at all times endeavoring to maintain a physiological equilibrium described as homeostasis. The biological equipment behaves as an interacting system, constantly striving toward homeostasis.

Physiological processes occurring in conjunction with more or less emotional or motivated behavior are integrated through three regulatory systems. These systems which may be identified for study are the cerebrospinal nervous system, the autonomic nervous system, and the endocrine glands. None of these systems functions independent of the others (Morgan, 1961). At appropriate points simplified drawings of each system are included in the text with parts labeled.

The cerebrospinal nervous system includes the brain, the spinal column, the motor nerves, and the sensory nerves of the sense organs. Of special importance to emotion and

motivation is the hypothalamus which has been shown to have a controlling function on metabolic rate, water excretion, breathing, heart activity, temperature regulation, blood pressure, eating, drinking, and many different aspects of emotional behavior.

At one time it was thought that stimulation originated in the organ most directly affected, giving rise to sensations of thirst or hunger. However, experiments with animals yield evidence that these motives are more highly related to control by the hypothalamus. Exploration of the role of the hypothalamus involves removal of particular sections from experimental animals and observation of resulting behavior as well as observation of the results of stimulation of the hypothalamus with an electric needle in various localities. Further research is possible by observing the behavior of human subjects who have tumors in the area of the hypothalamus. Experiments on animals indicate that drugs which tend to tranquilize or calm excited and anxious subjects inhibit the action of the hypothalamus so as to lower the body temperature, reduce blood pressure, and control heart activity.

Emotional and motivational states of the organism bring about other automatic responses which are not usually under voluntary control of the person. A special part of the nervous system, called the autonomic nervous system, exerts control over what has been called "emergency" re-

actions which prepare a person for increased activity. This system has been divided into two parts called the sympathetic and the parasympathetic systems. The autonomic nerves change the diameter of the arteries, affecting blood pressure, and alter the force and rate of the heart stroke, along with other changes in the state of the organism which are associated with increased activity. Almost every emotional state is accompanied by noticeable physiological changes. The lie detector takes advantage of this fact and measures several involuntary responses such as galvanic skin response, blood pressure, and heart beat of a person being questioned. Changes may be associated with answers to certain questions.

There is reason to believe that physiological responses during emotion are differential, but we are unable to distinguish the particular emotion represented by physiological changes. Information collected by the lie detector could be related to emotion due to feelings of guilt or due to fear from being unjustly accused. At the present time physiologists believe that interactions within the nervous system are too complicated for identification of a particular pattern of physiological response associated with a particular emotion.

The Cannon-Bard and the James-Lange theories of emotion are discussed.

The autonomic and the cerebrospinal nervous systems

are intricately involved with the endocrine or hormonal system. The ductless glands of the endocrine system, such as the pituitary, thyroid, adrenals, and gonads, pour their secretions directly into the blood stream. Mutual interaction in this system provides control of the secretions. Many different kinds of reactions occur in the visceral organs which are thus affected. In general, the influence on behavior is temporary or immediately modified, as shown by the energizing effect of adrenaline. Other long lasting effects are the constant regulation of general level of energy and our continuing motivational and emotional structure (excitability, aggressiveness, and calmness). Although the endocrine system is very important in determining behavior, analysis of the endocrine system gives no easily discovered relationship to different emotional patterns.

Summary IX: Motivation

Motivation has been variously defined abstractly. However, a more useful way to understand the nature of a state of motivation of an organism is to think of various motivated behaviors in which people engage in order to satisfy or reduce needs by goal-seeking activities. We may classify physiological motivation as the primary motives which are normally characteristic of the members of the species. However, much variation is present in the manner in which people of various cultures prefer to obtain satisfaction of these needs. All goal-seeking behavior is not di-

rectly tied to reduction of primary needs. Acquired motives may become more important to an individual than goals related to primary motivation, resulting in self-destruction. Some motives first associated with primary needs may continue to energize behavior toward some other goal when the primary need is no longer present (Allport, 1955).

In this chapter physiological motivation is considered as the body's constant striving for a state of physiological equilibrium or homeostasis (Freeman, 1948). The bodily processes for maintaining homeostasis are constantly working toward a state of equilibrium which can never be maintained by virtue of the very activities of and in the body necessary for sustaining life. In the previous chapter, some of the physiological mechanisms which automatically tend to maintain that state of equilibrium are discussed.

Some specific motives which may instigate activity are feelings of warmth, cold, and pain. As a matter of survival, we must avoid extremes of warmth and cold. In addition to the adaptation automatically provided by physiological mechanisms, conscious effort may be necessary to achieve the sense of well-being associated with a comfortable temperature. Precisely at the point that an individual strives consciously to achieve relief from discomfort of warmth, cold, or pain, social motivation becomes involved. Every person tends to satisfy these needs in ways related to his society, its culture, the values, customs, and sanc-

tions. Clothing is selected to provide more or less warmth, according to the season and climate, but also in relation to aesthetic preference and availability. The Indian on the Arizona Reservation may achieve more warmth by wrapping his colorful blanket around his shoulders. During the winter the Eskimo families wear fur-lined clothing day and night, with the family huddled together in a small dwelling to conserve body heat because of the scarcity of fuel. The young lady in Dallas, Texas, is protected from the sharp winds whipping around the corner at Elm and Pacific Streets by a fur coat of matched mink skins chosen because of its value as a high status symbol, its high fashion design, and the beauty of the fur. Houses and buildings are heated in winter and cooled in summer for physiological comfort. How large and expensive the houses are and how they are cooled and heated are socially determined. The physically most efficient control may not be the preferred method.

Thirst and hunger are also primary sources of motivation. The hypothalamus controls these motives to some extent, but habit and conscious decision also determine when and what we eat and drink. Both needs are subject to delayed satisfaction, but not indefinitely without injury to the organism. Water must be constantly replaced in the body because of loss of moisture from the skin and mouth and in the form of urine. Food metabolized is the source of energy for the very processes which are bodily functions. However,

again, habit and conscious decision determining when and what, as well as how we eat and drink, reflect the society in which we live. Before white men invaded certain Arctic territories where the Eskimo tribes lived independently, the Eskimos habitually prepared for the long winters by freezing stores of fruit and other food available in the summer. When some of them were employed by the white men, often for short periods, money for buying food of the white men became available. The usual eating habits were disrupted when an inadequate adaptation of the white man's diet became preferred. Malnutrition and actual starvation resulted.

Food selection has been shown to be related to specific needs in some instances. However, habit and food preference often cause harmful deficiencies in the diet of older people. Cafeteria feeding experiments are described which provide evidence that food selection is related to specific needs.

Sleep, also, is controlled in the brain, but is subject to habit and degree of stimulation as well as fatigue. Sleep may be delayed by conscious effort and self-induced stimulation.

Avoiding pain is another primary motive which contributes to survival of the organism by serving as a warning of injury. The reflex action which withdraws a limb from the painful stimulus is automatic, but perceived sources

of pain may be consciously avoided or pain may serve as motivation to seek relief by medication. People who do not have normal free nerve endings in the skin for sensing pain must be carefully protected from injury since they cannot sense the unpleasantness which accompanies physically destructive experiences.

One way sex motivation differs from other primary sources of motivation is that survival of an individual does not depend upon reduction of that need. Sex motivation, also, can be shown to be specifically related to both our physiological structure and our habits and preferences (Morgan, 1956).

Throughout this discussion of primary sources of motivation, we can see that all motivated states bring about a state of activity in the organism. Motivational states interact to the extent that deprivation of one particular primary need may bring about a change in motivation relative to another primary need. Any hierarchy of relative importance of primary needs would depend upon the momentary state of the organism as well as perception of future goals and expectations of future satisfaction. Primary motives are related to the survival or continuation of the species and are satisfied in socially sanctioned ways. Social motives may in special instances have as much motivational power as primary motives.

Any consistent behavior can be assumed not to be

randomly determined. However, awareness of the source of the motivation may not be present. Unconscious motivation may be inferred from observation of behavior which is consistently goal-directed, even though a person is unable to specify the source of his motivation or say why he behaves as he does.

Summary X: Emotions

Descriptions of emotional experiences are listed so extensively that one suspects language is the limiting factor. Some more common descriptive terms are fear, anger, joy, grief, pain, disgust, delight, pride, shame, love, hate, jealousy, humor, and so on without end. The capacity to experience emotion may be regarded as characteristic of the human species and is first recognized as undifferentiated excitability in the newborn infant. Through processes of physical maturation and social development, emotions become differentiated into countless varieties of pleasant or unpleasant components of experience which are expressed in numerous kinds of behavior in different situations by different people.

The occurrence of strong emotional experiences is accompanied by measurable physiological activity and sometimes observable behavioral expression. Expressions of emotion usually involve vocal, facial, and postural changes as well as gestures. In spite of the consistency with which verbal reports of experiences of strong emotion are asso-

ciated with observable phenomena, no particular physical or physiological changes can consistently be related to a particular emotion experienced. Within cultures gross differences in expression of pleasant and unpleasant emotions can be observed, but identification is possible only on those dimensions. Cross-culturally, identification of expression with the emotion is impossible.

Because the psychological activity of an individual is an ongoing organizing process involving complex interaction of many individual and situational influences, an infinite variety of emotions of various intensities may be experienced. Emotions are components of total experiences. Emotions have been called affective components of experience. Complexities of interactional components of experience may forever obscure any direct correspondence between various emotionally toned experiences and the observable phenomena associated with them.

The emotionally aroused person is goal-oriented, so that emotions may be called motives. Anger may motivate aggressive behavior. Some types of aggressive behavior are acceptable while others are not. Control of expression of emotions may be achieved even though feelings may remain strong. Control of emotions usually depends upon anticipated results of expression or the alternatives available for expressive behavior. An emotionally aroused person is in a state of tension and strives to reduce that tension,

either by direct or indirect means. Control of emotions sets up a conflict between the need to express the emotion and the need to avoid the results of expression. Some ways of resolving this dilemma are discussed in a later chapter.

The emotionally aroused person is motivated either to change a state of discomfort or to continue a pleasant experience. This state of motivation is reflected in the physiological state of the organism. The experience of fear may bring about a state of physiological arousal which enables the person to escape through flight. The adrenal glands pour energizing secretions into the blood, blood pressure increases, heart activity increases, and changes in respiratory activity increase the supply of oxygen to prepare the organism for emergency action. This physiological readiness may accompany fear and be changed when fear is absent even though no physical activity is involved in the relief from the discomfort of fear.

Emotions may be disruptive or facilitative in determining appropriate behavior, depending upon the emotion and its intensity (Lindsley, 1948). Emotionally controlled behavior may be disorganized, random, or damaging activity when rational control is not present. We have no control over the expression of our emotions which remain outside our perceptual awareness. Behavior resulting from expression of these unconscious emotions may lead us to say in retrospect, "I can't understand why I did it!"

The chapter is completed with the discussion of some of the characteristics commonly associated with emotions in this culture. Some of the ambiguities and interrelationships of emotional experiences will be discussed with reference to particular emotions. Some of the aspects which have been ascribed to the emotion of love are discussed. The interrelationship of guilt and shame is another example.

Summary XI: The Sense Receptors

We know our world and the events occurring in that world only through the ability to receive sensations through our sense receptors. The senses which we most often identify are the familiar five, vision, hearing, smell, taste, and touch. Each of these sense organs is capable of receiving stimulation by some physical energy which arouses responses in the human organism. Each sense organ depends upon some particular type of physical energy for stimulation.

Vision results from stimulation of the eye by light waves which come either from a direct source of light, for example, the sun, or from a source of reflected light such as the moon. In either case, the visual sensation is characterized as chromatic (colored) or achromatic (without color, or in shades of black and white). White light is obtained by an additive combination of the primary colors, red, green, and blue (Woodworth and Schlosberg, 1954). A beam of white light may be passed through a prism so that various hues, or colors, on the color spectrum are visible

in a rainbow effect. Color depends on the wave length of a ray of light. The rainbow effect is achieved when the prism separates various wave lengths which have been combined in the white light. Mixing of primary colors of light produces other hues. A cross section of the human eye with parts labeled is included and the function of each part is discussed. Positive and negative after-images of color are described along with instructions for producing these.

The functioning of the eye in receiving sensations from the physical environment depends on certain physiological cues which help to determine relationships between objects. In particular, accommodation of the lens, convergence, and retinal disparity provide cues to perception of depth. A number of physical factors are known to affect visual space perception and can be demonstrated experimentally. These are the size of the image on the retina, interposition, linear perspective, aerial detail, shadows, and movement cues as well as the interaction of these cues in determining visual space perception. These cues may be demonstrated in drawings which present illusions which may be reversed.

The second sense to be discussed is hearing which depends upon the stimulation of the ear by sound waves. Sounds are characterized by differences in pitch, loudness, and timbre. Sound waves may be pictured by use of an

ocillograph. Hearing occurs when vibrations set up sound waves which are transmitted through the air to the eardrum. The stimulation of nerve fibers in the eardrum further arouses a certain area in the brain so that the sound is heard. Sound is measured by frequency of complete waves, or cycles, per second. The range of hearing of pitch and loudness varies between and within species. Loudness is measured by decibels above a certain threshold level. One bel is ten times that threshold intensity. Hearing provides cues to direction of the source of a sound. A device called a pseudophone demonstrates localization of sound in space (Morgan and Stellar, 1950). A drawing is included. A diagram of the structure of the ear and descriptions of the functions of each part are included.

Another sense is associated with the inner ear. The three semicircular canals and the vestibule enable us to maintain a sense of balance or equilibrium. They are stimulated by motion of the body so as to make us aware of any variations from an upright position. Unusual stimulation may cause motion sickness.

Another sense associated with movement is the kinesthetic sense which enables us to control our movements and make accurate movements without conscious awareness of all the small movements involved in a single behavioral act. Kinesthetic stimulation occurring in the muscles, tendons, and joints allows us to grasp an object we see in one trial,

neither reaching too far or stopping short of it. We are rarely aware of the functioning of our sense of balance and the kinesthetic sense unless there is malfunctioning which interferes with normal behavior.

A characteristic of the various sense receptors is their tendency to interact in producing sensations. This is particularly true of smell and taste which are highly related senses. With his nostrils blocked, a person cannot accurately identify substances placed on his tongue. Taste sensations are received through the specialized taste buds grouped in certain areas of the tongue. Receptors for four basic taste sensations, sweet, sour, salty, and bitter, have been identified. The sense receptors for smell are the olfactory bulbs which have nerve fibers going to the brain, as do all sensory receptors.

Organic sensitivity is usually associated with physiological conditions such as hunger, thirst, nausea, etc.

The sense of touch depends on cutaneous receptors in the skin. These receptors are free nerve endings differentially excited by cold, warm, pressure, and painful stimuli. However, simultaneous arousal of two or more of these receptors may interact to produce some other sensation.

Summary XII: Perception

Perception occurs when a sensory experience becomes meaningful to an individual. Perception is possible only when stimulated sensory organs send messages to the brain

by way of nerve connections. Usually, perceptions occur instantaneously and continuously during consciousness. This process seems simple to the individual behaving in his world, but proves to be a complex topic of study.

Depending upon many factors, the perceptions of individuals agree to greater or lesser extent. Perceptions, or interpretations of sensory experiences, may correspond rather directly to physical phenomena, in which case they are described as veridical. Perceptions which disagree with physical events are called illusions if they can be viewed by more than one person, but private experiences, such as dreams, which cannot be shared are called hallucinations (Sartain, North, Strange, and Chapman, 1962).

Many geometrical illusions have been created for laboratory demonstrations. Several of these are included in the text. These illusions persist even when the observer has measured or has objective information that his perceptions do not concur with physical reality (Osgood, 1953).

Ames has built many devices for creating illusions (1949). The tilted room is pictured and the illusion that a person entering has that he is tilted while the room is apparently level. Destruction of the illusion is attributed to the individual's response to postural cues and the pull of gravity which demand that he stand upright to maintain balance. Theoretically, the individual's body may be said to serve as a reference point providing many sensory cues

and localized in space by touch and vision. When objects around him can be discriminated as reference points, space is sufficiently structured that the individual is oriented to that space. All those cues which orient the individual in space may be called reference points and these reference points in combination form a frame of reference within which perception occurs.

Another illusion called the autokinetic phenomenon has been used to demonstrate the importance of a frame of reference in determining perception (Sherif and Sherif, 1956). This illusion involves a stationary single light in a perfectly dark room. The light appears to move around for different people in different patterns and degree. Judgments of the movement change when cues or reference points are introduced into the ambiguous situation.

Organization of the perceptual field by discrimination of boundaries through contrast effects is related to figure-ground relationships, auditory, visual, and tactile-motor. The Gestalt laws formulated to account for grouping are explained and illustrated (Osgood, 1953).

Experimental work on psychophysical judgments is reviewed showing that judgments are derived from comparisons made within a frame of reference and that the frame of reference can be experimentally established to influence judgments.

Michotte's treatment of perceived causality is de-

scribed and illusions of causality created experimentally are explained in relation to concepts of reference points and frame of reference (Michotte, 1963).

This thorough treatment of perception forms the basis for the study of personality and behavior in social situations.

Summary XIII: The Self Concept

One of the primary problems of psychology is accounting for the process by which the unsocialized infant becomes an adult with structured loves, hates, loyalties, and interests, and is capable of taking his place in a complex, ordered society (Allport, 1955). The point at which the infant distinguishes between himself and others and displays consistent perceptions of others, the socialization process of ego development or self conceptualization is begun. Ego or self is a developmental formation in the psychological make-up of the individual consisting of inter-related attitudes which are acquired in relation to his own body, to objects, family, persons, groups, social values, and institutions, and which define and regulate his relatedness to them in concrete situations (Sherif and Sherif, 1956). These attitudes may further be defined as a set of more or less consistent perceptions an individual experiences involving himself and other people in concrete situations. These perceptions of self which become stabilized as attitudes persisting over a period of time originate in

sensory experiences, as do all perceptions.

The self-concept is a part of the psychological make-up of the individual, but is less inclusive than total personality. An important part of the self-concept is a person's own body, as known through touch, sight, and perhaps other sensory receptors. At the time he views his hands as part of himself, a person may be unaware of his eyes as a part of his self-concept. However, he may see his eyes in a mirror, touch his eyes, or even remember them as a part of his self-concept.

The self-concept is described as a constellation of attitudes which determines the observed consistency in behavior of a person over time in various situations. Ego development, or self conceptualization, is the product of continuous biosocial interaction continuing throughout life (Ausubel, 1952). In the usual case the self concept includes the individual's body, his physical characteristics, and the things he learns belong to him: his clothes, his toys, his kitten, his room, his house, etc.; also included are a multitude of social values which he learns and with which he identifies himself, his country, his politics, his language, his family, his society. Whatever is his, things, persons, membership in groups, values, and beliefs, are included in his self concept and therefore provide for an individual frames of reference or standards for judgment and determine to an important degree his social behavior and reactions.

When any stimulus or situation is consciously or unconsciously related to them by the individual, we say there is "ego-involvement."

To the extent that the self concept reflects accurate interpretations of sensory experiences, the individual is likely to find consistency between his expectations and occurrences in his experience (Leckey, 1945). To the extent that inconsistencies are perceived, the individual will experience frustrating conflict and discomfort. Such conflicts related to ego-involved events is especially painful since they constitute a threat to self-identity.

Realistic ways of handling frustration to achieve adaptive resolution are discussed.

A discussion of the defense mechanisms follows, including the concepts of consciousness and unconsciousness and degrees of awareness. Mechanisms discussed are: aggression, withdrawal, rationalization, projection, regression, compensation, reaction formation, repression, fantasy, identification, and dissociation. These mechanisms are discussed at length as ways all normal people behave at some times. Then only a simple statement indicates that mentally ill people have been observed to avoid reality or realistic solution of conflict by using defense mechanisms in maladaptive ways.

In summary, perceptions may be thought of as momentary and repeated interpretations of experience. However,

when ways of perceiving the self become conceptualized constancies in perception, this organization is a constellation of attitudes, beliefs, and values, of which the individual is more or less aware at various times, which provides consistency in goal-seeking behavior of the individual.

Summary XIV: Personality

Personality includes all those physical and psychological characteristics of a person as known to the person himself and as known to other people. Thus, we may talk about particular aspects of personality, but the popular conception of personality as something you have or don't have, or have more or less of, does not fit this definition.

Personality includes the self-concept, perceptions, beliefs, values, and needs, of which we may be more or less aware at any particular time. Personality includes all the ways we respond to ourselves and to others in various circumstances.

Several approaches to the study of personality have been developed through the years. Type theories may be illustrated by a discussion of the different body types which have been related systematically to various behavioral attributes. A mention of phrenology is an example of a typology which has been found useless.

Trait theories may be illustrated by reference back to factor analytic methods of determining traits which were

used in constructing intelligence tests based on that theory. Further listing of some of the lists of traits developed by various people and some explanation of these should give an idea of the descriptions of personality characteristics which have been found useful. A further discussion of the limitations of the trait theories will be followed by some usefulness of trait theories. The most serious limitation of describing personality in terms of traits is that traits tend to be specific to the situation in which they are displayed. One contribution is the fact that describable traits can be measured and correlated with other behavior for normative studies. Such measures may also prove useful for selective procedures.

Personality theory based on a concept of self as a constellation of attitudes which have been and continue to be formed during experiences with important other people in particular situations in relation to particular things and events provides a unifying thread to account for consistency in behavior. "Traits" which are observed in specific situations can be understood and predicted in terms of the individual's attitudes operating in a particular situation at a particular time. "Honesty," which is a particular trait showing much variation in different situations, will vary predictably for an individual if the attitudes which provide the frame of reference within which his behavior takes place are known.

Leckey has conceptualized the self as a developmental formation consisting of a person's perception of himself in various roles as members of various groups. Such groups are more or less important to any individual so that his participation as a member of any group is more or less important to his sense of self-identity. Very high value may be placed on his role in his family and very low value on another role, perhaps in his club (Leckey, 1953). In order to understand consistency in behavior, we must know which groups a person values and how much; we must know the standards and norms for behavior prevailing in those groups and the individual's role and status in relation to other members. Finally, we must know the relevance of any particular behavioral situation perceived by the individual.

This chapter includes samples of judgments which vary when the frame of reference is experimentally varied. Also included are samples of behavior which vary predictably when ego-involved attitudes are identified (Sherif, Sherif, and Nebergall, 1965).

The conception of personality presented forms the basis or frame of reference within which the factors of cultural and social influences in personality development are considered in the following chapters.

Summary XV: Cultural Influences in Personality Development

Because this book is written for readers in late adolescence, the cultural relativity of personality may most

interestingly be described in terms of adolescent transition in various cultures from childhood to adulthood.

In our culture the age of biological maturity precedes the age of social maturity or social independence. For several years after biological maturity, adolescents remain dependent upon other adults for financial support. As technological developments increase the complexity of our culture, this period of dependency is being constantly extended. A higher level of education is demanded for employment which provides financial independence. To assume the responsibilities and privileges of adults, adolescents must be financially independent in our culture.

As in most highly developed technological societies, adult independence is closely tied to financial independence. For a number of years a person is treated as a child while he thinks and behaves in many ways as an adult. The exact point at which he is no longer considered a child is not well-defined so that he exists for years in a kind of limbo. However, in many primitive societies, passage from childhood into adulthood is made with notable ease (Mead, 1937).

A continuity may be present between the responsibilities of childhood and those of adulthood. In agricultural primitive societies, children may only a few days after birth be carried into the fields on their mothers' backs. They may progressively do more difficult work along with other members of the family to help provide for the subsist-

ence needs of the family. Such continuity is remarkably absent in our own urban society.

At the same time, primitive societies are likely to provide some ritual which marks the rapid shift from child to adult status upon the advent of biological maturity. Puberty rites may include initiation into secret societies, changes in dress, or perhaps mutilation of the body to make scars. Some specific rituals are described in detail. At any rate, a discontinuity between adulthood and childhood is abrupt and recognized by all concerned.

Examples of adolescent transitions within other societies should provide a basis for understanding the culture-bound problems of adolescents in the United States. The adolescent period is further described as a time when the self-concept is changing, when family ties are becoming less binding and personal identity to a greater extent is a function of membership in adolescent peer groups. Individual differences and behaviors tend to obscure cultural influences in more heterogeneous societies, but even in more homogenous cultures, more primitive, individual differences in viewpoint and behavior indicate that no one person ever encompasses in his experience the whole content of his culture or even a considerable part of it.

Summary XVI: Attitude Stability and Change

After the period of adolescence, the attitudes involved in self-identity in particular, and in personality in

general, are relatively stable. Adult maturity is marked by constancies in perceptions and behavior which allow expectations and predictions of responses necessary for reciprocal relationships between people. The transition from the dependent status of child to the independence of adulthood is reflected in the status and role relationships of any one person who may be a member of some of the same groups in childhood and adulthood, but occupy a different position in relation to other members.

As an adult, his attitudes toward himself reflect his membership in many sub-cultural groups within his society. His behavior reflects roles he has learned in relation to other members of the different groups of which he is a member or to which he aspires to become a member. These are his reference groups and he shares with the members a set of values, beliefs, and attitudes which provide him with a frame of reference or standards for judging his own behavior and that of others. In relation to these reference groups, family, church, school, club, political party, he has formed expectations for behavior of others and himself. To a greater or lesser extent, these expectations are a part of the norms of the larger society and its culture in which he lives. Any effort by an outsider to convey new ways of doing things are likely to be resisted, even though done with good intentions (Sherif, Sherif, and Nebergall, 1965).

Unfortunately, some cultural groups in the world and

some subcultures within particular societies have norms, beliefs, values, and attitudes which are not adaptive in the present state of technological advancement of the world. If these maladaptive attitudes are important within a culture, any attempt to interfere is interpreted as a threat to the self-identity of persons involved. Those attitudes which are most central to the self-concept are most stable and resistant to change, while those less important are more subject to change. A protestant may readily change his church affiliations within the protestant sects, but may strongly resist change to another Christian church. He may not feel strongly about differences between Methodist and Baptist churches but be very negative to Catholicism.

Since the importance of religious affiliation as well as the range of tolerable alternatives varies within cultures, subcultures, even family groups, reconciliation of conflicting attitudes within or between groups is impossible without an understanding of the importance of the attitudes and the range of acceptable and unacceptable alternatives. In other words, we can understand the frame of reference within which behavior is determined if we can understand the latitudes of acceptance and rejection relating to any specific thing, event, or person.

The outsider is able to influence attitudes of members of a group only when he is able to share values, beliefs, and attitudes. Perception of shared values, beliefs,

and attitudes depends upon communication between people and groups. The knowledge of shared standards, whether or not they be important issues, supplies a common ground for further communication which may lead to understanding the important issues.

Summary XVII: Language and Communication

Mead says that communicable language does not occur until a child is able to perceive himself as an object and others as objects in relation to him, and himself an object in relation to others. Then he is able to respond to others as they respond to him (1952). Piaget suggests that the child talks as much to himself as to others, as much for the pleasure of talking or of perpetuating some past state of being as for the sake of communicating (1936). The essential nature of socialized language, as opposed to ego-centric monologue, is its communicative nature: information given, questions, criticism, commands, and requests. The age at which collective monologue marks a stage of development is between the ages of three and four to five. The higher forms of communicative conversation do not appear on the average before the age of five between children of the same age and of different families.

Gradually a child learns to speak the language of his group, first developing his own individualized vocabulary, intonation, pronunciation, and inflections, all highly idiomatic ways of speaking, at a speed and with pauses sig-

nificant of his own individuality (Werner and Kaplan, 1950). Fries describes words in sentences as signals of meanings, but there are some things bundles of spelling patterns do not represent. These signals interact with other signals of meaning to convey messages. Some of these other signals are related to the following: (1) intonation; (2) lexical meanings; (3) grammatical meanings; and (4) socio-cultural meanings. Socio-cultural sames exist for groups, for overlapping groups, and for a culture. These socio-cultural sames must exist for mutual understanding of language or for communication to take place (1963).

Pike has been able to demonstrate effectively the role of intonation, inflection, gestures, and facial expression which are determinants of meaning in oral communication (1964).

The use of language in a group (two or more persons) does not guarantee human communication. An additional necessary condition is an interdependent relationship between the communicator and the receiver, which roles shift for the persons involved more or less often in any given conversational situation.

Several levels of analysis of this interdependent relationship between source and receiver are suggested by Berlo (1960). At the level of physical interdependence, the presence of communication depends upon the existence of a source and a receiver. Another level of analysis is that of

action-reaction sequence. A higher level involves the expectations of reciprocal activities in originating and receiving messages. Then role-taking, trying to see things as the other person does is a higher level still. The final level of complexity is interaction, the process of reciprocal role-taking, when two individuals make inferences about their own roles and take the role of the other at the same time. If their communicative behavior depends on the reciprocal taking of roles, then they are communicating by interacting with each other. We may communicate without interacting to any appreciable extent; however, to the extent that we are in an interactional situation, our effectiveness, our ability to affect and be affected by others increases.

Of language, we might say words do not mean words but almost always mean non-words. The meaning lies in the realm of things, qualities, or relationships that words stand for (Brooks, 1960).

Summary XVIII: Social Relationships

While satisfaction of the primary motives is essential to the survival of man, reciprocal relationships with other people are necessary for satisfaction of those motives, including a person's perceptions of other people and their perceptions of him (Sherif, 1962). Then motivation becomes social and only remotely related to primary motives as we strive for secure and satisfying relationships in our membership groups. Goal-directed behavior may be aimed toward re-

duction of inter-personal conflict and maintaining membership and status in various groups. As significant others value us and our needs, we come to value ourselves. To the extent that we value ourselves and significant others, we are motivated to fulfill satisfactions both physical and social which permit continued existence.

A group consists of two or more people interacting to achieve a common goal. Groups may be formed voluntarily (informal) or involuntarily (formal). Properties of groups and behavior of individual members have been studied in concrete situations. A definite group organization can be identified when individuals work together toward a common goal. This organization involves status and role relationships between members of the group. A hierarchy is present which classifies each member in high or low status in relation to the leader. The leader will be the person who is perceived by other members as the person who is most likely to help the group achieve its goals and as the goals change, the leader may change.

There is a consistent pattern of communication among group members. The higher a member's status, the more frequent are the communications between him and other members concerning group activities (Sherif, 1962). As the group is formed, group norms emerge and become stabilized to regulate members' behaviors within specifiable latitudes of acceptable behavior when that behavior is related to the practices and activities of the group.

In informal groups such as play groups, the organization assumes structure in the interactional process. In formal groups such as military or business groups, structure may be imposed from without the group with leaders and lieutenants appointed. These appointed leaders may or may not be the actual leaders in group activities, or they may at times maintain their apparent position of leadership when some member has taken over the power.

When conflict exists between groups, this conflict can be reduced when the groups strive toward a common goal which requires cooperative effort. The Robbers Cave study is described as an example of experimental study of inter- and intragroup formation (Sherif, Harvey, White, Hood, and Sherif, 1961).

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