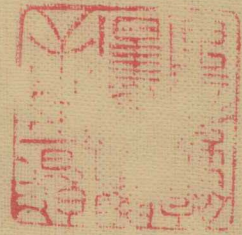


RESEARCH  
METHODS  
IN THE  
BEHAVIORAL  
SCIENCES



C0  
E601

8690405

# RESEARCH METHODS IN THE BEHAVIORAL SCIENCES



EDITED BY

LEON FESTINGER

*Department of Psychology, University of Minnesota*

DANIEL KATZ

*Department of Psychology, University of Michigan*



THE DRYDEN PRESS • NEW YORK



T8690405

*Copyright 1953 by The Dryden Press, Inc.  
The Dryden Press Building, 31 West 54th Street, New York 19, N. Y.*

*FORMAT: The text has been set in Linotype Baskerville and various members of the Lydian and Futura families. Designed by Albert Margolies. Set into type by Ruttle, Shaw & Wetherill, Inc., Philadelphia, Pa., and printed and bound by The Book Production Company, Inc., New York, N. Y.*

1717

*The Dryden Press*  
*Publications in Interpersonal Relations*

GENERAL EDITOR  
THEODORE M. NEWCOMB  
UNIVERSITY OF MICHIGAN

2050988

*Robert C. Angell*

*A. Angus Campbell*

*Charles F. Cannell*

*Dorwin W. Cartwright*

*Clyde H. Coombs*

*Leon Festinger*

*Ronald Freedman*

**CONTRIBUTING AUTHORS**

*John R. P. French, Jr.*

*Roger W. Heyns*

*Robert L. Kahn*

*George Katona*

*Daniel Katz*

*Leslie Kish*

*Rensis Likert*

*Ronald Lippitt*

*Theodore M. Newcomb*

*Helen Peak*

*Keith Smith*

*Alvin F. Zander*

# Foreword

---

The discovery in our time that scientific methodology can be applied to human problems has revolutionized psychology and has seriously affected all branches of social science. This discovery, moreover, came during a period when problems of social adjustment had reached a critical point in the years of depression, of war, and of postwar crises. As a consequence, empirical and quantitative research in our field has seen unparalleled growth. This period of boom has naturally not been characterized by a high degree of order or of systematic development of theory and methodology. We have been too absorbed in doing research to plan thoroughly, to take stock of our progress, or to communicate our findings adequately and to inform one another of our techniques and approaches.

The first great break in this pattern came with the publication of *Studies in Social Psychology in World War II*. Stouffer and his collaborators took time out to set forth their findings and their methods in communicable form. These volumes were an excellent demonstration of the importance of the codification of research methods. In the early days of the social studies, there was justification for scholars to give the result of their insights and reflections without specifications concerning the ways in which they arrived at their interpretations, for in that period they were working more as intuitive artists than as scientists. But today, when we attempt

experimentation and quantification, we have no excuse for failing to codify our procedures.

One essential aspect of scientific technique is that it can be stated in a standard form and can be taught so that trained and competent investigators can apply it in the same fashion. We still have not achieved the degree of specification possible in the physical sciences. The method of the interview, for example, still combines art and science. It is only, however, through making our procedures explicit that we can test, criticize, and improve them.

Psychologists, social psychologists, and sociologists at the University of Michigan have felt fortunate in the favorable atmosphere for social research at their institution which has made possible many projects in the academic departments and the creation of the Institute for Social Research with its coordinate divisions of the Survey Research Center and the Research Center for Group Dynamics. Since this research development brought together many specialists, it seemed worth while to take advantage of their physical and psychological proximity to produce a book on methodology. Two purposes were dominant: (1) to help in the present trend toward codification of research techniques, and (2) to give graduate students in the field some understanding of the principles and procedures of modern methodology. The criterion for inclusion of methods was the degree of relevance to the problems of social psychology, and the criterion for exclusion was the availability of knowledge about a technique already standardized in another field. Thus, although factor analysis is a useful method in social science, the details of its application have already been described in statistical texts. Similarly, projective methods have been described in the personality context in which they are characteristically used. On the other hand, there has been a lack of detailed treatment of behavioral observation, of the quantitative analysis of qualitative materials, and of such major research settings as field studies and field experiments.

There has been another underlying purpose in the publication of this book. It is our belief that progress in any field must rest upon methods appropriate to that field. Although the basic logic of scientific methodology is the same in all fields, its specific techniques and approaches will vary, depending upon the subject matter. In its early stages, social psychology was handicapped by a

lack of methods appropriate to its problems. In general, the recruits from the upper frontier of social science understood its larger problems but were unequipped as technicians to handle them. The technology came from the lower frontier of individual psychology, where there had been a long development in psychophysics, in laboratory methods, and in psychometrics.

The attempt to apply this type of technology to social psychology was much too literal and failed to consider the appropriateness of the technique to the problem under investigation. Hence the earlier efforts to test Freudian concepts were fruitless. In industrial psychology, precision measures of isolated motor performance were inadequate to cope with problems of fatigue and motivation. The item-reliability technique of the psychometrician was no answer in itself to the need for measures of cognitive and motivational structure in dealing with social attitudes.

The real problem is not that techniques cannot be adapted to a variety of problems but that they tend to carry with them the type of thinking and even the concepts of the area in which they were developed. Thus, the experimental technique when first applied to social psychology attempted manipulation of the amount of social stimulation—*i.e.*, the sheer physical dimension, as in the “alone and together” experiments. The creation and manipulation of the specific social influences came as a later development. Thus, when old techniques are used in the social field they have to be adapted to the conceptual framework in which they are applied. Otherwise we shall find ourselves testing things other than the theories in which we are interested. Moreover, the special problems of our field call for new approaches and new techniques. The traditional measurement procedures involved assumptions not necessarily met by social data. The development of new scaling methods and of nonparametric statistics are hopeful signs of progress in this respect.

Finally, the social researcher should consider his research design from the point of view of testing the significant theories in his own field rather than from the frame of reference of what he would be doing if he were determining a sensory threshold. It is our conviction that methodologies need to be written for the field of social psychology itself.

Most of the contributors to this volume are social psychologists.



This means that the problems they discuss tend to be taken from the field of social psychology. It is our belief, however, that there are many areas in the social sciences to which the approaches and methods described in the following pages will have application. For areas in the social sciences which deal with relationships between group indices without reference to intervening variables, these methods may need the same sort of adaptation to meet the criterion for appropriateness as was demanded in the field of social psychology when it took over techniques from individual psychology.

A cooperative undertaking of this sort requires not only the assistance of the contributors of the chapters which follow but the support of their colleagues. We are indebted to Donald Marquis, who participated in the planning of the project and who bears much of the responsibility for the circumstances which made the book possible. Other participants in the project not formally represented in the following chapters were Eugene Jacobson, Lowell Kelly, Charles Metzner, Ian Ross, and Guy Swanson. In most books there is generally one person who carries the brunt of editorial work, and it has been our good fortune to have had Mrs. Emily Willerman for this role, which she has carried out with unusual devotion and competence.

*University of Michigan*  
June 21, 1953

L. F.  
D. K.

# Contents

---

## INTRODUCTION

- The Interdependence of Social-Psychological  
Theory and Methods: A Brief Overview 1  
*Theodore M. Newcomb*

## PART I

### RESEARCH SETTINGS 13

1. The Sample Survey: A Technique for  
Social Science Research 15  
*A. Angus Campbell and George Katona*
2. Field Studies 56  
*Daniel Katz*

<b>3. Experiments in Field Settings</b>	<b>98</b>
<i>John R. P. French, Jr.</i>	
<b>4. Laboratory Experiments</b>	<b>136</b>
<i>Leon Festinger</i>	
 <b>PART II</b>	
<b>PROCEDURES FOR SAMPLING</b>	<b>173</b>
<b>5. Selection of the Sample</b>	<b>175</b>
<i>Leslie Kish</i>	
 <b>PART III</b>	
<b>METHODS OF DATA COLLECTION</b>	<b>241</b>
<b>6. Problems of Objective Observation</b>	<b>243</b>
<i>Helen Peak</i>	
<b>7. The Use of Documents, Records, Census Materials, and Indices</b>	<b>300</b>
<i>Robert C. Angell and Ronald Freedman</i>	
<b>8. The Collection of Data by Interviewing</b>	<b>327</b>
<i>Charles F. Cannell and Robert L. Kahn</i>	

<b>9. Observation of Group Behavior</b>	<b>381</b>
<i>Roger W. Heyns and Alvin F. Zander</i>	

**PART IV**

**THE ANALYSIS OF DATA** **419**

<b>10. Analysis of Qualitative Material</b>	<b>421</b>
<i>Dorwin P. Cartwright</i>	

<b>11. Theory and Methods of Social Measurement</b>	<b>471</b>
<i>Clyde H. Coombs</i>	

<b>12. Distribution-free Statistical Methods and the Concept of Power Efficiency</b>	<b>536</b>
<i>Keith Smith</i>	

**PART V**

**THE APPLICATION OF RESEARCH FINDINGS** **579**

<b>13. The Utilization of Social Science</b>	<b>581</b>
<i>Rensis Likert and Ronald Lippitt</i>	

<b>INDEX</b>	<b>647</b>
--------------	------------

# The Interdependence of Social-Psychological Theory and Methods: A Brief Overview

*Theodore M. Newcomb*

---

It is a truism that no research results are any better than the methods by which they are obtained. Behind the platitude, however, lie many complexities. Between the initial sensing of a problem and the final application of research results to that problem, there lies many a choice, as the reader of this volume will discover. At each dividing of the path, moreover, there are diverse criteria for deciding what is "better." Just as Molière's M. Jourdain was astonished on discovering that he had been speaking prose all his life, so not a few experienced researchers in social psychology will be amazed, on completing the baker's dozen of chapters that follow, to learn how many decisions they have been making these many years—with or without knowing it. It is one of the objectives of this volume to create a more general awareness of the existence of the choice points and of the criteria by which decisions may be made.

No article of faith in the scientist's credo is more elementary than his empiricist conviction that, if he learns how to ask the proper questions of "nature," he can formulate the principles accord-

## 2 Research Methods

ing to which "nature" behaves. If our questions are not properly put—*i.e.*, if our observations are not suitably made—in the first place, no amount of interpretative ingenuity at a later stage will enable us to reach our research objectives. Such methodological problems as devising interview schedules, selecting a sample of persons or of written words, manipulating a variable in the laboratory, or constructing an objective test are all problems of ensuring that the questions which we put to "nature" will be maximally suitable to elicit the answers required by our objectives. Problems of scaling, categorizing, discovering covariation, and testing the significance of differences are not merely matters of "translating" data already obtained; they are basic in the sense of determining—whether we know it or not—the kinds of questions which we are putting. Whatever truth or falsity inheres in our research findings is quite as much a function of the questions we have elected to ask through our selection of methods as of the logic we have applied to the data elicited by our questions.

The kinds of research problems described in the following chapters have been attacked within a very limited time-space setting. The methodological weapons which have been devised have, like military weapons at a given time and place in history, been conditioned by their setting. Some aspects of this setting impinge alike upon every variety of research into human behavior, some have had a special impact upon social research, and still others have influenced in specific ways the somewhat dimly demarcated field of social-psychological research. This brief introductory chapter attempts to point to some of the contemporary methodological problems for social research in general and for social psychology in particular, and to note the position of the social psychologist in the confraternity of social researchers, as he borrows from and lends to his fellow members in the common enterprise.

### SOME COMMON PROBLEMS IN SOCIAL RESEARCH

Social scientists face certain human problems which the natural scientist is spared. As we shall note particularly in Part I, these

problems begin with getting access to persons as sources of data. It has too often gone unrecognized that the problem is not just one of avoiding refusals, whether by doorstep respondents, by student subjects, or by representatives of organizations. Such motivational factors on the part of the interviewees as those noted by Charles F. Cannell and Robert L. Kahn in Chapter 8 must be taken into account not only by interviewers but also by analysts in interpreting responses. In a very literal sense, moreover, the conditions under which clients and respondents first agree to participate in an investigation determine the nature of the eventual findings. Both respondent and investigator, whether they know it or not, are taking roles. The respondent's initial structuring of this role relationship will influence, in conscious and in unconscious ways, both the fullness and the content of his later responses—just as initial orientations toward any object influence later behavior in relation to it. As Ronald Lippitt and Rensis Likert note in Chapter 13, the process of research planning must include these facts of social life. The investigator has made a research decision, whether he knows it or not, when he first approaches a client, a subject, or a respondent, and he sets the stage for later decisions as he continues or modifies the initial role relationship.

One aspect of the role relationship between investigator and subject is an ethical one. In Chapters 3 and 4, some of the uses of temporary dissembling are noted, together with the responsibilities imposed upon the investigator who uses them—responsibilities to colleagues, who may later have to pay a heavy price for his laxity, and to the “consumers” of his research findings, as well as to the subjects or respondents most directly involved. The last of these obligations is probably most easily met; as Chapter 4 suggests, most subjects accept without resentment the fact of having been duped, once they understand the necessity for it. Nevertheless, frequent use of what is regarded as deceit may lead to community-shared expectations which undermine the necessary relationship of confidence between investigator and subject. The attitudes of subjects recruited from such a community may be such as to influence their responses in ways quite unsuspected by the investigator and thus, perhaps, invalidate his findings or his interpretations.

On a fundamental level, every social researcher, whether or not

he resorts to methods of dissembling, stands in an ethical relationship to the community in which he works. As Doctor A. T. M. Wilson, of the Tavistock Institute, has said, "It isn't so much that honesty is the best policy; it's the only possible policy." The honest investigator, who knows (or should know) more than the client about the consequences for the client of participation in the research, must not only not take advantage of his wider knowledge but must actually seek to turn it to the client's advantage. The temporary duping of laboratory subjects does not necessarily violate this concept of honesty, whereas sheer thoughtlessness on the part of an investigator who would never think of lying to a client may violate it fundamentally.

Subjects and clients, as well as investigators, have personal values which are apt to become involved in the research process. To assume that these are freely exploitable is, to quote Dr. Wilson again, as unreasonable as for a surgeon to accost a healthy man with the request, "Pardon me, sir, may I rip open your abdomen in the interests of science?" The fundamental ethical principle, in short, is based upon the recognition that in the long run the achievement of the investigator's objectives is dependent upon his respect for the client's values. The principle, thus stated, is just as applicable to the natural as to the social sciences, but its impact upon the latter is much more direct.

There is one of the occupational hazards of social research which can probably be avoided eventually, though it seems almost inevitable in the early stages of research methodology. This danger is best labeled, perversely enough, the temptation to anthropomorphize about humans. In its most extreme form—now, happily, outgrown by most of us—it results in observations obtained by sheer intuition or empathy. In its more common contemporary form—and perhaps its most dangerous form, since it seems natural and, indeed, inevitable—it results not in observations but in concepts and variables selected by reason of the fact that the investigator as well as the object of investigation is a human being. As a human being, as a previous participator in situations like those which he wishes to observe, he almost inevitably conceptualizes in anthropomorphic manner. The tendency is perhaps forgivable—relatively so, at least—in the selection of our dependent variables; after all, our dependent variables are fairly close to the problems which set



our research mechanisms in action. But phenotypic phenomena are not necessarily the most significant ones to observe, even as dependent variables; and as intervening or independent variables they have, it seems to this writer, little better than chance likelihood of being the most significant ones. In clinical psychology, for example, a Rorschach W may be a more significant variable than the more humanly phrased "social expansiveness." Just so, in social science we probably have more to gain by identifying genotypic X's (with or without human-sounding labels) than by seeking to refine our measures of readily observable, human phenotypes. Helen Peak, in Chapter 6, has examined some of the properties of significant variables in terms of "functional unity."

Another problem of which social scientists of nearly every stripe are becoming increasingly aware has to do with the decisions they make when they employ a given process of measurement. In Chapter 5, Leslie Kish points to some of the consequences of using one device rather than another at various stages of sampling procedures. Keith Smith, in Chapter 12, points out some of the assumptions involved in the use of what may be our favorite statistical procedures and suggests alternatives which many of us will find more appropriate, once we are aware of the nature of the statistical decisions we have been making.

Clyde H. Coombs, in Chapter 11, goes to the very roots of the question "What is the nature of measurement itself?" Since we are necessarily doing something when we transform "real events" into numbers—whether at the stage of making observations or at the stage of analysis—it behooves us to know what we are doing. The requirements of this transformation process, together with certain properties of the events which the social scientist studies, confront him with a special dilemma. This chapter is characteristic of the tone of the entire book: instead of presenting recipes to be followed, it seeks to understand the logic of a type of problem which social scientists frequently meet. Since for the social scientist every investigation situation includes a large component of uniqueness, and since (as Dorwin Cartwright notes in Chapter 10, for example) the decisions made at every step of the investigation process are dependent upon decisions made at other steps, the investigator himself must construct his own blueprint.