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IN DEFENSE OF THE CASE STUDY METHOD

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A review of common criticisms of the case study method indicates that many of them are based on conceptual confusions. Other criticisms stem from the inappropriate application of criteria used in the evaluation of experimental designs. This paper attempts to clarify several of the underlying conceptual issues, to identify more appropriate evaluative criteria, and to suggest procedures leading to more rigorous use of the case study method.

The case study method has, at least historically, played an important part in clinical inquiry, and many believe that it is still of fundamental importance. For example,

> The case study method is the traditional approach of all clinical research. . . . Much of the knowledge common to all clinicians today was discovered by the case study method.[3]

The case study

> method (and its extensions) was, with few exceptions, the sole methodology of clinical investigation through the first half of the 20th century.[19]

Or, the clinical professions are concerned with understanding "persons in particular," and the case study method is crucially important in this endeavor.[27] In recent years, however, the case study method has been widely criticized[7, 8, 25, 28] for a lack of controls, for inadequate measurement of independent and dependent variables, and for arbitrariness in the interpretation of data. The objectives of this article are to review some of the conflicting opinions about the traditional case study method, to disentangle the case study method from several related issues, and to move toward a clearer conceptualization of the method. The focus is on traditional or naturalistic case studies, as experimental studies of the single case have been extensively discussed elsewhere.[10, 19, 21, 28]

The value of the case study method and, in particular, the study of individual life histories has been the subject of considerable controversy within a number of subfields of psychology and

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sociology. Adherents of the method argue that it has unusually great scientific or practical importance. For example, Thomas and Znaniecki[42] stated,

> Even when we are searching for abstract laws, life-records of concrete personalities have a marked superiority over any other kind of materials. We are safe in saying that personal life-records, as complete as possible, constitute the *perfect* type of sociological material, and that if social science has to use other materials at all, it is only because of the practical difficulty of obtaining at the moment a sufficient number of such records.

More recent favorable views are that the study of individual lives, as presented in detailed case histories, provides

> . . . the only possible way of obtaining the granite blocks of data on which to build a science of human nature.[33]

Or, the study of personality

> . . . is most perfectly represented in the study of lives in all their individuality.[43]

The case studies of Freud are

> . . . rare works of art and a record of the human mind in one of its most unparalleled works of scientific discovery.[23]

> As I reflect on my own experience, the life history is the most impressive kind of data, whether one is making decisions or engaging in therapy.[12]

> Life-history data are usually necessary in any serious attempt to explain, predict or influence the person's behavior.[5]

Or, finally,

> The life history is, after all, the basic criterion against which all other methods should be tested.[1]

On the other hand, there is a widespread view that the case study method is severely defective, or is no more than the first step in any scientific investigation:

> (1) The case method is not in itself a scientific method at all, but merely the first step in scientific method; (2) individual cases become of scientific significance only when classified and summarized in such form as to reveal uniformities, types, and patterns of behavior; (3) the statistical method is the best, if not the only, scientific method of classifying and summarizing large number of cases. . . . Thus the only possible question as to the relative value of the case method and the statistical method resolves itself into a question as to whether the classification of, and generalizations from the data shall be carried out by the random, qualitative and subjective method of common observation or through the systematic, quantitative and objective procedure of statistical method.[30]

Such criticisms are not limited to the earlier parts of the century. One of the most widely used methodology texts, by Campbell and Stanley,[7] stated that "one-shot" case studies

> . . . have such a total absence of control as to be of almost no scientific value. . . . Such studies often involve tedious collection of specific detail, careful observation, testing, and the like, and in such instances involve the error of *misplaced precision*. . . . It seems well-nigh unethical at the present time to allow, as a thesis or dissertation in education, case studies of this nature (i.e. involving a single group observed at one time only).

It should be noted, however, that Campbell has since retracted his "earlier dogmatic disparagement of case studies."[6] Another representative criticism is that,

> Case study methodology was typically characterized by numerous sources of uncontrolled variation, inadequate description of independent and dependent variables, and was generally difficult to replicate.[28]

This "made case study methodology of little scientific value," and led to the rejection of single-case methods by "more sophisticated" experimental methodologists.[28]

FOUR CONCEPTUAL CONFUSIONS

This controversy about the value of case studies stems in part from the con-

flation of a variety of underlying issues. Identification and disentanglement of these issues may help us to obtain a deeper and more balanced appreciation of the virtues and limitations of case studies.

One underlying issue is that of possible errors introduced through use of the retrospective method. Substantial data on biases and inaccuracies in retrospective reports[4, 45] raise questions about the value of such retrospective reports for scientific purposes. These deficiencies of retrospective reports are sometimes used as grounds for criticizing the case study method.

Although case studies of individual lives *may* rely on retrospective reports, they *need not* do so. Instead, case studies can, and often do (as in biographies), rely on the collection and interpretation of letters, diaries, observations by contemporaries, archival data, and so on. Alternatively, case studies may be based upon systematic longitudinal studies, such as those at the Institute of Human Development, University of California, Berkeley,[22] or they may rely on a series of assessment occasions before, during, and after treatment.[26] Limitations of the retrospective method are not adequate grounds for dismissal of the case study method, as retrospective methods are only one of the techniques which may, but need not, be used in the construction of case studies.

A second issue is that of qualitative versus quantitative methods. It is sometimes suggested that quantitative methods are an essential characteristic of scientific endeavor.[30] This is a highly questionable position, but even if it were true, it would not provide adequate grounds for dismissal of case studies, as there are substantial possibilities for quantitative and statistical studies of single cases as demonstrated by Baldwin,[2] Chassan,[9, 10] Davidson and Costello,[13] Hersen and Barlow,[19] Kratochwill,[28] and Neufeld.[34]

A third issue is that of "subjective" versus "objective" data. Life history studies have been praised for their value in providing information on the subjective side of social experience:

> Herein lies the tremendous value of the life history—it permits sociologists to balance the "objectivism" of the experiment, the survey, and participant observation with the internal, covert and reflective elements of social behavior and experience.[14]

The use of subjective reports has, however, also been a grounds for criticism of case studies, as evidence accumulated about possible errors and biases in introspective reporting methods.[35, 36] Although introspective reports are often used in case studies, they are not an essential part of the method, as case studies can be written without them. Introspective reports are only one of many sources of data that may be used in the construction of case histories. Whatever the merits and deficiencies of introspective reports, the value of case studies is a distinguishably different issue than that of the value of introspective reports.

A fourth issue is that of the place of case studies in the generation and testing of causal generalizations. Case studies are often criticized for their "lack of controls."[8, 24] They are seen as having low "internal validity," in that it is difficult to rule out competing causal explanations, and low "external validity," in that it is difficult to generalize findings from a single case to the population at large. According to this view,

"the fundamental weakness" of a case study "is that it provides no basis for comparison, and comparison is essential to science."[8] In collecting an immense amount of detail on a single case,

> . . . all this care and precision is misplaced, because no comparison has been made. Conducting such a study is analogous to building a castle on quicksand.[8]

From the perspective of the experimentalist, case studies may be useful in suggesting hypotheses, but these hypotheses must then be tested through more rigorous experimental research.

What is the force or weight of such criticisms? First, it is certainly true that for the specific purpose of testing general causal relationships, the case study has substantial limitations. Even though case studies can be designed to increase their power in yielding causal inferences,[26] case studies are, compared to experiments, relatively ineffective means for testing causal generalizations. For other purposes, however, the case study may be the single most effective method. If one's purpose is to describe the experience of a single person, to develop interpretations or explanations of that experience, or to develop courses of action and to make decisions appropriate for this particular individual, then the case study method is an extremely useful one. It is necessary to consider the merits and deficiencies of case studies from a broader context, a broader range of purposes than solely for testing causal theories.

Studies of individual cases can sometimes be useful for testing causal generalizations, as when intersubject variability is low, when opportunities for observing a given class of events are limited, or when a negative instance can be found for a supposedly universal relationship,[16] but this is not their primary function. The case study is primarily useful for tasks such as describing an individual's experience, for developing idiographic interpretations of that experience, and for developing context-specific predictions, plans, and decisions. Detailed studies of individual cases can make an important contribution to the design and evaluation of efforts to alter the course of experience in individual lives.[37, 38, 40]

STRENGTHENING THE CASE STUDY

Up to this point, we have been operating with an implicit definition of the case study. If a case study is not a person's telling of his or her own story, then what is it? If a case study need not involve retrospective reports, or qualitative data, or introspective reports, then how to define it? A case study may be defined as the systematic presentation of information about the life of a single unit; this discussion will focus on the lives of individuals as the unit of analysis. A case study may be defined as

> . . . a *reconstruction* and *interpretation*, based on the best evidence available, of part of the story of a person's life.[5]

The case study may be based upon a synthesis of evidence attained from all available sources, including interviews, projective or objective tests, observations in the natural environment, longitudinal studies, personal documents, public archives, the testimony of others, experiments, or any other method capable of producing relevant information. According to this definition, the case study is not a particular method of collecting information, such as a lengthy life history interview, but is rather a

form for organizing and presenting information about a specific person and his or her circumstances, which may draw upon a variety of specific techniques of data collection.

A case study is typically undertaken in order to describe and shed light on a particular clinical entity or to delineate a problem requiring practical action. For example, a case study might identify and help to explain a rare form of psychopathology or it might help a judge in making a decision about a delinquent. A case study inquiry is focused on a limited number of issues pertaining to individuals and their circumstances, and is organized around the critical examination of evidence and arguments related to these issues.[5]

It is impossible for a case study to tell the whole story of a person's life and circumstances, because the whole story is overwhelmingly complex and detailed. Rather, a more appropriate goal is to tell the story in such a way that the omitted information makes little or no difference in understanding the main structure of the events and arguments in question. The preparation of case studies can be seen as following a "quasijudicial" procedure.[5] A case study offers a theory about a person's behavior in a particular circumstance, and this theory needs to be tested by collecting evidence and formulating relevant arguments. The quasijudicial method

> . . . is based on methods evolved in law for ascertaining the truth and conducting fair trials. . . . The quasi-judicial method requires, among other things, that the main issues be stated clearly at the outset, that sufficient empirical data be available to support or refute claims, that evidence be admissable and relevant to those claims, that arguments be relevant and rational, and that conclusions which have important practical implications be supported by a greater weight of evidence than conclusions of lesser importance.[5]

The judicial analogy seems apt in that it suggests that different parties may have competing interests (whether legal, theoretical, or practical interests) which often seem to influence the course of debates surrounding particular cases, whether in courts of law, historical-political controversies, or scientific debates. For example, Freud's case of the Wolf Man[17] was written partly in order to further his side of the argument with Adler and Jung about the primary importance of childhood sexual experience in adult neurosis. Similarly, Wolpe and Rachman's critique[44] of Freud's study of Little Hans was written in order to criticize the evidential foundations of psychoanalytic interpretation, as well as to argue for the advantages of learning theory formulations.

Case studies of individual lives are often criticized for being open to a variety of interpretations. For instance, it is claimed that Freud's case studies "suffer from the critical flaw of being open to many interpretations."[29] Or,

> The events of most people's lives are sufficiently variegated and multifarious that virtually any theoretical template can be validated. The case study simply allows the investigator freedom to locate the facts lending support to his or her preformulated convictions.[18]

Is interpretation of the single case little more than an arbitrary application of one's theoretical preferences? No doubt this happens at times, but *any* method can be poorly used. The fact that one can lie with statistics or can misuse the case study method is no reason to abandon the method, but rather implies that it needs to be used with proper caution and controls. Criteria and procedures

for critically evaluating case studies have been discussed by a number of authors; these include Dollard's seven criteria for the life hisotry,[15] Murray's use of a diagnostic council,[32] Bromley's elaboration of a quasijudicial method for the conduct of case studies,[5] and Horowitz's discussion of sequential procedures for idiographic description and interpretation in clinical cases.[20]

It may be possible to interpret any life with any theory, but often only at the cost of distortion or selective presentation of the evidence. Any explanatory conjecture can be made, but not all of them stand up under rigorous cross-examination. In legal proceedings, self-serving explanations of the course of events by a guilty defendant often crumble under rigorous cross-examination. Similarly, explanations of a case using a particular theory sometimes fail to stand up under critical examination (*e.g.*, the disorders of George III had widely been seen as manic-depressive psychosis until Macalpine and Hunter[31] persuasively reinterpreted them as symptoms of porphyria, an hereditary metabolic disturbance). Even if some evidence can be found in a life history that is consistent with a wide variety of theories, this does not mean that all of these theories provide an adequate interpretation of the events in question. This problem of critically evaluating alternative explanations and interpretations within studies of individual lives is examined in greater detail elsewhere.[11, 39, 41]

CONCLUSION

In summary, this article has argued that assessment of the case study method needs to be distinguished from debates about retrospective, qualitative vs. quantitative, and subjective vs. objective methods. The case study is not dependent upon any single data collection technique, but is rather a form for organizing and presenting information about individuals and their circumstances which may draw upon a variety of techniques of data collection. Although the case study method can be, and too frequently is abused by being employed in arbitrary and indefensible ways, a quasijudicial or adversarial procedure can be used in which the evidence and arguments in case studies are subject to critical examination and reformulation. There are, obviously, additional issues about case studies that deserve our critical attention. But it is hoped that this effort at conceptualization of the case study method may contribute to more rigorous use of the method, and to a better balanced appreciation of its strengths and weaknesses for scientific and clinical purposes.

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