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IDIOGRAPHIC VERSUS NOMOTHETIC APPROACHES TO RESEARCH IN ORGANIZ--ETC(U)

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to Research in Organizations

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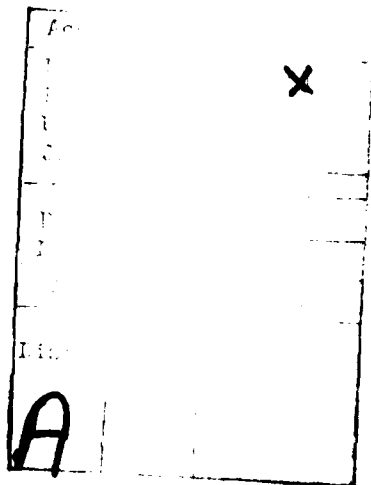
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) After first examining the underlying "sameness" assumption of the dominant nomothetic (group-centered) research perspective, an alternative interactive theoretic assumption is proposed for organizational behavior. This calls for idiographic (individual-centered) research. Intensive single-case experimental designs and direct measures from the idiographic approach are presented and analyzed.			

Idiographic Versus Nomothetic Approaches
to Research in Organizations

The first part of the paper examines the underlying assumptions of the dominant nomothetic (group-centered, standardized and controlled environmental contexts, and quantitative methodologies) and idiographic (individual-centered, naturalistic environmental contexts, and qualitative methodologies) research perspectives. Next, an interactive theoretic (i.e., real people interacting in real organizations) for organizational behavior is proposed. This theoretic assumption lends itself to an idiographic approach. Intensive single-case experimental designs and direct observational measures are proposed as potentially powerful methodologies for idiographic research of organizational behavior.



IDIOGRAPHIC VERSUS NOMOTHETIC APPROACHES

TO RESEARCH IN ORGANIZATIONS

Over forty years ago Gordon Allport (1937) introduced the terms idiographic and nomothetic to represent two perspectives and methodologies for doing research in psychology. He borrowed the terms from the neo-Kantian philosopher Windelband and defined the terms as follows:

The nomothetic approach . . . seek only general laws and employ only those procedures admitted by the exact sciences. Psychology in the main has been striving to make of itself a completely nomothetic discipline. The idiographic sciences . . . endeavor to understand some particular event in nature or in society. A psychology of individuality would be essentially idiographic. (Allport, 1937, p. 22)

Allport's purpose was to remind psychologists of the time that they were going down the path of group-centered nomothetic research and were ignoring the individual-centered idiographic perspective. This observation produced a spark for controversy and debate in psychology over the ensuing years (e.g., see: Beck, 1953; Endler, 1973; Falk, 1956; Harris, 1980; Holt, 1962; Skaggs, 1945). Except for some related concerns surrounding quantitative versus qualitative research (Argyris, 1979; Behling, 1980; Mintzberg, 1979; Morgan & Smircich, 1980; Van Maanen, 1979) and what Evered and Louis (1981) label "inquiry from the inside" and "inquiry from the outside" that has very recently surfaced

in the literature, the idiographic versus nomothetic controversy has not really been evident over the years in the field of organizational behavior.

The reason why the nomothetic versus idiographic approaches are not a "hot" methodological issue in the organizational behavior field is because, like in Allport's time, there is almost a singular preoccupation with the nomothetic approach. With but a few exceptions (e.g., Mintzberg, 1973; Pettigrew, 1973; Van Maanen, 1973), there is a notable absence of what could be labeled as idiographic research reported in the organizational behavior literature. In the field's rush for scientific respectability, the traditional case study design has been generally degraded and excluded for not being "scientific" enough. From a scientific perspective this may be justified. Not justified is the exclusion (or perhaps it is unawareness) of some potentially powerful causal experimental designs (e.g., intensive single case experimental designs) and direct methods (e.g., systematic participant observation) that can flow from and be compatible with an idiographic perspective.

The purpose of this paper is not to polarize the field of organizational behavior into a classic idiographic versus nomothetic debate. We already have enough controversy in areas such as motivation and leadership and as Evered and Louis (1981) have noted "the ideographic/nomothetic dichotomy has been dysfunctional for the development of the social sciences, because it carries the presumption that only nomothetic

research can yield general laws" (p. 391). Instead of this dichotomy, the perspective taken here is that both nomothesis and idiography have a place and can contribute to our knowledge of organizational behavior. Even when Allport made the original distinction he vainly tried to point out that the two approaches were "overlapping and contributing to one another" and that "a complete study of the individual will embrace both approaches" (1937, p. 22). This conciliatory message, of course, generally fell on deaf ears and the same may happen here. We strongly feel that the idiographic perspective and some of its possible accompanying designs and methods have somehow been lost or misunderstood in the development of the field of organizational behavior. Our purpose is to bring an understanding of the need for an idiographic perspective and describe and analyze some designs and methods that can be used to systematically and intensively study single cases in naturally occurring situations. However, we also strongly feel that a nomothetic approach with its accompanying designs and methods (which already has plenty of proponents and practically all the attention in the literature and thus will be given relatively little attention here) is also needed in our difficult search for knowledge in the field of organizational behavior.

The paper first places the nomothetic-idiographic distinction into the proper frame of reference and then makes a detailed examination of the underlying theoretical and methodological assumptions. Next an interactional theoretic foundation for organizational behavior is

explored. By viewing organizational behavior in terms of the holistic interaction of behavior-person-environment (or B-P-E) in naturalistic settings, then the idiographic perspective and its compatible designs and methods take on more relevance. The last part of the paper is devoted to these designs and methods. In particular, intensive, single case experimental designs and direct measurement techniques are offered as examples that are compatible with an idiographic approach, but have been, to date, largely overlooked in researching organizational behavior. These designs and methods are briefly described and analyzed.

Assumptions of Nomothesis and Idiography

Recently there has been some interest and concern about the underlying assumptions of social science knowledge in general and organizational inquiry in particular. Burrell and Morgan (1979), for example, divide the ontology, epistemology, human nature, and methodology assumption into subjective-objective dimensions. In particular, the subjectivist approach to social science includes a nominalism assumption for ontology, an anti-positivism assumption for epistemology, a voluntarism assumption of human nature, and, importantly, an idiographic assumption for methodology. The objectivist approach, on the other hand, assumes a realistic ontology, a positivist epistemology, deterministic human nature, and a nomothetic methodology. Thus, in this classification scheme idiographic represents a subjectivist approach to social science methodology and nomothetic represents an objectivist approach to social science methodology. More specifically, Burrell

and Morgan (1979) state that the idiographic approach

"is based on the view that one can only understand the social world by obtaining first-hand knowledge of the subject under investigation. It thus places considerable stress upon getting close to one's subject and . . . emphasises the analysis of the subjective accounts which one generates by 'getting inside' situations and involving oneself in the everyday flow of life--the detailed analysis of the insights generated by such encounters with one's subject and the insights revealed in impressionistic accounts found in diaries, biographies and journalistic records" (p. 6).

In other words, this is a "subjective" approach to methodology according to Burrell and Morgan or what Evered and Louis (1981) would call "inquiry from the inside" and depends upon what has become known as "qualitative" data gathering techniques. The nomothetic approach to methodology, according to Burrell and Morgan (1981) is

"basing research upon systematic protocol and technique. It is epitomised in the approach and methods employed in the natural sciences . . . It is preoccupied with the construction of scientific tests and the use of quantitative techniques for the analysis of data. Surveys, questionnaires, personality tests and standardised research instruments of all kinds are prominent among the tools which comprise nomothetic methodology" (pp. 6-7).

Although qualitative methodologies have very recently been given attention in the field of organizational behavior (for example the December 1979 issue of Administrative Science Quarterly is entirely devoted to qualitative methodology and some recent sessions of the Academy of Management meetings have been devoted to the issue of qualitative versus quantitative research), "good" research in the field (and probably more accurately the only research allowed in the most respected journals) has at least tried to follow the widely accepted criteria for internal and external validity (Campbell and Stanley, 1966; Cook and Campbell, 1976, 1979). Sophisticated inferential statistics are used to analyze the data, test hypotheses and draw conclusions. This dominant form of research is almost a pure nomothetic approach. Control group experimental designs that depend upon representative sampling from the population and make random assignments to the experimental and control groups and then make group comparisons in the statistical analysis is obviously a group-centered, nomothetic approach to research. In this highly popular approach, individual behavior is averaged, environmental conditions are controlled and standardized as much as possible, and the person-environment interaction is ignored. Usually, highly abstract variables in organizational behavior (e.g., leadership, motivational or attitudinal states, job design or organizational structural variables) are isolated for analysis over a large "N" to give enough statistical power. This approach does not really seem to recognize the dynamic nature of human behavior in complex organizations. The

systematic analysis of holistic interactions of organizational participants in naturalistic settings (i.e., real people in real organizations) is not being accomplished by the present approach to organizational behavior research.

Some may argue that although idiographic research is not being done in the mainstream of the organizational behavior field, it is being done in the so-called "policy" area of management. The work of Mintzberg in particular (Mintzberg 1973, 1978; Mintzberg, Raisinghani & Theoret, 1976) is indeed an excellent example of idiographic research. Although some policy researchers are following the innovative lead of Mintzberg (e.g., see Sarrazin, 1977-78), most of the others (probably because their methodological training in graduate school came in the area of organizational behavior) are not. For example, recognized policy researchers such as Schendel and Cooper stress the need for and use of nomothetically-based quantitative models for business strategy (e.g., see: Hatten, Schendel & Cooper, 1978). Overall, however, it is probably fair to say that policy research, and to an extent more sociologically-based macro-oriented organizational theory concerns (e.g., see Downey & Ireland, 1979), have at least recognized the need for and possible use of idiographic research more so than has the psychologically-based, micro-oriented organizational behavior field.

Although Burrell and Morgan (1979) or Evered and Louis (1981) recognize the subjective/inside and objective/outside philosophy of science and human nature assumptions for idiographic and nomothetic

methodologies, perhaps even more important to the study and analysis of organizational behavior are the theoretical assumptions that are made. For example, the nomothetic approach is unquestionably appropriate and necessary for certain research questions in organizational behavior given certain theoretic assumptions. By the same token, for other research questions under other theoretic assumptions, the nomothetic approach is totally inappropriate and an idiographic approach is needed. Marceil (1977) notes that the "true nomothetic" stance would be using a method of selective examination of many subjects under the theoretic assumption that individuals are more similar than different.

This sameness or "average is beautiful" assumption of nomothesis goes way back to the Belgian astronomer Adolphe Quetelet. He asserted that human traits followed a normal curve, and that nature strove to produce the "average" person but failed for various reasons, resulting in errors or variations in traits that grouped around the average (Stilson, 1966). As Hersen and Barlow (1976) note:

"If nature were 'striving' to produce the average man, but failed due to various accidents, then the average, in this view, was obviously the ideal. Where nature failed, however, man could pick up the pieces, account for the errors, and estimate the average man through statistical techniques" (p. 5).

In other words, the averaging approach has a great deal of popular appeal to the researcher because it assumes that variability or error can be accounted for or averaged out in a group. The catch to this logic is

that there is no such thing as an average individual. As Kurt Lewin (1933) noted almost fifty years ago, "the only situations which should be grouped for statistical treatment are those which have the individual rats or for the individual (human subjects) the same psychological structure and only for such period of time as this structure exists" (p. 328).

Not only the basic averaging assumption of nomothesis but also the popular statistical techniques flowing out of this approach can be questioned. For example, Marceil (1977) makes the following observation of the currently fashionable factor analysis technique:

"The R technique (correlational technique associated with factor analysis) involves the correlation of the results obtained from many persons taking two (or more) tests on one occasion. The goal of this correlational procedure is to determine which test items cluster together across individuals, the implication being that such clusters represent functional entities. Whether these clusters are the actual factors hypothesized by factor analytic theory or are merely statistical quirks is not known" (p. 1050).

Not only factor analysis, but the commonly used control group experimental designs and the accompanying multivariate statistical techniques in general fall under the theoretic assumption of sameness and the methodologic assumption of controlled examination of many subjects.

An alternative (and some would argue opposing) set of assumptions more in line with an idiographic approach, do not seem to be even

considered in the field of organizational behavior, let alone used. Specifically, an alternative methodologic assumption based on intensive examination of one or a few cases under the theoretic assumption of dynamic interactionism is, with the few possible exceptions that have already been noted, missing in the organizational behavior literature. These alternative underlying assumptions suggest the need to explore further the theoretical foundation for organizational behavior and the feasibility of alternative designs and methods of research.

An Interactive Theoretical Foundation

An increasing number of psychologists are questioning the "sameness" assumption and are proposing the alternative interaction notion. Although not new (e.g., pioneering behavioral scientists such as Georg Simmel (1950) George Herbert Mead (1934) and Kurt Lewin (1951) recognized an interactionist framework long ago and others such as Sells (1963) have been proponents for a long time), the ideas of interactional psychology have surfaced in the literature with renewed enthusiasm (Ekehammer, 1974; Magnusson & Endler, 1977; Terborg, Richard & Pritchard, 1980).

The Person-Situation Interaction

One of the leading spokespersons for the movement away from concentrating on abstract general variables in situation-free environments to examining person-situation interactions in naturalistic settings has been Walter Mischel (1973; 1976). He states that the emphasis should shift (1) from attempting to compare and generalize about what different

individuals "are like" to an assessment of what they do behaviorally and cognitively--in relation to the psychological conditions in which they do it; (2) from describing situation-free people with broad trait objectives to analyzing the specific interactions between conditions and the cognitions and behaviors of interest (Mischel, 1973; p. 265). In other words, with the first point Mischel is questioning the sameness theoretic assumption taken by the nomothetic approach and with the second point questions the standardized, "situation-free" assumption made when using nomothetic designs and methods.

By definition organizational behavior is not situation free. Organizational participants do not operate in a highly controlled, standardized environment. In a recent article Mintzberg (1979) forcefully points out:

"We shall never have closure so long as we pretend that other things can be held constant. We live in a world of dynamic systems. (A colleague of mine claims that everything in the world correlates with everything else at 0.3) . . . it is somewhat a matter of luck whether a two-variable cross sectional study manages to capture the structure that reflects today's situation--which it typically measures--or yesterday's, which it typically does not" (p. 588).

What has been missing in organizational behavior is the theoretic assumption recognized by the interactional psychologists that both people and situations vary and that the behavior of a particular person in a particular situation is a result of the joint characteristics of both

(Terborg, Richardson & Pritchard, 1980).

The Call for Interactive Study in Organizational Behavior

Over a decade ago John Campbell and his colleagues (Campbell, Dunnette, Lawler & Weick, 1970) in their comprehensive review of research on managerial behavior and performance concluded that an "interactional" or "interactionist" perspective was needed. In organizing the literature on managerial behavior up to that time they identified three categories of variables--person (individual trait characteristics), process (behavior description variables), and product (outcome variables). They were critical of these three variables being studied separately and concluded that "All three must be considered concurrently, and the effects and moderating influences of different organizational environments must be included as well" (Campbell, et al., 1970, p. 12).

Despite this recognition for an interactive perspective for organizational behavior by Campbell and his colleagues and a few others since (e.g., see: Roberts, Hulin & Rousseau, 1978 for an overall interactive framework which proposes organizational behavior to be a function of the characteristics of the responding unit, the characteristics of the environment in which the unit operates, and the interaction of unit and environmental characteristics), they stop short of carrying this theoretic assumption to its logical conclusion. They do not provide a clear account of guidelines for how these variables can be examined interactively. They do not suggest methodologic designs nor methods to do interactive research. For example, after calling for an interactive perspective, Roberts, Hulin

and Rousseau (1978) lament the fact that

"New methodological models are clearly needed to take into account the summary nature of variables, their relative attachment to particular units of analysis, and their causal reciprocity. No entirely adequate solutions to the measurement problems introduced here have been developed" (p. 99).

They also defend and advocate the use of nomothetic studies.

"If generalization from nomothetic studies proves invalid, the damage caused by conducting such research is inexpensively repaired. Information about single organizations can always be drawn from compiled data gathered in a nomothetic study, through disaggregation. The opposite is usually not possible . . . Case studies should be used to generate hypotheses, not to test them" (p. 69).

A Social Learning B-P-E Interaction Theoretic for Organizational Behavior

Most recently social learning theory has been proposed as a theoretical foundation for organizational behavior (Davis & Luthans, 1980). Borrowing from Bandura's (1976; 1977) notion of reciprocal determinism, the social learning theoretic assumes a continuous, dynamic interaction between the person (including internal cognitions and traits), the environment, and the behavior itself. This social learning approach goes one dimension beyond the person-environment interaction and adds the behavior itself as an interaction variable. Unlike the earlier

Campbell, et al. (1970) or Roberts, et al. (1978) interactive proposals, this behaviorally oriented behavior-person-environment or simply B-P-E interactive notion from social learning theory does suggest some proven research designs and methods for helping determine the nature of causal reciprocity and the meaningful testing of hypotheses.

An interactive theoretic such as B-P-E from social learning does not fit the nomothetic mold for group-centered designs and methods in standardized environments. Instead, intensive analysis of single cases in natural environments are called for. Qualitative methodologies are an obvious answer. However, the problem with the commonly used impressionistic accounts of qualitative research is that it does not provide causal conclusions nor meaningful testing of specific hypotheses. On the other hand, single case experimental designs and direct methods such as systematic observation have been used by behavioral researchers to intensively study subelements or partial B-P-E interactions or the holistic B-P-E interactive dynamic in naturalistic settings (e.g., see: Komacki, et al., 1977). In addition, unlike the qualitative methods used in idiographic research, the single case experimental designs and systematic observation methods can lead to causal conclusions and be used to test specific hypotheses. The remainder of the paper briefly describes, analyzes, and offers for the future development of the field of organizational behavior these methodologies that permit idiographic study of B-P-E interactions in natural settings.

Single Case Experimental Designs

Single case experimental designs must first of all be distinguished

from the so-called "case" approach used in clinical psychology, sociology and business policy and strategy. Whereas all make an intensive analysis of one or a few cases, the traditional case approach used in these other applications is not an experiment. In other words, in traditional case analysis an independent variable(s) is not manipulated to determine its causal effect on a dependent variable(s). By the same token, the single case experimental design should be evaluated against the standards for internal and external validity that are used for pure or quasi-experimental control group designs commonly used in nomothetic research. After explaining exactly what is meant by these designs, such a validity analysis will be made.

Background for Single Case Experimental Designs

Single case experimental designs are certainly not new. They have a long history in experimental psychology. For example, the famous studies by Pavlov used single subject experimental designs and, of course, Skinner (1953) is on record as stating that he would much prefer a study with a thousand replications of a single subject than one study of a thousand subjects in order to best understand human behavior. Only recently, however, has single case experimental designs been developed for use in applied settings. The work of Sidman (1960), Allport (1962), Dukes (1965), Baer, Wolf and Risley (1968), Bergin and Strupp (1970), Lazarus and Davison (1971), Kazdin (1973), and, especially, Hersen and Barlow (1976) have contributed to the development of workable single case experimental designs that can be adapted to research of interactive organizational behavior in natural settings.

Reversals or ABAB Designs

The specific designs that have evolved out of the above cited development are commonly called reversals (or ABAB) and multiple baseline designs. Briefly summarized, the reversal or ABAB design is performed as follows:

- (A) First a baseline measure is obtained on the dependent variable. This is usually some type of individual (or even group) dependent variable measure.
- (B) After the baseline is obtained, then an intervention is made (the independent variable) and the dependent variable is measured (usually through systematic observation) until the change stabilizes.
- (A) At this point of stabilization the intervention is withdrawn and baseline conditions are re-established. In other words a reversal is attempted.
- (B) Once the dependent variable measure stabilizes under the baseline conditions, then the intervention is made again and the impact is measured.

The major advantage of this reversal design is that the subjects serve as their own controls. Thus, the problem of intersubject variability that plagues the popular control group experimental designs is eliminated. The major drawback is that it assumes that the dependent variable being measured is capable of being reversed when the intervention is withdrawn and baseline conditions are reestablished. To overcome this potential problem, the multiple baseline design can be employed.

Multiple Baseline Designs

Briefly summarized, the steps of the multiple baseline design are as follows:

1. Baseline data are obtained on two or more dependent variables.
(These dependent measures, usually obtained by systematic observation, could be gathered on individuals, groups, or even situations.)
2. The intervention (independent variable) is then made on one of the dependent variables, but baseline conditions are maintained on the other(s), and the impact is measured.
3. Once the dependent variable has stabilized after the intervention, the next dependent variable receives the intervention and the impact is measured.
4. These staggered interventions continue until all the dependent variables are brought under the intervention.

This multiple baseline design eliminates the practical problems of attempting to reverse a dependent variable but makes the assumption of noninterdependence of the dependent variables.

An Example of Single Case Experimental Research

Although these single case designs may be viewed in opposition to the between-group comparison designs used in the nomothetic approach, both have their strengths and weaknesses that make them suited or unsuited to the particular research problem at hand. Two studies by Komacki (1977a) and her colleagues clearly demonstrate how such single case designs can be successfully applied to organizational behavior

research. Their first study involving the modification of the behavior of a game room attendant in the downtown area of a metropolitan city illustrates the use of the reversal or ABAB single case design. This design provided powerful evidence for concluding that there was a causal relationship between the independent variable and the dependent variable. The subject acted as his own "control" and the research was grounded in the organizational setting where the individual behavior actually took place. In a second study the researchers examined the modification of the behavior of two clerks in a neighborhood grocery store. Instead of the reversal, this latter study utilized a multiple baseline design. The controlling influence of the intervention on three dependent variables offered convincing evidence that the independent variable did indeed cause the change in the dependent variables. A few other organizational behavior studies have also demonstrated the applicability of reversals (Gupton & Le Bow, 1971; Kreitner & Golab, 1978; Luthans & Bond, 1977; Luthans & Maris, 1979; Marholin & Gray, 1976) and multiple/baseline designs (Kreitner, Reif, & Morris, 1977; Lamal & Benfield, 1978; Van Ness & Luthans, 1979). In other words, although more studies need to be done, there is evidence that idiographic research of interactive organizational behavior in real setting can be done by single case designs.

Internal and External Validities of Single Case Designs

In a comprehensive analysis, Komacki (1977b) has clearly shown that the threats to internal validity in experimentation identified by Campbell and Stanley (1966) are either ruled out by the procedures adopted in reversal and multiple baseline designs or do not present a major problem.

The additional potential threats to internal validity later noted by Cook and Campbell (1976) and not covered by the Komacki analysis--i.e., diffusion or imitation of the treatment, compensatory equalization of treatment, compensatory rivalry, resentful demoralization of respondents receiving less desirable treatments, and local history--can also be ruled out by these designs because they do not include a control group which contributes to these threats.

Although some of the major threats to external validity identified by Campbell and Stanley (1966) and Cook and Campbell (1976, 1979) such as the interactive effects of testing, the reactive effects of experimental arrangements, and the effects of multiple-treatment interferences are also of no major problem, other factors such as demand characteristics, experimenter effects, and expectations are a potential problem in single case designs as they are, to at least some degree, in all research and need to be carefully considered. The main argument against single case designs is the weakness that this approach shares with most group comparison research: the problem of generalizing the findings to a given population.

Most contemporary researchers in organizational behavior would argue that a sample of only one or two individuals or cases/groups make any attempt to generalize the findings unreasonable. However, as Edgington (1967) points out: "The belief that you cannot statistically generalize to a population of individuals on the basis of measurements from only one subject is certainly correct. However, it is also correct that you cannot statistically generalize to a population from which you have not

taken a random sample, and this fact rules out statistical generalization to a population (at least to a population of some importance) for virtually all psychological experiments, those with large samples or small" (p. 195). The major solution to this generalization problem, as Skinner (1953) first recognized and Hersen and Barlow (1976) have more recently emphasized, is replication. Like all research findings, those obtained by single case designs need to be tested in a variety of settings under a variety of conditions. Replication will allow the researchers to realistically generalize from one setting to another with some degree of confidence.

Judgmental External Validity

Besides the contribution that replication can make, it must also be remembered that external validity is a judgmental process, not as it is often portrayed as a binary (yes or no) decision. Because it is judgmental specific criteria for assessing the generalizability of replicated single-case studies can be developed and used. For example, Kennedy (1979) suggests the following evaluative criteria for the attributes of the sample cases: (1) wide range of attributes across the sample cases; (2) many common attributes between sample case(s) and the population of interest; (3) few unique attributes in the sample case(s); and (4) relevance of attributes. She also suggests the following evaluative criteria for attributes of the treatment in judging external validity: (1) wide range of treatment attributes across replications; (2) common patterns of treatment outcomes across sample cases; and (3) common treatment functions across cases.

The above criteria for assessing the external validity of single case studies still depend upon replication. However, Kennedy (1979) also makes the point that even without replication the judgment of generalizability could be shifted to the user of the case data rather than the researcher who produced the data. This is what is done in legal and clinical generalizations. However, in order to meaningfully generalize from one case to another, the user must have full, rich information, i.e., an intense, in-depth case analysis is needed. To the extent that the information is there, single case studies may prove to be more valuable to management practitioners than nomothetically oriented group studies because, as Kennedy (1979) points out, group comparisons may not generalize to individual cases.

The Role of Statistical Analysis

Besides analyzing single case designs in terms of internal and external validity, the roles played by inferential statistics and visual inspection of data should be examined. Group-centered research designs, of course, greatly depend upon inferential statistics. Statistics serve as the gatekeepers for inferring causality in nomothetic research. However, as Cook and Campbell (1976) point out: "Unfortunately, they are fallible gatekeepers even when they are properly used, and they fail to detect both true and false patterns of covariation" (p. 225). They then propose a taxonomy of threats to what they call statistical conclusion validity. This validity can be improved by watching for statistical power, fishing and the error rate problem, reliability of measures, reliability of treatment implementation, random irrelevances in the

experimental setting and random heterogeneity of respondents (Cook & Campbell, 1976). Such attention recognizes some potential problems and gets away from the blind acceptance of statistical conclusions in experimental research.

A quick review of the journals reveals that organizational behavior researchers, many of whom seem to put themselves in a defensive posture relative to their more "scientifically sophisticated" colleagues in psychology, often allow the manipulation of inferential statistics to become an end in itself. Descriptive statistics and visual interpretation of the data is largely ignored. The opposite is true of the advocates of single case experimental designs. The limitations of inferential statistics are emphasized. For example, Hersen and Barlow (1976) categorize these criticisms into five areas: (1) ethical objectives--by withholding the treatment and/or information from the control group, the control subjects may be cheated or actually harmed; (2) practical problems--randomly selected, matched control groups are simply not realistically available in applied settings; (3) averaging of results--there is no such thing as an average person; (4) generality of findings--because of the practical problem of randomization it becomes difficult to generalize beyond the group, or even more specifically, beyond the nonexistent "average" member of the group; and (5) intersubject variability--although the statistical procedures attempt to account for the problem of variability is ignored.

Because of the limitations of inferential statistics, some single case researchers build a case for the exclusive use of careful graphing

of data and visual analysis methods (e.g., see Kratochwill, 1978 for papers that take this position). Others suggest and use both conventional (e.g., modified analysis of variance models) and more specialized (e.g., time series analysis) statistical analysis techniques (see Kazdin, 1976 for a comprehensive overview of the statistical techniques that can be used in single case experimental designs). Once again, however, a polarized, mutually exclusive "either-or" situation has tended to develop. Nomothetic research depends on and almost exclusively uses inferential statistics and since this approach dominates the field of organizational behavior, the outcome too often is that all research must use inferential statistical analysis to be accepted. Idiographic research, on the other hand, which depends on qualitative data in general and much more on descriptive statistics and simple visual inspection of quantitative data in particular, may be, out-of-hand, deemed to be unacceptable. Yet, as has been stressed throughout this paper, such polarization is dangerous and unwarranted. As Elashoff and Thoresen (1978) state:

"doctrinaire positions that unequivocally advocate just one strategy and condemn others (e.g., all experiments require randomized groups or applied time-series data must avoid any inferential statistics) do far more harm than good. Any statistical method, descriptive or inferential, serves as a tool that may or may not be useful, depending on the task at hand . . . Statistical and visual methods should be partners in the analytic endeavor" (pp. 290-291).

Methods of Data Collection in Idiographic Research

As noted earlier, nomothetic research, because of its assumptions, has largely depended upon self report surveys, questionnaires and interviews as data gathering techniques. For example, Martinko and Carter (1979) found that practically all the studies reported in the Academy of Management Journal in a recent ten year period used questionnaires, self-reports and interviews as the data collection procedure. There is growing recognition that these methods have severe problems. For example, the reactivity and obtrusiveness of self reports and questionnaires is well documented (Webb, Campbell, Schwartz, & Sechrest, 1966) as are the social desirability biases (Arnold & Feldman, 1981; Golembiewski & Munzenrider, 1975). In addition, there are a whole host of practical problems administering questionnaires (Petry & Quackenbush, 1974) as well as psychometric problems such as anonymity, language, and external response sets. Even though the widely accepted standardized questionnaires used in organizational behavior research may have acceptable reliabilities they have been found to have questionable construct validity (Schriesheim, Bannister & Money, 1979; Schriesheim & Kerr, 1977). Interviews are also widely used as a data gathering technique, but are generally recognized to have even more problems than self report surveys and standardized questionnaires (Schwab, 1969; Valenzi & Andrews, 1973).

Despite the recognized problems with self report surveys, standardized questionnaires and interviews, their use continues unabated. Mintzberg (1979) tells of a doctoral student who was not allowed to

observe managers because of the "problem" of sample size. He was required to measure what managers did through questionnaires, despite ample evidence in the literature (e.g., Harper, 1968) that managers are poor estimators of their own time allocation. Mintzberg asks the question: "Was it better to have less valid data that were statistically significant?"

Obviously, for researchers under pressure to publish and operate with limited resources, it is much easier to ask (via questionnaires or interviews) than it is to observe. In addition, of course, when abstract constructs such as motivation or perceptions are the unit of analysis for the research, indirect measures are required. On the other hand, when dynamic B-P-E interactions are the unit of analysis, then qualitative methods in general and more direct measures in particular become required. As Kerlinger (1973) points out, "observations must be used when the variables of research studies are interactive and interpersonal in "nature" (p. 554).

Qualitative methods are not as precisely defined and identifiable as quantitative methods, but rather, as Van Maanen (1979) explains, "is at best an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world" (p. 520). Although not all qualitative researchers use direct techniques such as observation (e.g., Bruyn, 1967 explains that in some phenomenological studies the researcher may not enter the actual setting but instead examines symbolic meanings as they constitute themselves in human consciousness) most do (Sanday,

1979). If the intensive, single case experimental design is used to analyze interactive organizational behavior in natural settings, then observational measures can become an especially useful data gathering technique (Bijou, Peterson & Ault, 1968).

Taking an idiographic approach, the researcher becomes an observer who enters the organization to gather data or recruits an organization member already present in the organization. Although clear boundaries cannot be drawn between them, there are at least six such variations that can be used in observational data gathering for idiographic research:

1. Overt Participant Observer (e.g., Pettigrew, 1973). The researcher becomes a member of the organization in order to carry out a research project and makes his/her intentions clear to the organization members.
2. Covert Participant Observer (e.g., Dalton, 1959). The researcher becomes a member of the organization in order to carry out a research project but does not make his/her intentions clear to the organization members.
3. Overt Nonparticipant Observer (e.g., Mintzberg, 1973). The researcher enters but does not join the organization and announces his/her intention to carry out a research project.
4. Covert Nonparticipant Observer (e.g., Komaki et al., 1977a). The researcher enters but does not join the organization and collects data without revealing his/her intentions to the organization members under observation.
5. Overt Organization Member Observer (e.g., Johnson, Duncan, Monroe,

Stephenson and Stoerzinger, 1978). The researcher asks an organization member to do the observing but these observations are made public.

6. Covert Organization Member Observer (e.g., Lamal and Benfield, 1978). The researcher asks an organization member to do the observing but these observations are kept private.

Labels such as the above may not be as important in actual practice as is whether the observations are obtrusive or unobtrusive. If the subject(s) is aware he/she is being watched, this could increase the reactivity. Unfortunately, whether or not the method of observation will be obtrusive or unobtrusive is difficult to predetermine and will depend upon what is intentionally or unintentionally revealed in the research setting. The three categories of observation procedurally described as "covert" (i.e., 2, 4, and 6 above) may, in practice, turn out to be more disruptive than those situations where organization members are made aware that they are being studied. This may be particularly true in cases where people become suspicious that something is being done without their knowledge. Ultimately, the decision as to which observational method to use will probably depend on such things as the accessibility and frequency of the behavior being studied and the practical consideration of the opportunities and limitations in the particular organizational setting (Schatzman and Strauss, 1973). For example, in many industrial settings, the presence of a researcher-observer may have virtually no effect on worker behavior. As Luthans and Kreitner (1975) have pointed out:

"the awareness problem is not as predominant in a modern work environment as it was earlier. The reason is that industrial engineers and supervisors are constantly gathering every kind of imaginable data from today's employees. As a result, employees are relatively immune to being observed and receiving special attention. Thus, distortion stemming from awareness of being measured may not be as big a problem as it appears to be on the surface" (p. 76).

However, the non-manufacturing environment of most of today's organizations is likely to be different. The presence of a researcher-observer doing an idiographic study is undoubtedly much more obtrusive in a small office or a public sector agency than on the factory floor. Under these latter circumstances, a fellow organization member may be able to observe far more effectively than can an external observer. Secretaries, personal assistants, co-workers that are continually in close association with the subject and have intimate access to his/her behavior are likely to be the best candidates for observers in most idiographic research.

Observation is not the only measurement technique available for idiographic research. For example, a number of unobtrusive measures suggested by Webb and his colleagues (Webb et al., 1966; Webb and Weick, 1979) as well as other qualitative impressions derived from diaries or archival records of organizations could be profitably employed. In addition, quantitative methods could be used in combination with observation and other qualitative methods to produce as much and as reliable data as is possible. Once again, the position taken here is that the key to

advancing knowledge in organizational behavior is not to exclude any measurement techniques (those normally associated with nomothetic or idiographic research) but instead draw from all techniques in a multiple measures approach (Lockwood and Luthans, 1980; Jick, 1979).

A Final Word

This paper has suggested that an idiographic approach with its accompanying designs and methods may be a viable alternative to the now almost solely used nomothetic approach to organizational behavior research. Presently, the study of organizational behavior largely turns out to be a comparison of groups and/or the average individual under highly controlled, standardized environments because of the popular nomothetic control group experimental designs, inferential statistical analysis, and questionnaire and interview methods of data collection. This approach, of course, is appropriate and necessary under the theoretic assumption that people are basically the same and operate in a constant environment. However, under an interactive theoretic assumption of behavior-person-environment (B-P-E), i.e., the holistic interaction of the behavior itself, the person and the naturalistic environment, then an idiographic approach becomes appropriate and necessary.

Central to an idiographic approach to interactive organizational behavior studies in natural settings that intend to examine and make causal conclusions and test specific hypotheses are intensive single case experimental designs and direct methods such as systematic participant observation. When understood and on close examination, it turns out that these designs and methods hold up as well (and some idiographic

researchers would argue better) to the same evaluative criteria for scientific research that are currently being used by nomothetically-based researchers. However, the purpose of this paper was not to pit one research perspective and methodologies against another. Instead, we are simply trying to point out and learn about an alternative approach to nomothesis. This purpose is perhaps best expressed in a conversation that reportedly took place between two famous psychologists. Edward Tolman stated: "I know I should be more idiographic in my research, but I just don't know how to be," and Gordon Allport replied: "Let's learn!" (Hersen and Barlow, 1976, p. xiii). This conversation seems very relevant to the field of organizational behavior today. Hopefully, this paper has contributed to our learning of the idiographic approach which can in turn contribute to our knowledge of organizational behavior.

REFERENCES

- Allport, G.W. Personality: A psychological interpretation. New York: Holt, 1937.
- Allport, G.W. The general and the unique in psychological science. Journal of Personality, 1962, 30, 405-422.
- Argyris, C. Using qualitative data to test theories. Administrative Science Quarterly, 1979, 24, 672-679.
- Arnold, H.J.; & Feldman, D.C. Social desirability response bias in self-report choice situations. Academy of Management Journal, 1981, 24, 377-385.
- Baer, D.M.; Wolf, M.M.; & Riseley, T.R. Some current dimensions of applied behavior analysis. Journal of Applied Behavior Analysis, 1968, 1, 91-97.
- Bandura, A. Social learning theory. In J.T. Spence, R.C. Carson, & J.W. Thibaut (Eds.), Behavioral approaches to therapy. Morristown, N.J.: General Learning Press, 1976, pp. 1-46.
- Bandura, A. Social learning theory. Englewood Cliffs, N.J.: Prentice-Hall, 1977.
- Beck, S.J. The science of personality: Nomothetic or idiographic? The Psychological Review, 1953, 60, 353-359.
- Behling, O. The case for the natural science model for research in organizational behavior and organization theory. Academy of Management Review, 1980, 5, 483-490.
- Bergin, A.E.; & Strupp, H.H. New directions in psychotherapy research. Journal of Abnormal Psychology, 1970, 76, 13-26.
- Bijou, S.W.; Peterson, R.F.; & Ault, M.H. A method to integrate descriptive and experimental field studies at the level of data and empirical concepts. Journal of Applied Behavior Analysis, 1968, 1, 175-191.

- Bruyn, S.T. The new empiricists: The participant observer and phenomenologist. Sociology and Social Research, 1967, 51, 317-322.
- Burrell, G.; & Morgan, G. Sociological paradigms and organisational analysis. London: Heinemann, 1979.
- Campbell, D.T.; & Stanley, J.C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally, 1966.
- Campbell, J.P.; Dunnette, M.D., Lawler, E.E.; & Weick, K.E. Managerial behavior. New York: McGraw-Hill, 1970.
- Cook, T.D.; & Campbell, D.T. The design and conduct of quasi-experiments and true experiments in field settings. In M.D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Chicago: Rand McNally, 1976.
- Cook, T.D.; & Campbell, D.T. Quasi-experimentation: Design and analysis issues for field settings. Chicago: Rand McNally, 1979.
- Dalton, M. Men who manage. New York: Wiley, 1959.
- Davis, T.R.V.; & Luthans, F. A social learning approach to organizational behavior. Academy of Management Review, 1980, 5, 281-290.
- Downey, H.K.; & Ireland, D. Quantitative versus qualitative: Environmental assessment in organizational studies. Administrative Science Quarterly, 1979, 24, 630-637.
- Dukes, W.F. N = 1. Psychological Bulletin, 1965, 64, 74-79.
- Edgington, E.S. Statistical inference from N = 1 experiments. Journal of Psychology, 1967, 65, 195-199.
- Ekehammar, B. Interactionism in personality from a historical perspective. Psychological Bulletin, 1974, 81, 1026-1048.
- Elashoff, J.D.; & Thoresen, C.E. Choosing a statistical method for analysis of an intensive experiment. In T.R. Kratochwill (Ed.), Single subject research: Strategies for evaluating change. New York: Academic Press, 1978.

- Endler, N.S. The person versus the situation--a pseudo issue? A response to Alker. Journal of Personality, 1973, 41, 287-303.
- Evered, R.; & Louis, M.R. Alternative perspectives in the organizational sciences: 'Inquiry from the inside' and 'inquiry from the outside'. Academy of Management Review, 1981, 6, 385-395.
- Falk, J.L. Issues distinguishing idiographic from nomothetic approaches to personality theory. Psychological Review, 1956, 63, 53-62.
- Golembiewski, R.T.; & Munzenrider, R. Social desirability as an intervening variable in interpreting organizational development effects. Journal of Applied Behavioral Science, 1975, 11, 317-332.
- Gupton, T.; & Le Bow, M.D. Behavior management in a large industrial firm. Behavior Therapy, 1971, 2, 78-82.
- Harper, W.K. Executive time: A corporation's most valuable, scarce, and irrecoverable resource. Unpublished doctoral dissertation, Harvard University, 1968.
- Harris, J.G. Nomovalidation and idiovalidation: A quest for the true personality of people. American Psychologist, 1980, 35, 729-744.
- Hatten, K.J.; Schendel, D.E.; & Cooper, A.C. A strategic model of the U.S. brewing industry: 1952-1971. Academy of Management Journal, 1978, 21, 592-610.
- Hersen, M.; & Barlow, D.H. Single case experimental designs: Strategies for studying behavior change. New York: Pergamon, 1976.
- Holt, R. Individuality and generalization in the psychology of personality. Journal of Personality, 1962, 30, 377-404.
- Jick, T.D. Mixing qualitative and quantitative methods: Triangulation in action. Administrative Science Quarterly, 1979, 24, 602-611.
- Johnston, J.M.; Duncan, P.K.; Monroe, C.; Stephenson, H.; Stoerzinger, A. Tactics and benefits of behavioral measurement in business. Journal of Organizational Behavior Management, 1978, 1, 164-178.

- Kazdin, A.E. Methodological and assessment considerations in evaluating reinforcement programs in applied settings. Journal of Applied Behavioral Analysis, 1973, 6, 517-531.
- Kazdin, A.E. Statistical analyses for single-case experimental designs. In M. Hersen & D.H. Barlow, Single case experimental designs. New York: Pergamon, 1976.
- Kennedy, M.M. Generalizing from single case studies. Evaluation Quarterly, 1979, 3, 661-678.
- Kerlinger, F.N. Foundations of behavioral research. New York: Holt, 1973.
- Komaki, J.; Waddell, W.M.; & Pearce, M.G. The applied behavior analysis approach and individual employees: Improving performance in two small businesses. Organizational Behavior and Human Performance, 1977, 19, 337-352.(a)
- Komaki, J. Alternative evaluation strategies in work settings: Reversal and multiple-baseline designs. Journal of Organizational Behavior Management, 1977, 1, 53-77.(b)
- Kratochwill, T.R. (Ed.). Single subject research: Strategies for evaluating change. New York: Academic Press, 1978.
- Kreitner, R. & Golab, M. Increasing the rate of salesperson telephone calls with a monetary refund. Journal of Organizational Behavior Management, 1978, 1, 192-195.
- Kreitner, R.; Reif, W.E.; & Morris, M. Measuring the impact of feedback on the performance of mental health technicians. Journal of Organizational Behavior Management, 1977, 1, 105-109.
- Lamal, P.A.; & Benfield, A. The effects of self-monitoring on job tardiness and per cent of time spent working. Journal of Organizational Behavior Management, 1978, 1, 142-149.

Lazarus, A.A.; & Davison, G.C. Clinical innovation in research and practice.

In A.E. Bergin & S.L. Garfield (Eds.), Handbook of psychotherapy and behavior change: An empirical analysis. New York: Wiley, 1971.

Lewin, K. Vectors, cognitive processes and Mr. Tolman's criticisms. Journal of General Psychology, 1933, 8, 318-345.

Lewin, K. Formalization and progress in psychology. In D. Cartwright (Ed.), Field theory in social science. New York: Harper, 1951.

Lockwood, D.L.; & Luthans, F. Multiple measures to assess the impact of organization development interventions. In The 1980 Annual Handbook for Group Facilitators. San Diego: University Associates, 1980.

Luthans, F.; & Bond, K.M. The use of reversal designs in organizational behavior research. In R.L. Taylor, M.J. O'Connell, R.A. Zawacki, & D.D. Warrick (Eds.), Academy of Management Proceedings, 1977.

Luthans, F.; & Kreitner, R. Organizational behavior modification. Glenview, Ill.: Scott, Foresman, 1975.

Luthans, F.; & Maris, T.L. Evaluating personnel programs through the reversal technique. Personnel Journal, 1979, 58, 692-697.

Magnusson, D.; & Endler, N.S. Interactional psychology: Present status and future prospects. In D. Magnusson & N.S. Endler (Eds.) Personality at the crossroads: Current issues in interactional psychology. Hillsdale, N.J.: Erlbaum, 1977.

Marceil, J.C. Implicit dimensions of idiography and nomothesis: A reformulation. American Psychologist, 1977, 32, 1046-1055.

Marholin, D. & Gray, D. Effects of group response-cost procedures on cash shortages in a small business. Journal of Applied Behavior Analysis 1976, 2, 25-30.

Martinko, M.J.; & Carter, N. A critical evaluation of methodology in organizational research. In E.L. Miller (Ed.), Proceedings of the 22nd Annual Conference of the Midwest Academy of Management, 1979.

- Mead, G.H. Mind, self and society. Chicago: University of Chicago Press, 1934.
- Mintzberg, H. An emerging strategy of "direct" research. Administrative Science Quarterly, 1979, 24, 582-589.
- Mintzberg, H. Patterns in strategy formation. Management Science, 1978, 24, 934-948.
- Mintzberg, H. The nature of managerial work. New York: Harper & Row, 1973.
- Mintzberg, H.; Raisinghani, D.; & Theoret, A. The structuring of 'unstructured' decision processes. Administrative Science Quarterly, 1976, 21, 246-275.
- Mischel, W. Toward a cognitive reconceptualization of personality. Psychological Review, 1973, 80, 284-302.
- Mischel, W. Introduction to personality, (2nd ed.). New York: Holt, Rinehart & Winston, 1976.
- Morgan, G.; & Smircich, L. The case for qualitative research. Academy of Management Review, 1980, 5, 491-500.
- Petry, G.H.; & Quackenbush, S.F. The conservation of the questionnaire as a research resource. Business Horizons, August 1974, 43-47.
- Pettigrew, A.M. The politics of organizational decision-making. London: Tavistock, 1973.
- Roberts, K.H.; Hulin, C.L.; & Rousseau, D.M. Developing an interdisciplinary science of organizations. San Francisco: Jossey-Bass, 1978.
- Sanday, P.R. The ethnographic paradigm(s). Administrative Science Quarterly, 1979, 24, 527-538.
- Sarrazin, J. Decentralized planning in a large French company: An interpretative study. International Studies of Management and Organization, 1977-78, 7, 37-59.
- Schatzman, L.; & Strauss, A.L. Field research: Strategies for a natural sociology. Englewood Cliffs, N.J.: Prentice Hall, 1973.
- Schriesheim, C.A.; Bannister, B.D.; & Money, W.H. Psychometric properties of the LPC scale: An extension of Rice's review. Academy of Management

Review, 1979, 4, 287-290.

Schreisheim, C.A.; & Kerr, S. Theories and measures of leadership: A critical appraisal of current and future directions. In J.G. Hunt & L.L. Larson (Eds.), Leadership: The cutting edge. Carbondale, Ill.: Southern Illinois University Press, 1977.

Schwab, D.P. Why interview? A critique. Personnel Journal, 1969, 48, 126-129.

Sells, S.B. An interactionist looks at the environment. American Psychologist, 1963, 18, 696-702.

Sidman, M. Tactics of scientific research: Evaluating experimental data in psychology. New York: Basic Books, 1960.

Simmel, G. The sociology of Georg Simmel. In K.H. Wolff (Ed.), The sociology of Georg Simmel. Glencoe, Ill.: Free Press, 1950.

Skaggs, E.B. Personalistic psychology as a science. Psychological Review, 1945, 52, 234-238.

Skinner, B.F. Science and human behavior. New York: Free Press, 1953.

Stilson, D.W. Probability and Statistics in Psychological Research and Theory. San Francisco: Holden-Day, 1966.

Terborg, J.R.; Richardson, P.; & Pritchard, R.D. Person-situation effects in the prediction of performance: An investigation of ability, self-esteem, and reward contingencies. Journal of Applied Psychology, 1980, 65, 574-583.

Valenzi, E.; & Andrews, I.R. Individual differences in the decision process of employment interviewers. Journal of Applied Psychology, 1973, 58, 49-53.

Van Maanen, J. Observations on the making of policemen. Human Organizations, 1973, 32, 407-418.

Van Maanen, J. Reclaiming qualitative methods for organizational research: A preface. Administrative Science Quarterly, 1979, 24, 520-526.

Van Ness, P.W.; & Luthans, F. Multiple baseline designs: An alternative

strategy for organizational behavior research. In E.L. Miller (Ed.),
Proceedings of the 22nd Annual Conference of the Midwest Academy of
Management, 1979.

Webb, E.J.; Campbell, D.T.; Schwartz, R.D.; & Sechrest, L. Unobtrusive
measures: Non reactive research in the social sciences. Chicago: Rand
McNally, 1966.

Webb, E.; & Weick, K.E. Unobtrusive measures in organization theory: A
reminder. Administrative Science Quarterly, 1979, 24, 650-659.