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ABSTRACT

The paper discusses problems faced by policy makers in utilizing social science research in decision making on educational issues and problems. The term social science research is interpreted as including both educational evaluation and educational research. The history of social science research and critical issues associated with social science research and public policy formulation are discussed. A review of decision making indicates that public policy makers have sought social science input on crucial issues such as resource management from the earliest days of recorded history. Foci of the paper are: (1) the user of social science research, particularly political committees composed of local, state, and federal politicians, and the courts; (2) the producer of social science research who fulfills roles of advocate and scholar and must deal with societal forces which act to control the direction of social science research; (3) social science research as a systematic area of inquiry in spite of its many data and implementation limitations; and (4) the demand for social science research. Recommendations to improve the quality and utilization of social science research are suggested, including examination of the advocacy role of researchers, inclusion of more women and minorities in research efforts, less reliance on linear models of analysis, and additional data usage. (Author/DB)

DIFFICULTIES ASSOCIATED WITH THE APPLICATION OF SOCIAL SCIENCE DATA IN POLICY DEVELOPMENT

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Policy makers have always looked to learned individuals to provide them with information and informed opinions about educational problems. Today, more than ever, policy makers are looking to learned individuals to provide them with "objective" information and informed opinions about educational matters. The creation of the National Institute of Education with a specific mandate from Congress to conduct and sponsor educational research; the constant creation of select committees of Congress to assess select areas of education; the funding of educational research by private foundations; increased emphasis on educational research by schools of education; and the increased involement of individuals from disciplines outside of education in educational research, indicates the importance that policy makers place on research. Otherwise these endeavors would not be funded or encouraged by the general public or policy makers.

The term social science research is used, because most research in education involves social science methodology, whether employed by an educator or by someone from another discipline. This paper addresses problems faced by policy makers in the utilization of social science research in arriving at a decision on a particular educational issue; and problems faced by social science researchers. Therefore, the term "social science research" will include both educational evaluation and educational research. Popham (1976, p. 7-13) provides us with a useful distinction between educational evaluation and research:

> There are many similarities between the activities of educational researchers and those of educational evaluators. They both engage in disciplined inquiry. They both use measurement devices. They both analyze their data systematically, often with the very same analytic techniques.
>
> Both researchers adn evaluators are attempting to secure additional knowledge, but the use to which they wish to put this knowledge differs. Researchers want to draw

conclusions. Evaluators are more interested in decisions.

> Researchers, . . . search for scientific truth without any desire to attach estimates of worth to their findings. When researchers detect a reliable relationship between two variables, they can legitimately cease their inquiry right there. Their job ends with the establishment of truth.

However, Popham (1976, p. 12) was quick to state that we may never encounter these distinctions between educational evaluation and research in the real world. For example, (Popham, 1976:12):

> Rarely will we find a basic researcher who disdains information that might be used to make decisions. Rarely, will one find an evaluator who isn't interested in understanding a phenomenon for its own sake. It is just that researchers tend to focus their inquiry on deriving conclusions, and evaluators tend to focus their inquiry on facilitating better decisions.

I agree with Popham's (1975) assertion that in the real world differences between conclusion-oriented research and decision-oriented research rarely exist as dichotomous events; and that policy makers who must utilize such information have little use for such academic distinctions. What has been the history of social science research and policy formulation?

The use of social science research (information gathered by learned individuals) by public policy makers to aid in decision-making on crucial issues is perhaps, as old as civilized man. It seems logical to assume that man has always been confronted with a relative scarcity of resources, and that he has always had to make critical choices about the allocation of those resources. For example, what crops would produce the most food, what tribal members should be assigned certain tasks, how the tribe should be organized and governed are among the many decisions that confronted tribal elders of long ago. In this setting a scenario might include a meeting of the council of elders regarding the inability of the tribe to

provide an adequate supply of food for everyone during the winter. The tribal council would meet and hear testimony from those most knowledgeable about how to increase the food supply or how to reduce rapid increases in tribal membership. A possible ruling of the council might be to increase the production of certain crops that could be stored for usage during the winter months, increase the age in which young females may get married in order to decrease the population growth, along with setting up stiffer requirements for those seeking membership from outside of the tribe.

Given, that man has always lived in an environment of scarce resources; and that critical choices had to be made in acquiring and in the allocation of those resources, man has always sought a high degree of rationality in making those decisions. Whether we agree or disagree with assertions (Simon, 1957) that man is not capable of complete rationality in his decision making because information about a particular issue can never be complete; we can all agree that man still seeks the best information possible before arriving at a decision. Whether he selects the most rational alternative put before him, may be more of a reflection of his value system or politics than a lack of systematic and objective information provided by learned individuals (social science researchers).

In the real world, the collective noun "man" as a homogenous unit does not exist. The real world consists of a wide variety of political units with different cultures and mores, economic systems, political and social systems. Even within a single political unit we may expect to find a wide variety of subunits with distinct cultural and value orientations. In general, it is expected that policy makers in political unit A may tend to utilize social science research in a rational manner within unit A, and

not in a rational manner if the issue under discussion involved political unit B, in which a rational decision would mean a loss of resources for political unit A. Therefore, we should expect critical issues associated with social science research and public policy to have several foci: (1) the user of social science research; (2) the producer of social science research; (3) social science research as a "systematic" area of inquiry; and (4) the demand for social science research.

The User

In most societies, regardless of their political structure, have appointed or elected representatives to "committees" to decide policy issues for the masses. The term committee, as used here, refers to membership in Congress of Parliament; state legislature; county, city of town governments; membership on advisory boards of federal, state, and local agencies. Committees represent a "political form" (Edelman, 1972) which serves as a symbolic expression of values, attitudes, and beliefs for the masses; and to accrue benefits to particular groups. Occasionally, when confronted with a controversial policy issue a committee may ask the masses to decide the issue through a public referendum. In short, committee members are politicians whose values (and self-interest) enter into his decisions on policy matters. However, some group's values carry more weight than others (Edelman, 1972:4). Nevertheless, the term committee member, instead of politician, will be used because individuals who serve on advisory boards of public agencies might object to the use of the term politician in referring to their positions.

Committee members on "political forms" must vote on policy issues either to bring benefits to their constituency or prevent the enactment

of policies not favorable to their constituency. A committee member will utilize, within legal and acceptable ethnical boundaries, whatever means are available to influence other committee members to vote in his favor; or to retain his membership on the committee. In this situation, social science research is a powerful tool (Katznelson, 1968:59) that may be used by a committee member to either influence other committee members to vote with him on a policy issue; or to convince his constituency why he voted his conscience, instead of voting the way his constituency wanted him to vote. In many instances, when policy issues are non-controversial and there is consensus, social science research is of little interest to policy makers; and if it is cited, it's probably just for the record.

Another major user of social science research in the public making arena is the Court of Law. The Courts have the task of deciding which public policy is legal and constitutional as in Brown v. Board of Education, 1954 in which a policy of integrated public education replaced one of segregated education. One has only to review a small sampling of Court Decrees to see the influence of social science research on juridical decisions, (for example, see Brown v. Board of Education (1954) 347, U.S. 483, Griggs v. Duke Power Co. (1971) 401, U.S. 424, 433 (March 8), and Lau v. Nichols, 414, U.S. 563, 570 (1974). The use of social science research by the courts may take several forms. Plaintiffs and defendants generally use social science research on policy issues to persuade the judges (or court) that they should rule in their favor. However, the Court may produce their own social science research in order to clear up conflicting points presented by plaintiffs and defendants; or, to defend its decision in the case. In this sense, at least, one may say that research is neutral, it

may be used for you or against you depending upon one's position in the matter. The intent here, is to make the point, that actors involved in a law suit involving a major policy issue, are more concerned with influencing the decision maker, the judge, with his research than with the academic debate as to whether or not social science research is "scientific" or not scientific. Most judges and lawyers know that it is not "scientific" and merely view it as a part of overall efforts by plaintiffs and defendants to influence the Court; only social scientists seem to be confused on this issue.

Social science research before a court may include testimony by a learned scholar, or written summaries on a particular issue; which may be directed at the legal question under consideration or at an acceptable remedy should the Court rule in favor of the plaintiff or defendant.

The Courts have long used social science research, but it was not until Kenneth Clark's testimony in Brown v. Board of Education, 1954 was cited as evidence of psychological harm by segregated schools to blacks that social scientists, in general, became aware of the use of their work by the Courts. After the Brown decision, several writers speculated about the use of social science research by the Courts in law reviews and other social science journals. Most of these articles attempted to trace the origin of the Court's use of social science research and to speculate about its affect on judicial decisions; they carried such titles as "Social Scientists Take the Stand: A Review and Appraisal of Their Testimony in Litigation" (Greenberg, 1956), "Some Limits on the Application of Social Science Research in the Legal Process" (Lochner, 1973), "Social Psychological Data, Legislative Fact and Constitutional Law" (Kohn, 1957), "The Social Scientist As An Expert Witness in Civil

Rights Litigation" (Clark, 1953), "Law Research and Social Science" (Fitzgerald, 1957), "Civil Rights and Social Science Data" (Wolf, 1972), and "Social Science Data and the Courts" (Stivers, 1976); and "The Effects of Segregation and the Consequences of Desegregation: A Social Science Statement" (Minn. Law Review, 1953). Included among the authors were Kenneth B. Clark who testified in Brown and Jack Greenberg, counselor for the NAACP Legal Defense and Educational Fund.

There is little question, today, that judges are influenced by social science research; but the direction of that influence was the concern of a recent conference on the subject revealed (Stivers, 1976) that:

(1) Judges must reach decisions, but social scientists need not reach conclusions.

(2) Judges make decisions with a basis in law through a process of judicial or legal reasoning which relies more on precedent, community norms, and status quo than on the functional relationships social science develops in its efforts to define human behavior. Hence, judges may find it helpful to turn to the social scientist after a decision has been reached in hopes of finding a remedy.

U.S. Circuit Judge William S. Doyle, the ruling judge in Keyes v. Denver, stated that factors taken into consideration before a decision is reached includes history, positive law, The Constitution, reason, morals, decency and current philosophy (Stivers, 1976). Therefore, its possible that social science research may reveal a lack of positive reasoning, morals, decency, or a corrupt philosophy. For example, lawyers in Brown used social science research that reflected on all of Judge Doyle's concerns for basic justice; however, the plaintiffs in Brown concentrated their efforts in winning the legal question and the remedy at the same time (Friedman, 1976; Kluger, 1976).

It seems clear that members of political forms -- Committees, and the judiciary, make use of and may be influenced by social science research. This claim is made without attempts to determine whether or not committee members or jurists make proper use of social science research. While it may not be considered unethical when politicians attempt to misuse social science research to win their arguments or to influence votes; it is considered unethical for a researcher to misuse or misrepresent his research findings. While a lawyer that misuses research data in defense of his client may be working within the rules of the game as a defense lawyer. What is the proper role for a social scientist?

The Researcher

The typical social scientist holds a doctorate; is employed in university, a research agency or private foundation; and has a major in a social science discipline or is a graduate from a professional school -- education, law, or medicine. There are exceptions, however, many individuals from the natural sciences and mathematics engage in social science research. While Warthen (1975) lists 25 competencies that a social science researcher should possess, by and large, they are characterized by their level of education and position held.

Social science research is a powerful tool that may be quickly followed by social action and policy formulation (Katznelson, 1971:57). Katznelson (1971:57-59) asserts that:

> Whether intended or unintended, research . . . clearly has social consequences. The social scientist . . . is heavily involved in the area of values whether he likes it or not as a result of his relationship with his subject and his audience.

> The social scientist is both in and of his world. . . . Why study society unless you care about it? Moreover, since social science scholarship has political and moral consequences, social scientists must face up to their political and moral responsibilities. Given the social scientist's web of relationships, attempts at value-free . . . scholarship are not simply absurd, but dangerous. . . . To write is to be implicitly political.

Because the researcher is a part of his environment and a possessor of its values; it seems reasonable to assume that because the typical researcher is also white male and middle class, we expect the advocacy role of the researcher to favor the status quo. Since a researcher may be both a researcher and an advocate for a social cause at the same time, some social scientists such as Clark (Stivers, 1976), Green and Pettigrew (1976) has expressed grave concern about the lack of restraint by researchers as advocates for social causes. It is felt that the advocacy role of excellent scholars such as Professor Arthur J. Jensen (Thomas and Sillen, 1972; Light and Smith, 1971) on comparisons between black and white intelligence; and Professor James Coleman's thesis on urban desegregation and white flight may have lead both researchers to exceed their data (Green and Pettigrew, 1976). Kenneth B. Clark (AASA, 1973) has been most vocal in criticizing the advocacy role of highly visible social scientists. For Example, the basis for Professor Jensen's hypothesis, Cyril Burt's research on heritability of intelligence (Gillie, 1977) has turned out to have been faked findings; and Professor Coleman's findings exceeded his data (Young and Bress, 1975). The critical point to be made here is that the social scientist brings to his job along with his scholarship his value system. It's doubtful that you will find a black social scientist attempting to prove that blacks are intellectually inferior to whites. Or, if you could engage the services of a white social scientist to design an experiment to prove that whites are inferior

to blacks. However, if these two researchers were to apply for a research grant to support their research, the black researcher's study to prove that blacks are inferior to whites would probably be funded, which brings me to my next point. In addition to the typical researcher being a white male and middle or upper class, organizations that fund research or employ researchers are also mainly controlled by middle class white males. Since both individuals and organizations may serve an advocacy role, this combination tends to tilt social science research in a conservative (Ausubel, et. al., 1974) direction. Therefore, their is a need to counter balance this conservative nature of social science research. Mechanicisms for countering this trend will be discussed later.

Social Science Research

Social science research is beset with many problems, as is other forms of research, but the most crucial problems are: (1) the mental state of the social scientist in relation to the non-social science researcher; (2) the advocacy role of the researcher; (3) the need to shift our focus from criterion variables to control variables; (4) the elitist nature of the research enterprise; (5) the linear nature of most statistical research; (6) the lack of adequate data for analysis; and, (7) the use of research by members of "political forms" and the courts.

The social scientist suffers from what some call the "Avis" effect, in that they admit to being second rate in comparison to the natural sciences. Avis is the car rental company that admits to being second best, but insist they try harder. Educators (Glass, 1971) insist, as they should, that good research findings should be generalizable; but they also insist that research in the natural or hard sciences are perfectly generalizable, while research in the social sciences are extremely limited in generalizability.

These statements indicate a lack of understanding of policy research in the non-social sciences. First, let me say that as a former card carrying member of the hard sciences, policy research in that area is no "harder" or more generalizable than policy research in the social sciences. Routine matters that occupy the time of many natural sciences are not considered policy research. For example, addition of an improved radar system for a jet airplane is just a routine matter; while a policy question would possibly involve a decision whether to mass produce the Boeing 747 Jet or the French-British Concord for commercial travel. Or, to decide whether continued fishing in Lake Erie should be permitted because of excessive pollutants. Or, whether to continue to discontinue the swine flu immunization program. Or, to produce super bombers for the military in lieu of other weapon systems. It should be clear that policy-related research questions faced daily by people from the natural sciences are likely to yield "soft" research answers.

In recent years, we have witnessed increased participation of researchers from disciplines outside of education in educational research; and I strongly support this involvement. However, I would tend to recruit those social scientists who have had both academic and practical experience in their field. A political scientist without any experience with the political process may be of little use; or a sociologist whose only real experience with social forces has been confined to the university campus. The big plus, I feel, in having people from other disciplines involved in education is that they do not worship our linear models of statistical analysis; which I will discuss later.

As stated earlier, it is expected that the researchers advocacy role should be limited in his selection of the problem for study; and beyond

that the researcher should allow his results to speak for themselves. All researchers are advocacies for something; the selection of a study's hypotheses represents a form of advocacy.

The problem of not keeping one's advocacy for a particular cause in proper perspective may cause problems for the individual researcher and the research community. I feel that it is proper for a researcher to serve as an advocacy for a cause, provided it's known that you are wearing your advocacy hat; and that despite your advocacy hat you will not compromise your research hat. For example, as a consultant to the plaintiffs in the Buffalo, New York school integration case, I am an advocacy for integration; and when called upon to testify I do so without attempting to stretch relevant research findings; and I feel that the educational consultant for defendants should do likewise. There are examples however where individual advocacy positions by researchers have generated causes for concern within the research community. For example, James S. Coleman signed a petition against the Boston school integration plan which was perfectly proper; but the stretching of his findings on urban desegregation and white flight beyond his data (Coleman, 1975a, 1976b) was improper (Young and Bress, 1976). While Coleman (1975:169) admitted that advocacy and the possible misuse of social science research is important; he compared the role of a researcher to that of a lawyer defending his client. I do not feel that a researcher should view himself as a lawyer defending a client in a Court of Law. Another example, includes the works of Professor Arthur Jensen. Professor Jensen was an advocacy for a series of causes considered by some to be (Clark, 1973; Plotkin, 1974; Thomas and Sillen, 1972) anti-compensatory education and anti-fiscal neutrality for schools. It's possible that his advocacy role prompted

his defense of earlier studies on intelligence that some considered inadequate; and when confronted with evidence that those studies that formed the core of his conclusions on race and intelligence were derived from faked data (Fiske, 1977), he still insisted on the validity of those conclusions. It's generally agreed that Cyril Burt's study of identical twins which formed the basis for professor Jensen's hypotheses was generated from fake data (Fiske, 1977; Gillie, 1977). Even if Burt's studies were genuine, I would have discarded his findings on the assumption that identical twins living in different neighborhoods in England were not living in different educational environments. Another example of an excellent scholar who probably allowed his advocacy position against compensatory education (Benson, 1973) and fiscal neutrality of school funding was Jencks in works on schooling and inequality (Jencks, 1972). Jencks (1972) presented us with what Kenneth B. Clark (1973) called "scholarly paraphernalia in lieu of scholarship". Questionable conclusions were followed with extensive footnotes; and rules of statistical inference disregarded. For example, Jencks (1972) states:

> The statistically minded reader will probably be distressed at our willingness to combine data from disparate sources and our frequent manipulations of distributions on the assumption that they are normal.

I feel that Jenck's work represented an individual wearing both hats at the same time, a researcher and an advocate; in which, his advocate role probably influenced his tendency to "stretch" his findings.

Finally, a researcher's advocacy role should end with the selection of the problem for study and the formulation of appropriate hypotheses. The individual and the research community will be better off in the long run if all researchers adopted this position.

The next area of concern is the almost exclusive concentration on criterion measures with little concern for control measures. Most educational studies are mainly concerned about the validity and reliability of their instruments on such measures as: academic achievement, creativity, job satisfaction, I.Q., and organizational climate. While exerting little energies on such control variables as social-economic status, age, educational environment, teacher qualifications, or a student's family background which may be more central to the question asked than the criterion measure. For example, for educational purposes, the social-economic status (SES) category should change only if it strongly suggests that the student will likely move to a different neighborhood where the schools are better or worse. A black family living in a low SES neighborhood and earning $12,000 compared to the average income of $9,000 for that neighborhood is not likely to enjoy any educational advantages, unless his income rises to a point that will allow him to move to a higher income neighborhood. For educational purposes, it makes sense to put everyone in this neighborhood in the same SES category. However, for the economist who is concerned about capital flow, several SES categories within this community might make sense. Another example, is assessment of teacher quality as defined by a teacher's verbal ability; if there is a relationship between a teacher's verbal ability and teaching ability, what verbal ability categories should we put teachers in. A move from one category to the next highest category should indicate superior teaching skills. This situation has yet to be cleared up. Another example that comes to mind is the control variable, level of parent education. There are two unanswered questions regarding this variable: first, if you establish a parent education level A, what rise in parent education level

that will indicate a substantial boost for the child's education before we can move to parent education level B; and second, knowing the varied social economic structure of this country, how can we make the assumption that all parents of a particular educational level received the same quality of education. Equating high school graduates Ben Franklin High School in Harlem, New York in a disadvantaged neighborhood with those from Scarsdale, New York an opulent suburban neighborhood is really stretching the point. Again, we have done little to shed light on this problem.

Then there are crucial control variables that we have not researched even in their imperfect state of development. Ability grouping is not generally considered when school quality measures are computed. Yet, we make statements like, black and other minorities achievement did not increase in integrated schools; without mentioning that blacks and other minorities were in the lower ability tracks while whites were generally found in the higher ability tracks (Brown, 1976). Other variables, generally not included in most educational research are: school attendance, length of instruction (some schools are on split sessions), and the availability of kindergarten instruction (not all districts provide for such instruction, while other districts provide all day kindergarten instruction). Therefore, when you tell me that A outperformed B in school achievement, please consider these variables.

It seems clear that given the social and economic, stratification of different groups in America, and the varied patterns in the allocation of educational resources, educational research is not generalizable across groups. That is, information on Jewish and Asian Americans who are mainly urban dwellers cannot be generalized to the American population as a whole; nor can information on blacks be generalized to whites; because economically,

socially, and geographically they do not represent a random sampling of the general population. However, it does make sense to generalize to all groups similarly situated; and minorities in this country are not similarly situated as non-minorities.

The elitist nature of educational research should be another concern of the social scientist. Moynihan (1972:32) commenting on his more than half million dollar effort to reanalyze the Coleman Report data, concluded that the most important findings of his efforts were the works of elites. Elites, in general, tend to protect the status quo. While reformers, though their efforts to equalize educational opportunities in public schools, are seeking to change the social order which should result in changes in the distribution of wealth, political power, social, and psychological power. Established organizations in seeking to maintain the status quo must make its claims to power legitimate; and it may maintain its position for the organization and its members by seeking legitimacy (Dahl, 1970:41) of which research by members of its leading universities is a useful mechanicism for gaining legitimacy. It is little wonder that while educational inequality was in the talking stage, most spokespersons for the major social organizations were from the less prestigeous universities; but when equality of educational opportunities moved from the talking stage to possible implementation, those organizations called upon its big guns -- professors from its most prestigeous universities. While I do not feel that there is an effective way to reduce this connection, I would urge that members of these institutions guard against such involvement; and invite members from those groups being studied, minorities and women to join their ranks. Gephart (1970) survey of the most important research efforts in the past ten years

confirm the elitist nature of social science research.

The next area of concern is the linear model used to analyze social science data. Daniel J. Brown (1975) discusses this problem in more detail in an article on the subject. However, I will attempt to state the problem. In the physical sciences we know that if you double the speed of your automobile from 40 miles per hour to 80 miles per hour, your gasoline consumption will not just double but more than likely it will triple. Or, if you eat twice as much, your calorie intake will not double because the body is not that efficient. In education, we need to know the relationship between length of instruction and achievement; and cost of instruction and achievement. For example, if we double instructional resources should we expect a 100%, a 75%, a 50%, or a 25% increase in academic achievement even when we control for major variables properly defined. My guess is, that the answer is not 100%, but what is it? Maybe, a historical approach to the matter will provide us with better information than our linear models. This is not an argument to throw out the linear model, but just to suggest that it is not appropriate for all types of analyses.

Despite the problems cited, a lack of adequate data for educational research is still a concern for researchers. Of all the research cited (Gephart 1974) among the most significant of the last decade only two contained original data, the Coleman Report and Project Talent. Other studies cited during that period such as: Mosteller and Moynihan's (1972) reanalyses of the Coleman Report data; Jencks' study on inequality; and Jensen's study on intelligence all relied upon the Coleman Report data. It should be obvious from these findings, that local schools are not putting out a welcome mat for educational researchers. Nevertheless,

unless we can get educational data, we cannot test our theories; and in short, we cannot call ourselves researchers.

The final concern that I would like to raise is that social scientists should understand the nature of individuals or organizations that make use of their research. First, it should be recognized that we live in a society organized into political subunits with each unit fighting for scarce resources, education included; and that increasingly, these political subunits use social science research to legitimize their claims to those resources. These political units will use research to give legitimacy to their claim, without due regard for author's findings and conclusions.

Courts of Law also make extensive use of social science research; and while this setting is different from the political form described above, it too involves an adversary relationship. Lawyers for the plaintiff and defendant will tend to use social science research in a manner to assist their respective clients without due regard for the conclusions and limitations of the research as spelled out by the researcher. In addition, the judge may use your research to endorse his decision in the case without due regard for the researcher's conclusions. Because, researchers have little control over how and where their research will be used; and by whom, they should take great care in reporting the findings of their research. The researcher's advocacy role should end with the selection of the problem for study. Further, taking an advocacy position beyond that point might prove embarrassing later, should the researcher change his position on that issue; and it becomes difficult for other researchers to use information from your study.

This review of difficulties associated with social science research and policy making suggested that we take a look at the advocacy role of the researchers; shift our attention away from dependent measures to independent measures; involve more minorities and women in our research efforts in order to weaken our almost total reliance upon research by elites; lessen our reliance upon the linear model of analysis and increase our use of other modes of analysis -- such as, historical, sociological, and political; seek more data for our research; and rid our minds of the notion that social science research on policy questions are not as hard as those generated by non-social scientists. In short, we should cease our excessive concern with statistical methodology and take a more wholistic view of our research efforts.

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