

The Journal of Law and Education

Volume 4 | Issue 1

Article 17

1-1975

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Recommended Citation

Steven I. Miller & Jack Kavanagh, Empirical Evidence, 4 J.L. & EDUC. 159 (1975).

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Empirical Evidence

STEVEN I. MILLER* AND JACK KAVANAGH*

A central and fairly recent phenomenon in American judicial thought has been the use of empirical evidence as a basis for far-reaching and significant decisions. This trend has been notable especially in the area of education in such decisions as the historic *Brown v. Board of Education*,¹ and more recently in such cases as *Hobson v. Hanson*² and *Serrano v. Priest*.³

The importance of this trend lies in the fact that the courts are now acknowledging, at least to some extent, social science findings as a legitimate framework for evidence. The nature of acceptable and "proper" evidence, then, is being extended to include social science observations about the nature of human motivation and behavior.

This trend, in a sociological sense, is a tacit recognition of Emile Durkheim's contention that institutions (in this instance the institution of law) can and do shape our behavior in predictable ways. Durkheim referred to this phenomenon as the power of "social facts." Although the idea of social facts has been debated at great length in the sociological literature, Durkheim's own definition is still perhaps the most salient: "... a category of facts with very distinctive characteristics: it consists of ways of acting, thinking, and feeling, external to the individual, and endowed with a power of coercion, by reason of which they control him."⁴

What Durkheim was implying was that our behavior is significantly influenced by the laws, customs and traditions of our society as they are expressed through particular institutions. Thus, for example, our conceptions about "legal" and "illegal" behavior are often the result of our internalization of laws, or in equivalent terms, of social facts. The emphasis is in the social aspect of normative behavior as a guiding influence for so many of our actions; actions which often become so habitual that we do not question their origin or realize their "coercive" effects. Durkheim,

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¹ *Brown v. Board of Educ.*, 347 U.S. 483, (1943).

² *Hobson v. Hanson*, 265 F. Supp. 902 (D.D.C. 1967).

³ *Serrano v. Priest*, 96 Cal. Rptr. 601, 487 P.2d 1241 (1971).

⁴ E. DURKHEIM, *THE RULES OF SOCIOLOGICAL METHOD* 1-13 (1966).

again, makes this point when he states:

When I fulfill my obligations as brother, husband, or citizen, when I execute my contracts, I perform duties which are defined, externally to myself and my acts, *in law* and in custom. Even if they conform to my own sentiments and I feel their reality subjectively, such reality is still objective, for I did not create them; I merely inherited them through my education.⁵

Following Durkheim, a major proposition of this paper will be that the judicial system, being one of the most central and "coercive" institutions in this society, plays a unique role in creating and disseminating social facts. These social facts, furthermore, when they enter the arena of formal education, have far-reaching consequences for social and educational change. In addition, the judicial system, when it delivers decisions based on empirical evidence, is essentially "creating" new social facts.

A second proposition of this paper will be that the use of empirical research as a basis for judicial decisions must be viewed in the larger context of the social science enterprise.⁶ This perspective is necessary in order to see the weaknesses as well as strengths of the social science model. Lastly, some comment will be made as to the general desirability of using social science findings in formulating and implementing social policy.

Empirical Evidence and the Courts

Within the context of judicial decisions directed towards educational matters, one of the most far reaching in terms of social policy has been *Brown*. This now classic decision resulted in the banning of segregated education in the United States. Aside from the legal stance the Court took concerning segregated education, it became clear that it was also basing the decision on a number of works from the social sciences.⁷ These works, in the Court's opinion, constituted to date the best available evidence concerning the psychological damage done to children attending segregated schools.

This portion of the Court's argument was vital because it was in effect saying that reliable and valid evidence existed attesting to the fact that segregated education resulted in personality disturbance, and that, therefore, this evidence was at least a *necessary condition* in determining the

⁵ *Id.* at 1.

⁶ See J. A. DAVIS, *ELEMENTARY SURVEY ANALYSIS* 1-30 (1971).

⁷ K. G. CLARK, *EFFECT OF PREJUDICE AND DISCRIMINATION ON PERSONALITY DEVELOPMENT* (1950); WITMER AND KOTINSKY, *PERSONALITY IN THE MAKING* (1952); Deutscher & Chein, *The Psychological Effects of Enforced Segregation: A Survey of Social Science Opinion* 26 J. PSYCHOL. 259-87 (1948); Chein, *What Are the Psychological Effects of Segregation Under Conditions of Equal Facilities?* 3 INT. J. OPINION AND ATTITUDES RES. 228-34 (1949); BRAMELD, *EDUCATIONAL COSTS IN DISCRIMINATION AND NATIONAL WELFARE* 44-48 (McIver, ed., 1949); FRAZIER, *THE NEGRO IN THE UNITED STATES* 674-681 (1949); MYRDAL, *AN AMERICAN DILEMMA* (1944).

unconstitutionality of maintaining a system of segregated education. One could perhaps even argue that the Court considered the cited empirical evidence as a *sufficient* condition for banning educational segregation, since it stated the evidence was "amply supported by modern authority." In any event, the use of empirical evidence was strongly supported as a precedent for future cases.

In reviewing the evidence cited by the Court, perhaps the single strongest piece of social science evidence is a study by Max Deutscher and Isidor Chein.⁸ The study is of special importance because it exemplifies, more than the other evidence cited, the social science model of human behavior.

The model, very briefly, assumes that men are influenced by their society into behaving according to certain patterns, which are to some degree predictable. The purpose of social science inquiry, then, is to observe behavior so that it may be better understood for its own sake, and that behavior which "deviates" from the expected societal norms can be explained in terms of some theoretical framework of human behavior, i.e., role, personality and socialization theories, economic and political theories, or some combination of these. There is also the school of thought that believes social science should be primarily ameliorative—that social science should be directed towards solving society's ills.⁹

One of the crucial assumptions of this model is concerned with the tools of observation and prediction. The assumption is that behavior whether it is overt or covert can be measured with ever-increasing degrees of accuracy, and that this measurement function will eventually enable one to predict behavior accurately. It is this "scientific" aspect of the term social science that has become the cornerstone for the increasing reliance on social science findings by government, industry, schools, as well as the courts.

Now social science findings, regardless of the sophistication of the particular methodology, are primarily ones of association. That is, social science operates under the assumption that there are purposeful relationships between classes of objects, alternatively known as variables.¹⁰ It is then the task of the social scientist to establish an initial relationship between at least two variables (independent and dependent) that he is concerned with. If he finds a relationship, he is then interested in at least two further functions: (1) attempting to explain the relationship through the use of other variables, and (2) attempting to arrange the variables under study in such a way as to establish patterns of cause and effect among the

⁸ M. Deutscher & I. Chein, *The Psychological Effects of Enforced Segregation: A Survey of Social Science Opinion*, 26 J. PSYCHOL. 259-87 (1948).

⁹ See A. INKELES, *WHAT IS SOCIOLOGY* 28-46 (1964).

¹⁰ See J. MUELLER, K. SCHUESSLER & H. COSTNER, *STATISTICAL REASONING IN SOCIOLOGY* 1-8, 9-16 (2d ed., 1970).

variables.¹¹ One of the important assumptions in the entire process of establishing relationships is, of course, the idea that the variables under study are clearly defined and that they are capable of being measured.¹²

To return to the problem, the Court indicated that segregation in the schools was creating detrimental psychological effects on children attending those schools. In order to understand how they arrived at this decision, it is necessary to look closer at the type of empirical evidence they considered to be at least a necessary condition in establishing their case.

One of the principal pieces of evidence was the Deutscher and Chein study previously mentioned. This study was an attempt to ascertain the psychological effects of forced segregation. To do this, the authors decided to survey the opinions of social scientists around the country. These included: (1) all anthropologists who were members of the American Ethnological Society, (2) all psychologists who were members of the Division of Social Psychology of the American Psychological Association, and (3) sociologists who were divided into two groups—all sociologists who were members of the American Sociological Society and whose primary interest was race relations and social psychology and "selected sociologists" who had published research on race relations in the *American Journal of Sociology* or the *American Sociological Review* between 1937-1947. In all, 849 social scientists were sampled; 222 to Group 1, 416 to Group 2, 150 to Group 3a and 61 to Group 3b.

The *independent* variable of the study, then, was social scientists (by specialty and region) and the dependent variable was the opinion of these experts as to the "psychological effects of enforced segregation, both on the group which is segregated and on the group which is not segregated."¹³ The authors went on to argue that they were attempting to fulfill two goals through the use of this design: (1) to use as evidence the opinions of those social scientists to determine the *detrimental* effects of enforced segregation, and (2) to determine if segregation was harmful "when equal facilities are provided for the segregated groups."¹⁴

In order to measure these attitudes, Deutscher and Chein asked the social scientists ten questions, three in each of the first two groups and four in the last group. The first set of three questions asked the respondents about the detrimental psychological effects of enforced segregation. The second set of three questions attempted to elicit their opinions on the psy-

¹¹ S. COLE, *THE SOCIOLOGICAL METHOD* 21-62 (1972).

¹² The reason why he chooses any given variable is supposedly derived from the particular nature of the problem under consideration. More broadly, the social scientist wishes to establish a relationship between two variables (as stated in an hypothesis) in order to examine some existing theory, or establish findings, which may contribute to the establishment (in a more formal way) of some particular theory.

¹³ Deutscher and Chein, *supra* note 7 at 259.

¹⁴ *Id.* at 260.

chological effects (detrimental or not) on the group that is enforcing the segregation.¹⁵ One question in each of the first two groups also indicated "no opinion" in terms of these attitudes. The last set of three questions asked for the *basis* of these opinions; whether they were the result of original research, the research findings of other social scientists; their own professional experience, or the professional experiences of other social scientists which had been made available to them.¹⁶

In their analysis of the data the authors first divided the social scientists by regions and then determined if the percentage of questionnaires returned was representative of the number sent out by professional group and region. It was concluded that the returns, while showing some discrepancies from the South, were generally representative of the population under study.¹⁷ There was also a breakdown by the number of those who identified themselves and those who wished to remain anonymous. Here the authors found that the highest "anonymous" rate was from the South (as expected), while the "selected sociologists" were the largest professional group (37%) to respond anonymously.¹⁸

On the items referring to the psychological effects of segregation, the authors concluded that "ninety per cent of the total sample express the opinion that enforced segregation has detrimental psychological effects on the segregated groups."¹⁹ In terms of the second group of questions, the authors concluded that "eighty three per cent of the respondents believe that enforced segregation has detrimental psychological effects on the group which enforces the segregation."²⁰ Deutscher and Chein then concluded the first part of the analysis by stating that:

It seems safe, therefore, to conclude from the above reported results that substantial majorities of social scientists who may be said to have some competence with regard to the matters under inquiry agree that enforced segregation is psychologically detrimental to both the segregated and enforcing groups even when equal facilities are provided.²¹

On the last set of questions referring to the basis of opinions of the social scientists, the authors summarized the findings in the following manner: fourteen per cent of all respondents checked all four alternatives ("Own research, Other's research, Own professional experience, Other's professional experience"), 24% of the respondents checked three alternatives, 28.8% of the respondents checked two of the four alternatives.

¹⁵ *Id.* at 261.

¹⁶ *Id.* at 262.

¹⁷ *Id.* at 264.

¹⁸ *Id.* at 264.

¹⁹ *Id.* at 265.

²⁰ *Id.* at 265.

²¹ *Id.* at 268.

In addition, "the most frequently indicated basis for opinion was the respondent's own professional experience; nearly two-thirds checked this item."²² Also, three out of ten said they found a basis for their opinions on their own research work, and seventy-nine per cent indicated support was found for their opinions in their own research or the findings by others made available to them.²³

The study concluded with a synopsis of various personal opinions by the social scientists. These were published as selected experts.

A Re-examination of the Evidence

In using this piece of research as evidence for the harmful psychological effects of enforced segregation, the Court did not raise several pertinent questions as to the adequacy of the research. These questions should have been examined before accepting the findings of the study. Although the study did accomplish its stated goals, it left many questions unanswered. Let us examine some of these.

One of the most noticeable errors of the research was that the authors were violating a basic assumption of their own scholarly enterprise: the reliance on authority as the basis of accurate judgment.²⁴ The social science model holds that the investigator is to approach his problem with as much objectivity as possible. This means that he may take the opinions of other social scientists as a *starting point* for his own investigation. His independent investigation (of an hypothesis) then either lends credence to or refutes certain previously held notions concerning the problem. In using the Deutscher and Chein study as evidence, the Court overlooked the common logical trap known as the "fallacy of affirming the consequent."²⁵ That is, it may indeed be the case that enforced segregation leads to psychological damage, and that social science opinion in general supports the claim. But it does not then follow that because one merely states the opinions of social scientists that the proof of the psychological damage of enforced segregation then follows. It may indeed be the case, but the opinions of the social scientists *as given here* do not constitute an adequate basis for evidence.

There are several reasons why the opinions of social scientists could have but, in reality, did not provide persuasive evidence. First, the use of a dichotomous response for the questions leaves out possible subtleties that could have been more fruitfully examined through the use of various scaling techniques.²⁶ Likewise, the use of valid and reliable scales would

²² *Id.* at 270.

²³ *Id.* at 270.

²⁴ See F. N. KERLINGER, FOUNDATIONS OF BEHAVIORAL RESEARCH 18-29 (1965).

²⁵ See R. H. ENNIS, LOGIC IN TEACHING 7-47 (1969).

²⁶ C. SELLITZ, M. JAHODA, M. DEUTSCH & S. COOK, RESEARCH AND METHODS IN SOCIAL RELATIONS 145-198 (1959).

have enabled the authors to use more powerful statistical tools to analyze the data.

A second criticism could be directed to the assumption that the respondents' use of their own research findings, their colleagues', or their professional experience constituted good evidence for expressing opinions on the psychological effects of enforced segregation. But, again, this assumption is questionable since there is *no basis of comparison* of the research findings that support the respondents' opinions. There is no information, for instance, as to the assumptions, designs and findings of *any* of these studies. Thus a "selected sociologist" who conducted research on race relations should not be compared to an anthropologist conducting research on race relations—even though their opinions might be the same—unless we know something about the specific research of each. A more persuasive case could have been made if there was evidence of replication of even one study by social scientists in the same discipline or by social scientists in different disciplines.

The third, and perhaps the most serious criticism, is that there was no direct measure of the assumptions that enforced segregation leads to psychological damage, or, more importantly that enforced segregation under the conditions of *equal facilities* produced psychological damage. With the information given there is no direct evidence that the social scientists conducted research dealing with these two specific issues. What was needed was an actual study or studies that attempted to measure the above assumptions. This, of course, did not take place on any large scale until the study, *Equality of Educational Opportunity Report*, was conducted by James Coleman and his colleagues.²⁷

A fourth criticism is that no tests of statistical significance were reported. Granted that the data as given are not amenable to a sophisticated statistical analysis. Yet some attempt could have been made to analyze the data beyond the reporting of percentages. This touches, of course, on the very crucial issue of what form of research findings are the most useful to those who must make vital decisions on the basis of these findings. We will attempt to discuss this crucial problem later on.

In analyzing the data of the Deutscher and Chein study, two distinct parts appear. The first one is the reporting of the percentages that indicate that social scientists collectively and within their subgroup specialties agree that segregated education is harmful to those segregated and those doing the segregation (pp. 266–67). The evidence here is rather clear cut, and indicates that social scientists overwhelmingly oppose the effects of segregation. The second part of the argument, however, becomes the crucial one, especially in terms of providing the empirical basis for the first part of the argument.

²⁷ JAMES COLEMAN, *et al.*, *EQUALITY OF EDUCATIONAL OPPORTUNITY* (1966).

Here the authors attempt to ascertain the *bases* of the agreement of social scientists in their strong opposition to segregation. Four crucial alternatives (p. 270) are given for determining these opinions: (1) the social scientists' own research, (2) the use of others' research, (3) the social scientists' own professional experience, and (4) others' professional experience. The social scientists were to choose which of these alternatives served as the basis for their attitudes. Many of them, of course, chose more than one alternative. What is important is that while this information could have served as the important connecting link in the total argument, it left unanswered many vital questions. Table 1 represents the breakdown of the bases of opinions as reported by the authors. The table is re-arranged slightly in two ways (both of which the authors of the study did not do): first, the total number of social scientists by subspecialty is given, and secondly, a rank order is given on each alternative by each sub-specialty. The "other" and "no response" categories *from the original table* are omitted as they do not bear directly on the discussion.

As we examine this table, several patterns emerge. In terms of the category "all respondents" one can see that only 29.2% indicated that their opinions about the effects of segregation were based on their own research. In contrast to this, 61.1% indicated that their opinions were based on "others' research." This is rather striking when one considers that important evidence of this nature is heavily weighted toward the research of other social scientists, rather than one's own efforts. As indicated before, the major drawback is that *within* and *between* the categories of "own research" and "others' research" there is no basis of comparability. This pattern of "others' research" is quite strongly maintained when we look at the specific subclassifications.

Following the presentation of this data, the authors of the research study introduce, rather mysteriously, the categories of "own professional experience" and "others' professional experience." The term professional experience, furthermore, is never clearly defined. In addition, it is not clear whether these two categories refer in any way to the previous ones, i.e., is there any significance in the fact that 19.1% of the psychologists used their

TABLE 1
Percentage of Social Scientists' Responses on Sources of Opinions by Rank Order

	Own Research	Others' Research	Own Professional Experience	Others' Professional Experience
All respondents (517)	29.2	61.1	60.5	33.3
Selected sociologists (43)	60.5	SS. 69.8	Psych. 70.2	Psych. 49.6
Anthropologists (106)	38.7	Soc. 68.8	Soc. 69.8	Soc. 48.1
Sociologists (96)	33.3	Psych. 63.6	SS. 62.8	SS. 44.2
Psychologists (272)	19.1	Anthro. 61.5	Anthro. 55.7	Anthro. 42.7

TABLE 2

The Relationship between Social Scientists and Use of Own Research by Sub-specialties

	Percentage Using Own Research
1. Anthropologists vs. Psychologists	38.7 (106) vs. 19.1 (272)
2. Anthropologists vs. Selected Sociologists	38.7 (106) vs. 60.5 (43)
3. Anthropologists vs. Sociologists	38.7 (106) vs. 33.3 (96)
4. Psychologists vs. Selected Sociologists	19.1 (272) vs. 60.5 (43)
5. Psychologists vs. Sociologists	19.1 (272) vs. 33.3 (96)
6. Sociologists vs. Selected Sociologists	33.3 (96) vs. 60.5 (43)

1. $\chi^2 = 15.73$, d.f. = 1, $p < .001$.2. $\chi^2 = 5.86$, d.f. = 1, $p < .05$.3. $\chi^2 = .623$, d.f. = 1, n.s.4. $\chi^2 = 34.07$, d.f. = 1, $p < .001$.5. $\chi^2 = 8.14$, d.f. = 1, $p < .05$.6. $\chi^2 = 8.99$, d.f. = 1, $p < .05$.

TABLE 3

The Relationship between Social Scientists and Use of Others' Research by Sub-specialties

	Percentage Using Others' Research
1. Anthropologists vs. Psychologists	61.3 (106) vs. 63.6 (272)
2. Anthropologists vs. Selected Sociologists	61.3 (106) vs. 69.8 (43)
3. Anthropologists vs. Sociologists	61.3 (106) vs. 68.8 (96)
4. Psychologists vs. Selected Sociologists	63.6 (272) vs. 69.8 (43)
5. Psychologists vs. Sociologists	63.6 (272) vs. 68.8 (96)
6. Sociologists vs. Selected Sociologists	68.8 (96) vs. 69.8 (43)

No significant χ^2 between any groupings.

own research as the basis for their opinions and the fact that the same psychologists also indicated (49.6%) that they used "others' professional experience." One other point to note is that it would have been useful to know how important anyone of these alternatives was to the social scientists. These ambiguities in the data, further, are not resolved in a subsequent study by Chein which appears as evidence in the Court's decision also.²⁸

Other difficulties appear in the Deutscher and Chein research. For example, in Tables 2 through 4 we have reanalyzed the data from Table 6 of the Deutscher and Chein study. The purpose was to see if any patterns would emerge among the social scientists as to the four alternatives concerning the *bases* of their opinions. Each one of the alternatives was looked at separately across the various subspecialties of social scientists as one category while any other responses in the other categories were labelled as "other sources of information." While the dichotomy is rather simple, the intent was to see if the social scientists could be considered in any way a

²⁸ I. Chein, *What Are the Psychological Effects of Enforced Segregation Under Conditions of Equal Facilities?* *supra* note 7 at 228-34.

TABLE 4
The Relationship between Social Scientists and Use of
Own Professional Experience by Sub-specialties

	Percentage Using Own Professional Experience
1. Anthropologists vs. Psychologists	55.7 (106) vs. 70.2 (272)
2. Anthropologists vs. Selected Sociologists	55.7 (106) vs. 62.8 (43)
3. Anthropologists vs. Sociologists	55.7 (106) vs. 69.8 (96)
4. Psychologists vs. Selected Sociologists	70.2 (272) vs. 62.8 (43)
5. Psychologists vs. Sociologists	70.2 (272) vs. 69.8 (96)
6. Sociologists vs. Selected Sociologists	69.8 (96) vs. 62.8 (43)

1. $\chi^2 = 7.22$, d.f. = 1, $p < .01$.
2. n.s.
3. n.s.
4. n.s.
5. $\chi^2 = 12.74$, d.f. = 1, $p < .001$.
6. n.s.

homogeneous group as regards their bases for evidence. The main point being that social science evidence may be perceived and used differently by the various groups and, therefore, policy derived from this type of evidence must be looked at carefully.

In Table 2, most of the relationships between the sub-specialties of social scientists and the use of their own research as the bases for opinions are significant. The table primarily raises some interesting questions. First of all, the selected sociologists, understandably, have used their own research for the basis of their opinions on segregation. Eliminating them we may still wonder why more anthropologists than psychologists relied on their own research and why more sociologists than psychologists used their own research.

Since the Court's decision was based on the *psychological* damage of segregation, one would expect the responses of psychologists to be more influential here, rather than anthropologists or sociologists.

In Table 3 there were no significant differences between the social scientists in terms of using others' research as the basis of their opinions. The important thing to note, however, is that there was a heavy reliance by *all* groups on the research done by others. While this is a justifiable source of evidence for formulating opinions, one would, again, have expected that the dominant emphasis be on original research.

Table 4 shows the percentage breakdown of the social scientists on the degree that they relied on their own professional experience to formulate their opinions concerning the effects of segregation. It should be noted that the original study gives us no clear-cut definition of "own professional experience," if it is separate or related to "others' research" or "others' professional experience."

TABLE 5
The Relationship between Social Scientists and Use of Others'
Professional Experience by Sub-specialties

	Percentage Using Others' Professional Experience
1. Anthropologists vs. Psychologists	48.1 (106) vs. 49.6 (272)
2. Anthropologists vs. Selected Sociologists	48.1 (106) vs. 44.2 (43)
3. Anthropologists vs. Sociologists	48.1 (106) vs. 42.7 (96)
4. Psychologists vs. Selected Sociologists	49.6 (272) vs. 44.2 (43)
5. Psychologists vs. Sociologists	49.6 (272) vs. 42.7 (96)
6. Sociologists vs. Selected Sociologists	42.7 (96) vs. 44.2 (43)

No significant χ^2 between any groupings.

In the two comparisons that are statistically significant, we see that psychologists relied more on their professional experience than either anthropologists or sociologists. But, again, we do not know why. Likewise, one would have expected that the selected sociologists because of their reliance on their own research, to have weighted their own professional experience more heavily; but this is not the case. This confusion results from not having clear-cut definitions of these categories.

Lastly, Table 5 shows that various groups do not differ significantly in their use of others' professional experience. Here again, however, the psychologists as a group seem to rely on "others' professional experience" more heavily than the other groups. This might have bolstered the case for the psychologists somewhat, if a clear meaning for this category had been given.

Judicial Policy and Social Research

The previous discussion has indicated that the use of empirical findings for the making of policy is subject to many dangers. At the same time, an interesting paradox emerges: empirical research findings do provide one alternative to understanding complex social problems, but their utilization is many times not practical because of the problem of design, sampling and instrumentation.

Indeed the problem of utilization is not solved even if the above conditions are satisfactorily met. For example, a research study into a complex social problem might employ good sampling techniques, valid and reliable instruments, and a complicated research design. However, if the design of the study is sound but the methodology highly complex (regression analysis, analyses of variance and co-variance, and so forth), the utility of the findings may be minimal. Thus, if the study reveals that (hypothetically) psychologists as a group are statistically different from sociologists in their attitudes toward the effects of segregation, and that the difference is "significant" at some statistical level (.05, .01, .001 for example), then the actual

problem of making a concrete judgment may still exist. There is no hard and fast rule that gives the decision maker a sound basis for making policy recommendations. Camilleri summarizes the problem:

There is a fundamental difficulty with the theory of tests of significance. The probability of error is a hypothetical construct referring to a hypothetical population of tests . . . the decision to reject or not to reject a hypothesis seems to be no more than to hang a "tag" on the hypothesis and to have no consequence for our future behavior with regard to that hypothesis.²⁹

Camilleri expands on the problem of defining in any useful or practical way the idea of "significance."

The particular level of significance chosen for an investigation is not a logical consequence of the theory of statistical significance. We are free to choose whatever level seems appropriate.

Which should we fear most, rejecting a true hypothesis or failing to reject a false one and thereby rejecting a true alternative. There is yet no firm criterion of costs, and in view of this the levels of significance so often used in sociological research can hardly be the outcome of objective calculation of costs.³⁰

The idea of "costs" in this context is important. It may refer to dollar and cents costs, but also to the social consequences that result in making and implementing some type of policy. Social science research at its present state can give us information as to the differences that exist in some population, and to some degree, the factors that produced these differences (i.e., delinquency may be related to "broken homes" and the relationship is stronger or weaker in certain groups). However, even if these relationships are known, it becomes difficult to estimate the effects of some given policy. (This is still true even though the policy may be based on a study that has been replicated.) There is simply no way of accurately predicting, at the present, the long range social outcomes of any policy based on empirical research findings.

And yet the tendency for the courts to continue to use empirical evidence as the bases of judicial decision making continues. In terms of the educational process, the consequences have been wide ranging and important. As the courts continue to utilize research findings as evidence, particularly in educational cases, several trends may crystallize: (1) social scientists outside of the educational establishment will continue to provide the empirical evidence needed to make court decisions; (2) this trend will lower the prestige of those doing research *within* educational structures; (3) the

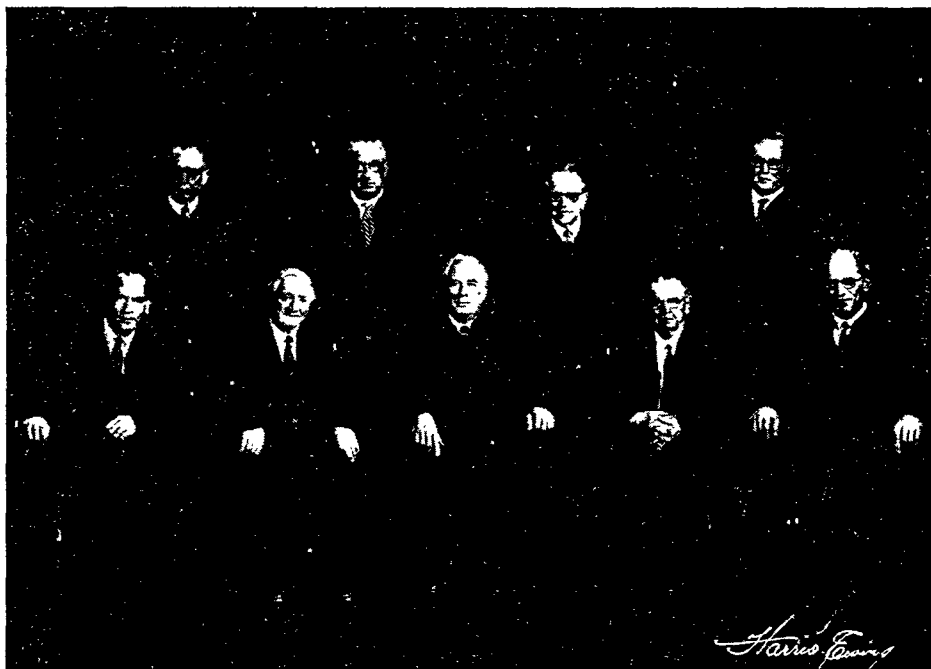
²⁹ CAMILLERI at 80.

³⁰ *Id.*

courts will continue to make educational policy at the lower levels (primary and secondary) and this will contribute to a lessening of professional autonomy of teachers in some cases; and (4) a national shift may occur where matters of internal and external educational policy will be increasingly submitted to the courts for adjudication.

As Durkheim pointed out long ago, the educational system of any country functions primarily as the reflector of the larger society's values.³¹ The impetus and direction for these values is increasingly being transmitted through the courts, and increasingly through the use of empirical research. Research findings have, indeed, become, in Durkheim's term, a social fact.

³¹ E. DURKHEIM, *EDUCATION AND SOCIOLOGY* 33, 131 (trans. S. D. Fox, 1956).



Sitting: Potter Stewart, William O. Douglas, Chief Justice Warren Burger, William J. Brennan, Jr., Byron White. Standing: Lewis Powell, Floyd Marshall, Harry A. Blackmun, William H. Rehnquist.