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## THE HISTORY AND PROMISE OF FORMAL SURVEY

## ANALYSIS FOR SOCIAL WORK

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Since its inception social work has struggled with determining the function and status of research in the professional enterprise. The emergence of professional social work was concurrent with the major developments in the methodology of empirical social research and statistical analysis. To understand the current position of research in social work requires tracing back the origins of empirical research with special attention to its connection with the emergence of the social work profession.

The efforts of the survey movement represent the first major attempt to introduce research methodology into the field of social work (Zimbalist, 1977; Young, 1949). In the following discussion I present a brief history of empirical social research, with an emphasis on survey analysis. The discussion examines research in the context of its linkage with social work. Interestingly enough, the separate histories of the social work profession and survey research have several common threads. In addition, I would like to draw out the utility of formal survey analysis to the task of social work.

Empirical Social Research

The history of empirical social research has its roots in the foundation of sociology. The beginning of sociology as an academic discipline is usually dated to the writings of Auguste Comte. Comte set out to establish a scientific discipline to study society. With the onset of the industrial revolution and its impact on the changing landscape of society intellectuals embarked on a theoretical analysis of the social order. The urbanization and squalor of industrial society called for reasoned and careful analysis of the changing social order. To understand these conditions, Comte argued that what was needed was a science of society.

The development of sociology as a science has occurred closely parallel to the development of statistical and social science methodologies (Lundberg, 1940). In fact, historical reviews of sociology have suggested that sociology has been able to establish itself as an empirical science as it has incorporated techniques of empirical and objective inquiry (Lundberg, 1940). While Comte was formulating the rationale for sociology, another Frenchman, Adolphe Quetelet, was engaged in the process of establishing an empirical base for the new science of society.

Although a young man with strong literary and humanistic interests, Quetelet received his doctorate in mathematical studies (1819). Four years later while in Paris, Quetelet became acquainted with the work on probability theory then being developed by the great French mathematicians Fourier and LaPlace. Quetelet spent most of his intellectual life developing the fundamental applications of mathematical techniques (including probability theory). Large data bases from population census had recently been collected but lay dormant with no more than enumerative tallies being computed. The concern with how to make sense of all this data quickly emerged. Working for the Royal Statistics Commission, Quetelet began developing techniques for the analysis and interpretation of data.

Quetelet was particularly sensitive to the changing social climate. The social turbulence and rebellion engulfing Europe focused his interest on ways to utilize social science knowledge in order to achieve social control. In the early 1830's the French had developed an elaborate bookkeeping system for criminal data. The data were collected with the intention of controlling crime which, at the time, had emerged as the major social problem. Quetelet argued that this social data could prove useful in understanding social change if only it was possible to analyze it. Unfortunately, basic statistics, as we know them, had not yet been developed (Kendall, 1968; Westergaard, 1932).

Quetelet set as his project to develop methods which would permit the drawing out of meaning from this large mass of data. In the process he outlined the work in survey analysis that needed to be done. Mathematical procedures which would allow reduction of the vast assemblage of cases to meaningful descriptive indices were required. The first task was to develop procedures which would permit the reduction of a large mass of data into the most parsimonious description. Thus, Quetelet began developing techniques of descriptive statistics.

Quetelet observed that the distribution of human (or moral) characteristics followed patterns similar to distributions in the physical sciences. Quetelet extended the descriptions of distributions to the analysis of social phenomenon. It is important to emphasize how primitive techniques for data analysis were at the time. Lazarsfeld (1961) has documented how Quetelet's early publications "included many multivariate tabulations, such as differences in the age specific crime rates for men and women separately, for various countries, and for different social groups."

Both Comte and Quetelet were concerned with coping with major social change. The first task for science was to understand the change. For Quetelet crime in the street threatened to disrupt and perhaps destroy bourgeois society. Both argued that knowledge was needed for social control. Comte, however, was emphasizing the need for theoretical knowledge, while Quetelet that of statistical knowledge. The link between these two interests, which was inferential statistics, had not yet been formulated (Kendall, 1968).

Fifty years after the initial work of Comte and Quetelet society began stabilizing. The new capitalist industrial order seemed to be gaining a strong foothold. Combined with democratic and parliamentary political orders, a stable social order began emerging. There was a shift away from concern with criminal statistics. Health care became the new major social issue during the 1880's. Investigators began working with demographic and health data. New vaccines were being developed and used. Consequently, new methods of public health needed to be tested (Walker, 1932).

In addition, the 1880's witnessed the emerging prominence of Darwin's theories among social investigators and statisticians. The early interest of applied mathematicians with social data now shifted to data from biology, the field of genetics and health care.

This was a period of productive development for elementary statistics. One of the catalytic figures in this development was Galton. Galton had noticed from his studies of genetic inheritance that children of unusually tall fathers tended to be smaller, on the average, than their fathers; i.e., they regressed toward the population mean. The same was true for children of unusually small fathers. The measure of this regression toward mediocrity was called the "index of co-relation" (Boring, 1961). Later, with the mathematical contribution of Edgeworth, the index was refined and termed the coefficient of correlation. In 1896 Pearson culminated this effort with his product-moments method of linear correlation.

During the last decade of the 19th century the heart of elementary statistics was being shaped. Correlation and regression analysis was undergoing development at the time by Pearson and his student Yule. In 1897 Yule presented a seminal paper entitled, "On the Theory of Correlation" which contained the formulae for multiple and partial regression and discussed the assumptions required for their use. Two years later Yule reported an application of these procedures to the study of pauperism and derived conclusions which challenged interpretations of the famous social survey of Charles Booth. Yule recorded:

The reduction of out-relief ratio cannot be due to increasing density of population (as suggested by Mr. Booth), for changes of population have been separately allowed for in the regression equations. (p. 273)

It seems impossible to attribute the greater part, at all events, of the observed correlation between changes in pauperism and changes in out-relief ratio to anything but a direct influence of policy on change of pauperism, the change in policy not being due to any external causes such as growth of population or economic changes. (p. 277)

Yule also developed measures of association for dichotomous variables. At the turn of the 20th century the substance of elementary statistics as it is currently taught in colleges was developed.

### The Survey Movement

Like the growth of statistical knowledge, the survey movement was not divorced from the demands of social change. In fact, the survey movement grew as a response to poverty and the social disorder it beaoned. The birth of the survey movement was closely spawned with that of the social work profession. The survey movement can be viewed as an extension of the concern to link social theory with empirical data. The major issue for social theory was the condition of the poor in bourgeois society.

The industrial revolution brought about the emergence of a new middle class. The middle class gradually came to encompass the majority of citizens. Preservation of the existing social order thus had the support of both the upper and middle classes. However, in the last half of the 19th century social turmoil and discontent, exemplified in the writings of socialists, represented a threat to the social order. In his discussion of this period Gordon cites the

Bishop of Manchester (1879):

...the strife of interests; the war of the classes widening and deepening day by day, as the envious selfishness of poverty rises up in natural reaction against the ostentatious selfishness of wealth; the dull, desperate hate with which those who want and have not, come at last to regard the whole framework of society as but one huge contrivance for their oppression...these are some of the seeds of evil from which may some day rise up an exceedingly great army to be more dreaded than the hosts of any foreign foe. (Gordon, 1973: 285)

The survey movement received impetus from this concern with the potential destructiveness the poor posed to the social order. It also surfaced as a result of liberal concern with the actual conditions of the poor interlaced with a desire to ameliorate the conditions of the deserving poor (Zimbalist, 1977).

The first major social survey was conducted by Charles Booth. Booth was a wealthy exemplar of Victorian England (Booth, 1902). He and his brother Alfred had founded a successful steamship company. However, early in his career he acquired several friends who were socialists through the famous Fabian socialist Beatrice Webb (who was, incidentally, his wife's cousin). On numerous occasions he would discuss the social condition of London with these friends. Of course, the socialist friends believed the capitalist social order to be restrictive of the possibilities of society. They would point to the tremendous productive power brought on by the industrial revolution side by side with massive poverty. Booth felt a need to justify the existing state of affairs. He believed in the need to improve the conditions of the poor, rather than introducing radical alterations in the structure of the society.

In 1885 a modest little study reported that 25 per cent of the workers in London were living in poverty (Abrams, 1951). Booth felt the study was grossly inaccurate. In the next several years Booth set out to examine carefully the extent of poverty in London. Following a suggestion of Beatrice Webb (originating from Joseph Chamberlain), Booth obtained permission to interview 250 school board visitors of the London schools. Three years later (1889) Booth published his findings. His work provided a wealth of statistical measurements on the conditions of life in London (Booth, 1902). Three years hence Booth became president of the Royal Statistical Society (Selvin, 1968).

Based on his extensive research Booth concluded that 31 per cent of London's population was living in poverty, thus confirming what he initially set out to disprove. In fact, several of his results indicated greater poverty than even his critics had suggested. Booth devoted several years of his life continuing his survey of the living conditions of London. He continued to publish his research in 17 volumes producing the first large scale survey.

The methodology of survey research at the time of Booth's investigation had not been developed. Although a few methods of statistical analysis, such as measures of association and correlation, had recently been formulated (see above discussion), Booth did not make use of them. Further, sampling procedures and inferential statistics had not been explicated. Booth did, however, see the importance of empirical data:

In intensity of feeling, and not in statistics, lies the power to move the world. But by statistics must this power be guided if it would move the world aright.

Several other important surveys followed Booth's, although none were quite as extensive. Rowntree (1901) employed the survey to examine the conditions of life in York. Rowntree's contribution was in the development of conceptual and theoretical models to interpret the survey data. The post-Booth surveys concentrated on the causes of poverty. However, in the process of analyzing the data for the causes of poverty no use was made of statistical models, primarily because most of these models (i.e., path analysis, markov chains, panel analysis, log linear models) had not been developed.

The survey movement had a major impact on the development of the British welfare system. Although none of the surveys presented detailed policies for social reform, social reform was one of the major products of these studies. According to Abrams (1951):

All through the decadent nineties when the social stage was apparently filled with minor poets...with new imperialism and the beginnings of yellow journalism, Booth was piling up the evidence which led directly in the first decade of the twentieth century to old age pensions, labour exchanges, unemployment and health insurance, free school meals, and minimum wages in sweated industries. (p. 40)

#### The Survey Movement in America

The beginnings of the survey movement in America parallel those in England. There are, however, some important differences. The ugly consequences of industrialization and urbanization came later to this large expansive nation. In the late 1890's in a number of the large cities, as squalor and political corruption became apparent, a muckraking movement began and was supported by the publication of books and research reports (such as Lincoln Steffens, 1904 and Upton Sinclair, 1906). A backdrop highlighting the value of investigation was thus established. However, the emphasis which quantitative analysis received was much less than in England.

The first large scale social survey by social workers in America was initiated with the assistance of journalists (Bartlett, 1928). The Pittsburgh Survey (1907) had its origins in a letter from a juvenile probation officer to the managing editor of Charities and Commons expressing interest in having a study, similar to one completed in Washington, D.C. and reported in the journal, be replicated in Pittsburgh. The result was a \$47,000 grant from the newly formed Russell Sage Foundation to Paul Kellogg, then managing editor of Charities and Commons, to conduct an extensive social survey of Pittsburgh.

The product of the historic Pittsburgh study was discouraging. Kellogg had minimal training in social research--one course at Columbia University. He hired a staff of individuals, none more qualified in research than himself (Chambers, 1971). Their final report was more in the genre of journalistic expose than carefully documented scientific inquiry. Assessing the Pittsburgh study Gordon (1973) writes:

Basically, the Pittsburgh study reads more like investigative reporting than social science research...Tables are by no means absent...but for the most part the approach is enumerative and descriptive rather than analytic, with strong overtones of muckraking. (p. 293)

The survey method was taken up by sociologists during the 1920's and used in a variety of sociological studies (Taylor, 1920; Young, 1949). However, for sociologists the survey was a scientific method of inquiry. In 1929 Bartlett set out the distinctive difference of the survey for social workers:

In the minds of many persons the survey is confused with research. Both are techniques of investigation, but should be carefully distinguished...The survey is an essentially practical measure,



directed toward the immediate solution of a present problem. Research, on the other hand, deals with general data divorced from time and place; it seeks to test a general hypothesis. (p. 331)

Since the 1930's the survey has become the most popular method of inquiry (or research strategy) for sociology (Brown and Gillmartin, 1968; Webb and others, 1966). Yet the early surveys both in sociology and social work were not characterized by any great degree of sophistication. It was not until the 1930's and 1940's when the Columbia tradition of survey research introduced sampling theory and concomitant inferential statistics that the survey became a powerful tool of elaboration and explication of social data.

During the 1930's the social work profession was expanding at a tremendous rate. The Social Security Act established the bed rock of the American welfare system (Leiby, 1978; Pumphrey, 1968). Social workers emerged as the professional group responsible for governing this system. During this same period social work was turning away from its earlier reformist tradition with the survey movement. The epoch of documenting social injustice was over. The shift was toward a practice methodology of casework and a knowledge base built from case studies and psychoanalytic theory (Lubove, 1972; Leiby, 1978). The concern of the newly expanding profession was on dealing with the problems of individuals through casework. The most influential figure in this shift of professional concern from the social dimensions of poverty was Mary Richmond. According to Klien (1931), Richmond's classic book, Social Diagnosis:

...discarded the concept of the "poor" as one of economic connotation. In its place steps the "client," conceived as a person (or family) whose character, physical condition, or circumstances, or a combination of these, have made him incapable of full self-maintenance in his social setting. (p. 97)

The social work profession shed the survey as a major tool for knowledge development in the profession. The knowledge base for caseworkers has become casework theory, psychoanalysis and more recently developmental and behavioral psychology. The focus of professional inquiry was now focused sharply on the client. Piven and Cloward (1971) have suggested that political forces were also instrumental in this shift of professional perspective.

Before closing out this section I want to emphasize that the survey movement did not make use of the statistical analysis procedures which were available. Further, the one major chance social

work did have with the survey method, the Pittsburgh study, was (and I use the word cautiously) squandered. Since the 1930's, when social work relinquished the survey method, there have been important achievements in the capabilities of multivariate statistical analysis which have greatly enhanced the power of formal survey analysis.

During the decade between the middle 1930's and late 1940's American sociology was embroiled in a dispute revolving around the methodological direction of the field. During this period there was a decided shift from speculation to empirical research. The combination of renewed interest in analytic statistical procedures and the availability of punched card machines increased the activity in survey research (Leahy, 1931). The classical survey texts by Lazarsfeld and his colleagues (1944) and Stouffer and his associates (1949) were produced in this period and signaled, at least for a time, the victory of the quantitative methodological orientation in sociology.

Since the 1940's the procedures and techniques of survey analysis have been codified and highly refined (see Rosenberg, 1968; Hirsch; and Selvin, 1968; Hyman, 1955; Glock, 1967). There has also been careful study of the relation between theory development and survey analysis, with special attention to the survey as a procedure to empirically examine and contribute to theory development (see Blalock, 1964; Bishop, Feinberg, and Holland, 1975; Mosteller and Tukey, 1977). With the advent of high speed computer machinery for data analysis and the more recent development of general statistical packages, the power of formal survey analysis has been made readily accessible (Lindsey, 1977). I would like to round out the discussion with examples of the power and utility of multivariate analysis, but since this is available elsewhere, the reader is referred to these general discussions (Van de Geer, 1971; Kerlinger and Pedhazur, 1973; Harris, 1975).

In the last decade there have been major advances on two fronts in the area of statistical analysis. Goodman has made fundamental contributions to the analysis of cross-classified data and provided procedures for multivariate analysis that permit comprehensive understanding of the relations between and among variables (Bishop, Feinberg, and Holland, 1975). In addition, developments made by Tukey, Anscombe, Mosteller and others in the area of robust regression have produced major advances in the use of these procedures with applied social data (Campbell and Lindsey, 1979). Matched with these statistical advances, survey analysis holds unlimited promise for the social work scientist.

### Conclusion

In this essay I have traced the history of social research and statistical analysis as it relates to the development of the survey movement and the emergence of the social work profession. The unfortunate commentary is that these two streams of intellectual development never converged. The investigators of the survey movement both in England and America never made use of available statistical methods which would have allowed them to elaborate the empirical meaning of the extensive data collected.

The survey method has become the primary research tool for sociology. Social work's knowledge base has been constructed primarily with casework and clinical studies. Yet even here it is Necessary to be cautious. In this regard McDonald (1960) writes:

If one thinks only of the developing bodies of knowledge put to use in practice by successive generations of professional social workers, then the conclusion is inescapable that social work research has made a relatively slight contribution. (p. 6)

The argument of this paper is that the new capabilities made possible through multivariate analysis and survey methodology increase by several magnitudes the knowledge building potential of formal survey analysis for the social work profession. In the task of constructing a serviceable knowledge for the profession base the powerful capabilities of formal survey analysis hold great promise.

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