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Issues Of Reliability, Validity And Ethics In Social Research

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Abstract

The issue of objectivity in social sciences has been long debated. This article is an attempt to explain and understand some key concepts and issues related to objectivity, particularly those related to reliability and validity. Issues of reliability and validity in social research have been discussed from the paradigms of quantitative and qualitative research methods. Further, given the fundamental distinction between natural sciences and social sciences on account of their distinct subject matter, the relevance of ethics in social research has also been discussed.

Key words: objectivity, quantitative and qualitative research, reliability, validity, ethics

Introduction

It was in the nineteenth-century that sociology emerged as a distinct science of society in Europe. Though there were attempts in past as well to understand and explain social processes and social change but such attempts tended to be largely philosophical and guided by religious doctrines of that age. Especially after the scientific revolution in the western Europe, it became imperative to support any explanation with empirical evidence. Hence, a systematic and scientific endeavor to explain social phenomena in terms of their cause-effect relationship began with the writings of Saint Simon, Auguste Comte, etc.

Early sociologists like Auguste Comte, Herbert Spencer, Emile Durkheim, etc. aimed at establishing sociology as a science. Under the influence of the natural sciences, these scholars believed that just like natural sciences, social reality can also be studied on the basis of empirical observation, quantification and correlation. Driven by such high aims, these early scholars focussed on the study of only those aspects of social behaviour which could be empirically observed from the outside and quantified in some degree (Mohan, 2022).

Theoretical strands of research methodology

Primarily, there are two major theoretical strands of research methodology. These theoretical strands can be classified in terms of *structural approach* (also called macro-sociology and identified with positivist methodology) and the *social action approach* (also called the interpretive or micro-sociology and identified with non-positivist and anti-positivist methodology).

Structural approach in sociology is also called as system approach. Structural approaches tend to focus on macro-sociological analysis. In other words, their object of enquiry is the large social structures that shape society as a whole. How a society as a whole fit together, how social order is maintained and

how social change takes place in a given society tend to be the primary concerns in structural approaches. The term 'structure' implies the pattern of social relations among that exist among members of a given society. In other words, how different individuals are interrelated with each other through their interrelated statuses and roles. Thus, structural theory views society as a system of social relationships. This system of patterned social relationships give rise to a social structure which is presumed to be influencing the thoughts and actions of the individuals in society.

Thus, structural approaches end up giving primacy to the social structure over the individual, who is viewed merely as a passive being, influenced and controlled by the social structure. Driven by these assumptions about the social reality, the structural theorists argue that sociology can be modelled as a science of society just as, for example, physics is the science of matter and its structure such as atoms, electrons, neutrons, and so on. Thus, sociology also can identify the social structure and objectively study its various constituents such as shared norms, values, beliefs, and attitudes with the same methods that are used in positive sciences. Thus, structural approaches tend to be positivist in nature.

For example, in his book *The Rules of the Sociological Method*, Durkheim, asserts that the subject matter of sociology should be social facts. He states:

> Here, then, is a category of facts which present very special characteristics: they consist of manners of acting, thinking and feeling external to the individual, which are invested with a coercive power by virtue of which they exercise control over him… Thus, they constitute a new species and to them must be exclusively assigned the term social… They are consequently the proper field of sociology. (Durkheim, 2013: 21)

He further states:

> A social fact is any way of acting, whether fixed or not, capable of exerting over the individual an external constraint; or which is general over the whole of a given society whilst having an existence of its own, independent of its individual manifestations. (ibid.: 27)

While explaining that how social facts could be studied scientifically Durkheim argues that "a thing is in effect all that is given, all that is offered, or rather imposing itself upon our observation. To treat phenomena as things is to treat them as *data*, and this constitutes the starting point for science" (ibid.: 36). Thus, Durkheim suggests about studying social facts through empirical observation and arriving at generalisations on the basis of patterns found in quantitative data. Consensus approach (functionalism) and conflict approach (Marxism and feminism) are the two main structural or system approaches in sociology.

Social action approach (also known as interpretive, phenomenological or micro-sociology) in sociology offers an altogether different perspective to study and understand social reality. This approach rejects many of the assumptions of the structural approach. Social action theorists put forward the argument that the subject matter of the natural sciences and social sciences is fundamentally different from each other in its nature. While natural sciences deal with the static matter, social sciences, on the other hand deal with the diverse and dynamic human behaviour.

Max Weber, for example, argues that unlike matter, humans have consciousness. As a conscious being, an individual has his own personal feelings, thoughts, meanings, intentions, etc. An awareness of being makes the action of an individual meaningful, that is, he can define a given situation and give meaning to his actions and those of others. Hence, the assumptions and methods of natural sciences would be inadequate and inappropriate to the study of human behaviour. In contrast to positivists, social action theorists argue that a mere statistical correlation of empirical data derived on the basis of direct observation would be inadequate to understand human behaviour comprehensively. Instead, they focus on the interpretative understanding of man's social behaviour. Since social action approach rejects the basic

assumptions of positivism regarding the study of human behaviour, it is identified with the anti-positivist tradition in sociology (Haralambos and Holborn, 2014).

Quantitative and qualitative research methods

The discussion above leads us to conclude that while quantitative research methods are largely associated with the structural approach and positivist tradition, the qualitative research methods, on the other hand, are more closely identified with the social approach and anti-positivism.

Since quantitative research methods primarily aim at the collection of data through empirical research, it is obvious that such research is interested in the measurement or quantification of the social phenomena under study. In other words, those aspects of behaviour which are not directly observable, such as meanings, feelings and purposes, are not considered important and hence excluded from such research. Durkheim, for example, stressed on treating social facts as *things*. Thus, implying that means that the social norms, beliefs and practices of any given society must be considered as things in the same way as the objects and events of the natural world. Thus, collection of statistical data, correlation, causation, generalization and replicability are some of the important features of quantitative research methods. Survey, questionnaire, structured interview and secondary sources of data, etc. are some of the techniques of data collection in quantitative research.

Qualitative research, on the other hand, is largely emphasized in sociology by sociologists belonging to social action approach. Since social action theorists emphasize on the interpretive understanding of human social behaviour, they are willing to sacrifice a certain precision of measurement and objectivity in order to get closer to their subjects and arrive at an empathetic understanding of the given social phenomenon. Empathetic description of social reality, contextualism, emphasis on processual dimension and flexibility are some of the important features of qualitative research. Interviews, open-ended questionnaire, participant observation, ethnography, etc. are some important methods of qualitative research.

Some sociologists, however, in recent years, have questioned the rigid compartmentalization of research methods between quantitative and qualitative. They instead advocate combining the two research methods for the best results. Bryman (2024), for example, suggests *triangulation* – a practice of incorporating plural research methods – in social sciences. Bryman states

> By and large, researchers have viewed the main message of the idea of triangulation as entailing a need to employ more than one method of investigation and hence more than one type of data. Within this context, quantitative and qualitative research may be perceived as different ways of examining the same research problem. By combining the two, the researcher's claims for the validity of his or her conclusions are enhanced if they can be shown to provide mutual confirmation. (Bryman, 2024: 131)

Both, quantitative and qualitative research methods have well developed methodologies and methods. As both have their own strengths and limitations, neither one can be said to be markedly superior to the other in all respects. In general, it is the objective of the study and the measurement and analysis of the variables involved in the research that primarily determines the suitability of the research method. In contemporary times, researchers, in order to use the best of both, use a combination of both research methods. This is popularly called as mixed methods approach or plural methods approach.

> The mixed methods approach combines the strengths of both paradigms to best achieve the objectives of your research. It replaces those weaknesses of a design had we used methods from one paradigm only. (Kumar, 2023: 17)

Reliability and validity in social research

Reliability and validity are the two fundamental attributes or measures of any scientific research method. To what extent the findings of a research method can be considered as objective is basically dependent upon its reliability and validity. Reliability of a research method reflects its predictability and accuracy. In other words, the greater is the degree of consistency and stability in an instrument of data collection, the greater would be its reliability. For example, when the same set of information is collected more than once using the same method of data collection and same or similar results are attained under the same or similar conditions, the research method could be considered reliable.

> Reliability refers to the degree to which a scientific test or measurement is consistent and accurate. There is less doubt about the reliability of IQ tests; although the IQ tests may not measure intelligence, they seem to measure some particular characteristic consistently. To determine reliability, replication, the repetition of an experiment a number of times, is done to see if the same results are obtained. (Mohan, 2022: 97)

Kumar (2023) argues that it is almost impossible to design a research tool that is 100 per cent accurate on account of various factors which are beyond the control of the researcher. Some of such factors could be the wording of the questions in the questionnaire, the physical setting of the research, the mental state of the interviewer as well as respondents, etc. However, certain measures could definitely be taken to test and ensure reliability. Kumar classifies these measures in terms of external and internal consistency measures.

In quantitative research, external consistency measures are generally used "to compare findings from two independent processes of data collection with each other as a means of verifying the reliability of the measure" (ibid.: 217). Test/retest and parallel forms of the same test are the two methods that are used to measure external consistency. Internal consistency, on the other, tests the efficacy and consistency of the items or of a research instrument in measuring a given phenomenon. In other words, "items or questions measuring the same phenomenon, if they are reliable indicators, should produce similar results irrespective of their number, that is, how many questions in an instrument" (ibid.: 218). The commonly used method to test the internal consistency of a research instrument is split-half technique. In this method, the total number of items in a given instrument are divided or split in half and the scores obtained by administering the two halves are then correlated.

Validity, in simple terms, is the ability of an instrument to measure what it is designed to measure. According to Smith, validity is defined as "the degree to which the researcher has measured what he has set out to measure". In words of Kerlinger, "The commonest definition of validity is epitomized by the question: Are we measuring what we think we are measuring?" (Kumar, 2023: 213). According to Babbie (2016: 148), "Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration."

> Validity refers to the correspondence between what a scientific investigation or technique purports to measure and what it actually measures. An example of this kind of assessment is the current challenge by many social scientists of the validity of IQ tests. These scientists question whether the tests really measure innate human intelligence or something else. (Mohan, 2022: 96)

Validity of a research instrument could be ascertained in a number of ways. Some of the important types of validity that are popular in social research are face validity, content validity, concurrent validity, predictive validity (also called criterion-related validity) and construct validity. Face validity is ascertained on the basis of an apparent logical link between the questions enumerated in a research instrument and the objectives of the research. If questions mentioned in a research instrument could be logically related to the objective of the research, then, the research instrument has high face validity (Kumar, 2023).

However, in any research, mere logical correlation of questions with the objectives of research may not be sufficient. It is equally important that the questions cover a wide range of aspects related to the issue. In other words, questions mentioned in the research instrument must cover the issue as wholistically as possible. This indicates that the instrument has high content validity. Concurrent validity could be determined by comparing the findings of an instrument with a second assessment concurrently done. Predictive validity, on the other hand, is judged by "the degree to which an instrument can forecast an outcome" (ibid.: 214). For example, if an aptitude test is designed to measure the suitability of a candidate for a given profession, then, the predictive validity of the instrument would be considered high if candidates actually do well in future in their respectively chosen profession.

Construct validity, according to Babbie (2016), is primarily "based on the logical relationships among variables". For example, if one wants to study the consequences of marital satisfaction, then, one may might to correlate marital satisfaction with marital fidelity. In other words, if the findings of the research method suggest that satisfied couples tend be to be more loyal to each other, then, this would be an indication of a high construct validity of the research method.

However, Kumar (2023) argues that in comparison to quantitative research, qualitative research employs multiple research methods, which are flexible and evolving. Hence, to ensure standardization of research tools as well as processes becomes a challenge in qualitative research. Thus, establishing reliability and validity in qualitative research is far more complex and challenging as compared to quantitative research.

Ethical issues in social research

The prime objective of any social research is to study a given social phenomenon scientifically and suggest measures for the improvement of social conditions in society. The role of ethics in social research pertains to both the objectives of the research as well as the manner in which it is conducted. Social research is necessary to improve social conditions in society. Thus, if the research one is pursuing is relevant and for the betterment of society, then, it is ethical (Kumar, 2023).

Sociology and ethics share a close and intimate relationship. Ethics is a branch of philosophy that deals with moral principles, i.e. concepts of right and wrong conduct. But what is morally right or wrong, cannot be understood without its social-cultural context. According to Gisbert (2010: 17),

> Ethics is concerned with the moral rightness or depravity of human actions. It investigates the laws of morality and formulates the principles and rules of morally desirable actions. It cannot be said that ethics is concerned with ends only to the exclusion of means, because every human action is capable of morality, not only in itself as an end, but also in relation to other ends which it may subserve.

Social research is a social enterprise. During the course of his research, the researcher enters into a relationship with his subjects. According to Marvasti (2004: 133), "The ethics of social research have to do with the nature of the researcher's responsibilities in this relationship, or the things that should or should not be done regarding the people being observed and written about." In other words, these ethics can loosely be defined as the dos and don'ts of how one should treat his research participants.

In social research, seeking informed consent is considered essential as this implies that the subjects have been adequately informed beforehand about the objectives of the research and its possible consequences, if any. Most importantly, such a consent must be voluntary. Further, social research, at times, seeks sensitive personal information from the respondents. It is essential that such information is used with utmost sensitivity and confidentiality. According to Kumar (2023), such information provided by the respondents should be kept anonymous. This would also ensure that no harm is caused to the subjects participating in the research.

On the part of the researcher, it is expected that the researcher conducts his research in an unbiased manner. According to Kumar (2023: 287), "Bias is a deliberate attempt either to hide what you have found in your study, or to highlight something disproportionately to its true existence. It is absolutely unethical to introduce bias into a research activity. If you are unable to control your bias, you should not be engaging in the research. Remember, it is the bias that is unethical and not the subjectivity."

To conclude, it may be argued that while the notions of reliability and validity are essential components of sociology as a scientific discipline, emphasis on ethics in research make sociological research socially sensitive and responsible.

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