



Evaluating Complementarity in Sociological Worldviews and in Sociological Methods of Data Collection

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How to cite this paper: Berkeley, B. (2022) Evaluating Complementarity in Sociological Worldviews and in Sociological Methods of Data Collection. *Open Access Library Journal*, 9: e8966.
<https://doi.org/10.4236/oalib.1108966>

Received: June 5, 2022

Accepted: July 4, 2022

Published: July 7, 2022

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Abstract

This paper underscores the importance of complementarity in sociology from mainly ontological and methodological perspectives. Its arguments are based on the premise that complementarity is evidenced by classical and contemporary sociologists' attempts to deepen their understanding of social reality by incorporating macro and micro worldviews. The belief in complementarity is grounded in pragmatic philosophy, the belief that researcher should do what is best to attain the best picture of social reality. For this paper, the data were collected from secondary sources and were analysed using a mix of descriptive and abstract themes. The main findings are: 1) historically, sociologists have attempted to demonstrate the interconnectivity between macro and micro worldviews or perspectives, 2) that diverse data collection methods, monomethod and multimethod (mixed, multi-quantitative, multi-qualitative, non-mixed and multi-project), were defined. This is understandable given the diverse contexts in which research takes place. These findings point out the need for future exploration to uncover the full range of complementarity.

Subject Areas

Sociology

Keywords

Complementarity, Sociological Worldviews, Data Collection Methods

1. Introduction

In sociology, the idea of complementarity has been around for almost as long as sociology itself. In terms of sociological worldviews/perspectives, complemen-

tarity refers to the degree to which perspectives complement or widen the scope and quality of research of the different patterns of change and development that occur in society (Roy [1]). Roy [1] identified three major and six complementary sociological perspectives. Functionalism, Marxism and symbolic interaction are the major perspectives. The complementary perspectives are: religious, historical, statistical, cross-species, cross-cultural and feminist (Roy [1]). Berkeley [2] argued that complementarity has not attracted sustained interest or has gained the attention it deserves. Also, Berkeley [2] contended that it has not fully become the premier goal of sociological research. Berkeley [2] believed that complementarity should be the primary research purpose in light of its potential to provide a more comprehensive picture of social reality. In 2009, Berkeley [2] argued that complementarity will lead to new directions for sociology on the grounds that the application of a non-mixed multimethod design will produce a comprehensive understanding of social phenomena *i.e.* neighbourhood disciplinary climate and change (Berkeley [2]).

Also, Berkeley [2] argued vehemently that the binary division of research into quantitative and qualitative genres is pointless based on the assumption that they lead to the partial understanding of social reality. In fact, Berkeley [2] posited that they have their strengths and limitations and, at times, are used together in single research projects in sociology (Berkeley [2]). The difference between monomethod and single research project will be explained. A monomethod refers to the use of one method of data collection in a single study or project. However, a single research study or project may employ monomethod or multiple methods of data collection. For example, Lindsay-Smith *et al.* [3] conducted a mixed methods case study design over a period of one year in order to understand the effects of joining a social group on the well-being of persons aged 70.

This paper suggests that increasing amounts of complementarity may be produced by conducting multimethod or multi-project more frequently than monomethod researches. Monomethod research should employ two or more theoretical frameworks to arrive at complementarity. It is suggested that complementarity should not be taken-for-granted but should be pursued by the purposeful use of theories, methods and data in order to arrive at the holistic reality or social ontology. The predominant idea is congruent with that of Driessnack, Sousa and Costa Mendes [4] who postulated that complementarity is not the same as triangulation where researchers focus on overlapping or converging data and on the different facets of a phenomenon to provide a greater range of insights and perspectives.

It is the belief of this paper that complementarity may also utilize theory, method, design and data. These, too, are used in triangulation. However, it is postulated that in research: theory, method, design and data are difficult to disaggregate because they may work together (within and among themselves) for purposes of complementarity. This is the case because complementarity is the product or outcome of purposefully taken procedures. It should be noted that complementing methods will be meaningful only when they are undergirded by

a conceptual framework or a theoretical framework that is compatible with the data to be collected and analysed. Based on the arguments advanced here, it can be said that the aim of this paper is to evaluate complementarity in: 1) sociological worldviews (perspectives), 2) monomethod and multimethod data collection.

2. Complementarity in Sociological Worldviews

This section will evaluate complementarity in reference to Max Weber, Talcott Parsons, George Herbert Mead, Jean Paul-Sartre, Jeffrey Alexander, Harold Garfinkel and Anthony Giddens. However, Durkheim [5] must be given credit for underscoring the micro-perspective (psychological states) in the study of human behavior. Even though Durkheim [5] rejected the place of psychological factors in the study of suicide, he may have opened the door for Weber [6] to take it up in an attempt to validate sociological perspectives on ontological and epistemological grounds. It is only fitting that this paper rises to Durkheim's defence for his recognition of psychological states of mind. He believed that they are irrelevant to social facts such as the causes of suicide. Indeed, Durkheim [5] upheld a social perspective by theorizing that the only causes of suicide are integration and regulation. For Durkheim [5], this is a social fact, a social trait or social reality. His belief in the relevance of the social, led to his dismissal of psychological influences on human behavior.

Weber [6] may be one of the first sociologists to conceptualize a sociology in which human agency and structure complement each other. In his analysis of social action, Weber [6] argued that power shapes our interaction with others (actors) depending on their (and our) social status or social rank. In the family, for example, children interact differently with their parents and their siblings respectively. Children are more likely to defer to and respect their parents than their siblings. The same is true of teacher-pupil and pupil-pupil interactions. As authority figures, teachers usually get more respect from pupils. Contrastingly, in interaction, pupils are likelier to give less respect to their peers. Weber [6] impelled us to view human interaction in the social context (of power relations) in which it occurs. Additional support for power relations in schools will be provided. Twentieth century interactionists (Keddie, Hargreaves and Lacey among others) have studied teacher-pupil interaction from gender, ethnic and class perspectives. In general, findings showed that males, white majority and middle-class fare better than female, minority and lower-class pupils. Becker's [7] is a classic study of the "ideal pupil" being of middle-class origin in the US. Becker [7] demonstrated ontological complementarity by examining pupil labelling within structures (social classes, genders, ethnicities and classrooms).

American Talcott Parsons [8] is respected as a social theorist and sociologist who used both macro and micro worldviews. Some of his contributions to sociology utilize concepts from social action (actors and role playing) and from structural functionalism such as integration and function. In explicating the sick role, Parsons [8] wrote as though Weber's ghost were holding his pen. It may be

argued that Parsons' perspective on individual sickness is far away from the epistemological framework of structural functionalism. On the other hand, his view of the role of family in the maintenance of social order is consistent with the structural functionalist worldview and raises no question about the side of the theoretical divide (macro or micro) on which he stood. It is imperative that this claim is made to reiterate the proposition that sociologists have recognized complementarity and have used it whenever expedient in explicating their worldviews. The problem may be that we, their followers, may have paid little attention to their scholarship on complementarity.

Furthermore, in developing symbolic interactionist theory, Mead [9] walked along the same ontologically sound path as Weber [6]. In explaining the development of human personality and self-concept Mead [9] focused on how human interaction with others provides us with opportunity to know who we are. It is no secret that Mead [9] adopted the concept of "looking glass self" from Cooley [10]. Cooley [10] theorized that "significant others" help individuals to attain their self-concept. Additionally, Mead [9] examined the role of socialization in the development of individuals as human beings. From Mead's [9] approach, it is clear that, like Weber [6] and Becker [7], we should understand sociology from macro and micro worldviews.

In reality both worldviews are valid; either individually or collectively and most importantly, they complement each other. In other words, macro and micro worldviews should be used to attain a full understanding of human society or social behavior. Mead [9] helps us to gain profound insights into the world by transcending the ontological/reality gap created and deepened by structural functionalism. This gap has been "closed" by symbolic interactionism. The ontological gap created by structural functionalism is that humans are passive and capable only of acting in accordance to socialization (social norms and mores); a prerequisite for social stability, integration or equilibrium. On the whole, it is evident that micro-sociological perspectives (symbolic interactionist, phenomenology and ethnomethodology) have pushed for complementarity by theorizing that, as actors, human beings are shaped by and shape the world in which they live. This is the essence of worldview complementarity. The problem is that many of us may still view structure and agency as competing instead of complementary depictions of social reality.

Critical sociology is renowned for its attack on Marx and Engels' [11] analysis of capitalism. Specifically, they have criticized Marx's position on the inevitability of a global proletarian revolution which he believed will be precipitated by mechanization and specialization. Marx and Engels [11] suggested that a revolution of the proletariat would lead to government by the proletariat. Neo-Marxists, a diverse group of critical thinkers (Sartre, Benjamin, Adorno and Horkheimer etc.), have incorporated ideas from micro-sociology into Marxism. Sartre's [12] use of psychoanalysis to point to the broad scope of neo-Marxism's outreach is obvious. Similar to Weber, Parsons and Mead, Neo-Marxists also demonstrated that there should be one sociology, a complementary blend of micro theory,

psychology, communication studies and Marxism wherever appropriate. Therefore, we must push for a complementary approach by breaking the walls down that keep sociology ontologically fragmented.

Neo-functionalists have walked along a path similar to that of neo-Marxists. Alexander's [13] attempt to resuscitate structural functionalism, in spite of its short-lived success, was based on the principle that concepts and insights from micro-sociology are significant to an understanding of social structure. He adopted this view in order to demonstrate that structuralist functionalism could become ontologically valid and valuable once more. Alexander [13] endeavored to make structural functionalism attractive again given its decline in the 1970s. One way of accomplishing his goal was to bring the idea of uncertainty in interactional creativity into structural functionalism. It is a well-established fact that interactional creativity is relevant to the micro-sociological worldview such as ethnomethodology.

Breaching experiments are useful for understanding how humans use creative ways (in times of ambivalence and uncertainty) to make sense of situations in which none sometimes exist, Garfinkel [14]. Using experiments in psychiatry, and case work, Garfinkel [14] illustrated how humans engage in sense making in real world situations. In the first example, students in a psychiatry class made sense of answers given to questions they asked fake counselors, that made no sense at all. Using the principle of indexicality (meaning of occurrences are derived from their context) students sought to construct meaning out of contradiction. In the second example, Garfinkel [14] illustrated how office workers solved problems of long waiting times by amending the rules governing/client-counselor assignment ratios to minimize overcrowding.

Giddens [15] has shaken up the sociological community by developing structuration theory. Giddens [15] set out to resolve the "tension" between proponents of structure and proponents of agency by theorizing that structure keeps individual autonomy in check while it is maintained by agency. Even after all of Giddens' [15] diligence we are, as it appears, no closer to putting the structure-agency debate to perpetual rest. In other words, we have not decided unambiguously whether the macro worldview and the micro worldview complement each other. In fact, there is some unease between adherents on either side. It is hoped that as a diverse intellectual community, sociologists would move forward with assurance that the world is made up structure and agency and that they exist in mutual symbiosis.

At the end of the evaluation of worldview complementarity, a reaffirmation of the belief in one sociology is made. In addition, it is argued that sociology should be practiced by adopting theoretical complementarity using assumptions, concepts and insights that when combined will produce a fuller understanding of social reality. These last two conclusions are based on the fact that some adherents (Weber and Mead) of the micro, and Parsons and Alexander of macro worldview are among many who have attempted to utilize assumptions and concepts from the complementary side of social theorizing. Sometimes this is done by critiquing, expanding and modifying the theoretical assumptions of fel-

low adherents of their worldview.

3. Methodological Complementarity

It can be said that methodological complementarity is a feature of philosophical pragmatism or the pragmatic research paradigm or worldview (Kaushik and Walsh [16]). In this section, the definition of worldview contrasts with that in the preceding section in which it was deemed to be synonymous with a sociological perspective. In this paper, there is no conceptual fallout from the differing uses of worldview. Kaushik and Walsh [16] are supported on the grounds that pragmatism is driven by the desire to do what is practical under specific circumstances in sociological data collection. An examination of the history and theorists associated with pragmatism is not a requisite for convincing readers of the salience of complementarity in sociological data collection. However, it is noted that in the late nineteenth century in the US John Dewey was one of its major proponents (Kaushik and Walsh [16]).

In spite of its focus on data collection methods, their interconnection to theory, design and data must be acknowledged. Therefore, theory, design and data will be mentioned where appropriate. In addition, this paper does not include all examples of mono and multimethods of data collection.

4. A Taxonomy of Data Collection Methods

Methodological complementarity can be attained both in mono and multimethod studies. Examples of monomethod and multimethod are depicted in **Figure 1**. In monomethod designs researchers use either one quantitative or one qualitative method of data collection. By using multiple theories to complement one another, monomethod studies can attain complementarity. Durkheim's [5] study of suicide in Europe is a good example of monomethod. He compared statistics inductively to uncover the factors correlated with and the factors causally related to suicide. This paper hypothesizes that a comparative approach is an

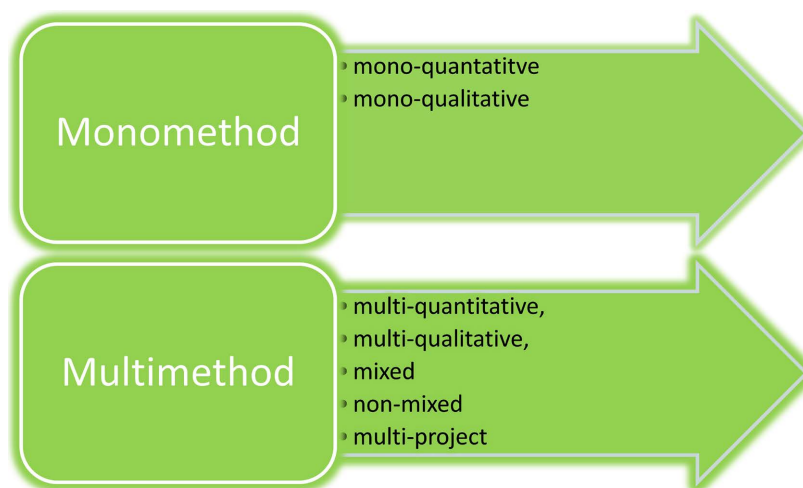


Figure 1. Taxonomy of data collection methods.

excellent path to attain complementarity. Durkheim's comparison of suicide rates of eleven European states enabled him to get a fuller understanding of the sociology of suicide.

There is diversity in multimethod studies. They can be used in a single research project or in multiple projects. However, five types of multimethod research (four single and one multiple have been included here). They are as follows: 1) multi-quantitative, 2) multi-qualitative, 3) mixed method, 4) non-mixed method, and 5) multi-project. The list is not exhaustive because other types of multimethod can be used in ways not covered in this paper.

Sadan's [17] use of interviews, questionnaires, scales, category system and check lists, rating scales, and biophysiological measures is an excellent example of multi-quantitative research in a single research study. In this example, all methods were used to collect numerical data/statistics from which findings were drawn. In reviewing the literature, it is pellucidly clear that multi-quantitative are not so popular as they were more difficult to locate than multi-qualitative studies.

In the literature reviewed, it is evident that multi-qualitative method studies can also be used for purposes of data mixing. A case in point is O'Reilly, Kiyimba and Drewett's [18] study which utilized two qualitative methods. The first data set was collected from weekly ward rounds where inpatient staff met with autistic patients to review medication and to listen to patient concerns in order to make plans or adjust treatment. The second data set consisted of reflective discursive interviews with patients and staff as the researchers attempted to understand reasons why patients attributed causes of dissatisfaction differently from staff. O'Reilly, Kiyimba and Drewett's [18] study straddled between multi-qualitative and mixed method designs. This occurred because it is possible to convert some types of qualitative information into numerical data.

It is evident that in methods of data collection literature, mixed method attracts the most attention. Creswell [19] suggested that mixed method research uses at least one or more quantitative and one or more qualitative method to investigate a phenomenon. Mixed method research strives for complementarity in any of three types of integration: 1) design, 2) data collection or 3) analysis (O'Cathain, Murphy and Nicholl [20]). One mixed method study that employed cross sectional survey design and open-ended questions illustrates design integration (López-Aymes [21]). The authors combined survey and discourse analysis designs to study the relationship between physical activity and psychological well-being of minors living in Spain and Spanish speaking countries in Latin America. Another study in Accra, Ghana integrated data collection and data analysis procedures. It was understood that The Accra Food and Nutrition Security Study was designed to incorporate the participation of a variety of constituencies, and to rely on a variety of approaches—both qualitative and quantitative—to data collection and data analysis (Maxwell [22]).

In 2009, Berkeley [2] opined that the non-mixed method was the best way to achieve complementarity. Berkeley [2] embarked upon a study to answer two

distinct research questions: 1) what types of neighbourhood (shaped by adolescent behaviour) exist in Trinidad and, 2) how have these neighbourhoods changed in the (then) past 50 years? Firstly 1000 (or 14 percent) of high school students aged 16 - 19 were surveyed (to answer question one). Statistical data analysis revealed that four factors had predicted the dependent variable, neighbourhood (behaviour) climate. Four predictors were identified from multiple regression analysis. They are neighbourhood size, family academic attainment, tertiary education and proportion of adolescents. An index was developed using the same formula for the Human Development Index. It revealed four major types of neighbourhood (Types 1, 2, 3 and 4) with Type 1 having the best behaviour climate (greater than 0.65) and Type 4 having the worst (less than 0.25).

In the second phase, convenient and snowball sampling were used to select 23 persons (ages 65 - 74) to obtain data to answer question 2. The data were obtained from semi-structured interviews. Analysis of semi-structured interview data revealed two major categories of neighbourhood change: 1) economic (affluence and growth of business) and, 2) demographic (mainly reduction in household size and greater racial diversity) (Berkeley [2]). Interview data were used to elaborate on the findings from the survey. Therefore, traditional mixed method approaches of data integration such as triangulation or development were not used. At no time were the data sets mixed. Schoonenboom and Burke Johnson [23] asserted that elaboration can be used for attaining complementarity. They listed other techniques for complementarity like enhancement, illustration and clarification.

Overall, the results indicated that Type 1 neighbourhoods were geographically smaller and had lower numbers of adolescents. They were more likely to have a good behaviour climate, less business activity or growth. They were smaller and had higher numbers of adults. On the other hand, type four neighborhoods were geographically larger, contained a higher percentage of adolescents who (compared to types 1, 2 and 3 neighborhoods) were at greater risk to delinquent conduct. Also, Type 4 neighbourhoods were more likely to be located in urban environments and had smaller sized families. Many families had no father or father figure (Berkeley [2]).

In sociology, multi-project studies are used infrequently. They bear the same time constraint limitation as longitudinal studies. Multi-project designs provide opportunity for researchers to study different problems around a single phenomenon using different methods of data collection. Each data collection method used individually constitutes a project in its own right. At the end of the day, complementary techniques e.g. enhancement, elaboration and clarification may be used to gain a more succinct picture of the phenomenon. Multi-projects are commonly used in healthcare and other organizational settings.

5. Procedures for Constructing Complementarity

It is extremely significant to note that complementarity among methods or the relationships that enable complementarity is an area that needs careful discus-

sion and debates (Green, Camilli and Elmore [24]). One reason why this statement is true is that if used for different purposes, different methods of data collection will not yield complementarity. It can never be overemphasized that complementarity is a conscious attempt to gain a comprehensive view of social reality. However, an argument that must be raised is that purpose, application and context are significant criteria for accomplishing complementarity. Firstly, the researcher should set out to arrive at a comprehensive understanding of the phenomenon by using theories, designs, data and methods in ways that complement one another. Secondly, Green, Camilli and Elmore [24] help this paper point out that on their own theories, designs, methods and data are not complementary. To the contrary, it is the researcher who conceives of and applies them in ways to achieve complementarity. At the present time, there may be no mutually agreed ways of attaining complementarity in a monomethod, multi-method or multi-project study. It is suggested that elaboration, enhancement, illustration and clarification offer prospects for complementarity (Schoonenboom and Burke Johnson [23]). What we do not know from the literature are specific procedures for executing any of these techniques of complementarity.

6. Sociological Worldview Complementarity: An Assessment

Bazeley [25] suggested that combining quantitative and qualitative research methods leads to better supported outcomes and stronger inferences than if only one method were used. For these reasons, it is imperative that sociologists embrace complementarity wholeheartedly. Complementarity provides opportunity for researcher creativity in the conduct of social and sociological research via a diversity of theories, methods, designs and data sets at their disposal. Two minor limitations of mixed methods also affect multimethod research: challenges in integration and challenges in interpretation. These problems were identified by (Tariq and Woodman [26]). These challenges may affect a single researcher working with a large amount of data and time constraints. However, this problem can easily be overcome if a team or researchers works collaboratively on integrating and interpreting different data sets.

Unlike Bazeley's [25], this paper claims that whether qualitative and quantitative methods are mixed or used individually, researchers can obtain a comprehensive view of social reality by taking well thought out and defined steps. As such monomethod studies may be designed using theoretical complementarity.

7. Conclusion

From the arguments contained in this paper, it is clear that implementing methods of data collection is a complex phenomenon that requires careful thought. Over the years, sociologists have become innovative by adapting quantitative and qualitative methods of data collection in ways that provide a more complete understanding of social reality. This paper has arrived at seven conclusions that underscore its purpose: 1) historically, complementarity has been central to so-

ciological worldviews mainly in structural functionalism and Marxism (macro) and in symbolic interactionism (micro), 2) methodological applications of complementarity have varied and produced different outcomes depending on epistemological, ontological and practical realities e.g. time and money), 3) the definition of complementarity is rather fluid given the fact that it can be applied to a variety of research contexts (monomethod and multimethod), 4) definitions of multimethod and mixed method are not as clear-cut as one may think. The difficulty in defining them is due, in part, to the flexibility of some types of textual information that enable their conversion into numbers, 5) approaches to complementarity can involve the integration of method, theory, design and data, 6) future research on data collection methods is required to ascertain whether different researchers have been used in complementary ways other than for purposes of triangulation, 7) unlike psychology, complementarity is not a theory of human relationships but is part a pragmatic approach to deepening understandings of the social world. Finally, two of the main limitations of this paper were its failure to 1) cover a broader range of methods and 2) provide more detailed explanations of the role or theory, design and data in attaining complementarity in sociology.

Conflicts of Interest

The author declares no conflicts of interest.

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