

## UNDERSTANDING SOCIAL SCIENCE RESEARCH: AN OVERVIEW

S. Akinmayowa Lawal (sakinlawal@gmail.com) +2348058536815

Department of Sociology, Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria

#### Abstract

Social science research is a method to uncover social happenings in human societies. Through social research, new knowledge is derived to help societies progress and adapt to change. Today, the concept of social science research has become important to researchers especially for those in the social sciences. Through social research, the social world is better understood as ongoing, emerging, re-merging and newly emerging social problems are known. More so, solutions are derived through social research. This paper discusses the concept of social science research. It explains the origins of social science research and its benefits. The paper gives insight on the nature of social science research showing the two major approaches (quantitative and qualitative) of social science research. The paper discusses the forms of analysis employed by quantitative social science researchers and qualitative researchers in doing social science research. The similarities and dissimilarities between both approaches are explained. The paper provides a social science research process and programme intervention framework. The framework shows core attributes and elements of social science research used to address diverse social issues in society. In conclusion, social science research remains a vital process to address societal challenges and to proffer solutions on social issues based on globally accepted scientific processes.

Keywords: Social Science Research, Quantitative, Qualitative, Nigeria.

## 1. Introduction

Social science research is a process of enquiry into social issues and social problems in the society. Using social science research new knowledge is being derived and new information is obtained through a systematic and scientific procedure. Social science research is the step-by-step manner of deriving new data on any social subject that affects man in society. Social research gives insight into social occurrence(s) making researchers understand why, when, where, what and how social life is being constructed and reconstructed daily. Through social science research the complex nature of society is being understood because social science research provides insight for the sustenance or displacement of preconceived realities. Social science research is a strategic process employed by researchers to challenge existing knowledge, based on new findings that supersede prior knowledge on social reality. This paper examines social science research as a concept and the origin. The paper explores the nature of the quantitative and qualitative approaches to social science research and the different methods associated with each approach. The paper also presents a social science research is linked with all types of social programme implemented to improve society.



## Social Science Research Today

Social science research today can be either a pure or applied type of research that helps provide insights on social issues or social happenings within a given society. Social research focuses on the social aspects of human existence and the varied nature of social reality. Social research is the combination of "social" and "research". Therefore, "social research" is simply research on social issues and social life.According to Firebaugh (2008), the principles for good (social science) research can be summarised into seven rules.

Table 1: Principles of good social science research

| Rule   | Principles   |
|--------|--|
| Rule 1 | "Rule 1 intends to warn that you don't want to be blinded by preconceived ideas so   |
|        | that you fail to look for contrary evidence, or you fail to recognize contrary evidence  |
|        | when you do encounter it, or you recognize contrary evidence but suppress it and   |
| Rule 2 | refuse to accept your findings for what they appear to say".   |
| Kule 2 | "look for differences that make a difference" (Rule 2)   |
| Rule 3 | "build in reality checks" (Rule 3)   |
| Rule 4 | Rule 4 advises researchers to replicate, that is, "to see if identical analyses yield  |
|        | similar results for different samples of people" (p. 90).  |
| Rule 5 | Researchers are urged to "compare like with like" (Rule 5)   |
| Rule 6 | To "study change" (Rule 6)   |
|        | Both rule 5 and 6 are especially important when researchers want to estimate the effect of one variable on another (e.g. how much does having a university education |
| D 1 7  | guarantee success in career and life?).  |
| Rule 7 | Finally, rule 7 states, "Let method be the servant, not the master," researchers are   |
|        | reminded that methods are the means, not the end, of social research; it is critical   |
|        | from the outset to fit the research design to the research issue, rather than the other  |
|        | way around.  |
| Source | Firebaugh (2008)   |

Source: Firebaugh (2008).

Social science research uncovers both the latent and manifest aspects of social reality through a systematic process of social enquiry. Social science research enables the researcher to learn new things, relearn what is assumed to have been known and unlearn things he/she assumes to be correct but have now been refuted with the discovery of new knowledge. Social research therefore is simply the application of quantitative or qualitative methods triangulated or separated to understand social issues in society. Social science research is also the use of scientific techniques in the explanation of social happenings within society. It is using science theories and methodologies to explain and interprete social realities.

Among social science researchers/sociologists, social research aims at creating and validating social theories through the collection of data and its analysis. More so, the goals of social science researchare aimed at *exploration*, *description*, *explanation*, and *prediction* of social phenomenon. Hagin (1994) define social (science) research as the process which involves the interaction between ideas and evidence (outcome). That is, ideas enable social researchers make sense of evidence, and researchers use established evidence to extend, revise and test ideas.



Hagin's book titled *Constructing Social Research* has contributed immensely to the teaching of social (science) research. In Nigeria, many scholars such as Mabogunje, 1968; Okafor, 1984; Okafor, 1990; Isiugo-Abanihe, 1994a, 1994b, 1998, 2003, 2005; Alliyu, 2004; Olutayo, 2005; Edewor, 2006; Adedimeji, Omololu, and Odutolu, 2007; Aderinto, Erinosho, Nwokocha, and Adesanmi, 2009; Obono, 2010; Osamor and Owumi, 2010; Fayehun and Omololu, 2009, 2011; Erinosho, 2014; Lawal, 2014;Lawal, Ugobo, Ndep, Amanambo, Okon, and Bepeh, 2016; Lawal, Akindemowo, Onyenanu, and Okunlola, 2018; Lawal, Barry and Omololu, 2018 have made use of social research methods to provide an understanding of different aspects of social life.

Today social research is taught globally and across Nigerian Universities (federal, state and private) and has grown into a profitable enterprise for sociologists and social scientists. This is because social research focuses on discovering social patterns that are regular in their occurrence within social groups in societies. According to Aborisade (1997) "research, therefore, can be defined as a systematic thinking strategy which involves a planned and formalised collection, analysis and interpretation of data for problem solving". Therefore, (social) research in Nigeria has tremendously impacted on social life and public policy, such that government and private institutions rely on social research remains relevant in the advancement of scholarship in Nigeria and globally because it has assumed a multi-disciplinary status. That is, social research based on both the quantitative and qualitative schools of thought as discussed in this chapter is a fundamental endeavour used to explain social life either from a macro or micro perspective.

More so, social research allows the researcher to explain 'collective behaviour' and "to understand other forms of social life, inaccessible to our direct experience" (Bauman, 2001 in Giddens, 2001). Furthermore, through social science research founded on the quantitative and qualitative schools of thought, sociologists can understand human history and people's biography explaining the relationship between the two in society (Mills, 1959). Also, they can make a distinction between 'personal troubles' and 'public issues' which American Sociologist Charles Wright Mills described as "*The Sociological Imagination*". This enables its possessor to comprehendinternal working of society drawn from history and the externalities of social life that guides individuals (Mills, 1959).

### 2. Literature Review

## Origin of Social Research: A Global Perspective

As written in their work titled, *The History of Social Research Methods* (2010), Crothers and Platt state that the origin of social research dates to the early prehistoric 1820s period when 'gentleman scientists' as members of scientific societies remarked on social information. Through the various phases they highlighted, statisticians and academic sociologists during the development phase (1890-1930s) became involved in the first-hand study of people and social context. Scholars during these period documented events as they occurred in society with some formal development of methodologies. For some scholars especially historians, the development of the modern world paved the way for scholars to begin researching on aspects of human society and documenting them in different forms. As early as the 14<sup>th</sup> century Arab Scholar Ibn

Khaldun (1332-1406) committed himself to the study of society relying on scientific method, empirical analysis and research to explain the cause and effect of social phenomena (Ritzer, 2008). His work highlighted some form of social research as he was devoted to studying social institutions and their interrelationships using case studies. Although this method was not as developed as it is today but Khaldun engaged in doing social research by comparing primitive and modern societies back in the 13<sup>th</sup> century.

More recently as sociology began to develop as a scientific discipline, scholars have since aligned with either the quantitative or qualitative schools of social. Among the proponents of social research within sociology was Max Weber who authored *The Methodology of the Social Sciences*<sup>1</sup>. This work was geared towards the development of rich concepts to enable him to perform "a causal analysis of historical phenomena" (Ritzer, 2008). Weber emphasised "…, *historically* given causes through the study of precise empirical data which have been selected from specific points of view" (1903-1917/1949:69). While Emile Durkheim in his *The Division of Labour in Society* (1893/1964)<sup>2</sup>, he explained that "modern society is not held together by the similarities between people who do basically similar things. Instead, it is the division of labour itself that pulls people together by forcing them to be dependent on each other" (Ritzer, 2008).

Besides European scholars, sociologists from the East have been involved with the use of quantitative or qualitative methodologies to explain social life and issues within their societies. Studies which transformed sociological research in Asia were conducted as far back as the 1940s. These include Eitarô Suzuki whom in 1940, published *Nihon NôsonShakaigakuGenri* (*Principle of Japanese Rural Sociology*) (Sonoda, 2010). This became aclassical work in Japanese sociological development. He worked on understanding the similarities and differences of rural social groups in Japanese and Korean villages. Suzuki's work also includes "*ChôsenNôsonShakaiBekkenki* (A Note on the Glance at Korean Rural Society, 1943)", "*ChôsenNôsonShakaiChôsaki* (Fieldnotes on Korean Rural Society, 1944), and "*Chôsen no Sonraku* (Villages in Korea, 1944)" (Sonoda, 2010). These works were drawn from his research which he completed during his two year stay in Korea.

In China, Tadashi Fukutakebegan his sociological studies in 1940 around the period when Eitarô Suzuki published his famous work *Genri*. Fukutake debut work came in 1946 titled "*ChûgokuNôsonShakai no Kôzô (The Structure of Rural Society in China)*. This work was later abbreviated as *Kôzô* to describe the distinct features of villages in China. His work drew from his engagement in East China and from second-hand data in *HokushiKankôShiryôChôsa (Data Archive of Researches on Customs and Institutions in Northern China)* (Sonoda, 2010). In Russia, the first Department of Sociology was headed by Maksim Kovalevsky and E.V. De Roberti. The department was founded in 1907 at the Psychoneurological Institute (Osipov, 2009). Other notable Russian sociologists of that period included Nikolay Danilevsky, Nikolay Mikhaylovsky, Mikhail Tugan-Baranovsky and S.N. Yuzhakov(Osipov, 2009). As such notable works by Pitirim Sorokin, K.M. Takhtarev and Nikolai Bukharin thrived using both the

<sup>&</sup>lt;sup>1</sup> Max Weber. (1903-1917/1949). The methodology of the social sciences. Edward Schils and Henry Finch (Eds). New York: Free Press

<sup>&</sup>lt;sup>2</sup> Emile Durkheim. (1893/1964). The division of labour in society. New York: Free Press. In this work, he traced the development of the modern relationship that exists between individuals and society.



quantitative and qualitative forms of social science research to understand the nature of the Russian society after the revolution.

As social science research continued to develop from the Far East to the West as a central type of research approach, various forms of social research methods were being developed. However, these forms of social research developed along the lines of both the quantitative and qualitative schools of research. Alastalo (2008) on "*The History of Social Research Methods*" gave insights on the wide-ranging and incoherent histories of both quantitative and qualitative research methods, although in the Anglo-American traditions. Although, the use of social research cuts across different disciplines, sociology whose disciplinary relevance is not in doubt, "given it's increasingly rigorous and verifiable procedures for establishing and evaluating the credibility of its assertions" (Abdulrahman, 2014), tends to lay claim to social research as a sub-field of the discipline itself. No wonder Labinjoh argues that "sociology is the first humanistic intellectual endeavour to ground its roots in scientific outlook"<sup>3</sup>, as it provides a holistic approach based on several explanations such as through the methods of positivism, to capture the everyday realities of man and his social environment. The use of social research remains essential to adequately *observe*, *understand*, *interpret* and *predict/speculate* on social happenings within society.

### Benefits and Usefulness of Social Research

James S. Coleman's (1926-1995) 1992 presidential address titled "*The Rational Reconstruction of Society*"<sup>4</sup> to the American Sociological Association highlighted "that modern societies are amid a transformation of their very basis of organization" (Coleman, 1993). The centrality of his address benefitted from his extensive engagement in social science research to understand organisational life in America. In his address, Coleman discussed on the nature and structure of organisations within the American society where "organization was based on corporate actors that are characteristically detached from persons. These corporate actors, best exemplified by the modem corporation and captured in social theory under the rubric of formal organizations, have positions rather than persons as elements of their structures- persons merely occupy positions" (Coleman, 1993). Such is seen presently across the formal organisations and bureaucratic structures of governance within the Nigerian society. However, his work with other scholars titled "*Equality of Educational Opportunity*"<sup>5</sup>, remains notable as one of the early studies in American history that accounted for a large sample size of 650,000 respondents. This study led to the popular "*The Coleman Report*" (1966), the report from this social science research was documented in 700 pages.

In the sub-field of Sociology of Education, Coleman's work has been widely cited. Sociology of Education was his core area of research interest. However, during his career as a sociologist in the University of Chicago. He wrote many other books as seen in Table 1.

<sup>&</sup>lt;sup>3</sup> Justin Labinjoh (1998). "Two conceptions of sociological science as the limits of wisdom". The Nigerian Journal of Sociology and Anthropology, Vol, 1/2, October, 1998; Vol 7, 1-13.

<sup>&</sup>lt;sup>4</sup> James S. Coleman (1991). The Rational Reconstruction of Society. 1992 Presidential Address, American Sociological Association Annual Meeting. Published in American Sociological Review, 58(1), 1-15, 1993.

<sup>&</sup>lt;sup>5</sup> James S. Coleman (1966). Equality of Educational Opportunity. Commissioned by the US Department of Education.



### LAPAI INTERNATIONAL JOURNAL OF MANAGEMENT AND SOCIAL SCIENCES A Publication of the Faculty of Management & Social Sciences, IBB University, Lapai, Niger State-Nigeria Vol. 11 No.2, December, 2019 ISSN: 2006-6473

Furthermore, social science research enables the researcher to provide answers which can lead to the development of social programmes and public policies to improve welfare, political participation, uphold human rights, reduce inequality, and ensure social justice. However, social

| Table 2: James Coleman's | 1 1         | • • •         | •       | 1 * 1 1 *           |
|--------------------------|-------------|---------------|---------|---------------------|
| Lable 7. James Coleman's | nublication | lising social | science | research ideologies |
| Tuble 2. Junes Coleman B | puoneurion  | using social  | science | research racologies |

| S/N     | Famous Books   |
|---------|--|
| 1       | Community Conflict (1955)  |
| 2       | The Adolescent Society (1961)  |
| 3       | Introduction to Mathematical Sociology (1964)  |
| 4       | Models of Change and Response Uncertainty (1964)   |
| 5       | Macrosociology: Research and Theory (1970)   |
| 6       | Resources for Social Change: Race in the United States (1971)  |
| 7       | Youth: Transition to Adulthood (1973)  |
| 8       | High School Achievement (1982)   |
| 9       | The Asymmetrical Society (1982)  |
| 10      | Individual Interests and Collective Action (1986)  |
| 11      | Foundations of Social Theory (1990)  |
|         | Famous Articles  |
| 12      | Social Theory, Social Research, and a Theory of Action, published in American Journal of Sociology91:                      |
|         | 1309–35 (1986)   |
| 13      | Social Capital in the Creation of Human Capital, also published The American Journal of Sociology,                         |
|         | Vol. 94, Supplement: Organizations and Institutions  |
| 14      | Sociological and Economic Approaches to the Analysis of Social Structure, pp. S95–120 (1988)                               |
| Note: A | <i>ll of Coleman's work is based on the influence of both the quantitative and qualitative schools of social research.</i> |

science research outcomes in society contribute to the sustainability of society such that social science research remains central to the continued improvement required by man in his social environment. Therefore, there is a need for the continued development, practice and promotion of social science research in Nigeria. As highlighted by Kelly (2011) in Table 3, social science

| Tuble  | . S. Benefits of social science research  |
|--------|---|
| S/N    | Benefits  |
| 1      | Insights into the practical implications of debates over the philosophy of social science                   |
|        | for the conduct of social research.   |
| 2      | Knowledge of how the choice of research strategy, e.g. quantitative or qualitative                          |
|        | research, reflects the research question addressed and constrains the possible outcomes of social research. |
| 3      | Knowledge of the technical requirements or 'best practices' that govern and inform                          |
|        | contemporary social research and the criteria used by professional audiences to evaluate social research.   |
|        |   |
| 4      | The ability to be systematic in the design and conduct of your own research and in the                      |
|        | description and evaluation of others' research.   |
| 5      | The ability to deploy an informed scepticism when making judgments about your own                           |
|        | and others' social research.  |
| 6      | The ability to place research projects, including your own, within a specific social                        |
|        | context. This includes an ethical context, a political context and an academic context as                   |
|        | well as the immediate context of data collection that may influence or may have                             |
|        | influenced the construction of the data collected (pp. 3-4).  |
| Source | e: Kelly (2011:304).  |



research has many uses across the wide array of sub-disciplines in Sociology, the wider social sciences and beyond because it offers different types of knowledge to learners. More so, gaining access to the body of knowledge on social science research methods will allow researchers to acquire significant skills (Kelly, 2011).

#### Social Research in Nigeria

With the establishment of faculties of the social sciences in institutions of higher learning across Nigeria, social research has developed from the West to the East and North of the country. Scholars began to engage in research activities aimed at explaining social issues and to address the challenges facing the country from a social perspective. Doing social research in Nigeria tremendously grew in the 1960s with the establishment of Sociology departments in Nigerian universities. For sociologists, society became their laboratory as they scientifically engaged in the interpretation of complex social realities within the Nigerian society in the wake of independence. Although no single social scientist or group of researchers can be attributed as major proponents of social research in the country, many social scientists in their early works reported on the changing dynamics in Nigeria based on their training and background in doing social research. A foremost Nigerian sociologist, demographer and social researcher, Uche C. Isiugo-Abanihe in a work co-authored with fellow social researcher, S.K Alonge titled, "Theory and Research: the dynamic duo" (2002) stated that social research "seeks to generate new information or knowledge that, in turn, can be applied to solve problems, improve the quality of life, and provide a better understanding of conditions in a field". Hence doing social research in Nigeria over the years has significantly contributed to social knowledge, proffered useful solutions to address social problems and advanced social research practice among researchers.

In 1960, the establishment of the Nigerian Institute for Economic and Social Research (NISER) in Ibadan and the Nigerian Anthropological and Sociological Association in 1971 further contributed to the development, practice and promotion of social research in Nigeria. Scholars such as Ayorinde and Erinosho (1976), conducted a pioneering study on mental health (preventive psychiatry) "to promote mental education; to encourage the utilisation of a newly established psychiatric facility; and to develop a community oriented care for the mentally ill", using social research methods. For many early Nigerian sociologists, their training abroad, mainly in America and Europe formed their methodological orientation which influenced the way they carried out social research (Ogundipe & Edewor, 2012). Till date, social research is taught across sociology departments of Nigerian universities as a compulsory course (Ogundipe & Edewor, 2012). As such many Nigerian sociologists across the existing sub-specialties of the discipline adopt either a quantitative or a qualitative approach when conducting their field work. Their choice of the type of methodological approach is derived from the two prominent schools of thought in doing social research as will be discussed in the subsequent sections.

## 3. Methods

### Quantitative Approaches and Methods of Social Research

As the quantitative school of social research developed, it devised and refined its way of data collection and analysis. The quantitative approach remains advantageous because large social surveys are being derived through this approach. Some forms of social research emanating from this approach are social surveys, longitudinal studies and cohort studies. Early in the 20<sup>th</sup>



century, the term social survey has been used. Wells (1936) stated that the term "can be applied to any kind of work dealing with society in any of its aspects, it is usually given a conventional meaning, and applied to studies making reference to some particular contemporary society or localized group"<sup>6</sup>.

Today, social survey is simply "a survey used to collect data on demographic characteristics and attitudes of residents of the area" (Ali, 2007). The major advantage is that data collected from a large group of people on a given social issue can guide the development of national policies. Surveys remain vital as they have become major parts of national and country-wide modes of data gathering. Surveys are done to understand and explain social situations. Surveys are simply structured quantitative (numerical) data sets in the form of a variable-by-case grid. Each grid consists of rows, representing cases, columns representing variables and cells that contain information about a case's attribute on the specific variable (de Vaus, 2006). Surveys are of various kinds such as longitudinal surveys.

Longitudinal (studies) surveys involve the gathering of data on a particular group of people or person over a period of time. Information is gathered at the outset of the study and subsequent developments are traced in an attempt to isolate those social factors that affect persons' life chances or to monitor change in their behaviour (Trueman, 2015). Longitudinal surveys are done maybe from three to seven years as the issue under study may warrant. Longitudinal studies are quite popular in developed countries compared to developing countries because of the ease of following up on respondents over a long period of time. Longitudinal studies on health (Lee, Dobson, Brown, Bryson, Byles, Warner-Smith & Young, 2005; Swallen, Reither, Haas & Meier, 2005), crime and deviance (Green, Doherty, Zebrak, & Ensminger, 2011), family (Carmichael & McGue, 1994; Robins, Fraley, Roberts, & Trzesniewski, 2001) amongst other issues have been widely conducted in developed countries. The use of longitudinal studies emanated from the quantitative tradition as a form of reporting social reality over a long period of time, by observing the changes and influencing determinants on the social issue being studied.

Cohort studies (prospective or retrospective) also have grown to become a prominent form of quantitative social research. Several cohort studies on different issues that affect people have been conducted. Among these are (Huxley, Barzi & Woodward, 1996; Hemingway & Marmot, 1999; Pearce, Salotti, Little, McHugh, Lee, Kim, Howe, Ronckers, Rajaraman, Craft & Parker, 2012; Chan & Boliver, 2013). Another type of quantitative social research is a randomised control trial (RCT). The use of this type of quantitative social research is not very popular in Sociology but RCTs have been developed as a major type of social research method from the quantitative school. A number of RCT studies have been done that focus on issues that range from social capital (Kawachi, Kennedy & Glass, 1999; Andersen, Poulsen, Sundstrup, Brandt, Jay, Clausen, Borg, Persson, & Jakobsen, 2015), crime (Sherman and Weisburd, 1995; Braga & Bond, 2008; Vigne & Lowry, 2011), income inequality (Haighton, Moffatt, Howel, McColl, Milne, Deverill, Rubin, Aspray & White, 2012; Burde & Liden, 2012) and socio-demographic factors as determinants of health (Ansah, Narh-Bana, Asiamah, Dzordzordzi, Biantey, et al,

<sup>&</sup>lt;sup>6</sup> Wells, A.F. (1936). Social Surveys and Sociology. *The Sociological Review*, a28 (3), 274-294.



2009) amongst others. RCTs are a well-established form of social research with opportunities for sociologists to compare group behaviour.

#### Quantitative Forms of Data Analysis

The quantitative school of social research data has its own mode of data analysis. These include the use of statistical software such as Statistical Packages for the Social Sciences (SPSS), STATA, Epi data, Epi Info, R, Salstat, SOFA statistics, Openstat, Daps, Develve, and SAS University Edition amongst many other types of statistical software. However, many social scientist and sociologist are more conversant with the use of SPSS and STATA. With the use of statistical software, univariate, bivariate and multivariate forms of analysis can be done easily. Furthermore, any of this software can be used to produce descriptive statistics which include "the mean, standard deviation, range of scores, skewness and kurtosis" (Pallant, 2005). More so, such software can be used to do a t-test which is used to compare between and among groups of respondents. According to Pallant (2005), "an independent-samples t-test is used when you want to compare the mean score, on some *continuous* variable, for *two* different groups of subjects". While a "paired-samples t-test (also referred to as repeated measures) is used when you have only one group of people (or companies, or machines etc.) and you collect data from them on two different occasions, or under two different conditions" (Pallant, 2005).

Statistical software such as SPSS among others can be used for a Chi-square analysis which explains the relationship between variables. But, when the social researcher is concerned with comparing the mean scores of more than two groups of people, he/she would use analysis of variance (ANOVA). To "explore the relationship between one continuous dependent variable and a number of independent variables or predictors (usually continuous)" (Pallant, 2005), a multiple regression is used. A multiple regression "can also be used to address a variety of research questions posed by the social researcher of the quantitative school". While a "logistic regression allows you (quantitative social researcher) to test models to predict categorical outcomes with two or more categories. Your predictor (independent) variables can be either categorical or continuous, or a mix of both in the one model" (Pallant, 2005).

In addition, a quantitative social researcher that is interested in describing "the strength and direction of the linear relationship between two variables" (Pallant, 2005) will use a correlation analysis. At an even more advanced level of analysing quantitative data is the application of Structural Equation Modelling (SEM). SEM "is arguably the most broadly applicable statistical procedure currently available and it has a number of unique and flexible capabilities" (Tomarken & Waller, 2005). For example, Colder, Campbell, Ruel, Richardson, and Flay (2002) did a SEM analysis, to understand the growth trajectories of adolescent alcohol use. In the study, Elkordy (2013) explains "*Transformational Leadership and Organizational Culture as Predictors of Employees Attitudinal Outcomes*" did a SEM analysis. Many studies today, adopt SEM as a form of advanced analysis to explain different social issues of interest to social researchers, especially psychologists. Therefore, the quantitative school of social research remains highly relevant till date.

### Qualitative Approaches and Methods of Social Research

Qualitative (social) research "provides some of the most insightful data available on social relationship" (Cockerham, 2011). That is, data that covers different aspects of social

0

LAPAI INTERNATIONAL JOURNAL OF MANAGEMENT AND SOCIAL SCIENCES A Publication of the Faculty of Management & Social Sciences, IBB University, Lapai, Niger State-Nigeria Vol. 11 No.2, December, 2019 ISSN: 2006-6473

relationships that people engage in within the family, at work, at school and in everyday spheres of social life. Qualitative social research as a school of thought and research endeavour has continued to develop. This has led to the development of its own methods, instruments and mode of data analysis. Among these are in-depth interviews which are "discussions, usually one-on-one between an interviewer and an individual, meant to gather information on a specific set of topics. Interviews can be conducted in person or over the phone" (Harrell & Bradley, 2009) between the interviewer and interviewee. Also, the use of focus group discussion is synonymous with the qualitative school of social research. FGDs may be defined as an in-depth exchange of opinions, in which a small number of people, typically six to twelve, under the direction of a moderator, talk about issues that are of importance to the investigator (Isiugo-Abanihe, 1995). Key Informant Interviews are interviews with people who have first-hand knowledge or information about a community or social group. Key informant interviews can be conducted with a wide range of people such as community leaders, residents, or professionals about what is going on within a community or social group. These three methods (IDI, FGD and KII) constitute the main procedure for collecting qualitative data. However, other types of qualitative methods will include Case Studies or a Case Study which is an existing published report on a given subject matter about a person, group, or situation that has been studied over time. While Life histories are focused on depicting a holistic picture of an informant or interviewee's life. "The purpose of the interview is to be able to describe what it is like to be this particular person, that is, the one being interviewed"7.

In addition, are ethnographic research studies which is "the observation of groups of people or a culture in the field or, in other words, in a natural setting". According to Larkan, Lawal and Cuffe (2017) stated that "ethnography is a field of study that explores social phenomena from the perspective of the subject of the study". Beyond ethnography, another type of qualitative data collection procedure is observation. Observations are of two types namely Participant observation (Obtrusive) and Non-participant observation (Unobtrusive). Participant observation is a method of qualitative social research in which the observer (researcher) joins the group being studied and participates in their activities (Trueman, 2015) during the period of the study. Examples of participant observation studies include James Patrick's (1973) study titled, A Glasgow Gang Observed<sup>8</sup> and Laud Humphreys' (1970) study on Tearoom Trade. Nonparticipant observation (Unobtrusive) involves a social researcher observing participants without actively participating in the observed event or situation. The qualitative school of social research has equally devised its own forms of data analysis which include the use of the grounded theory approach. This is done in phases from an open coding phase through to the axial coding phase, then unto a selective coding phase. The grounded theory approach when applied in the analysis of qualitative data helps "in providing useful data in original and rich research findings and theory because of its close ties to the data and the rigour in the method" (Lawrence & Tar, 2013).

<sup>&</sup>lt;sup>7</sup> www.wikipedia.com/life\_history\_(sociology)

<sup>&</sup>lt;sup>8</sup> It was based on research he had done in 1966, when he was aged 23. The book attracted some attention in Scotland when it was published in 1973. James Patrick is a Scottish sociologist.



## Qualitative Forms of Data Analysis

Data analysis in qualitative social research is with content analysis (CA) which is "a method of analysing written, verbal or visual communication messages" (Cole, 1988). Content analysis is also referred to as Qualitative content analysis (QCA) or Thematic content analysis (TCA). Although the TCA or QCA is similar to the grounded theory approach, this form of analysis is not aimed at generating a theory unlike the former. However, the use of TCA/QCA in the analysis of health data shows the process in which themes are derived from the raw data (Lawal, 2014) and analysed until the actual information from the raw data is arrived at. The final sub-themes and data can be further subjected to more analysis but no theory is derived from the process. One main advantage of content analysis according to Elo and Kyngäs (2008) is "that a large volume of textual data and different textual sources can be dealt with..."

Table 4: Dissimilarities in Quantitative and Qualitative Social Research

|                                | Quantitative                   | Qualitative                      |  |
|--------------------------------|--------------------------------|----------------------------------|--|
| Main Focus                     | Social Structures/Institutions | Social Actors/Behaviour          |  |
| Perspective                    | Mainly Macro                   | Mainly Micro                     |  |
| Level of Analysis              | Objective                      | Subjective                       |  |
| Focus on Human Behaviour       | Depicts Ideal Behaviour        | Depicts Real/Actual<br>Behaviour |  |
| Replicability                  | Easy                           | Difficult                        |  |
| Validity                       | Standardised                   | Non-standardised                 |  |
| Population/Sample Size         | Large                          | Small                            |  |
| Philosophical Tradition        | Empiricism                     | Rationalism                      |  |
| Level of Reality               | Mainly Deductive               | Mainly Inductive                 |  |
| Research Instrument            | More Rigid (closed-ended)      | More Flexible (open-ended)       |  |
| Some Method of Data Collection | Surveys                        | IDI, KII and FDG                 |  |
| Outcome of Data Analysis       | Numeric/Countable              | Words/Character                  |  |
|                                | Form/Statistics                | Form/Themes                      |  |

Presently, qualitative social research data can be analysed using computer application software in form of Nvivo or Atlas. Both software used for analysing qualitative data are very popular and have been used to produce outstanding data which have informed public policy. Nvivo is "a qualitative data analysis (QDA) computer software package produced by QSR International. It has been designed for qualitative researchers working with very rich text-based and/or multimedia information, where deep levels of analysis on small or large volumes of data are required"<sup>9</sup>. *ATLAS*.ti is a computer *programme* for qualitative research or qualitative data analysis. These two are the common and widely available types amongst others that have been modified over the years with new features for better analytical outcomes. As the qualitative school of social research continues to advance into the 21<sup>st</sup> century, in order to remain relevant, it must begin collaboration with computer scientists and inventors. This collaboration will enable qualitative social researchers working with inventors to devise new tools for voice

<sup>9</sup> www.wikipedia.com/Nvivo



recording/imaging devices that can be used and automatically transferred unto Windows/Mac enabled computers without losing the non-verbal cues recorded in the field. In addition, new ways of improving upon the existing forms of data collection and analysis are required because of the complexities of social reality. For many researchers who prefer this school of social research, their ability to remain open to change and forge new techniques to strengthen the existing forms of qualitative social research is crucial for the sustenance of this school of social research's philosophy and methodological tradition.

| Table 5: Similarities in Quantitative and Qualitativ | e Social Research |
|--|-------------------|
|--|-------------------|

| Source                    | Primary   |
|---------------------------|---|
| Knowledge                 | To derive new information/data or validate existing ones  |
| Justification of findings | Researcher's bias   |
| Phenomenon                | Can be used simultaneously to study the same event (i.e. both<br>approaches can analyse similar information and investigate the<br>same question) |
| Limitations               | Are limited by variables being studied  |
| Research procedure        | Scientific in nature  |

#### 4. Result

#### Relevance of Social Research

The contributions of both the quantitative and qualitative schools of social research will guide the practice and promotion of social research in the coming years of the 21<sup>st</sup> century. As societies continue to change and experience different forms of transformations, social researchers from both schools will need to continue to conduct research activities that will sustain human society. Therefore, both the quantitative and qualitative schools will need to develop innovative, creative and timely solutions to address existing challenges and social problems as they arise. Such social problems when addressed must yield a positive impact for the continued sustainability of society. More so, solutions that are globally relevant must be derived when both schools of social research actively engage in all forms of social research practice. That is, the use of standardised research instruments that can be modified to suit the local context must be encouraged for use by social researchers. More so, social researchers from both schools must be encouraged to actively engage in various interdisciplinary studies, which offer the opportunity for them to exercise their skills in doing social research for the benefit of societies whether in the global south or the global north.

Furthermore, doing social research in the  $21^{st}$  century will depend on the nature of social complexities that arise which will require the contributions of both schools of social research to work together (triangulate) using their distinct research methods to address them. Also, researchers from both schools will need to strengthen their engagement in research partnerships hinged on good *leadership*, clear *resolution* strategies in the face of conflict, sound *communication*, and mutual *benefit* to all researchers/parties, that promotes *equity* based on shared *values* with its own distinct research *focus* (Larkan, Uduma, Lawal and van Bavel, 2015). All these elements must be considered by researchers from both schools to succeed and remain relevant in the  $21^{st}$  century. Finally, the quantitative and qualitative school of social



research in the coming years will need to seek out new methodological tools and refine the existing ones to remain useful in capturing the changing nature of social reality. Therefore, both schools of social research will require strong *relational* and *operational* capabilities (Larkan *et al*, 2015) to achieve their desired goals and research outcomes as the 21<sup>st</sup> century unfolds.

### The Social Research Process and Programme Intervention Framework

Social research as a sub-field of sociology has extended beyond the discipline into other disciplines within the social sciences and beyond. Today, non-social scientific disciplines are now actively engaged in various forms of social research. However, for sociologists, social research remains a unique sociological endeavour for the promotion of the sociological enterprise by applying the sociological imagination to decompose social situations. With the use of social research, sociologists continue to contribute to scientific knowledge on social life, proffer solutions to existing global social problems and expand the frontiers of sociological explanations. Social research therefore is constantly evolving with the global world system, from the phase of conception all through to the phase of execution unto completion in any given social research process. This process, as it connects to programmes or public policy can be described as "*the social research process and programme intervention framework*". The framework shows core attributes and elements of social research used to address diverse social issues in society. The social research process linked to programme intervention which when evaluated may lead to another type of social research on a similar subject matter or otherwise.

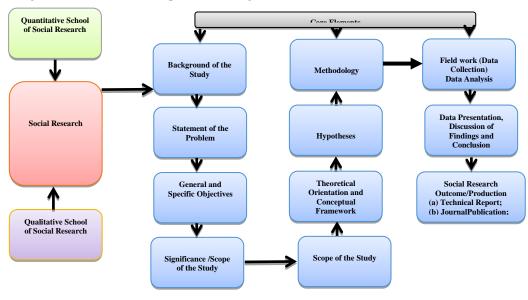


Figure 1: The social research process showing core elements

Figure 1 explains the social research process emanating from both the quantitative and qualitative schools of social research. A good understanding of the fractal nature of the research process is fundamental for social researchers. The social research process from inception to completion in any given *time* and *space* is dependent on the environment, social actors (respondents), and the researcher/research team. This model offers clear insights on the step-by-step procedure in the research process. From the background of the study, social researchers must have a good knowledge of the social issue they intend to research. Next the researcher in clear language must present the statement of the problem. According to Obono (2000) "the brevity with which the research problem is stated is important". That is a statement of problem must be straight to the point and free of ambiguous explanations. Afterwards as seen in the model above, the general and specific objectives which are both drawn from the statement of the problem, gives a reader a clear picture of what the social research study is all about.

Furthermore, other aspects of the research process which includes the significance of the study, scope of the study, theoretical orientation, conceptual framework, hypothesis, methodology, data analysis, data interpretation and research outcome/production all form core elements of any social research study. From the onset of an applied form of social research, the goal is towards programme intervention or public policy formation for the improvement of human society.

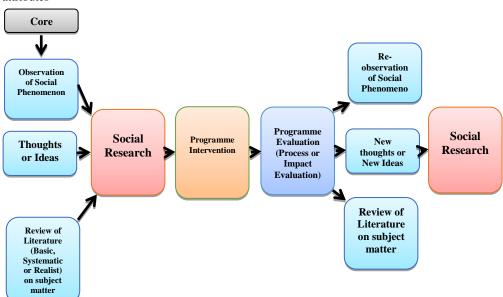


Figure 2: The social research process and programme intervention framework showing core attributes

Figure 2 shows the core attributes (observation of social phenomenon, ideas/thoughts, literature review) that influence the social researcher to conduct a social research, whether quantitative or qualitative in nature. These attributes are an essential aspect of the research process because

they guide each researcher to better understand the social issue or problem of interest to them. They also offer social researchers a platform to reflect upon what they intend to research upon. This process shows how social research is linked with programmeintervention within the society, such that when programmes are implemented to improve social life or address a social problem, such programmes must be evaluated (process or impact). Outcomes from such programme evaluation will cause the researcher to re-observe the initial phenomenon, derive new thoughts or ideas and sometimes require researchers to revisit the literature. The social research process-programme intervention model is cyclical in nature such that the social phenomenon is studied, explained and understood through a scientific process aimed at making society a better place.

#### 5. Conclusion

Social science research remains an important sub-field for social scientists and researchers in other fields of study. A good knowledge of social research is a prerequisite for building and sustaining a successful career as a researcher and global scholar. This paper examines the concept of social science research with insights on the origins of social research from a global perspective. The paper explores the benefits of social research and its many uses across different disciplines. The paper discusses the nature of social research in Nigeria and its relevance to understanding social life. Both the quantitative and qualitative approaches to social research and the relevance of social science research in the 21<sup>st</sup> century are examined. The social research process and programme intervention framework explains the step-by-step process of conducting social research and how its outcome is connected to programme interventions to improve society. Social science research remains a vital process to address, and answer questions raised by researchers in order to proffer solutions on social issues based on globally accepted scientific processes.

# References

- Abdulrahman, D. A. (2014). Sociology without Boundary? *Ibadan Journal of Sociology*, 1, 5-27.
- Aborisade, F. (1997). Research methods: A student handbook. Multifirm Limited (Publishers): Lagos.
- Adedimeji, A. A. (1998). Women's reproductive health, empowerment and male involvement. (Monograph) 1(3). Ibadan: Association for Reproductive and Family Health (ARFH).
- Adedimeji, A. A., Omololu, F.O. & Odutolu, O (2007). HIV risk perception and constraints to protective behaviour among young slum dwellers in Ibadan, Nigeria. *Journal of Health, Population, and Nutrition*, 25(2), 146-157.
- Aderinto, A. A., Akinwale, A, Atere, A & Oyenuga, S. (2007). Correlates and hazards of Streetbegging: A qualitative study of able-bodied female beggars in Ibadan and Lagos, Nigeria. Unilag Sociological Review, 8, 1-20.
- Alastalo, M. (2008). The history of social research methods. In PerttiAlasuutari and Leonard Bickman and Julia Brannen. The SAGE Handbook of Social Research. United Kingdom: SAGE Publications Limited.
- Ali, Z. (2007). Social survey methods and data collection. Retrieved December 10<sup>th</sup>, 2016, from <u>http://www.asb.org.pk/Social%20survey.pdf</u>



- Alliyu, N. (2004). *Propertied women in a patriarchal society: A study of their characteristics, attitude and roles in development*. (Unpublished doctoral dissertation). Department of Sociology, faculty of the Social Sciences, University of Ibadan, Nigeria.
- Andersen, L. L., Poulsen, O. M, Sundstrup, E, Brandt, M, Jay, K, Clausen, T, Borg, V, Persson, R, & Jakobsen, M. D. (2015).Effect of physical exercise on workplace social capital: Clusterrandomized controlled trial. *Scandinavian Journal of Public Health*, 43, 810– 818. doi: 10.1177/1403494815598404.
- Ansah, E.K., Narh-Ban, S,Asiamah, S, Dzordzordzi, V, Biantey, K, Dickson, K, Gyapong, J.O, Koram, K.A, Greenwood, B.A, Mills, A, and Whitty, C.J.M. (2009) Effect of removing directpayment for health care onutilisation and health outcomes inGhanaian children: A randomisedcontrolled trial. PLoS Med 6(1):e1000007.
- Ayonrinde, A., & Erinosho, O. (1976). Mental health education and attitudes to psychiatric disorder at a rural health centre in Nigeria. *Psychopathologineafricaine*, XII(3), 391-401.
- Bauman, Z. (2001). *Thinking Sociologically*. In A. Giddens (Ed), Sociology: Introductory Readings. Cambridge: Polity Press.
- Carmichael, C. M., & McGue, M. (2001). A longitudinal family study of personality change and stability. *Journal of Personality*, 62(1), 1-20.
- Chan, T. W., & Boliver, V. (2013). The grandparents effect in social mobility: Evidence from British birth cohort studies. *American Sociological Review*, 78(4), 662-678.
- Cole, F. L. (1988). Content analysis: process and application. *Clinical Nurse Specialist*, 2(1), 53–57.
- Colder, C. R., Campbell, R.T, Ruel, E, Richardson, J.L, & Flay, B.R. (2002). A finite mixture model of growth trajectories of adolescent alcohol use: predictors and consequences. *Journal of Consulting and Clinical Psychology*, 70, 976–85.
- Cortese, A. (1995). The rise, hegemony, and decline of the Chicago school of sociology, 1892-1945. *Social Science Journal*, 32, 235-254.
- Crothers, C., & Platt, J. (2010). History of Social Research Methods in *History and Development of Sociology*, edited by Charles Crothers, in Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK. Retrieved November 24<sup>th</sup>, 2015, from <u>http://www.eolss.net</u>
- de Vaus, D. (2006) Social Surveys. The SAGE Dictionary of Social Research Methods. doi: http://dx.doi.org/10.4135/9780857020116
- Edewor, P. A (2006) "Changing perceptions of the value of daughters and girls' education among the Isoko of Nigeria" *African Population Studies*, 21(1), 55-70.
- Elkordy, M. (2013). Transformational leadership and organizational culture as predictors of employees attitudinal outcomes. *Business Management Dynamics*, 3(5), 15-26.
- Elo, S., & Kyngäs, S.H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. doi: 10.1111/j.1365-2648.2007.04569.x
- Erinosho, O.A (2014). Transforming Nigeria's universities from local to global centres of learning. *Ibadan Journal of Sociology*, 1, 73-110.
- Fayehun, O. A., & Omololu O. O. (2009). Prevalence and treatment of childhood diarrhoea among Nigerian ethnic groups. *The Nigerian Journal of Sociology and Anthropology*, 7, 14-28.



- Fayehun, O. A. (2010). Household Environmental Health Hazards and Child Survival in Sub-Saharan Africa. DHS Working Papers Series No. 74. Calverton, Maryland, USA: USAID/ICF Macro.
- Fayehun O. A., & Omololu O. O. (2011). Ethnicity and child survival in Nigeria. African Population Studies, 25(1) Supplement, 92-112.
- Firebaugh, G. (2008). Seven Rules for Social Research. Princeton: Princeton University Press.
- Giddens, A. (2001). The Scope of Sociology. In A. Giddens (Ed), Sociology: Introductory Readings. Polity Press: Cambridge.
- Green, K. M., Doherty, E. E, Zebrak, K. A, & Ensminger, M. E. (2011). Association between adolescent drinking and adult violence: Evidence from a longitudinal study of urban African Americans. *Journal of Studies on Alcohol and Drugs*, 72, 701-710.
- Harrell, M. C., & Bradley, M. A. (2009). Data collection methods: semi-structured interviews and focus groups. Training Manual. Prepared for the US Government. National Defence Research Institute. Retrieved 7<sup>th</sup> December 2015, from<u>http://www.rand.org/content/dam/rand/pubs/technical\_reports/2009/RAND\_TR71</u> <u>8.pdf</u>
- Hemingway, H., & Marmot, M. (1999). Psychosocial factors in the aetiology and prognosis of coronary heart disease: systematic review of prospectivecohort studies. *BMJ*, 318, 1460-1467.
- Huxley, R., Barzi, F, & Woodward, M. (1996). Excess risk of fatal coronary heart disease associated with diabetes in men and women: meta-analysis of 37 prospective cohort studies. *BMJ*, 332(7533), 73-78. doi: 10.1136/bmj.38678.389583.7C
- Isiugo-Abanihe, U. C. (1994). The correlates of premarital sexuality in Nigeria. *Journal of Psychological Study of Social Issues*, 1(2), 257-276.
- Isiugo-Abanihe, U. C. (1995). Focus Group Discussion in Social Science Research in Nigeria. Paper presented at the workshop of grantees of the Mac Arthur Foundation's *Fund for Leadership Development Programme*. Badagry, Lagos.
- Isiugo-Abanihe, U. C. (1998). Stability of marital unions and fertility in Nigeria. *Journal of Biosocial Science*, 30(1), 33-41.
- Isiugo-Abanihe, U. C. (2003). Male role and responsibility in fertility and reproductive health. Ababa Press: Ibadan.
- Isiugo-Abanihe, U. C. (2005). Socio-cultural aspects of HIV/AIDS infection in Nigeria. *African Journal of Medicine and Medical Sciences*, 34, 12-22.
- Isiugo-Abanihe, U. C., & Alonge, S.K. (2002). Theory and research: the dynamic duo. In U.C. Abanihe, A.N. Isamah& J.O. Adesina (Eds). Currents and Perspectives in Sociology. Lagos: Malthouse Press Limited.
- Kawachi, I., Kennedy, B.P., and Glass, R.(1999). Social capital and self-rated health: a contextual analysis. *American Journal of Public Health*, 89(8), 1187-1193.
- Kelly, A. P. (2011). Social research methods. Retrieved November 24<sup>th</sup>, 2015, fromhttp://www.londoninternational.ac.uk/sites/default/files/programme resources/lse/ lse\_pdf/subject\_guides/sc2145\_ch1-3.pdf
- Larkan, F., Uduma, O, Lawal, S. A, & Van-Bavel, B. (2016). Developing a Framework for Successful Research Partnerships in Global Health. *Globalization and Health.* (Special Issue on Partnerships in Health). BioMed Central.



- Larkan, F., Lawal, S. A., & Cuffe, J. (2017). *Ethnographic fieldwork*. In Adetola, O., Aborisade, R., & Fasanmi, S. *Research Methods in Social and Management Sciences*. Ibadan: Ibadan University Press, 347-362.
- Lawal, S. A. (2014). *Health care delivery, access and utilisation in emerging communities and urban slums of south west Nigeria* (Unpublished doctoral theses). Centre for Global Health, Trinity College Dublin (The University of Dublin), Ireland.
- Lawal, S. A, Ugobo, E. E, Ndep, A. O., Amanambo, S, Okon, M. E, & Bepeh, M. (2016). Participatory health needs assessment of Obufa-Esuk community in Calabar south local government, Cross river state, Nigeria. *African Journal of Politics and Society*, 2 (2), 88-114.
- Lawal, S. A, Akindemowo, C. A, Onyenanu, P. & Okunlola, D. (2018). Socio-demographic factors and external influence on dressing patterns among adult learners in a Nigerian university: A social survey. *Journal of Educational Thought*, 7(2), 195-210.
- Lawal, S. A., Barry, J., & Omololu, O. (2018). Health care facilities and forms of treatment options in emerging communities of south west Nigeria. *Nigerian Journal of Economic and Social Studies*, 60(1), 116-135.
- Lawrence, J., & Tar, U. (2013). The use of grounded theory technique as a practical tool for qualitative data collection and analysis. *The Electronic Journal of Business Research Methods*, 11(1), 29-40.
- Lee, C., Dobson, A. J, Brown, W. J, Bryson, L, Byles, J, Warner-Smith, P, & Young, A. F. (2005). Cohort profile: The Australian longitudinal study on women's health.*International Journal of Epidemiology*, 34, 987–991.
- Lutters, W. G., & Ackerman, M. S. (1996). An introduction to the Chicago school of sociology. Interval research, Proprietary. Retrieved December 4<sup>th</sup>, 2015 from www.umbc.edu/~lutters/pubs/1996 SWLNote96-1 Lutters,Ackerman.pdf
- Mabogunje, A. L. (1968). Urbanization in Nigeria. London: University of London Press.
- Mills, C. W. (1979). The Sociological Imagination. Oxford: Oxford University Press.
- Obono, O. (2009). The connections among the problem, objectives, results and impacts of a scientific research: Towards the development of a fractal approach. In L. Popoola, O. Adetimirin, and O. Olorunnisola (Eds). Planning and Writing Grant-Oriented Proposals. Proceedings of a Training of Trainers Workshop. Ibadan: The Postgraduate School, University of Ibadan, Ibadan, Nigeria (pp.55-59).
- Ogundipe, A., & Edewor, P. A. (2012). Sociology and social work in Nigeria: Characteristics, collaborations and difference. *African Sociological Review*, 16(2), 40-55.
- Okafor, F. C. (1984). Accessibility to general hospitals in rural Bendel State, Nigeria. *Social Science and Medicine*, 18(8), 661-666.
- Okafor, F. C. (1990). The spatial dimensions of accessibility to general hospitals in rural Nigeria. *Socio-Economic Planning Sciences*, 24(4), 295-306.
- Olutayo, A. O. (2005). Women in informal long-distance trade: The family and the rural-urban market nexus in south-western Nigeria. *Ibadan Journal of the Social Sciences*, 3(2), 67-76.
- Osamor, P. E., & Owumi, B. E. (2010). Complementary and alternative medicine in the management of hypertension in an urban Nigerian community. *BMC Complementary and Alternative Medicine*, 10:36. doi: 10.1186/1472-6882-10-36



- Osipov, G. V. (2009). The rebirth of sociology in Russia: How It actually developed. *Russian Social Science Review*, 50(6), 80–108.
- Pallant, J. (2005). SPSS survival manual: a step by step guide to data analysis using SPSS for windows (version 12). Australia: Allen & Unwin.
- Pearce, M. S., Salotti, J. A, Little, M. P, McHugh, K, Lee, C, Kim, K. P, Howe, N. L, Ronckers, C.M, Rajaraman, P, Craft, A.W, & Parker, L. (2012). Radiation exposure from CT scans in childhood and subsequent risk of leukaemia and brain tumours: a retrospective cohort study. *The Lancet*, 380(9840), 499-505.
- Ragin, C. C. (1994). *Constructing Social Research: The Unity and Diversity of Method*. Pine Forge Press.
- Robins, R. W., Fraley, R. C., Roberts, B. W. & Trzesniewski, K. H. (2001). A longitudinal study of personality change in young adulthood. *Journal of Personality*, 69(4), 617– 640. doi: 10.1111/1467-6494.694157
- Scott, J., and Marshall, G. (2009). Oxford dictionary of sociology. Oxford: Oxford University Press.
- Spencer, H. (1864). Reasons for Dissenting from M. Comte. Retrieved December 7<sup>th</sup>, 2015, from <u>www.marxists.org/reference/subject/philosophy/works/en/spencer.htm</u>
- Sonoda, S. (2010). Development of Japanese Sociology and Its Asian Connections. Retrieved 3<sup>rd</sup>December, 2015, from<u>https://ricas.ioc.u-</u> tokyo.ac.jp/aasplatform/achivements/pdf/2010\_as\_shigeto.pdf
- Swallen, K. C., Reither, E. N, Haas, S. A & Meier, A. M. (2005). Overweight, obesity, and health-related quality of life among adolescents: The national longitudinal study of adolescent health. *Pediatrics*, 115(2), 340-347.
- Tomarken, A. J., & Waller, N. C. (2005). Structural equation modelling: Strengths, limitations and misconceptions. Annual Review of Clinical Psychology, 1, 31–65.
- Trueman, C. N. (May, 21<sup>st</sup>, 2015). Types of research. Retrieved 24<sup>th</sup>November, 2015, from<u>http://www.historylearningsite.co.uk/sociology/research-methods-in-</u>sociology/types-of-research/
- Williams, J. (2007). Small, Albion W. In George Ritzer (ed.), *The Blackwell Encyclopaedia of Sociology*. Oxford: Blackwell: 4321-4342.