

ETHICAL ISSUES AS PREDICTORS OF DATA COLLECTION IN TRANSDISCIPLINARY
RESEARCH IN PUBLIC UNIVERSITIES IN OGUN STATE

BY

Onanuga Paul Adekunle: Institute of Education, Olabisi Onabanjo University, Ago Iwoye

Abstract

This study investigated ethical issues as predictors of data collection in transdisciplinary research in public universities in Ogun State, using a descriptive survey design. A sample of 182 academic staff of public universities in Ogun State, Nigeria was randomly selected through the snowball sampling technique. The mean age of the sample was 45.4 years with a standard deviation of 10.5. Instrument used for data collection was the Ethical Issues and Data Collection Questionnaire (EIDCQ) with test-retest reliability value of .82. Three hypotheses were formulated and tested by means of simple linear regression analysis at the .05 significance level. Results revealed significant influence of autonomy/consent (Beta = .263, $t = 8.257$, $p < .05$), non-maleficence (Beta = .217, $t = 7.381$, $p < .05$) and beneficence (Beta = .327, $t = 11.648$, $p < .05$) on data collection in transdisciplinary research. It was recommended, among others, that researchers should ensure that they get informed consent of prospective participants in order to improve the efficiency of data collection.

Keywords: *Ethical issues, Autonomy/consent, Non-maleficence, Beneficence, Data collection*

Introduction

An understanding of the concept of *transdisciplinary* research and its process requires a clear perception of the concept of research. Transdisciplinary research simply means research or systematic investigations that cuts across disciplines (Oyedele, 2019). Research generally is described as a scientific way of providing solution to unsolved problems (Hassan, 1995). It is scientific in nature because it utilizes the scientific method which involves following certain systematic steps or order of execution in arriving at a valid conclusion. Leedy (1997) defines research as an activity or process through which we attempt to systematically and with the support of data, give an answer to a question, the resolution of a problem or greater understanding of a phenomenon. It is a combination of empiricism and rationalism in the systematic search for true and valid knowledge and is the most successful approach to the discovery of theories. In other words, research is an integration of practical experience and reasoning directed toward enhancing knowledge and understanding of phenomena.

Transdisciplinary research refers to the application of research to the solution of problems across a number of disciplines or fields of study such as in education, psychology, agriculture, economics, physical sciences, medicine, law, and so on. It is the application of scientific method to the solution of general human problems and enhancement of learning. Transdisciplinary research is a systematic investigation embarked upon to solve a challenging interdisciplinary problem or increase our understanding of a phenomenon across disciplines. Research is a cyclical and iterative process where one stage leads to another. This process entails the following steps: Identifying the problem and generating research questions, conducting literature review, designing approach and selecting methods, completing ethics review if necessary, collecting and analyzing data, evaluating and reflecting on the research, and communicating research findings.

Data collection is an important aspect of any type of investigation which must be carefully undertaken. This is because inaccurate data collection can impair the results of a study and ultimately lead to invalid and misleading conclusion. Data collection component of research is transdisciplinary as it is common to all fields of study including agriculture, medicine, psychology, education and the social sciences among others. It is arguably the most important part of the research endeavor. It refers to the methodical procedure of collecting quality empirical evidence or information from subjects or participants in a study using valid and reliable measuring instruments. Data collection can also be defined as a systematic process of gathering observations or measurements to answer a research question or test a hypothesis (Bhandari, 2021).

Data collection can be negatively affected by several factors such as absence of informed consent, timing of administration, weather, lack of confidence in the data, local economic problems, use of language, bias, cost of the study and cultural sensitivity (McArthur, 2020). However, very few studies have investigated

the influence of ethical issues on data collection process in transdisciplinary research, and this is the focus of the present paper. According to Gonzalo and San-Jose (2019), ethics is a branch of philosophy that deals with the conduct of people and guides the norms or standards of behaviour of people. As members of the profession of psychology, researchers are obligated to follow the code of ethics established by the APA. Ethical considerations in conducting research should not be overlooked because nearly all research studies have the potential of affecting the subjects in some way either psychologically or physically. Ethical issues are concerned with what is right or wrong, proper or improper. They are established rules and regulations governing the conduct of researchers and include autonomy/consent, non-maleficence, and beneficence.

Autonomy/consent indicates that the researcher must respect the rights, values, and decisions of participants or other individuals associated with the study. In other words, participation in research should be voluntary and based on informed consent. Consent involves the procedure by which an individual may choose whether or not to take part in a study. The researcher's task is to ensure that participants have a complete understanding of the purpose and methods to be used in the study, the risks involved, and the demands placed upon them as participants. Before agreeing to participate in an experiment, subjects should be given an accurate description of their task in the experiment, and told of any risks involved. Subjects should be allowed to decline, or to discontinue participation in the experiment at any time without penalty. Non-maleficence implies that every researcher has a responsibility to protect the participants in an investigation or other individuals associated with the study from verbal, gestural or physical harm or injury. Beneficence refers to the obligation of the researcher to remove existing harms and to confer benefits on other individuals by, for example, promoting the welfare of the participants in a study.

Pavarini (2021) has shown that when research participants give informed consent to take part in a study prior to participation, they show greater commitment, readily provide data requested and generally cooperate with the researcher in all matters relating to the investigation. This implies that autonomy/consent is a facilitator of data collection in research. According to McLeod (2015), researchers must ensure that those taking part in research will not be caused distress. They must be protected from physical and mental harm. Participants' feeling of security would remove all fears and encourage openness in their disclosure of data. This implies that the ethical issue of non-malevolence aids the data collection process. The ethical principle of beneficence, which emphasizes the usefulness of the research to the community, can aid active participation of research subjects in all aspects of the study, especially data collection (Chiumento, Rahman, Frith, Snider, & Tol, 2017).

Studies on the influence of ethical issues on the data collection aspect of transdisciplinary research have been largely ignored by researchers. This is one of the rationale for the present study. To this end, three null hypotheses were formulated.

Hypotheses

Ho1: The ethical issue of autonomy/consent has no significant influence on data collection in transdisciplinary research.

Ho2: The ethical issue of non-maleficence has no significant influence on data collection in transdisciplinary research.

Ho3: The ethical issue of beneficence has no significant influence on data collection in transdisciplinary research.

Methodology

The descriptive survey research design was adopted for this paper. The study population comprised of academic staff of public universities in Ogun State, Nigeria. A sample of 200 lecturers was considered adequate and selected for the study through the snowball sampling technique necessitated by the ongoing strike of the Academic Staff Union of Nigerian Universities (ASUU) which made it difficult to easily reach the lecturers. This involved approaching five known lecturers who helped to recruit their colleagues into the study. The instrument used to collect data from the participants was the Ethical Issues and Data Collection Questionnaire (EIDCQ) which was developed by this researcher for the purpose of this paper. The EIDCQ consists of 20 items in a four-point Likert-type scale having responses ranging from 1 = Strongly Disagree to 4 = Strongly Agree. Sample items on this sub-scale are "*Informed consent given by the participants in a study increases the efficiency of data collection*" and "*Awareness of benefits that can be derived from participating in a study increases the efficiency of data collection*". Test-retest method of

reliability assessment was used with a sample of university lecturers with a two-week interval between the two administrations. The overall test-retest reliability coefficient of the EIDCQ was found to be 0.82, evidencing the stability of the scale. The construct validity of the instrument was determined through a factor analytic procedure.

The scale was personally administered by the researcher on selected participants who helped to bring in other participants. This process took two weeks to complete. Of all the 200 questionnaires distributed, 182 were completed and retrieved. This gives an attrition rate of 9%. Data were analyzed using simple linear regression analysis at the .05 level of significance.

Results

Hypothesis One

Ho1: The ethical issue of autonomy/consent has no significant influence on data collection in transdisciplinary research.

Table 1: Simple Linear Regression Coefficients for the Influence of Autonomy/Consent on Data Collection

	B	Std Error	Beta	t	Sig.
(Constant)	11.436	5.206		10.204	.000
Autonomy/Consent	.128	.023	.263	8.257	.000

Dependent Variable: Data Collection

Table 1 showed result was significant ($Beta = .263$, $t = 8.257$, $p < .05$). As such, the null hypothesis is rejected while the alternative hypothesis is upheld. Hence, the ethical issue of autonomy/consent has a significant influence on data collection in transdisciplinary research.. Table 1 further showed that data collection is positively associated with autonomy/consent and that the former can be predicted from the latter by means of the regression equation: Data Collection = 11.436 + (0.128 x Autonomy/Consent).

Hypothesis Two

Ho2: The ethical issue of non-maleficence has no significant influence on data collection in transdisciplinary research.

Table 2: Simple Linear Regression Coefficients for the Influence of Non-Maleficence on Data Collection

	B	Std Error	Beta	t	Sig.
(Constant)	6.005	7.835		12.894	.000
Non-Maleficence	.117	.019	.217	7.381	.000

Dependent Variable: Data Collection

Table 2 showed result was significant ($Beta = .217$, $t = 7.381$, $p < .05$). As such, the null hypothesis is rejected while the alternative hypothesis is upheld. Hence, the ethical issue of non-maleficence has a significant influence on data collection in transdisciplinary research. Table 2 further showed that data collection is positively associated with non-maleficence and that the former can be predicted from the latter by means of the regression equation: Data Collection = 6.005 + (0.117 x Non-Maleficence).

Hypothesis Three

Ho3: The ethical issue of beneficence has no significant influence on data collection in transdisciplinary research.

Table 3: Simple Linear Regression Coefficients for the Influence of Beneficence on Data Collection

	B	Std Error	Beta	T	Sig.
(Constant)	10.547	9.583		18,058	.000
Beneficence	.109	.021	.327	11.648	.000

Dependent Variable: Data Collection

Table 3 revealed result was significant ($Beta = .327$, $t = 11.648$, $p < .05$). As such, the null hypothesis is rejected while the alternative hypothesis is upheld. Hence, the ethical issue of beneficence has a significant influence on data collection in transdisciplinary research. Table 3 further showed that data collection is positively associated with beneficence and that the former can be predicted from the latter by means of the regression equation: Data Collection = 10.547 + (0.109 x Beneficence).

Discussion of Findings

This study was conducted to examine ethical issues as predictors of data collection in transdisciplinary research in public universities in Ogun State with a view to understanding the role of ethics in improving the quality of data collection across different fields of study. Three null hypotheses were subsequently formulated to guide the search for evidence. The first null hypothesis stated that the ethical issue of autonomy/consent has no significant influence on data collection in transdisciplinary research. This hypothesis was tested and found to be unsupported by data. It was subsequently rejected in favour of the alternative hypothesis leading to the conclusion that the ethical issue of autonomy/consent has a significant influence on data collection in transdisciplinary research. This finding was in agreement with McArthur, (2020) who found that data collection can be hindered by several factors including the absence of informed consent by the subjects or participants. The finding was also in line with that of Pavarini (2021) who found that informed consent increases commitment and readiness of subjects/participants to provide valid data, thereby enhancing the data collection process.

The second null hypothesis stated that the ethical issue of non-maleficence has no significant influence on data collection in transdisciplinary research. This hypothesis was tested and found to be untenable. It was consequently rejected in favour of the alternative hypothesis leading to the conclusion that the ethical issue of non-maleficence has a significant influence on data collection in transdisciplinary research. This finding corroborated McLeod (2015) who averred that researchers must ensure that research subjects/participants will not be caused distress and must be protected from physical and mental harm. Participants' feeling of security would remove all fears and encourage openness in their disclosure of data. This implies that the ethical issue of non-maleficence aids the data collection process.

The third null hypothesis stated that the ethical issue of beneficence has no significant influence on data collection in transdisciplinary research. The test of this hypothesis revealed significant results. It was therefore rejected while the alternative hypothesis was upheld, leading to the conclusion that the ethical issue of beneficence has a significant influence on data collection in transdisciplinary research. This finding supported Chiumento *et al.* (2017) who found that the ethical principle of beneficence increases active participation of research subjects in data collection.

Conclusion

The investigation of ethical issues as predictors of data collection in transdisciplinary research was prompted by dearth of studies on these variables. Since data collection is perhaps the most crucial aspect of the research process, understanding the factors affecting it can help to enhance its effectiveness. The ethical issues examined included autonomy/consent, non-maleficence and beneficence. The impact of each of these on data collection was critically examined. Consequently, three null hypotheses were formulated to direct to provide a guide for the paper. The first null hypothesis stated that the ethical issue of autonomy/consent has no significant influence on data collection in transdisciplinary research. This hypothesis was tested for significance and found to be unsupported by data. The second null hypothesis stated that the ethical issue of non-maleficence has no significant influence on data collection in transdisciplinary research. This hypothesis was subjected to appropriate test of significance and found to be unsupported by data. The third null hypothesis stated that the ethical issue of beneficence has no significant influence on data collection in transdisciplinary research. This hypothesis was subjected to appropriate test of significance and found to be unsupported by data.

Recommendations

Based on these findings the following recommendations were made:

1. Transdisciplinary researchers should ensure that they get informed consent of prospective participants in order to improve the efficiency of data collection.
2. Researchers should endeavor to inform subjects or participants in a research of the benefits they would realize from participating in the study.
3. Researchers should embark on further related studies using a sample of academic staff of universities outside Ogun State in order to verify the generalizability or external validity of the study.

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