Ethical Consideration on Editing of Data in Research

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Abstract

Do researchers know the ethical consideration factors and when to apply them in research? This paper uses secondary data sources to describe the various aspects of data editing disciplines and principles with ethical consideration of editing data in research in qualitative and quantitative research approaches. Through the past studies of, the ethical substructure of research contains dimensions on three levels: philosophical, praxis and reflexivity. The data editing process explores and reviews the data for consistency, detection of errors, and outliers and correction of errors, to improve the quality, accuracy and adequacy of the collected data thereby making it more suitable for the purpose for which the data was collected, such as the number and percentage of fields with errors detected to the total number of fields in the database. The data editing process is based on logic, common sense and adherence to a written procedure or editing guidelines for academicians, policymakers, and researcher for future research.

Keywords:

Data editing, database, ethical consideration, praxis, reflexivity

INTRODUCTION

In the age of advanced technology, it is rapidly advancing and social values and roles are changing dramatically (Rogers, 1987). In the conduct of research, a lot of key processes, principles and actions must be observed and preserved. All the scientific research process has an integral part that follows, data collection, management and analysis (Groves, 1989). This shows that when human beings are used as subjects of research investigations. Ideally, data should be free from errors but in reality, it is unreliable, and probability of errors even though researchers use the best design and procedures. Thus, ethical issues and ethical conduct of researchers have received increasingly greater attention because of the misinterpretation and mistreatment of human research subjects in experimental projects (Bums & Grove, 1987). As

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a result, editing of data is the preliminary step in overall data processing in research. It helps in assessing the incorrect and messy data thereby enhancing the quality of data in research by scrutinizing raw data. Its purpose is to reduce gaps in research by identifying technical omissions, checking legibility, and clarifying responses that are logically and conceptually inconsistent (Groves, 1989).

A researcher during data processing should be prudent in ethical considerations when applying mandatory guidelines while editing data. Respondent errors and non-respondent errors are minimized before analyzing the data by checking the errors in various steps after the collection of raw data. It helps in applying the best data analytical approach so that a research work is nearer to truth obeying the principle of falsifiability guided by reliability and scientific validation. The use of jurimetrics, internet, email and computer-assisted technology is becoming vital for checking inconsistencies that occurred during field works and questionnaire collection in any type of research work. They are also generating ethical concerns in research. The various pitfalls during the editing of data in research can be minimized by applying the best editing guidelines and rightful ethical consideration (Leahey et al., 2003).

Research might be qualitative and quantitative. The possible errors, incompleteness, misclassification and gaps in information obtained from the respondents can be misjudged by even the best researchers in research work. Hence, inference-taking, recalling, going back to the respondents, and examining the answers and responses minutely are very crucial. Developing a narrative, identifying the main theme, quantifying by indicating the frequency of occurrence of the main theme, reflecting the notes collected from respondents, recalling the context and correcting the content is very crucial for validation and ensuring the accuracy of data in qualitative research. Qualitative research is likely to lead to a greater range of ethical concerns in comparison with quantitative research, although all research methods have specific ethical issues associated with them. Ethical concerns are also associated with the power relationship between the researcher and those who grant access and the researcher's role either as an external researcher or internal researcher (Mirza et al., 2023).

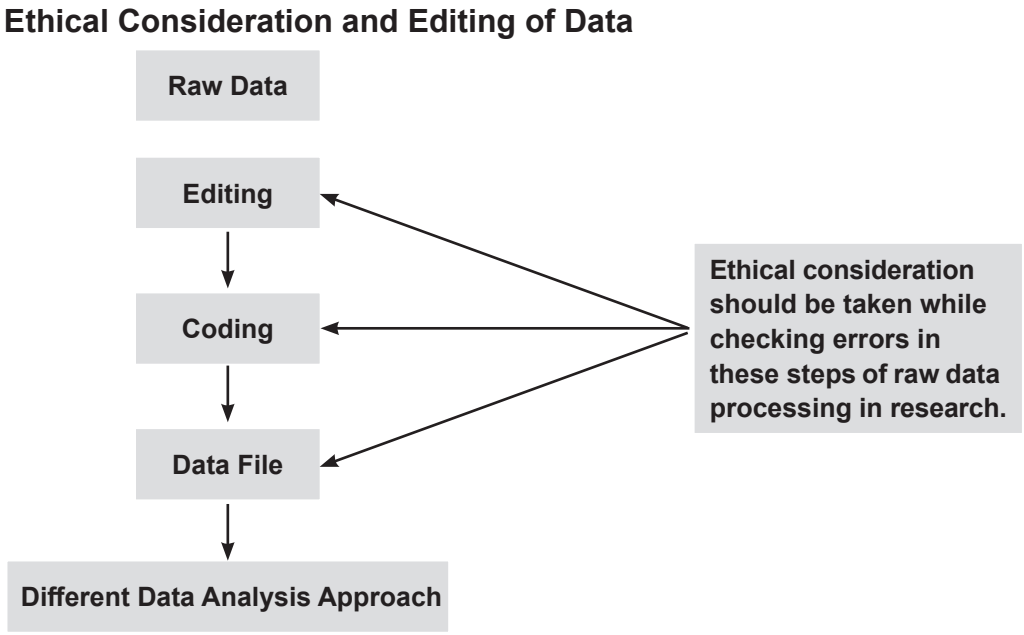
In the absence of ethical consideration in data editing in research, there may be various consequences and issues arising in research which can significantly affect the integrity and trustworthiness of research findings. In a nutshell, research ethics helps to strengthen the strategies and feasibility which are the important determinants to choose what and where a researcher undertakes the research work. Therefore, potential ethical issues should be recognized and considered from the outset of choosing a research topic and be one of the criteria against which a researcher's research proposal is judged. Thus, this article explored the various aspects regarding ethical consideration while editing data in research work and the touted importance as well as implications therein. Ethical consideration of editing of data in research helps in maintaining fidelity and scientific rigour in all research studies.

LITERATURE REVIEW AND APPROACH OF THE STUDY

Researchers frequently utilize the adage "garbage in, garbage out." The phrase used by George Fuechsel, an IBM programmer and instructor, is meant to convey the notion that if data is collected improperly or coded inaccurately, your results are "garbage," as that is what was initially placed into the data collection (Awati, 2023; Ozminkowski, 2021). Raw data frequently includes inaccuracies, including respondent and non-respondent errors. A respondent error is an error made by the respondent, whereas a non-respondent error is an error made by the interviewer or whoever is in charge of compiling the electronic data file that contains the responses. During the survey instrument used to the collection of research data either qualitatively or quantitatively evaluate subjective and objective data, chance of error and a wide variety of anomalous and problematic data to handle by the researcher (Leahey, 2010). Although survey research may appear kind and ensure unlike to participants, consideration of ethical conduct in research with the survey is important (Hammer, 2017). Thus, the ethical consideration in data editing is essential and it cannot be overlooked. Ethical practice makes trustworthy, transparent, controlled, and standard, and goes beyond mere legal compliance (Zhang-Kennedy & Chaission, 2021; Okorie et al., 2024). Good ethical practice ensures that the data collection is technically sound and ethically robust (Andrews et al., 2023). It is significantly multifaced. It protects individual privacy and rights, respects social norms and values and collectively it should be dynamic, inclusive, responsive to the changing nature of data science and also contribute positively to the well-being of society (Zhang-Kennedy & Chaission, 2021; Andrews et al., 2023; Fisher et al., 2020).

The steps involved in processing research data include editing, coding, classifying, tabulating, charting, and diagramming. Data reduction is the core of research data processing. Data reduction entails creating order out of chaos, separating the irrelevant from the important data, and giving shape to a mass of data. Data editing is the first step in the data processing process in research. The process of editing raises the cadence of the data quality. Finding incorrect data and then fixing it is the improvement. For intentional or unintentional reasons, errors may have occurred along the journey from the respondent to the survey organization's data files. Editing the raw data is the first stage in the analysis. Editing finds errors and omissions and makes the necessary corrections. The researcher must ensure that the data are comprehensive, uniformly recorded, correct, compatible with the questionnaire's objective, and structured to make coding and tabulation easier. There are two ways to modify data: on-site, commonly known as central editing, and in the field. Field editing is the preliminary editing of data performed on the same data as the interview by a field supervisor or researcher. Its goals are to find logical and conceptual inconsistencies in responses, verify legibility, and spot technical errors. Instead of speculating on what the respondent will likely say when gaps between interviews exist, a call-back should be made. As a validity check, the researcher must re-interview at least a few respondents on a few pre-selected questions. All questionnaires are thoroughly edited either in-house or at the centre.

Figure 1



The two initial phases of data analysis are editing and coding. An electronic file appropriate for data analysis is produced by the first two steps. After that, this file can be applied to a variety of statistical analyses, such as those related to descriptive, univariate, bivariate, or multivariate analysis.

The main scope and purpose of this study is to examine and critically produce the current status of ethical considerations in the field of data handling in research. This study delves into the core ethical principles that govern in data collection and analysis process, focusing on ethical elements required such as privacy and consent in data handling. In addition, it addresses the ethical complexities of data handling. This study explores the challenges and implications of ethical considerations in research. This research fills the research gap in data ethics by suggesting the development of ethical framework and institutional models that can guide the researcher, policy maker and practitioners. By doing so, this study contributes to addressing ethical data handling and encourages responsible and transparent data practices aligned with public and societal values. Therefore, it serves as a valuable insight for professionals, academicians, policymakers and researchers by offering critical ethical dimensions in data handling and suggesting future research and practices.

METHODS

In this research article, the descriptive design with content analysis has been done. Where, the study is based on the secondary data collected from various past studies, books and articles. The nature of the study is qualitative cum descriptive in nature. Ethical consideration

is required in every step of the data processing process but this research articles just limited to analysis of the ethical considerations in the editing during the data processing stage either in qualitative or quantitative research.

DATA PRESENTATION

In the above discussion, this paper discusses the types of data editing, level of data editing, data editing views, consideration and implication of ethical consideration in research.

A Editing of Data

Editing data in research is the process of ensuring sure the data is accurate, consistent, and readable while also getting it ready for coding and storage. Any research that uses fieldwork frequently ends up with inaccurate data. Consequently, the researcher's job is to review questionnaires or other forms of data collecting for mistakes and omissions. To make the data more full, consistent, or readable after finding a problem, the editor makes the necessary adjustments. Data reconstruction may occasionally be necessary for the researcher. Reconstructing responses in this way should only be done when the probable true response is very evident. Data Analysis and Presentation make adjustments to reflect as much information from a respondent as possible (Zikmund et al., 2010).

Types of Data Editing in Research

Editing for quality

It queries if the data forms are full, whether the data are free of bias, whether the recordings are error-free, whether the inconsistencies in responses are within acceptable bounds, whether there are any indications that the interviewers or enumerators were being dishonest, and whether there have been any willful manipulations of the data.

Editing for tabulation

To make tabulation easier, some accepted modifications to the data are made, or even some pieces of data are rejected. For example, excessively high or low-value data items may be disregarded or bracketed with the appropriate class interval.

Field editing

It is used to find technical errors, such as a blank page on an interview form, to examine the legibility of handwriting for open-ended responses, and to explain answers that are incongruous in logic or concept. When in-person interviews were utilized to collect data, field editing is very beneficial. In these circumstances, a daily field edit enables managers to address some concerns by questioning interviewers, who might still be able to recall the interviews, about details that may allow errors to be found and possibly addressed. Additionally, prompt follow-up can help to reduce the frequency of unanswered queries or partial responses. A daily field edit enables fieldworkers to select

respondents who should be contacted again to quickly fill in any gaps in the data. The supervisor may also identify the need for additional interviewer training or to fix flawed procedures using field edits. For instance, training may be necessary if an interviewer fails to accurately follow skip patterns. The interviewer's improper questioning of some open-ended comments may also be noticed by the supervisor (Kothari, 2004).

Central editing

The researcher completes it after receiving all schedules, questionnaires, and forms from the surveyors or respondents. Errors that are immediately apparent can be fixed. The editor may use information provided by additional respondents who were most likely to be contacted as a replacement for any missing data or information. When reasonable efforts to obtain the right answer are unsuccessful, the answer is inappropriate and "no answer" is entered instead.

Validity edits

They concentrate on one cell or question field at a time. They ensure that the record identifiers, invalid characters, and values have been taken into account; that necessary fields have been filled out (for example, no quantity field is left blank where a number is required); that the specified units of measure have been correctly used; and that the reported data lie within an allowed range of value (for example, the reporting time is within the specified limits). Real-time data editing is generally integrated into the data collecting system in computer-assisted data collection methods like web surveys so that the validity of the data is assessed as the data are collected.

Duplication edits

At a time, they look at one complete record. These modifications ensure that a respondent or survey unit has only ever been recorded once by looking for duplicate records. A duplication edit also makes sure that the respondent does not appear more than once in the survey universe, particularly if their name has changed. Last but not least, it guarantees that the data has only been input into the system once.

Consistency edits

They contrast various responses from the same record to make whether they are consistent with one another. There is a difficulty with consistency between the two replies, for instance, if someone says they are in the 0 to 14 age range but also says they are retired. Another type of consistency edit is an inter-field edit. These revisions confirm that if a figure is presented in one section, a similar figure is reported in the next.

Historical edits

They are employed to contrast survey responses from recent and earlier surveys. Any significant changes from the last survey, for instance, will be noted. The ratios and calculations are compared as well, and any percentage variance that deviates from the

predetermined range is noted and scrutinized. Statistical edits: They look at the entire set of data. This type of edit is performed only after all other edits have been applied and the data have been corrected. The data are compiled and all extreme values, suspicious data and outliers are rejected.

Miscellaneous edits

These include changes to physical addresses, locations, or contacts; special reporting arrangements; survey-specific dynamic edits; correct classification checks; and legibility edits (ensuring that the figures or symbols are clear and easy to read).

The degree of questionnaire complexity has an impact on data editing. Both the duration and the quantity of questions asked are considered aspects of complexity. The questionnaire's topic matter scope and question-by-question detail are also included. Sometimes a question's terminology can be extremely technical. Special reporting arrangements and industry-specific adjustments may be made for these surveys.

Different Levels of Data Editing

Data editing can be performed manually, with the assistance of computer programming, or a combination of both techniques. Depending on the medium (electronic, paper) by which the data are submitted, there are two levels of data editing—micro- and macro-editing.

Micro-editing

It corrects the data at the record level. This process detects errors in data through checks of the individual data records. The intent at this point is to determine the consistency of the data and correct the individual data records.

Macro-editing

It also detects errors in data but does this through the analysis of aggregate data (totals). The data are compared with data from other surveys, administrative files, or earlier versions of the same data. This process determines the comparability of data (Statistics Canada, 2021).

Tenets in Editing of Data in Research

While illustrating inconsistency, whether the respondent's opinion is fact or fiction that should be determined by a researcher. A researcher should have the ability to take action when the response is an error.

Editing technology

The automatic detection of contradictions is now possible thanks to computers. As a result, restrictions that prevent incorrect responses from ever being kept in the file used for data analysis can be entered for electronic questionnaires. These guidelines must reflect a trained data analyst's conservative judgment. To avoid a lot of inconsistent

responses, the rules may even be pre-programmed. As a result of their response to a screening question, respondents to electronic questionnaires can avoid being sent to the incorrect set of questions.

Editing for completeness

A researcher must amend an item's non-response to be thorough. Item non-response is the technical word for an unanswered question on an otherwise full questionnaire that results in missing data. Similarly, a plug value is a response that an editor "plugs in" to fill in blanks or replace missing values to enable data analysis. Here, a value is selected based on a specified decision rule. Impute is another term for filling in a missing data point using a statistical algorithm that offers the best approximation for the missing response based on the available data.

Editing questions that are answered out of order

Rearranging answers to open-ended questions, such as those that may come up in a focus group interview, is another duty a researcher or editor may have to complete. The answer to a future question might have been contained in the respondent's remarks to an earlier open-ended question. The interviewer might not have asked the next question because they didn't want to hear the respondent say, "I already answered that earlier," and they also wanted to keep the interviewer-respondent relationship intact. Certain answers may be moved to the section about the skipped question if the editor is asked to list all questions' answers in a particular order.

Facilitating the coding process

While all of the aforementioned editing tasks will benefit coders, several editing techniques are created specifically to make the coding process simpler. For instance, the editor should look over written comments for any errant markings. Circling responses is a common request made by respondents. A respondent might occasionally draw a circle by mistake that crosses two digits. For instance, both 3 and 4 could be present in the circle. The most accurate response may be determined by the editor, who would then note it on the form. Sometimes a respondent will act in this manner to show uncertainty between the 3 and the 4. Again, the researcher may mark a 3.5 on the form if they see that the circle was thoughtfully designed to include both responses. With an electronic questionnaire, this uncertainty is unattainable.

Editing and tabulating –don‘t know answers.

In many situations, respondents answer –don‘t know. On the surface, this response seems to indicate unfamiliarity with the subject matter at question. A legitimate –don‘t know‖ response is the same as –no opinion.‖ However, there may be reasons for this response other than the legitimate –don‘t know.‖ A reluctant –don‘t know‖ is given when the respondent simply does not want to answer a question. For example, asking an individual who is not the head of the household about family income may

elicit a –don‘t know‖ answer meaning, –This is personal, and I really do not want to answer the question.‖ If the individual does not understand the question, he or she may give a confused –**I** don‘t know‖ answer. In some situations the editor can separate the legitimate –don‘t knows‖ (—no opinion‖) from the other –don‘t knows. The editor may try to identify the meaning of the –don‘t know‖ answer from other data provided on the questionnaire. For instance, the value of a home could be derived from knowledge of the zip code and the average value of homes within that area.

Pitfalls of editing

The editing process is subject to subjectivity. Data editors need to be knowledgeable, skilled, and impartial. The research analyst should create a systematic process for evaluating the questionnaires so that the editor has well-defined guidelines to follow when making decisions. Any inferences, including imputing missing values, should be made in a way that minimizes the possibility that the data editor's subjectivity will affect the outcome.

Pretesting edit

Pretest editing of questionnaires can be quite beneficial. For instance, fieldworkers, respondents, and analysts would benefit from a shift to wider spaces for the answers if respondents' answers to open-ended questions were lengthier than expected. Because the writers have enough room, the answers will be more thorough and verbatim rather than summarized, making them easier to read. Pretest responses might be examined to spot bad questionnaire wording or insufficient instructions (Eropa, 2023).

Editing of Data in Quantitative Studies

It involves scrutinizing the completed research instruments to identify and minimize, as far as possible, errors, incompleteness, misclassification and gaps in the information obtained from the respondents. Sometimes even the best investigators or researchers can forget to ask a question, record a response, wrongly classify a response, write only half a response and write illegibly. Similar problems can arise in questionnaires. These problems to a great extent can be reduced simply by checking the contents for completeness and checking the responses for internal consistency.

There are several ways of minimizing the problems in questionnaires and interviews as a process of editing the data:

By inference

Certain questions in a research instrument may be related to one another, and it might be possible to find the answer to one question from the answer to another. Of course, a researcher must be careful about making such inferences or may introduce new errors in the data.

By recall

If the data is collected using interviews, sometimes it might be possible for the interviewer to recall a respondent's answers. Again, the researcher must be careful.

By going back to the respondents

If the data has been collected utilizing interviews or the questionnaires contain some identifying information, it is possible to visit or phone a respondent to confirm or ascertain an answer. This is, of course, expensive and time-consuming.

There are two ways of editing data: By examining all the answers to one question or variable at a time and by examining all the responses given to all the questions by one respondent at a time. The researcher may prefer the second method as it provides a total picture of the responses, which also helps to assess their internal consistency.

Editing of Data in Qualitative Studies

There are mainly three ways of editing data in which a researcher can write about his/her findings in qualitative research: Developing a narrative to describe a situation, episode, event or instance, identifying the main themes that emerge from your field notes or transcription of your in-depth interviews and writing about them, quoting extensively verbatim; and in addition to above, also quantifying, by indicating their frequency of occurrence, the main themes to provide their prevalence.

Editing, as understood for quantitative studies, is inappropriate for qualitative research. However, a researcher may be able to go through the notes collected from respondents to identify if something does not make sense. In such an event, a researcher may be able to recall the context and correct the contents, but he/she should be careful in doing so as the inability to recall precisely may introduce inaccuracies (due to recall error) in the researcher's description. Another way of ensuring whether the researcher is truly reflecting on the situation is to transcribe the interviews or observational notes and share them with the respondents or research participants for confirmation and approval. Validation of the information by a respondent is an important aspect of ensuring the accuracy of data collected through unstructured interviews (Kumar, 2019).

Various qualitative software tools like ATLAS. ti, MAXQDA, N-Vivo and computers are used in making notes in the field during research, writing or transcribing field notes and editing them (correcting, extending or revising field notes, transcription of interviews and focus groups). Editing the data in qualitative research is also known as transcription (Flick, 2014).

B) Ethical Consideration

Ethics

The word ethics comes from the Greek word ethos, which means character. Ethics involve morality, integrity, fairness, and truthfulness. Morality is about knowing what

is right and wrong, and integrity is about acting on that knowledge. There is an ethical substructure that impacts every aspect of the research process. The ethical substructure of research contains dimensions on three levels: philosophical, praxis, and reflexivity.

A researcher's ethical responsibility towards respondents does not end once he/she has collected the data for the study. Depending on the nature of the research project, a researcher may build a debriefing phase into the research design. Debriefing provides an opportunity to elicit feedback from the participants about their experiences. Depending on the nature of the project, a researcher might present participants with a brief questionnaire, conduct a small focus group, or have private in-person conversations. In some instances, the debriefing phase may cause modifications to the project moving forward or to report on areas that would suggest changes in future research. The debriefing phase is important when the study has investigated sensitive subject matter or presented the research in a form likely to cause an emotional response.

The ethical issues that a researcher needs to consider during practice are verifying the origin of the data, paying attention to any biases or problems with how the data were collected or archived, paying attention to the procedure of dealing with the data, paying attention to anomalies or discrepancies in the data and make sure to report on them accurately and not omitting that refute the researcher's hypothesis or assumptions (Levy, 2017).

Research ethics refers to the appropriateness of behaviour concerning the rights of those who become the subject of your work or are affected by the work. Potential ethical issues should be recognized and considered from the outset of research and be one of the criteria against which a research proposal is judged. Ethical concerns are likely to occur at all stages of the research project: when seeking access, during data collection, analyzing data and making reports. Qualitative research is likely to lead to a greater range of ethical concerns in comparison with quantitative research, although all research methods have specific ethical issues associated with them. Ethical concerns are also associated with the power relationship 'between the researcher and those who grant access, and the researcher's role (as external researcher, internal researcher or internal consultant). The use of the Internet and email to collect data may also generate ethical concerns. The introduction of data protection legislation has led to this aspect of research assuming greater importance and to a need for researchers to comply carefully with a set of legal requirements to protect the privacy and interests of their data subjects (Saunders et al., 2007).

Ethical Consideration During Data Collection

Respect the site, and disrupt as little as possible

Researchers need to respect research sites so that they are left undisturbed after a research study. This requires that inquirers, especially in qualitative studies involving prolonged observation or interviewing at a site, be cognizant of their impact and minimize their disruption of the physical setting.

Make sure that all participants receive the benefits.

In experimental studies, investigators need to collect data so that all participants, not only an experimental group, benefit from the treatments. Further, both the researcher and the participants should benefit from the research. In some situations, power can easily be abused and participants can be coerced into a project. Involving individuals collaboratively in the research may provide reciprocity. Highly collaborative studies, popular in qualitative research, may engage participants as co-researchers throughout the research process, such as the design, data collection and analysis, report writing, and dissemination of the findings (Burns & Burns, 2008).

Avoid deceiving participants

Participants need to know that they are actively participating in a research study. To counteract this problem, provide instructions that remind the participants about the purpose of the study.

Respect potential power imbalances

Interviewing in qualitative research is increasingly being seen as a moral inquiry. It could equally be seen as such for quantitative and mixed methods research. As such, interviewers need to consider how the interview will improve the human situation (as well as enhance scientific knowledge), how a sensitive interview interaction may be stressful for the participants, whether participants have a say in how their statements are interpreted, how critically the interviewees might be questioned, and what the consequences of the interview for the interviewees and the groups to which they belong might be. Interviews (and observations) should begin from the premise that a power imbalance exists between the data collector and the participants.

Avoid exploitation of participants.

There needs to be some reciprocity to the participants for their involvement in the research study. This might be a small reward for participating, sharing the final research report, or involving them as collaborators. A researcher may sometimes use the participants for data collection and then abruptly left the scene. This results in the exploitation of the participants and rewards and appreciation can provide respect and reciprocity for those who provide valuable data in a study.

Avoid collecting harmful information:

Researchers also need to anticipate the possibility of harmful, intimate information being disclosed during the data collection process. It is difficult to anticipate and try to plan for the impact of this information during or after an interview. For example, a student may discuss parental abuse or prisoners may talk about an escape. Typically, in these situations, the ethical code for researchers (which may be different for schools and prisons) is to protect the privacy of the participants and to convey this protection to all individuals involved in a study (Creswell & Creswell, 2018).

Use of Data Beyond Initial Purposes

Additional ethical challenges arise when qualitative data are used for secondary analyses after the original study is completed. This may be done by the original researcher, or it might be another researcher who is using the previously collected data. The original researcher may reflect on the project and realize that substantial possibilities exist to analyze the data using a different theoretical lens that could yield heretofore unexpected insights into the phenomenon. In such cases, the researcher may no longer have contact with the original participants. This raises issues about the ethics of using data for purposes other than what was included in the initial informed consent process.

Ethical Concerns Rose during Data Editing

Editing responses may constitute a breach in explicit or implicit contracts with research participants. A researcher often assures respondents that they do not have to answer questions that are too personal; telling them to change their answer (or give them one) if they choose not to answer or if their answer does not make sense. Editing data may violate the trust that researchers often work hard to establish in their relationships with research participants. A variety of situational factors like the mode of data collection and the location of the messy data in the analysis could influence response to a particular data edit, such as the research topic, the exact nature of the problem, the number of cases with messy data, and the like (SCAD, 2020).

Perhaps it is easier to edit data that a researcher has collected by himself/herself compared to secondary data, or perhaps researchers are loath to edit the dependent variable of interest but more willing to edit one of several independent variables.

Messy data are ubiquitous; without scientific guidelines on how to handle messy data and without ethical guidelines demarcating what is (and is not) appropriate, researchers may proceed idiosyncratically. Given the fact that researchers –do their own thing even when formal standards exist. We expect such autonomy to be even more pronounced when guidelines are lacking, as they are for data editing.

Objection to Editing of Data

General objection: A researcher is never at liberty to change respondents‘ answers.

Ethical objection: Selectively changing the scores [is]... unethical. Changing the answers would be a fabrication and a violation of ... human subjects guidelines.

Methodological objection: A researcher crafts the results to fit his/her hypothesis.

Unexamined assumptions: When a researcher believes that he/she knows the intent of the respondents independent of their actual responses. The researcher is relying on his/her recollections of what the respondents intended (Leahey et.al, 2003).

Data collection via surveys in research should not require answers to demographic questions. Missing data can be statistically adjusted, allowing participants to skip questions. Other considerations include participants' understanding of the direct benefit

of a survey, which may not exist, and that some questions can trigger disturbing and unfavourable feelings or memories. If participants are completing surveys in person, this can readily be addressed by immediate referral to psychosocial services. It is more difficult to track participant reactions to mailed or web-based surveys; however, referral contact information can be provided at the beginning and/or end of a survey. Researchers should also disclose the target population of the survey and why it was chosen in the consent form or as a statement before delivering mailed or web-based surveys. Based on this information, participants should be able to choose whether to participate or not (Hammer, 2017).

C) Major Issues Involved in Ethical Consideration of Data Editing

Some of the issues involved in ethical considerations of data editing are: Informed consent (Do participants have full knowledge of what is involved?), Harm and risk (Can the study hurt participants?), Honesty and trust (Is the researcher being truthful in presenting data?), Privacy, confidentiality, and anonymity (Will the study intrude too much into group and/or individual behaviour?) and Intervention and advocacy (What should researchers do if participants display harmful or illegal behaviour?) Three of these were discussed by researchers and scientists in more in-depth. The first is consent. There are instances in which consent is inferred, such as when the researcher is observing participants in public, or when consent to participate was previously gained by another researcher or agency. When data are collected directly from participants (e.g. via surveys or interviews) for the first time, the researcher must assess the participants 'willingness and ability to voluntarily consent to participation. Researchers need to explain how they will assess and record voluntary participation. Often, researchers create scripts and/or forms to aid in gaining and recording voluntary consent. The other issue is to take care of privacy. This is also related to the risk of disclosure when data are collected or come from administrative sources. A third ethical issue is fraud in scientific research. Fabrication, falsification and plagiarism, summarized as FFP, are distinct forms of fraud in science. Fabrication is the creation of data as if they were real. Falsification is the manipulation of data (counterfeiting') and other results of research, including the selective omission of certain information (misrepresentation). Plagiarism is misappropriation. Self-control, working with protocols and guidelines, transparency in procedures about data-collection, peer reviews and similar approaches are there to prevent fraud in any way. That includes software capable of detecting plagiarism (Leeuw & Schmeets, 2016).

D) Implication

Data editing may have implications in improving the quality, accuracy and adequacy of the collected data thereby making it more suitable for the purpose for which the data was collected. The following can therefore be identified as the main implications of the data editing process (Naeem, 2019).

- Detection of errors in the data that otherwise affect the validity of outputs.

- Validation of data for the purposes it was collected and completeness of obtained responses.
- Provision of the information that would help assess the overall level of accuracy of the data.
- Detection and identification of any inconsistencies in the data and outliers and to make adjustments for them.
- Verifies that data within a field fall between the ranges specified for the particular field.
- Maintain logical consistency between the data fields or variables, ensuring no replication or duplication of data.
- Set different rules for data editing in coherence with logical relations between the variables.
- Meaningful implication of data editing guidelines in research.
- Lessen the limitation of data editing in the research field
- Check the implication of internal consistency and external consistency of data in research.

DISCUSSION

Ethics is considered as a discipline and deals with what is good and bad with moral duties, responsibilities and obligations. Additionally, it is defined as those principles that guide a group or individual. Ethical principles of research guide the delineation of research priorities, the treatment of research subjects, and the allotment of credit for discoveries. In addition, it is often unrecognized and should guide the analysis of data but there is a failure to uphold the ethical principles in data analysis (Kromrey, 1993). Few guidelines follow during the data editing and social researchers handle the problematic data in a variety of ways (Leahey et al., 2003). Besides that, normative practices, diversified opinions regarding the appropriateness of data editing, and lack of professional consensus in social science research about the appropriateness of various data editing procedures pose challenges for the researchers. In certain cases, data editing may create a questionable research practice. The data editing process is challenging, although overseeing and ensuring integrity is critical in data editing because it has methodological and ethical implications. The data editing process can affect the findings, not reported, leading to ethical issues. Therefore, the three proceeding stages of analysis and data editing practice cannot be overlooked. During the preliminary analysis in the form of data collection, researchers try to have key information and more relevant, detailed and thoughtful questions to develop. In the main analysis, the coding and editing process is important. Researchers need to check data multiple times, grouping them, coded for analysis and finally the validity of the analysis was checked after the analysis was completed by reviewing reports that there was no misinterpretation, misrepresentation and misrepresentation (Leahey, 2008).

The ethical practices in data collection and analysis are largely influenced by technological advancement and digital technology, The need to propose a structural approach, and proactive measures and set broad ethical principles are needed for ethical compliance in data before data analysis. The development of awareness of the ethical implications of data usage, adaptation of ethical framework and principles, and use of digital technology to data collection reflects responsible and transparent data handling in research (Padmapriya & Parthasarathy, 2021; Facca et al. 2020; Stainton & Iordanova, 2017; Okorie, 2024).

The implications of data collection, analysis and use are characterized by the need for careful consideration of ethical challenges and dilemmas in research. It is more challenging and complex and needs continuous dialogue, research and adaptation of ethical principles and societal values in research practice. It is a huge ethical challenge in qualitative research in the case of big data even though their work provides ethical issues in quantitative data that cannot be ignored (Hesse et al 2019). Therefore, there are positive outcomes and negative consequences associated with the field during ethical consideration to address various ethical issues like data ownership, consent, trustworthiness, and privacy needs for a structured approach to address such challenges (Martens, 2022; Hand, 2018). Due to the multifaced impact of ethics in data handling, it is important to balance between the technology-friendly and ethical considerations that are important to the development of new technology in future in the field of research. The future ethical challenge in data editing requires a proactive and comprehensive approach to ensure technology is friendly aligned with ethical principles and considers societal values (Okorie, 2024).

CONCLUSION

Ethical consideration refers to the appropriateness of a researcher's behaviour about the rights of those who become the subject or are affected by the research work. Research surveys include a wealth of informative content. It is crucial to uphold the principles of ethical research conduct, even in cases where surveys appear harmless. Ensuring scientific rigour and fidelity is crucial for all research investigations. It is crucial to use accurate and trustworthy survey tools, follow the right analysis procedures, and communicate the results. The contribution of this research is the consent, and privacy in ethical data mining as well as adaptability, inclusive ethical framework and principle to address the complexity of big data handling. This study fills the research gap in the ethical consideration of data handling and provides valuable insights into the necessity of developing practical ethical frameworks and models alongside guiding the researcher, policymakers and practitioners through the ethical complexity of data collection and analysis. Lastly, it's critical to reveal the survey distribution format, the methods used to acquire consent or establish whether information is exempt, and how the results are tracked. Therefore, in conclusion, this study emphasizes the necessity of integrating ethical consideration of every aspect of data handling, as well as the importance of adhering critically to ethical principles, equipping researchers and practitioners with knowledge and tools. In light of these findings, enhancing ethical education, training of data science, equipped professionals with skills to minimize the ethical dilemma, inclusive ethical framework and principles are

adaptable, transparent, and strengthen to ensure the ethical standards in data handling. Additionally, public awareness, discussion and engagement about data ethics are crucial for maintaining trust and transparency in data-driven technologies.

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