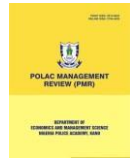




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METHODS OF DATA COLLECTION

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Abstract

Data collection is a foundational pillar in the research process, particularly in conflict and security studies, where the accuracy, reliability, and ethical integrity of data are paramount. This paper explores the significance of aligning data collection methods qualitative, quantitative, or mixed with the nature and context of the research. It offers a detailed overview of primary data collection tools such as interviews, questionnaires, focus group discussions, observations, and experimental methods, as well as the use of secondary data from existing sources. The discussion highlights the strengths, limitations, and context-specific applications of each method. Ethical considerations, including informed consent, confidentiality, and cultural sensitivity, are emphasized as essential to ensuring research credibility. The paper also addresses the operational and contextual challenges encountered during data collection in conflict-affected settings, such as insecurity, respondent distrust, logistical barriers, researcher fatigue, and gender norms. Drawing on real-world examples from Nigeria, it underscores the importance of adaptability, careful planning, and researcher safety. Ultimately, the paper argues that effective data collection grounded in ethical practice, methodological rigor, and contextual awareness is crucial for generating valid insights and informing impactful interventions in fragile and high-risk environments.

Keywords: Methods, Data, Conflict, Security Study

Introduction

Data collection is a critical component of the research process, as it directly influences the quality, accuracy, and reliability of a study's findings. According to Kabir (2016), errors made during data collection can severely distort the outcomes, potentially undermining even the well-designed research. Therefore, selecting appropriate methods and dedicating sufficient time and resources to the process is essential to ensuring credible and valid results. The integrity of a study hinges on the accuracy and sufficiency of the data collected, making this stage foundational to the overall research effort.

Choosing data collection methods must align with the research type and context, considering tools like interviews, surveys, or observations. Each method has strengths and limitations, with challenges such as bias and limited access. Ethical practices are crucial to ensure research credibility (Kabir, 2016). This presentation

provides a comprehensive overview of data collection, emphasizing the importance of selecting methods that align with the research type qualitative, quantitative, or mixed. It covers various tools like surveys, interviews, observations, and document analysis, discussing their advantages, limitations, and challenges such as respondent bias and limited data access. Ethical considerations, including informed consent and data confidentiality, are highlighted as essential for maintaining research integrity and credibility.

Understanding Data

Data refers to raw facts, figures, or information such as numbers, text, images, or audio that are collected or observed and later processed for analysis and decision-making (Kitchin, 2014). It serves as the foundational input for information systems, which transform it into meaningful insights, enabling researchers to interpret patterns, test hypotheses, and draw conclusions (Laudon

& Laudon, 2020).

Just as a manufacturer relies on quality raw materials to produce valuable goods, researchers depend on high-quality data to generate credible and useful knowledge. In this context, data acts as the raw material of research, and its accuracy, relevance, and reliability ultimately determine the strength and integrity of the research outcomes.

Types of Data

Before choosing a data collection method, it is important to first determine the type of data needed for the study. Data is generally categorized as either quantitative or qualitative, each serving different research purposes (Kabir, 2016).

A. Qualitative Data

Qualitative data is non-numerical, descriptive information that captures the characteristics, experiences, and perceptions of individuals or groups, making it essential for understanding the deeper meaning behind behaviors and social dynamics. As Kabir (2016) explains, qualitative data includes nominal data such as categories like ethnic identities or conflict types and ordinal data, which ranks responses without fixed measurement intervals, such as levels of reconciliation success.

Qualitative data is often derived from interviews, focus group discussions, or community dialogues, providing insights into complex issues like the motivations behind militia recruitment or perceptions of peace building efforts. This type of data helps researchers explore the “why” and “how” behind conflict dynamics and reconciliation processes, offering rich, context-specific understanding that quantitative data alone cannot provide (Kabir, 2016)

B. Quantitative Data

Quantitative data refers to numerical, measurable information that can be statistically analyzed to identify patterns, test hypotheses, and inform decision-making. It includes discrete data, like the number of ceasefire violations, and continuous data, such as conflict durations or distances traveled by displaced people. In

peace and conflict studies, quantitative methods gathered through surveys or security databases are vital for tracking trends like casualty rates or public support for peace agreements. While its strength lies in objectivity and scalability.

Methods of Data Collection

Data collection methods are generally classified into two main types: primary and secondary.

i. Primary Methods of Data Collection

Primary data refers to first-hand information gathered directly by researchers to address specific research objectives, making it highly reliable and valid. It is crucial for studies requiring precise, context-specific data and can be collected through methods like interviews, surveys, experiments, and questionnaires. Although primary data collection offers flexibility and supports both qualitative and quantitative research, it can be time-consuming, costly, and complex, requiring careful planning and adaptation throughout the research process.

ii. Questionnaire Method:-

A questionnaire is a common data collection tool consisting of a structured set of questions answered by respondents, enabling researchers to gather quantitative data not usually available from secondary sources. In security studies, questionnaires are useful for assessing public perceptions of safety, trust in law enforcement, or attitudes toward national security policies, especially when surveying large populations in conflict-affected areas (Kabir, 2016). They provide a practical means to collect direct information on sensitive issues like experiences with security forces or support for peacekeeping missions. This takes different dimension:

iii. Structured Questionnaire

A structured questionnaire consists entirely of closed-ended questions with predefined response options, making it ideal for collecting quantitative data that can be easily analyzed statistically. In security studies, it can be used to measure public perceptions of safety for example, asking respondents to rate how safe they feel

in their neighborhood after a peace agreement on a scale from "very safe" to "very unsafe."

iv. Unstructured Questionnaire

An unstructured questionnaire uses open-ended questions, allowing respondents to share their experiences and opinions in their own words. This format is suited for qualitative research. In security studies, it might ask individuals to describe how their lives have been affected by the presence of military checkpoints, providing rich, detailed insights into the social impact of security measures.

v. Semi-Structured Questionnaire

A semi-structured questionnaire blends both closed- and open-ended questions, enabling researchers to collect measurable data while also exploring the reasoning behind responses. For instance, in security studies, a questionnaire might ask if a person trusts national security forces (yes/no), followed by an open question asking them to explain their answer, capturing both statistics and personal perspectives.

General Rules for Constructing a Questionnaire

When constructing a questionnaire, several general rules should be followed to ensure clarity, reliability, and validity of the data collected.

- i. Use clear and simple language suitable for the target audience.
- ii. Avoid ambiguous or confusing questions.
- iii. Focus each question on a single issue or topic.
- iv. Arrange questions in a logical and coherent order.
- v. Start with easy or general questions to engage respondents.
- vi. Avoid leading or biased questions that influence answers.
- vii. Provide balanced and appropriate response options for closed-ended questions.
- viii. Keep the questionnaire as brief as possible to reduce respondent fatigue.
- ix. Pretest or pilot the questionnaire to identify and fix problems before full use.

- x. Ensure questions are relevant to the research objectives.

Mode of Questionnaire Administration

The mode of administration of a questionnaire refers to the method or approach used to deliver it and collect responses from participants. It includes:

- i. **Self-administered formats:** Respondents complete the questionnaire independently, either on paper or digitally.
- ii. **Interviewer-administered formats:** A trained interviewer asks the questions verbally and records the answers.
- iii. **Online surveys:** Questionnaires are distributed and completed over the internet.
- iv. **Telephone interviews:** Questions are asked and answered via phone calls.
- v. **Face-to-face interactions:** Interviewers administer the questionnaire in person.

The choice of mode depends on factors such as the target population, available resources, question type, and desired response rate, all of which influence the quality and completeness of the data collected.

B. Interview

An interview is a qualitative data collection method involving direct interaction between a researcher and a respondent, either face-to-face or virtually, allowing for in-depth exploration of thoughts, feelings, and experiences. Depending on research objectives, interviews can be structured, semi-structured, or unstructured, enabling researchers to ask follow-up questions and clarify responses for richer data. This method is widely used in security studies to gather detailed and complex information (Kabir, 2016). Specifically it include:

- i. Structured interviews use a predetermined and fixed set of questions to ensure consistency and comparability across all respondents. This method is particularly useful when collecting specific information, such as interviewing airport security staff about standard

operating procedures, where uniformity in responses is crucial (Kabir, 2016).

ii. Semi-structured interviews provide a flexible framework where researchers follow a general set of questions but can probe deeper based on participants' answers. This approach is valuable for exploring complex topics like intelligence sharing among security analysts, allowing the interviewer to adapt questions and gather richer insights

iii. Unstructured interviews are informal and conversational, enabling an open dialogue that is especially effective for sensitive or complex subjects. In security studies, this method is often used to explore personal experiences with radicalization, where participants' narratives provide deep contextual understanding.

C. Focus group discussions (FGDs). This is a qualitative research method that involves guided conversations with a small group of participants, typically six to twelve people, who share common characteristics relevant to the research topic. A moderator facilitates the discussion using open-ended questions to encourage interaction and the exchange of ideas among participants. FGDs are useful for exploring perceptions, attitudes, and social dynamics, as participants often build on each other's responses and it takes different dimensions such as:-

i. Exploratory Focus Group

This type is used at the beginning of a research project to explore perceptions, ideas, or issues that are not well understood. In security studies, it helps identify key concerns or attitudes, such as how communities perceive threats or view law enforcement efforts (Morgan, 1997).

ii. Clinical or Therapeutic Focus Group

Used in sensitive or emotionally charged contexts, this type allows participants to share personal experiences in a supportive environment. For example, it can be used with victims of violence or former combatants to explore trauma and recovery while collecting data for policy or programme development (Yalom, & Leszcz 2005).

iii. Two-Way Focus Group

In this format, one group engages in discussion while another observes and provides feedback. This helps gather layered insights, such as how civilians discuss security issues and how experts interpret those discussions to refine communication strategies or interventions (Krueger & Casey, 2014).

iv. Dual Moderator Focus Group

Two moderators guide the discussion—one ensures all topics are covered while the other focuses on maintaining group engagement and balanced participation. This method is useful in complex discussions, such as evaluating national cyber security policies, where both structure and group dynamics matter (Stewart, Shamdasani & Rook, 2007).

v. Mini Focus Group

With only 4–6 participants, mini focus groups are ideal for in-depth discussions on specialized topics. In security studies, a mini group of intelligence analysts or cyber security experts can provide detailed insights that might be lost in larger groups (Morgan, 1996).

vi. Online/Virtual Focus Group

Conducted over video conferencing platforms, this type allows for participation from diverse geographical locations. It is especially useful in security studies when gathering input from international experts on global security trends or digital threats (Stewart, & Shamdasani, 2015).

D. Observational Methods

Observational methods involve systematically recording natural behaviors or events, offering valuable insights when participants can't fully express experiences. Data is gathered through tools like checklists, notes, or recordings, with various observation types suited to different research needs (Creswell & Poth, 2018). It involves different types thus:

i. Participant observation. This involves the researcher actively engaging in the environment being studied, allowing for deep insights.

- ii. Non-participant observation keeps the researcher as an outsider to avoid influencing the situation. .
- iii. Direct observation focuses on watching events as they occur in real time,
- iv. Indirect observation involves examining past behaviors through recordings, photographs, or physical evidence.

However, in the context of security studies, these methods are valuable for assessing real-world practices, such as monitoring security drills, analyzing public behavior in surveillance zones, or studying group dynamics in high-risk areas. Each type offers unique advantages depending on the level of interaction, structure, and detail required.

Rules Guiding Observations

When using observation as a method of data collection, certain general rules must be followed to ensure the accuracy, reliability, and ethical soundness of the data collected.

- i. **Clear objectives** should be established before beginning the observation, so the researcher knows what to focus on and avoid collecting irrelevant data.
- ii. The **observer must remain as unobtrusive as possible** to avoid influencing the behavior of those being observed, especially in natural settings.
- iii. **Systematic recording** of observations is essential; this may include the use of checklists, field notes, audio-visual recordings, or coding systems to capture data accurately.
- iv. **Consistency** in observation methods should be maintained throughout the study to allow for valid comparisons and analysis.
- v. **Ethical considerations** such as informed consent, privacy, and confidentiality must always be respected, especially when observing individuals in sensitive or vulnerable situations.
- vii. **Objectivity and neutral**, avoiding personal biases or assumptions when interpreting what is seen. Following these general rules helps ensure that

observational data is trustworthy, meaningful, and ethically collected,

E. The experimental method: This is a quantitative approach to data collection that involves manipulating one or more independent variables to observe their effect on dependent variables, under controlled conditions. This method is particularly useful in establishing cause-and-effect relationships (Creswell, 2014).

In conflict and peace studies, experimental methods like randomized controlled trials (RCTs) are used to evaluate interventions aimed at reducing violence or fostering social cohesion, such as peace education programmes or community dialogues between rival groups. These methods allow researchers to compare treatment and control groups to measure changes in attitudes and behaviors. While offering strong validity, experiments can be difficult to implement due to ethical and logistical challenges, but when well-designed, they provide valuable insights into effective peace building strategies.

Secondary Methods of Data Collections

Secondary data collection uses existing information from sources like reports, databases, and publications, saving time and resources when primary data isn't feasible. In conflict studies, this might include UN reports or conflict databases. However, researchers must carefully evaluate the data's reliability, relevance, and context to ensure it fits their study's goals.

Types of Secondary Data

i. Qualitative Secondary Data

Qualitative secondary data consists of non-numerical information like Peace negotiation transcripts, Victim testimonies from truth commissions, NGO and human rights organization reports, Field diaries or research journals ,Media interviews and documentary footage ,Parliamentary or court hearings ,Social media posts and blogs and testimonies that provide deep insights into social phenomena. In conflict studies, this might include peace negotiation transcripts or victim testimonies, helping researchers understand processes like reconciliation and community rebuilding.

ii. Quantitative Secondary Data:

Quantitative secondary data involves numerical information collected and published by other entities, such as National crime statistics, Census data, Conflict event datasets (e.g., ACLED, UCDP), Election results, Public health data, Survey datasets (e.g., Afrobarometer, DHS), Refugee and displacement figures, Economic indicators (e.g., GDP, unemployment rates), Education statistics, Budget and expenditure reports, Security force deployment records, Court or prison data, Disaster and emergency response metrics, Cyber-attack frequency reports, Peacekeeping mission data as statistics, survey results, or coded event databases, enabling researchers to identify patterns, trends, and correlations. In security studies, examples include conflict event datasets like the Armed Conflict Location & Event Data Project (ACLED), which records incidents of violence with details on dates, locations, and actors involved, as well as national crime statistics or displacement figures from government agencies or international organizations used to analyze conflict impacts over time (Creswell & Poth, 2018).

Both types of secondary data are crucial in conflict and security research. Qualitative data offers rich contextual insights, while quantitative data provides measurable evidence of trends and outcomes. Combining these approaches can lead to a more comprehensive understanding of complex conflict dynamics and the effectiveness of peace interventions.

Challenges Associated with Data Collection Methods"

Data collection in conflict and security research faces contextual and operational challenges that affect data quality, reliability, and ethical standards.

i. Location and language are key factors in data collection quality. For instance, interviews near military checkpoints may lead to fear and self-censorship, while neutral sites like IDP camp centers improved openness (Creswell & Poth, 2018; Gwadabe&Balogun, 2021). Translating research tools into local languages and using trained interpreters could enhance understanding and response accuracy (Rudloff& Vinson, 2023).

ii. Timing Issues

Appropriate timing is essential in data collection. Data collection during farming seasons may lead to low participation, especially among women occupied with agricultural work. Similarly, periods of election violence or religious festivals hindered turnout due to safety concerns. Rescheduling interviews to evenings, weekends, or non-sensitive periods improved engagement. Aligning with local calendars helps avoid participation barriers (Kujenga Amani, 2019; Nasa'i&Balogun, 2021).

iii. Researcher Fatigue

Field staff conducting over 10 interviews daily in extreme heat, with minimal rest and nutrition may experience fatigue. This reduced the depth of interviews, missed emotional cues, and impacted data quality. Introducing rest breaks, logistical support, and transport improved morale and interview quality. Researcher wellbeing is crucial in conflict settings (Kujenga Amani, 2019).

iv. Sensitive Topics

Data collection on inter-religious violence initially may lead to guarded and vague responses. Participants could be hesitant to share experiences of trauma, revenge, or reconciliation. Trust-building techniques like neutral conversation starters and offering anonymity encouraged openness. Culturally responsive methods are essential for sensitive topics (Kujenga Amani, 2019).

V. Security Risks

Researchers may face curfews, insurgent threats, and restricted movement due to violence in conflict-related areas like in Yobe and Borno. These risks often led to the suspension or postponement of fieldwork. Safer alternatives included hiring local researchers, using phone interviews, or waiting for calmer periods. Safety measures are vital for both data continuity and researcher protection (Gwadabe&Balogun, 2021).

vi. Distrust of Researchers

Respondents may often refuse to engage, fearing surveillance by government or oil companies as in the

case of Niger Delta communities,. Building trust through community gatekeepers, like elders or youth leaders, facilitated access. However, their presence during interviews sometimes suppressed honest responses. Researchers had to negotiate privacy or use anonymous tools to ensure authenticity (Kujenga Amani, 2019).

vii. Access and Infrastructure

Washed-out roads during rainy seasons made some villages inaccessible, forcing interviews in central locations. These less privilege settings sometimes compromised participant comfort and authenticity. For instance lackof electricity and internet may rendered digital tools unusable. Field teams had to switch to paper methods, increasing workload and data errors (Rudloff& Vinson, 2023).

viii. Cultural and Gender Norms

Cultural norms restricted male researchers from interviewing women, especially in conservative households. This created gender-based data gaps in research findingsas in rural and remote villages of Sokoto and Katsina. Employing female researchers or mixed-gender teams improved access while respecting local customs. Adapting to social norms enhances inclusivity and data richness

ix. Non-Response and Dropout

Surveys on political violence may record high dropout rates when respondents were asked about political affiliations. Many may feared retaliation or being

targeted, especially in tense environments. Emphasizing anonymity, confidentiality, and protective measures improved response rates. Participant trust is key for collecting sensitive information (Kujenga, 2019).

x. Technical and Logistical Disruptions

Unreliable power and poor connectivity disrupted digital data collection through tablets and apps. Researcher may be forced to revert to paper surveys, which increased manual workload and delayed data processing. This highlighted the need for flexible tools and contingency planning. Preparedness for technical issues is essential in rural fieldwork (Rudloff& Vinson, 2023).

Conclusion

Effective data collection is the backbone of credible research, especially in conflict and security studies where both the context and content are highly sensitive. This presentation has highlighted the importance of aligning data collection methods with research goals, choosing appropriate tools, and upholding ethical standards to ensure accuracy and reliability. While qualitative and quantitative approaches each offer distinct strengths, their integration often provides a more complete understanding of complex issues. Challenges such as language barriers, timing, security risks, and infrastructural constraints underscore the need for flexibility, cultural sensitivity, and thorough planning. Ultimately, ensuring data integrity through thoughtful design and ethical practices enhances the validity and impact of research outcomes.

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