Methodology

ROLE OF FOREIGN DIRECT INVESTMENT ON THE INDIAN ECONOMY

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Chapter 3: Methodology

3.1 Research question

Research questions have a significant impact on the research process and outcomes. They determine the scope and direction of the FDI research, guide the selection of research methods, and help to establish the relevance and significance of the research. The main "research question" of the study is addressed in the below section:

Research question: *What is the relationship between FDI and economic growth & development?*

Research questions guide the selection of research methods and techniques in the field of FDI research. Different research questions require different approaches, and the methodology selected must be appropriate for answering the research questions. It helps to establish the relevance and significance of the research. By clearly articulating the research questions, the researcher can demonstrate the importance of the research and its potential impact. Therefore, the researcher can identify the key findings and draw meaningful conclusions.

3.2 Research objectives

1. To review the relevant literature in the field of FDI in general and its relationship with economic growth and development in particular.

2. To study the pattern of concentration & dominance of FDI flows at the international level and the status of India in the World's FDI flows.

3. To analyse the growth, trend and pattern of Foreign Direct Investment Inflows in the Indian economy.

4. To access and analyse the determinants of Foreign Direct Investment inflows in India that is to examine the most significant factors influencing FDI inflows in the Indian economy.

5. To examine the performance of Foreign Direct Investment in the Indian economy by analysing the relationship between FDI and the economic growth of India.

6. To draw policy implications flowing from the results of the study for making FDI an engine of growth and development of the Indian economy.

3.3 Research methodology

3.3.1 Research Philosophy

"Research philosophy" is constructed with a formulation of beliefs, assumptions, and values which underlie the research methods and techniques employed in a particular study or field of study. As per the view of HR & Aithal (2022), research philosophy is important because it shapes the researcher's understanding of what constitutes valid knowledge and how it can be acquired. It also determines the methods and tools which will be used to evaluate the quality and relevance of research findings. There are various research philosophies, including positivism, interpretivism, and critical theory. Positivism is a philosophy that emphasizes the use of scientific methods to objectively observe and measure phenomena, while interpretivism emphasizes the subjective meaning and interpretation of social phenomena. Critical theory, on the other hand, focuses on understanding and challenging power structures and social inequalities in society.

Justification

According to Ikram & Kenayathulla (2022), positivism assumes that the world can be studied in an objective and systematic way and that knowledge can be acquired through

empirical observation and experimentation. It is an approach that values observable and measurable data and seeks to eliminate bias and subjectivity from the research process. The role of "foreign direct investment (FDI) in the Indian economy" has been a topic of interest for researchers and policymakers. FDI has played a significant role in India's economic growth, contributing to the development of various sectors such as manufacturing, services, and infrastructure. The impact of FDI on the Indian economy is a complex issue that requires a rigorous and systematic research approach. A positivist approach to studying the role of FDI in the Indian economy would prioritize the use of objective and systematic methods of data collection and analysis. According to Mason *et al.* (2022), the research would begin by formulating a hypothesis or research question that can be tested through empirical observation and experimentation.

The research would need to collect and analyze data on FDI inflows and outflows, as well as other economic indicators such as GDP, employment rates, and industry growth rates. The research would also need to control for other factors that could affect economic growth, such as government policies, natural disasters, and global economic conditions. The data collection process would need to be objective and systematic, using standardized procedures. For example, the research could use official statistics from the "Reserve Bank of India and the Ministry of Commerce and Industry" to track FDI inflows and outflows. The research could also conduct surveys and interviews with key stakeholders, such as foreign investors and government officials, to gather qualitative data on the impact of FDI on the Indian economy. Once the data has been collected, the researcher would need to analyze it in a systematic and objective way. According to Nickerson (2022), the analysis would need to be based on secondary methods and evaluation of different economic key indicators that include "FDI, GDP, GDP Per Capita, Gross Capital Formation, Gross Domestic Savings, GDP deflator and Foreign Exchange Reserves" would need to control for other factors that could

affect economic growth. The research could use regression analysis, for example, to isolate the impact of FDI on economic growth from other factors such as government policies and global economic conditions.

The results of the research would need to be evaluated based on their empirical validity and the degree to which they support or refute the research hypothesis. When the present study is formulated in positive impact, for example, it would need to demonstrate this through PRISMA model analysis and provide evidence that supports this conclusion. The research would also need to acknowledge the limitations of the study, such as the possibility of measurement error and the difficulty of controlling for all factors that could affect economic growth.

3.3.2 Research Approach

According to Ahn & Davis (2023), the quantitative approach involves collecting numerical data that can be analyzed statistically. The qualitative approach involves gathering primary information, such as “interviews, observations, or texts, and analyzing” it in a more interpretive and subjective way. Besides that, the “mixed approach” combines both quantitative and qualitative methods to triangulate data and provide a more comprehensive understanding of the research problem.

According to Proudfoot (2022), deductive and inductive approaches are the two primary research approaches used in research. The deductive approach is a top-down research approach that begins with a hypothesis or theory and then tests it through empirical data. The research process starts with the formulation of a hypothesis, which is then tested through data collection and analysis. The data is analyzed to either support or refute the hypothesis. If the hypothesis is supported, the theory is considered validated. This approach is often used in quantitative research, where researchers start with a clear hypothesis and test it through

numerical data. The inductive approach is a bottom-up research approach that starts with the collection and analysis of empirical data to develop theories or explanations. It involves exploring the data to identify patterns, themes, or relationships and using these observations to develop new theories or explanations. The inductive approach is often used in qualitative research, where researchers start with an open mind and allow the data to drive their research questions and hypotheses. deductive research starts with a theory and tests it through data analysis, while inductive research starts with data and develops theories or explanations. The choice of approach depends on the research question, data availability, and research goals.

Justification

In this study, the deductive method was chosen as it enables quantitative analysis of relevant literature pertaining to the research subject. According to Cillis *et al.* (2022), for the deductive approach, information has been gathered from various sources including the World Bank's official website, the RBI Handbook of Statistics, the RBI Bulletin, Economic Survey Statistics, and the Department of Promotion of Industry and Internal trade (DPIIT). Additionally, this research has consulted various journals, magazines, articles, and books.

FDI has been a significant driver of economic growth in India. FDI refers to the investment made by foreign entities in the Indian economy, either in the form of establishing new businesses or acquiring existing ones. Over the past few decades, India has attracted a substantial amount of FDI, particularly in the sectors of services, telecommunications, and computer software and hardware. The influence of “FDI on India's economic growth” has been the subject of extensive research, and a deductive research approach can be a useful method for studying this phenomenon. Deductive research involves starting with a theory or hypothesis and testing it through empirical evidence. To test this hypothesis using the deductive approach, a researcher could gather data on FDI inflows and economic indicators

such as GDP growth, employment rates, and poverty levels. This data can be collected from official sources such as the World Bank, RBI Handbook of Statistics, and Economic Survey Statistics, among others.

According to de Mast *et al.* (2023), using statistical techniques, such as regression analysis, the researcher can then analyze the mutual association between "FDI and economic growth in India". If the results show a positive correlation between FDI inflows and economic growth indicators, this would support the hypothesis that FDI has a positive impact on India's economy. Therefore, the deductive approach can be a useful method for studying the impact of FDI on India's economic growth. By starting with a hypothesis and gathering relevant data, a researcher can use econometrics tools to test the hypothesis and draw conclusions about the relationship between FDI and economic growth in India. The tools include "Trend Analysis, Normality Testing, Stationary Data Check (ADF Test), Correlation Analysis, Regression Analysis, Causal Relationship, and Co-integration Analysis". A time series data normality test was provided by the research. All pertinent information pertaining to FDI is generally gathered from a variety of sources, including the Government of India, publications from various Ministries of Commerce, Reserve Bank of India Bulletins, and others. Transaction costs are kept to a minimum through active users can obtain. Hence, a positive infrastructure coefficient is desired.

While inflation was applauded unfavourably because a predictable and low consumer price index lessens the underlying economic challenges associated with various investments and makes the receiving country more appealing to FDI, the coefficient of trade practises was envisioned positive way because existing trade firms seek to target different market-seeking FDI. High political risks and ineffective institutions serve to deter and demoralise FDI. According to Tabash *et al.* (2023), throughout the data analysis, MS Excel and E-Views have been employed as data tools. It has been well investigated how absorptive capacity

development factors affect the interplay between FDI and improvement. Financial markets play a crucial role in increasing a country's ability to absorb external shocks and grant that ability. The research utilized government spending, yearly inflation rate, trade openness, the growth rate of the population, initial GDP, and direct investment as key components of financial enhancement after reviewing several relevant literatures. Government spending is frequently used as a stand-in for various forms of trade openness, while trade volume is frequently used to replace various forms of state tax stimulus. The World Bank Group maintains the database of Global Governance Indicators, and the study evaluates all higher point and governance metrics, including regulatory quality, control of corruption, lack of aggression, peace and stability, integrity control, and law and order.

3.3.3 Research design

This involves making important decisions about the type of data to collect, the methods to use, and the analytical techniques to apply. The research design plays a crucial role in determining the quality, accuracy, and relevance of the research findings. “Experimental design” involves manipulating one or more variables to see how they affect an outcome of interest. It is often used to establish cause-and-effect relationships. According to Setayesh *et al.* (2022), “Survey design” involves collecting data from a sample of individuals using questionnaires or interviews. It is often used to gather self-reported data. When selecting a research design, researchers should consider the research question, the available resources, the time frame, and the ethical considerations. The design should be appropriate for the research question, feasible given the available resources, and ethical in terms of protecting participants' rights and privacy.

Justification

The research design for the present study is descriptive nature. “Descriptive research design” is a method of scientific investigation that seeks to describe or explain a phenomenon without seeking to establish cause-and-effect relationships. It is a non-experimental research design that focuses on collecting data and analyzing it to understand the characteristics of the phenomenon under study. In the context of the role of “foreign direct investment (FDI) in the Indian economy”, a descriptive research design would involve collecting data on the various aspects of FDI and analyzing it to understand how it has impacted the Indian economy.

FDI refers to investment made by a foreign entity, such as a company or an individual, in the Indian economy. FDI has become an increasingly important aspect of the Indian economy, as it brings in capital, technology, and expertise from foreign countries, which can contribute to the development and growth of Indian industries. According to Fox *et al.* (2022), the impact of FDI on the Indian economy can be studied using a descriptive research design. The first step in conducting a descriptive research design is to identify the research question. In this case, the research question is "What is the role of foreign direct investment in the Indian economy?" This research question will guide the collection and analysis of data. This will involve identifying and reviewing academic articles, reports, and other sources of information on FDI in India. This step will help in identifying the key factors that affect the impact of FDI on the Indian economy. The population in this case is the entire Indian economy, while the sample will be a representative subset of this population. According to Misnawati *et al.* (2022), the sample can be selected using various sampling methods, such as random sampling or stratified sampling. The next step is to collect data on various aspects of FDI and the Indian economy. This can include data on the amount of FDI in India, the sectors in which FDI is concentrated, the impact of “FDI on employment, exports, and economic growth, and the regulatory environment for FDI in India”. Once the data is collected, it needs to be analyzed to understand the role of FDI in the Indian economy.

This can involve statistical analysis, such as regression analysis or correlation analysis, to identify the relationships between FDI and various economic indicators. Therefore, the last step connects the results in the form of tables, charts, or graphs. The findings can also be discussed in the context of the existing literature and the research question. a descriptive research design can be used to study the role of foreign direct investment in the Indian economy. This research design involves identifying the research question, conducting a literature review, defining the population and sample, collecting data, analyzing the data, and reporting the findings. The findings of this research can provide insights into the impact of FDI on the Indian economy and inform policy decisions related to FDI in India.

3.3.4 Research method/strategy

Using indicators for governance and institutional quality can help to capture various important aspects of a country's administration and institutions. The research aims to achieve specific objectives, and the PRISMA model has been utilized to conduct successful quantitative research. According to Oluleye *et al.* (2022), this approach involves including all indicators as distinct descriptive components in the model, which can improve its descriptive power. However, since the variables cover multiple aspects of governance and the Indian economy, there is a high likelihood that they are highly correlated. Including all the indicators in the model can lead to multicollinearities and over-parameterization, which can reduce the model's reliability. To address this issue, the study has used the PRISMA model analysis to reduce the number of variables.

The PRISMA model analysis is a framework that is used to evaluate the quality of governance and institutions in a country. The model incorporates various indicators that reflect different aspects of a country's economic and social performance. In this discussion,

we will elaborate on the PRISMA model analysis and its application through different indicators, including Foreign Direct Investment (FDI), the coefficient of GDP, and NResGDP (Natural Resources as a percentage of GDP). FDI is an important indicator of a country's attractiveness to foreign investors. It measures the amount of investment that foreign companies make in a country's economy. FDI can be an important driver of economic growth, as it can bring in new capital, technology, and expertise. However, FDI can also pose risks to a country's economy, such as creating dependency on foreign investors or leading to the outflow of profits and resources from the country.

The coefficient of GDP is a measure of the relationship between a country's total output (GDP) and the factors of production that contribute to it, such as labour, capital, and natural resources. It can provide insights into the structure of a country's economy and the factors that drive economic growth. A high coefficient of GDP indicates that a country is using its factors of production efficiently, which can lead to higher levels of economic growth and development. NResGDP is another important indicator that can provide insights into a country's economic structure and resource dependence. It measures the contribution of natural resources, such as oil, gas, and minerals, to a country's GDP. However, resource dependence can also pose risks, such as volatile commodity prices, environmental degradation, and social unrest.

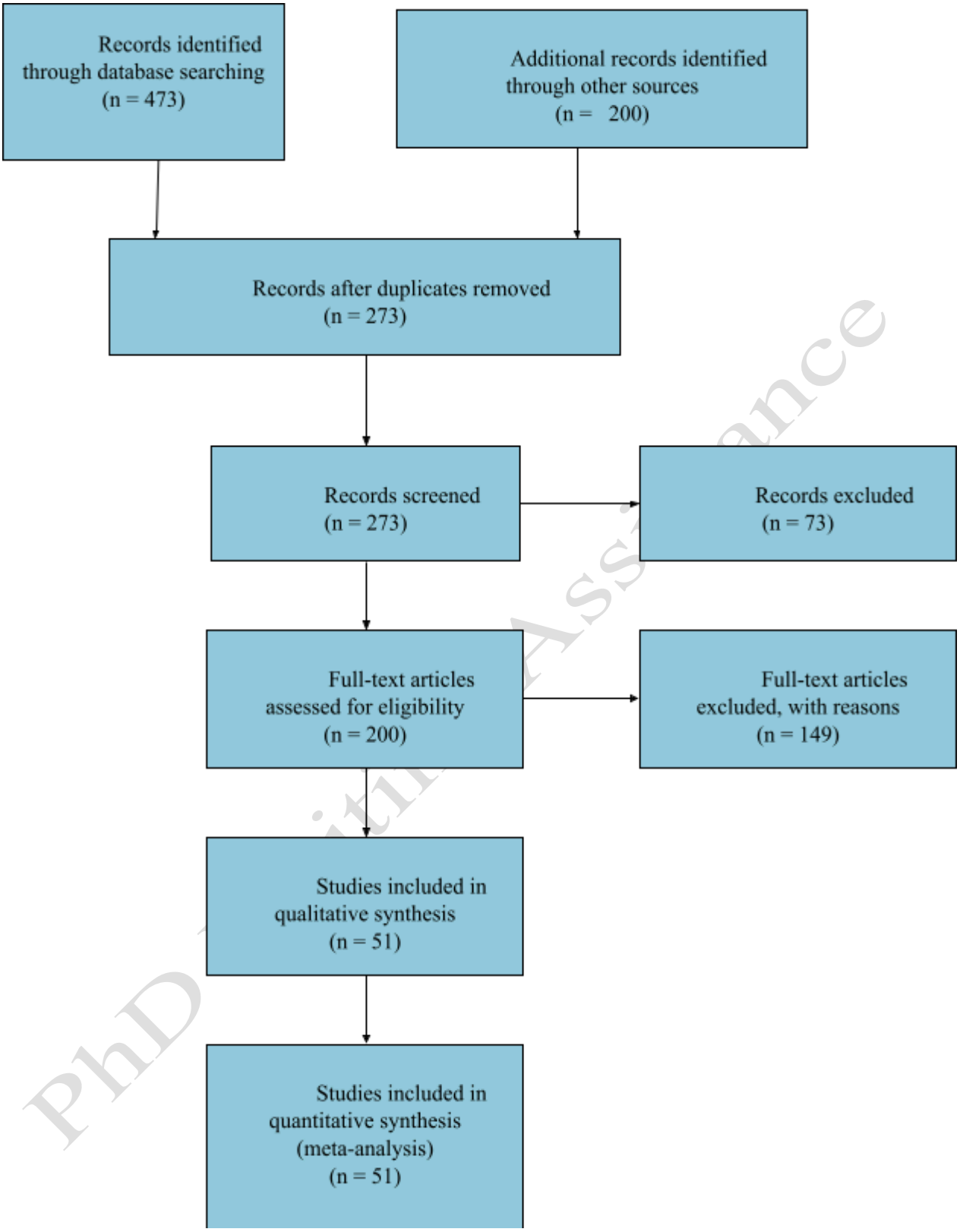
According to Liu *et al.* (2022), the PRISMA model analysis can use these indicators to evaluate the quality of governance and institutions in a country. For instance, the model can assess how effectively a country's government manages FDI, including the policies and regulations in place to attract and retain foreign investment. The model can also examine the degree to which a country's economic structure is diversified and the extent to which it relies on natural resources. In addition, the model can evaluate how well a country's institutions

manage the risks associated with resource dependence, such as environmental protection and social inclusion.

Overall, the PRISMA model analysis is a useful tool for evaluating the quality of governance and institutions in a country. By incorporating different indicators, such as FDI, coefficient of GDP, and NResGDP, the model can provide a comprehensive assessment of a country's economic and social performance. This, in turn, can inform policy and decision-making to improve governance and institutional quality in the country.

3.3.5 Data Collection Method

Accoding to Haggenburg *et al.* (2022), secondary quantitative analysis is a research method that involves analyzing pre-existing data that was collected for another purpose. In the context of the research topic "role of FDI in the Indian economy," secondary quantitative analysis can provide valuable insights into the relationship between FDI and various economic indicators in India. One possible approach to secondary quantitative analysis for this topic is to gather data on FDI inflows and outflows in India over a specific time period, and then analyze how these inflows and outflows related to various economic indicators, such as GDP growth, employment rates, and trade balances. Another approach to secondary quantitative analysis for this topic could involve examining existing studies and reports that have analyzed the impact of FDI on the Indian economy. Researchers could conduct a systematic review of the literature to identify relevant studies, and then use statistical methods to synthesize the findings from these studies. This approach has helped the researcher to identify common trends and patterns in the research, as well as any conflicting findings or limitations of the existing studies. In order to include most valid and relevant journal articles for this research, the researchers have followed PRISMA framework. Below is the representation of PRISMA framework for this research.


Records identified through database searching (n = 473)
Additional records identified through other sources (n = 200)
Records after duplicates removed (n = 273)
Records screened (n = 273)
Records excluded (n = 73)
Full-text articles assessed for eligibility (n = 200)
Full-text articles excluded, with reasons (n = 149)
Studies included in qualitative synthesis (n = 51)
Studies included in quantitative synthesis (meta-analysis) (n = 51)

According to Ji *et al.* (2022), overall, secondary quantitative analysis can be a useful research method for examining the role of FDI in the Indian economy. By drawing on pre-existing data and research, researchers can gain insights into the relationship between FDI and various economic indicators, and identify areas for future research and policy recommendations. The data is collected as per the specific time consideration from 1990 to 2020. India was the only nation for which data was collected since it is recognised as one of the growing economies that is rapidly developing. Due to the limitations of data available throughout the inquiry, the timeframe of data gathering was 1990 to 2020. GDP per capita growth in India over time has been correlated with industrial and production practices.

As a result, India saw the highest per capita GDP growth as well as the highest annual improvement in improving the country's governance over the same era. The study's choice of criteria was informed by a number of earlier literary texts. According to Thapar *et al.* (2022), the research used net FDI inflows expressed in Indian Rupees and Crore as the dependent variable (DV). To ensure comparability and consistency, the value is thought of as log-normalized. Other variables included in the research are FDI, foreign exchange reserves, the GDP deflator, gross domestic savings, gross capital formation, GDP per capita, and the overall GDP. The factors that influence foreign direct investment include substantial economic and political principles, efficiency-related factors, source of energy factors, and industry factors. Measurements for governance and institutional quality were included as fundamental elements because they frequently influence investment risk or roadblocks in rapidly emerging economies, which also affect a country's ability to attract FDI.

3.4 Ethical consideration

In the case of data sourced from official websites such as the World Bank, RBI Hand Book of Statistics, RBI Bulletin, Economic Survey Statistics, and DPIIT, there are a number

of ethical considerations that researchers must take into account. One of the primary ethical considerations in secondary quantitative research is ensuring the accuracy and reliability of the data being used. Researchers must be confident that the data they are using is accurate and reliable. This has involved checking the sources of the data and ensuring that they are reputable and trustworthy.

In the case of official data sources, informed consent may not be a relevant consideration as the data is usually collected through official channels and does not involve direct interaction with participants. According to Hennessy *et al.* (2022), however, it is still important for researchers to ensure that the data they are using was collected ethically and in accordance with relevant regulations and guidelines. When using data from official sources such as the World Bank, RBI Hand Book of Statistics, RBI Bulletin, Economic Survey Statistics, and DPIIT, it is important to properly attribute the sources of the data. This has been helpful to ensure that researchers are giving credit where credit is due and avoiding potential plagiarism or copyright infringement.

Researchers must also be mindful of data privacy and confidentiality when using official data sources. While official data sources usually anonymize the data, researchers must still take steps to protect the privacy of individuals and organizations included in the data. In some cases, the official data sources may include data from different cultural backgrounds. Researchers must be culturally sensitive and aware of the potential for cultural bias in the data they are using. According to Kandi & Vadakedath (2022), this may involve seeking input from members of the community to ensure that the research is respectful and sensitive to their cultural beliefs and practices. In secondary quantitative research, researchers must also consider their own biases and preconceptions. Researchers must be reflexive in their approach and recognize how their own experiences and beliefs may influence their interpretation of the data. Researchers must ensure that they are conducting their research in a

respectful and ethical manner, protecting the privacy and confidentiality of participants, and being mindful of potential biases in the data they are using.

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