



How to View Qualitative Research and Quantitative Research?

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Abstract

This study aims to compare the applications and impacts of quantitative and qualitative research in the social sciences. Quantitative research, through the collection and statistical analysis of numerical data, can provide objective and reproducible results, making it suitable for large sample studies and hypothesis testing. Its strengths lie in the ability to conduct broad comparisons and inferences through quantitative indicators, while its limitations may include overlooking complex social phenomena and individual differences. In contrast, qualitative research employs methods such as in-depth interviews, observations, and textual analysis to explore individuals' subjective experiences and the deeper meanings of social phenomena. Although qualitative research can provide rich contextual information, its results are often difficult to generalize, and the subjectivity of the researcher may influence data interpretation. In summary, both quantitative and qualitative research have their advantages and disadvantages, and integrating methods from both can offer a more comprehensive perspective for social science research.

Keywords: Quantitative Research; Qualitative Research; Statistical Analysis; Social Sciences

Introduction

The development of social sciences has gone through several important stages. Initially, social sciences were grounded in philosophy and history, focusing on ethical and moral issues in human society. By the 19th century, social sciences began to shift towards systematization and empiricism, particularly in fields such as economics, sociology, and psychology. During this time, researchers started to adopt quantitative research methods, using statistics and experiments to test hypotheses, emphasizing the objectivity and reproducibility of data [4, 5].

However, quantitative research cannot fully capture the complexity of human society. As a result, by the mid-20th century, qualitative research emerged, emphasizing an in-depth understanding of individual experiences, cultural backgrounds, and social phenomena. This method primarily employs interviews, observations, and content analysis to explore people's subjective feelings and social meanings [3]. In research on social change, group interactions, and cultural differences, qualitative research often holds unparalleled advantages.

Related Theories of Quantitative and Qualitative Research

Quantitative research is typically grounded in positivist theory, which emphasizes acquiring knowledge through objective observation and measurement. This theory posits that social phenomena can be understood and explained through statistical analysis [10]. Common theoretical frameworks used in this research method include logical positivism and functionalism, focusing on causal relationships and measurable variables.

In contrast, qualitative research is rooted in hermeneutics and social constructivism. Hermeneutics emphasizes individuals' subjective understanding and meaning-making, stressing the importance of in-depth interpretation of social phenomena. Social constructivism posits that knowledge and meaning are constructed through social interactions, highlighting the significance of participants' perspectives and socio-cultural contexts in understanding phenomena [14]. The theoretical foundations of these two research methods guide their respective research designs and data analyses, and selecting an appropriate theoretical framework helps clarify research objectives and methods.

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Differences Between Qualitative and Quantitative Research

Qualitative and quantitative research exhibit significant differences in methodology and application. Qualitative research focuses on gaining an in-depth understanding of social phenomena, typically collecting data through interviews, observations, and open-ended questionnaires, emphasizing participants' subjective experiences and social contexts [9]. Its strengths lie in providing rich contextual insights, but it may face challenges with small sample sizes and a lack of generalizability in its results. In contrast, quantitative research employs statistical analysis to test hypotheses, stressing the objectivity and reproducibility of data, often relying on large-scale standardized surveys [4, 5]. While quantitative research can offer extensive statistical outcomes and ensure external validity, it may overlook the deeper feelings of individuals, resulting in a lack of depth in its findings. In summary, both qualitative and quantitative research have their respective advantages and disadvantages, and the choice of an appropriate method should be determined based on the research question and objectives.

Advantages and Disadvantages of Qualitative and Quantitative Research

Qualitative research is a method that collects unstructured data through in-depth interviews, observations, and content analysis. Its advantages include the ability to deeply understand participants' perspectives, emotions, and social backgrounds, thereby revealing complex social phenomena [6]. Qualitative research provides rich contextual information, helping researchers explore new issues and generate theories. However, its drawbacks include typically small sample sizes, a higher degree of subjectivity in results, and potential lack of generalizability [1]. Additionally, the analysis process in qualitative research is often time-intensive, and researchers' biases may influence the interpretation of results [11]. Therefore, while qualitative research holds significant value in providing in-depth insights, its limitations must also be approached with caution.

Quantitative research is a method that tests hypotheses and examines relationships between variables through statistical analysis. Its strengths lie in the ability to collect data from large samples, enhancing the reliability and external validity of results [7]. Quantitative research utilizes standardized measurement tools, making the data analysis process more objective and easier to replicate and verify. However, its disadvantages include a tendency to overlook participants' deeper feelings and social contexts, leading to a lack of richness in results [2]. Furthermore, quantitative research often requires the simplification of complex social phenomena into measurable variables, which can result in the loss of important information [8]. Thus, while quantitative research excels in providing clear statistical results, its limitations in interpreting social phenomena should also be noted.

Results and Discussion

In general, qualitative research is suitable for exploratory studies, especially when examining complex social phenomena, understanding individual experiences, and constructing meanings. Qualitative methods emphasize participants' perspectives and contexts, providing in-depth insights that are well-suited for detailed analysis of small samples [13]. For instance, if the research focuses on the psychological states of community correction subjects, qualitative

research can facilitate a deeper understanding of their emotions and experiences through interviews. Ultimately, when selecting a research method, researchers should consider the research objectives, available resources, sample characteristics, and the nature of the data. When possible, combining both methods may lead to more comprehensive research findings.

The choice between quantitative and qualitative research primarily depends on the nature of the research question, objectives, and the type of data required. Quantitative research is appropriate for studies that need to test hypotheses, explore causal relationships, or measure the relationships between variables. This method relies on large sample data and statistical analysis to achieve the generalizability and objectivity of results [12]. In recent times, there has been a growing inclination among scholars in the academic community toward quantitative research, primarily because it can provide objective, measurable data that facilitates statistical analysis and extensive comparison. This method allows researchers to use standardized tools (such as surveys and experimental designs) to collect large amounts of data, enabling hypothesis testing, trend identification, and causal inference. Additionally, quantitative research can handle complex variable relationships, employing statistical models (such as regression analysis and path analysis) to explore associations among various factors.

Conclusion

In modern social sciences, quantitative and qualitative research methods are often viewed as complementary. Quantitative research provides broad data support, while qualitative research delves deeply into the stories and meanings behind the data. In contemporary social science research, many researchers employ mixed methods to fully leverage the advantages of both approaches.

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