

## Research Article

# A Literature Review on Types of Questionnaires

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**Received: 02 February, 2025 : Accepted: 05 March, 2025 : Published: 09 March 2025**

### Abstract:

In research, questionnaires are critical tools for various fields. Questionnaires help provide data collection in structured and organized forms to enhance data quality and quantity in research. In this literature review, we aim to dissect the different types of standard questionnaires in research. We explored their design characteristics and use in specific research contexts, and selectively analyzed relevant past studies to indicate insights into how different types of questionnaire designs optimize data quality, collection, and relevance, finally impacting research outcomes. Common categories of questionnaires in research, such as descriptive, analytical, and evaluative questionnaires, along with considerations for their construction, validation, and potential challenges during their application in the field are highlighted here. We have concluded our literature review by reflecting on the future potential of questionnaires in research designs in various disciplines.

## Introduction

The use of questionnaires is essential in both quantitative and qualitative research because of their efficiency in data collection and versatility in application (Noyes et al., 2019; Ranganathan & Caduff, 2023). Questionnaires were traditionally used in social sciences and have extended their application to encompass various fields such as health studies, education, and other disciplines (Dillman et al., 2014; Ponto, 2015).

Researchers use questionnaires to collect demographic data from participants, evaluate attitudes, measure participants' behaviors, and assess the efficacy of programs or interventions in various disciplines (Fowler, 2014; Nardi et al., 2023). The comprehensive nature of questionnaires facilitates researchers to collect large volumes of data, which can be analyzed to answer research questions (Einola & Alvesson, 2021).

In spite of their widespread use in various fields, they can pose several methodological challenges, including response bias, question interpretation, and survey fatigue (Egleston et al., 2011; Tourangeau & Yan, 2007). To appropriately address these challenges, researchers must carefully consider the types of questionnaires they choose for their research and how each design suits specific research goals (Tomaszewski et al., 2020). This review systematically explores the various types of questionnaires and their applications in different research types, offering insights that can improve research design and outcomes.

## Types of Questionnaires

In the literature, questionnaires are classified in various ways. Questionnaire classification can depend on their format, purpose, and the nature of a study. In this literature review, we shed light on three common types of questionnaires: descriptive, analytical, and evaluative questionnaires. Each type of questionnaire has specific research functions and requires unique considerations for design and implementation.

### Descriptive Questionnaires

Descriptive questionnaires capture specific characteristics of a population or phenomenon without manipulating variables (Aggarwal & Ranganathan, 2019). Their primary goal is to collect data that describe, delineate, or summarize the attributes of the studied group (DeVaus, 2002; Doyle et al., 2020). This type of questionnaire is particularly useful in survey research, where the researcher intends to provide a snapshot of current conditions or behaviors, such as demographic data or prevalence rates of certain practices and conditions (Bradburn et al., 2004; Ranganathan & Caduff, 2023). For instance, a descriptive questionnaire might be used in health research to assess smoking prevalence among adults in a region, providing invaluable data to public health officials and policymakers (Bonnie et al., 2015).

According to Semyonov-Tal and Lewin-Epstein, (2021), descriptive questionnaires commonly employ closed-ended questions, requiring specific responses that can be quantified.

This standardized approach facilitates statistical analysis and enhances study comparability (Semyonov-Tal & Lewin-Epstein, 2021). Although descriptive questionnaires are efficient tools for capturing large sets of data, their critics highlight their limited capacity to explore deeper underlying attitudes or beliefs (Grossoehme, 2014), as Bryman and Cramer (2011) highlighted that the structured response format may not adequately capture the nuances of respondents' thoughts.

According to Kishore et al. (2021), the design of descriptive questionnaires needs appropriate consideration of worded questions, response options, and questionnaire layout to enhance clarity and decrease misunderstanding (Doyle et al., 2020). Researchers often pilot-test their instruments to identify ambiguities and refine their questions (Hassan et al., 2006). The validity of descriptive questionnaires depends on the appropriateness of the variables that are selected, necessitating appropriate understanding of the target population and the specific characteristics being measured (Kaliyadan & Kulkarni, 2019).

### **Analytical Questionnaires**

Analytical questionnaires are formatted to test hypotheses and assess relationships between variables (Barroga, 2022). They are commonly used in research to understand causal relationships between variables, such as how one variable may influence another (Kaliyadan & Kulkarni, 2019). These questionnaires facilitate a detailed exploration of participant data by combining closed-ended and open-ended questions. The mixed-methods approach in the questionnaire facilitates researchers' quantifying relationships and assessing qualitative insights that can explain the context of quantitative findings (Fowler, 2014). Here is an example of a study examining social media usage's effects on people's mental health. Researchers might use an analytical questionnaire that can pose Likert-scale items about frequency and type of social media use alongside open-ended questions that invite respondents to comment on their feelings about these platforms. This multifaceted approach can enhance a comprehensive understanding of social media's impact, allowing researchers to derive correlation and connection appropriately (Chen & Wang, 2021).

It is essential to notice that the reliability and validity of analytical questionnaires are crucial, as these questionnaires often form the base for statistical analyses to support or refute specific research hypotheses or questions in a study (Boateng et al., 2018). When analytical questionnaires are designed, researchers must ensure that questions are formatted to adequately measure the intended constructs while preventing leading or vague language. Effective pre-testing and validation processes are crucial to refining these questionnaires before widespread application (Kim et al., 2024).

### **Evaluative Questionnaires**

Evaluative questionnaires are commonly used to assess the impact or effectiveness of specific programs, interventions, or products in various disciplines, such as educational, healthcare, and social service settings (Clarke et al., 2019). Evaluative questionnaires can facilitate, in various settings, the feedback that can drive decisions regarding program improvements or

policy adjustments (Gnepp et al., 2020). For instance, a researcher can use an evaluative questionnaire to assess student satisfaction with a newly introduced curriculum, providing educators with an adequate perception of (Chen & Zheng, 2023).

Evaluative questionnaires include quantitative rating scales, for example, satisfaction or impact scales, and qualitative open-ended questions that include participants' detailed opinions and experiences (Bourque & Fielder, 2003).

In practice, the mixed-method approach in an evaluative questionnaire can assist institutions in gaining a well-rounded understanding of the program's effectiveness while also identifying areas that require improvements (Wasti et al., 2022). When quantitative scores and qualitative feedback are analyzed, evaluators can make informed decisions that enhance the delivery and effectiveness of programs (Smith & Hasan, 2020).

According to Popovic and Huecker (2023) and Althubaiti (2016), when evaluative questionnaires are designed, researchers must account for potential biases that can skew the study's results. Response bias, are defined when the participant provides socially desirable answers rather than truthful reflections of their experiences, can undermine the validity of evaluations (Phillips et al., 2022; Popovic & Huecker, 2023). Strategies to mitigate this bias include assuring respondents of confidentiality and using neutral language in questions to encourage honest feedback (Phillips et al., 2022; Skelly et al., 2012).

### **Designing Questionnaires**

The researcher must select a type of questionnaire that can address their study's questions and objectives, and an effective questionnaire design is essential to increase data quality, reliability, and validity (Leung, 2015). Researchers need to consider key elements in questionnaire design, including defining clear research objectives, selecting appropriate question formats, ensuring clarity, and performing pre-tests, must be considered (Fowler & Cosenza, 2008).

Researchers must use precise wording and avoid vague or complex questions that can lead to different participant interpretations, increasing the risk of unreliable data (Moseley et al., 2014). Furthermore, lengthy questions can negatively impact participant engagement; they may lead to participant fatigue and reduced response quality (Dillman et al., 2014). Moreover, researchers need to consider cultural and contextual aspects when they format a questionnaire so that questions do not make the participants uncomfortable or contradict their cultural and religious values (Wright et al., 2016). Language, terminology, and question framing must be tailored to the target population's cultural, religious, and social values (Smith, 2016). Conducting pilot studies with representative samples allows researchers to identify potential sources of confusion and modify the questionnaire to improve data quality and maintain respect for participants' religious and cultural values (Wright, 2005).

### **Challenges and Limitations of Questionnaire Research**

Although questionnaires are valuable tools for data collection

in research, they are not without challenges and limitations. One of the typical limitations of a questionnaire is response bias that potentially stems from participants' tendency to provide answers that they believe are socially acceptable rather than their true feelings and emotions (Popovic & Huecker, 2023). According to Latkin et al. (2017), this bias can be shared in sensitive topics such as health behaviors or opinions on controversial issues in certain cultures. For topics that might lead to response bias, Kennedy et al. (2021) recommended that researchers change strategies, such as using indirect questioning or emphasizing privacy, confidentiality, and anonymity, to improve participant trust (Kennedy et al., 2021).

Many questionnaires rely on self-reporting measures, which raise validity concerns. Althubaiti (2016) indicated that participants may unintentionally misinterpret questions or get different meanings for the wording of questions, potentially leading to inconsistencies in responses. According to Ranganathan and Caduff (2023), researchers should consider participants' level of literacy and design their questionnaires with careful wording and context to decrease misinterpretation of questions in a questionnaire.

#### Technological Advances in Questionnaire Administration

According to Junaid et al. (2022), access to technological advancements and internet coverage have introduced new complexities to questionnaire-based research. For example, Sanders and Scanlon (2021) noticed that online survey platforms facilitate flexibility and easy questionnaire access. However, Saeed and Masters (2021) suggested that researchers need to consider demographic disparities in internet coverage and the availability of advanced technology. Everyone in the community might not have the same level of access to technology, internet coverage, or optimal internet literacy (Saeed & Masters, 2021). This disparity could create selection bias and impact the generalizability of findings (Millard et al., 2023).

#### Conclusion

Descriptive, analytical, and evaluative questionnaires are considered essential tools to facilitate data collection in various research settings. Each questionnaire should be used for a specific purpose based on questionnaire characteristics to address the research questions and hypothesis appropriately. Furthermore, researchers need to consider questionnaire design, validation processes, and other inherent challenges when they format questions, such as how questions are worded, their cultural context, and routes of distribution, to ensure high-quality data collection and meaningful research results.

#### Acknowledgment

We thank family members and friends for their support and motivation while writing this literature review. We also highly appreciate Madina Amini's (1st-year medical school student) efforts in organizing the reference list for this literature review.

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