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Hypotheses in qualitative research example

Hypotheses qualitative research. Hypothesis in qualitative research. Hypothesis in qualitative study.

Qualitative research involves collecting and analyzing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences.

What are Purpose Statements, Research Questions, Hypotheses, and Objectives?				
	Purpose Statement	Research Questions	Hypotheses	Research Objectives
Intent	Overall Direction	Raise questions to be answered	Make predictions about expectations	State Goals
Form	One or more sentences	One or more questions	One or more questions	One or More Objectives
Use	Quantitative and Qualitative Research	Quantitative and Qualitative Research	Quantitative Research	Typically Quantitative Research
Placement	End of Introduction	End of the introduction, after the literature review, or in a separate section of the study		

It can be used to gather in-depth insights into a problem or generate new ideas for research.

Research paper 1			
Research paper 1		Research paper 2	
Research question		Research question	
Hypothesis 1		Hypothesis 2	
Hypothesis 2		Hypothesis 3	

Qualitative research is the opposite of quantitative research, which involves collecting and analyzing numerical data for statistical analysis. Qualitative research is commonly used in the humanities and social sciences, in subjects such as anthropology, sociology, education, health sciences, history, etc. Qualitative research question examples How does social media shape body image in teenagers? How do children and adults interpret healthy eating in the UK? What factors influence employee retention in a large organization? How is anxiety experienced around the world?



publications

Article

### Visually Hypothesising in Scientific Paper Writing: Confirming and Refuting Qualitative Research Hypotheses Using Diagrams

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**Abstract:** Qualitative research involves scientific narratives and the analysis and interpretation of textual or numerical data (or both), mostly from conversations and discussions, to uncover meaningful patterns that describe a particular phenomenon. It is important to know other ways of framing and explaining these nuanced scientific narratives so that they can convey scientific knowledge. A qualitative hypothesis can play this role. The testing of hypotheses in qualitative research—which does not strictly mean the same thing as testing of hypotheses in quantitative research—always comes with challenges that provoke concerns. The questions that scholars, especially undergraduate and postgraduate students, have had to deal with are: Is it possible to “test” hypotheses using a qualitative method? If it is possible, how can this be done? This study deconstructs the concept, notion, and use of the hypotheses. It presents the “how-to” aspect of hypothesising (in qualitative research and inquiries) by using creative diagramming within post-positivist research, and also contributes to the literature on visual communication and qualitative research. The study is a guide to early career scholars (including undergraduate and post-graduate students) on how to formulate and “test” hypotheses qualitatively using visual or diagrammatical approaches.

**Keywords:** Hypothesis; methodology; publication; qualitative research; qualitative study; research design; research method; research process; scientific paper writing

**1. Introduction**

It is normal in research studies that directly involve investigations into societal concerns or social challenges to employ methodological approaches dominated by verbal narratives. This is common in data collection methods (including interviewing, focus group discussion and observation)—analyses performed in qualitative research. This is understandable because scientists, especially those involved in qualitative research, are meant to employ many narratives in their studies. Skills are needed to grasp research data, contextualise the data and communicate its analysis and results in a scientific way. One of the most challenging tasks qualitative scholars face is the task of delivering “highly nuanced and technical stories designed to explicitly convey scientific results, delineate their limitations, and describe a reproducible plot so that any thorough re-examination can achieve a similar conclusion” [1] (p. 1). Some time ago this challenge was identified and referred to as “the dilemma of qualitative method” [2] (p. 1). However, this methodological dilemma goes beyond data collection techniques. It is easily noticeable in the inability of some qualitative researchers to employ hypotheses in their scientific enquiries. This has led some scholars [3–5] to conclude that the use of hypotheses is not possible in qualitative research (a viewpoint this study differs from).

Qualitative research is a diverse area that involves, in most cases, the analysis and interpretation of textual or numerical data (or both) collected mostly from verbal (or textual) mediums in order

How can teachers integrate social issues into science curriculums? Approaches to qualitative research Qualitative research is used to understand how people experience the world.

Qualitative Research	RESEARCH ASPECT	Quantitative Research
Discover Ideas, with General Research Objects	COMMON PURPOSE	Test Hypotheses or Specific Research Questions
Observe and Interpret	APPROACH	Measure and Test
Unstructured, Free Form	DATA COLLECTION APPROACH	Structured Response Categories Provided
Research is intimately involved, Results are subjective	RESEARCHER INDEPENDENCE	Researcher uninvolved Observer, Results are Objective
Small samples –Often in Natural setting	SAMPLES	Large samples to Produce Generalizable Results [Results that Apply to Other Situations]

While there are many approaches to qualitative research, they tend to be flexible and focus on retaining rich meaning when interpreting data. Common approaches include grounded theory, ethnography, action research, phenomenological research, and narrative research. They share some similarities, but emphasize different aims and perspectives. Qualitative research approaches Approach What does it involve? Grounded theory Researchers collect rich data on a topic of interest and develop theories inductively. Ethnography Researchers immerse themselves in groups or organizations to understand their cultures. Action research Researchers and participants collaboratively link theory to practice to drive social change. Phenomenological research Researchers investigate a phenomenon or event by describing and interpreting participants’ lived experiences. Narrative research Researchers examine how stories are told to understand how participants perceive and make sense of their experiences.

Research Questions & Hypotheses (*cont.*)

- **Hypothesis**—tentative, but intelligent and informed, guess as to outcome of study (made before study begins)
  - Appropriate only when design calls for use of inferential statistical analysis (i.e., some, but not all, quantitative studies)
- Three types of hypotheses
  - Null hypothesis—no effect, change, or relationship
  - Nondirectional research hypothesis—some sort of effect (etc.), but no prediction of direction of effect
  - Directional research hypothesis—some effect with direction specified
- Review examples

Note that qualitative research is at risk for certain research biases including the Hawthorne effect, observer bias, recall bias, and social desirability bias. While not always totally avoidable, awareness of potential biases as you collect and analyze your data can prevent them from impacting your work too much. Qualitative research methods Each of the research approaches involve using one or more data collection methods. These are some of the most common qualitative methods: Observations: recording what you have seen, heard, or encountered in detailed field notes. Interviews: personally asking people questions in one-on-one conversations. Focus groups: asking questions and generating discussion among a group of people. Surveys: distributing questionnaires with open-ended questions. Secondary research: collecting existing data in the form of texts, images, audio or video recordings, etc. Research exampleTo research the culture of a large tech company, you decide to take an ethnographic approach. You work at the company for several months and use various methods to gather data: You take field notes with observations and reflect on your own experiences of the company culture. You distribute open-ended surveys to employees across all the company’s offices by email to find out if the culture varies across locations. You conduct in-depth interviews with employees in your office to learn about their experiences and perspectives in greater detail. Qualitative researchers often consider themselves “instruments” in research because all observations, interpretations and analyses are filtered through their own personal lens. For this reason, when writing up your methodology for qualitative research, it’s important to reflect on your approach and to thoroughly explain the choices you made in collecting and analyzing the data. Qualitative data analysis Qualitative data can take the form of texts, photos, videos and audio. For example, you might be working with interview transcripts, survey responses, fieldnotes, or recordings from natural settings. Most types of qualitative data analysis share the same five steps: Prepare and organize your data. This may mean transcribing interviews or typing up fieldnotes. Review and explore your data. Examine the data for patterns or repeated ideas that emerge. Develop a data coding system. Based on your initial ideas, establish a set of codes that you can apply to categorize your data. Assign codes to the data. For example, in qualitative survey analysis, this may mean going through each participant’s responses and tagging them with codes in a spreadsheet. As you go through your data, you can create new codes to add to your system if necessary. Identify recurring themes. Link codes together into cohesive, overarching themes. There are several specific approaches to analyzing qualitative data. Although these methods share similar processes, they emphasize different concepts. Qualitative data analysis Approach When to use Example Content analysis To describe and categorize common words, phrases, and ideas in qualitative data. A market researcher could perform content analysis to find out what kind of language is used in descriptions of therapeutic apps. Thematic analysis To identify and interpret patterns and themes in qualitative data. A psychologist could apply thematic analysis to travel blogs to explore how tourism shapes self-identity. Textual analysis To examine the content, structure, and design of texts. A media researcher could use textual analysis to understand how news coverage of celebrities has changed in the past decade. Discourse analysis To study communication and how language is used to achieve effects in specific contexts. A political scientist could use discourse analysis to study how politicians generate trust in election campaigns. Advantages of qualitative research Qualitative research often tries to preserve the voice and perspective of participants and can be adjusted as new research questions arise. They are not rigidly decided beforehand. Data collection occurs in real-world contexts or in naturalistic ways. Detailed descriptions of people’s experiences, feelings and perceptions can be used in designing, testing or improving systems or products. Open-ended responses mean that researchers can uncover novel problems or opportunities that they wouldn’t have thought of otherwise. Disadvantages of qualitative research Researchers must consider practical and theoretical limitations in analyzing and interpreting their data. Qualitative research suffers from: The real-world setting often makes qualitative research unreliable because of uncontrolled factors that affect the data. Due to the researcher’s primary role in analyzing and interpreting data, qualitative research cannot be replicated. The researcher decides what is important and what is irrelevant in data analysis, so interpretations of the same data can vary greatly. Small samples are often used to gather detailed data about specific contexts. Despite rigorous analysis procedures, it is difficult to draw generalizable conclusions because the data may be biased and unrepresentative of the wider population. Although software can be used to manage and record large amounts of text, data analysis often has to be checked or performed manually. Other interesting articles If you want to know more about statistics, methodology, or research bias, make sure to check

out some of our other articles with explanations and examples. Frequently asked questions about qualitative research What are the main qualitative research approaches? There are five common approaches to qualitative research: Grounded theory involves collecting data in order to develop new theories. Ethnography involves immersing yourself in a group or organization to understand its culture. Narrative research involves interpreting stories to understand how people make sense of their experiences and perceptions. Phenomenological research involves investigating phenomena through people's lived experiences. Action research links theory and practice in several cycles to drive innovative changes. What is data collection? Data collection is the systematic process by which observations or measurements are gathered in research. It is used in many different contexts by academics, governments, businesses, and other organizations. If you want to cite this source, you can copy and paste the citation or click the "Cite this Scribbr article" button to automatically add the citation to our free Citation Generator. Bhandari, P. (2023, June 22). What Is Qualitative Research? | Methods & Examples. Scribbr. Retrieved July 22, 2023, from Creating a research hypothesis to answer a research problem is an iterative process. (Image by rawpixel.com on Freepik) Any research begins with a research question and a research hypothesis. A research question alone may not suffice to design the experiment(s) needed to answer it. A hypothesis is central to the scientific method. But what is a hypothesis? A hypothesis is a testable statement that proposes a possible explanation to a phenomenon, and it may include a prediction. Next, you may ask what is a research hypothesis? Simply put, a research hypothesis is a prediction or educated guess about the relationship between the variables that you want to investigate. It is important to be thorough when developing your research hypothesis. Shortcomings in the framing of a hypothesis can affect the study design and the results. A better understanding of the research hypothesis definition and characteristics of a good hypothesis will make it easier for you to develop your own hypothesis for your research. Let's dive in to know more about the types of research hypothesis, how to write a research hypothesis, and some research hypothesis examples. What is a hypothesis? A hypothesis is based on the existing body of knowledge in a study area. Framed before the data are collected, a hypothesis states the tentative relationship between independent and dependent variables, along with a prediction of the outcome. What is a research hypothesis? Young researchers starting out their journey are usually brimming with questions like "What is a hypothesis?" "What is a research hypothesis?" "How can I write a good research hypothesis?" A research hypothesis is a statement that proposes a possible explanation for an observable phenomenon or pattern. It guides the direction of a study and predicts the outcome of the investigation. A research hypothesis is testable, i.e., it can be supported or disproven through experimentation or observation. Characteristics of a good hypothesis Here are the characteristics of a good hypothesis: Clearly formulated and free of language errors and ambiguity Concise and not unnecessarily verbose Has clearly defined variables Testable and stated in a way that allows for it to be disproven Can be tested using a research design that is feasible, ethical, and practical Specific and relevant to the research problem Rooted in a thorough literature search Can generate new knowledge or understanding How to create an effective research hypothesis A study begins with the formulation of a research question. A researcher then performs background research. This background information forms the basis for building a good research hypothesis. The researcher then performs experiments, collects, and analyzes the data, interprets the findings, and ultimately, determines if the findings support or negate the original hypothesis. Let's look at each step for creating an effective, testable, and good research hypothesis: Identify a research problem or question: Start by identifying a specific research problem. Review the literature: Conduct an in-depth review of the existing literature related to the research problem to grasp the current knowledge and gaps in the field. Formulate a clear and testable hypothesis: Based on the research question, use existing knowledge to form a clear and testable hypothesis. The hypothesis should state a predicted relationship between two or more variables that can be measured and manipulated. Improve the original draft till it is clear and meaningful. State the null hypothesis: The null hypothesis is a statement that there is no relationship between the variables you are studying. Define the population and sample: Clearly define the population you are studying and the sample you will be using for your research. Select appropriate methods for testing the hypothesis: Select appropriate research methods, such as experiments, surveys, or observational studies, which will allow you to test your research hypothesis. Remember that creating a research hypothesis is an iterative process, i.e., you might have to revise it based on the data you collect. You may need to test and reject several hypotheses before answering the research problem. How to write a research hypothesis When you start writing a research hypothesis, you use an "if-then" statement format, which states the predicted relationship between two or more variables. Clearly identify the independent variables (the variables being changed) and the dependent variables (the variables being measured), as well as the population you are studying. Review and revise your hypothesis as needed. An example of a research hypothesis in this format is as follows: "If [athletes] follow [cold water showers daily], then their [endurance] increases." Population: athletes Independent variable: daily cold water showers Dependent variable: endurance You may have understood the characteristics of a good hypothesis. But note that a research hypothesis is not always confirmed; a researcher should be prepared to accept or reject the hypothesis based on the study findings. Research hypothesis checklist Following from above, here is a 10-point checklist for a good research hypothesis: Testable: A research hypothesis should be able to be tested via experimentation or observation. Specific: A research hypothesis should clearly state the relationship between the variables being studied. Based on prior research: A research hypothesis should be based on existing knowledge and previous research in the field. Falsifiable: A research hypothesis should be able to be disproven through testing. Clear and concise: A research hypothesis should be stated in a clear and concise manner. Logical: A research hypothesis should be logical and consistent with current understanding of the subject. Relevant: A research hypothesis should be relevant to the research question and objectives. Feasible: A research hypothesis should be feasible to test within the scope of the study. Reflects the population: A research hypothesis should consider the population or sample being studied. Uncomplicated: A good research hypothesis is written in a way that is easy for the target audience to understand. By following this research hypothesis checklist, you will be able to create a research hypothesis that is strong, well-constructed, and more likely to yield meaningful results. Types of research hypothesis differ depending on the research question and objective of the study. (Image by jannoon028 on Freepik) Types of research hypothesis Different types of research hypothesis are used in scientific research: 1. Null hypothesis: A null hypothesis states that there is no change in the dependent variable due to changes to the independent variable. This means that the results are due to chance and are not significant. A null hypothesis is denoted as H0 and is stated as the opposite of what the alternative hypothesis states. Example: "The newly identified virus is not zoonotic." 2. Alternative hypothesis: This states that there is a significant difference or relationship between the variables being studied. It is denoted as H1 or Ha and is usually accepted or rejected in favor of the null hypothesis. Example: "The newly identified virus is zoonotic." 3. Directional hypothesis: This specifies the direction of the relationship or difference between variables; therefore, it tends to use terms like increase, decrease, positive, negative, more, or less. Example: "The inclusion of intervention X decreases infant mortality compared to the original treatment." 4. Non-directional hypothesis: While it does not predict the exact direction or nature of the relationship between the two variables, a non-directional hypothesis states the existence of a relationship or difference between variables but not the direction, nature, or magnitude of the relationship. A non-directional hypothesis may be used when there is no underlying theory or when findings contradict previous research. Example, "Cats and dogs differ in the amount of affection they express." 5. Simple hypothesis: A simple hypothesis only predicts the relationship between one independent and another independent variable. Example: "Applying sunscreen every day slows skin aging." 6. Complex hypothesis: A complex hypothesis states the relationship or difference between two or more independent and dependent variables. Example: "Applying sunscreen every day slows skin aging, reduces sun burn, and reduces the chances of skin cancer." (Here, the three dependent variables are slowing skin aging, reducing sun burn, and reducing the chances of skin cancer.) 7. Associative hypothesis: An associative hypothesis states that a change in one variable results in the change of the other variable. The associative hypothesis defines interdependency between variables. Example: "There is a positive association between physical activity levels and overall health." 8. Causal hypothesis: A causal hypothesis proposes a cause-and-effect interaction between variables. Example: "Long-term alcohol use causes liver damage." Note that some of the types of research hypothesis mentioned above might overlap. The types of hypothesis chosen will depend on the research question and the objective of the study. Research hypothesis examples Here are some good research hypothesis examples: "The use of a specific type of therapy will lead to a reduction in symptoms of depression in individuals with a history of major depressive disorder." "Providing educational interventions on healthy eating habits will result in weight loss in overweight individuals." "Plants that are exposed to certain types of music will grow taller than those that are not exposed to music." "The use of the plant growth regulator X will lead to an increase in the number of flowers produced by plants." Characteristics that make a research hypothesis weak are unclear variables, unoriginality, being too general or too vague, and being untestable. A weak hypothesis leads to weak research and improper methods. Some bad research hypothesis examples (and the reasons why they are "bad") are as follows: "This study will show that treatment X is better than any other treatment." (This statement is not testable, too broad, and does not consider other treatments that may be effective.) "This study will prove that this type of therapy is effective for all mental disorders." (This statement is too broad and not testable as mental disorders are complex and different disorders may respond differently to different types of therapy.) "Plants can communicate with each other through telepathy." (This statement is not testable and lacks a scientific basis.) Importance of testable hypothesis If a research hypothesis is not testable, the results will not prove or disprove anything meaningful. The conclusions will be vague at best. A testable hypothesis helps a researcher focus on the study outcome and understand the implication of the question and the different variables involved. A testable hypothesis helps a researcher make precise predictions based on prior research. To be considered testable, there must be a way to prove that the hypothesis is true or false; further, the results of the hypothesis must be reproducible. Get answers to questions like "How can I write a good research hypothesis?" and more! (Image by creativeart on Freepik) Frequently Asked Questions (FAQs) on research hypothesis 1. What is the difference between research question and research hypothesis? A research question defines the problem and helps outline the study objective(s). It is an open-ended statement that is exploratory or probing in nature. Therefore, it does not make predictions or assumptions. It helps a researcher identify what information to collect. A research hypothesis, however, is a specific, testable prediction about the relationship between variables. Accordingly, it guides the study design and data analysis approach. 2. When to reject null hypothesis? A null hypothesis should be rejected when the evidence from a statistical test shows that it is unlikely to be true. This happens when the test statistic (e.g., p-value) is less than the defined significance level (e.g., 0.05). Rejecting the null hypothesis does not necessarily mean that the alternative hypothesis is true; it simply means that the evidence found is not compatible with the null hypothesis. 3. How can I be sure my hypothesis is testable? A testable hypothesis should be specific and measurable, and it should state a clear relationship between variables that can be tested with data. To ensure that your hypothesis is testable, consider the following: Clearly define the key variables in your hypothesis. You should be able to measure and manipulate these variables in a way that allows you to test the hypothesis. The hypothesis should predict a specific outcome or relationship between variables that can be measured or quantified. You should be able to collect the necessary data within the constraints of your study. It should be possible for other researchers to replicate your study, using the same methods and variables. Your hypothesis should be testable by using appropriate statistical analysis techniques, so you can draw conclusions, and make inferences about the population from the sample data. The hypothesis should be able to be disproven or rejected through the collection of data. 4. How do I revise my research hypothesis if my data does not support it? If your data does not support your research hypothesis, you will need to revise it or develop a new one. You should examine your data carefully and identify any patterns or anomalies, re-examine your research question, and/or revisit your theory to look for any alternative explanations for your results. Based on your review of the data, literature, and theories, modify your research hypothesis to better align it with the results you obtained. Use your revised hypothesis to guide your research design and data collection. It is important to remain objective throughout the process. 5. I am performing exploratory research. Do I need to formulate a research hypothesis? As opposed to "confirmatory" research, where a researcher has some idea about the relationship between the variables under investigation, exploratory research (or hypothesis-generating research) looks into a completely new topic about which limited information is available. Therefore, the researcher will not have any prior hypotheses. In such cases, a researcher will need to develop a post-hoc hypothesis. A post-hoc research hypothesis is generated after these results are known. 6. How is a research hypothesis different from a research question? A research question is an inquiry about a specific topic or phenomenon, typically expressed as a question. It seeks to explore and understand a particular aspect of the research subject. In contrast, a research hypothesis is a specific statement or prediction that suggests an expected relationship between variables. It is formulated based on existing knowledge or theories and guides the research design and data analysis. 7. Can a research hypothesis change during the research process? Yes, research hypotheses can change during the research process. As researchers collect and analyze data, new insights and information may emerge that require modification or refinement of the initial hypotheses. This can be due to unexpected findings, limitations in the original hypotheses, or the need to explore additional dimensions of the research topic. Flexibility is crucial in research, allowing for adaptation and adjustment of hypotheses to align with the evolving understanding of the subject matter. 8. How many hypotheses should be included in a research study? The number of research hypotheses in a research study varies depending on the nature and scope of the research. It is not necessary to have multiple hypotheses in every study. Some studies may have only one primary hypothesis, while others may have several related hypotheses. The number of hypotheses should be determined based on the research objectives, research questions, and the complexity of the research topic. It is important to ensure that the hypotheses are focused, testable, and directly related to the research aims. 9. Can research hypotheses be used in qualitative research? Yes, research hypotheses can be used in qualitative research, although they are more commonly associated with quantitative research. In qualitative research, hypotheses may be formulated as tentative or exploratory statements that guide the investigation. Instead of testing hypotheses through statistical analysis, qualitative researchers may use the hypotheses to guide data collection and analysis, seeking to uncover patterns, themes, or relationships within the qualitative data. The emphasis in qualitative research is often on generating insights and understanding rather than confirming or rejecting specific research hypotheses through statistical testing. Researcher.Life is a subscription-based platform that unifies top AI tools and services designed to speed up, simplify, and streamline a researcher's journey, from reading to writing, submission, promotion and more. Based on over 20 years of experience in academia, Researcher.Life empowers researchers to put their best research forward and move closer to success. 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