

Research Questions and Hypotheses

1. The Research Question

Definition:

A research question is a question that is investigated with the help of systematic research. The research question expresses the purpose and nature of the research that is needed to uncover a phenomenon or solve a puzzle posed by the investigation.

Scope of a research question:

When you begin your research, you may formulate the research question in rather general terms. During the research process, however, the question should become more precise, clearer, and more focused, narrowing the topic in more detail. The format of the thesis (BA/MA/PhD) determines the scale of the question, i.e. the scope of the topic to be investigated.

How to formulate a research question:

A good research question is neither a mere assertion nor a false presupposition. It should not: contain ambiguities; contain its answer or exclude possibilities for answering; represent a contradiction in itself; or be answerable by a simple “yes” or “no”.

There are different types of research questions. A research question can seek an explanation, ask for a description, prognosis, or evaluation, or question a design intention. The interrogatives ‘**how**’, ‘**why**’, and ‘**what**’ are particularly suitable for the introduction of a research question.

Different types and examples of research questions:

1. **Descriptive**

Examples:

- ✓ What are specific qualities and characteristics of the related artistic media film and video?
- ✗ How do film and video differ? (Too vague, too broad, and insufficiently explanatory)

2. **Comparative**

Examples:

- ✓ In terms of their reach and success rate, what differences can be identified in selected on-demand streaming services that have been offered in Germany since 2005?
- ✗ Which streaming services are most successful in Germany? (Too unspecific and not conducive for forming an argument)

3. **Defining**

Examples:

- ✓ How have online communication tools adapted and evolved to the needs of online teaching as a result of the Corona pandemic, both theoretically and practically?
- ✗ How have online communication tools evolved? (Too vague; lacks context; and not conducive for development of an argument)

4. **Evaluative / Normative**

Examples:

- ✓ How desirable is it for students of media cultural studies in Freiburg to return to face-to-face teaching in the coming semesters?
- ✗ What is the value of face-to-face teaching? (Lacks context; not specific enough; ambiguous)

5. **Explanatory / Explorative**

Examples:

- ✓ What impact does the rejection of the widespread strategy of introducing female characters via the male gaze have on the shaping of the gender-related narration in the films of the Berlin School?
- ✗ What does the female gaze do in the film? (Too broad; lacks context; too imprecise)

6. **Predicative**

Examples:

- ✓ What are the possible structural consequences of the increasing spread of music streaming by providers such as Spotify or Soundcloud on public radio stations in the last five years in Germany?

✗ What are the consequences of the introduction of music streaming on music listening habits?
(Too broad; lacks a specific context and thus would be practically impossible to answer)

7. Planning / Problem solving

Examples:

✓ How is *UnrealEngine5* software used in video games to create immersive reality effects for the player through live-rendered 3D effects?

✗ What are the impacts of 3D effects in video games? (As above: too broad and lacks a context within which one could reasonably formulate an answer; also, too ambiguous)

8. Testing

Examples:

✓ In the design of atmospheric soundscapes in audiobooks, which factors influence the listening behavior of listeners between the ages of 25 and 35?

✗ Do men or women have a greater interest in audiobooks, and does the acoustical design impact this interest? (Two questions packed into one here, and neither question will yield a sufficient argument: the first is an either/or question and the second is a yes/no question)

2. The Hypothesis

Definition:

An educated guess or hunch that a relationship between a dependent and independent variable exists. A hypothesis is assumed to be true until it is disproved or substantiated.

(Please note: There is a difference between hypothesis and thesis. In contrast to the more specific hypothesis, a thesis is a pointed, controversial assertion that must be scientifically substantiated, i.e. it refers to facts, which are interpreted and evaluated and do not remain as pure factual assertion. It should be possible to present a counter-thesis to any thesis. Or, in short: “Thesen sind Behauptungen, Hypothesen sind Vermutungen. Beide sind Aussagen über Erkenntnisgegenstände in Form von Sätzen.” [translation: “Theses are assertions, hypotheses are conjectures. Both are statements about objects of knowledge in form of propositions.”]. (See K. Eberhard, *Einführung in die Erkenntnis- und Wissenschaftstheorie*. 2. Ed. Stuttgart: Kohlhammer, 1999, p. 20)

Purpose of the hypothesis:

A hypothesis

... sets the framework of the work, i.e., it determines what belongs to it and what does not.

... is a gamble: the hypothesis can be disputed.

... is a sentence that gets to the heart of the argument.

Place of the hypothesis:

A hypothesis is always anchored in the first paragraph, i.e., the introductory part of the paper. It is often formulated as a direct answer to the research question.

Examples of good hypotheses:

Example 1:

Due to the increasing social distancing caused by the pandemic, online communication tools have become an important option for digital-teaching pedagogy at German universities since 2020.

Example 2:

The development of digital technologies, which is being advanced in Germany in 2020, is leading to a new generation of digital natives in the field of online learning.

Example 3:

The worldwide rollout of the Internet at the turn of the millennium is comparable to the development of Gutenberg's printing press, which revolutionized printing through movable type in 1450, thus bringing about a media revolution.

3. Checklist for your research questions and hypotheses

Checklist for a good research question:

- Is my research question
 - a) an open question? (i.e., is the question formulated in such a way that it cannot be answered simply with yes or no but a question that asks how, why or what)?
 - b) not an either-or-question?
 - c) not an essentializing question?
 - d) a question that has more than one answer?
- Can the research question be answered in an appropriate way within the scope of the paper?
- Does the research question contribute to answering a larger theoretical question?
- Does the research question relate directly to the research topic and objects?

Checklist for a good hypothesis:

- Is the hypothesis an answer to my research question?
- Can the hypothesis be disputed?
- Is my hypothesis specific enough?
- Does the hypothesis pass the "so what?" test?
- Does my hypothesis directly address my chosen topic?
(Or is it a statement of my personal feelings)?
- Does my hypothesis indicate the direction of my argument? Does it reveal the structure of my work?