

FORMULATION OF HYPOTHESIS

Hypothesis Formulation

Once you have identified your research question, it is time to formulate your hypothesis. While the research question is broad and includes all the variables you want your study to consider, the hypothesis is a statement that specific relationship you expect to find from your examination of these variables. When formulating the hypothesis(es) for your study, there are a few things you need to keep in mind. Good hypotheses meet the following criteria:

- 1) Identify the independent and dependent variables to be studied.
- 2) Specify the nature of the relationship that exists between these variables.
- 3) Simple (often referred to as parsimonious). It is better to be concise than to be long-winded. It is also better to have several simple hypotheses than one complicated hypothesis.
- 4) Does not include reference to specific measures.
- 5) Does not refer to specific statistical procedures that will be used in analysis.
- 6) Implies the population that you are going to study.
- 7) Is falsifiable and testable.

As indicated above, it is better to have several simple hypotheses than one complex one. However, it is also a good idea to limit the number of hypotheses you use in a study to six or fewer. Studies that address more hypotheses than six will often be too time consuming to keep participants interested, and uninterested participants do not take the importance of their responses as seriously. Another advantage to limiting the number of formal hypotheses you formulate is that too many can make the discussion section of your paper very hard to write.

It is important to remember that you do not have to have a formal hypothesis to justify all comparisons and statistical procedures you might use. For instance, it is only when you start doing exploratory analysis of your data that you realize that gender is an influencing factor. You do not have to back up and write a hypothesis that addresses this finding. In fact, it is better in most cases to not do this. You can report any statistical findings you feel are relevant, whether or not you have a hypothesis that addressed them.

The final criterion listed above warrants additional mention. A good hypothesis is not only testable, that is, something you can actually test for in your study, but it must also be falsifiable. It is tempting to ignore this requirement, especially as a new researcher. We want so badly to find great things, and for our study to turn out exactly as we expect it to, that we tend to ignore the possibility that we don't know everything and that no prediction is failsafe when it comes to humans. Try to keep in mind that all research is relevant. Whether or not your findings are what you expect, you will find something. Believe it or not, failing to find group differences can be just as important as finding expected group differences. In fact, studies that return results in opposition to what we were hoping for, or believed would logically occur, often lead to many more great studies than we could have hoped for. After all, it could be great for the findings of your current research to act as a guiding principle to your future research... it is likely that this would require less work in terms of literature review, as you would always be familiar with at least a portion of the literature that is relevant to your latest study!

3.1 definition of hypothesis

3.2. the so-called

3.3 types of hypothesis

3.4 quantitative deductive approach

3.5. the variables

3.6 utility hypothesis

A research hypothesis is a statement of expectation or prediction that will be tested by research. Before formulating your research hypothesis, read about the topic of interest to you. From your reading, which may include articles, books and/or cases, you should gain sufficient information about your topic that will enable you to narrow or limit it and express it as a research question. The research question flows from the topic that you are considering. The research question, when stated as one sentence, is your Research Hypothesis.

In some disciplines, the hypothesis is called a "thesis statement." Other words for "hypothesized" are "posited," "theorized" or "proposed". Remember, your hypothesis must REQUIRE two or

more disciplines, one of which is law. This is essential, since your paper is interdisciplinary and

a demonstration of the interdisciplinary process.

In your hypothesis, you are predicting the relationship between variables. Through the

disciplinary insights gained in the research process throughout the year, you “prove” your

hypothesis. This is a process of discovery to create greater understandings or conclusions. It is

not a strict proof as in logic or mathematics.

Following are some hints for the formulation of your hypothesis:

- 1. Be sure to read on the topic to familiarize yourself with it before making a final

decision. You need to make certain that the topic is researchable in an interdisciplinary

sense, meaning that there is sufficient published material on the topic in the legal

literature and in the literature of a second or possibly a third discipline to write a 35-page

paper.

- 2. As noted, a research hypothesis is more than just a topic. It has two elements

(variables) that are in relation to each other. Remember that, within the word

"hypothesis" is the word "thesis." Your hypothesis is what you propose to "prove" by

your research. As a result of your research, you will arrive at a conclusion, a theory, or

understanding that will be useful or applicable beyond the research itself.

- 3. Avoid judgmental words in your hypothesis. Value judgments are subjective and are

not appropriate for a hypothesis. You should strive to be objective. Therefore the use of

personal opinion is to be avoided.

- 4. Your hypothesis must involve an issue or question that cannot be answered exclusively

by the discipline of law. You should try to limit your inquiry to the literatures of 2 or 3

disciplines. It is best to choose a hypothesis where you already have some level of

familiarity with the disciplines that are most relevant to the topic.

- 5. Be sure that each term in your hypothesis is clearly understood and defined; do not

deal in generalities or assume that the reader knows the meaning of a technical term.

- 6. Specify, if appropriate, whether you will be dealing with state or federal law or both on a comparative basis if appropriate.

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7. Know that your hypothesis may change over time as your research progresses.

You must obtain the professor's approval of your hypothesis, as well as any modifications to

your hypothesis, before proceeding with any work on the topic.

You will be expressing your hypothesis in 3 ways:

- As a one-sentence hypothesis
- As a research question
- As a title for your paper

Your hypothesis will become part of your research proposal.

Sample Student Hypotheses

2008-2009 Senior Seminar

Note how each student, in the samples below, began with a general topic or area of interest,

which evolved into a hypothesis. Look for the variables that each student subsequently explored in his/her paper. The examples below are final form hypotheses, which have been revised throughout the research process. You will find that your hypothesis may undergo changes too, as your research progresses.

Ali Abiden

Research Hypothesis: It is hypothesized that the recognition of the right to physician-assisted suicide is a protection of individual civil liberties.

Discipline and Sub-Disciplines:

Law (Civil Liberties / Constitutional Law); Political Science (American Government)

Hypothesis as Question: Would the recognition of the right to physician-assisted suicide be a protection of individual civil liberties?

Paper Title: The Right to Physician-Assisted Suicide and Individual Civil Liberties

Christine Aramini

Research Hypothesis: It is hypothesized that current law regarding eminent domain transfers

property rights to private enterprise without consideration of “the public good.”

Disciplines and Sub-Disciplines:

Law (Eminent Domain-focusing on Supreme Court Ruling/ Current NJ State Law);

Political Science (Constitutional Law/American Government and Politics/State and Local

Government); Sociology (Political Sociology)

Hypothesis as Question: Does the current law regarding eminent domain transfer property rights

to private enterprises without consideration of the “public good”?

Paper Title: Transfer of Property Rights: Finding the “Public Good” in Eminent Domain
Dorothy Kenney

Research Hypothesis: It is hypothesized that, subsequent to District of Columbia v. Heller, the

United States Supreme Court has laid the foundation to uphold an individual's Second

Amendment "right to bear arms" under state law.

Disciplines and Sub-Disciplines:

Law (Constitutional Law) ; Political Science (American Government, Political Theory)

Hypothesis as Question: According to District of Columbia v. Heller should states have the

power to uphold and regulate individual "Right to Bear Arms"?

PaperTitle: District of Columbia v. Heller and the Second Amendment "Right to Bear Arms"

Andrea Khan

Research Hypothesis: It is hypothesized that Harriet Beecher Stowe's novel Uncle Tom's Cabin

influenced changes in the law of slavery in pre- and post-Civil War America.

Disciplines and Sub-Disciplines:

Law (Slave Law); Literature (Nineteenth-Century Novel)

Hypothesis as Question: Did Harriet Beecher Stowe's novel Uncle Tom's Cabin influence

changes in the law of slavery in pre- and post- Civil War America?

Paper Title: Literary Confrontation: Uncle Tom's Cabin as a Challenge to Slavery

Laura Marchini

Research Hypothesis:: It is hypothesized that, over the past two decades, Battered Woman

Syndrome has become increasingly accepted as a justification for self-defense in homicide cases

Disciplines and Sub-Disciplines:

Law (Domestic Violence Law and Criminal Law) Psychology (Behavioral Psychology)

Hypothesis as Question: Should Battered Woman Syndrome become more accepted as a

justification for self-defense in homicide cases?

Paper Title: Battered Woman Syndrome: A Defense of Justification

Alex Taub

Research Hypothesis: It is hypothesized that law school courses in "Law and Literature"

provide non-traditional perspectives that enrich a law school education.

Disciplines and Sub-Disciplines:

Law (Education); Literature (Education)

Hypothesis as Question: What can be gained from the non-traditional interdisciplinary study of

law and literature in a law school curriculum?

Paper Title: Law and Literature: A Paradigm for Non-Traditional Interdisciplinary Law School

Formulating the Hypothesis

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Formulating a hypothesis helps by defining an initial explanation to be tested in the research process.

KEY POINTS

Hypotheses are testable explanations of a problem, phenomenon, or observation.

Both quantitative and qualitative research involve formulating a hypothesis to address the research problem.

Hypotheses that suggest a causal relationship involve at least one independent variable and at least one dependent variable; in other words, one variable which is presumed to affect the other.

An independent variable is one whose value is manipulated by the researcher or experimenter.

A dependent variable is a variable whose values are presumed to change as a result of changes in the independent variable.

TERMS

hypothesis

Used loosely, a tentative conjecture explaining an observation, phenomenon, or scientific problem that can be tested by further observation, investigation, or experimentation.

dependent variable

In an equation, the variable whose value depends on one or more variables in the equation.

independent variable

In an equation, any variable whose value is not dependent on any other in the equation.

EXAMPLES

In his book *Making Democracy Work*, Robert Putnam developed a theory that social capital makes government more responsive. To demonstrate his theory, he tested several hypotheses about the ways that social capital influences government. One of his hypotheses was that regions with strong traditions of civic engagement would have more responsive, more democratic, and more efficient governments, regardless of the institutional form that government took. This is an example of a causal hypothesis. In this hypothesis, the independent (causal) variable is civic engagement and the dependent variables (or effects) are the qualities of government. To test this hypothesis, he compared twenty different regional Italian governments. All of these governments had similar institutions, but the regions had different traditions of civic engagement. In southern Italy, politics were traditionally patrimonial, whereas in northern Italy, politics were traditionally more open and citizens were more engaged. Putnam's evidence supported his hypothesis: in the north,

which had a stronger tradition of civic engagement, government was indeed more responsive and more democratic.

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A hypothesis is an assumption or suggested explanation about how two or more variables are related. It is a crucial step in the scientific method and, therefore, a vital aspect of all scientific research. There are no definitive guidelines for the production of new hypotheses. The history of science is filled with stories of scientists claiming a flash of inspiration, or a hunch, which then motivated them to look for evidence to support or refute the idea.

The Scientific Method is an Essential Tool in Research

This image lists the various stages of the scientific method.

While there is no single way to develop a hypothesis, a useful hypothesis will use deductive reasoning to make predictions that can be experimentally assessed. If results contradict the predictions, then the hypothesis under examination is incorrect or incomplete and must be revised or abandoned. If results confirm the predictions, then the hypothesis might be correct but is still subject to further testing.

Both quantitative and qualitative research involve formulating a hypothesis to address the research problem. A hypothesis will generally provide a causal explanation or propose some association between two variables. Variables are measurable phenomena whose values can change under different conditions. For example, if the hypothesis is a causal explanation, it will involve at least one dependent variable and one independent variable. In research, independent variables are the cause of the change. The dependent variable is the effect, or thing that is changed. In other words, the value of a dependent variable depends on the value of the independent variable. Of course, this assumes that there is an actual relationship between the two variables. If there is no relationship, then the value of the dependent variable does not depend on the value of the independent variable.