

# Hypothesis generation worksheet

(adapted from Clifton Oyamat)

The heart of a research paper is its hypothesis (or hypotheses). The purpose of this exercise is to practice the introductory steps necessary to create a hypothesis.

In its simplest form, a hypothesis expresses the relationship between two (or more) variables. Thus, it is important to define the variables in question. The term “variable” comes from the same root as “vary.” A variable is a characteristic (usually of a person or situation) that can have at least two different values. The phrase, “violent television,” does not refer to a variable, as there is no indication of how it can vary. The phrases: “Amount of exposure to violent television,” or “Exposure to violent television versus exposure to nonviolent television,” both describe variables as they indicate the possibility of different values. The different values of a variable can be measured either qualitatively (for example, male or female if the variable is gender) or quantitatively (for example, a certain number of pounds if the variable is weight).

There are two general classes of variables. Independent/predictor variables (IVs) are those things that are presumed to be the cause of some phenomenon. Dependent variables (DVs) are the effects and outcomes we are interested in measuring. Suppose we hypothesize that greater exposure to violent imagery leads to more aggressive behavior. In this case “exposure to violent television” is the independent variable and “aggressive behavior” is the DV.

In our first class exercise, for example, we will observe children to see how their behavior (dependent variables) varies according to some other variable, such as gender (independent variable). Dependent variables that might be measured in this exercise include activity level, amount of aggression, amount of cooperative play, number of individuals in the group, etc. Other independent variables that might cause variation in these behaviors (but that we are probably not able to measure in this study) could include age, setting, presence of adults, family background, etc.

## The worksheet

1. Select an anthropological variable *that interests you*. The variable can characterize groups or societies as well as individuals, if you wish (for example, you could choose levels of political complexity, types of inheritance, latitude, etc.)

A. Give it a label. \_\_\_\_\_

B. *Briefly* describe this variable. \_\_\_\_\_

C. Describe how this variable can be operationalized (measured). For example, if a variable in our study is number of aggressive acts, we operationalize it by specifying which behaviors constitute an aggressive act.

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2. Select another anthropological variable that you believe is related to your first variable.

A. Give it a label. \_\_\_\_\_

B. Briefly describe this variable. \_\_\_\_\_

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C. Describe how this variable can be operationalized. \_\_\_\_\_

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Once the variables are defined, the next step is to predict the relationship between these two variables by writing a hypothesis. A hypothesis is a prediction about the relationship between two or more variables. For now, assume that there is a causal relationship between the two variables, even if that would be difficult to prove. For example, you might say, "Increasing the amount of violent television that a person watches (independent variable) will cause that person to exhibit more aggressive behaviors (dependent variable)."

3. State a hypothesis. \_\_\_\_\_

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Hypotheses are not mere guesses. Although there is never 100% certainty that a hypothesis is true, there are usually good reasons why the researcher believes that the hypothesis is true. It is very important to note why a particular relationship is expected.

4. Why do you think this relationship exists? Give a short theoretical explanation for this hypothesis.

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Often other variables are mentioned when explaining why a relationship exists. With many causal relationships, the relationship exists because changing the independent variable causes a change in a middle variable that causes the change in the dependent variable. This middle variable is called a “mediator variable.” For example, you may believe that watching violent television causes people to believe that violence is an effective way to achieve one’s goals and that this belief causes people to become violent. If this is the case, the extent to which a person believes that violence is an effective way to achieve goals is a mediator variable.

5. Think about a possible mediator variable.

A. Give it a label. \_\_\_\_\_

B. Give a short explanation of why you believe that this variable is a mediator variable. \_

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It is not interesting to predict something so obvious that there is a certain or near certain chance that the predicted result will occur. More interesting hypotheses have a possibility that the opposite would be true. For example, it is possible that increasing the amount of violent television that a person watches would decrease the number of aggressive behaviors that that person exhibits.

6. State a hypothesis that predicts the opposite relationship of what you predicted in question three.

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7. Why might this relationship exist? Give a short theoretical explanation of this new hypothesis.

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Frequently, researchers find the result they expected in one situation or for one group of people and find no relationship or the opposite of what they expected in a different situation or for a different group of people. The variable that describes the difference between the two

situations or the two groups of people is called a “moderator variable.” For example, the amount of violent television that people watch may affect their level of aggression if they are younger than 14 years old, but not if they are older than 14 years old. In this situation, age would be a moderator variable.

8. Think about a possible moderator variable.

A. Give it a label. \_\_\_\_\_

B. Briefly explain how you believe the relationship that you stated in part 3 would change depending on the value of the moderator variable.

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C. Give a short theoretical explanation of why you believe that this variable is a moderator variable.

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