

# Psychology 2020 Introduction to Psychological Methods

## Unit 2 Defining and Measuring the Subject Matter

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## Variables

- Variables in research are those things which can change (have more than one value).
  - Some examples are task difficulty (high or low, amount of reinforcement (1,2, or 3 candies), or number of responses made in an hour.
- There are four general categories of variables.
  - Situation variables
  - Response variables
  - Individual differences in participants variables
  - Mediating variables

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## Research Variables

- Situation variables are often manipulated by the experimenter.
  - They become the "independent" variables in the experiment or they are held constant (controlled)
- Response variables are often measured as the results of the experiment (what the participants are doing differently after receiving the experimental manipulation)
  - These variables become the "dependent" variables of the experiment.

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## Other Variables

- Individual difference variables related to the participants.
  - These are often minimized or controlled such that the experimental results are more clearly seen.
  - Examples: Age, gender, diagnosis, intelligence, grade level, income level, living arrangement, sexual orientation, etc.

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## Other Variables

- Mediating variables are inferred psychological processes that are often used to explain research outcomes.
  - These variables are invented by the experimenter and are related to the theory that produced the experiment.



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Which one of the following is a situational variable?

- A. Reasoning ability
- B. Temperature in the room
- C. Performance on a weight-lifting task
- D. Ratings for the humor of several comic strips

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The more people in a group that perform a behavior, the more likely a person is to also perform the behavior because it is the "norm" of behavior. This interpretation of group behavior as the "norm" is an example of a \_\_\_\_\_ variable.

- A. response
- B. conceptual
- C. mediating
- D. situational

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Dr. King asks student teachers to assign a punishment for misbehavior displayed by an attractive versus unattractive child. The response variable would be

- A. the student teachers
- B. assigned punishment
- C. the child's attractiveness
- D. the misbehavior

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Law students who scored low versus high on a measure of dominance were asked to assign punishment to a drunken driver involved in an accident. The participant variable would be

- A. the drunken driver
- B. assigned punishment
- C. the accident
- D. the dominance of the law students

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## Operational Definitions

- Measured variables must be defined clearly
- When we define a variable in terms of the specific method used to produce, manipulate and/or measure that variable we have defined it "operationally".
- Examples:
  - Intelligent is operationally defined as a score above 120 on an IQ test.
  - Courage is operationally defined as doing things that could produce physical pain.
  - A tantrum is operationally defined as screaming loudly for more than 30 seconds when a toy is removed from play.

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An operational definition of the variable "anxiety" might be

- A. a physiological measure of sweating.
- B. the score on the Taylor Manifest Anxiety Scale.
- C. the number of "um's" and "ah's" in a person's speech.
- D. all of these

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