

Hypothesis-Generating Heuristics

- Intensive case study
- Paradoxical incidents
- **Analogies and metaphors**
- Conflicting results
- Improve old ideas
- Serendipity
- Varied replication

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Hypothesis-Generating Heuristics

- Analogical Thinking
 - Using analogy to explain phenomena
 - E.g. Resistance to propaganda is similar to inoculation
 - Cultural truisms:
 - "Mental illness is not contagious"
 - "It's good to brush your teeth after every meal"
 - "Smoking is bad for your health"
 - These ideas are vulnerable to counterpropaganda

Hypothesis-Generating Heuristics

- Inoculation ... Vaccination
 - Expose person to a small form of counterpropaganda
 - To make her/him to discover why she/he believes that something is true?
 - This would provide a "vaccination" to counterpropaganda.

Hypothesis-Generating Heuristics

- Develop a hypothesis for the idea of inoculation to counterpropaganda
- How to devise an experiment to measure it?

Hypothesis-Generating Heuristics

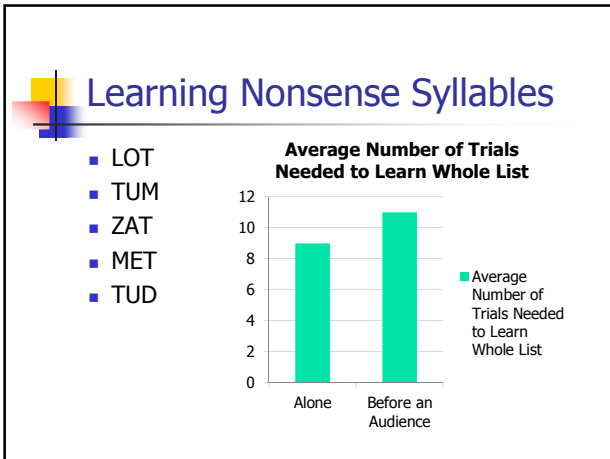
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Hypothesis-Generating Heuristics

- To Account Conflicting Results
 - Result 1: Performance in humans is poorer when passive observers are present (Pessin, 1933)

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Hypothesis-Generating Heuristics

- To Account Conflicting Results
 - Result 2: Performance in a letter detection task (vigilance task) improved when passive observers are present (Bergum & Lehr, 1963)

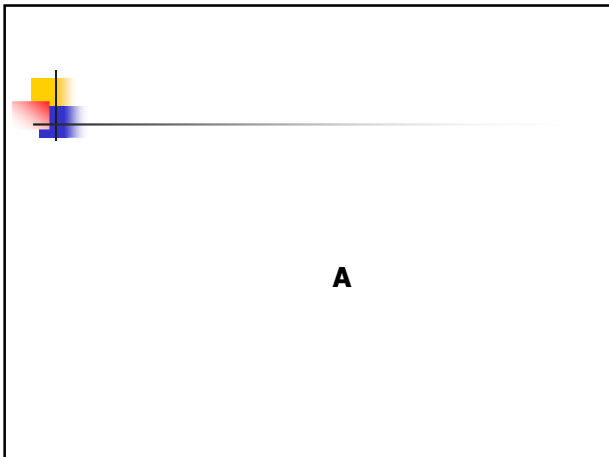
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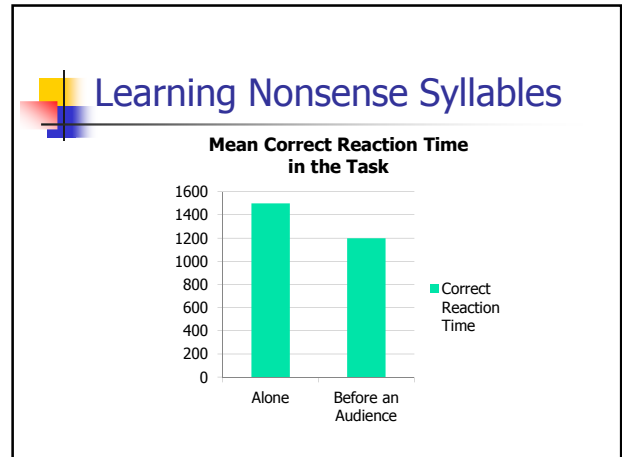
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- ### Hypothesis-Generating Heuristics
- To Account Conflicting Results
 - Result 1: Performance in humans is poorer when passive observers are present (Pessin, 1933)
 - Result 2: Performance in a letter detection task (vigilance task) improved when passive observers are present (Bergum & Lehr, 1963)
 - Zajonc (1965) The presence of others inhibits the learning of new responses but facilitate performance of well-learned responses.
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- ### Hypothesis-Generating Heuristics
- Improving older ideas
 - Bem's self-perception theory
 - Previous theory: attitudes shape behavior
 - New theory: behavior shapes attitudes
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- ### Hypothesis-Generating Heuristics
- Improving older ideas
 - Skinner's operant conditioning
 - Previous theory: classical conditioning and "trial and error learning"
 - New theory: instrumental conditioning "response and reinforcement"
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Hypothesis-Generating Heuristics

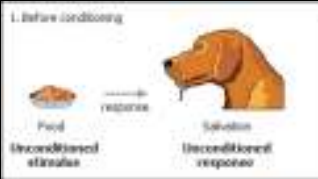
- Old Idea: Classical Conditioning

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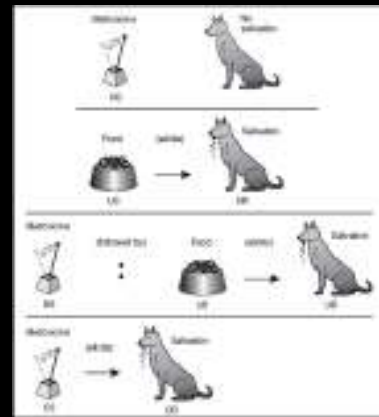


In Pavlov's experiments, a dog was trained to salivate to the sound of a metronome. The dog was restrained in a harness, and a tube was inserted into an incision in its cheek. Whenever the dog salivated, the tube carried the saliva to a container that activated a recording device. (Source: Coon, 1998.)

Classical Conditioning



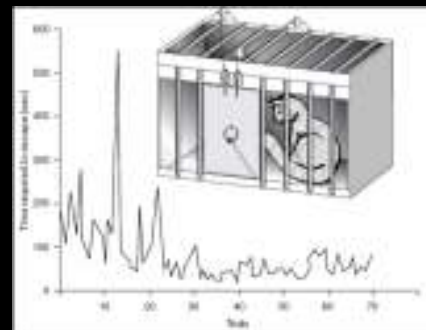
Classical conditioning of salivation. Prior to conditioning, the dog automatically salivates to the taste of food. During conditioning, the sound of a metronome is presented just prior to the presentation of food. After conditioning, the metronome itself now elicits salivation. (Source: Nairne, 2000.)



Hypothesis-Generating Heuristics

- Old Idea: Trial and Error Learning

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Thorndike's puzzle box. In a typical experiment, a hungry cat was enclosed in a puzzle box and a dish of food was placed outside the box. To reach the food, the cat had to learn how to escape from the box by stepping on a treadle that opened the gate. The graph illustrates the general decrease across trials in the amount of time it took the cat to escape. (Source: Nairne, 2000.)

Hypothesis-Generating Heuristics

- New Idea: Instrumental Conditioning



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Hypothesis-Generating Heuristics

- Serendipity
 - Lucky discovery

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Hypothesis-Generating Heuristics

- Varied Replication
 - Repeating a published study with a new twist.
 - The best strategy for newcomers

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Discussion Questions *(continued)*

What research topics in psychology interest you?

- What hypothesis can you form about your topic?

Research Proposal

- What would you like to study?
- How would you like to study?
- The purpose of research proposal is to ensure a workable, experimental design that, when implemented, will result in an interpretable empirical finding of significant scientific merit.

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Research Proposal

- Workable research problem
- Careful prior consideration of related literature
- Possible practical problems
- Workable statistical analyses
- Eventual interpretation of expected results

Format of Research Proposal

- **Working title**
- Objective
- Hypotheses & Predictions
- Proposed method
- Proposed data analysis
- Ethical considerations
- Preliminary list of references

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Mary Jones 1

Research Proposal for Psych 333
 Mary Jones (e-mail address or other contact information)
 (Date the proposal is submitted)

Working Title of Proposed Research
 Is There a Biasing Effect of Drug-Testing Results on Bail Judgments?

Objective of the Research
 While watching television one evening, I happened to see two lawyers disagreeing about whether judges impose higher bail on defendants who test positive for drug usage. One lawyer insisted that, even when positive information from mandatory drug testing is not directly related to the crime in question, it will nevertheless bias the judge's bail decision. This lawyer further argued that mandatory drug testing is therefore a serious threat to the criminal justice system's ideal of being just and unbiased in all its aspects. Moved by this dispute, I began perusing texts and searching PsycINFO for some relevant literature.

Hypotheses and Predictions
 To develop a directional hypothesis, I have been thinking about Jones and Davis's (1965) correspondent inference theory, which states that observers focus on certain types of behavior to infer traits

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Hypotheses and Predictions

To develop a directional hypothesis, I have been thinking about Jones and Davis's (1965) correspondent inference theory, which states that observers focus on certain types of behavior to infer traits since they believe that only certain behaviors are indicative of traits. Among the questions that observers presumably ask themselves is whether the behavior is low in social desirability. Baron and Byrne (1987) also mentioned that observers have a tendency to focus on socially undesirable behavior in judging the actor's traits and, once having inferred these traits, use this information to predict the actor's future behavior. On the assumption that drug usage is generally considered low in social desirability in our society, my working hypothesis is that positive results from a drug test will result in harsher bail judgments than when no such information is made available.

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Proposed Method

I propose to use a randomized design in which the participants are assigned to one of two conditions. The sample will consist of approximately 30 students in an undergraduate class. I have been given permission by the course instructor to invite the students to participate. I have also developed a "crime scenario" that the participants will read; it describes a man seen running from a burglarized house.

In the experimental condition, the scenario will state that the suspect tested positive for drugs while in custody.

A man was arrested as a suspected burglar. He fit the description of a man seen running from the burglarized house. While in custody the man submitted to a blood test, and it was determined that he had very recently used drugs.

In the control condition, neutral information (i.e., the suspect ate and phoned someone) will be presented in lieu of the information about having tested positive for drugs.

A man was arrested as a suspected burglar. He fit the description of a man seen running from the burglarized house, the man spent enough time in custody to receive two meals and make three phone calls.

Following these conditions, I will measure the dependent variable by asking the participants to respond to the following question: If you were the bail judge, what would you set the bail to be? Choose a dollar amount from \$0 to \$50,000.

My reason for specifying a range is to give the participants a common metric, and I chose this range because it seemed realistic and sufficiently wide to produce differences between the experimental and control groups. At the beginning of the questionnaire, the

Mary Jones 3

participants will be asked their age, sex, year in college, and estimated GPA. No name will be asked for, because I believe that the participants will be more forthcoming if they know they are responding anonymously.

Proposed Data Analysis

I plan to analyze the results using an independent t test and to report not only the associated p value but also the effect size and its 95% confidence interval. As these calculations are pretty simple, I expect to do them by hand using my calculator. As a precaution, I will go over the planned analysis with Professor Kind once I have the raw data and have calculated the means and standard deviations.

Ethical Considerations

Though I have obtained permission to run my study in another instructor's class, I will emphasize at the outset (as part of the informed-consent procedure) that students who do not wish to participate may decline to respond. I will point out that all responses will be anonymous. The study does not involve deception; nevertheless, I will debrief the students and answer any questions at the end of the study.

Preliminary List of References

Baron, R. A., & Byrne, D. (1987). *Social psychology: Understanding human interaction*. Boston: Allyn & Bacon.

Jones, E. E., & Davis, R. E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 1, pp. 219-264). New York: Academic Press.

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İnsan Araştırmaları Etik Komitesi

- Bir üniversite’de öğrencilerden veya çalışanlardan bilgi toplamak için izin alınması gerekli kurul.
- Üniversitemizde kuruluş aşamasında

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