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Cozby & Bates: Methods in Behavioral Research (11th)

Chapter 6: Observational Methods

Psychology 120 (Research Methods) Summer 2014

Recap: Measurement Scales

Nominal

- By name (categories)

Ordinal

- By order (place / rank)

Interval

- Meaningful intervals (equal interval scaling)

Ratio

- Meaningful intervals with a “real” zero (ratios useful)

Qualitative versus Quantitative Approaches

Qualitative

- Focus on the “qualities” of the interactions
- tends to involve natural settings
  - people behave in natural settings and describe their world in their own words
- spontaneous / not structured
- “interpretive” analyses

Quantitative

- Focus on measured “quantities”
- Measurement of specific (measurable) behaviors
- Statistical analyses

Approaches often relevant to nonexperimental research

Case Study:

- Observation and description of a single case, usually an individual.

Archival Research:

- Use of existing records to study behavior (census; statistical records; survey archives; written documents). Content analysis of written materials likely requires a coding system.

Psychological Testing:

- Psychological traits (e.g., extroversion, intelligence).

Survey Research:

- Administer a survey instrument to a sample of individuals drawn from a population.

Systematic Observation:

- Observation of one or more specific behaviors in a well-defined setting. Primarily quantitative. Requires a coding system.

Types of Observational Research

Observational Research – studies that observe and attempt to describe the behavior of people or animals

1. naturalistic observation
2. systematic observation
3. Contrived observation
4. Case study
5. Archival research

Naturalistic Observation (example of Qualitative Research)

The researcher makes observations in a particular natural setting (*the field*) typically oven an extended period of time and using a variety of techniques to collect information.

- used sometimes in Psychology, but more in Sociology, Ethnology, and Anthropology
  - Psychology example: “Cognition in the Wild” (Hutchins, 1995)

Naturalistic Observation:

Identifies and measures the behavior of people or animals as it occurs in their everyday lives.

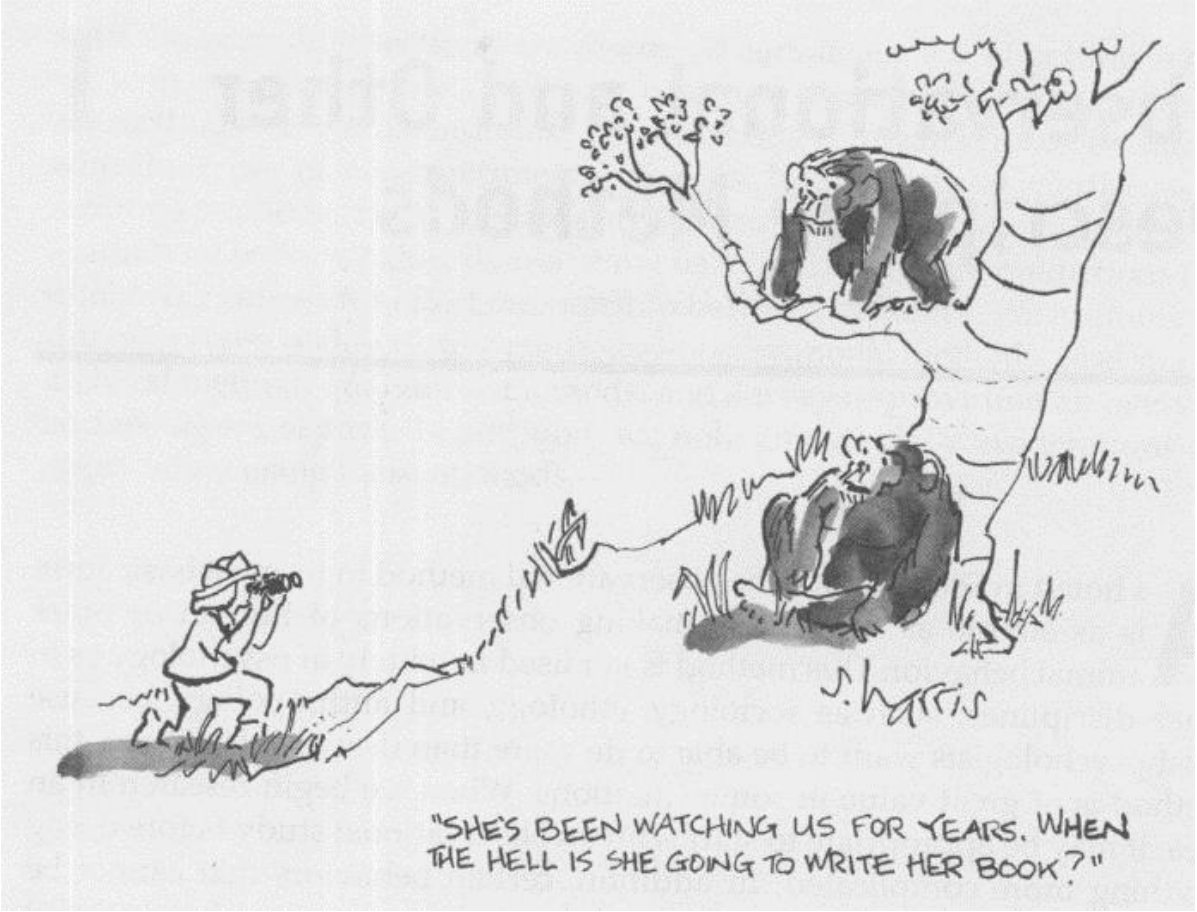
- The behavior may be measured as it occurs or others could already have recorded it, or it may be coded on videotape to be coded at a later time.
- Can produce a rich and complex data set.
- Observation of a Behavior in a naturalistic setting over an extended period of time (a variety of methods are often used).
- Primarily qualitative rather than quantitative.
- Has ***ECOLOGICAL VALIDITY*** (occurs in situations that are similar [or identical] to the everyday life experiences of the participants [minimizes reactivity]

Observational Research: Naturalistic Observation

naturalistic observation – observe and record occurrence of naturally occurring behavior, without attempting to intervene

- "in the field"
- goal: describe and understand how people in a social or cultural setting live, work, and experience the setting
- may use various methods: observing, interviewing, examining documents such as newspapers or memos
  - Jane Goodall's chimp studies
  - Hutchin's "Cognition in the Wild"

Jane Goodall… classic Naturalistic Observation



Observational Research

Involves making observations of behavior and recording those observations in an objective manner (free from experimenter bias)

Researcher as Participant (Participant Observation) (acknowledged vs. unacknowledged participant)**:** note potential for reactivity. Is the observation too obtrusive? Ethics concerns?

Researcher as Observer (acknowledged vs. unacknowledged observer): note potential for reactivity. Can be more efficient (more time for coding behavior).

- Ethics concerns?
- Can be large N
- Participant-Observers get less time to code the data; the data is less "immediate" to record
- Objective

	Participant-Observer	**Observer**
Acknowledged	Ethics – ok? Reactivity? Experimenter Bias?	Ethics – ok? Reactivity?
Unacknowledged	Ethics? Experimenter Bias?	Ethics?

Observational Research: Naturalistic Observation (Participant Observation)

participant observation – watching people or animals in their natural habitats, while actively participating in their situation

- infiltrate the group
- *disguised* (don't tell you are a researcher) or *undisguised (aware/unaware)*
- researcher analyzing hate crimes entered "White racist internet chat rooms" by posing as a newbie (Glaser, Dixit, & Green, 2002)

- Advantages:
  - being a member of the group may give you important insights
  - sometimes can't observe the group well if you're not a member

- Disadvantages:
  - lose objectivity by identifying too much with the group
  - Kirkham (1975) went through police academy training and became an officer -- took on new attitudes that his companions had: mistrust of others, hostility, etc.

Observational Research: Naturalistic Observation (Narrative Records)

- audiorecording, videorecording (use of EQUIPMENT)
- narrative records – full descriptions of a participant's behavior
  - attempt to record everything: settings, events, behaviors
  - written or video
  - Piaget wrote down everything a child did and said during the specified time period
  - researcher makes interpretations and supports them with examples of observed events
  - Primarily qualitative

advantage:

- is a good start for getting new theoretical ideas about behavior

disadvantage:

- not useful for studying specific questions – cannot test a hypothesis, because data is not organized

Observational Research: Naturalistic Observation (Qualitative Analysis)

There are difficulties in the analysis of the corpus of observations

The experimenter generally sifts through the observations to develop hypotheses or accounts for the observed data. "negative case analyses" are performed to examine observations that are not consistent with the working hypothesis.

Difficulties in data interpretation include:

- selective observations (*experimenter bias* in data collection)
  - *Self-fulfilling prophecy*
- *Subjectivity* (idiosyncrasies in observation or interpretation)
- The "positive bias" that tends to exist rather than explicitly seeking out those occurrences that are NOT predicted by the working hypothesis

Observational Research: Systematic Observation

observing one or more (few) specific behaviors in a particular setting

systematic procedures for recording data

- quantitative
- need a coding system to define what behaviors will be recorded and how they will be measured (operational definitions)

example: social behavior in young children of different ages

- every 15 minutes, record for each child what they are doing:
  - unoccupied
  - solitary play
  - together
  - parallel play
  - group play
- Hartup (1974)
  - recorded frequency and types of aggression exhibited by children at their preschool
  - males had more aggressive acts than females

advantage:

- can test hypotheses

disadvantage:

- may miss interesting behaviors because they are not part of your checklist

Observational Research: Contrived ("Set up") Observation

in lab or in the field.

Ainsworth and Bell (1970) "strange situation" study

- children were put into specific scenarios in a lab (mother leaving room, etc.)

result: discovered "attachment styles"

Simons and Levin (1998) "change blindness" study

- change blindness
- confederate approached pedestrian on campus and asked for directions
- http://viscog.beckman.uiuc.edu/flashmovie/12.php

result: about ½ of the people did not notice change

Valentino, Cicchetti, Toth, & Rogosch (2006)

- mothers and children from maltreating (abusing, neglecting) families and normal families
- observed interactions in particular contexts they set up

result: children from abusing families engaged in less independent play than those from normal families

advantage:

- allows researcher to control situation to see things they might not otherwise see

disadvantage:

- not as natural

In-Class Discussion:

Identify whether each of these studies is a naturalistic observation, systematic observation, or contrived observation:

1. Dr. Green observed recycling behavior at three local parks. She sat in a picnic area so she would be unnoticed. She then wrote down each time a person put trash in a recycling bin, regular trash can, or left trash on the ground. She also recorded the type of trash that it was (glass, paper, plastic, food waste, etc.)

2. Dr. Perez wanted to learn about how infants play in groups and share toys. In a lab, he would sit groups of 3 infants together and give them one specific toy to play with among the 3. During this time, he wrote down how the infants played with the toy.

3. Dr. Nakamoto wanted to find out what life is like for cult members. Dr. Nakamoto pretended to join the cult. She then wrote down the behaviors of her fellow cult members. She tried to take notes on everything she saw the cult members do and say.

Advantages and Disadvantages of Observational Studies

Primary advantage is that the research inherently describes real-world behavior (External Validity)

Primary disadvantage is that of reactivity – the presence of the investigator may change behavior

- The act of observation may influence what is being observed
  - E.g., chimps may act different when researcher is there; "boardroom" discussions may become sanitized; the presence of a researcher observing behavior of high school students around campus may change the behavior they are intending to document ("real world", MTV, "reality TV", etc.)

- One solution it to use disguised or unobtrusive observation
  - hide, one-way mirror, videotape participants
    - LeFrance and Mayo (1976) observed conversations in restaurants, waiting rooms, etc.
    - hide stopwatches and data sheets
  - don't tell you are a researcher
- ethical issues?
  - in Henle and Hubbell (1938) researcher hid under beds in dorm rooms to learn what students talk about!

(cont.)

Advantages and Disadvantages of Observational Studies

A second major disadvantage is "*experimenter (observer) bias*" – this occurs when the researcher's biases determine which behaviors they choose to observe and record

- E.g., pay more attention to behaviors that they expect and/or are consistent with their favored theory, while ignoring or discounting other behaviors
  - use "blind" raters who don't know the hypothesis/what the study is looking for
  - in Valentino et al. (2006) raters didn't know if they were watching a maltreating or normal family (thus producing "blind ratings")

Experimenter biases in recording illustrate a general problem of measurement failure

- Multiple raters (to verify high computed inter-rater reliability)
- Reliable scoring rubrics (i.e., using a reliable coding system)
- Etc.

Doing good observational data collection and analysis is both time-consuming and cognitively demanding

Observational Research: the Case Study

in-depth description of one individual

- can involve several different methods, such as personal history, observation, psychological testing, and experimentation on the person
- good for studying a person with a rare condition
  - "Genie" a child who was severely neglected and didn't know how to speak at the age of 13
  - "H.M." a patient whose hippocampus was removed and had amnesia
  - "S." who could remember long lists of information
- advantages:
  - can learn about a special/unusual situation in detail
  - can lead to new hypotheses that can later be tested
- disadvantages:
  - the one subject may not be typical, and findings may not generalize to other people
  - there are usually many explanations for behavior, and it is hard to draw conclusions

Observational Research: Archival Research

- use previously existing records to answer research questions
  - public records (census data, police records, Educational Testing Service, etc.)
  - previously existing survey data that is shared in a database
  - published records (material from newspaper or on internet)
- do statistical analyses (e.g., correlational analysis) on the data
  - Gwanltney-Gibbs (1986)
    - marriage license applications (one Oregon county)
    - in 1970, 13% of couples used a shared address
    - in 1980, 53% of couples used a shared address
      → used to illustrate an increase in pre-marital cohabitation

advantages:
- can answer questions that can't be answered with any other method
- avoids reactivity

disadvantages:
- Limited by the accuracy of the original data collection (may be low)
  - who is included in the data? (e.g., police records / clinician report / friends / self-report)
- you don't know if procedures for collecting data were reliable and valid
  - E.g., consistency in the application of definitions (CSU budgets, etc.)

Naturalistic Observation
Quotes from Geller et al. (1986)

- We observed the beer drinking behavior of 308 university students in several bar and party settings.
- The observers attempted to remain as inconspicuous as possible by sitting at tables and behaving as normal patrons.
- Information for each subject was recorded on data sheets that included gender, arrival and departure time, time of starting and finishing each individual container of beer or glass of beer poured from a pitcher, container type (pitcher, bottle, cup, or glass), and number of persons at the subject's table (including those drinking and not drinking beer).
- Of the 243 total observation periods …104 (43%) were observed by two independent observers… The percent agreement [between the two observers] was 98% for the total ounces of beer consumed (± 1 oz); 99% for total time in the bar (± 5 min); and 100% agreement for categorization of subject gender, group size, and type of beer container (pitcher, bottle, cup, or glass).
- The following relationships were found: (a) males drinking beer in bars consumed 0.92 oz per min; (b) females drank less beer than males, and stayed in a bar for a longer time period; (c) patrons drank significantly more beer when drinking in groups and when purchasing beer in pitchers versus cups or bottles; and (d) intervals between party arrival and first drink and between party departure and last drink varied inversely with blood alcohol concentration.

In-class discussion of Geller et al. (1986)

1. Was it a naturalistic observation, systematic observation, or contrived observation?
2. Were the observers obtrusive or unobtrusive?
3. Do you think that reactivity might have affected participants behavior?
4. Do you think that observer bias might have affected the results?
5. Do you think that observers were rating accurately and had good inter-rater reliability?

Chapter 6 Vocabulary

- Archival Research
- Case Study
- Coding System
- Content Analysis
- Naturalistic Observation
- Contrived observation
- Experimenter Bias
- Positive Bias
- Narrative Record
- Sampling (of behaviors)
- Negative Case Analysis
- Participant Observation
- Psychobiography
- Reactivity
- Reliability
- Sampling
- Systematic Observation
- Qualitative
- Quantitative
- External Validity
- Subjectivity
- Training (of observers)

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