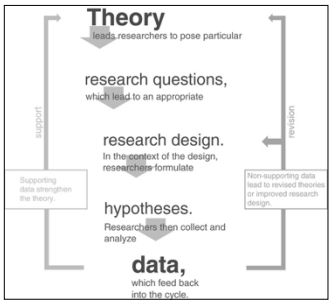
## Theory-Data cycle

- Theory: set of statements that describe general principles about relationships between variables
- Hypothesis: specific predictions about what should happen if the theory is correct
- Data: observations made

## Theory-Data cycle

- Properties of a theory
  - Supported by data
  - Falsifiable
  - Parsimonious
- Additional points
  - Theory vs. fact
  - "Proving" a theory




*Research Methods in Psychology*


## Questions

Review the Harlow study described in the book (pages 9-11), and discuss the following:

1. What were the 2 theories being tested?
2. What specific hypothesis was used to test the theories?
3. What data were collected?
4. Describe what outcome (data) would falsify each of the two theories.
5. Review the concept of parsimony. On page 13, how was Harlow's theory modified? How did this affect the parsimony? How did this modification fit in to the theory-data cycle?

## Basic-Applied Research cycle

- Applied research: solve a real-world problem
- Basic research: enhance the body of knowledge
- Basic research as the groundwork for applications
- Applied research can stimulate basic research

## Peer-review cycle

- Knowledge gained through science is made available to others through publication
- Publication process
- Peer-review is a minimum standard

## Journal-journalism cycle

- Journalism – telling a story
- The quest for "balance"
- Nuances of science
- Choice of stories


*Research Methods in Psychology*


## Journal-journalism cycle

- Read the abstract on the relationship between sleep problems and Alzheimer's disease. Then read the attached news reports of the findings.
- In each news article, underline:
  - statements that seem to report the information accurately.
  - statements that seem to misrepresent the research in some way.
  - Also indicate what (if any) important information is left out of each article.