

# Advanced Placement Psychology

## Chapter 1: Thinking Critically with Psychological Science

( <http://www.ApPsychology.net> )

### The Scientific Attitude

- Scientific approach that is skeptical and open-minded
- To shift away from illusions to reality, one must use Smart thinking *or* **critical thinking**: thinking that does not blindly accept things, but approaches with skepticism and examines the evidence carefully; *Ask how did they know, on guts and instinct? Are the evidence biased?*
- However, must remember to have humility as too extreme would be stubbornness

### The Limits of Intuition and Common Sense

- Intuition often ends up nowhere
- Tend to use a lot **hindsight bias**: tendency to believe that one would have known it after the results are shown; *Seems like common sense; The answer was right there and look how obvious it was*
- Experience it usually when looking back on history; eg. *Glen Clark and the fast ferries*
- Humans tend to be overconfident, think we know more than we actually do (probably result of *self-serving bias*)
- Hindsight causes us to be overconfident as we believe we would have picked the answer when the results are in front of us

### The Scientific Method

- Scientific **theory**: explanation using set of principles to organise/predict observations
- No matter how good theory sounds, must put it to test
- Must imply testable prediction = **hypothesis**
- Beware of bias when testing
- Good experiment can be **replicated**: the experiment can be repeated and would yield constant results; done with a different group of people or by a different person ending with constant results
- Theory useful if:
  - (1) effectively organises range of observations
  - (2) implies clear predictions
- **Case study**: research method where one person is studied in depth to find universal principles (things that apply to all)
- Drawback is that the individual being studied could be atypical, results not universally contained
- **Survey**: research method to get the *self-reported* attitudes/behaviours of people
- Looks at cases less depth and wording of question affects the response given (*framing*) Tend to hang around group similar to us so using them as study is wrong
- **False consensus effect**: tendency to overestimate other's agreement with us; eg. *Vegetarians believe larger amount of pop. is vegetarian than Meat-eaters*
- **Population**: all the cases in the group being studied
- To make a good sample, use **random sampling**: sample that gives each case a good chance of being studied to ensure results within range
- **Naturalistic observation**: observing and recording behaviour in natural settings with any control on situation
- Like case study & survey, *doesn't explain behaviour*
- When finding a trait that accompanies another, *not resulting effect*, but **correlation**: the way 2 factors vary together and how well one predicts the other
- **Positive correlation**: direct relationship where factors increase or decrease together
- **Negative correlation**: inverse relationship where one factor goes up while one goes down
- *Does not explain cause, simply show relationship between factors*

- **Illusory correlation:** perceiving correlation when none exist; *Notice random coincidences as not random, rather as correlated*

### Experiment

- To isolate cause & effect, conduct **experiments**
- **Experimental condition:** condition that exposes subjects to treatment
- **Control condition:** condition that serves as a comparison to see effects of treatment on experimental condition subjects
- Use **random assignment:** assigning subjects to experimental/control groups randomly to ensure no bias
- **Independent variable:** experimental factor being manipulated and studied (*by itself, alone, no need to depend on something*) \* *x-axis*
- **Dependent variable:** experimental factor that depends on independent variable and changes in response to it \* *y-axis*
- **Placebo:** an inert substance/condition that maybe administered instead of a presumed active agent
- **Double-blind procedure:** procedure in which the experimenter and the subject noth don't know which treatment is given

### Bibliography

Myers, David G., Psychology Fifth Edition. Worth Publishers, Inc. New York, NY ©1998