

# Chapters 7, 8, 9

# Chapter 7 – Data Ethics

- American Statistical Association (ASA) – Largest and most well-known organization of statisticians ( [www.amstat.org](http://www.amstat.org) )
- Emphasis on ethics well known. See their “**Ethical Guidelines for Statistical Practice**” ( <http://www.amstat.org/about/ethicalguidelines.cfm> ) address eight general topic areas and specify important ethical considerations:
  - **A. Professionalism**: need for competence, judgment, diligence, self-respect, and worthiness of respect of other people
  - **B. Responsibilities**: practitioner’s responsibility for assuring that statistical work is suitable to the needs and resources of those who are paying for it, that funders understand the capabilities and limitations of statistics in addressing their problem, and that the funder’s confidential information is protected
  - **C. Responsibilities in Publications and Testimony**: report sufficient information to give readers, including other practitioners, a clear understanding of intent of work, how and by whom it was performed, and any validity limitations
  - **D. Responsibilities to Research Subjects**: protecting the interests of human and animal subjects of research – not only during data collection but also in the analysis, interpretation, and publication of the resulting findings
  - **E. Responsibilities to Research Team Colleagues** addresses the mutual responsibilities of professionals participating in multidisciplinary research teams
  - **F. Responsibilities to Other Statisticians or Statistical Practitioners**: interdependence of professionals doing similar work, whether same or different organizations (i.e., contribute to the strength of their professions overall by sharing nonproprietary data and methods, participating in peer review, and respecting differing professional opinions)
  - **G. Responsibilities Regarding Allegations of Misconduct**: investigating potential ethical violations and treating those involved with both justice and respect.
  - **H. Responsibilities of Employers**: recognize the highly interdependent nature of statistical ethics and statistical validity
    - Must not pressure practitioners to produce a particular “result,” regardless of its statistical validity
    - Avoid the potential social harm that can result from the dissemination of false or misleading statistical work

# Ethics Violations and Protections

- Obvious ethics violations which are hopefully obvious to the general public
  - Using deception in order to obtain responses
  - Publishing fake data
  - Leaving subjects out of the analysis because their results don't say what you want them to say, etc...
- Other ethics violations are not so obvious
  - Subject of debate
  - Need systems in place to define ethical violations and help avoid them
- **Federal Guidelines to Protect Human Subjects in Research** requires research (directly or indirectly) supported by the Dept of Health and Human Services to have an **Institutional Review Board (IRB)** which:
  - Reviews studies in advance *to protect the subjects from possible harm*
  - Does not decide whether the study will produce valuable information
  - Must have at least five members
    - At least one scientist, one non-scientist, at least one unaffiliated with the org
    - Members should be diverse (race, gender, and culture)
- Check out our university's IRB <http://orc.research.sc.edu/irb.shtml>