

## STAT 251 Statistical Inference for Management I Winter 2012

### Quiz 2

Taken on Thur Jan 5. You are work with a randomly assigned group of 2-3 students, submitting one quiz with all names, provided that you all contribute to the work. You may use your notes.

A recent study asked a group of children and their parents to indicate what kind of lighting was used in the child's room when he/she was very young (classified as darkness, night light, or room light) and also the child's diagnosed eye condition (classified as near-sighted, normal vision, or far-sighted). Researchers found that the more light used in the child's room, the more likely the child was to be near-sighted.

1. Identify the cases (observational units) in this study.
2. Identify the explanatory variable.
3. Identify the response variable.
4. Is it reasonable to conclude that the additional light in the room *causes* the increased tendency for near-sightedness? (Do not bother to explain.)

When I first read about this study, my immediate reaction was that "parents' eyesight" is a potential confounding variable.

5. Explain what it means for this variable to be confounding and how it provides an alternative explanation (as opposed to a cause-and-effect explanation) for the observed association between lighting condition and eyesight.