Solutions for Math 148 Quiz one Version A

Feb 2, 2016

1. *Tell if each statement is true or false.*

   (a) *(1 point) In an observational study, the investigators assign the subjects to the control group or the treatment group.*

   False.

   (b) *(1 point) Causation implies association.*

   True.

   (c) *(1 point) In a double-blind experiment, the subjects do not know what group they are in.*

   True.

   (d) *(1 point) Confounding variables can never be controlled for in observational studies.*

   False.

2. *Answer following questions:*

   (a) *(2 Points) Define* ***observational study****.*

   A study in which investigators observe subjects and measure variables of interest without assigning subjects to treatment or control. For example, studies about smoking.

   (b) *(3 Points) Define* ***double-blind experiment****.*

   A study in which neither the subjects nor the experimenters know who is in the control group or treatment group.

   (c) *(3 points) What is the difference between the control group and the treatment group?*

   The treatment group receives the treatment while the control group does not, they typically receive a placebo.

   (d) *(3 points) Find a possible confounding variable in the following example: A study of 100 people finds that lack of exercise leads to weight gain.*

   Age, sex, diet, physical disabilities, etc.