

## I. TYPES OF VARIABLES (covered in Math Pre-Orientation)

- Knowing the types of data and levels of measurement is crucial for choosing the appropriate statistical tools to analyze data. This will be a continuing theme throughout the course.

### A. Discrete and Continuous Variables

- *Discrete* variables are measured in units that *cannot be subdivided*; we can't think of logical subdivided units.  
(i.e. number of books on my bookshelf, number of children in a daycare center)
- *Continuous* variables are measured in units that *can be subdivided*; even if only in theory.  
(i.e. temperature, time, amount of spinach on a plate)
- Recall: A construct may be continuous in theory, but discrete in its operationalization. Bohrnstedt, George W. and David Knoke. 1988. *Statistics for Social Data Analysis*, 2<sup>nd</sup> Edition (Itasca, IL: F.E. Peacock Publishers, Inc.), pp. 15-16 have a nice discussion (see pre-orientation materials).

### B. Levels of measurement

- (1) **Nominal** variables simply assign a label or name to each of the possible response categories. (The order in which these responses are listed carries no meaning or significance.)
- (2) **Ordinal** variables assign a label or name to each of the possible response categories, but as the name suggests, the ranking or order of responses is meaningful.
- (3) **Interval/ratio variables** are (1) ordered in units that have equal intervals; and (2) have a true zero point (i.e., zero has meaning – it indicates absence of what is being measured).