Chapter 2

2-1.   a.   ratio scale

        b.   nominal scale

        c.   ordinal scale

        d.   nominal scale

        e.   interval scale

2-2.   Not necessarily, as the choice of scale is dependent on the intended use of the variable. For example, we know that those completing high school have more economic opportunities than those that didn't and the same is true for those completing college. Hence there is a greater difference between 11 and 12 years of education than between 10 and 11 years and the same is true for the difference between 15 and 16 years compared to 13 and 14 or 14 and 15.

2-3.   a.   Weight can be measured in kilograms (with one decimal point) or pounds and the person being weighed should not be wearing shoes and be weighed before eating. Nonresponse is likely to be low. It should be measured since some may be hesitant to report their true weight and self-reported weight may not reliable because weight changes everyday.

        b.   Height can be measured in meters (and centimeters) and feet (and inches). The person being measured should again not be wearing shoes. Nonresponse will be minimal and self-reported height will be more reliable than self-reported weight.

        c.   Family income can be measured in hundreds of dollars for monthly income and in thousands of dollars for annual income. It will be better to establish categories rather than asking actual amounts. Nonresponse rate is likely to be high and the reliability may suffer unless clear definitions are given as to what constitute income.

d.   Unemployment should be defined clearly in terms of age of the respondent and whether or not someone is looking for a job for a period of time. Nonresponse may be high.

e.   It should be made clear what time period is of interest, for example, during the last year or lifetime. Nonresponse may be high. Hospitalization in mental health institution is likely to be under-reported or not reported at all.

2-4.   Counting the beats for 60 seconds may be considered too time-consuming. On the other hand, counting for 20 seconds or 15 seconds and multiplying by 3 or 4 may be unreliable. Counting for 30 seconds and multiplying by 2 may be a good compromise.

2-5.   a.   An ordinal scale referred to as a 5-point Likert scale.

b.   An ordinal scale

2-6.   Most of people lived in rural areas at that time and some areas might not have been reached by census enumerators. It was rumored in some parts of the country that the census takers were spreading diseases.

2-7.   Age recorded in census is considered to be more accurate than that reported in death certificate which was reported by grieving relatives and other informants. In order to alleviate some of these disagreements, the age-specific death rates are usually calculated by 5-year age groups.

2-8.   (the second 2-7 as there is a typo in the book) The reasons for misstatement of ages may include ignorance of age, negligence in reckoning the precise age, deliberate misstatement, and misunderstanding of the question. Local customs in reckoning age sometimes diverge from the usual definition of counting the number of completed years. In some areas, age is counted on a calendar year basis, aging on January 1 and the lunar calendar may be used by in other areas. The exact age may not be important in daily life in some culture but it is of a vital importance in other culture. Where the exact age is not important, people are not keeping track of their ages and show a tendency to round the ages when asked and to report their ages in preferred final digits. The Figure 2.3 shows that people are attracted predominantly by 0 and 5 and also by even numbers in reporting children's ages.

2-9.   (2-8 as there is a typo in the book) Answers may vary.