1. A client is planning a survey where the target population is households in the U.S whose income is 200 percent of the poverty line and lower. The three most important statistics are the proportion of these households in which at least one person in the household is employed, the proportion of these households with medical insurance, and the proportion of the household's income that is spent on housing costs (e.g., mortgage payments, rent). The client is also interested in examining these statistics by occupation of each of the adults in the household, levels of income, household composition, and region of the country. The survey will be conducted by telephone using a random digit dial sample with a knowledgeable household informant. The budget for this study is moderate, and the interview is expected to take approximately one hour.
   a. Discuss potential coverage, nonresponse, measurement, and processing errors that might arise in this design. Cite relevant literature.
   b. Select one source of error. Identify a potential cause of the error. Identify whether the error is a bias or a variance. Briefly suggest a design that could measure the error and test whether the cause is, in fact, a factor in this design.

2. One of the most important distinctions between survey modes is whether or not the modes have an interviewer present. Why is this distinction important? In your answer, be sure to discuss the implications of having an interviewer present versus not present for the relevant sources of survey error and for survey costs.

3. Most multilingual surveys follow a design in which a source questionnaire is developed and the other language versions needed are produced on the basis of translation from the source questionnaire.

   Please identify three major theoretical challenges faced in following such a model and discuss and critically evaluate solutions available to address these challenges. Use practical examples if possible to illustrate your discussion.

   Please note: your answer should demonstrate your understanding of comparative survey research over three major and different areas of design and implementation of your choice. This means it should not focus on sub-challenges within one single topic (e.g. within sampling).

4. The total association between two variables is estimated by the bivariate association (e.g., covariance, correlation) coefficient. That “total association,” however, can be decomposed into a number of different effects.
   a. List, and briefly describe in words, the different components into which the total association can be decomposed; assume the fullest possible array of constituent effects.
   b. Provide a 4-variable path model illustration that includes each of the constituent effects discussed above. Using the paths you present in the model, define how the most complex total association (i.e., that with the largest number of constituent effects) is decomposed into each of the constituent effects.