SW 430: Research Methods in Social Work I  
Study Questions – 5  
DUE: 09/25/07

§ Your name and the course number must appear on each page.  
§ All pages must be stapled together.  
§ Do not use the question sheet for your answers.  
§ Your answers must be typed and single-spaced on an answer sheet.  
§ You must separate answers for each question with a double space.  
§ Your answers must be brief and responsive to the question.  
§ Answers should be in your own words (accurate paraphrases). Do not use quotations.  
§ Where the question calls for a list, each item on the list must be on its own line.  
§ You must type tables on your answer sheet.  
§ You must hand draw charts on an 8.5 x 11 inch sheet of graph paper.  
§ Neatly display computations on an 8.5 x 11 inch sheet of ruled paper.  
§ Use the arithmetic conventions outlined in  
§ Format text and tables according to the guidelines in  

Text: Stocks (1)

1. In your own words, define proportion of variance explained (PVE).

PVE refers to __________________________________________________________________________.

2. For \( r_{12} = +0.6 \) and \( r_{13} = -0.8 \), which of these two correlation coefficients represents the stronger relationship? Calculate the coefficient of determination (PVE) for each of these correlation coefficients and use them to explain your answer about which of the correlation coefficients represented the stronger relationship. Round your answers to two decimal places.

2.01. \( PVE_{12} = r_{12}^2 = \)________

2.02. \( PVE_{13} = r_{13}^2 = \)________

2.03. The correlation coefficient representing the stronger relationship is \( r = \)________ because __________________________________________________________________________.

3. Find and report the predicted values for \( Y \) using the prediction equation \( \hat{Y} = 7 - 1.25X \).

3.01. For \( X = -4 \), \( \hat{Y} = \)________.

3.02. For \( X = 0 \), \( \hat{Y} = \)________.

3.03. For \( X = +4 \), \( \hat{Y} = \)________.

Show your calculations for \( \hat{Y} \).

3.04. Use graph paper and draw a line chart showing the prediction line defined by \( \hat{Y} = 7 - 1.25X \).

The range covered by the \( X \) axis and the prediction line should be from \( X = -4 \) to \( X = +4 \) inclusive.

The chart should conform to the conventions discussed in this chapter and Chapter 6.

4. Table 1 shows summary statistics for a study of the relationship between depression and work absenteeism for a sample of \( n = 64 \) individuals.

We measured level of depression using the Generalized Contentment Scale (GCS, Hudson & Proctor, 1976). The GCS questionnaire is a 25-item self-report questionnaire with possible scores ranging from 0 to 100. We score the GCS by reverse scoring certain items, summing these reversed item scores and the remaining item scores and multiplying the sum by a correction factor. A lower score indicates less intense depression and a higher score indicates more intense depression. Absenteeism referred to number of days absent during the preceding month.
Table 10.1: Depression and Absenteeism (n = 64)

<table>
<thead>
<tr>
<th>Generalized Contentment Scale</th>
<th>Days Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>25.39</td>
</tr>
<tr>
<td>Median</td>
<td>22.5</td>
</tr>
<tr>
<td>Mode</td>
<td>3</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>18.63</td>
</tr>
<tr>
<td>Sum of Squares</td>
<td>21873.23</td>
</tr>
<tr>
<td>Covariance Sum</td>
<td>2941.41</td>
</tr>
</tbody>
</table>

4.01. What is the level of measurement for GCS scores?

4.02. What is the level of measurement for absenteeism?

4.03. Is the distribution of GCS scores symmetrical, positively skewed or negatively skewed?

4.04. Calculate the Pearson correlation coefficient between GCS scores and days absent? Show your work and round your final answer to two decimal places.

4.05. What proportion of the variance in number of days absent do the GCS scores explain? Please show your work and round your final answer to two decimal places.

5. Identify the level of measurement:
   Social Security Number.

6. Identify the level of measurement:
   Client Ranking of Leisure Activities from Most to Least Preferred.

7. You want to evaluate the support for publicly-funded charter schools in the state. You have reason to believe that type of school district (large urban, medium urban, small urban, suburban, or rural districts) may affect attitude, so you want to make sure that individuals are surveyed in proportion to the representation of their type of school district in the population.
   You have a sampling frame where households are classified according to location in one of these five types of school district.
   You randomly select individuals so that the proportions from each of the five types of district are equal in the sample and the population.
   What type of sample have you selected?
   - cluster sample
   - convenience sample
   - purposive sample
   - quota sample
   - simple random sample
   - snowball sample
   - stratified sample
   - systematic sample

8. We wished to evaluate the effectiveness of a computer-administered training program designed to teach basic interviewing skills. We randomly selected a sample of \( n = 10 \) social work students as subjects for this evaluation.
   Each student participated in the training program for 30 minutes each weekday for ten days.
   Before beginning the program, we videotaped each student while the student conducted a structured interview of an actor who played the part of a client with a particular concern.
   After completing the program, we videotaped the ten students again while each student interviewed a second actor playing the part of a client from a slightly different background and having a slightly different concern.
   We used two client background/problem scenarios (scenario A and scenario B) for the interviews. Half the students saw the actor who played scenario A for the pre-test interview and the actor playing scenario B for the post-test interview. The remainder saw the actor who played scenario B for the pre-test interview and the actor playing scenario A for the post-test interview.
A rater evaluated each videotape using the Rabin Interview Skills Protocol (RISP). The RISP is a well-validated and reliable (albeit fictitious) instrument for the evaluation of interview skills.

The RISP consists ten items that describe ten components of skillful interviewing. A rater observes an interview and then rates the interviewer’s performance in each of the ten components of skillful interviewing. The rater uses a five point scale from 1 = inadequate use of the skill component to 5 = superior use of the skill component.

The total RISP score is the sum of the ten item scores. Possible RISP scores range from 10 to 50 where higher scores on the RISP indicate more skilful interviewing.

We gave the videotapes of individual interviews to the rater in random order. The rater did not know which interviews were pre-test interviews and which were post-test interviews.

As a check on rater reliability, we randomly selected six of the videotapes and had a second rater evaluate them with the RISP. The second rater did not know what scores the first rater had given. As was the case with the first rater, the second rater did not know which interviews were pre-test interviews and which were post-test interviews.

When we compared the scores, the results indicated strong agreement between the raters (high inter-rater reliability). On four of the videotaped interviews, the second rater gave RISP scores that were the same as the first rater’s. For one of the remaining interviews, the second rater gave a RISP score one point higher than the first rater’s score. For the other interview, the second rater gave a RISP score that was two points less than the first rater’s score.

8.01. The independent variable in this study refers to which of the following.
- actors
- (1) before training, (2) after training
- (1) client scenario A, (2) client scenario B
- (1) first actor, (2) second actor
- (1) first rater, (2) second rater
- interviewing skill
- Rabin Interview Skills Protocol score
- raters
- scenario status
- social work students
- training status

8.02. Levels of the independent variable in this study refer to which of the following.
- actors
- (1) before training, (2) after training
- (1) client scenario A, (2) client scenario B
- (1) first actor, (2) second actor
- (1) first rater, (2) second rater
- interviewing skill
- Rabin Interview Skills Protocol score
- raters
- scenario status
- social work students
- training status
8.03. The dependent variable in this study refers to which of the following.
- actors
- (1) before training, (2) after training
- (1) client scenario A, (2) client scenario B
- (1) first actor, (2) second actor
- (1) first rater, (2) second rater
- interviewing skill
- Rabin Interview Skills Protocol score
- raters
- scenario status
- social work students
- training status

8.04. The dependent measure in this study refers to which of the following.
- actors
- (1) before training, (2) after training
- (1) client scenario A, (2) client scenario B
- (1) first actor, (2) second actor
- (1) first rater, (2) second rater
- interviewing skill
- Rabin Interview Skills Protocol score
- raters
- scenario status
- social work students
- training status

8.05. Identify the level of measurement (Nominal, Ordinal, Interval, or Ratio) for the dependent measure in this study.