

Questionnaires

Level 3: Advanced Application/Applied Project (SS/PSY ### Research Methods in Behavioral Sciences)

Topic: Conduct a mini-project using questionnaires

Student Learning Outcomes: By the end of this module, students will be able to:

- (1) Draft material for the primary research question, purpose, and objectives of a questionnaire study.
- (2) Design a questionnaire instrument.
- (3) Code questionnaire data into an appropriate computer software program.
- (4) Conduct basic analysis of questionnaire data.

Time (approximate):

Instructor Presentation	60 minutes (to include a guest visit from local leaders)
Student Exercise/Activity	Assuming about 60 minutes per day, about 3-4 weeks

Reading Suggestions:

Babbie, Earl R. 2016. *The Practice of Social Research*, 14th ed. Wadsworth Publishing.

Instructor's Notes and Student Exercise/Activity:

We can learn much about people's attitudes, beliefs, and behaviors simply by asking them about these topics. One way to systematically gather this information is through the use of questionnaire surveys. The questionnaire instrument allows for collection of both qualitative and quantitative data from a large number of people.

The method of questionnaire administration will be related to how the questions on the instrument are designed and where they are placed. This module will help students understand how questionnaires are constructed, how the instruments may be administered, and how the data are analyzed.

Let's discuss the steps in a questionnaire research project. They are as follows:

1. Determine the purpose and objectives of the project.
2. Clarify the population to be sampled.
3. Design the questionnaire.
4. Administer the questionnaire.
5. Code the questionnaire data into the computer.
6. Analyze the questionnaire data.
7. Write the final report.

1. Determine the purpose and objectives of the project. What do you want to know? What is the primary research question, purpose, and objectives of the study?

Exercise #1: Do the following steps to help determine the primary research question, purpose, and objectives of the study.

1. On the top of a sheet of paper, write a phrase to indicate the topic of the study (e.g., Job Satisfaction).
2. Then, number from 1 to 20. Next, brainstorm and write as many questions as come to mind that relate to the topic (e.g., How satisfied are employees with their work? What factors are related to high job satisfaction? Who has higher job satisfaction – men or

2. Clarify the population to be sampled. Who do you want to learn about? Where do they live? What do they do? This group is your population. How can they be contacted? Do you have their names and contact information like addresses, phone numbers, or email addresses? This information is your frame. Next, you need to determine the number of these people you need to contact and to select that many people from the frame. These people comprise your sample.

3. Design the questionnaire. Questionnaire items need to be written that correspond to the purpose and objectives of the study. They need to be formatted in such a way that they accurately and reliably help you obtain valid information.

It is important to think ahead to the “level of data” you may need. There are four levels of data: nominal, ordinal, interval, ratio. Nominal data are categories of names or themes (e.g., gender). Ordinal data are categories that may form a logical order (e.g., age categories such as less than 20, 20-29, 30-39, etc.). Interval data are continuous numbers where we make an assumption that there are equal distances between the numbers. For example, a Likert scale item may range from “very dissatisfied” (1) to “very satisfied” (5) with equal distances between 1, 2, 3, 4, and 5. Ratio data are continuous numbers where we have a ZERO point. For example, you may have twice the hourly wages that I do if you make \$20/hour and I make \$10/hour, assuming it is possible to earn \$0/hour.

Questionnaire items may be written using several formats. Following are some of the types of questions that may be used:

Qualitative, open-ended questions:

Where are you currently employed? _____

Quantitative, open-ended questions:

What is your monthly wage or salary in your employment? \$ _____

Nominal, closed-ended questions:

Do you currently have for-pay employment?

0 YES

0 NO

Ordinal, closed-ended questions:

What is your grade in college?

0 FRESHMAN

0 SOPHOMORE

0 JUNIOR

0 SENIOR

Interval, closed-ended questions: (Notice that we will give numbers to a Likert-scale item where 1 = “very dissatisfied” and 5 = “very satisfied.”)

How satisfied are you with your employment?

- 0 VERY DISSATISFIED
- 0 SOMEWHAT DISSATISFIED
- 0 NEITHER SATISFIED NOR DISSATISFIED
- 0 SOMEWHAT SATISFIED
- 0 VERY SATISFIED

Interval, closed ended questions (matrix):

To what degree are you satisfied or dissatisfied with various aspects of your employment? (*circle the number that corresponds with your level of satisfaction*)

How satisfied are you with...	VERY DISSATISFIED	SOMEWHAT DISSATISFIED	NEITHER SATISFIED NOR DISSATISFIED	SOMEWHAT SATISFIED	VERY SATISFIED
Your fellow employees	1	2	3	4	5
Your supervisor	1	2	3	4	5
Your monthly pay	1	2	3	4	5
Your benefits	1	2	3	4	5
Your working conditions	1	2	3	4	5

Exercise #2: Let's create a questionnaire that will address the purpose and objectives from Exercise #1.

1. For each objective list the variable we want to measure (operationalize). Some examples might include employment status, level of job satisfaction, factors related to job satisfaction, age, and gender.
2. Brainstorm questions that could measure each of these variables. Then select and rewrite the questions that you think will work best for you

4. Administer the questionnaire.

Several methods may be used to administer questionnaires including mail-out/mail-back, telephone, drop-off/pick-up, group administration, and internet. Each method has several advantages and disadvantages. The instructor may conduct an in-class discussion to complete the following chart:

Method	Advantages	Disadvantages
Mail-out/mail-back	<i>R may complete the questionnaire at their leisure</i>	<i>Lower response rate</i>
Telephone	<i>Can make multiple attempts to reach the R</i>	<i>May require a large staff and a bank of phones</i>
Drop-off/pick-up	<i>Assures questionnaire is delivered to the right person</i>	<i>Requires a large staff to deliver the questionnaires</i>
Group administration	<i>Can complete many questionnaires at once</i>	<i>Group dynamics may be disruptive</i>
Internet	<i>Can be completed when Rs' are available</i>	<i>Not everyone has access to a computer or proper bandwidth</i>

Exercise #3: Make sufficient copies of the questionnaire so that each student can administer 10 of them. The sample frame should be divided so that each student will drop-off and pick-up their 10 questionnaires.

5. Code the questionnaire data into the computer.

Several statistics software packages are available into which questionnaire data may be entered (e.g., SPSS or SAS). Excel may also be used, however although data entry is relatively easy, statistical analysis can be challenging. Each software package uses a matrix format with letters on the x-axis (columns) for the variables and numbers on the y-axis (rows) for the cases, as show below:

	A	B	C	D	E	F	G	H	I	J	K
1	ID#	Job	Satis	Fellows	Super	Pay	Benefit	Cond	Grade	Gender	Age
2	1	1	4	5	3	4	3	4	1	1	18
3	2	1	4	4	5	4	4	4	1	1	20
4	3	1	5	5	5	5	5	5	1	2	19
5	4	0							2	2	21
6	5	1	4	4	4	3	3	5	1	1	18
7	6	1	5	4	5	5	5	3	1	2	19
8	7	0							2	1	19
9	8	1	4	5	4	4	4	5	2	1	26
10	9	1	5	5	4	4	5	4	2	2	19
11	10	1	3	2	3	4	4	3	1	2	21

Exercise #4: Students may enter the data from the questionnaires they administered and merge it with that of other students.

1. Use a blank copy of the questionnaire as the KEY. Name each of the questions. For example, Question 1 may have asked if the R had a job or not. It could be named JOB. Use a number to stand for each response category. For example, under JOB, write 0 = NO and 1 = YES.
2. Each student should use the nomenclature and numbering system in the KEY to input the data from their questionnaires.
3. Once all the students' individual data are input, the instructor should merge the data into a single dataset.

6. Analyze the questionnaire data.

Data analysis may proceed from univariate to bivariate to multivariate analysis. Univariate analysis involves the number (N) and percent (%) of categorical level data (nominal and ordinal). It involves mean, median, mode and standard deviation for continuous level data (interval and ratio). Bivariate analysis involves examining the relationship between two variables. Typically, the statistical test for two categorical level variables is a Chi-square test; the test for a dichotomous independent variable (e.g., male and female) and a continuous dependent variable would be a t-test. Multivariate analyses look for statistically significant relationships among more than two dependent variables and one independent variable (e.g., multivariate regression analysis). Bivariate and multivariate analyses should be reserved until after the students have taken a course in Statistics.

Exercise #5: Students may calculate mean averages for a column of numbers for a continuous level variable (interval or ratio) by summing the numbers and dividing by the number of numbers.

Assessment/Scoring Rubric:

	Needs Improvement 1	Satisfactory 2	Excellent 3
Draft primary research question, purpose, and objectives of a questionnaire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design a questionnaire instrument	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Code questionnaire data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conduct basic analysis of questionnaire data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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