

Identifying Research Designs and Statistical Procedures

1. **Does the researcher intend to analyze NUMBERS or WORDS?**
Numbers Go to question 2
Words Go to question 8
2. **Are two or more GROUPS of people being compared with respect to some quantitatively measured attribute, outcome or other variable?**
Yes. Go to question 3
No. Go to question 5
3. **Can the researcher randomly assign people to groups for comparison?**
Yes. Use Experimental research. *Now, go to Page 2.*
No. Go to question 4.
4. **Are the people studied naturally clustered (e.g., by classroom or school or district or state) so that groups *rather than individuals* must be randomly assigned to a condition?**
Yes. Use Quasi-experimental research. *Now, go to Page 2.*
No. Use Causal-Comparative research. *Now, go to Page 2.*
5. **Are changes over TIME for one or more GROUPS of people being compared with respect to some attribute, outcome or other variable? (A Pretest Post-test study)**
Yes. Use Quasi-experimental research. *Now, go to Page 2.*
No. Go to question 6
6. **Does the SAME GROUP of people take two or more measures/tests that assess attributes, outcomes or other variables at the SAME TIME so a relationship between the scores can determined?**
Yes. Use Correlational Research. *Now, go to Page 3.*
No. Go to question 7
7. **Does the study focus on one quantitative variable at a time, without any intention of finding relationships between them, perhaps involving polling or surveying with questionnaires? If observation is used, does the researcher observe from a distance?**
Yes. Use Descriptive research. *Now, go to Page 4.*
No. Go to question 8
8. **Does the researcher investigate the perceptions, feelings, cultural values, interests, etc. of an individual or group using interviews and observations, summarizing information according to themes, with little numerical analysis?**
Yes. Use Qualitative Research
No. Go to question 9
9. **Does the research focus on the past, retrospectively asking questions about what has happened and perhaps, how those events relate to the present?**
Yes. Use Historical research
No. Start over

Statistics for Comparing Groups

If you are comparing groups, your independent variable(s) is (are) on a nominal or ordinal scale; your groups are identified by categories or ranks.

1. Do you have two or more dependent variables (i.e., outcomes or effects), all of which measure the same construct?

Yes. If they measure the same construct, use Multivariate Analysis of Variance (MANOVA).

No. Not the same construct? If they measure different constructs, consider each dependent variable one at a time, and go to question 2.

No. Only one dependent variable? Go to question 2.

2. Do you have at least one independent variable with categories representing change over time (e.g., you have a pretest and a posttest)? (You may have either one or more groups).

Yes. Use Repeated Measures Analysis of Variance (Repeated Measures ANOVA).

No. Go to question 3.

3. Do you have more than one independent variable?

Yes. Go to question 4.

No. Go to question 5.

**4. You have more than one independent variable.
On what measurement scale is your dependent variable?**

Nominal? Use Loglinear Modeling.

Ordinal? Use Loglinear-Logit Modeling.

Interval? Use Factorial Analysis of Variance (Factorial ANOVA).

**5. You do not have more than one independent variable.
Are you comparing more than two groups?**

Yes. Go to question 6.

No. Go to question 7.

**6. You are comparing more than two groups.
On what measurement scale is your dependent variable?**

Nominal? Use chi-square .

Ordinal? Use Kruskal-Wallis.

Interval? Use One-Way Analysis of Variance (One-Way ANOVA)

**7. You are not comparing more than two groups.
On what measurement scale is your dependent variable?**

Nominal? Use chi-square .

Ordinal? Use Mann Whitney U.

Interval? Use a t-test

Statistics for Studying Relationships

1. Are there more than two variables in your study?

- Yes. Go to question 5.
No. Go to question 2.

2. You only have two variables to relate in your study.

Do the two variables to be correlated differ in terms of their measurement scale?

- Yes. Go to question 4.
No. Go to question 3.

3. Your two variables to be correlated are measured on the same scale.

On which measurement scale are they both measured?

- Nominal Use either the Tetrachoric, Phi, or Contingency Coefficient.
Ordinal Use either the Kendall's tau or the Rank difference procedure.
Interval Use the Pearson product moment correlation coefficient procedure.

4. Your two variables to be correlated are measured on different scales.

On which combination of measurement scales are your two variables measured?

- Nominal/ Ordinal Use either the Tetrachoric, Phi, or Contingency Coefficient.
Nominal / Interval Use either the Biserial or Point-Biserial correlation procedure.
Ordinal/Interval Use either the Biserial or Point-Biserial correlation procedure.

5. You only have more than two variables to relate in your study

May your variables be classified as independent and dependent variables?

- Yes. Go to question 6.
No. Use Factor Analysis if you lack a theory about how they relate to one another.
Use Confirmatory Factor Analysis if you have such a theory.

6. So, you have independent and dependent variables.

Are there two or more dependent variables?

- Yes. Go to question 9.
No. Go to question 7.

7. You have one dependent variable and more than one independent variable.

On what measurement scale is your dependent variable measured?

- Nominal or Ordinal Go to question 8
Interval Use Multiple Regression

8. Your dependent variable is either nominal or ordinal.

Are your independent variables measuring the same construct?

- Yes. Use Discriminant Analysis.
No. Use Logistic Regression.

9. You have more than one dependent variable.

Are all of your dependent variables measuring the same construct?

Yes. Go to question 10.

No. Go to question 12.

10. Your dependent variables measure the same construct.

Do you have more than one independent variable?

Yes. Go to question 11.

No. Use Multivariate Regression.

11. You have more than one independent variable.

Are your independent variables measuring the same construct?

Yes. Use Canonical Correlation.

No. Use Multivariate Regression.

12. Your dependent variables do not measure the same construct.

Are your dependent variables theoretically related in a way that may be diagramed though they are not theoretically measuring the same construct?

Yes. Use Path Analysis.

No. Go to question 13.

13. Can you group your dependent variables under different constructs, which are theoretically related on some deeper level?

Yes. Use Structural Equation Modeling.

No. Go back to 9, treating each group of dependent variables separately.

Statistics for One Variable at a Time in Descriptive Research

1. On what measurement scale is your variable measured?

Nominal Use the mode as a measure of central tendency; use frequencies, proportions and percentages to represent how your values spread out (i.e., vary).

Ordinal Use the median as a measure of central tendency; use frequencies, proportions, percentages and the range to represent how your values spread out (i.e., vary).

Interval Use the mean as a measure of central tendency; use the standard deviation and range to represent how your values spread out (i.e., vary). Use Kurtosis and Skew to represent the shape of the distribution of values.

Types of Qualitative Research

1. Will you study one or more cultures instead of a smaller number of people?

Yes. Go to question 2.

No. Go to question 6.

2. Are you interested in comparing the origins, characteristics, and culture of TWO or more societies to one another?

Yes. Conduct an Ethnological study

No. Go to question 3.

3. Are you interested in studying how ONE group of people make sense of their everyday activities in order to behave in socially acceptable ways?

Yes. Conduct an Ethnomethodological study

No. Go to question 4.

4. Are you interested in studying the economic, ethnic, and gender structures that constrain and exploit people in a given culture?

Yes. Conduct a Critical Theory research study

No. Go to question 5.

5. Are you interested in studying the cultural patterns and perspectives of ONE group in its natural setting?

Yes. Conduct an Ethnographic study

No. You may not find a qualitative study here that suits your purpose. Try again?

6. Are you interested in studying the characteristics of ONE particular person, phenomenon (e.g., rising gas prices), or entity (e.g., a corporation)?

Yes. Conduct a Case study

No. Go to question 7.

7. Are you interested in constructing a working theory using information you gather from observations or interviews of a particular group of people?

Yes. Conduct a Grounded Theory research study

No. Go to question 8.

8. : Are you interested in studying how people interact with others to construct shared meaning and shared perspectives?

Yes. Conduct a Symbolic Interaction study

No. Go to question 9.

9. Are you interested in summarizing the perceptions of people regarding some phenomenon and how they make sense of their experience?

Yes. Conduct a Phenomenological study

No. You may not find a qualitative study here that suits your purpose. Try again?