Methods to Develop Specialized Questionnaires

- You will use scales available in the public domain in most of your student life
- It is important to learn how to develop a questionnaire

Methods to Develop Specialized Questionnaires

- The Semantic Differential Method
- The Likert method of item analysis
- The Turstone equal-appearing interval method

Semantic Differential Method

- Uses fixed-choice format with segmented-graphic scales
- Most of things in life have three primary dimensions of subjective meaning
  - Evaluation
  - Potency
  - Activity
- These dimensions are defined with bi-polar words

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Semantic Differential Method

- Evaluative dimension
  - bad-good, unpleasant-pleasant, negative-positive, ugly-beautiful, cruel-kind, unfair-fair, worthless-valuable
- Potency dimension
  - weak-strong, light-heavy, small-large, soft-hard, thin-heavy
- Activity dimension
  - slow-fast, passive-active, dull-sharp

Semantic Differential Method

- Compares along three dimensions
  - Evaluation (bad-good)
  - Potency (weak-strong)
  - Activity (slow-fast)
  - Ugly __;__;__;__;__;__;__; Beautiful

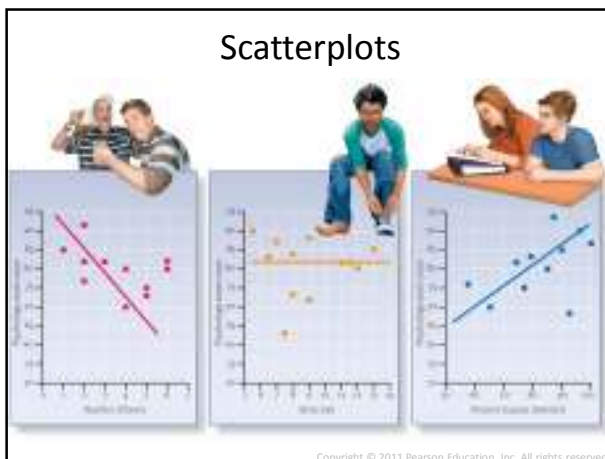- Increasing the number of items increases the reliability of the questionnaire

Semantic Differential Instructions

- This warning applies to all survey questions
- Ensure that participants understand what each response category signifies
- Give as many examples you can

Slide 1

The purpose of this questionnaire is to measure the *meanings* of some music groups to various people by having them judge these groups against a set of descriptive scales. We would like you to judge each group on the basis of what the group listed means *to you*. On each page of this booklet, you will find a different group to be judged and beneath it a set of scales. You are to rate the group on each of these scales in order.

If you feel that the group at the top of the page is *very accurately described* by the word at one end of the scale, place your check mark as follows:

Dull _____ : _____ : _____ : _____ : _____ : _____ : __✔__ Sharp
or
Dull __✔__ : _____ : _____ : _____ : _____ : _____ : _____ Sharp

If you feel that the group is quite (but not extremely) *accurately described* at one end of the scale, place your check mark as follows:

Dull _____ : _____ : _____ : _____ : __✔__ : _____ : _____ Sharp
or
Dull _____ : __✔__ : _____ : _____ : _____ : _____ : _____ Sharp

If the group seems *only slightly described* by one end as opposed to the other end (but is not really neutral), place your check mark as follows:

Dull _____ : _____ : _____ : __✔__ : _____ : _____ : _____ Sharp
or
Dull _____ : _____ : __✔__ : _____ : _____ : _____ : _____ Sharp

The placement of your check, of course, depends on which of the two ends of the scale seems more descriptive of the music group you are judging. If you see the group as *neutral* on the scale (that is, if both ends of the scale are *equally descriptive* of the group), or if the scale is *completely irrelevant* (that is, unrelated to the group), place your check mark in the middle space:

Dull _____ : _____ : _____ : __✔__ : _____ : _____ : _____ Sharp

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Slide 2

Likert Scales

- One-dimensional picture of attitudes on a controversial issue
- Summated ratings method

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Slide 3

Likert Scales

- 5-pt numerical items ranging from strongly agree to strongly disagree

A compulsory health program will produce a healthier and more productive population

Strongly disagree 1 2 3 4 5 Strongly agree

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Slide 4

Likert Scales

- If summated rating method is not used, describing 5-point numerical items as Likert-scale is misleading.
- Likert Scale Example: Socialized Medicine Attitude Scale

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Instructions to Subjects
Please indicate your reaction to the following statements, using these alternatives (circle your choice):
Strongly agree = SA
Agree = A
Undecided = U
Disagree = D
Strongly disagree = SD

1. The quality of medical care under the system of private practice is superior to that under a system of compulsory health insurance. SA A U D SD
2. A compulsory health program will produce a healthier and more productive population. SA A U D SD
3. Under a compulsory health program there would be less incentive for young men and women to become doctors. SA A U D SD
4. A compulsory health program is necessary because it brings the greatest good to the greatest number of people. SA A U D SD
5. Treatment under a compulsory health program would be mechanical and superficial. SA A U D SD
6. A compulsory health program would be a realization of one of the true aims of a democracy. SA A U D SD
7. Compulsory medical care would upset the traditional relationship between the family doctor and the patient. SA A U D SD
8. I feel that I would get better care from a doctor whom I am paying than from a doctor who is being paid by the government. SA A U D SD
9. Despite many practical objections, I feel that compulsory health insurance is a real need of the American people. SA A U D SD
10. A compulsory health program could be administered quite efficiently if the doctors would cooperate. SA A U D SD
11. There is no reason why the traditional relationship between doctor and patient cannot be continued under a compulsory health program. SA A U D SD
12. If a compulsory health program were enacted, politicians would have control over doctors. SA A U D SD
13. The present system of private medical practice is the one best adapted to the liberal philosophy of democracy. SA A U D SD
14. There is no reason why doctors should not be able to work just as well under a compulsory health program as they do now. SA A U D SD
15. More and better care will be obtained under a compulsory program. SA A U D SD
16. The atmosphere of a compulsory health program would destroy the initiative and the ambition of young doctors. SA A U D SD
17. Politicians are trying to force a compulsory health program upon the people without giving them the true facts. SA A U D SD
18. Administrative costs under a compulsory health program would be exorbitant. SA A U D SD
19. Red tape and bureaucratic problems would make a compulsory health program grossly inefficient. SA A U D SD
20. Any system of compulsory insurance would invade the privacy of the individual. SA A U D SD

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Likert Scale Example: Socialized Medicine Attitude Scale

- Items that state pro-socialized medicine: 2-4-6-9-10-11-14-15
- Items that state anti-socialized medicine: 1-3-5-7-8-12-13-16-17-18-19
  - Weight the responses to pro-socialized medicine as 5 (strongly agree) 1 (strongly disagree)
  - Weight the responses to anti-socialized medicine as 1 (strongly agree) 5 (strongly disagree)
- High (low) scores indicate an accepting (unaccepting) attitude toward compulsory health program
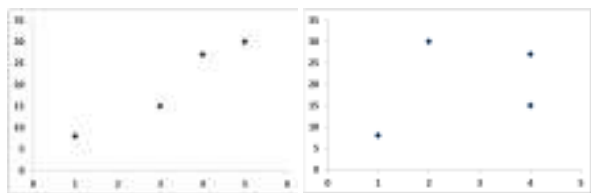
Summated Ratings Method

- Compose a large number of statements on a controversial issue
- Sample population rates these statements
  - Strongly disagree 1 2 3 4 5 Strongly agree
- The researcher selects a subset of statements for the final questionnaire
  - Based on correlation between individual scores and the total score
  - Assumption: Statements with low correlation will not discriminate those people with positive attitudes from those with negative attitudes

Scatterplots

Summated Ratings Method

	P1	P2	P3	P4
Q1	2	4	4	1
Q50	5	4	3	1
Total Score	30	27	15	8

The Thurstone Scale

- Developed using the method of equal-appearing intervals
  - Compose a large number of statements on a controversial issue and print each one on a separate card
  - Judges sort large number of statements into 11 piles (1 most unfavorable, 11 most favorable)
  - Scale values calculated for each statement
  - Select statements a) most consistently rated by judges b) spread evenly along the 11 dimensions

Thurstone Scale Example: A   Scale

Scale Values for Each Statement in War Scale

- Statement #1: 2.5
- Statement #2: 7.5
- Statement #3: 0.8
- Statement #4: 7.9
- Statement #5: 2.5
- Statement #6: 8.4
- Statement #7: 6.3
- Statement #8: 5.9
- Statement #9: 4.6
- Statement #10: 5.1
- Statement #11: 8.2
- Statement #12: 1.4
- Statement #13: 3.5