

## Using Scalelets to Interpret NSSE Results

Gary R. Pike  
Director, Office of Institutional Research  
Mississippi State University  
[gpike@ir.msstate.edu](mailto:gpike@ir.msstate.edu)

## Exercise

- What is the most significant barrier to using NSSE results on your campus?

## Disaggregating Survey Results

- Experience indicates that survey results are most likely to be used when the results are disaggregated.
  - Results should be specific to a program or unit (e.g., college or department)
  - Results should be focused on specific areas or outcomes.

## Challenges to Disaggregation

- Focusing on an academic unit frequently requires surveying large numbers of students from that unit.
- Reported scores may not yield appropriate information.
  - Benchmarks tend to be too broad.
  - Items tend to be too narrow.

## A Possible Solution

- Testlets (Wainer & Kiely, 1987)
- Scalelets
  - Scalelets consist of a limited number (4-5) of survey items;
  - Scalelets measure a specific aspect of the educational experience; and
  - Scalelets represent the experiences of groups of students.

## NSSE Scalelets

- |                                |                               |
|--------------------------------|-------------------------------|
| ■ Course Challenge             | ■ Varied Experiences          |
| ■ Writing                      | ■ Information Technology      |
| ■ Higher-Order Thinking Skills | ■ Diversity                   |
| ■ Active Learning              | ■ Support for Student Success |
| ■ Collaborative Learning       | ■ Interpersonal Environment   |
| ■ Course Interaction           |                               |
| ■ Out-of-Class Interaction     |                               |

## Course Challenge

- Worked harder than you thought you could
- Come to class without completing readings or assignments
- Exams challenged you to do your best
- Hours spent preparing for class
- Institution emphasizes spending time on academic work

## Active Learning

- Asked questions or contributed to class discussions
- Made a class presentation
- Participated in a community-based project as part of a regular course

## Evidence of Reliability and Validity

- Reliability
  - Scalelets produce very dependable group means ( $E_p^2 \geq 0.70$ ) with 25-50 students.
- Validity
  - Scalelets can be used to differentiate among institutions based on their levels and types of engagement.

## Nesseville State University

<u>First-Year</u>	College	University	D/R-E
LAC	52.4	49.5	52.1
Challenge	63.1	61.2	60.6
Writing	46.7	40.3	41.6
Thinking	57.9	56.9	65.2

## Nesseville State University

<u>Seniors</u>	College	University	D/R-E
EEE	30.5	31.3	39.3
Varied Exp.	22.0	24.9	33.7
Info. Tech.	75.9	70.3	70.8
Diversity	51.8	51.3	52.9

## Calculating a Scalelet Score

- $[(\text{Institutional Mean} - 1) / \text{Range}] \times 100$
- Example: *Asked questions in class*  
 $[(2.87 - 1) / 3] \times 100 = 62.33$
- Repeat this step for each question in the scalelet
- The final scalelet score is the average for the items in the scalelet.
- Sometimes you must recode a question (e.g., came to class unprepared)

## SPSS Syntax – Course Chal.

```
COMPUTE course1 = ((workhard - 1) / 3) * 100 .  
COMPUTE course2 = (((5 - clunprep) - 1) / 3) *  
100 . (You must recode this question.)  
COMPUTE course3 = ((exams - 1) / 6) * 100 .  
COMPUTE course4 = ((acadpr01 - 1) / 7) * 100 .  
COMPUTE course5 = ((envschol - 1) / 3) * 100 .
```

## Varied Experiences Scores

- The scores for the varied experiences scalelet are a special case.
- Only interested in whether a student has actually participated in an activity or experience.
- If they have not, the score is 0.
- If they have, the score is 100.

## SPSS Syntax – Varied Exper.

```
COMPUTE exper1 = 0 .  
IF (intern = 4) exper1 = 100 .  
COMPUTE exper2 = 0 .  
IF (volunter = 4) exper2 = 100 .  
COMPUTE exper3 = 0 .  
IF (learncom = 4) exper3 = 100 .  
COMPUTE exper4 = 0 .  
IF (forlang = 4) exper4 = 100 .
```

## Varied Experiences - Continued

```
COMPUTE exper5 = 0 .  
IF (studyabr = 4) exper5 = 100 .  
COMPUTE exper6 = 0 .  
IF (indstudy = 4) exper6 = 100 .  
COMPUTE exper7 = 0 .  
IF (seniorx = 4) exper7 = 100 .  
COMPUTE exper8 = ((cocurr01 - 1) / 7) * 100 .  
COMPUTE exper9 = ((envevent - 1) / 3) * 100 .
```

## Comparison Groups

- Using your NSSE report, you can calculate scalelets for the comparison groups using the same procedures you used for calculating institutional scalelet scores.
- **Sorry, no SPSS syntax is available.**

## Contact Information

[gpike@ir.msstate.edu](mailto:gpike@ir.msstate.edu)