

Looking at the Survey of Attitudes Toward Statistics (SATS©)

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Outline of talk:

1. Background on SATS
2. SATS-27, 4 components, versus SATS-36, 6 components
3. Presentation of summary work
4. Discussion of the 6 components
5. Group discussion of how to influence attitudes
6. Summary of group discussions
7. Future work and conclusion.

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Scoring the SATS-36©

Component (subscale) scores on the SATS-36 are formed by

1. Reversing the responses to the negatively worded items indicated with an asterisk* (1 becomes 7, 2 becomes 6, etc.),
2. Summing the item responses within each component, and
3. Dividing by the number of items within each component.

The possible range of scores for each component is between 1 and 7. Using the 7-point response scale, higher scores then correspond to more positive attitudes.

Our scale contains 36 items grouped into six components identified through our development process. Pretest data from a sample of undergraduate students supported the four-component structure of the SATS-28© (Dauphinee, Schau & Stevens, 1997; Schau, Stevens, Dauphinee, & Del Vecchio, 1995; Hilton, Schau, & Olsen, 2003): Affect, Cognitive Competence, Value, and Difficulty. In addition to these four components, two more, Interest and Effort, have been added to the SATS-36. The SATS-36 also contains three single global attitude items in both the pretest and posttest versions, as well as a global Effort item contained in the posttest version only. Additional items ask for relevant demographic and academic background information.

Six Attitude Components:

The following lists the individual 36 items (from the pretest version) grouped into the six attitude components. Item numbers are the same in the pre and the post versions. The range of coefficient alpha values for each component (in parentheses) is from results reported in studies that have used the SATS-28 (see Schau, 2003, for a list of these studies and for more information).

Affect – students’ feelings concerning statistics (6 items; .80 to .89):

- 3. I will like statistics.
- 4.* I will feel insecure when I have to do statistics problems.
- 15.* I will get frustrated going over statistics tests in class.
- 18.* I will be under stress during statistics class.
- 19. I will enjoy taking statistics courses.
- 28.* I am scared by statistics.

Cognitive Competence – students’ attitudes about their intellectual knowledge and skills when applied to statistics (6 items; .77 to .88):

- 5.* I will have trouble understanding statistics because of how I think.
- 11.* I will have no idea of what's going on in this statistics course.
- 26.* I will make a lot of math errors in statistics.
- 31. I can learn statistics.
- 32. I will understand statistics equations.
- 35.* I will find it difficult to understand statistical concepts.

Value – students’ attitudes about the usefulness, relevance, and worth of statistics in personal and professional life (9 items; .74 to .90):

- 7.* Statistics is worthless.
- 9. Statistics should be a required part of my professional training.
- 10. Statistical skills will make me more employable.
- 13.* Statistics is not useful to the typical professional.
- 16.* Statistical thinking is not applicable in my life outside my job.
- 17. I use statistics in my everyday life.
- 21.* Statistics conclusions are rarely presented in everyday life.
- 25.* I will have no application for statistics in my profession.
- 33.* Statistics is irrelevant in my life.

Difficulty – students’ attitudes about the difficulty of statistics as a subject (7 items; .64 to .81):

- 6. Statistics formulas are easy to understand.
- 8.* Statistics is a complicated subject.
- 22. Statistics is a subject quickly learned by most people.
- 24.* Learning statistics requires a great deal of discipline.

- 30.* Statistics involves massive computations.
- 34.* Statistics is highly technical.
- 36.* Most people have to learn a new way of thinking to do statistics.

Interest – students’ level of individual interest in statistics (4 items, new component):

- 12. I am interested in being able to communicate statistical information to others.
- 20. I am interested in using statistics.
- 23. I am interested in understanding statistical information.
- 29. I am interested in learning statistics.

Effort - amount of work the student expends to learn statistics (4 items, new component):

- 1. I plan to complete all of my statistics assignments.
- 2. I plan to work hard in my statistics course.
- 14. I plan to study hard for every statistics test.
- 27. I plan to attend every statistics class session.

Additional items:

Item numbers are the same in pretest and posttest versions, with the noted exception:

Single global attitude items (3 pre, 4 post)-

Math Cognitive Competence:

- 38. How good at mathematics are you?

Career Value:

- 39. In the field in which you hope to be employed when you finish school, how much will you use statistics?

Statistics Cognitive Competence:

- 40. How confident are you that you can master introductory statistics material?

Effort (post only):

- 52. In a usual week, how many hours did you spend outside of class studying statistics?

Academic background items -

Prior Math Achievement:

- 37. How well did you do in your high school mathematics courses?

Progress toward Degree:

48. Number of credit hours earned toward the degree you currently are seeking (don't count this semester); estimate if you don't know: _____

Global Post-Secondary Achievement:

49. Current grade point average: _____

Prior Math Course Experience:

50. Number of years of high school mathematics taken: _____

Prior Statistics Course Experience:

51. Number of college mathematics and/or statistics courses completed (don't count this semester):
