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Student Attitudes Toward Statistics at Augsburg

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www.StatLit.org/pdf/2008SchieldSchieldASA6up.pdf

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SATS: Measuring Perceived Value

- Survey of Attitudes Toward Statistics.
- designed and copyrighted by Candice Shau.
- measures **changes in student attitudes** on four scales:
 - DIFFICULTY (Do-ability):** Statistics is easy
 - AFFECT:** I like statistics
 - COGNITIVE COMPETENCE:** I can do statistics
 - VALUE:** Statistics is useful, professional & personal.

Changes are obtained by comparing pre and post surveys.
Primary result: negative change in VALUE.

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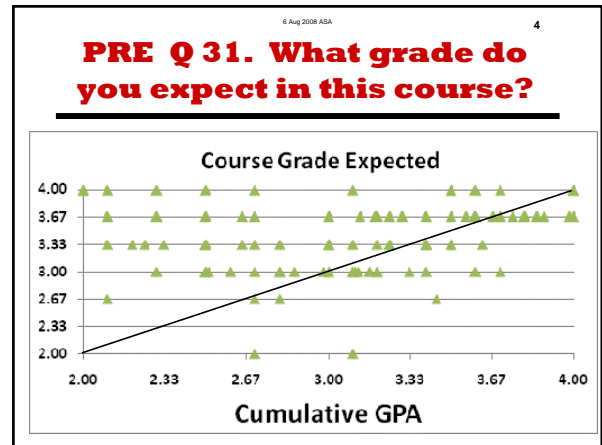
Student Attitudes at Augsburg College

Here are results for Augsburg College: a small comprehensive college in Minneapolis, MN.

Number of students by course in 2003-2004:

- formal/traditional statistical inference (25)
- practical news-based Statistical Literacy (76).

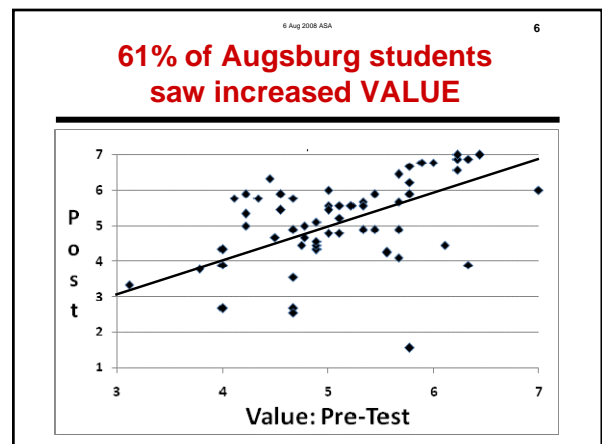
Combined results are shown in this presentation.



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Results by Scale Scores: 1-7 (4 is neutral)

	Doable (easy)	Affect (I like)	Thinking (I can do)	Value (useful)
PRE	3.7 --	3.9 -	4.6 +++	5.1 +++++
POST	3.5 ---	4.0	5.0 ++++	5.2 +++++



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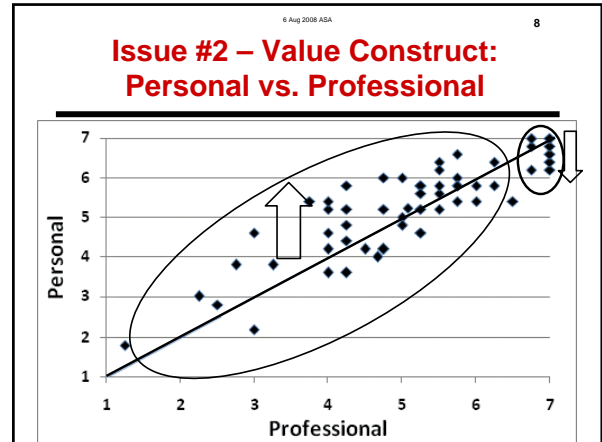
Issue #1 – Ambiguity of Statistics: The class or the numbers?

Difficulty (Do-ability):
 17 **STATISTICS** is quickly learned by most people

Value:
 25 **STATISTICS** is irrelevant in my life
 13 I use *statistics/STATISTICS* in my daily life

Affect:
 1 I will like *statistics/STATISTICS*.

Cognitive Competence:
 23 I can learn *statistics/STATISTICS*.



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Issue #3: Student Major Quantitative or non-quantitative

In the post-course survey:

Journalists and poli-sci majors may see

- less professional value in **STATISTICS** course
- more personal value in everyday statistics.

Econ/Finance majors may see the reverse:

- more professional value in **STATISTICS**

Management majors may be in between.

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General Conclusions #1

Need an attitude survey that:

1. distinguishes **STATISTICS** as a course from *statistics* as everyday numbers.
2. distinguishes personal value from professional value
3. distinguishes students by their major.
4. expands **VALUE** to include intellectual merit and critical thinking.

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General Conclusions #2

Attitude is most important for students in non-quantitative majors.

Statistical educators should survey attitudes in every course for these students.

Statistical educators should do whatever they can to give students a positive appreciation of the value of statistics.

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Q30. Who has better skills in statistics?

		Men worse	Equal	Men better
PRE (109)	Men	5%	66%	29%
	Women	4%	66%	31%
POST (41)	Men	0%	80%	20%
	Women	0%	69%	31%