

USING COURSE EVALUATION AND INSTITUTIONAL DATA TO MEASURE THE EFFECTIVENESS OF ECP

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AGENDA

- Setting up for institutional data
- Course evaluation and institutional data
- Combining survey data with institutional data
- Signature assignments
- Potential analyses
- Example
- Summary
- Requesting data
- Questions

SETTING UP FOR GROUP ANALYSES WITH COURSE EVALUATION AND INSTITUTIONAL DATA

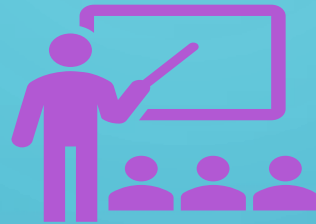


**Define the
research
questions**



**Determine
methodology**

Define Groups
What to
measure
How to measure
it



Collect data

Individual student
data would be de-
identified and
reported in the
aggregate



**Analyze the
data**



**Interpret the
results**

Did the data
answer the
original
question?

COURSE EVALUATION DATA

INSTITUTIONAL DATA

- Aggregate data by class section (ECP vs. Non-ECP)
- Individual student grades by class section
- Individual student Grade Point Averages
- Return rate

COMBINING SURVEY DATA WITH COURSE EVALUATION AND INSTITUTIONAL DATA

- Analysis of survey constructs with academic performance
- May require modification of your IRB
- Would strengthen results

SIGNATURE ASSIGNMENTS

- Same content assignment given to each group
- Results compared across groups
- Strengthen analysis

POTENTIAL GROUP ANALYSES

Analysis	Matched t Tests	Correlations	Chi Square Goodness of Fit	Chi Square Test of Association	ANOVA
Course Grades				X	
Student GPA					X
Signature Assignments				X	X
Return Rate			X	X	
Survey Responses	X	X			X
Survey Responses by Course Grades		X		X	
Survey Responses by GPA		X			X
Survey Responses by Signature Assignments		X		X	X
Survey Responses by Return Rate					X

FURTHER ANALYSES

- Consider adding Non-STEM without ECP as a comparison group
- Consider adding additional constructs from the MSLQ to the analysis
- Analysis of graduation rates would be a long-term analysis

EXAMPLE ANALYSIS



WHAT MOTIVATIONS AND LEARNING STRATEGIES DO STUDENTS BRING TO INTRODUCTORY GEOLOGY? GARNET PART 2, STUDENTS

Lisa Gilbert, Karl Wirth, Jennifer Stempien, David Budd,
Ann Bykerk-Kauffman, Megan Jones, Catharine Knight,
Katrien Kraft, Ronald Matheney, David McConnell, Ryan
Nell, Matthew Nyman, Dexter Perkins, and Tatiana Vislova

MSLQ used to investigate how aspects of the affective domain varied for students

Motivated Strategies for Learning Questionnaire (MSLQ)		
Categories	Subcategories	Subscales (# of questions)
Motivation Scales	Value →	Intrinsic goal orientation (4)
		Extrinsic goal orientation (4)
		Task value (6)
	Expectancy →	Control of learning beliefs (4)
		Self-efficacy (8)
	Affect →	Test anxiety (5)
Learning Strategy Scales	Cognitive strategies →	Rehearsal (4)
		Elaboration (6)
		Organization (4)
		Critical thinking (5)
	Metacognitive strategies →	Metacognition (12)
	Resource Management →	Time/study management (8)
		Effort regulation (4)
		Peer learning (3)
		Help seeking (4)

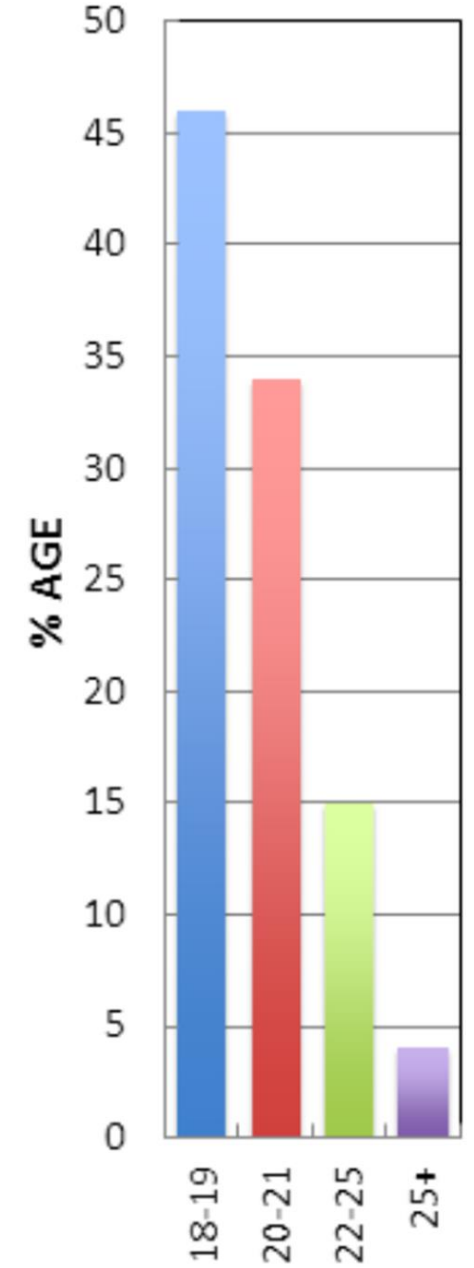
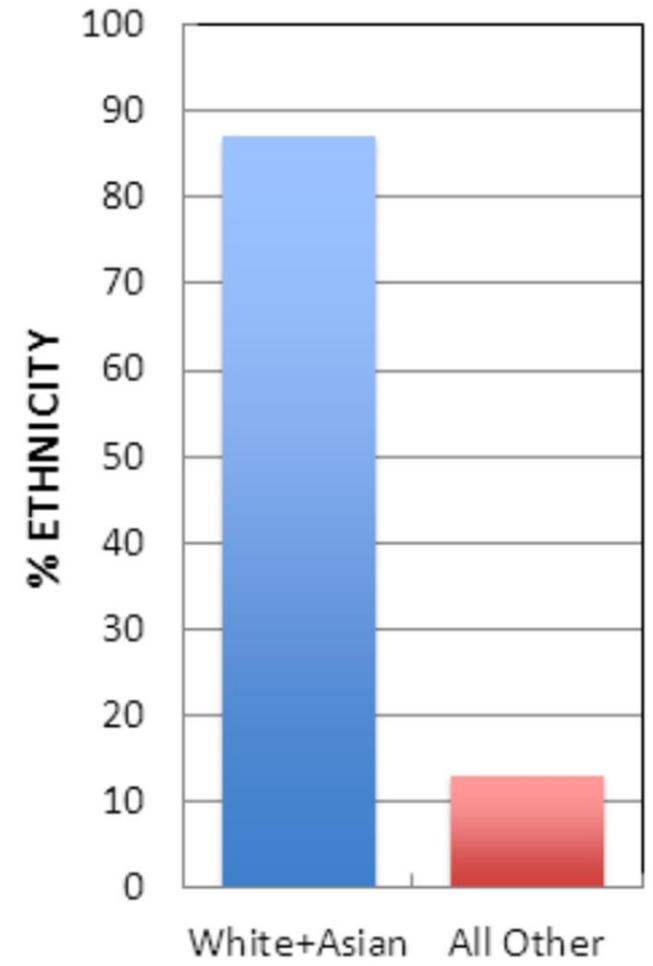
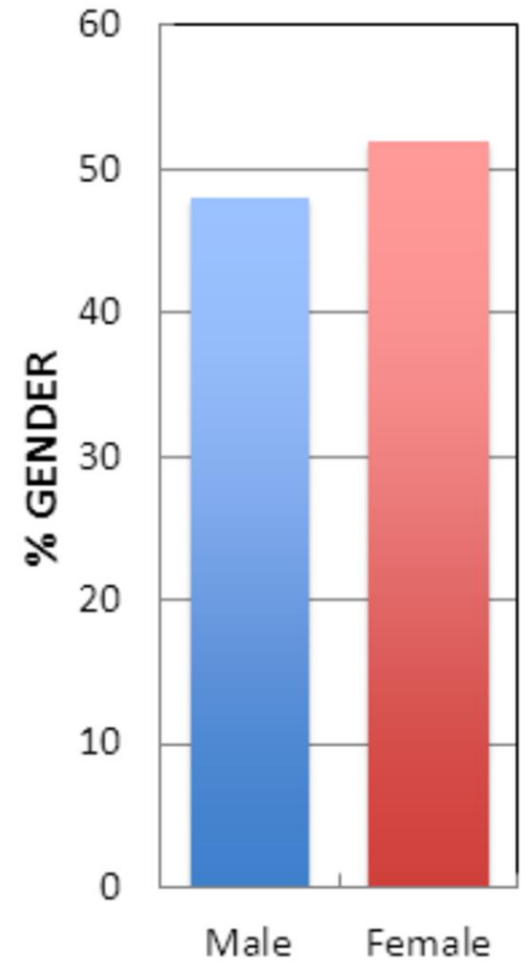
Pre-semester data from 10 classes (708 students)

Introductory Geology at:

- University of Colorado, Boulder
- University of North Dakota
- North Carolina State University
- California State University, Chico
- North Hennepin Community College
- Macalester College

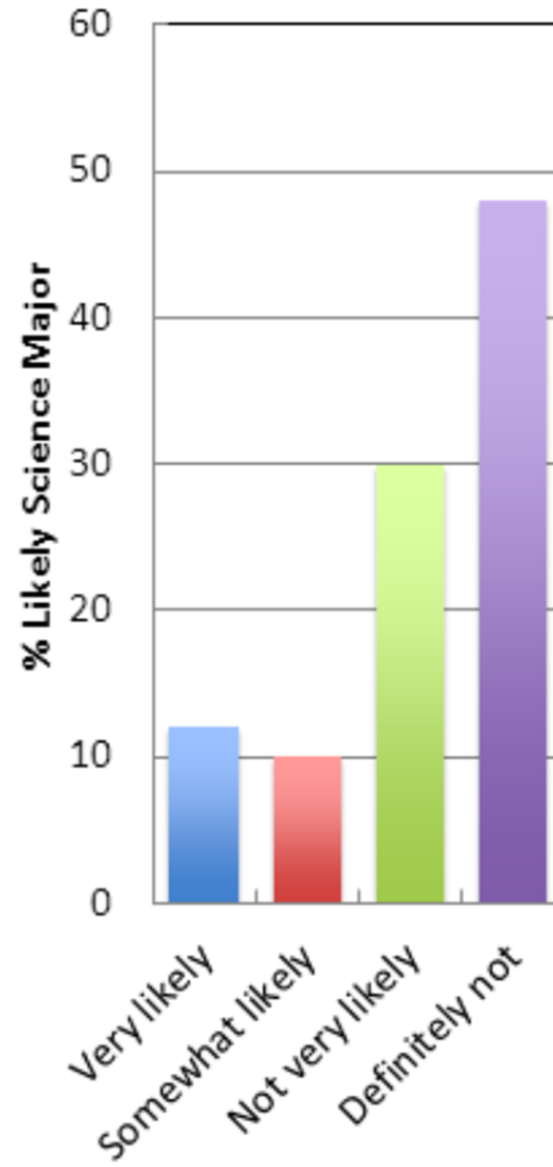
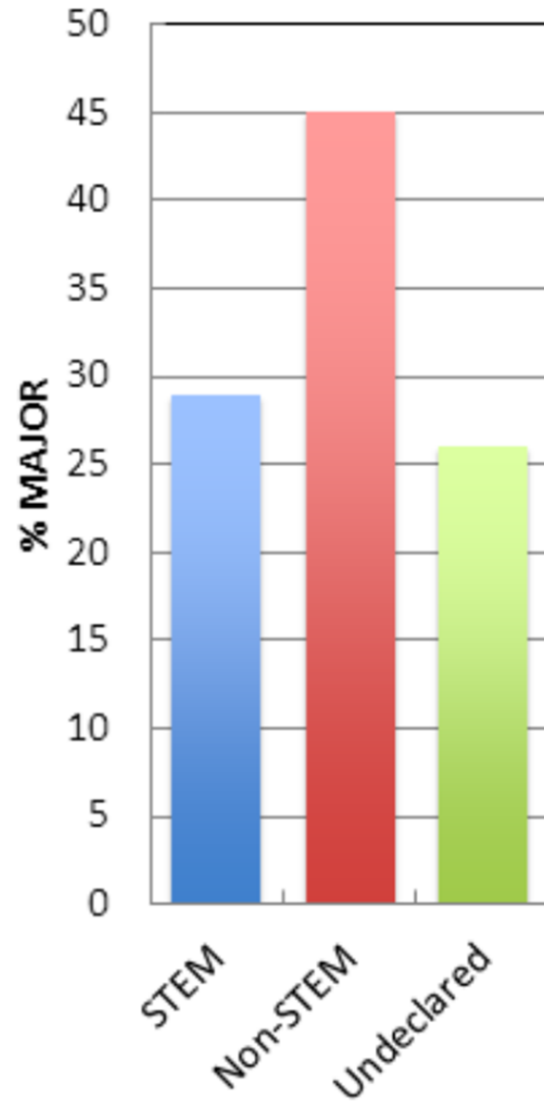


Demographics



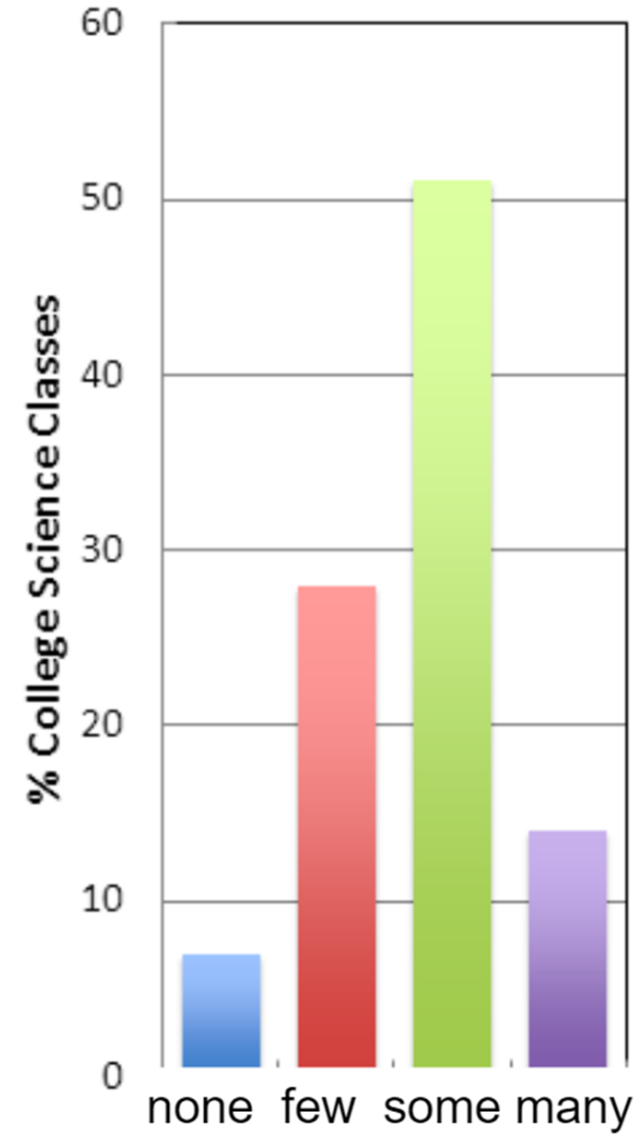
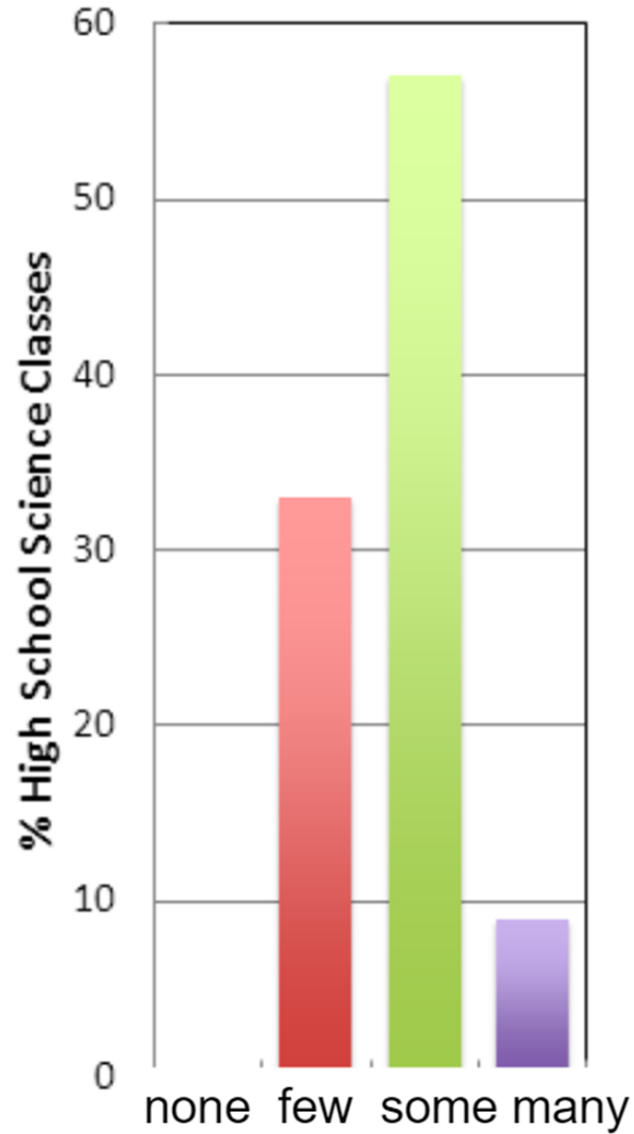


Major





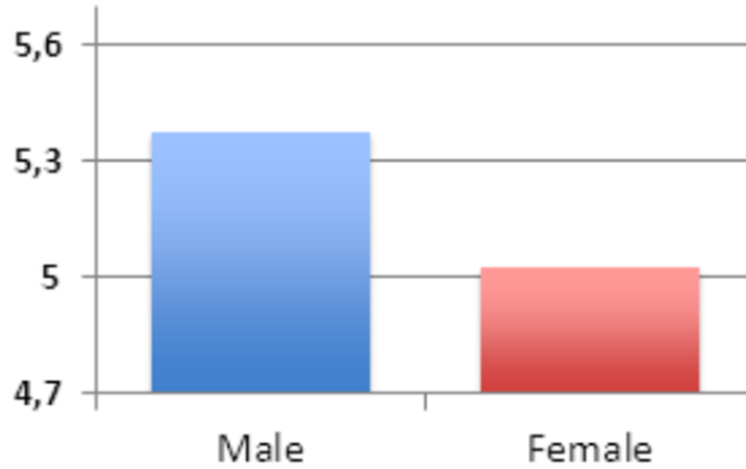
Prior Science Courses



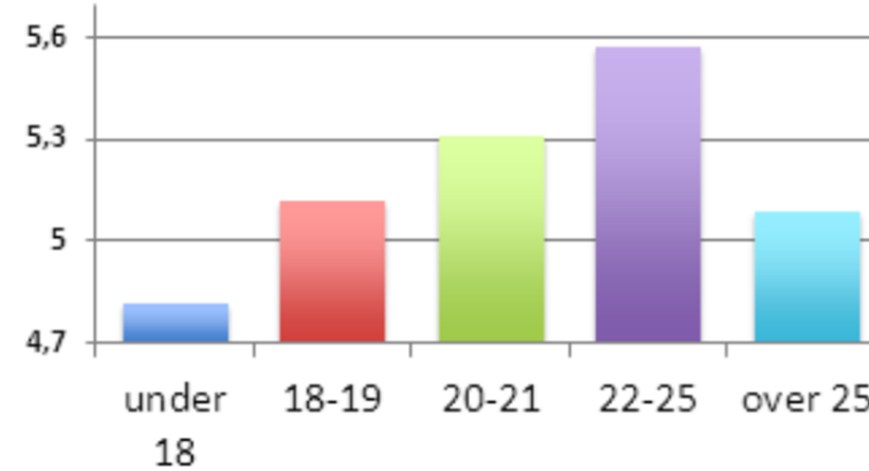
Ex: "I am certain I can master the skills being taught in this course"

Self-efficacy

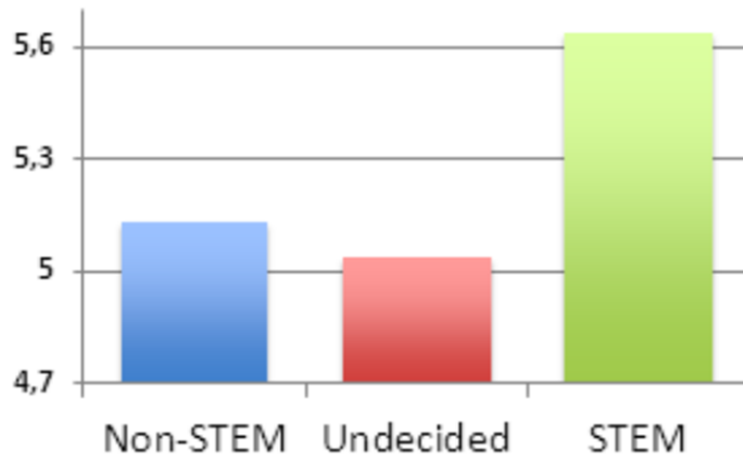
Gender



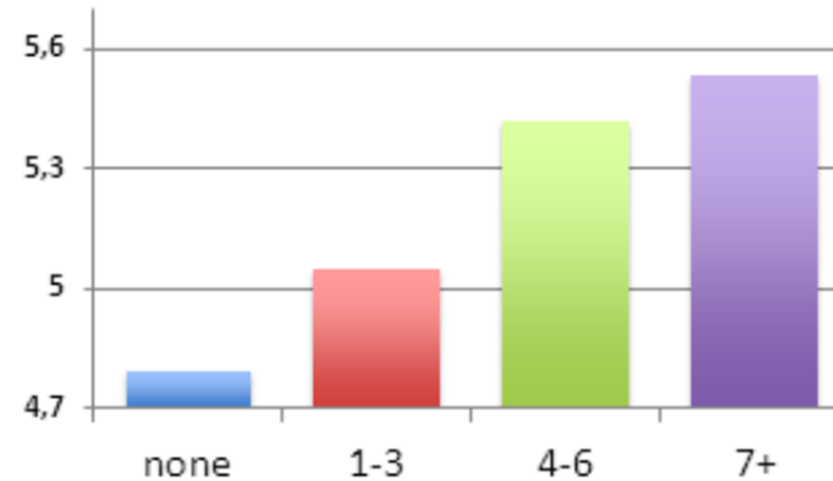
Age



Major



Prior Science Courses

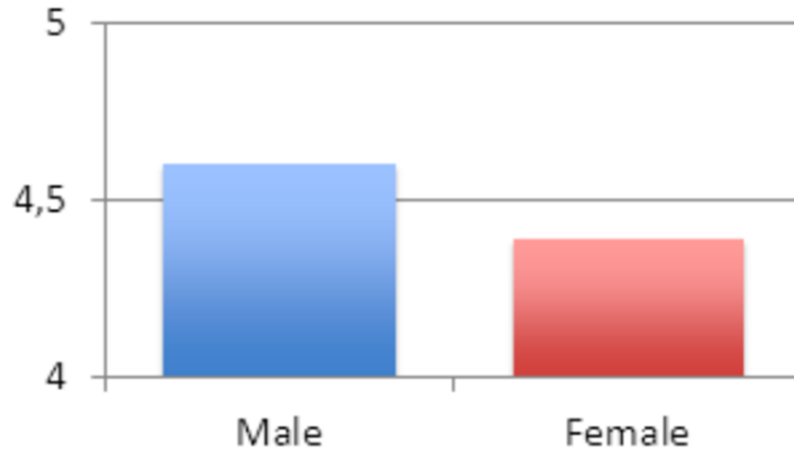




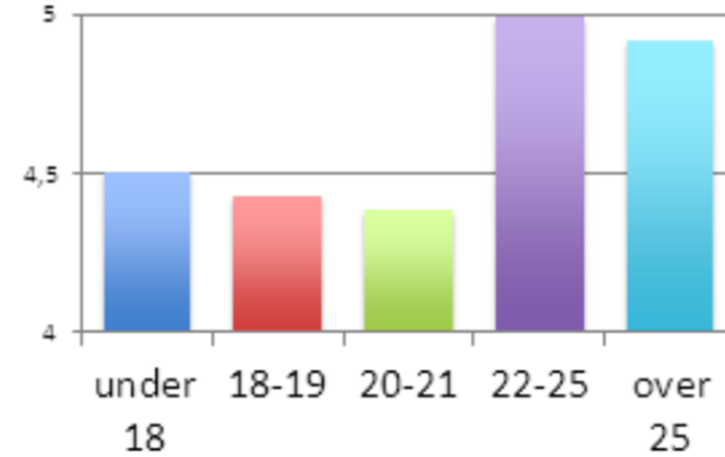
Ex: "When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade."

Intrinsic Goal Orientation

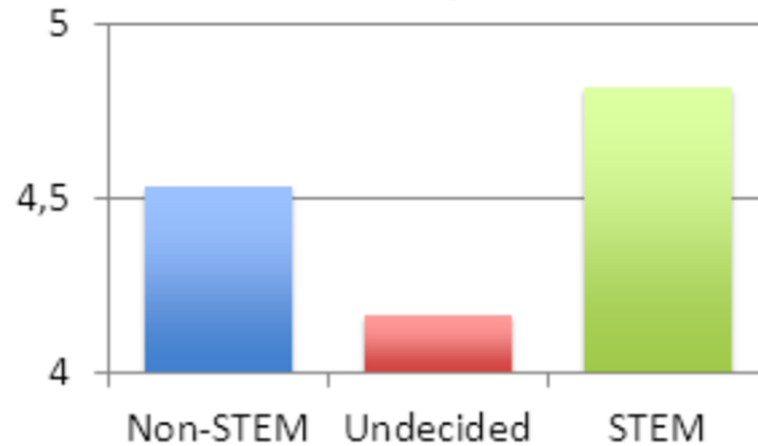
Gender



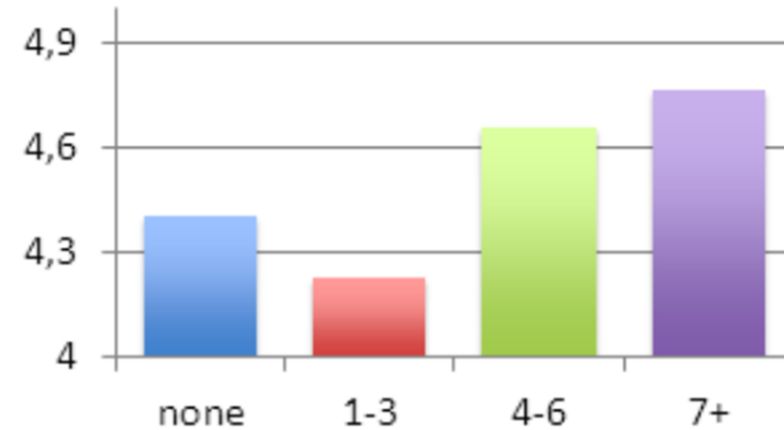
Age



Major

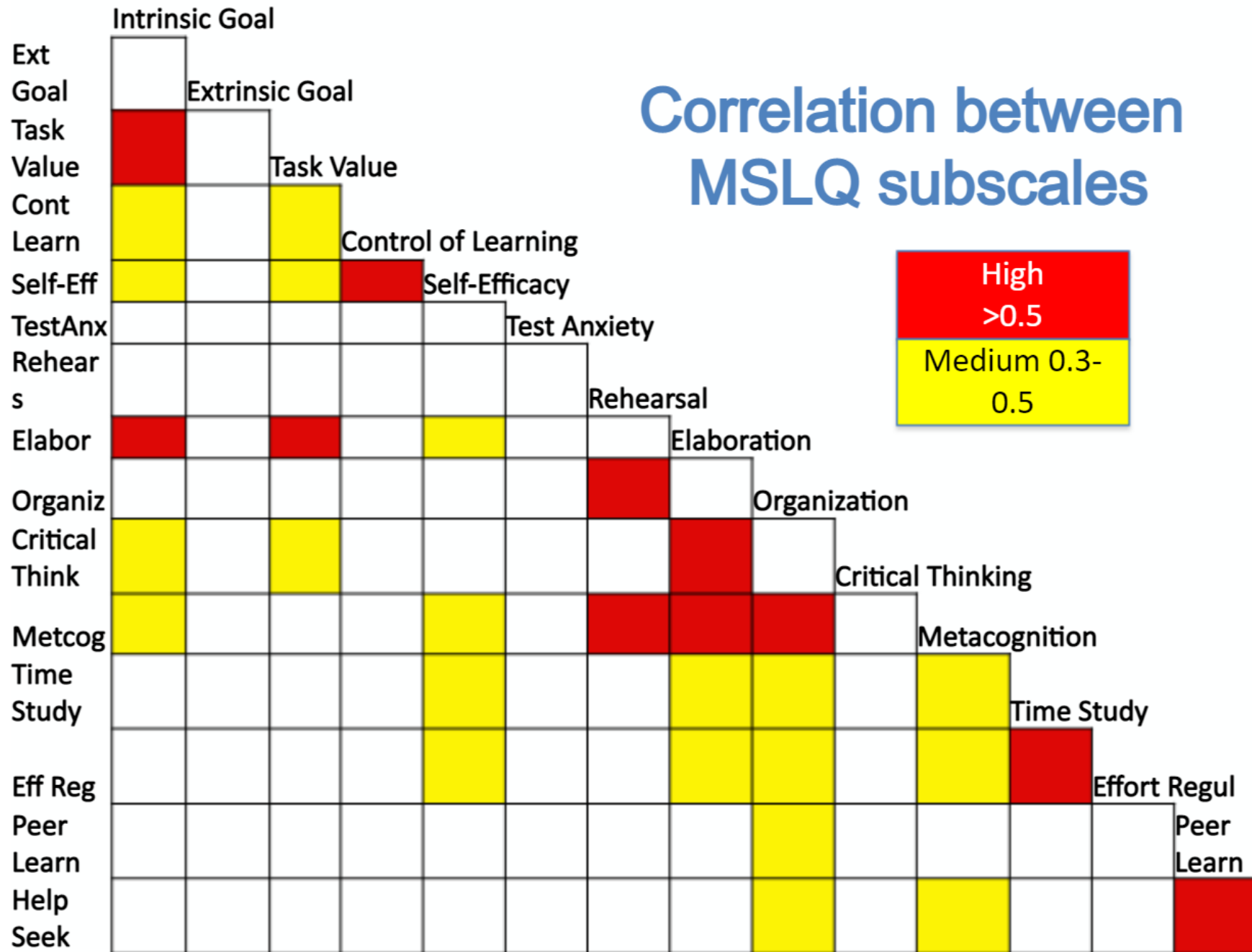


Prior Science Courses





Correlation between MSLQ subscales



SUMMARY

- Groups need to be consistent across analyses
- Data need to be collected by student identification number
- Use signature assignments to compare learning across groups
- Consider analyses by behavioral construct and academic performance

REQUESTING DATA/ASSISTANCE

Course Evaluation Data-Dr. Solomon Alao; Solomon.Alao@morgan.edu

Institutional Data-Dr. Cheryl Rollins; Cheryl.Rollins@morgan.edu

Signature Assignment Creation-Dr. Solomon Alao

Evaluation Techniques-Dr. Avis Jackson; Avis.Jackson@morgan.edu



QUESTIONS?

THANK YOU!

