

*An Overview of Quantitative
Findings from an Experiment in
Metacognition Faculty Training*

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Outline

1. Summary of Key Takeaways
2. Describe the subjects of the study (students & faculty)
3. Separately for RCT1 and RCT2:
 1. Check for balance
 2. Evaluate attrition
 3. Report results

Key Takeaways

- Randomization largely seems to have worked as intended (treatment and control groups look similar)
- No evidence that RCT 1 impacted student use of metacognition, academic outcomes, or persistence
- No evidence that RCT 2 impacted student use of metacognition, academic outcomes, or persistence

Description of Subjects

Who are Spelman Students (**Pre-Characteristics**)?

	Description	Mean	Standard Deviation	Observations
Metacognition Measures	Regulation (MSLQ)	3.70	0.48	1,341.00
	Regulation (MAI)	3.77	0.55	1,362.00
	Knowledge (MAI)	3.91	0.52	1,362.00
Academic Measures	HS GPA	3.67	0.35	1,396.00
	SAT Score / 100	11.38	1.16	1,420.00
Background Characteristics	Pell Eligible	0.47	0.50	1,309.00
	Parent with College Degree	0.79	0.41	1,354.00
	Home Region: West	0.08	0.27	1,314.00
	Home Region: Midwest	0.16	0.37	1,314.00
	Home Region: Northeast	0.18	0.38	1,314.00
	Home Region: South	0.55	0.50	1,314.00
	Two Parent Household	0.59	0.49	1,360.00
	Racially Diverse High School	0.32	0.46	1,352.00
	Public High School	0.82	0.39	1,368.00
	Age	17.88	0.46	1,442.00
	Student Interests	STEM Major	0.46	0.50
Social Science Major		0.39	0.49	1,347.00
Languages Major		0.00	0.06	1,347.00
Humanities Major		0.08	0.28	1,347.00
Arts Major		0.03	0.17	1,347.00

Who are Spelman Faculty (**Pre-Characteristics**)?

**Metacognition
Measures**

**Instructor
Background**



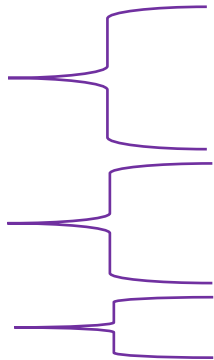
Description	Mean	Standard Deviation	Observations
Knowledge (MAI)	3.49	0.88	33.00
Regulation (MAI)	3.71	0.78	33.00
PhD	0.72	0.46	32.00
Full-time Faculty	0.55	0.51	33.00
Tenured or Tenure-track	0.30	0.47	33.00
Taught ADW (# Times)	0.33	0.48	33.00

What Do **Outcomes** Look Like Overall?

Metacognition Measures

Academic Measures

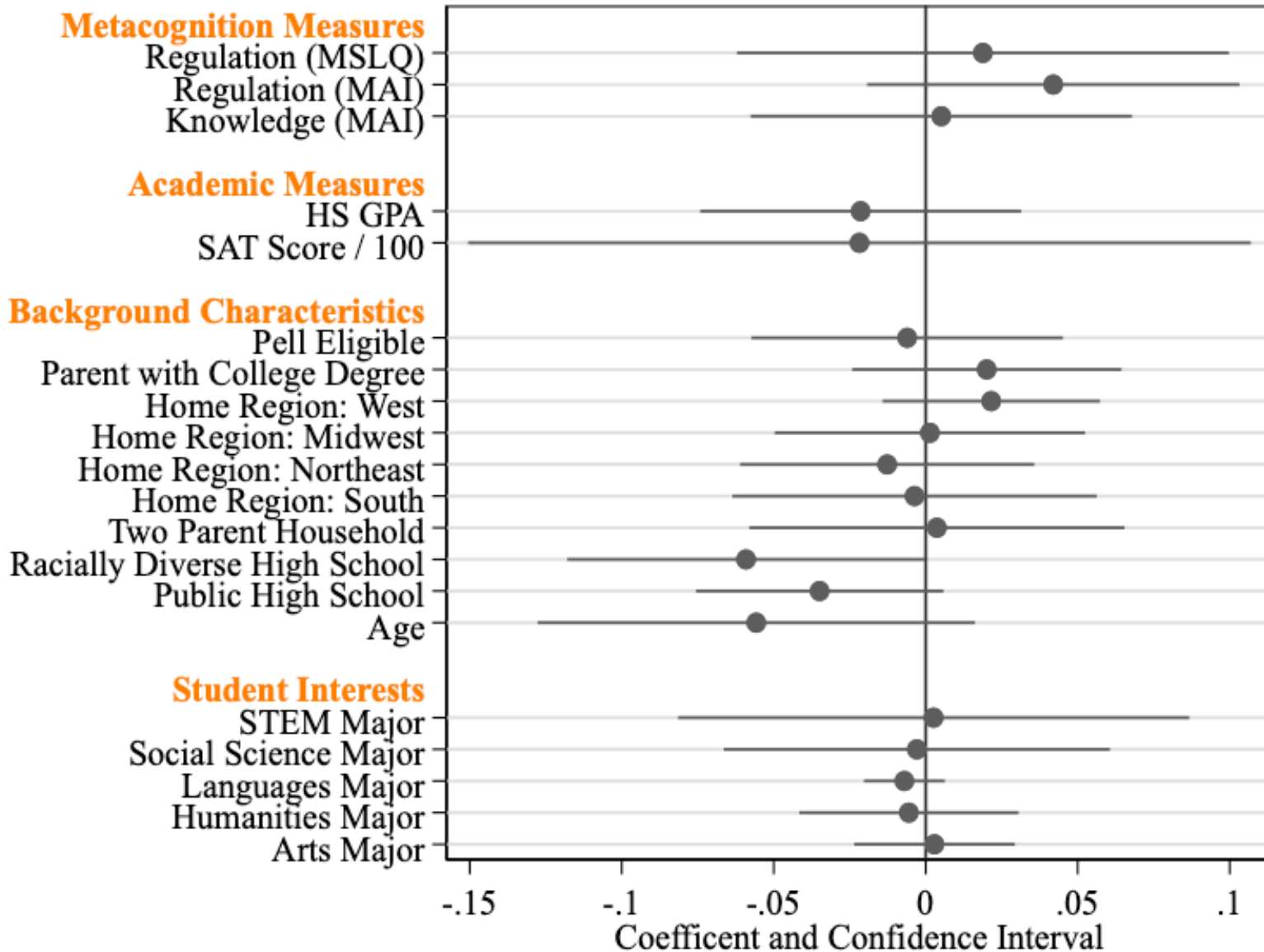
Other Measures



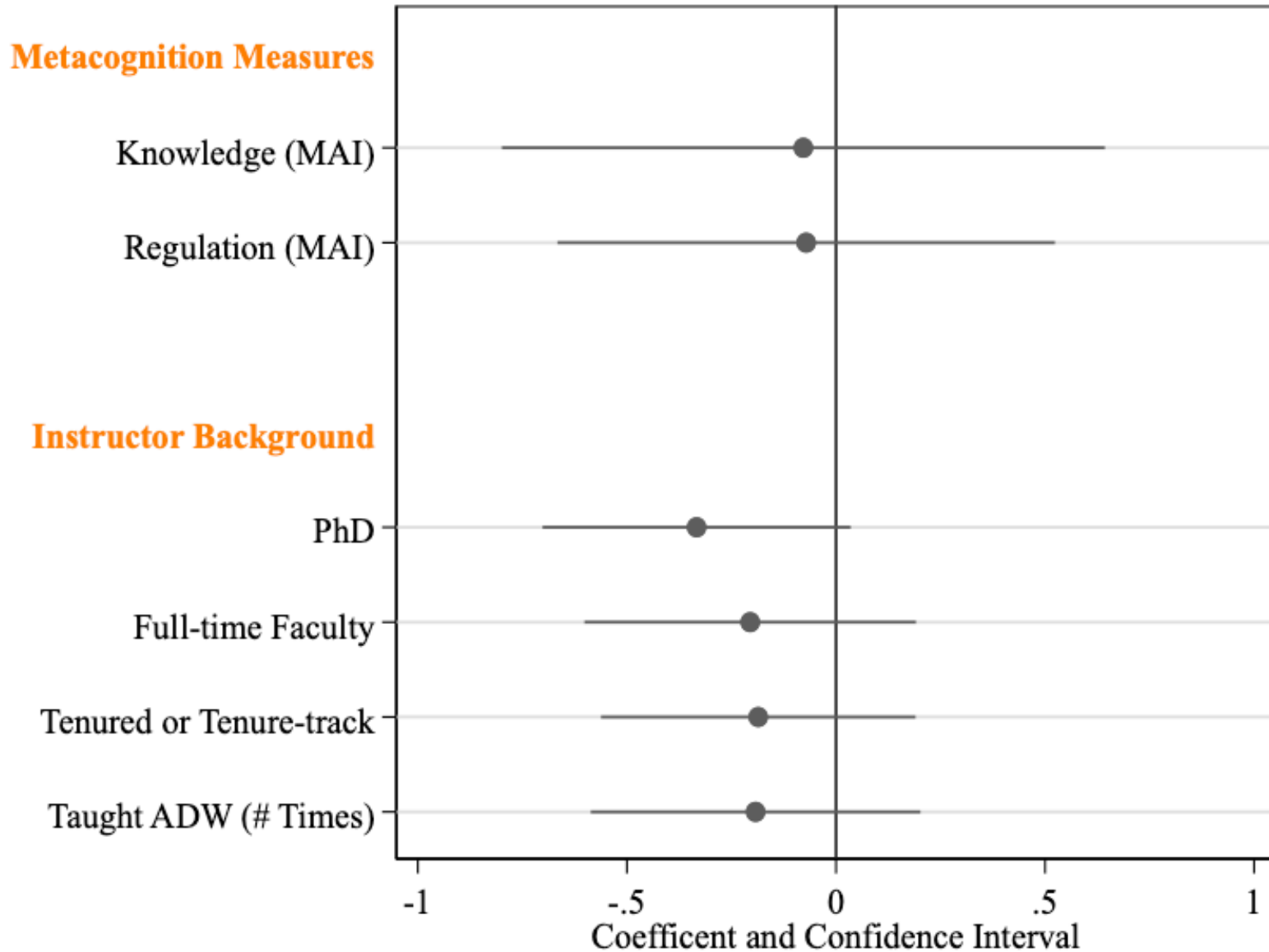
Description	Mean	Standard Deviation	Observations
Regulation (MSLQ)	3.54	0.49	1,225.00
Knowledge (MAI)	3.92	0.59	1,233.00
Regulation (MAI)	3.77	0.62	1,233.00
Spring ADW Grade	3.27	0.88	1,382.00
Spring GPA	3.12	0.76	1,395.00
Spring GPA (excl. ADW)	3.12	0.72	1,362.00
Persistence	0.89	0.31	1,446.00

Evaluation of RCT 1

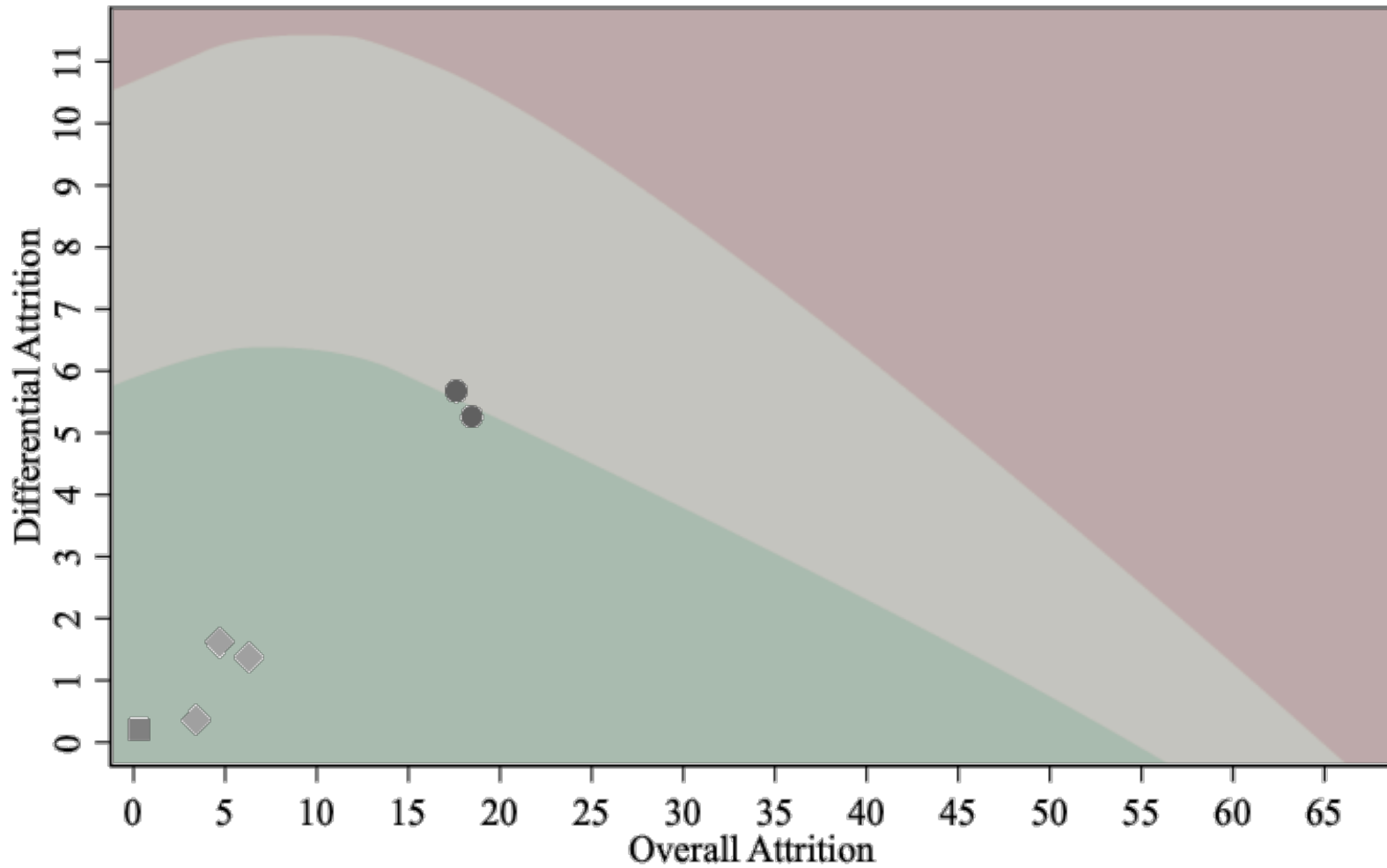
RCT 1 – Are Students Balanced Across Treatment?



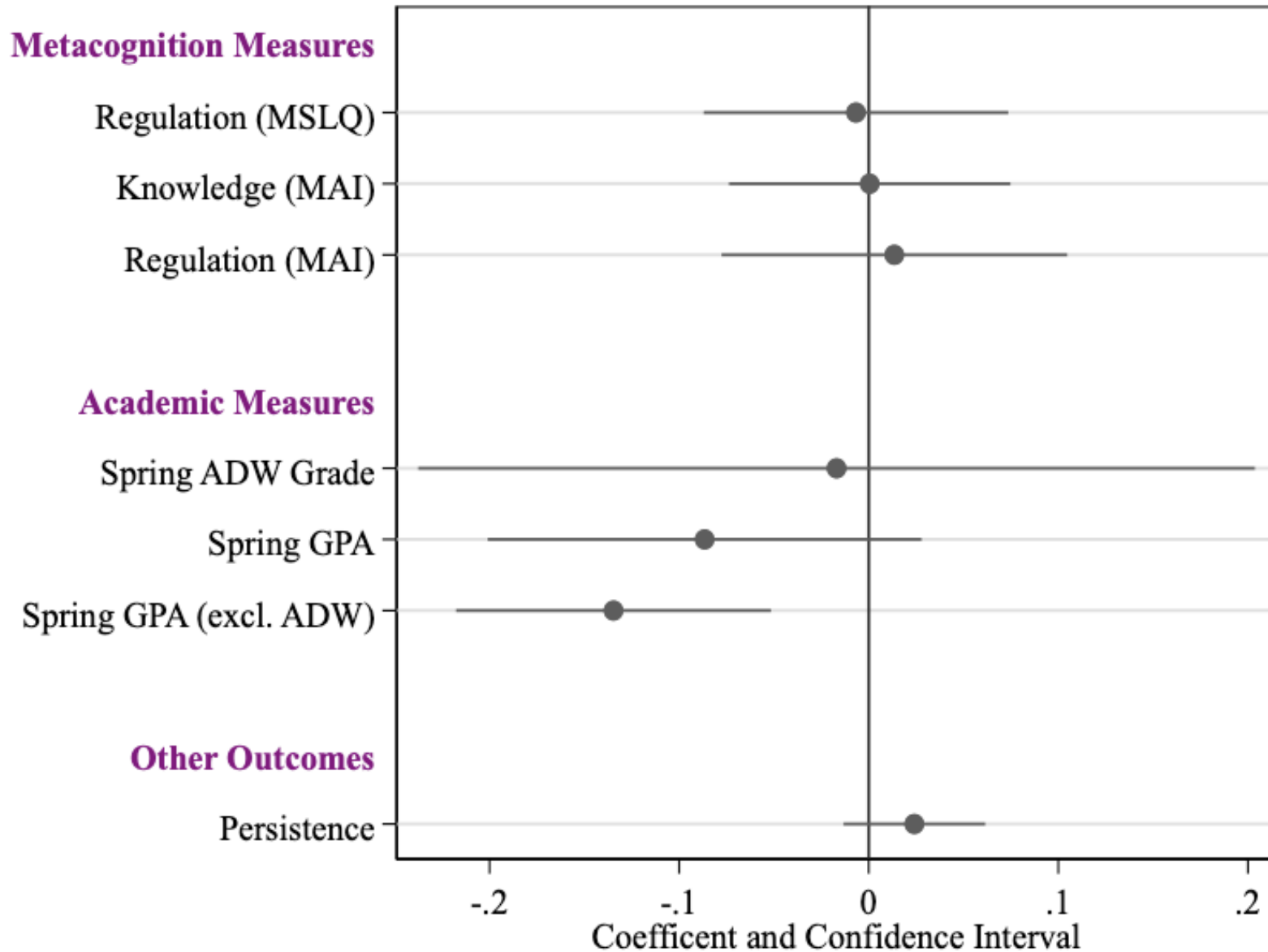
RCT 1 – Are Faculty Balanced Across Treatment?



RCT 1 – How Much Attrition Occurred?

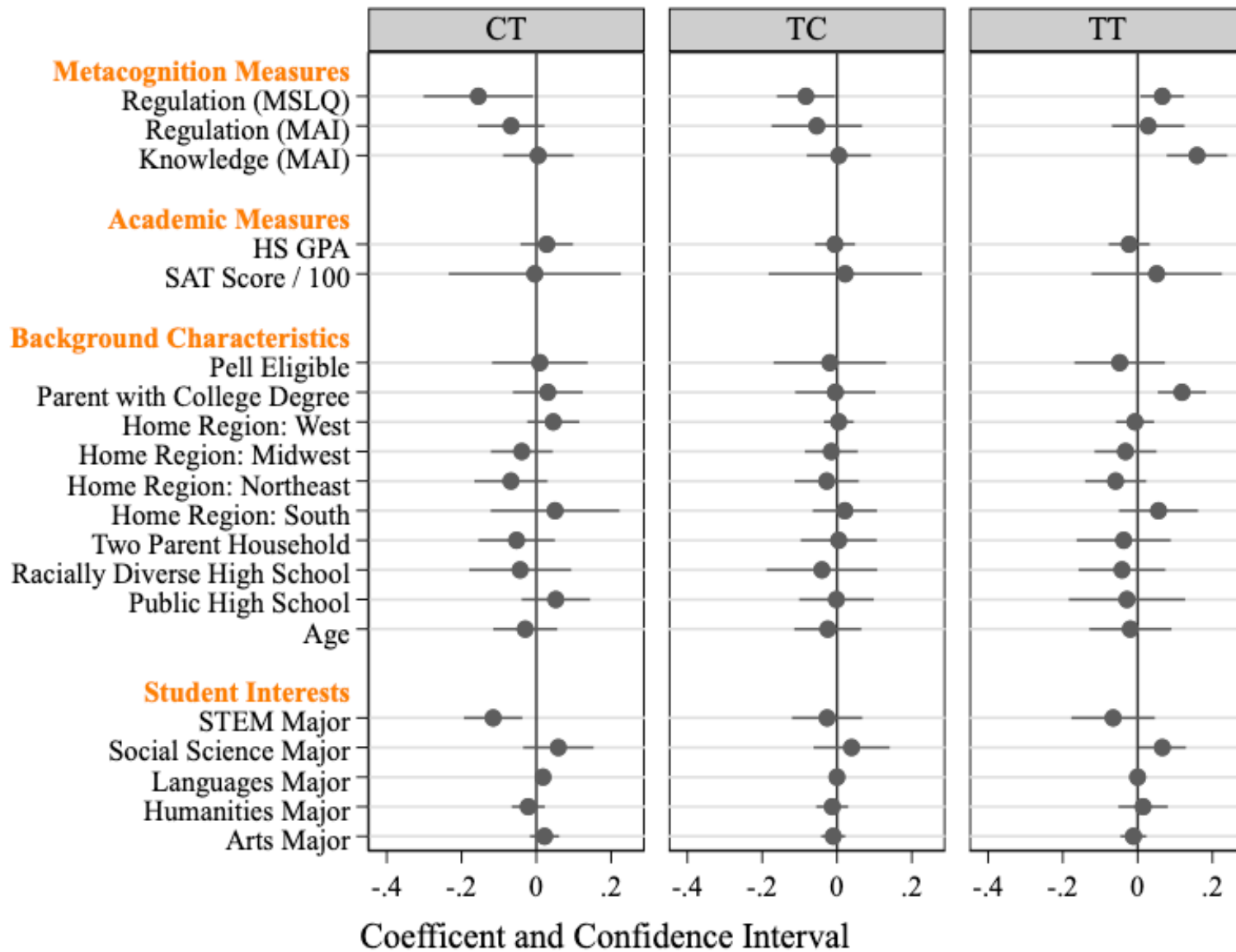


RCT 1 – What Were the Results?

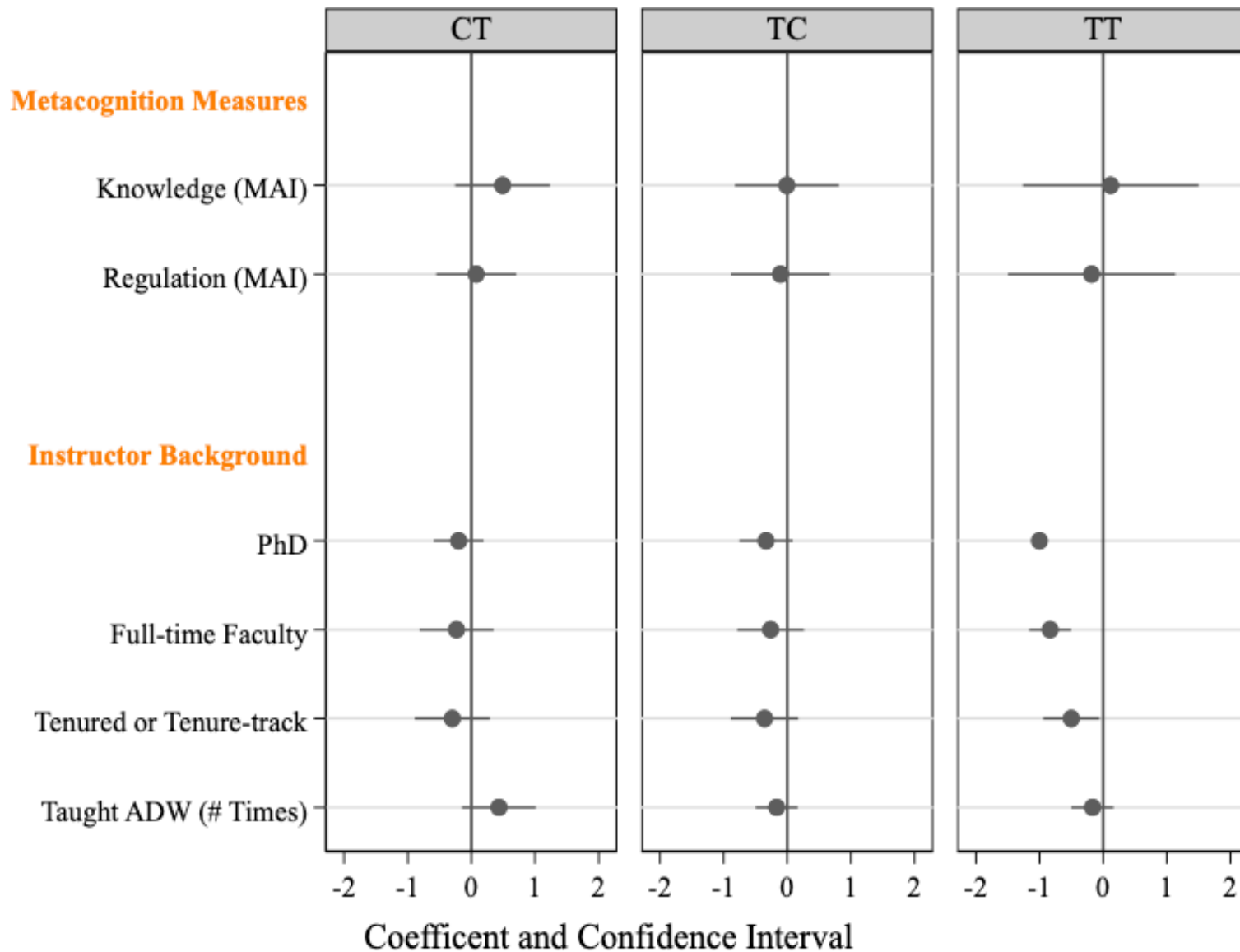


Evaluation of RCT 2

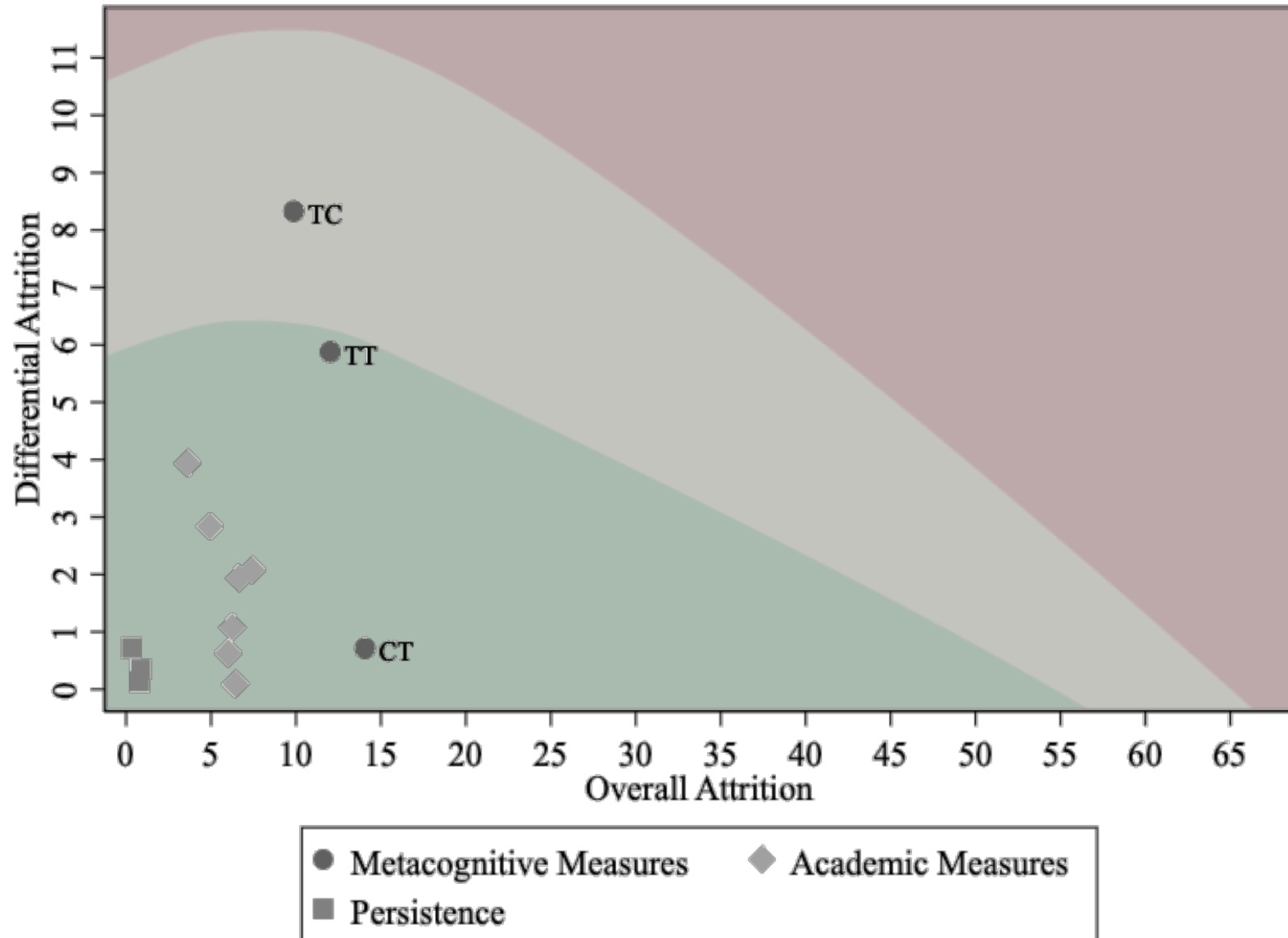
RCT 2 – Are Students Balanced Across Condition?



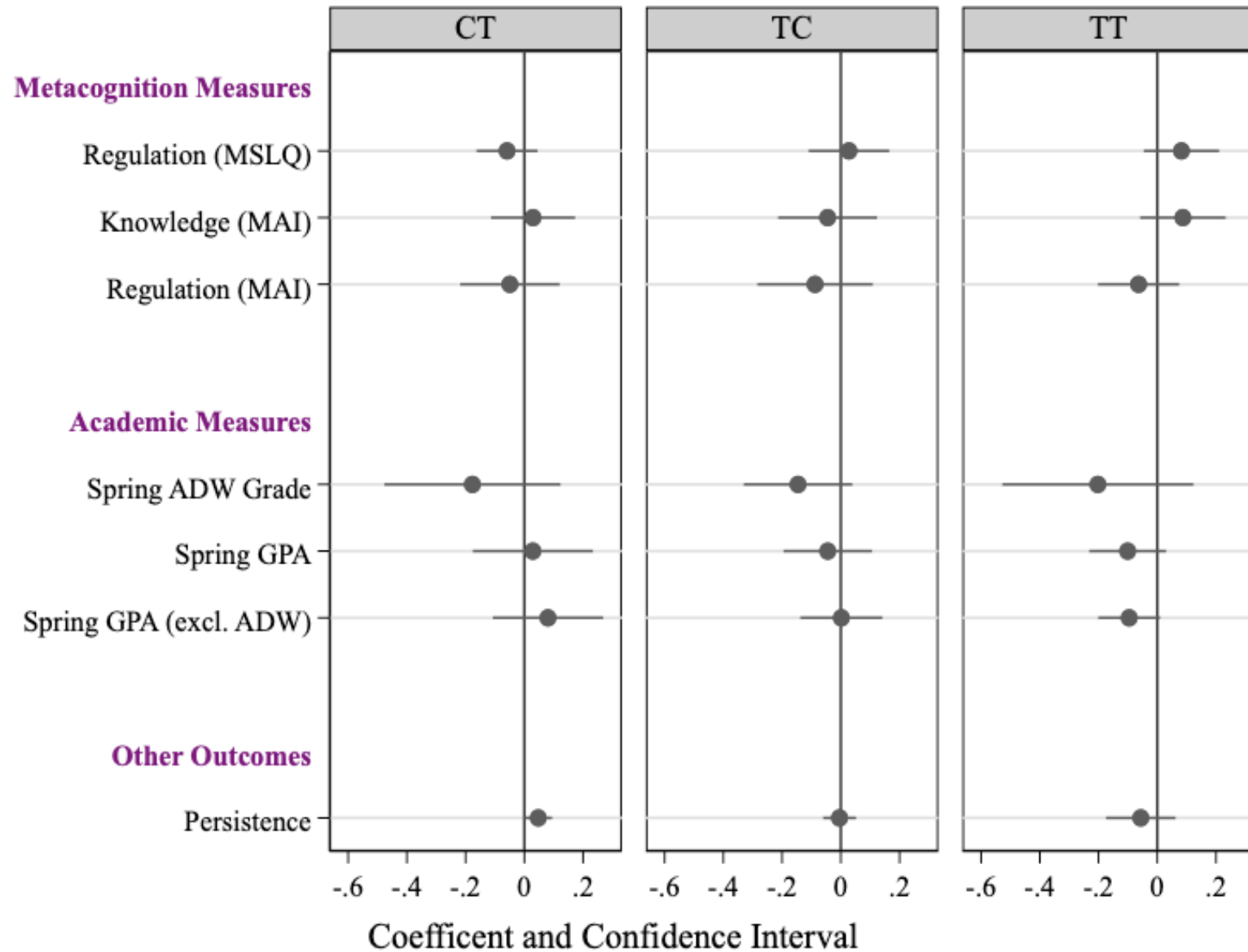
RCT 2 – Are Faculty Balanced Across Condition?



RCT 2 – How Much Attrition Occurred?



RCT 2 – What Were the Results?



Conclusion

What have we learned?

- Providing faculty training in metacognition does not appear to be superior to providing faculty more general training if the goal is to improve student metacognition, academic outcomes, or persistence.
- For RCT1:
 - We are able to rule out the idea that training faculty on metacognition raises students self-reported use of metacognition by more than 0.1 points on three measures.
 - We are able to rule out the idea that training faculty on metacognition raises student GPA by more than 0.03 points.
 - We are able to rule out the idea that training faculty on metacognition increases college-persistence by more than 6 percentage points.
- Measures from RCT2 are generally noisier and do not allow us to rule out as precise of effects.
- External Validity