An Analysis of Winter 2022 Student Course Perceptions (SCP) Survey Responses at University of Waterloo

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Course Evaluation Institute

UNIVERSITY OF TORONTO — CENTRE FOR TEACHING SUPPORT & INNOVATION

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Agenda

- Context

- Study

  - Details

  - Instructor Demographics

  - Mean Ratings (MR) for White and Racialized Instructors

  - Mean Ratings (MR) for Male and Female Instructors

- Key Findings

- Institutional Takeaways

- Questions

Context: University of Waterloo

6 FACULTIES

| Arts | Engineering | Environment | Health | Mathematics | Science |

42K+

STUDENTS ENROLLED
35k+ undergraduate
6K+ graduate
400 postdocs

2021-2022

1,378 **2,811**

FACULTY **STAFF**

2022

1,000 ACRE

**MAIN CAMPUS
IN WATERLOO**

3 SATELLITE CAMPUSES

School of Pharmacy Kitchener
School of Architecture Cambridge
Stratford School of Interaction
Design and Business Stratford

Context: Student Course Perceptions (SCP) Survey

	Question	Mean	SD	Median	Average	Overall Average
Implementation	The instructor(s) helped me to understand the course concepts.	4.5	0.7	5	**4.5** SD 0.1	
	The instructor(s) created a supportive environment that helped me learn (Supportive environments enable students to feel included and valued regardless of any aspect of their identity).	4.6	0.7	5		
	The instructor(s) stimulated my interest in this course.	4.3	0.8	4		**4.3** SD 0.2
Design	The intended learning outcomes were identified (Learning outcomes/objectives articulate what students should be able to know, do, and/or value by the end of a course).	4.4	0.8	5	**4.1** SD 0.2	
	The course activities prepared me for the graded work.	3.9	1	4		
	The intended learning outcomes were assessed through my graded work.	4.1	0.9	4		
Other	The course workload demands were...	3.2	0.7	3	-	

Study: SCP Items Included (6)

All items rated on a 5-point scale from strongly disagree to strongly agree, with a *No Basis for Rating* option.

Implementation

Concepts_Conveyed

The instructor(s) helped me to understand the course concepts.

Learning_Environment

The instructor(s) created a supportive environment that helped me learn (Supportive environments enable students to feel included and valued regardless of any aspect of their identity).

Stimulated_Interest

The instructor(s) stimulated my interest in this course.

Design

Identified_LO

The intended learning outcomes were identified (Learning outcomes/objectives articulate what students should be able to know, do, and/or value by the end of a course).

Course_Activities

The course activities prepared me for the graded work.

LO_Assessed

The intended learning outcomes were assessed through my graded work.

Study Details

- Mixed-effects model with standard errors and 95% confidence intervals

- Drawing from three data sources:

  - Winter 2022 Student Course Perceptions (SCP) surveys

  - Waterloo's 2021 Equity Survey Data

  - Human Resources records on 'sex at birth'

- Explored strength of associations between:

  - Instructor-level variables

    - Indigenous culture, racial identity, sex, appointment type, and time in Canada

  - Course-level variables

    - class size, course type, Faculty of course offering

The Descriptive Analysis Story ...

- The Sample:

  - 40,316 SCP surveys completed

  - 2,462 section-instructor pairs

    - 1,375 unique instructors

    - 1,548 unique courses

- Missing Equity Survey data for 42% of Winter 2022 instructors

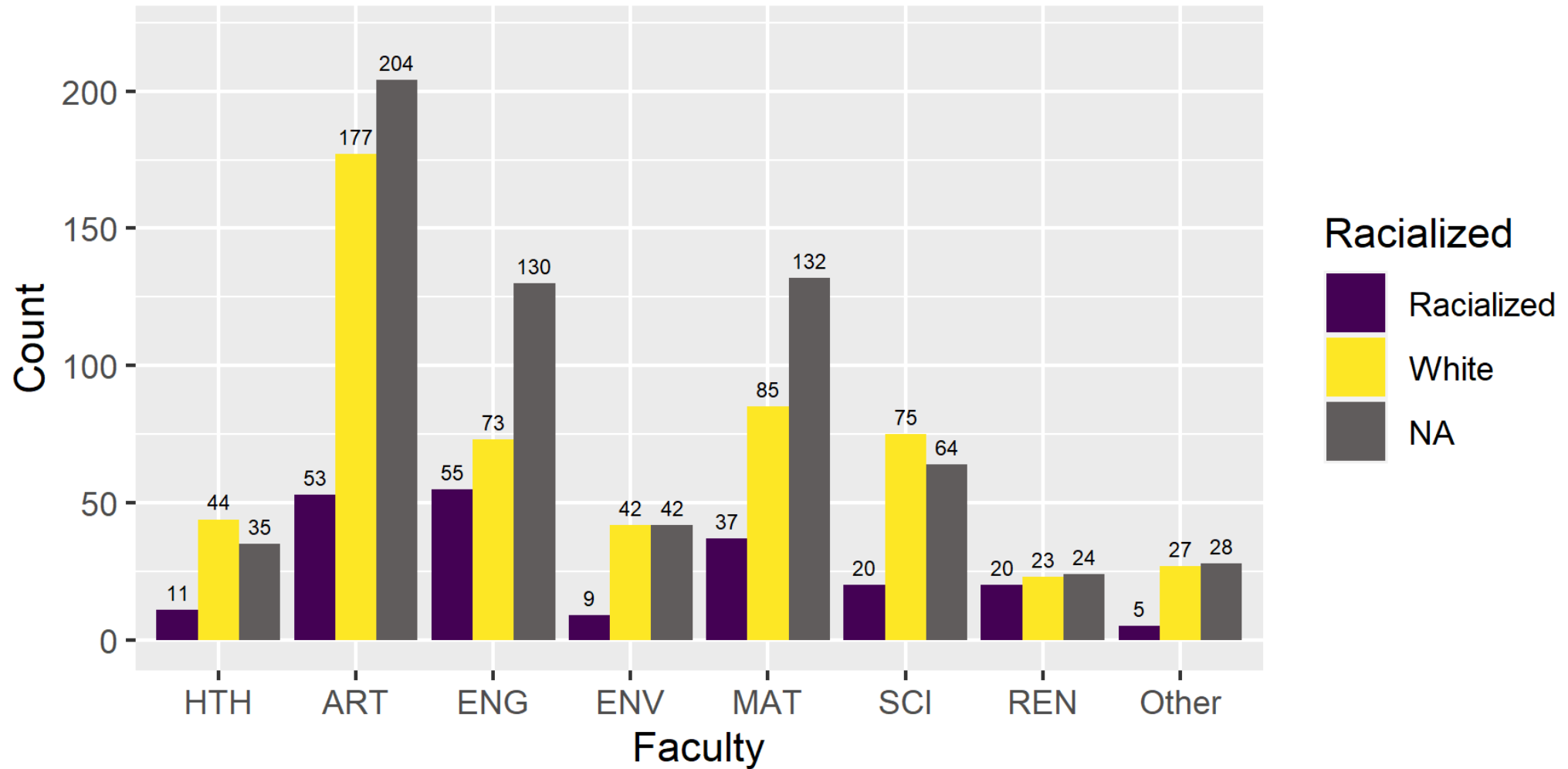- Small number of Indigenous instructors (N=8)
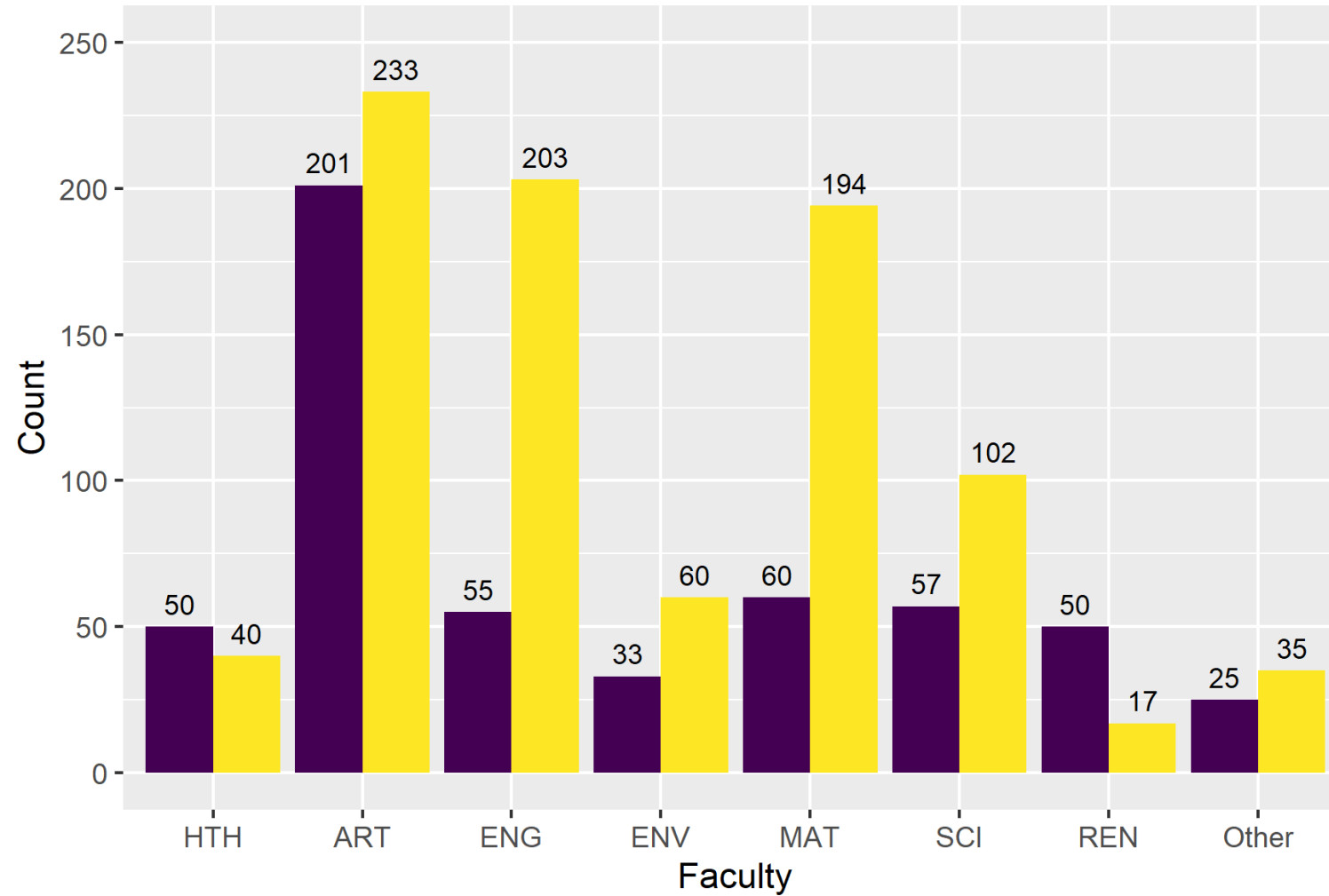
Instructor Race

An Analysis of Winter 2022 Student Course Perceptions (SCP) Survey Responses at University of Waterloo   PAGE 8   **UNIVERSITY OF WATERLOO**
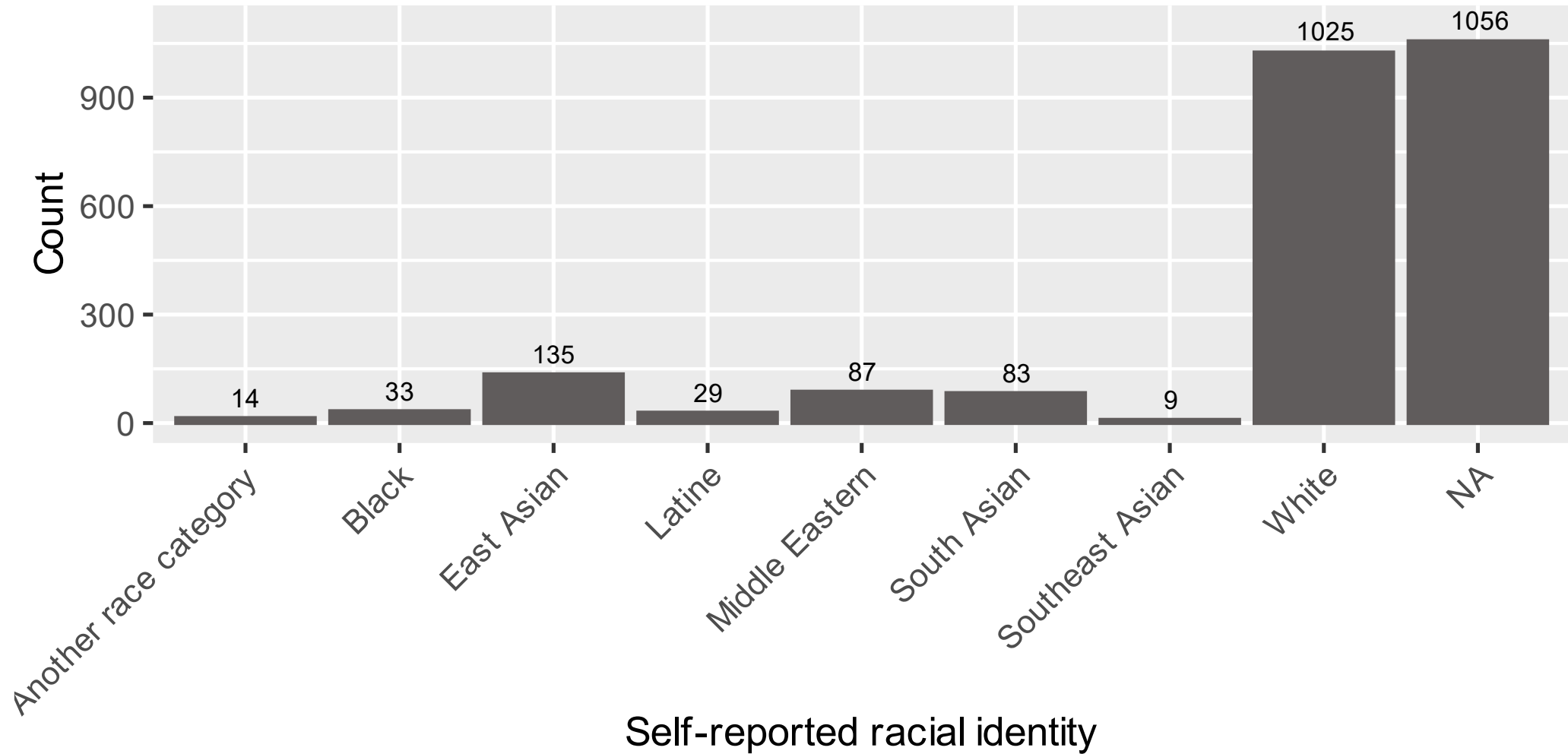
Instructor Race continued...
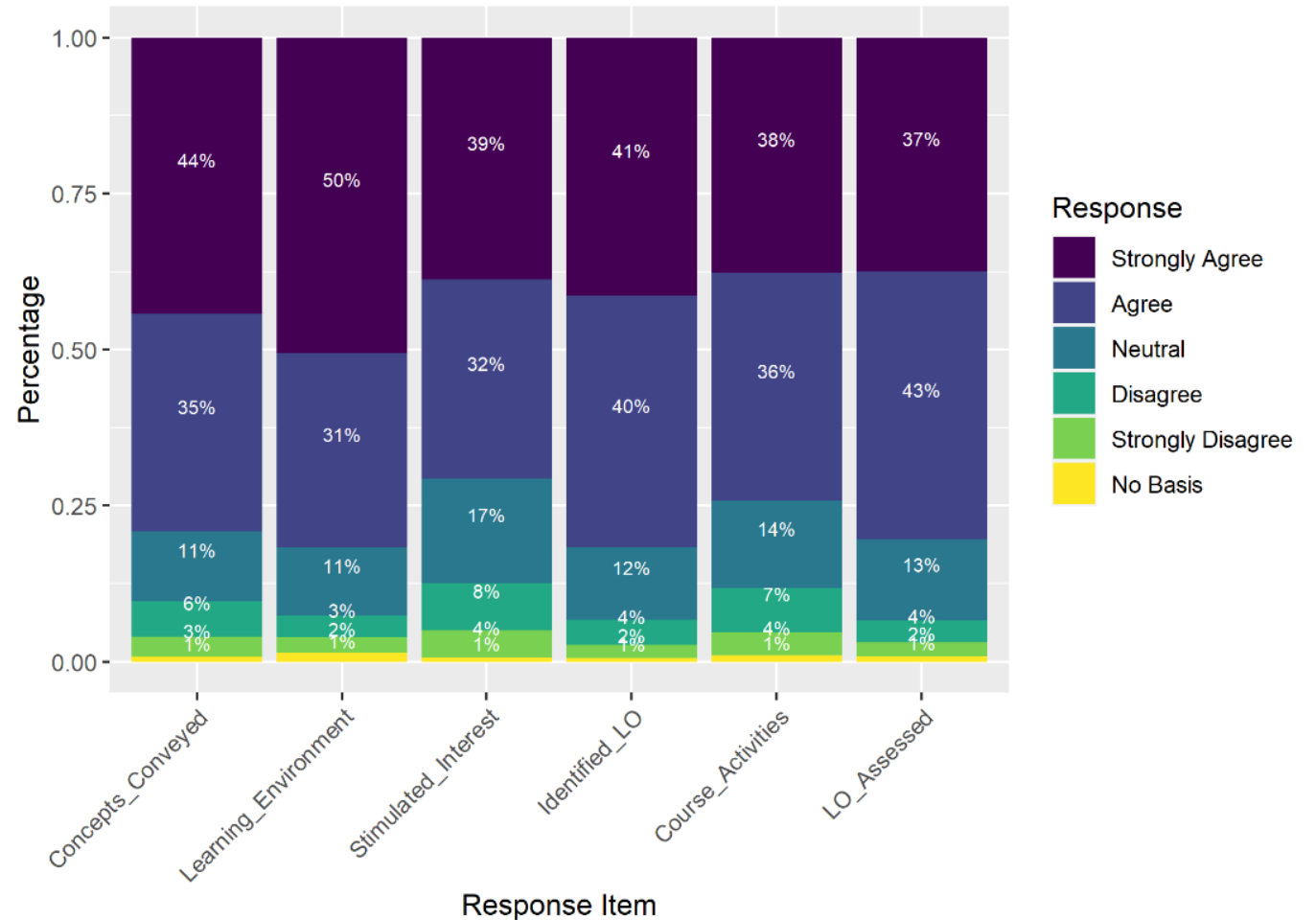
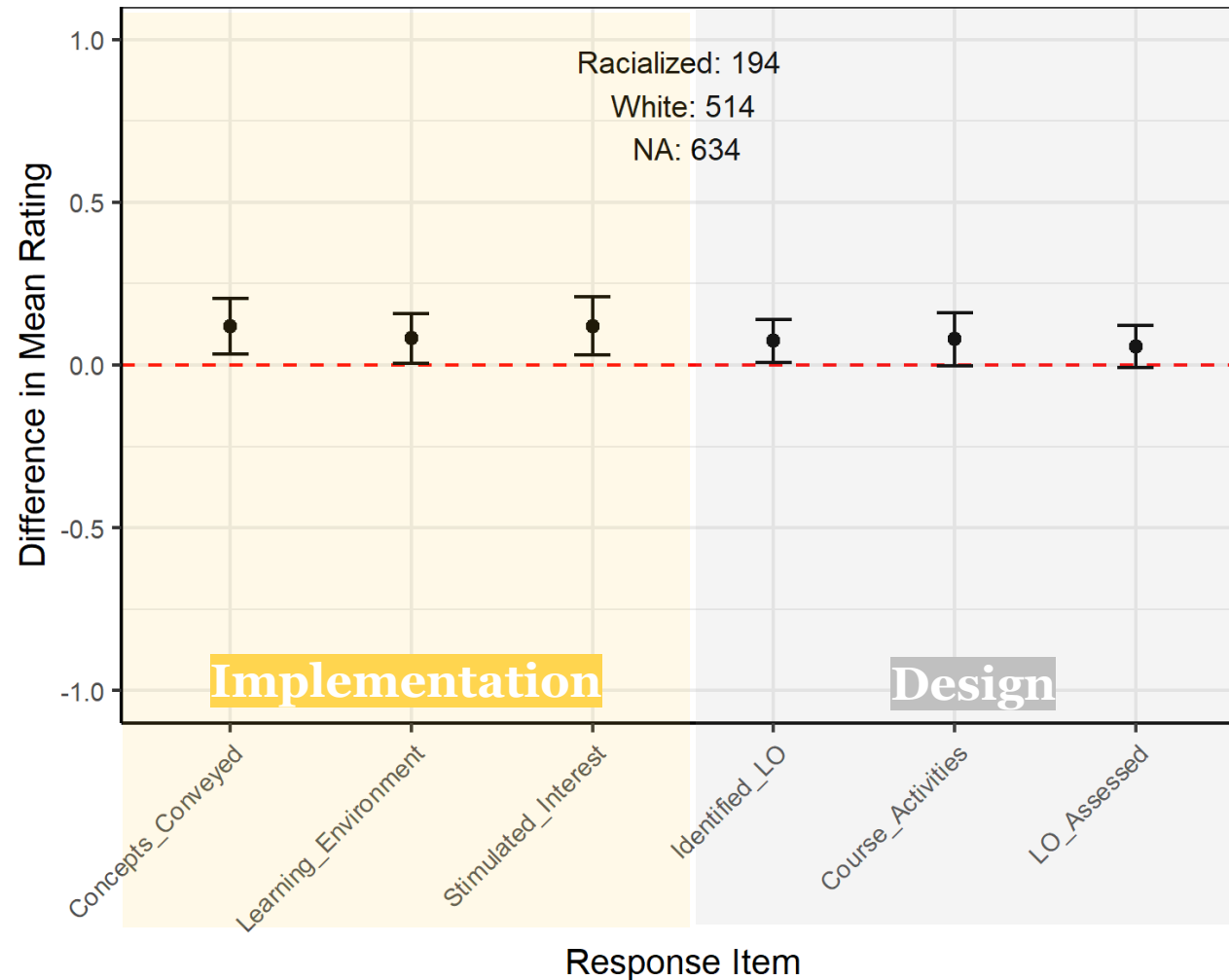# Consistent with the Literature

✓ Negative Skew/High Scores
✓ Course Size
✓ Course Type
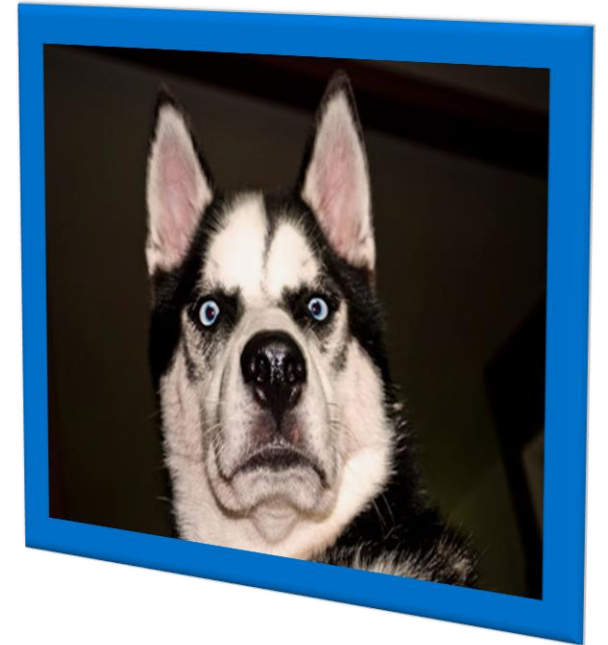
Difference in MR for White & Racialized Instructors

Table: Difference in MR for White & Racialized Instructors

|	White Avg.	Racialized Avg.	Difference
Concepts_Conveyed	4.24	4.13	0.12
Learning_Environment	4.35	4.28	0.08
Stimulated_Interest	4.08	3.96	0.12
Identified_LO	4.23	4.16	0.07
Course_Activities	4.08	4.01	0.08
LO_Assessed	4.19	4.13	0.06

SUMMARY: MR & Instructor Racial Identity

- Difference in MR for white & racialized instructors accounting for…

    - Faculty = not significant

    - Faculty & Class Size = NED*

    - Faculty & Course Type (online/in-person) = NED

    - Faculty & Appointment Type = NED

    - Class Size = not significant

    - Class Size & Appointment type = not significant

    - Time Spent in Canada = not significant

    - Course type (online/in-person) & Appointment type = not significant

    - Course type (online/in-person) & Class Size = not significant

        NED = Not Enough Data: Cell counts were too small to plot/report

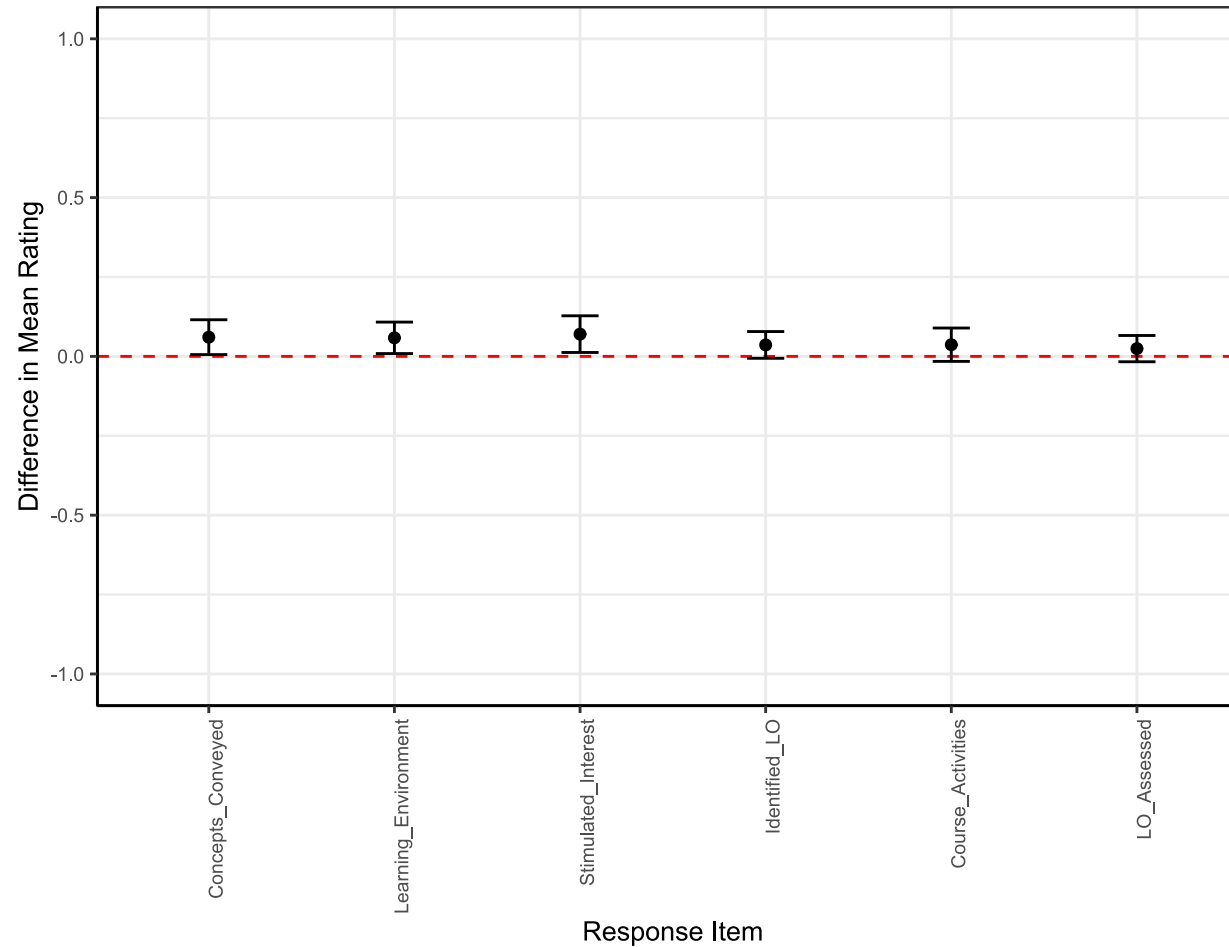# Difference in MR for White and Racialized Instructors by Time in Canada
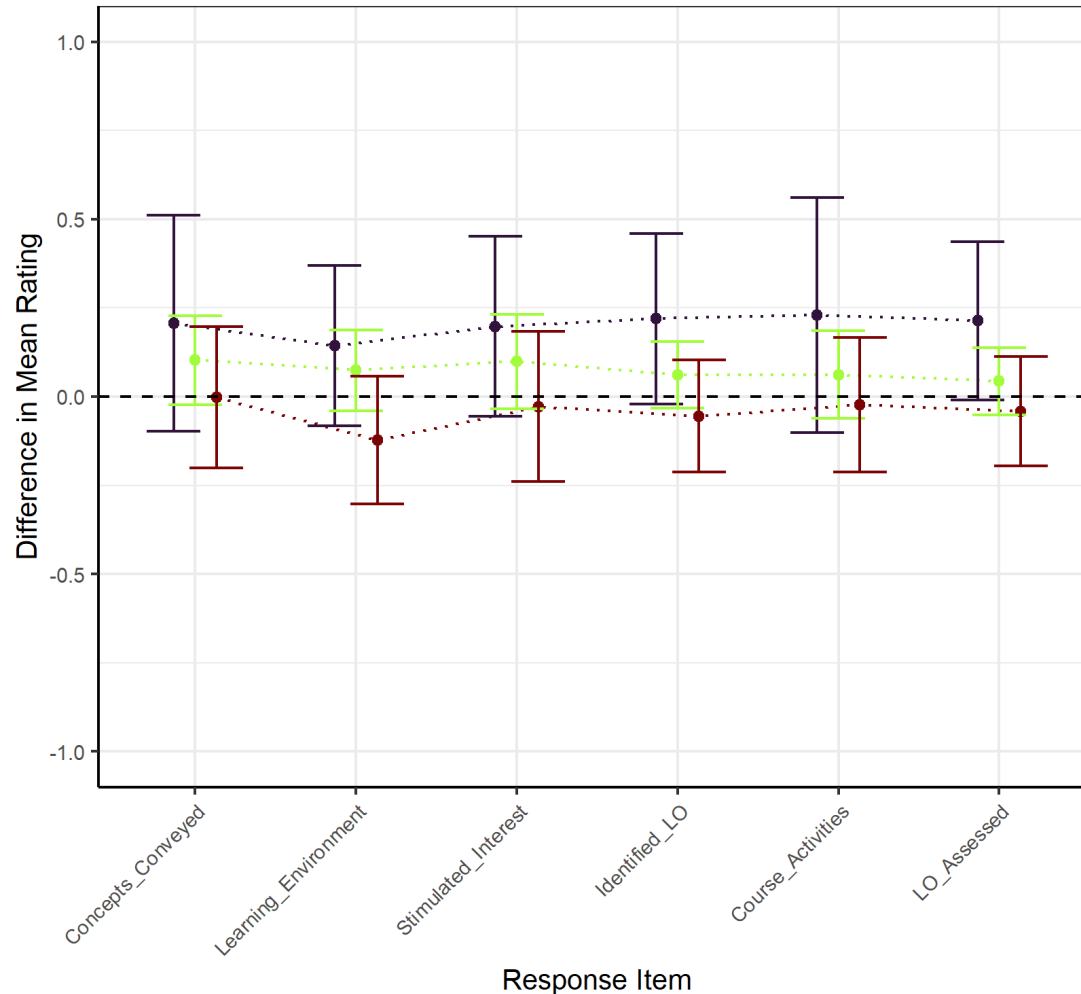
Time in Canada

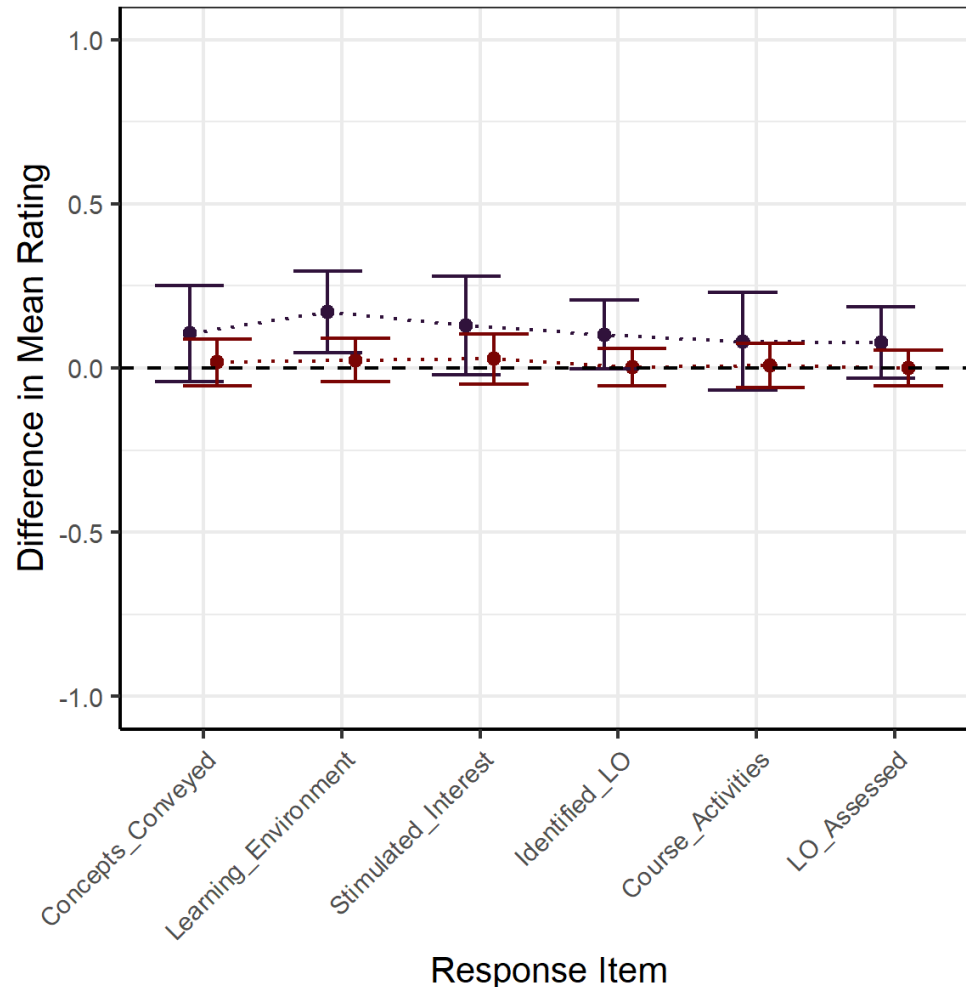- Less than 5 years
- 5 years or longer
- I was born in Canada

Race × White × Less <5y 🇨🇦
Race × White × 5+y 🇨🇦
Race × White × BIC 🇨🇦

Difference in MR for Instructors born inside Canada and instructors born outside of Canada

Difference in MR for Instructors
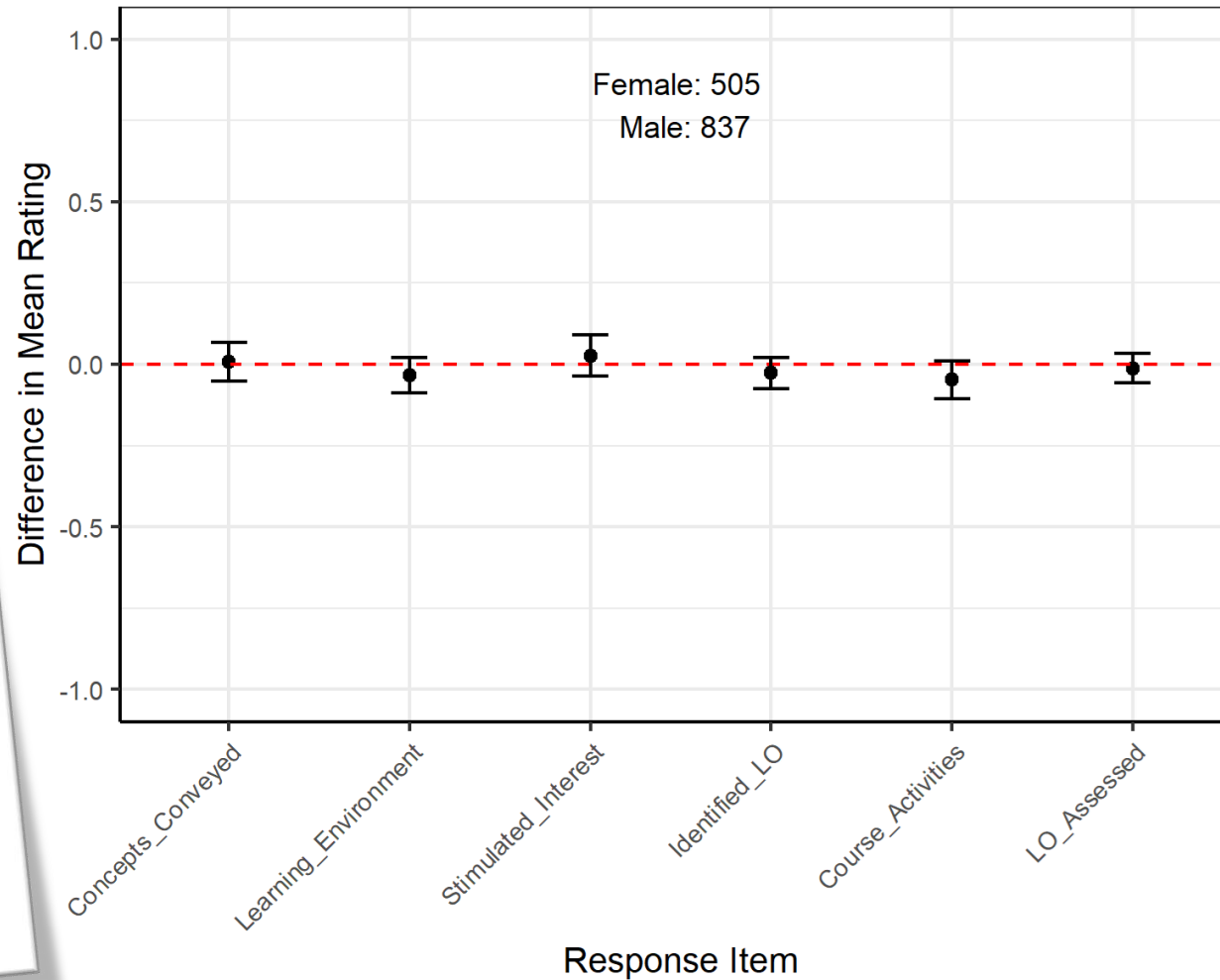# Born in Canada and Outside Canada by Racial Identity

Racialized
- Racialized
- White

Race × BIC 🇨🇦 × NBC ❌
White × BIC 🇨🇦 × NBC 🇨🇦

Difference in MR for Male & Female Instructors

Female: 505
Male: 837

SUMMARY: MR & Instructor Sex

- Difference in MR for male & female instructors accounting for...

  - Faculty = not significant

  - Faculty & Class Size = not significant

  - Faculty & Course type (online/in-person) = not significant

  - Faculty & Appointment type = not significant

  - Class Size = not significant

  - Class Size & Appointment type = not significant **

  - Time spent in Canada = not significant

  - Course type (online/in-person) & Appointment type = not significant

  - Course type (online/in-person) & Class size = not significant

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Summary of Key Findings

- Descriptives
  - White instructors in this study outnumbered racialized instructors
  - Male instructors outnumbered female instructors across all ranks
  - Students rate smaller classes slightly higher than larger ones
- Differences in Mean Ratings: Instructor Race
  - Mean rating difference for 2/6 survey questions was statistically significant
    - Concepts_Conveyed and Stimulated_Interest
  - Evidence to suggest differences in MR may be attributed to possible cultural/language biases
- Differences in Mean Ratings: Instructor Sex
  - Mean rating differences for various tests were not statistically significant

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Institutional Takeaways

- We don't observe differences in score by instructor gender
  - Doesn't impact religious attachment of some faculty members to the idea that student survey results are gender biased. Admin view is that well-designed questions probably mitigate such bias
  - The University doesn't deny that *assessment of teaching* might be biased, but we focus our attention on looking for problems elsewhere in process
  - Highlight importance of holistic assessments, grounding course evals, peer review, etc., all in an Waterloo's Teaching Effectiveness Framework
  - Be sensible about how scores are reported: tradition of reporting average scores to two decimal places has to go away --- differences at that level are meaningless but invite systemic bias into judgments
- Suggestive evidence about associations between instructor racialization and scores
  - Too soon for conclusions, even though it is politically difficult to say "no action at this time"
  - If preliminary evidence suggesting that "time in Canada" (Accent? Adapting to teaching styles expected by Canadian students?) is the driving factor behind observed differences by racialization, the University can take appropriate steps. If future data undermines this suggestion, other steps will be needed

Questions

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https://uwaterloo.ca/teaching-assessment-processes

THANK YOU!

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