



Changes in Metacognitive & Self-Regulatory Strategies of Undergraduate Students During the COVID-19 Pandemic

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Problem

- Rapid migration from Face-to-Face university courses to online (spring 2020)
- Continued delivery of university courses online, blended (fall 2020)
- Investigated how the immediate transition impacted the use of metacognitive and self-regulatory behaviors for university students.
- Investigated differences among male and female students in addition to White and unrepresented ethnically minoritized students

Study Framework

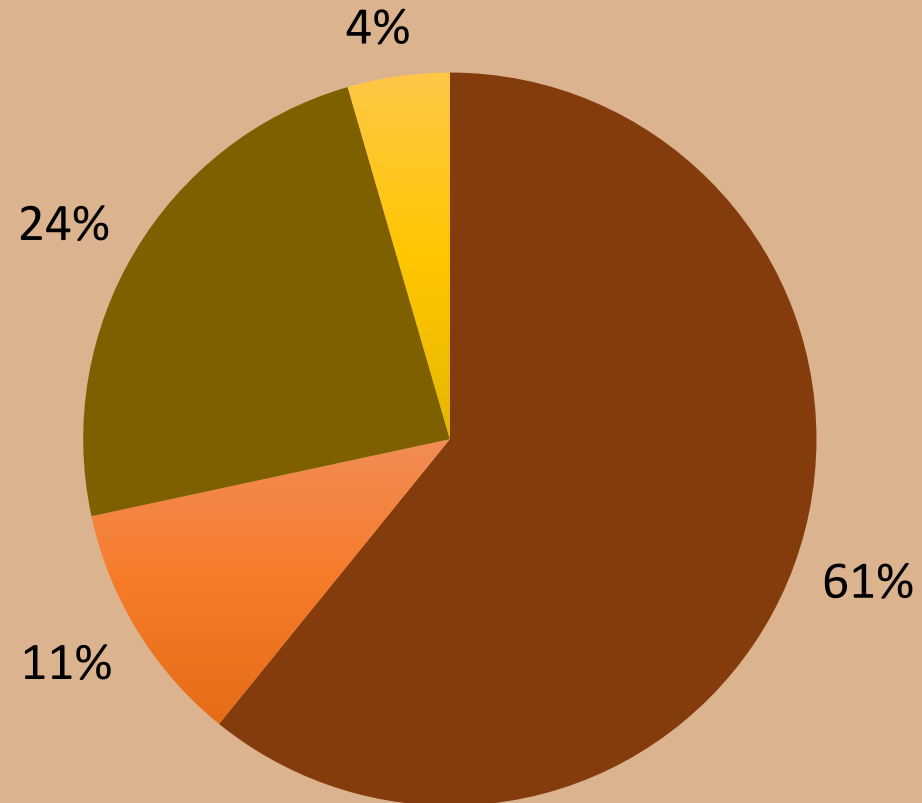


Study Questions

- Q1: Are there changes in forethought (i.e., goal orientation and self-efficacy) of undergraduate students from Spring 2020 to Fall 2020?
- Q2: Are there changes in performance (i.e., help seeking, time management, self-regulation, and grit) of undergraduate students from Spring 2020 to Fall 2020?
- Q3: Are there changes in self-reflection (i.e., self-evaluation) of undergraduate students Spring 2020 to Fall 2020?
- Q4. All of these investigations will be evaluated by entire undergraduate cohort, in addition to a gender and ethnic-racial group intersectional analysis.

Participants

- 16,415 undergraduate and graduate students at BGSU were invited to participate
- Large online survey comparing perceptions of Spring 2020 and Fall 2020
- 1,244 Undergraduate students completed survey and are included



■ White Female ■ URM Female ■ White Male ■ URM Male

Instrument & Analysis

Subscales:

- Goal Orientation
- Self-efficacy
- Help-Seeking
- Time Management
- Self-Regulation
- Grit
- Self-Evaluation

Analysis:

2 (Gender) x 2 (Race/Ethnicity) MANOVA (T1: Spring 2020 & T2: Fall 2020)

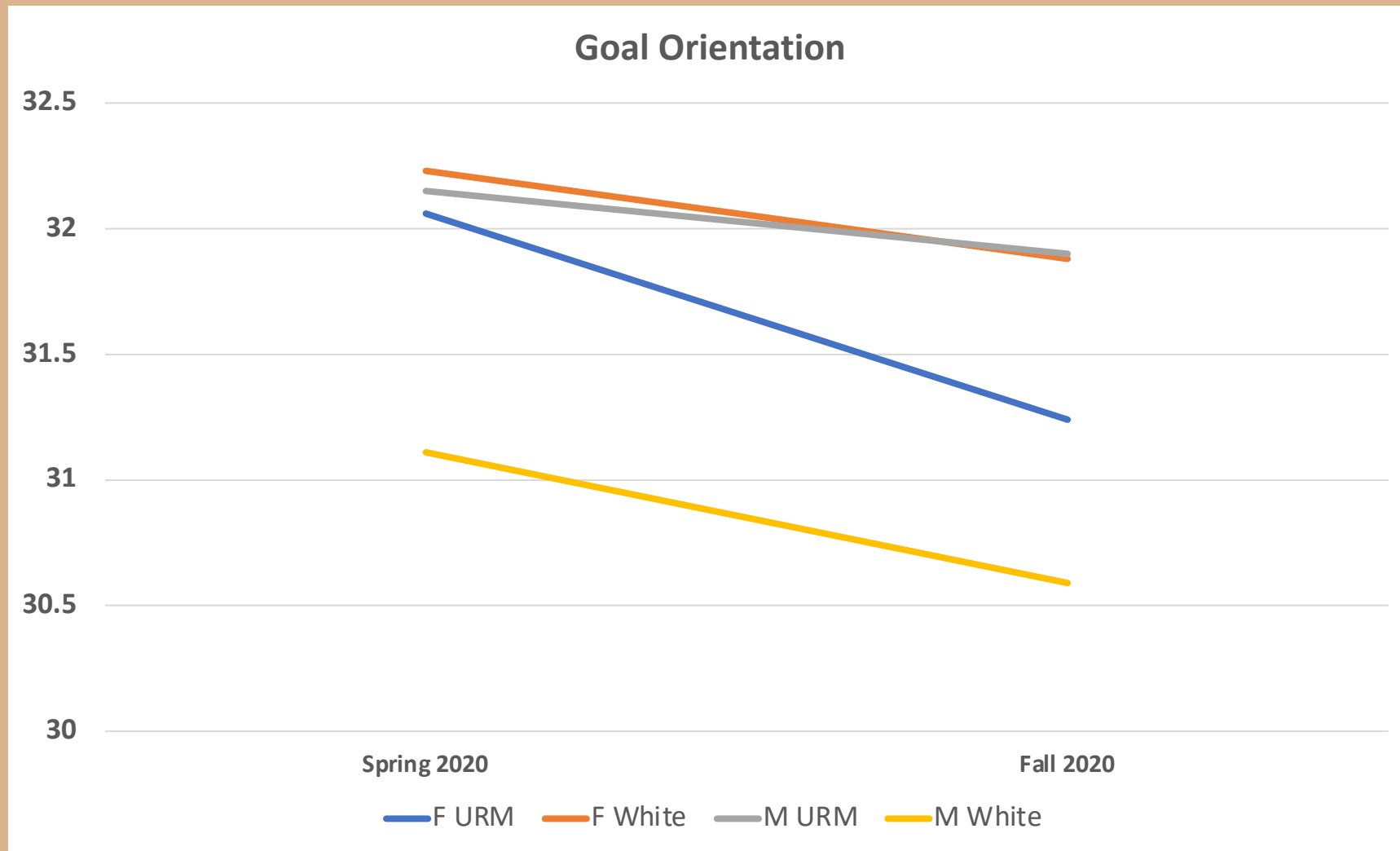
Forethought Phase: Goal Orientation

Goal Orientation Subscale

- 6 Items
- *“I keep a high academic standard for my learning in online courses.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Subscale Range: 6 to 42
- Lower Score on Subscale = Performance Goal Orientation;
- Higher Score on Subscale = Learning Goal Orientation



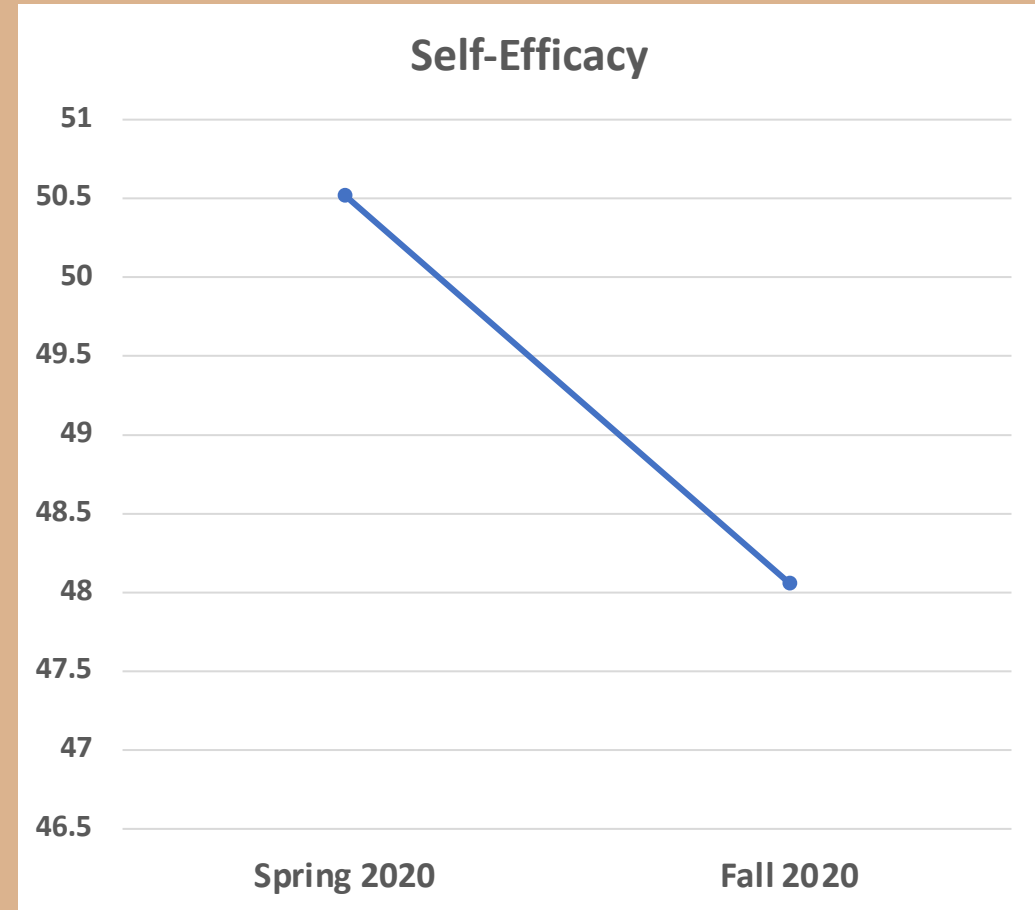
Goal Orientation: Gender x Ethnicity/Race



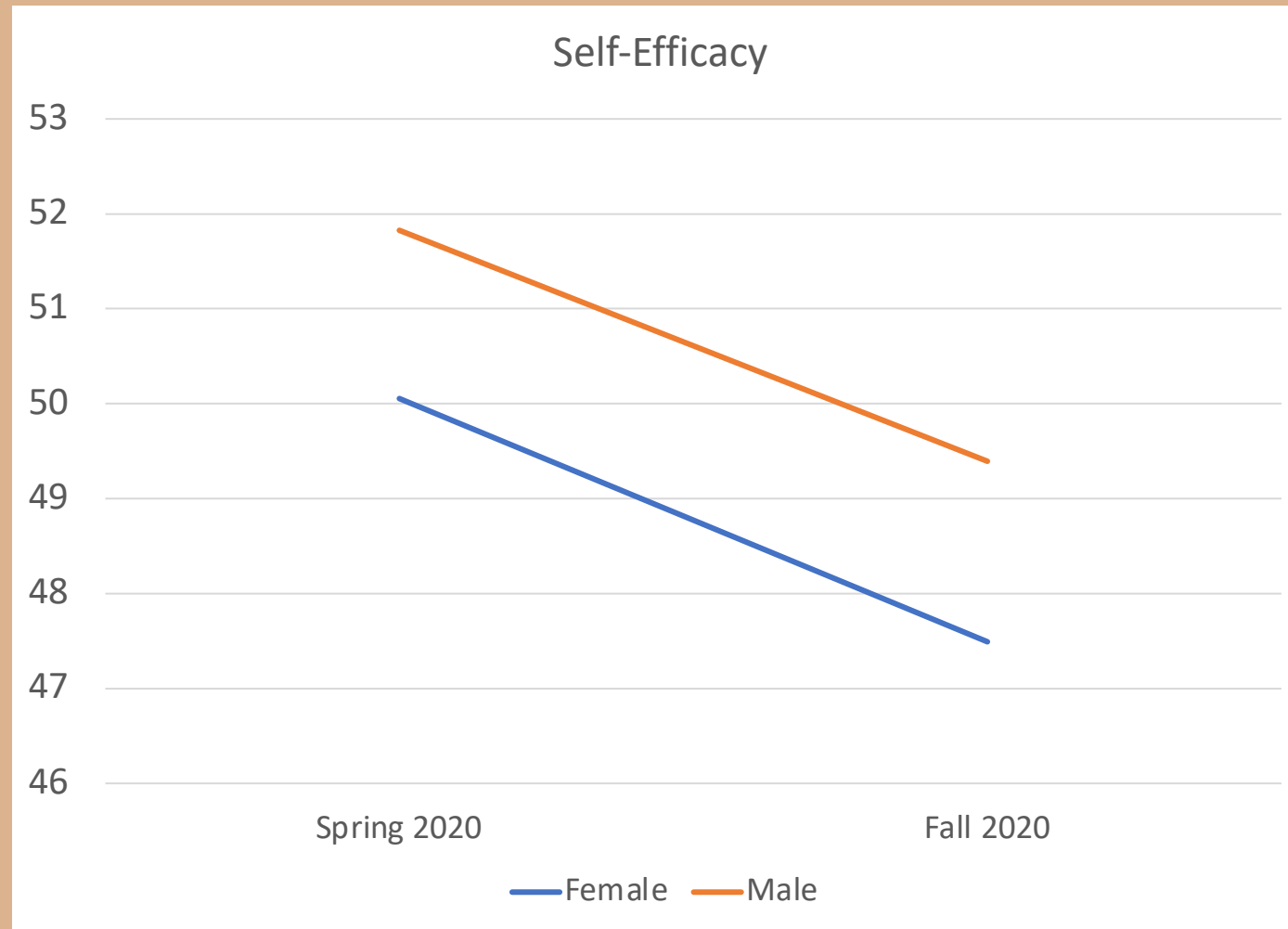
Forethought Phase: Self-Efficacy

Self-Efficacy Subscale

- 11 Items
- *“I'm confident I can do an excellent job on the assignments and tests in my courses.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Lower Score on Subscale = low level of self-efficacy;
- Higher Score on Subscale = Higher level of self-efficacy



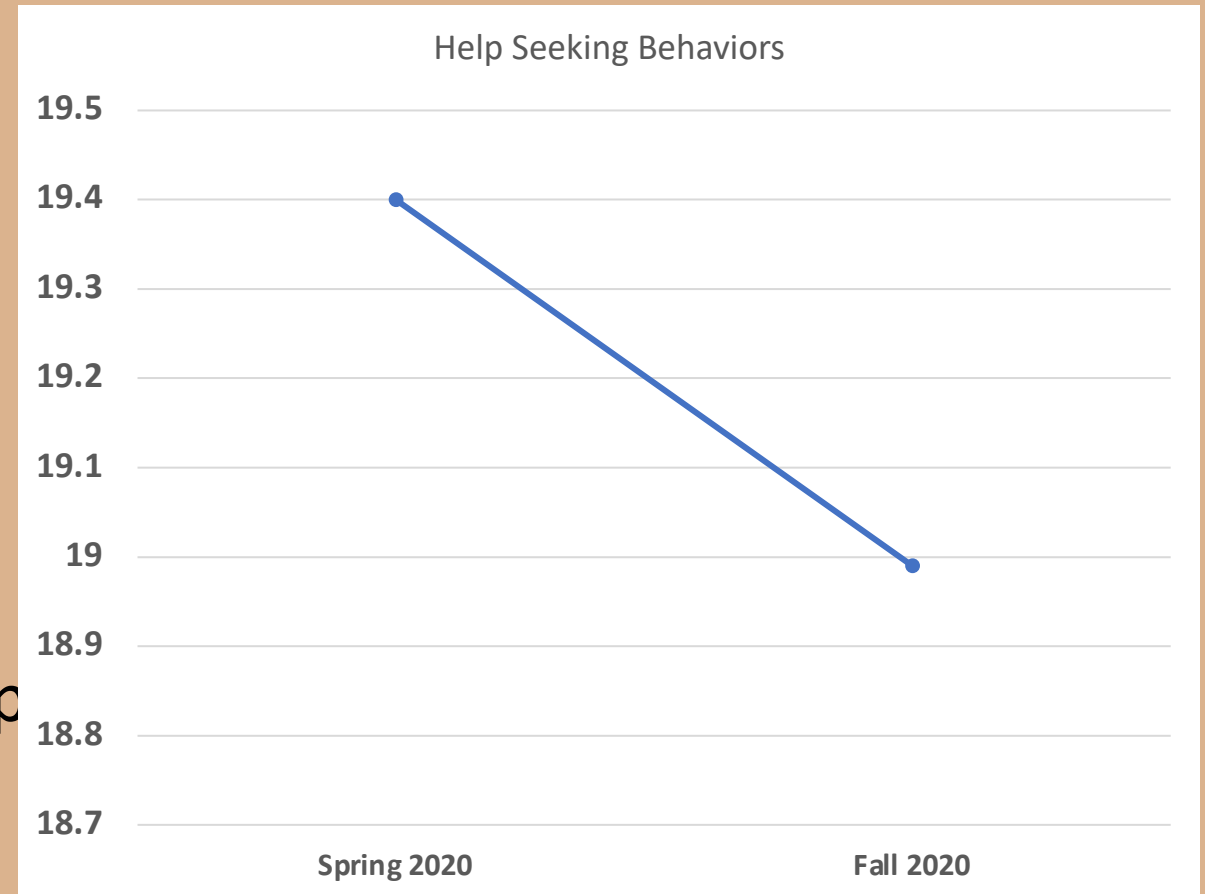
Self-Efficacy: Gender Differences



Performance Phase: Help-Seeking Behaviors

Help-Seeking Behaviors Subscale

- 3 Items
- *“I ask the instructor to clarify concepts that I do not understand well.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Subscale Range: 3 to 21
- Lower Score on Subscale = Less Help Seeking
- Higher Score on Subscale=More Help-Seeking



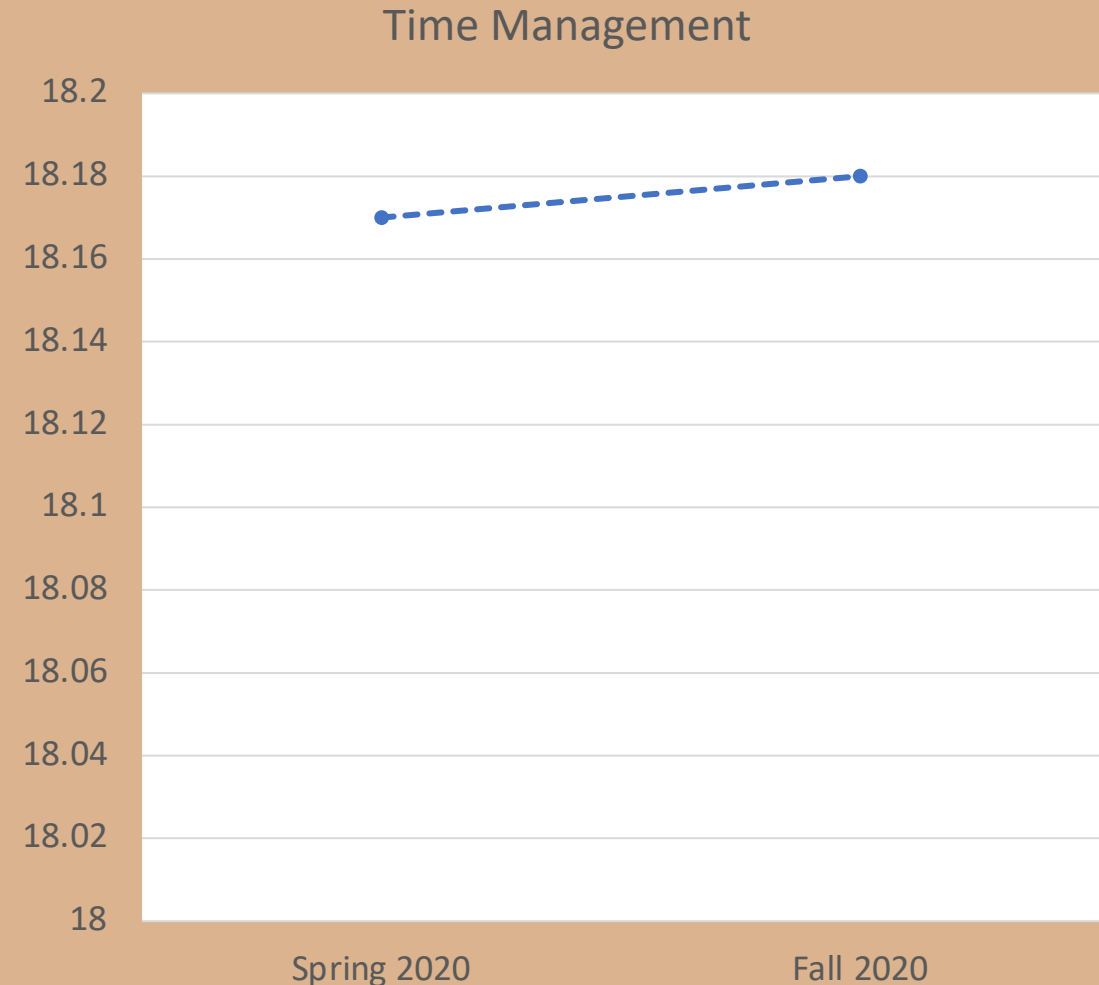
Help-Seeking Behaviors



Performance Phase: Time Management

Time Management Subscale

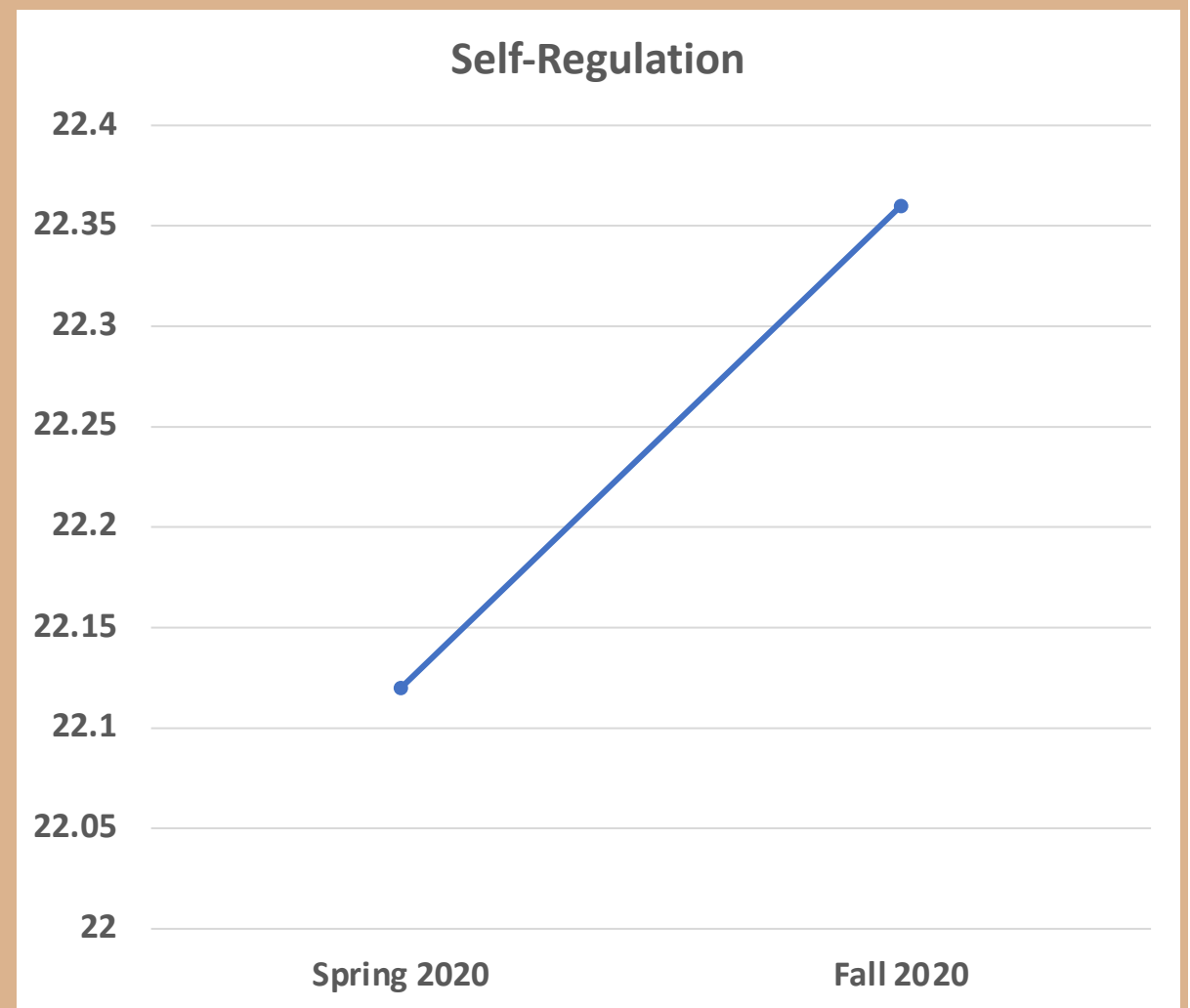
- 4 Items
- *“I try to schedule the same time every day or every week to study for courses, and I observe the schedule.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Subscale Range: 4 to 28
- Lower Score on Subscale = Less Time Management Skills
- Higher Score on Subscale=More Effective Time Management Skills



Performance Phase: Self-Regulation

Self-Regulation Subscale

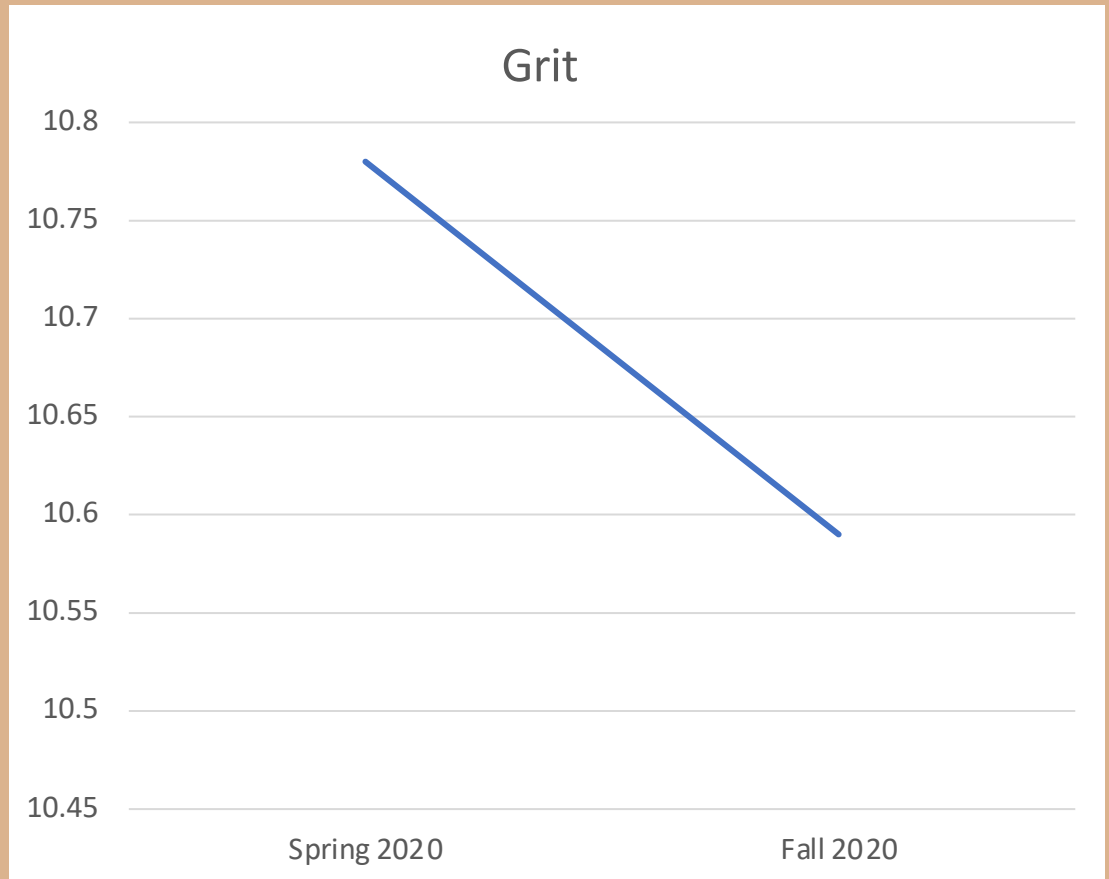
- 6 Items
- *“When I become confused about something I am reading in class, I go back and figure it out.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Subscale Range: 6 to 42
- Lower Score on Subscale = Less Self-Regulated
- Higher Score on Subscale=More Self-Regulated



Performance Phase: Grit

Grit Subscale

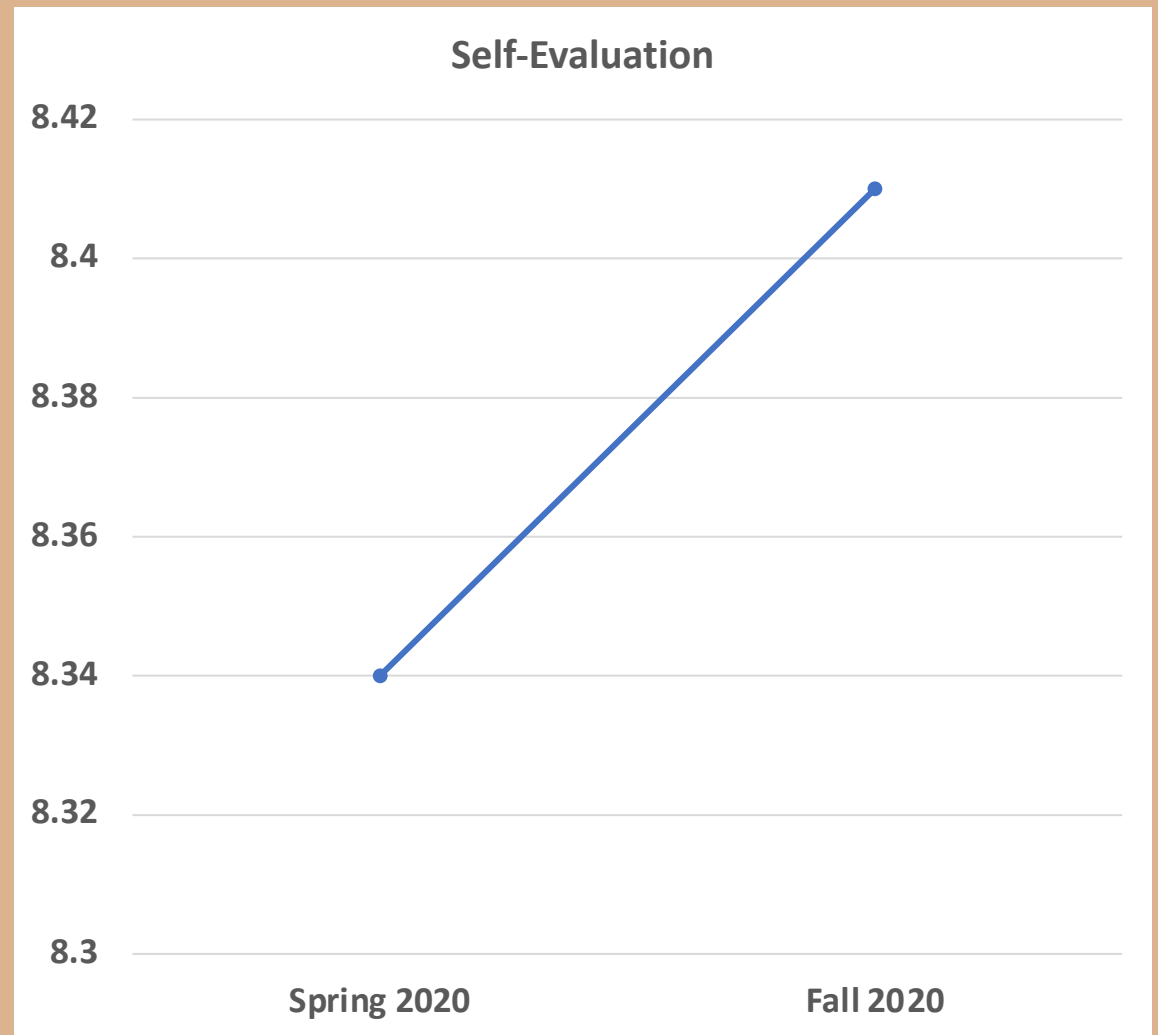
- 2 Items
- *“I finish whatever I begin.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Lower Score on Subscale = Lower amount of grit/stick-to-itness
- Higher Score on Subscale=More grit or stick-to-itness



Self-Reflection Phase: Self-Evaluation

Self-Evaluation Subscale

- 3 Items
- *“I ask myself a lot of questions about the course materials when studying for an online course.”*
- Scale: Strongly Disagree (1) to Strongly Agree (7)
- Subscale Range: 3 to 21
- Lower Score on Subscale = Less Self-Evaluative
- Higher Score on Subscale=More Self-Evaluative



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Study Findings: Summary Table

Statistically Significant Findings

	Forethought		Performance				Self Reflect
	Goal Or	Self-Eff	Help Seek	Time Man	Self Reg	Grit	Self Eval
Overall	DOWN	DOWN	DOWN	UP	UP	DOWN	UP
Gender		DOWN: F					
Ethn/Race			DOWN: W LOW: URM				
Intersection	DOWN: F/URM LOW: Wh M						

Future Studies (Examples)

- Investigate why this experience of online and blended learning is negatively influencing **Forethought** to academic work.
- Investigate the slight increase in **Time Management** and **Self-Regulation**. Is this a response by students who realize they have developed apathy during the online experience (as illustrated in negative forethought, help-seeking, and grit)?
- What about this experience has negatively influenced the **Self-Efficacy** of women more than men students?
- Investigate the reasons for such differences in **Goal Orientation**, especially for underrepresented minoritized women who drop and White men who are always consistently low.
- Investigate the reasons for negative performance in **Help Seeking**, especially for White students who declines and underrepresented minoritized students were consistently low.
- Investigate differences between undergraduate students by level (first-year, second-year...) and graduate students on responses by gender and race/ethnicity on these and other subscales/questions (i.e., number of hours spent on homework) to investigate differences between fall and spring 2020.

Questions

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