

National Study of STEM Faculty and Students during the COVID-19 Pandemic: **Preliminary Findings**



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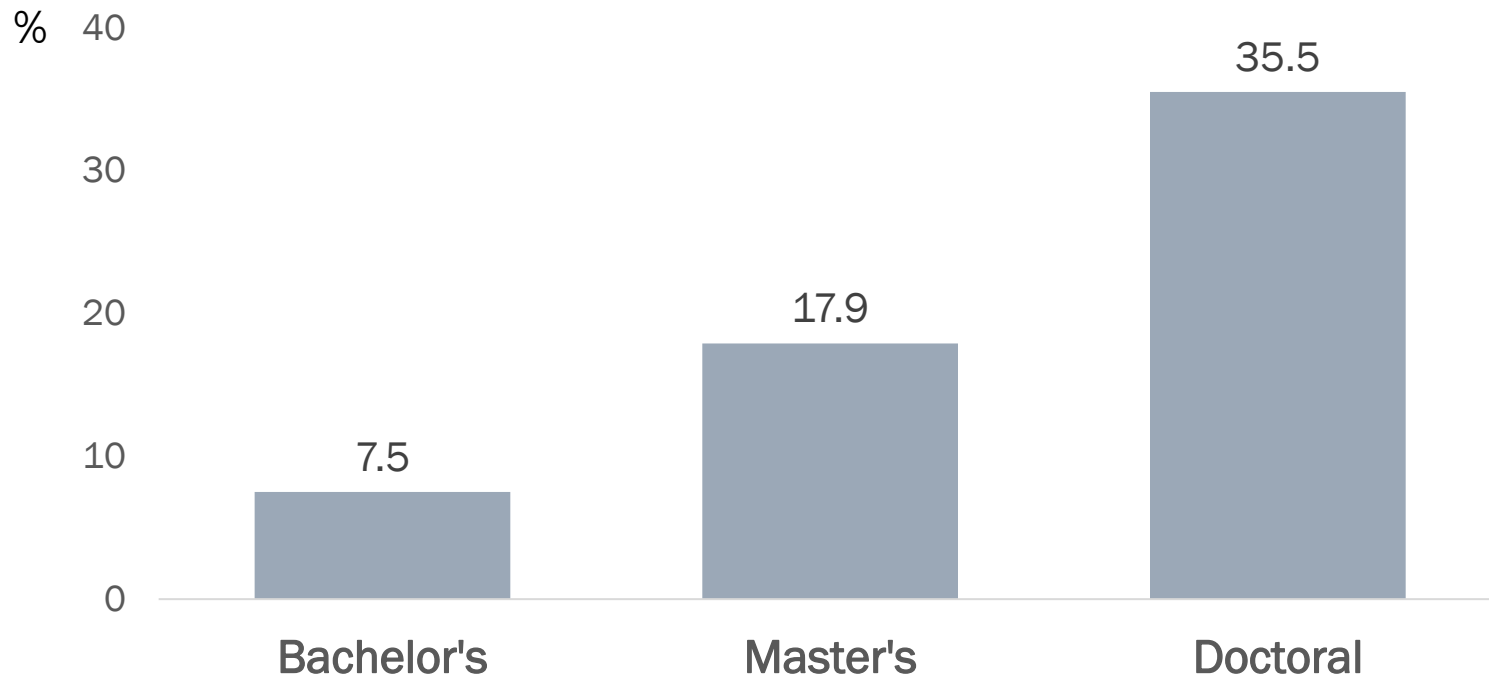
Acknowledgment -

Funded by the NSF RAPID program (DGE-2031066; DGE-2031069), using funds from the Coronavirus Aid, Relief, and Economic Security (CARES) Act, and an Internal Research Award (INTRA) at the University of Texas at San Antonio.

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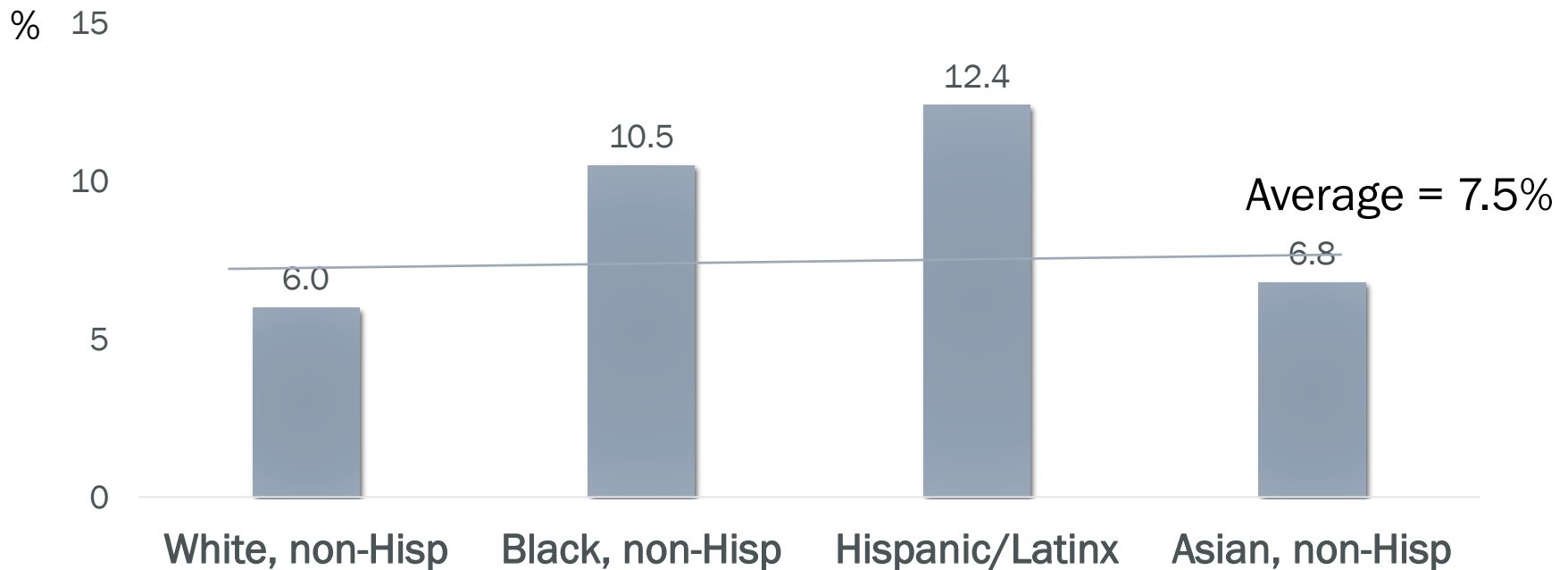
- 12-15 min online surveys (Qualtrics)
- June 3-22, 2020
- **3,269 students** (78 institutions in 33 states)
(76% Bachelor's, 13% Master's, 11% PhD)
- **1,052 faculty** (145 institutions in 41 states)
(39% Assist Prof, 26% Assoc Prof, 26% Full Prof, 9% other)
- Analyses for this presentation – chi-square tests

How many students **delayed their graduation** due to the **COVID-19** pandemic?



*** Delayed > 6 months: 26.6% undergrad & 18.9% grad students

Black/Hispanic undergrads are more likely to delay graduation...



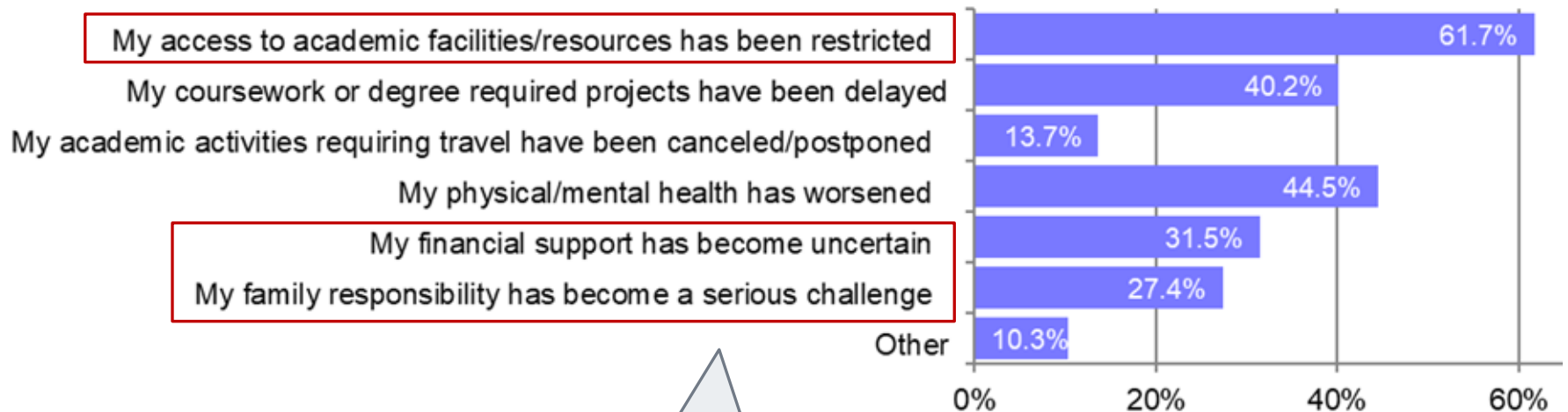
*** Gender differences - no significant

*** Grad students (25.2%) - no significant differences by gender and race/ethnicity

Reasons for delayed graduation -

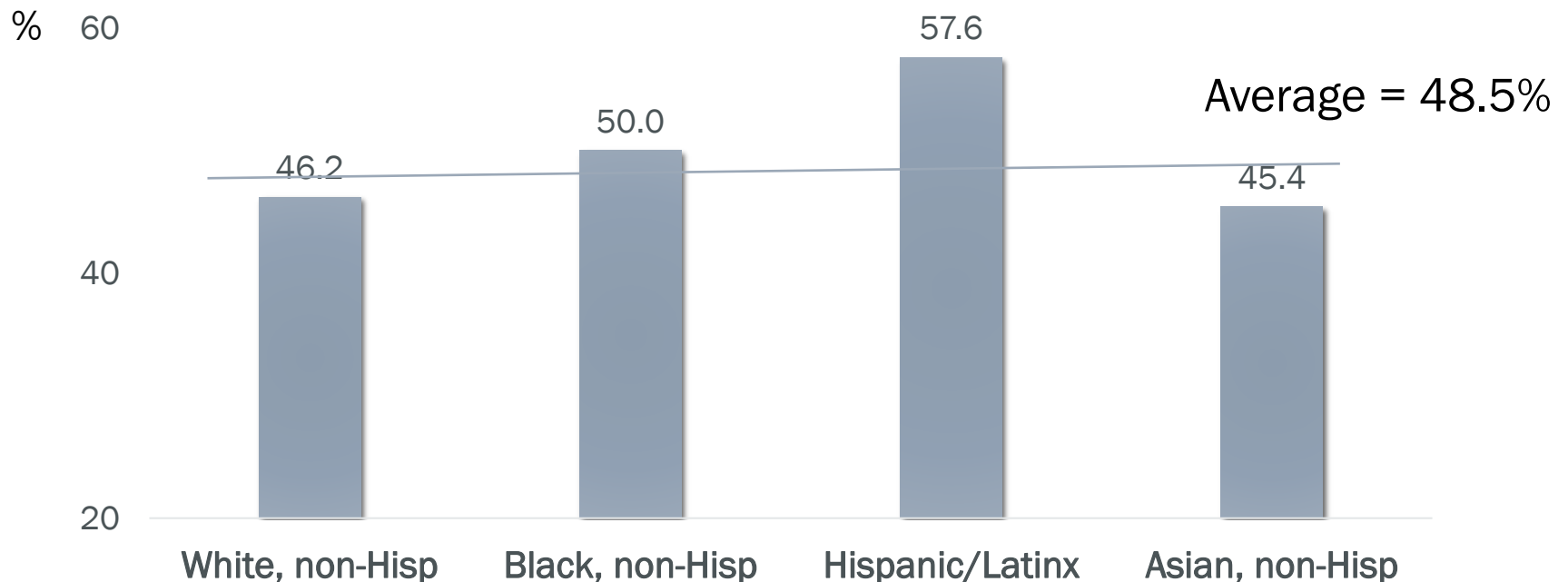
Women ▲

*results of students with other gender identity not reported here



Black/Hispanic ▲

Hispanics are more likely to have a family member who experienced a **loss of income** since March 13, 2020



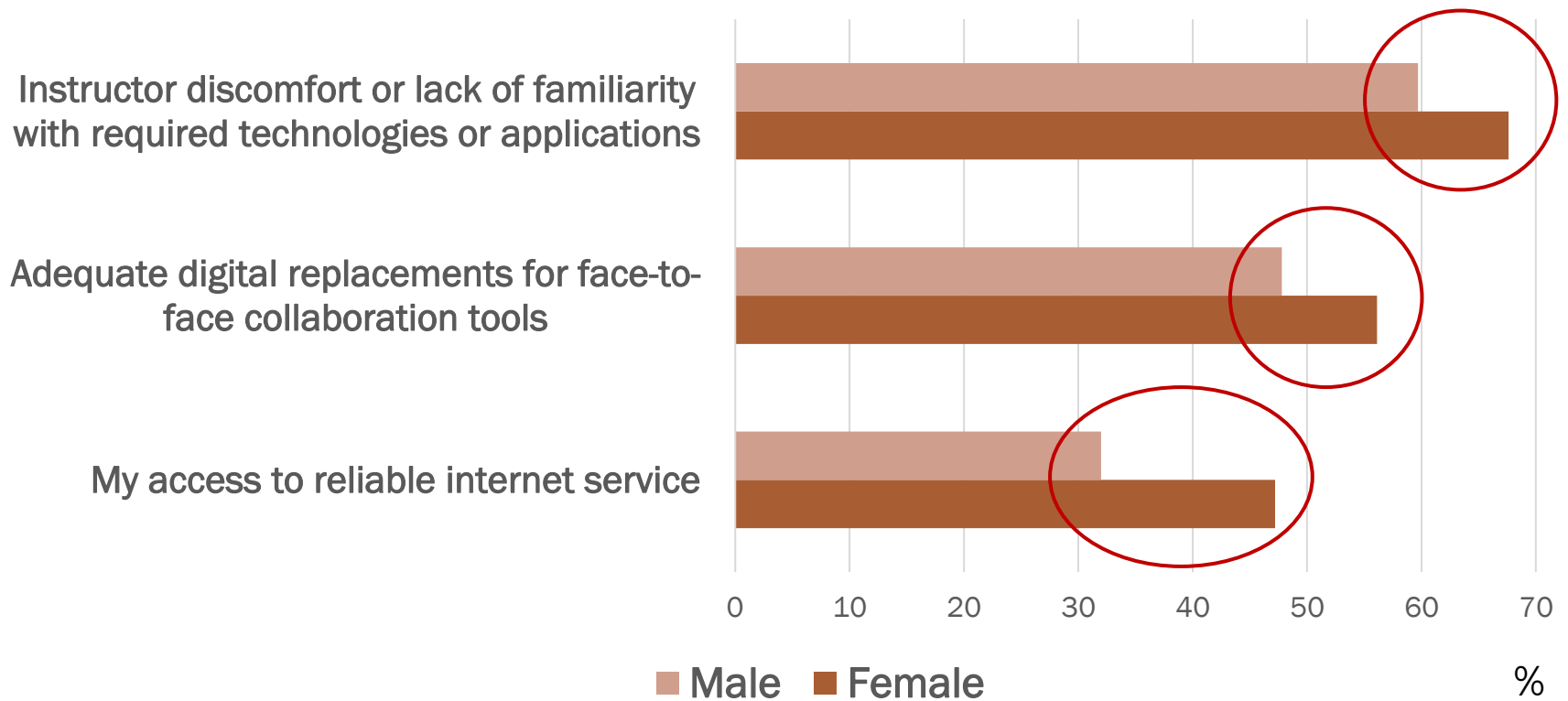
*** Gender differences - no significant

*** Differences by degree level - 52.4 % undergrad & 35.4% grad students

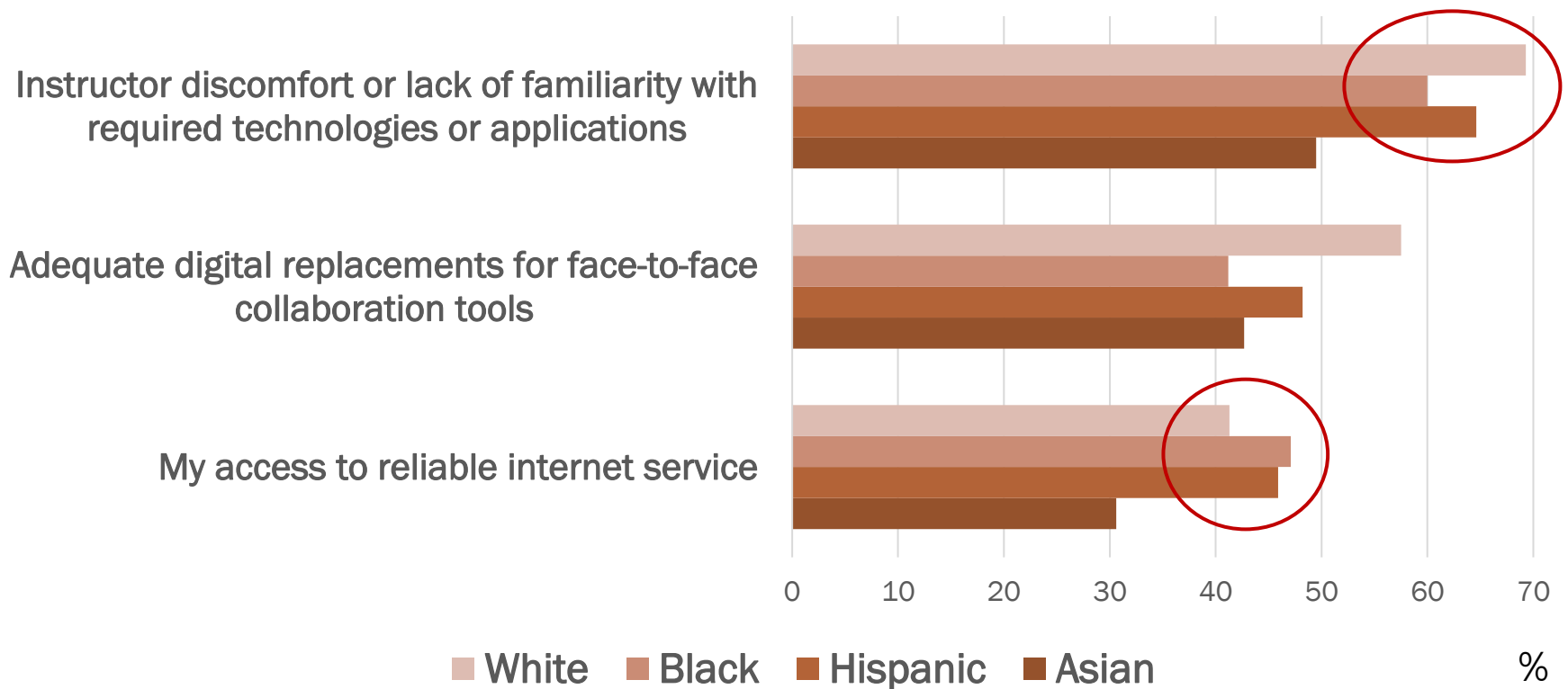
Students' Experiences of Remote Learning



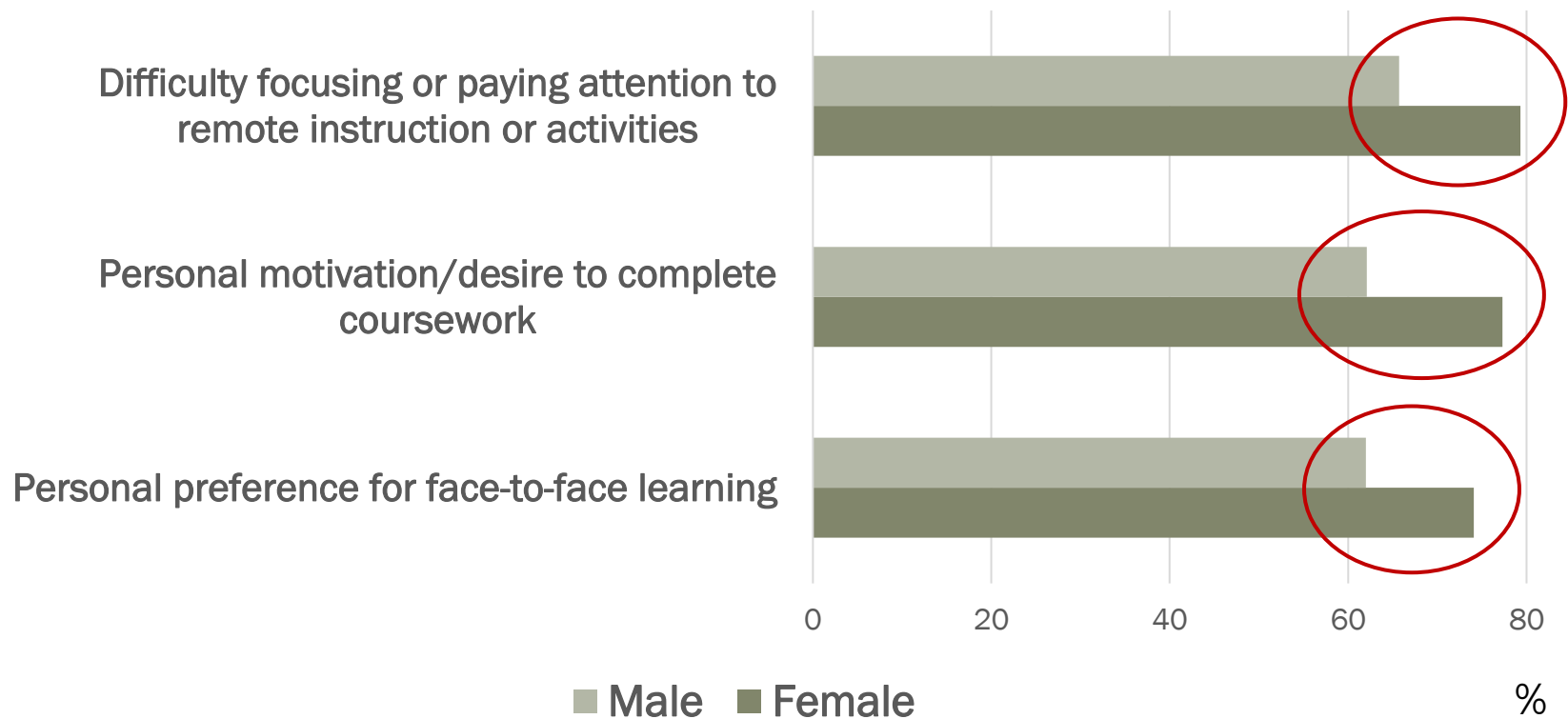
Female students reported more challenges with educational technologies



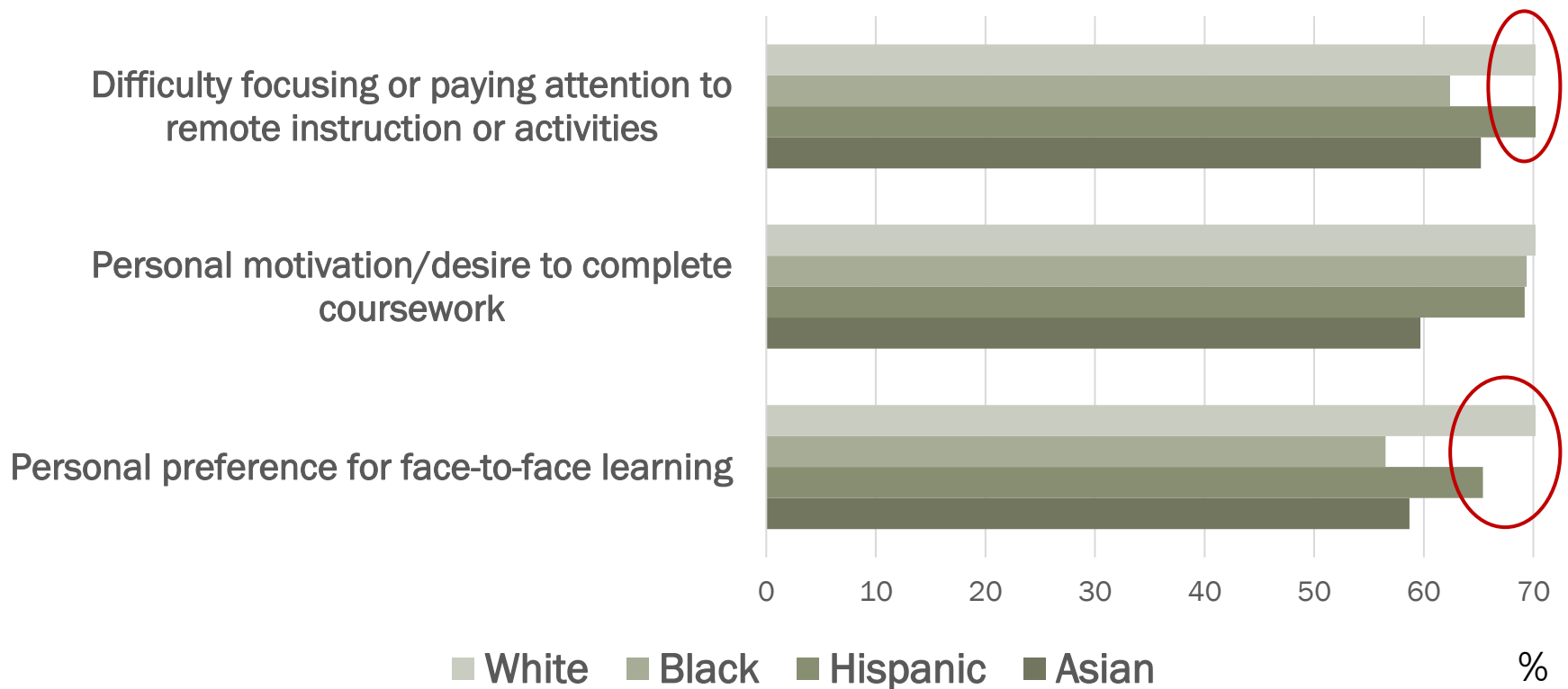
White/Black/Hispanic students reported more challenges with **educational technologies**



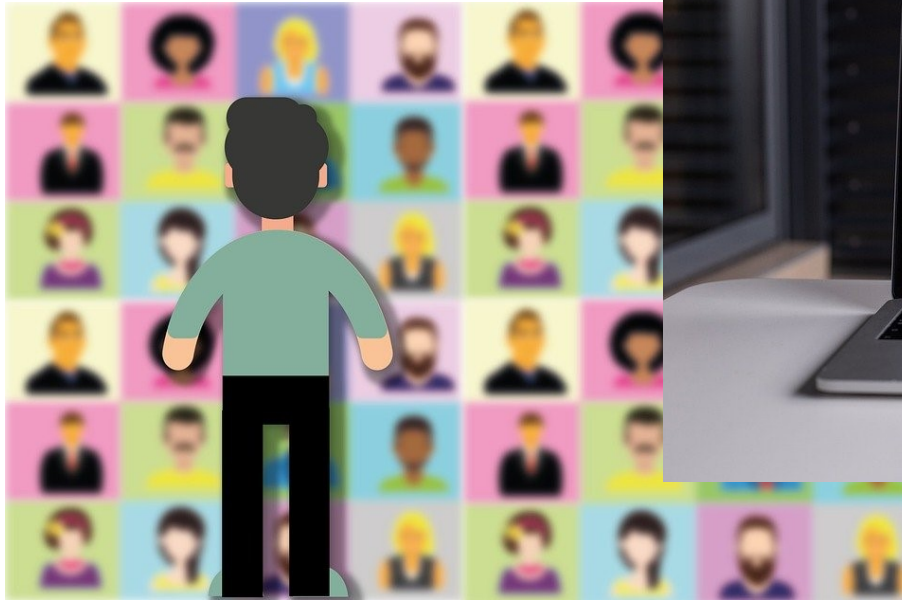
Female students struggle more in adjusting to remote learning



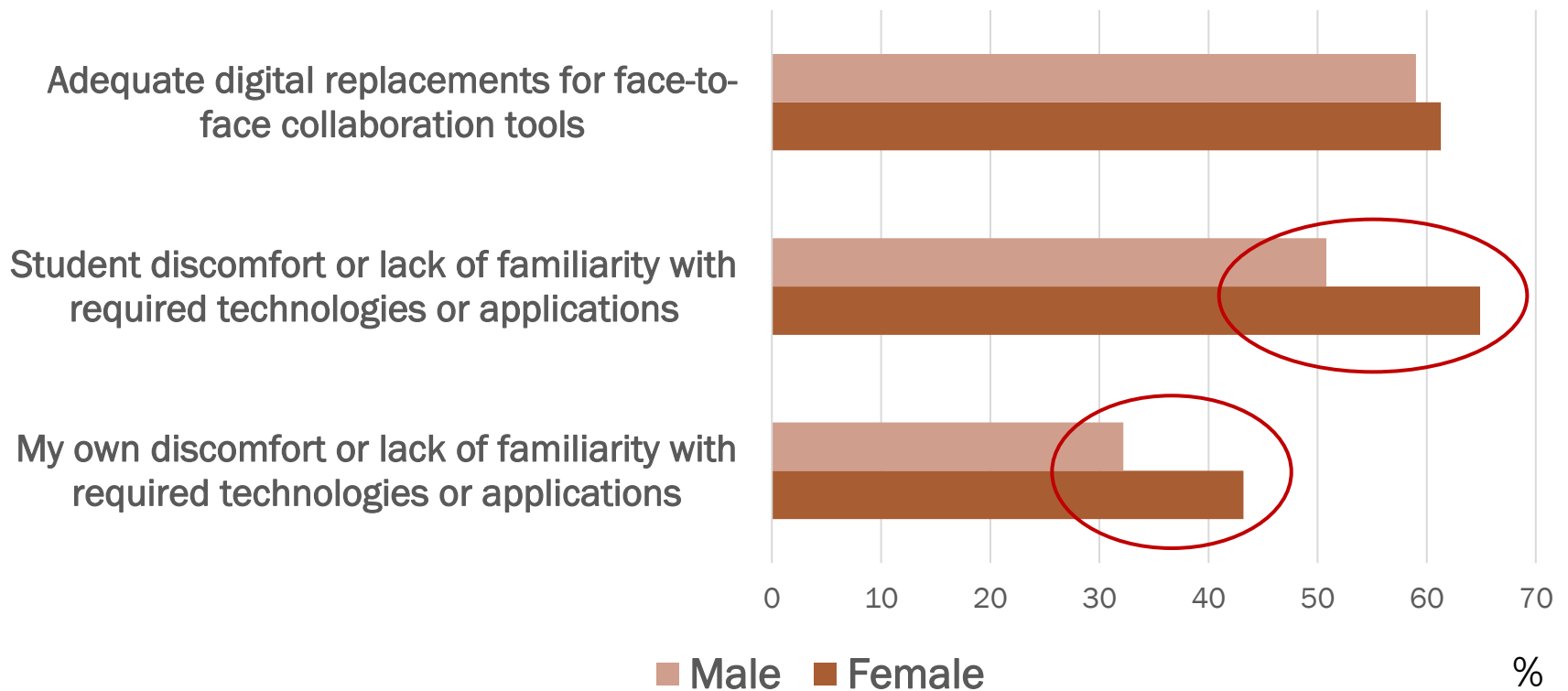
White/Hispanic students struggle more in adjusting to remote learning



Faculty Experiences of Remote Teaching

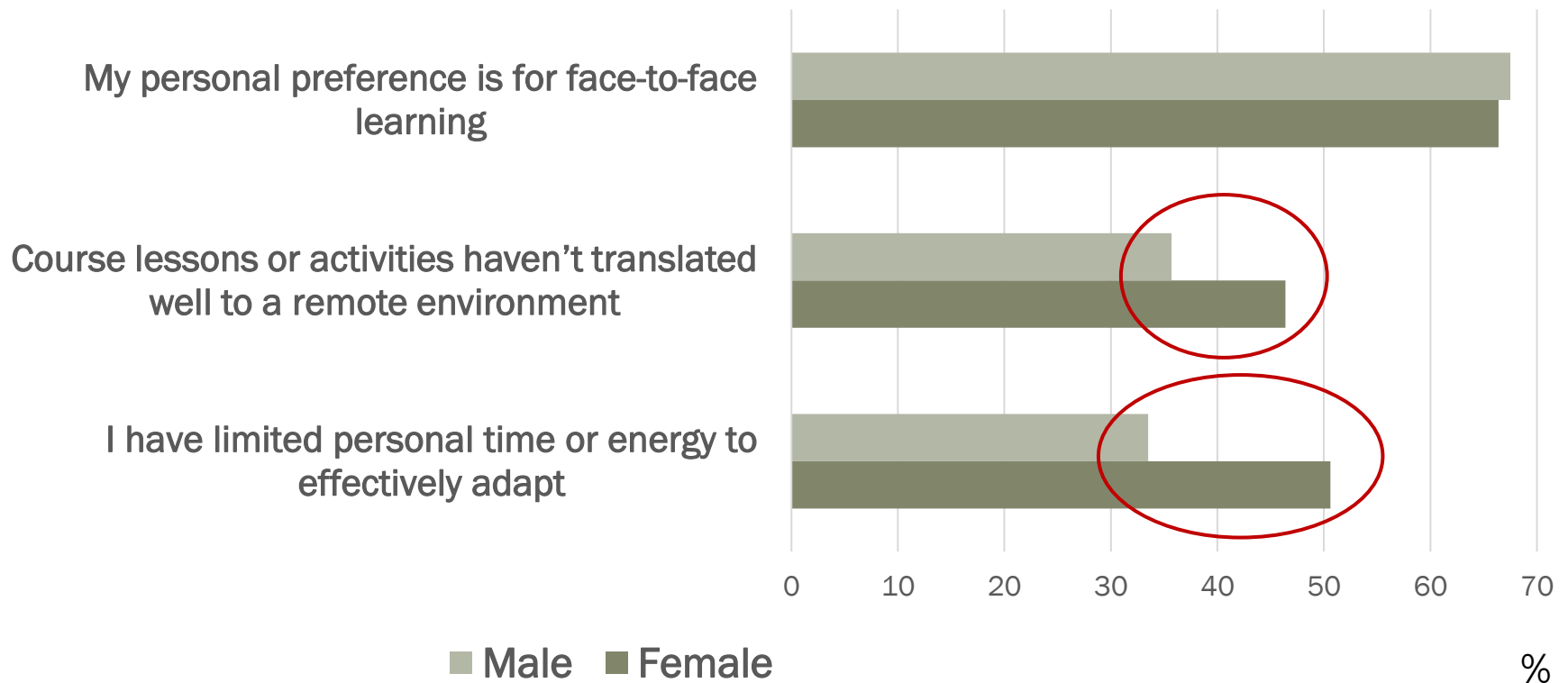


Women faculty reported more challenges with educational technologies



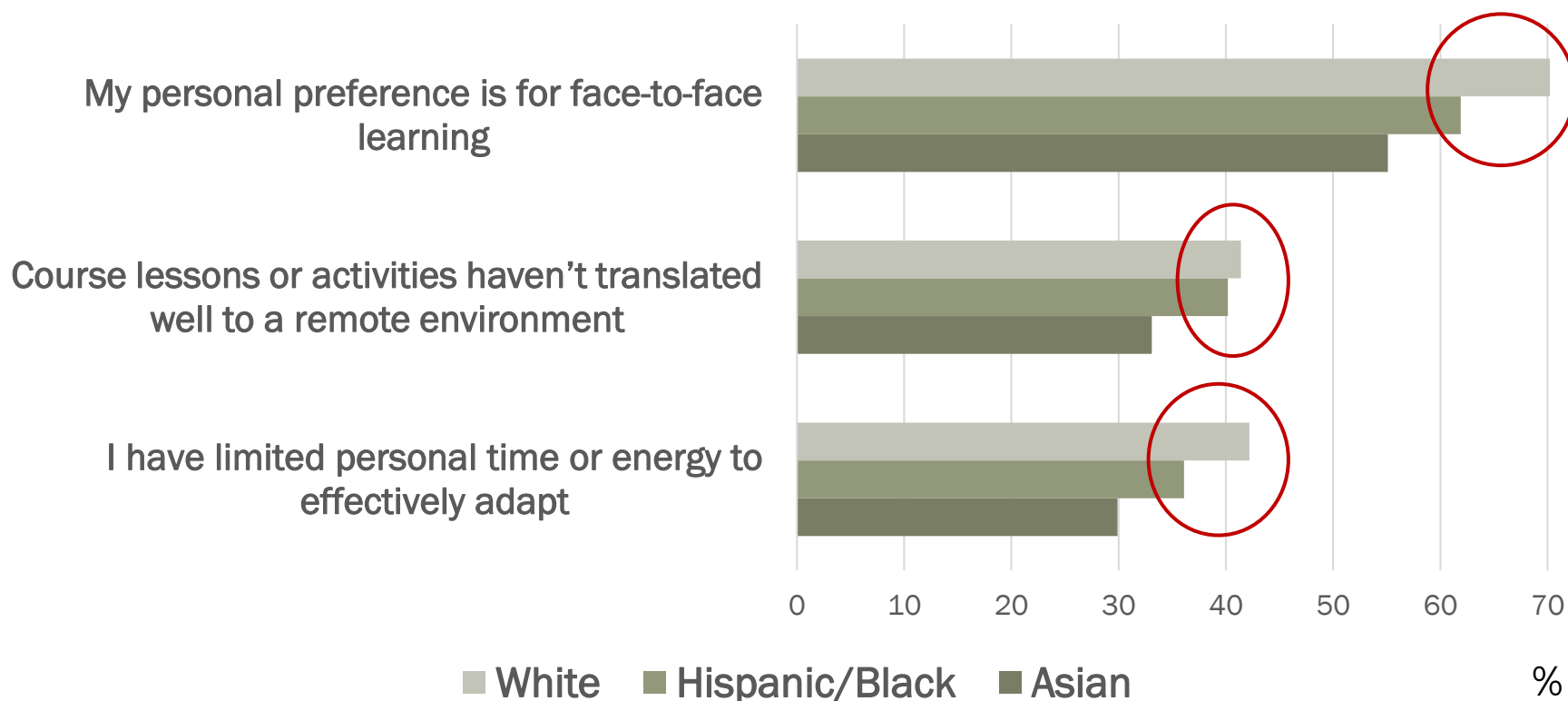
*** Racial/Ethnic differences - no significant

Women faculty struggle more in adapting to remote teaching



*** The 2nd most challenging (52.7%) is “Uncertain about how to best assess student learning in this environment” but no gender differences.

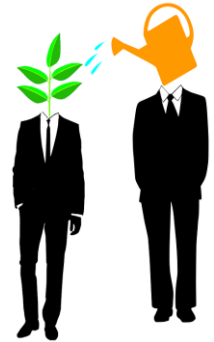
White/Black/Hispanic faculty struggle more in adapting to remote teaching



*** The 2nd most challenging (52.7%) is “Uncertain about how to best assess student learning in this environment” but no racial/ethnic differences.

Mentoring while social distancing is likely to be very challenging...

Students and faculty generally think **face-to-face** is **MORE EFFECTIVE** than e-communication



Instrumental Support (help) –

- Finishing assignments/projects
- Improving writing skills
- Preparing for presentations
- Exploring career options

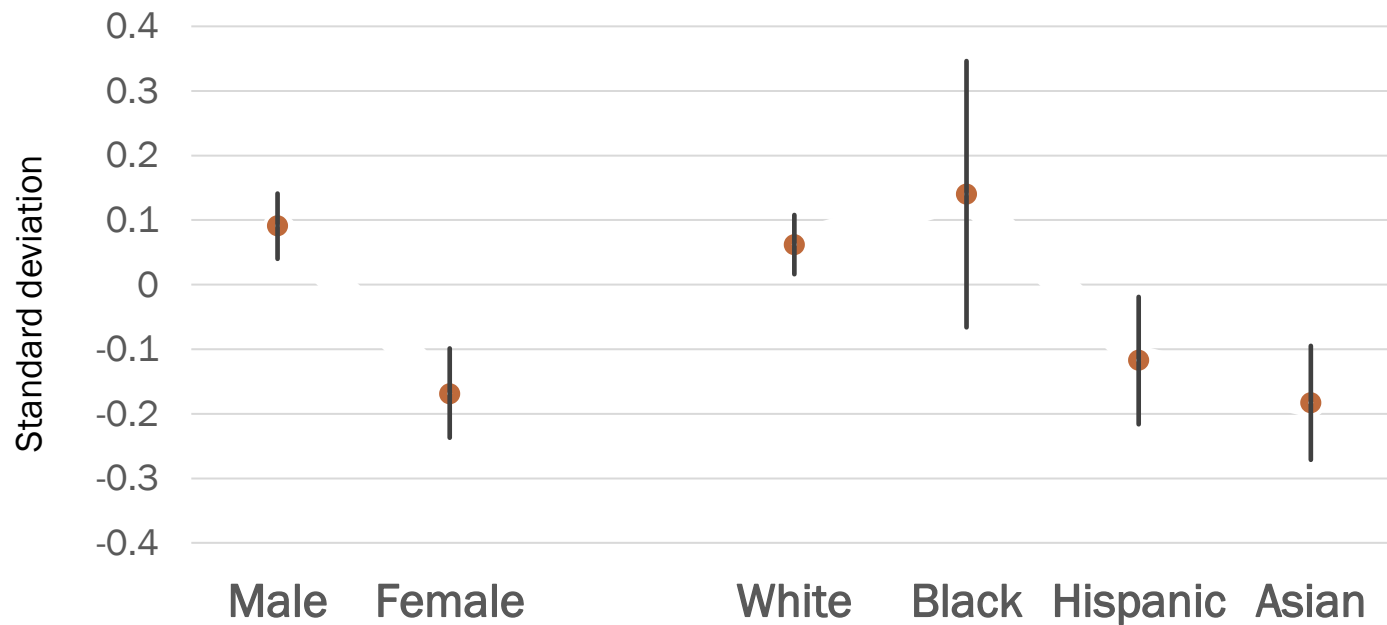
Psychosocial Support (encourage) –

- Discussing concerns about academic projects
- Pursuing learning/career interests
- Working toward career goals
- Talking about their anxiety in career outlook



Decreased Confidence
in Finding a Job
among STEM Students
due to COVID-19

Female & Hispanic/Asian students are less confident in finding a job



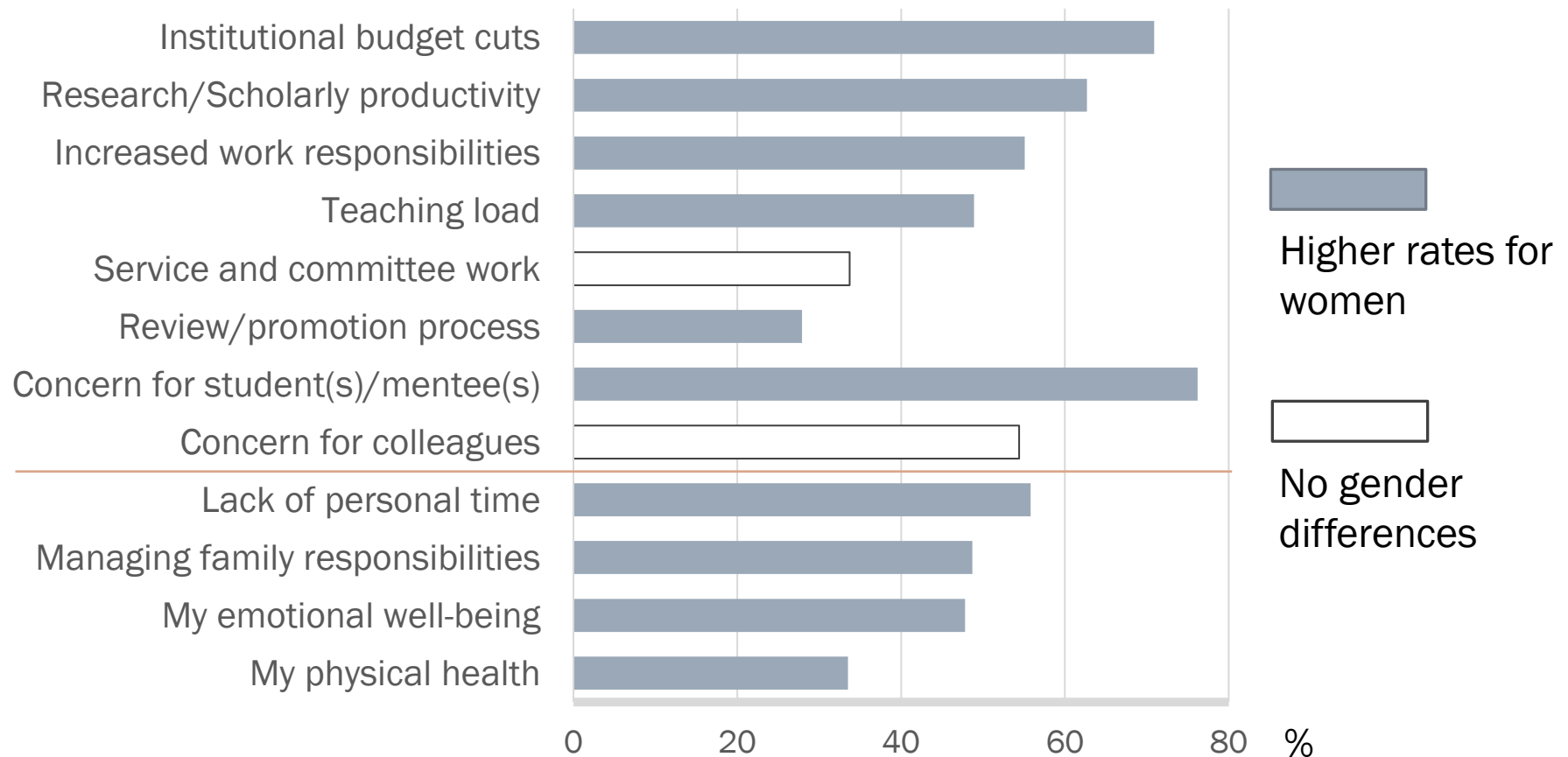
*** Composite of 3 items: “The job for which you are qualified,” “A job in a company/institution that you prefer,” and “The job for which you are prepared” (5-point Likert scale)

Increased Stress among STEM Faculty since the COVID-19 Outbreak



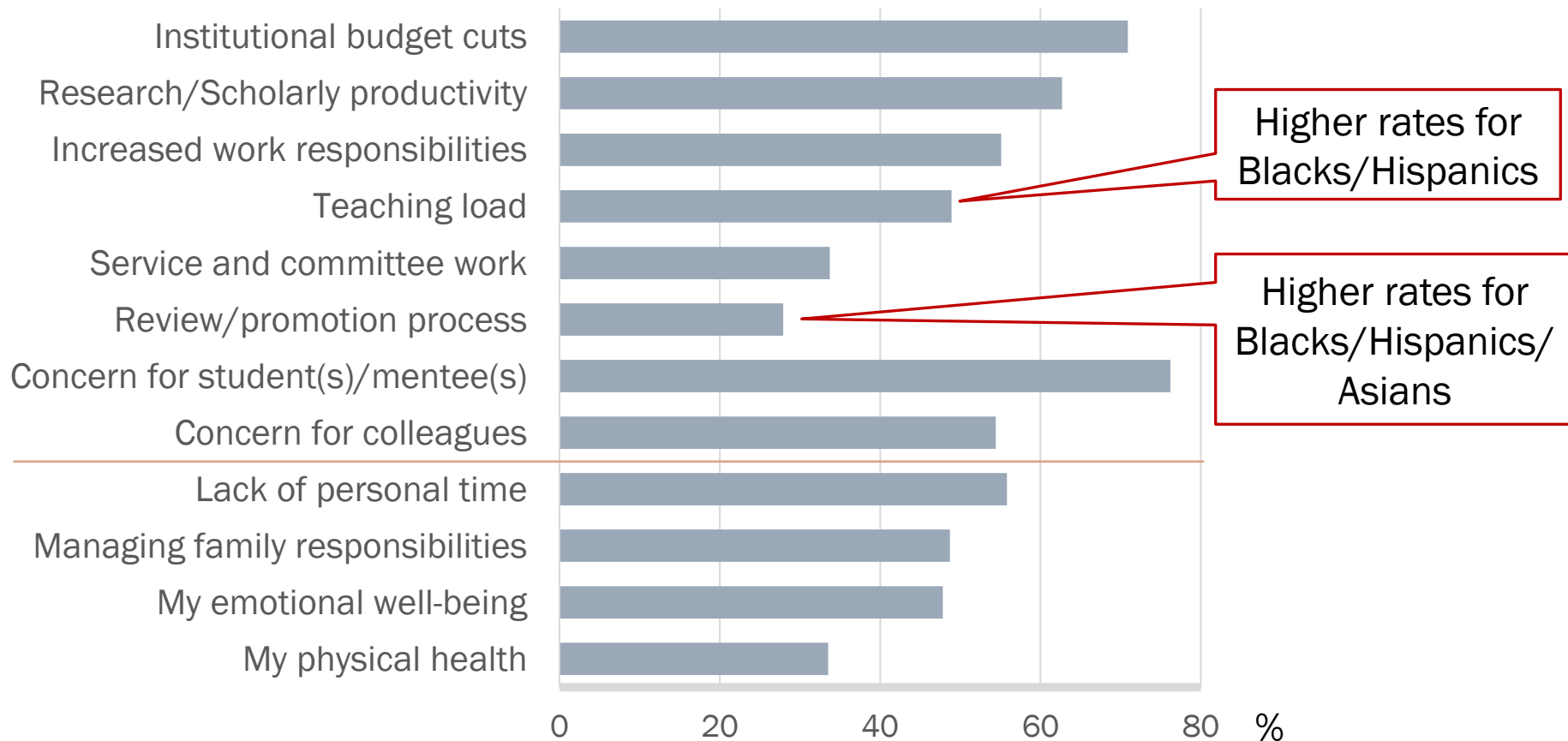
Female faculty reported having overwhelmingly increased stress

(a new source of stress to a moderate/great extent)



Racial/Ethnic differences in increased stress are negligible

(a new source of stress to a moderate/great extent)



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