

# Engineering Student Mental Wellness During the COVID-19 Pandemic

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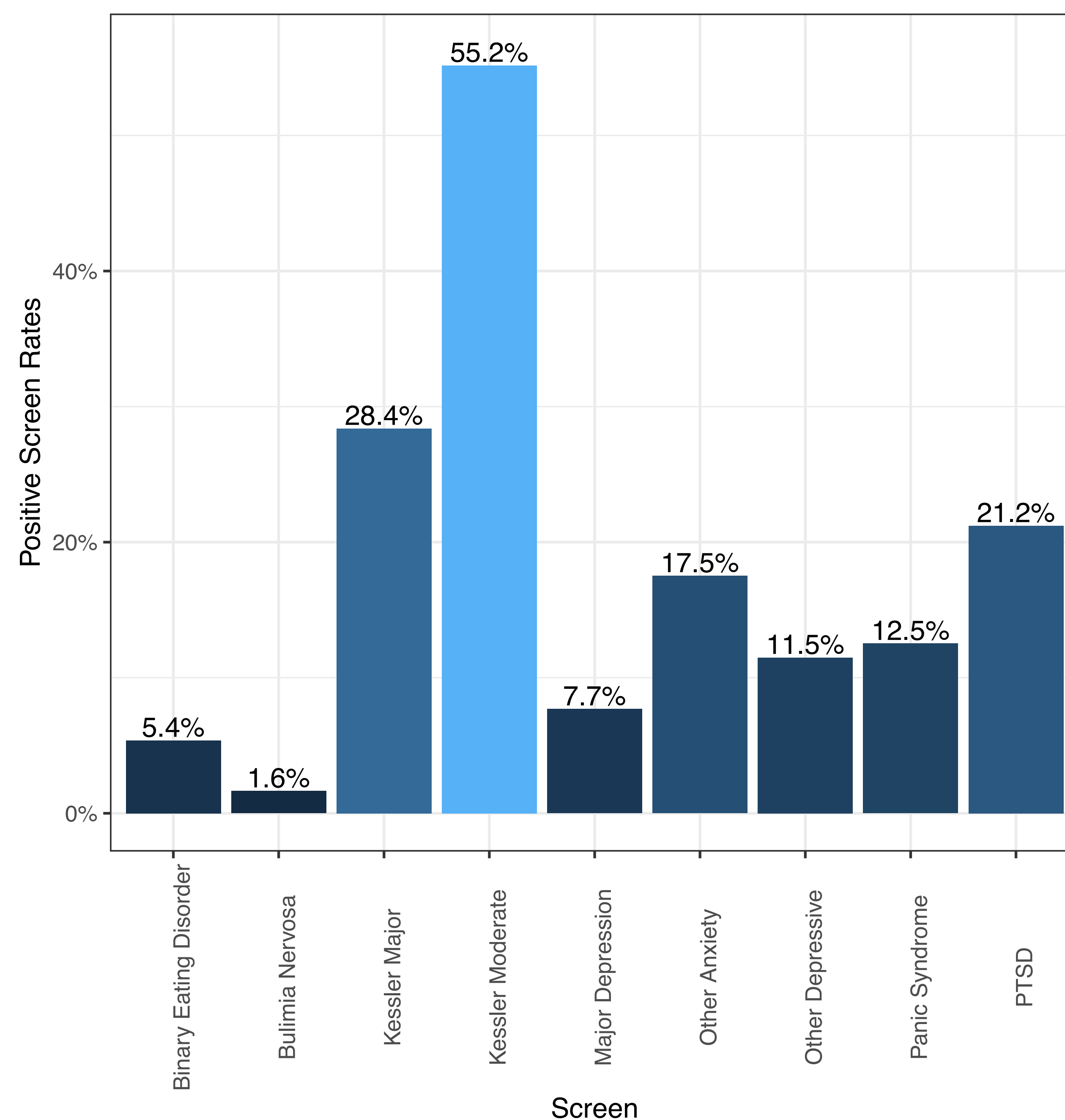


## Research Motivation

Due to the COVID-19 pandemic engineering students are finding themselves in an unprecedented situation. In addition to stressors related to the engineering curriculum (Jensen & Cross, 2018), residential college students nationwide are being asked to relocate away from campus and engage in distance learning. At the same time, shelter in place and social distancing requirements are limiting ability to socialize, ability to engage in romantic relationships, ability to procure food and supplies, ability to exercise and engage in athletics, and ability for students or their providers to remain employed and financially solvent.

As COVID-19 continues to spread, some students will fall ill, potentially critically, while others will face the prospect of sick family members, and even deaths in the family. Research suggests that individuals living through this pandemic are likely to face stress, uncertainty, and fear that may affect their mental health and academic performance for years to come (Douglas et al., 2009; Perrin et al., 2009; Xu et al., 2011).

**Higher ed. mental health was at crisis levels before COVID, especially for engineers...**



Source: Danowitz & Beddoes, 2020

## Research Questions

- Determine how the conditions imposed by COVID-19 are affecting student baseline stress levels and mental wellness.
- Characterize student beliefs surrounding how well their institution has handled the COVID-19 outbreak, student coping strategies, and what students wish their institutions had done differently.

## Research Instruments

Population mental health is measured using a survey made of pre-verified screening instruments. Based largely off the survey proposed by Danowitz and Beddoes (2020).

- **Kessler 6:** Six question instrument to screen for unspecified psychological distress
- **PHQ:** Comprehensive instrument with modules to measure anxiety disorders, depressive disorders and eating disorders
- **PC-PTSD:** Instrument designed to screen for post-traumatic stress symptoms

Population stress is measured by a modified Holmes-Rahe Social Readjustment Rating Scale

- Asks respondents to select stressful life events (ceasing schooling, major change in responsibilities, etc.) that have happened to them as a result of COVID-19
- Numerical values associated with each response used to compute a stress score

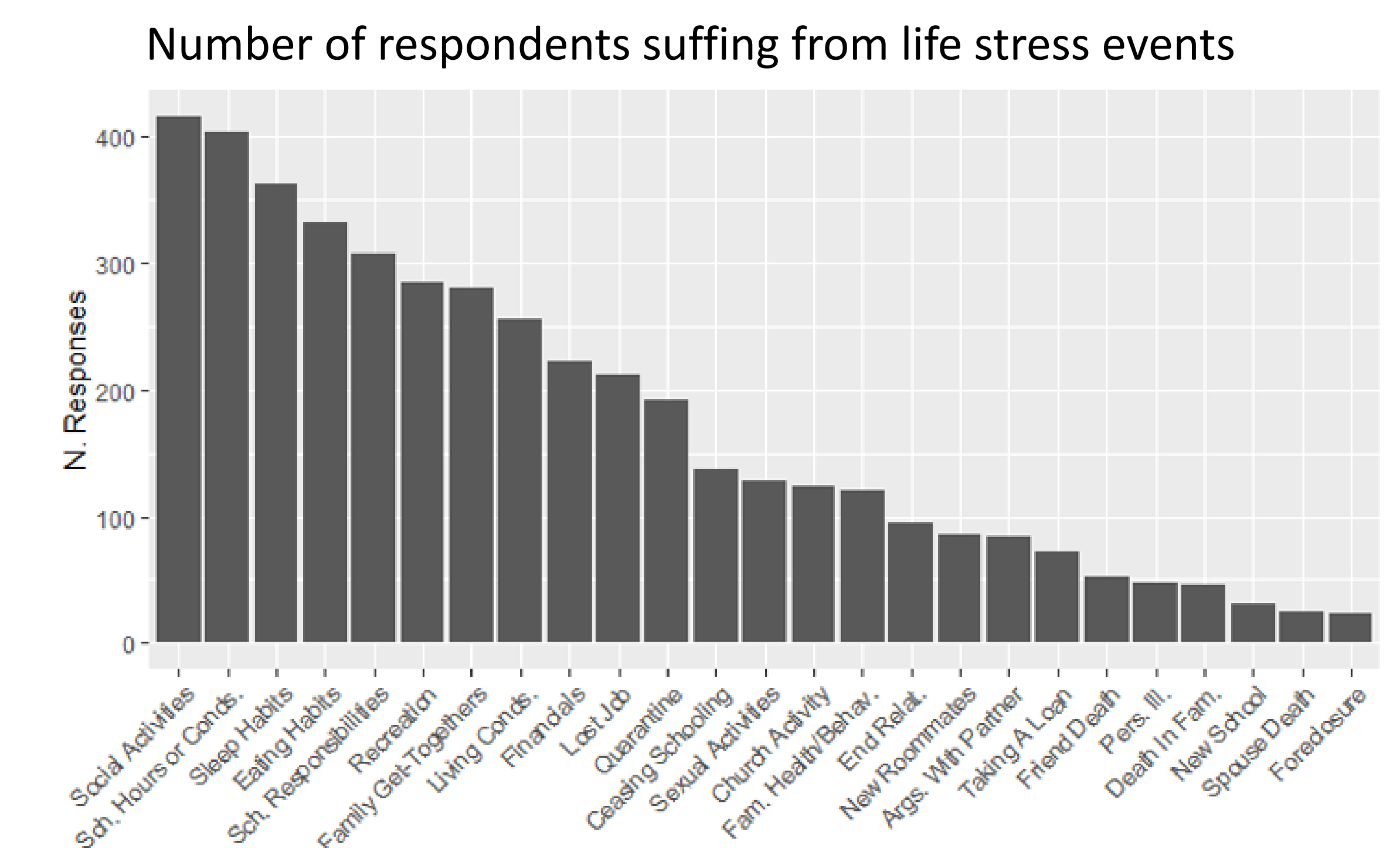
Student beliefs assessed using four qualitative questions

- What strategies have you used to cope with mental health challenges during the pandemic?
- What did your university do that was not helpful in supporting mental wellness during the pandemic?
- What actions do you wish your university had taken during the pandemic to support mental wellness?
- What resources do you wish had been provided by the university during the pandemic to support mental wellness?

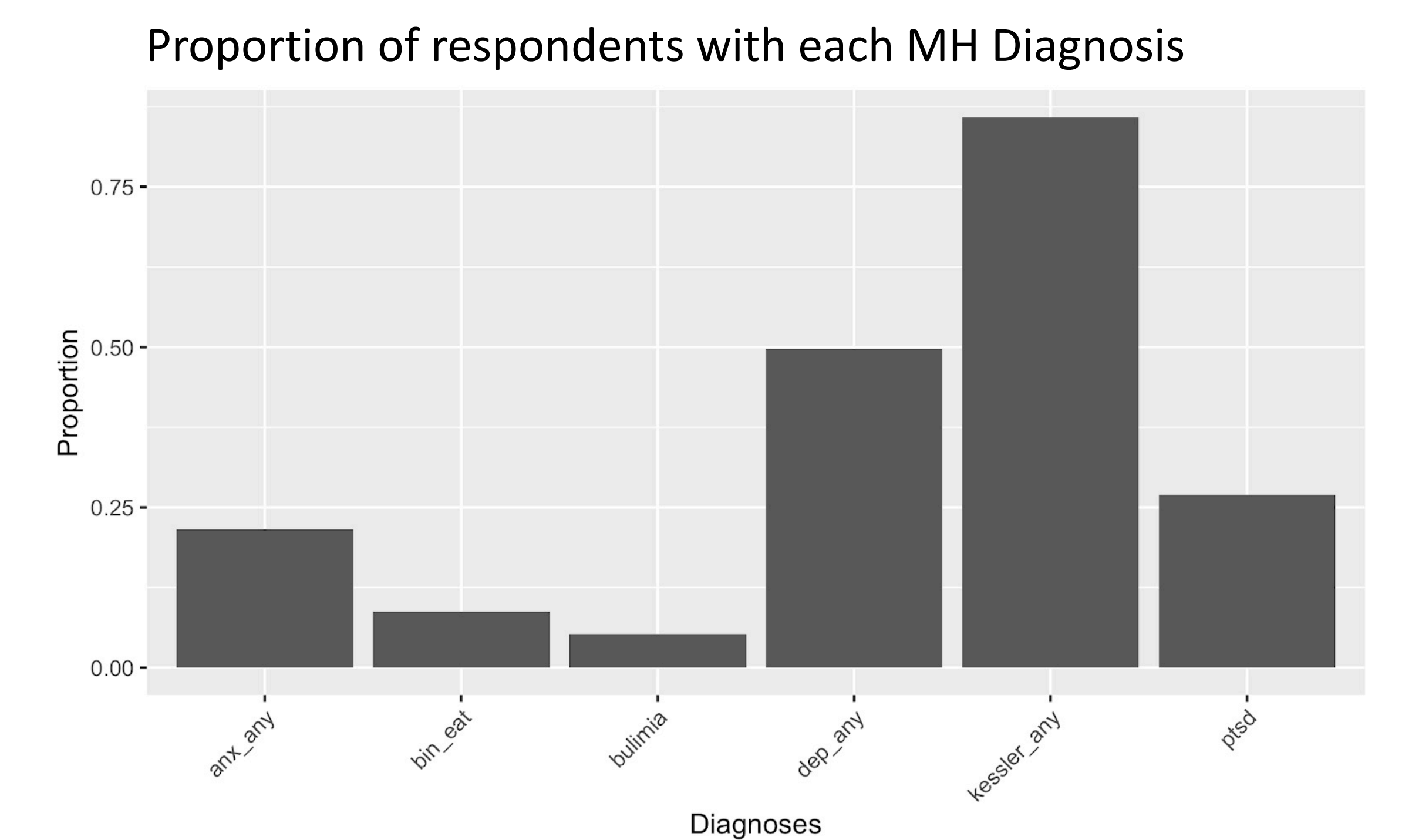
## Initial Results

Roughly 800 respondents from non-profit four-year U.S. engineering programs

- 61% male vs. 38% female
- 55% white, 16% Asian, 7% African American, and 4% Native American



Source: Danowitz & Beddoes, 2020b



## References

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