



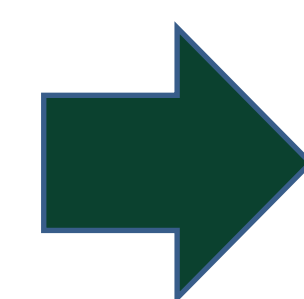
# Examining Impacts of COVID-19 on STEM Student's Anxiety and Engagement

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## Background

COVID-19's disruption resulted in numerous changes to the classroom dynamic.



## Research Questions

- What online activities caused anxiety?



- What prevented course engagement?



## Methods

### Spring 2020:

- Student survey*: 29 questions, 15 classes from 4 STEM departments; n= 425
- Instructor survey*: 21 questions, n=12

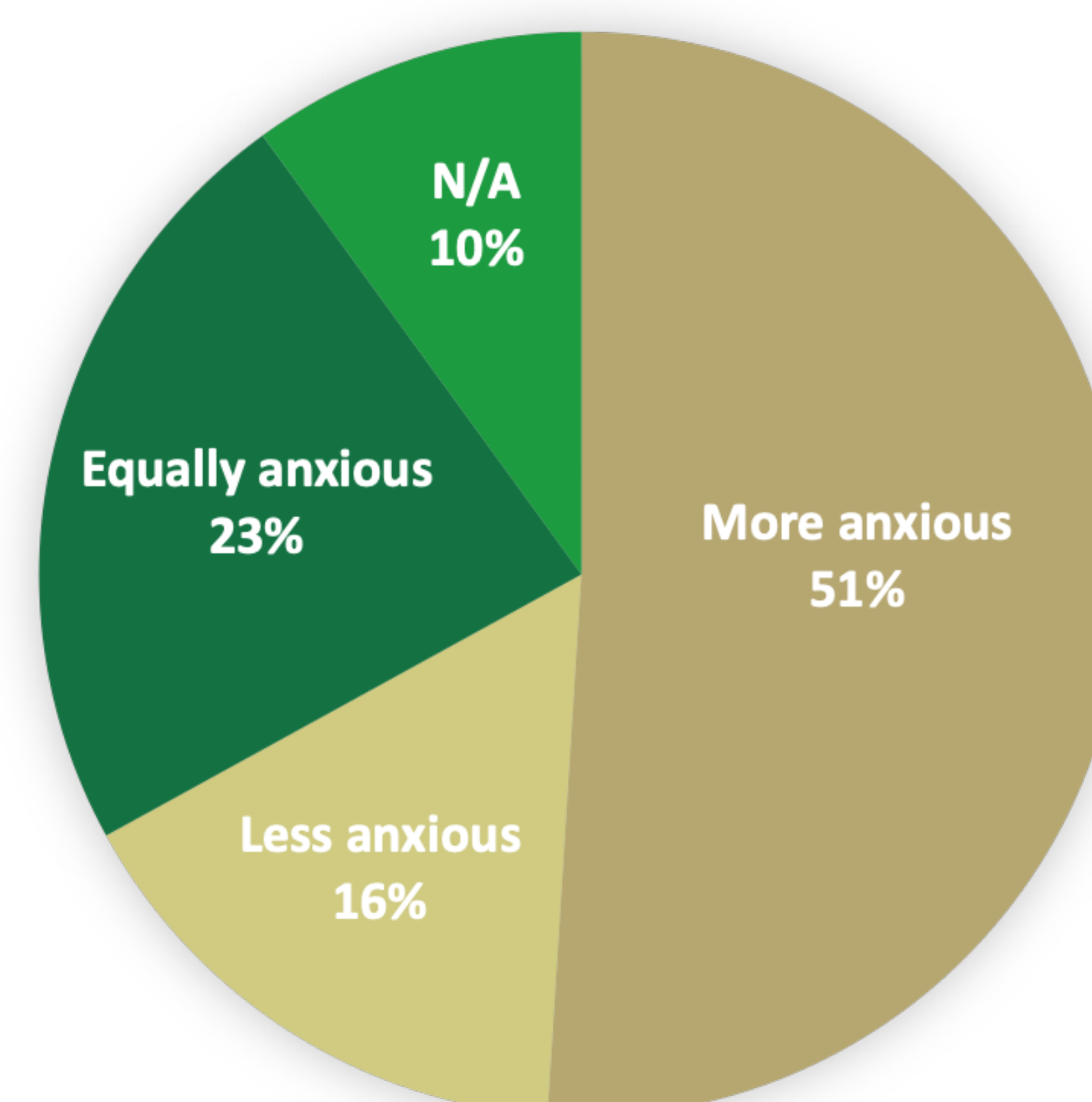
### Fall 2020:

- Student survey*: X questions n= 347
- Instructor surveys*: three 5-question open-ended

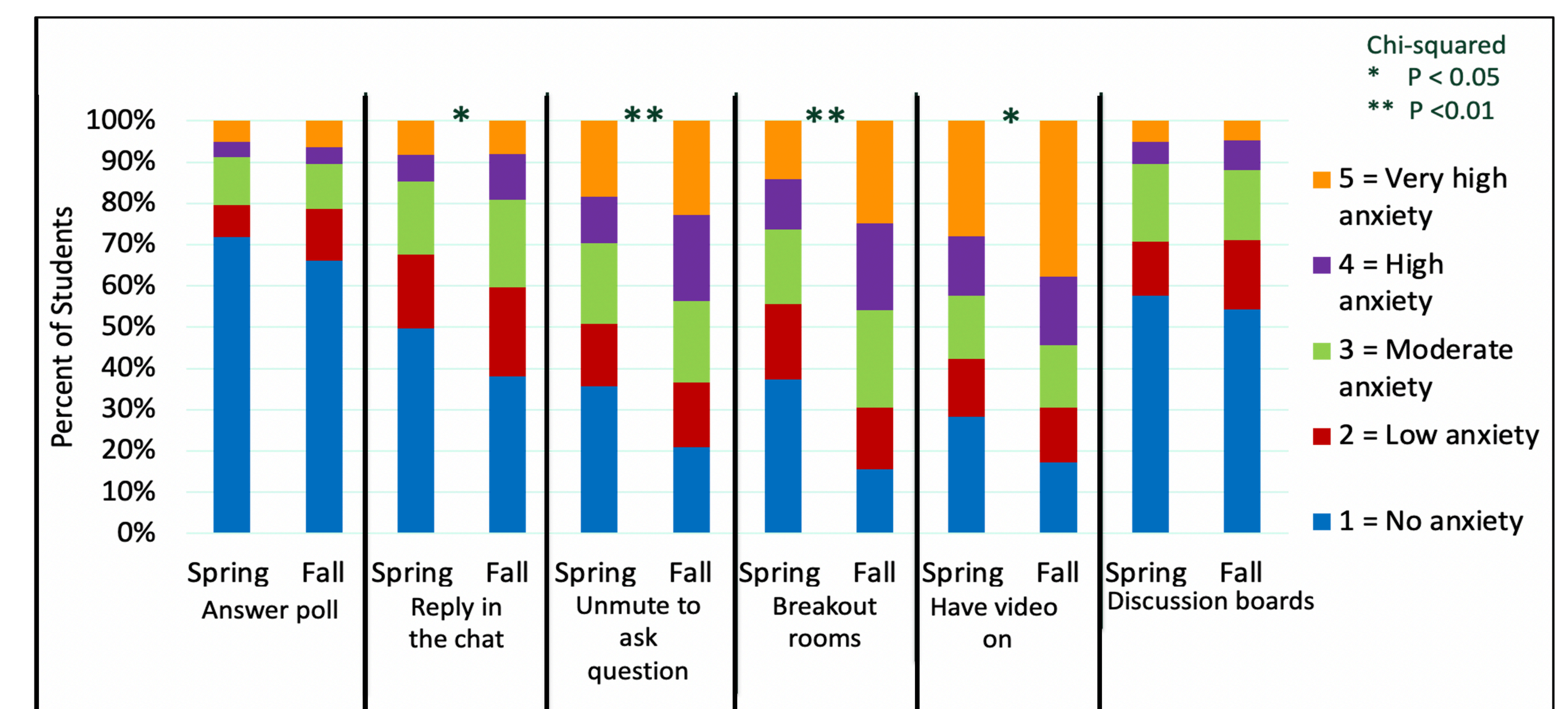
*Analysis*: Data managed and analyzed in Excel

## Results

**Figure 1.** Student Anxiety: “How anxious where you about leaning online during Fall 2020 compared to Spring 2020?”



**Figure 2.** Comparing student anxiety with online instructional practices in Spring and Fall 2020.



### Engagement:

- Students were less engaged (66%), equally engaged (25%) or more engaged (8%) after the switch online.
- Technology and the environment presented the greatest challenges to engagement in Spring and Fall 2020.
- Health and work-related stress and limited access to technology were greater barriers to engagement in Fall 2020.

## Discussions & Future Work

- Overall student anxiety with online learning increased from Fall to Spring 2020.
- “More intrusive/interactive” tasks caused more anxiety than “less intrusive/interactive” tasks.
- Personal technology and the environment were the two most prominent distractions that prevented course engagement, but health, work and technology-related stressors increased in Fall 2020.
- Expanding study with instructor interviews and evaluation of Canvas courses and class recordings.

## Acknowledgments



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