

# **You Don't Need to be a Statistician to Conduct Assessment: From Data to Decision-Making**

2024 Assessment Institute

Indianapolis, IN

# Presenters



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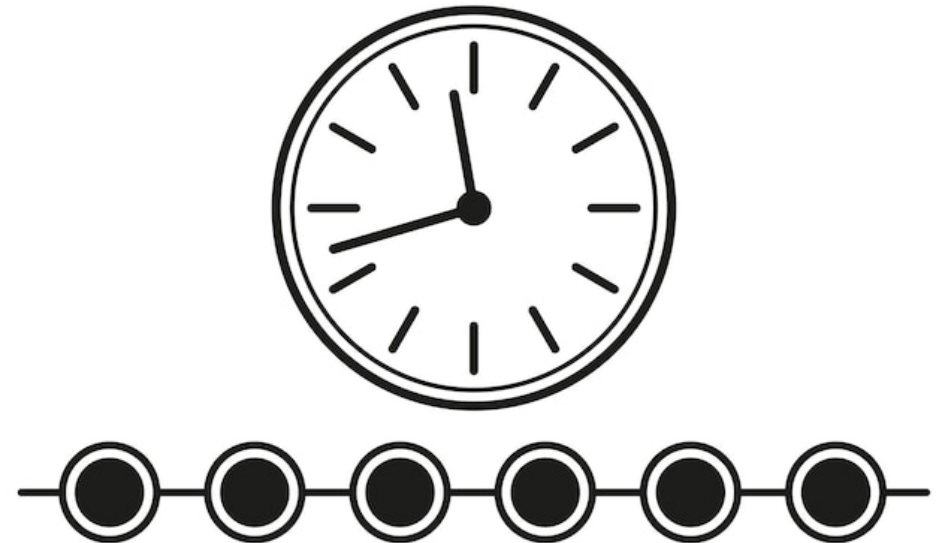


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# Timeline

- Introductions
- Description of the project
- Statistical vs practical significance
- Practical significance and assessment
- Group debrief
- Conclusion



# Learning Outcomes

Define	Define practical significance versus statistical significance.
Describe	Describe how meaningful assessment can be conducted using only descriptive statistics.
Apply	Begin to apply these concepts within their own assessment work.

**“Turning data into actionable insights doesn’t require a degree in statistics, just a keen eye for patterns and a willingness to ask the right questions.”**

CoPilot – when I asked for a quote about the topic

# Background

- **Spring 2023: Grad SERU** (Graduate Student Experience in Research University)
  - Do you have a primary advisor?
  - How was your current, primary advisor determined?
  - How often do you meet with your current, primary advisor in a typical month?
  - To what extent do you agree or disagree with the following statements concerning your current, primary advisor?
  - How helpful was the guidance you received from your current, Primary advisor in each of the following areas?
- **Fall 2023:** SERU results and in person listening sessions
- **Spring 2024:** College level surveys

# Survey Design

Purpose: Assess the quality of graduate student advising in the College of Food, Agricultural, and Environmental Sciences (CFAES)

## Graduate Student Survey

Open Jan. 31, 2024 – Mar. 1, 2024

- 23 Likert scale
- 1 open-ended
  
- 152 completed responses
- **23% response rate**

## Faculty Survey

Open Apr. 22, 2024 – May 10, 2024

- 21 Likert scale
- 8 multiple-choice
- 3 open-ended
  
- 99 completed responses
- **30% response rate**

# Statistical Significance

The null hypothesis testing procedure determines whether the sample results that you obtain are likely if you assume the null hypothesis is true for the population.

If the results are sufficiently improbable under the null hypothesis, then you can reject the null hypothesis.

Represents the **probability that findings** from a statistical test **have not occurred by chance**.



# Statistical Significance

I feel safe interacting with my advisor.

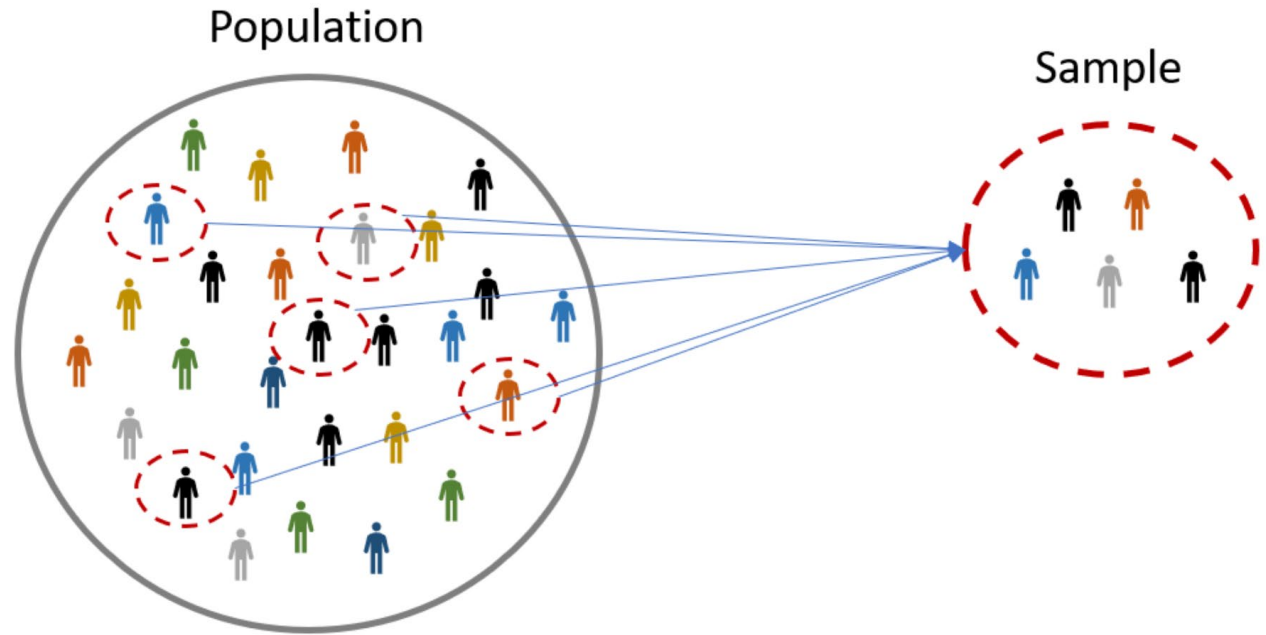
- Columbus students felt more safe than Wooster campus students ( $p < 0.05$ )

I am comfortable sharing my professional goals with my advisor.

- Men graduate students felt more comfortable when compared with the overall mean ( $p < 0.05$ )
- Columbus students felt more comfortable than Wooster campus ( $p < 0.05$ )

# Why not use statistical significance?

- Sample size is small
- Subpopulations are small



# Practical Significance

Null hypothesis testing cannot tell you whether the effect is large enough to be important in your field of study or in life itself.

Instead, you apply your **subject area knowledge and expertise** to determine whether the effect is big enough to be **meaningful in the real world**.

Generally, means you need to look at effect size.

# Practical Significance

	Mean
Faculty: It is important to advise students based on their specific needs/wants.	4.54
Student: I feel comfortable approaching my advisor when I need personal support (e.g., mental health, family emergency).	3.88

	Mean
Faculty: I provide clear expectations to my advisee(s).	4.32
Student: My advisor provides clear expectations.	3.78

	Mean
Faculty: I provide guidance to my advisee(s) on producing publications and presenting research.	4.63
Student: I feel my advisor provides guidance to produce publications and present research.	4.08

# Differences by department

	CFAES	Dept
I am supportive of my advisee(s) taking time away from graduate work for occasionally outside activity (e.g., doctor's appointment, family emergency).	4.75	4.67
I provide a safe environment for my advisee(s).	4.68	4.67
I am able to meet with my advisee(s) in a timely manner.	4.67	4.73
I provide guidance to my advisee(s) on producing publications and presenting research.	4.63	4.80
I support professional development opportunities (e.g., involvement in professional associations, networking) for my advisee(s).	4.58	4.80
It is important to advise students based on their specific needs/wants.	4.54	4.67
I am supportive of my advisee(s) taking time to manage school-life balance.	4.50	4.53
My advisee(s) are comfortable sharing their professional goals with me.	4.47	4.67
I allow for flexibility for my advisee(s)' work/lab schedule (e.g., work from home, flexible hours).	4.45	4.13
My advisee(s) respect me.	4.34	4.40

	CFAES	Dept
I provide clear expectations to my advisee(s).	4.32	4.33
I provide good quality advising to my advisee(s).	4.27	4.40
I provide timely feedback to my advisee(s) on their academic work (e.g., dissertation draft, presentation materials).	4.27	4.40
It is important for my advisee(s) to provide feedback to me on my advising.	4.24	4.13
I am comfortable openly addressing conflict with my advisee(s).	3.98	3.93
My department provides opportunities for my advisee(s) to serve the department or university in various capacities outside of teaching or research.	3.91	3.93
I know how to connect my advisee(s) to resources on and off campus.	3.85	3.27
I regularly connect my advisee(s) to resources available on and off campus.	3.67	3.33
I feel that graduate students begin their program with the academic rigor they need to succeed.	3.37	3.20
I know how to direct international graduate students to appropriate resources (e.g., visa questions, work requirements).	3.08	2.80
I know the resources available for international graduate students.	3.03	2.80

# Student:Faculty Comparisons for Dept

	Student	Faculty
I am supportive of my advisee(s) taking time away from graduate work for occasionally outside activity (e.g., doctor's appointment, family emergency).	4.28	4.67
I provide a safe environment for my advisee(s).	4.53	4.67
I am able to meet with my advisee(s) in a timely manner.	4.53	4.73
I provide guidance to my advisee(s) on producing publications and presenting research.	4.16	4.80
I support professional development opportunities (e.g., involvement in professional associations, networking) for my advisee(s).	4.16	4.80
I am supportive of my advisee(s) taking time to manage school-life balance.	3.89	4.53
My advisee(s) are comfortable sharing their professional goals with me.	4.32	4.67
I allow for flexibility for my advisee(s)' work/lab schedule (e.g., work from home, flexible hours).	4.21	4.13
My advisee(s) respect me.	4.37	4.40

	Student	Faculty
I provide clear expectations to my advisee(s).	4.21	4.33
I provide good quality advising to my advisee(s).	4.47	4.40
I provide timely feedback to my advisee(s) on their academic work (e.g., dissertation draft, presentation materials).	4.32	4.40
My department provides opportunities for my advisee(s) to serve the department or university in various capacities outside of teaching or research.	3.74	4.00



# Dissemination of Survey Results

- Meetings with departmental leadership and faculty
- Sharing with graduate students
- Discussions with other graduate programs and colleges
- Ongoing discussions with Graduate Program Coordinators and Faculty Administrators



# Targeted Response Plan

Survey Identified:  
**Misaligned expectations**

Rights and Responsibilities documents for students and faculty

Survey identified:  
**Knowledge gaps for faculty**

Resources and workshops to target skills

- Mentoring practices
- International students
- Mental health

Survey Identified:  
**Skill gaps for students**

Developed first-year series

- Time management
- Mental health
- Career preparation

We developed

# What did we learn



Students generally agreed



Faculty reactions varied

Faculty rated themselves higher than students perceived

**Deflect** – refocus on the big picture

**Accept** – identify champions for the students



Practitioners and leaders must answer normative questions

**Quality mentoring** is important

**Student experience** is important



# Group Debrief

How might this information be helpful in  
**your own assessment practice?**

What areas might you consider an assessment  
focused on **practical significance?**

# Questions?

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# References

Henning, G.W., & Roberts, D. (2016). Student affairs assessment: Theory to practice. Stylus Publishing, LLC.

<https://www.indeed.com/career-advice/career-development/practical-vs-statistical-significance>