

# Leveraging technology to increase college students' access to support services

*Ramya Ramadurai, MA<sup>1</sup>*

*Megyn Jasman, BA<sup>2</sup>*

*Yangyang Deng, PhD<sup>3</sup>*

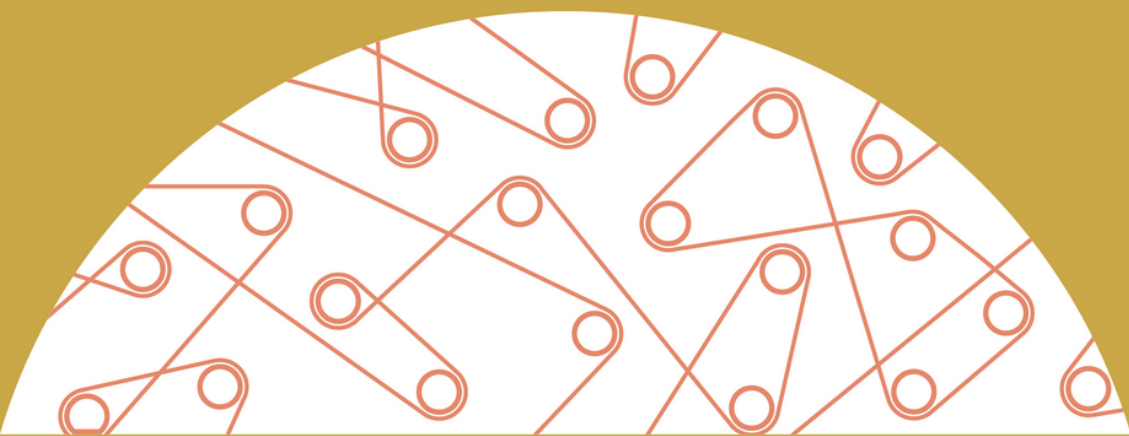
*Alexandra Werntz, PhD<sup>2</sup>*

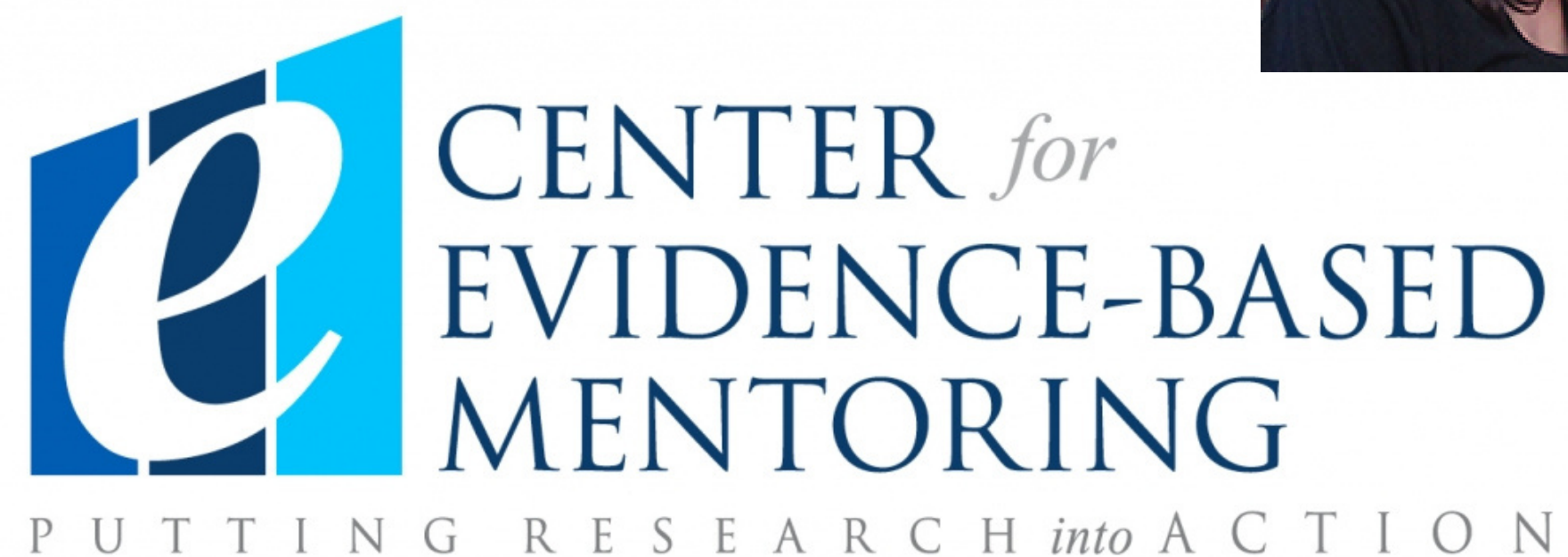
*Jean E. Rhodes, PhD<sup>2</sup>*

1 - American University

2 - Center for Evidence-Based Mentoring, UMass Boston

3 - Johns Hopkins University School of Medicine





# Many college students are struggling...

An illustration of a young woman with long dark hair, wearing a blue shirt, sitting at a desk. She has a distressed expression, with her hand resting on her forehead. On the desk in front of her are an open book, a pen, a closed purple book, and a smartphone. The background features a light blue pattern of wavy lines.

40%

Undergraduate students dropout of college without finishing their degree (Hanson, 2022)

75%

Students who leave college do so for non-academic reasons (e.g., mental health, social) (Pell Institute, 2011)

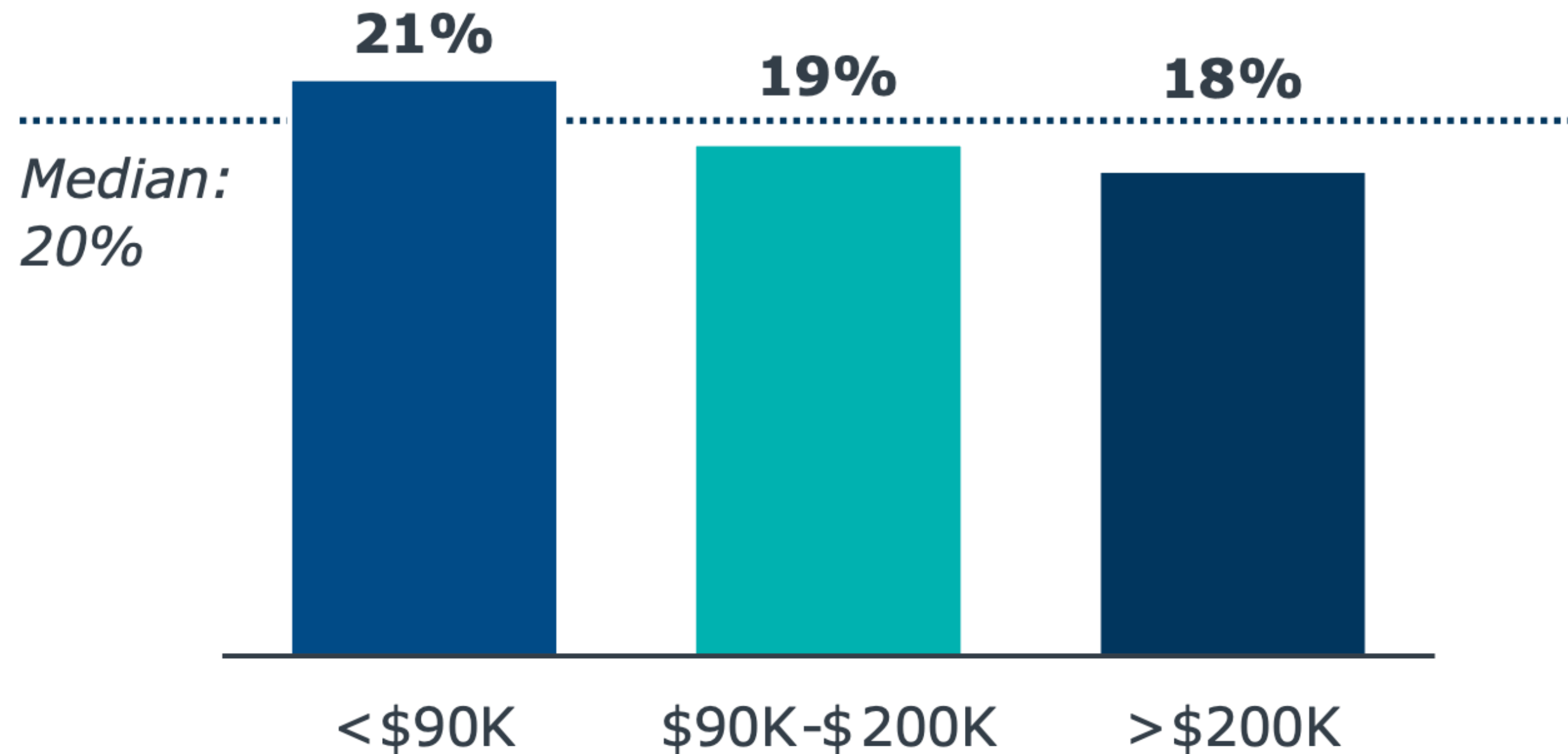
60%

College students meet criteria for at least one mental health challenge (Lipson et al., 2022)



# Students Listing Mental Health and Well-Being as a Top College Concern, by Income

*EAB Communication Preferences Survey*



From EAB: Recruiting "Gen P" - 6 Insights into how the pandemic has altered college search behavior from EAB's survey of 20,000+ students



# Both students and universities struggle...

STUDENTS

UNIVERSITIES

01

**Lack of knowledge and support** for students to find, access, and engage in effective campus solutions

02

**Unnecessary escalation** of students' early concerns to highly-trained professionals who are scarce, expensive, and intimidating

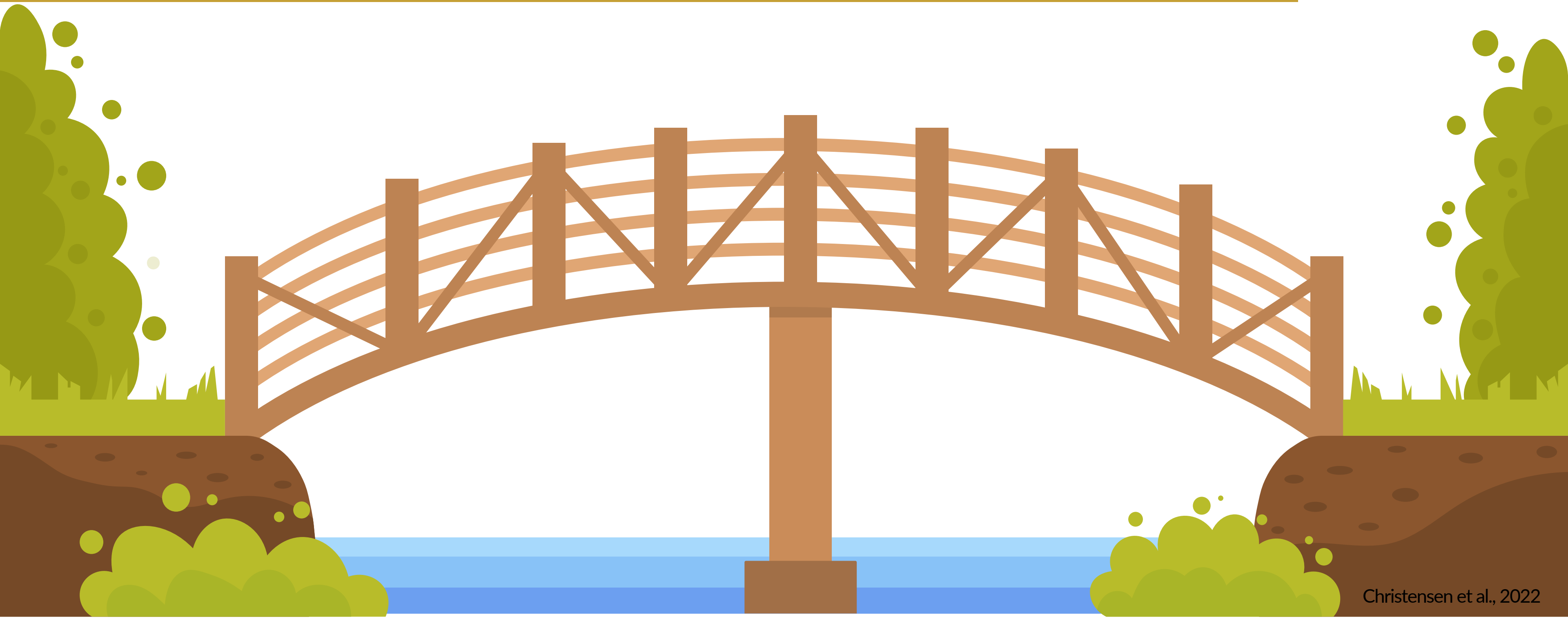
03

**Inefficiencies in connecting** students to the right resources, measuring their effectiveness, and making adjustments

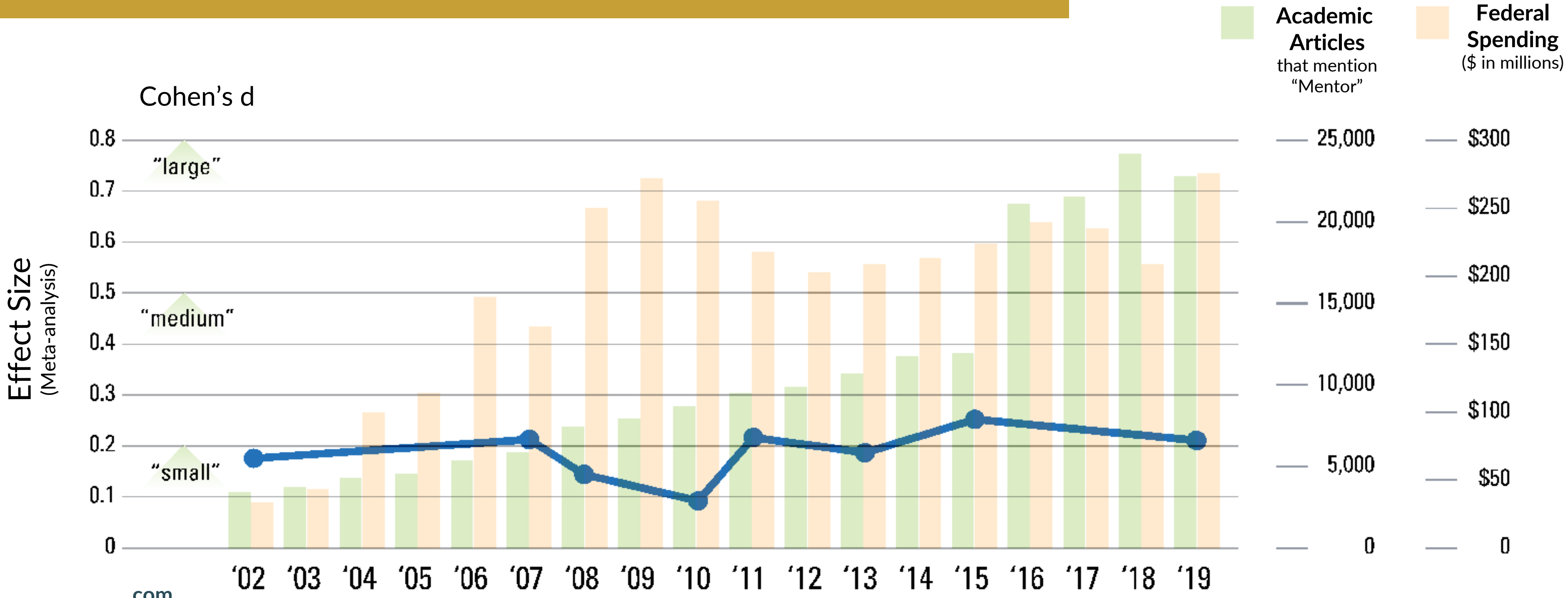
04

**Ineffective responses** to students' early struggles result in student cognitive load and stress, problem progression and attrition

# Bridging the gap with peer mentoring



# Most mentoring programs produce only small effects





# Help Them Get There Be a Mentor

SERVE.GOV/MENTOR



You don't need special skills to be a mentor. You just need to listen, show that you care, and share your experience. Becoming a mentor is one of the best investments you can make for the future. Just imagine how you'll feel when graduation day arrives.

SERVE.GOV/MENTOR



# Finding the sweet spot



## Finding the Sweet Spot: Investigating the Effects of Relationship Closeness and Instrumental Activities in School-based Mentoring

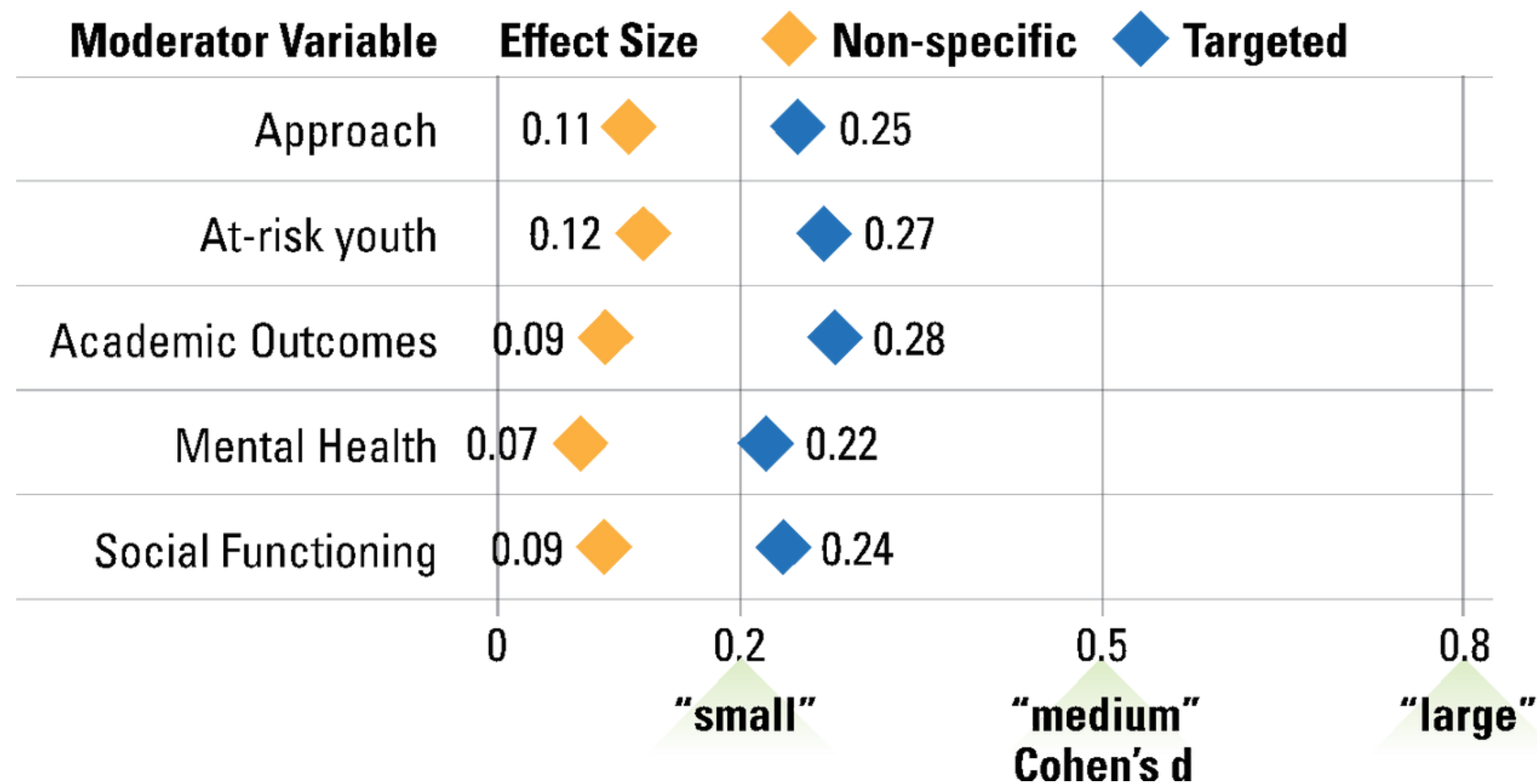
Michael D. Lyons,<sup>1</sup>  Samuel D. McQuillin,<sup>2</sup> and Lora J. Henderson<sup>1</sup>

### Highlights

- When mentors set goals and give feedback to mentees, youth experience better outcomes.
- When youth report a good relationship with their mentor, youth experience better outcomes.
- However, mentors maximize impact when they have a good relationship, set goals, and give feedback.



# 2-3x stronger effects!

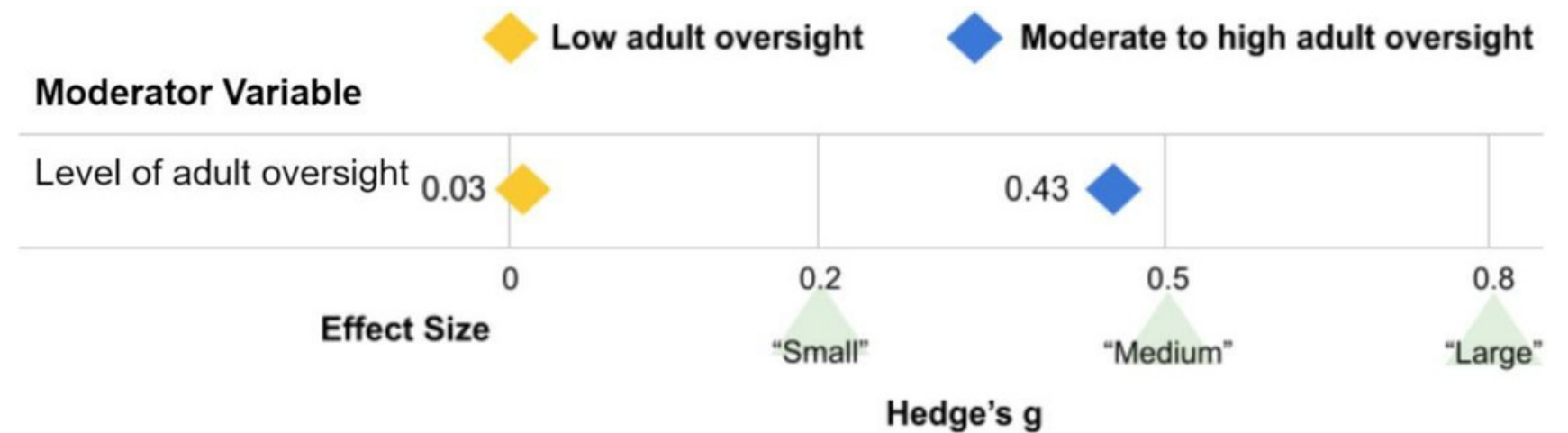


Non-Specific versus Targeted Approaches to Youth Mentoring: A Follow-Up Meta-Analysis



# Peer mentoring is particularly effective

## Meta-Analysis



*...but only with training and support*



# Mentoring is most effective when...

# Mentoring is most effective when...

1

is delivered by credible, trained  
peers  
(Burton, Rhodes, et al., 2022)

“Effects of peer mentoring was more  
than double that observed in past  
meta-analyses”





# Mentoring is most effective when...

1

is delivered by credible, trained  
peers  
(Burton, Rhodes, et al., 2022)

“Effects of peer mentoring was more  
than double that observed in past  
meta-analyses”

2

focuses on specific challenges  
and goals (Christensen, Rhodes,  
et al., 2020)

“Effects of targeted programs  
are two to three times that of  
non- specific approaches.”

3



# Mentoring is most effective when...

1

is delivered by credible, trained  
peers  
(Burton, Rhodes, et al., 2022)

“Effects of peer mentoring was more  
than double that observed in past  
meta-analyses”

2

focuses on specific challenges  
and goals (Christensen, Rhodes,  
et al., 2020)

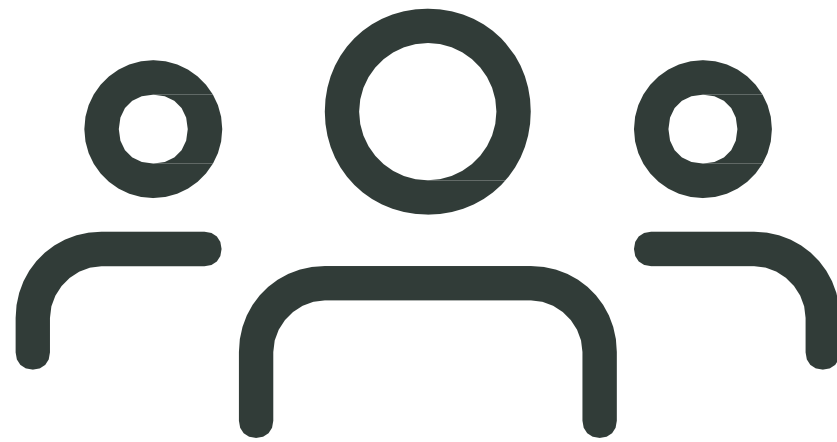
“Effects of targeted programs  
are two to three times that of  
non- specific approaches.”

3

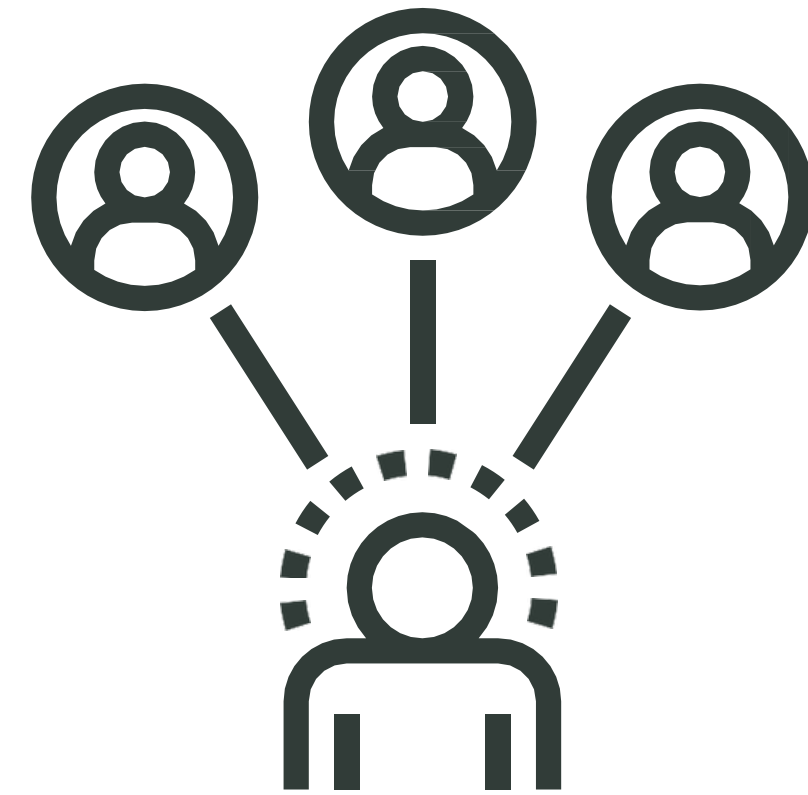
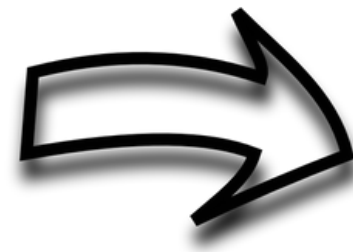
Is delivered by mentors from  
“helping professions”  
(Raposa, Rhodes et al., 2019)

“Samples with a higher percentage of  
mentors who worked within the helping  
professions also showed higher effect  
sizes for youth outcomes.”

# Goal-focused, blended approach



Relationships as the  
intervention



Relationships as context for targeted, evidence-  
based intervention



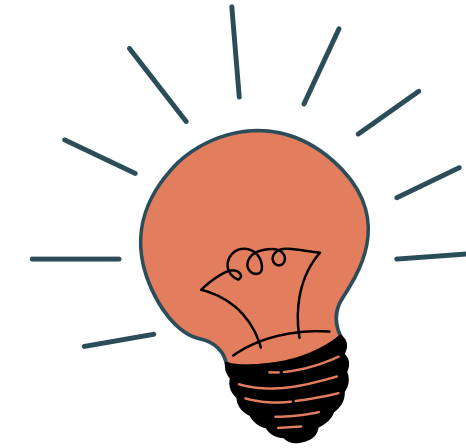


So how can we ensure that (peer) mentors provide targeted mentoring and receive adequate training and supervision?

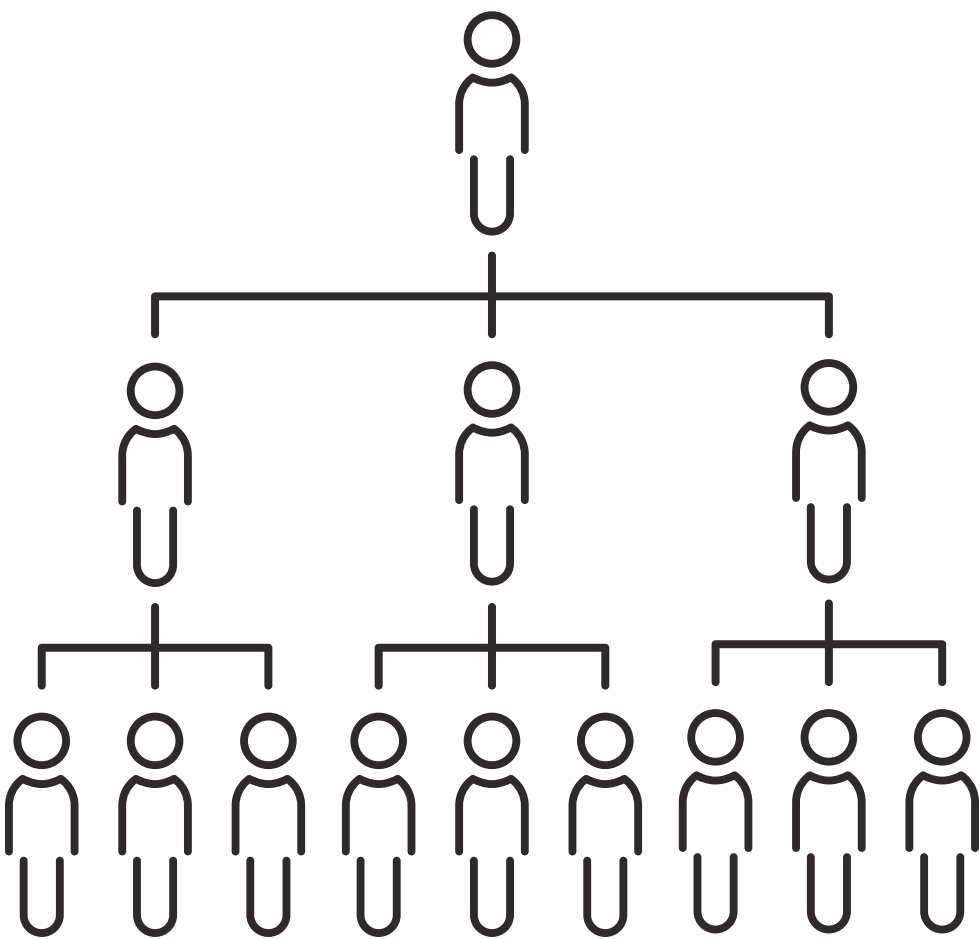




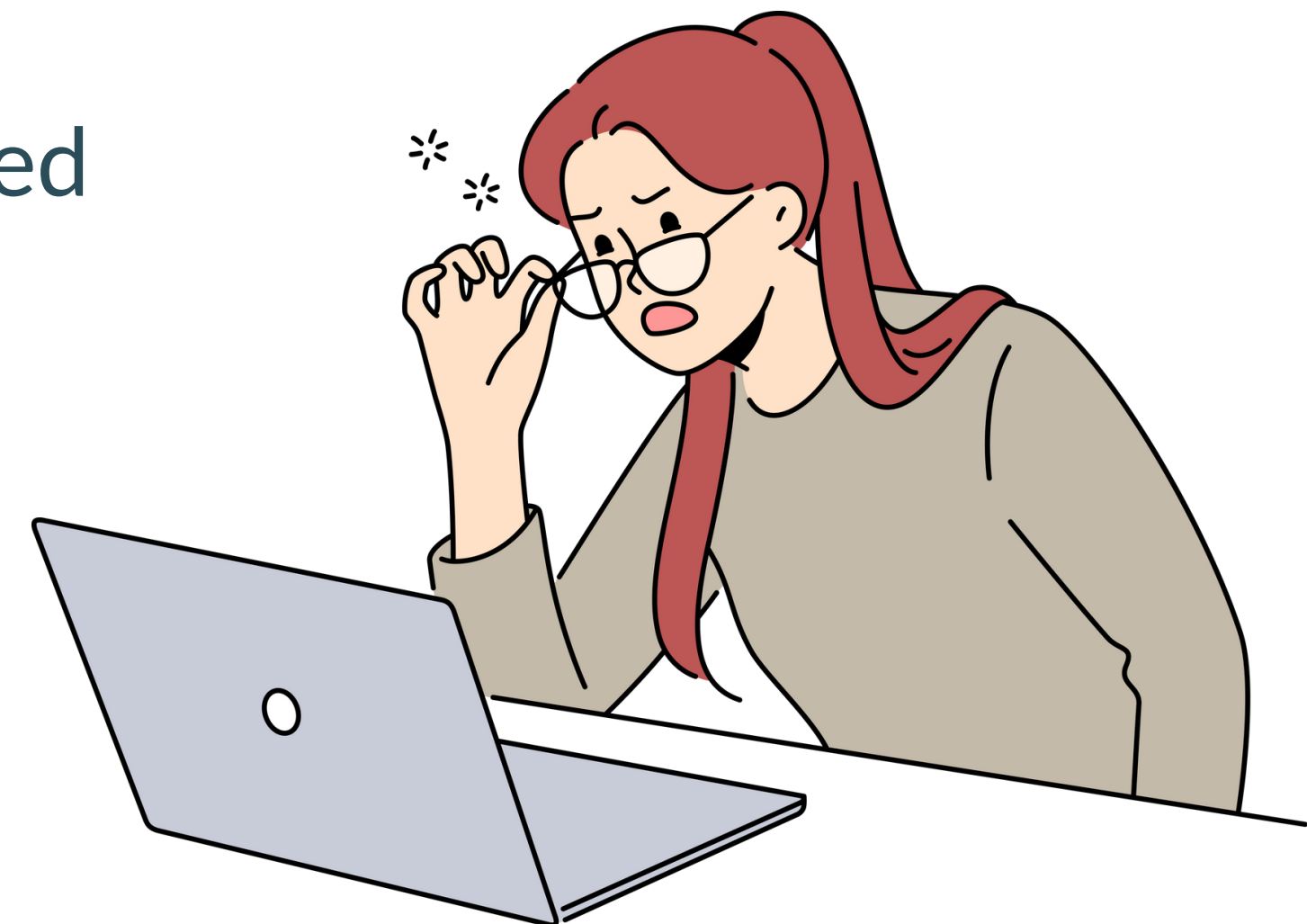
# mentorPRO



# Relationship Management



- Track and supervise mentor-mentee interactions
- Monitor mentee weekly challenges, schedule meetings, administer curated questionnaires
- Broadcast announcements and upcoming events
- Assign and track evidence-based trainings



# Goal-Focused App

Mobile- and browser-based app securely connects mentees to their mentors, and encourages mentees to engage in well-being tracking and goal-setting.

## Mentees:

*Set goals*

*Monitor challenges*

*Message mentors*

## Mentors:

*Track, support, provide opportunities*

1:28

< Set Goal Skip

What do you hope to accomplish this semester?

Academics

Academic support services Attendance/participation

Course schedule Disability Services Grades

Majors and minors Manage academic stress

Study/Organizational skills Time management

Transfer/International resources

Finances

Billing/tuition Financial literacy

Scholarships and grants Student employment

Student loans

10:12

< Check-In

Drag the sliders to let me know how things are going this week.

Academics

e.g., time-management, grades, test anxiety, motivation, classes/major

Going Well Somewhat Challenging Very Challenging

Career

e.g., career goals, job search, applications, resume/CV, interview prep, networking

Going Well Somewhat Challenging Very Challenging

Connections

e.g., belonging, social life, friendships, romantic relationships, roommates

1:36

< Allie S. Mentor Demo ⓘ

Mar 28, 2023

Hey Allie! I'm Ani, I've just finished my profile setup. 09:40 AM

Awesome. Nice to meet you, Ani. I'm your Mentor and will be here for you whenever you need me. I'd love to schedule a meeting with you this week to introduce ourselves. What's your availability today? 10:10 AM

I'm available from 11am-3pm today 10:11 AM

Great. Let's meet at 11am EST. Looking forward to speaking with you! 10:11 AM

Apr 05, 2023

12:17

< J Jack ⓘ

GOALS CHECK-IN REFERRALS

Check-In Monthly

Connections		4
Academics		2
Planning		2
Finances		3
Career		3
Health		2
Well-being		2

Academics

5

4



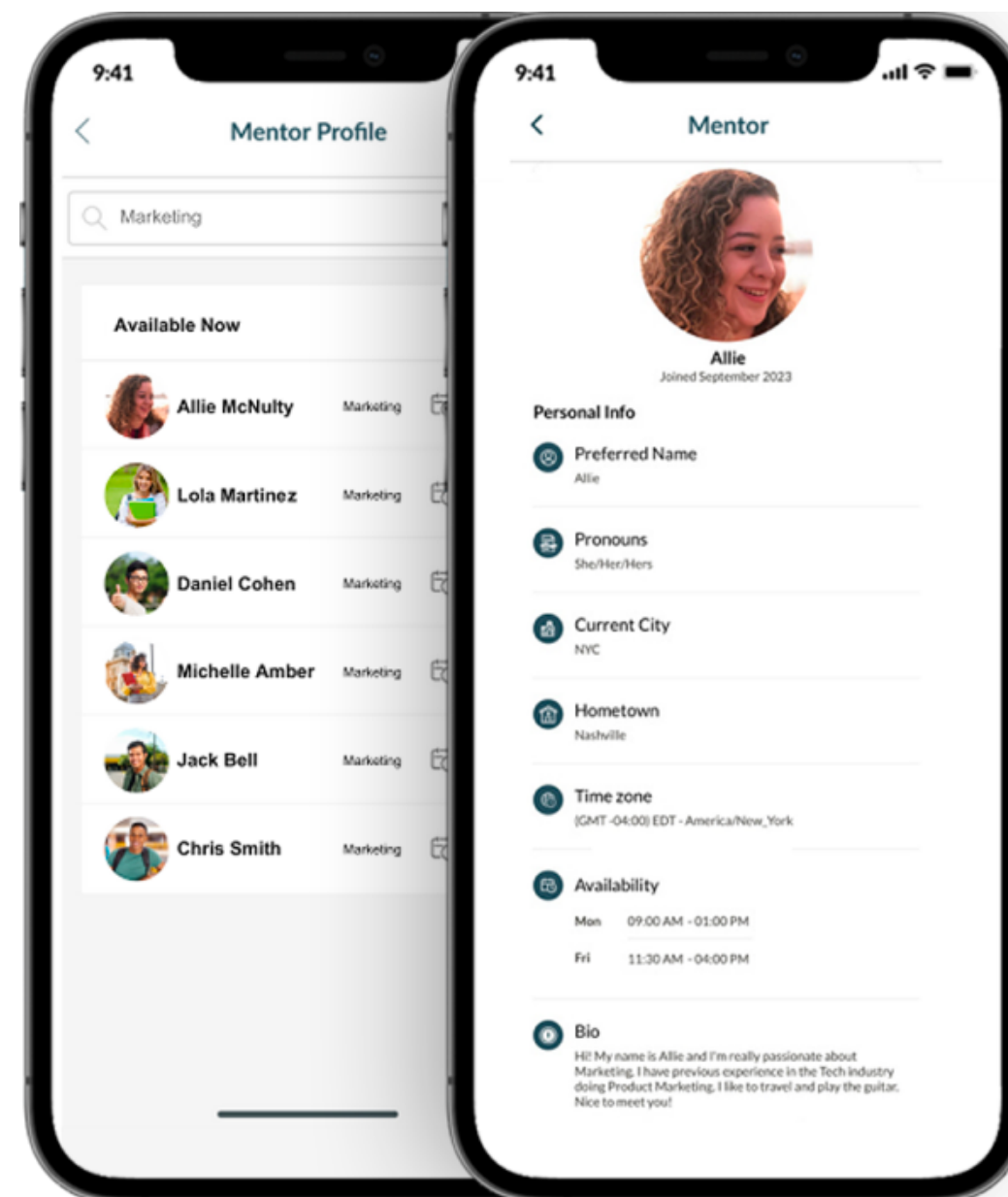
# Goal-Focused App



## Flash Mentoring ⚡

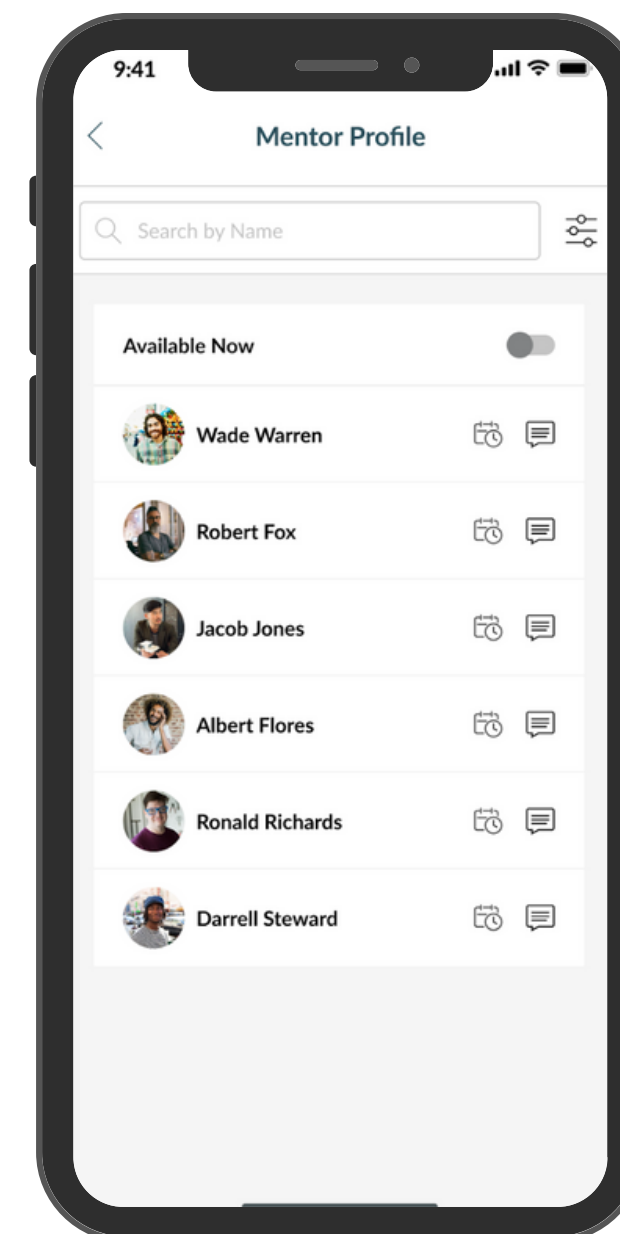
Programs recruit and upload a network of alumni, corporate partners, and/or other mentors

Mentors set up profiles and indicate availability.



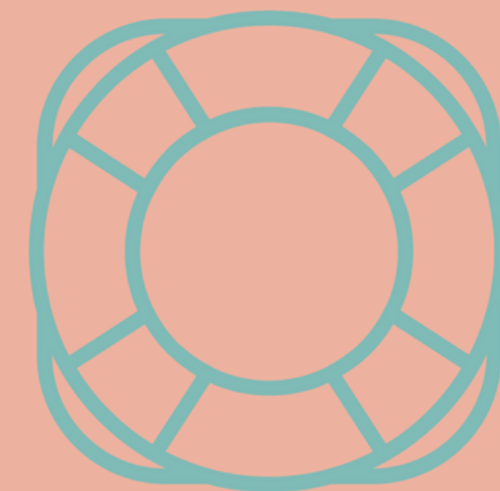
Students find short-term, helpful connections

Mentees search for and initiate conversations with interest-aligned mentors.





# Promising initial results

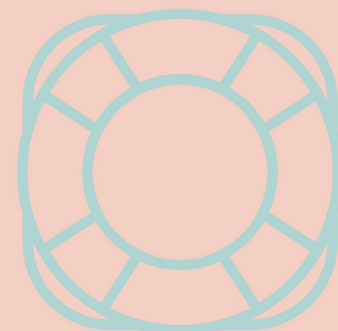


# MentorPRO + Peer Mentor Program

- Program goal: facilitate students' navigation of university services
- Private university in the northeastern US
- University-wide first-year student mentoring program

(Werntz...Rhodes, 2023, *J Technology in Behavioral Science*)

- ~1:30 ratio (occasional in-person meetings and over app)
- Trained to
  - reach out weekly
  - send group messages
  - respond to messages promptly
  - respond to/escalate elevated Check-In
  - Make referrals to campus resources



# Pilot year



Journal of Technology in Behavioral Science  
<https://doi.org/10.1007/s41347-023-00303-8>



## Implementation of a Technology-Enhanced Peer Mentor Referral System for First-Year University Students

Alexandra Werntz<sup>1</sup>  · Megyn Jasman<sup>1</sup> · Katherine Simeon<sup>2</sup> · Harun Gunasekaran<sup>2</sup> · Constance Yowell<sup>2</sup> · Jean E. Rhodes<sup>1</sup>

- First-generation students received a significantly higher proportion of financial, academic habits, and health and wellbeing referrals
- Greater number of completed Check-Ins was associated with significantly higher GPA

**9.4**

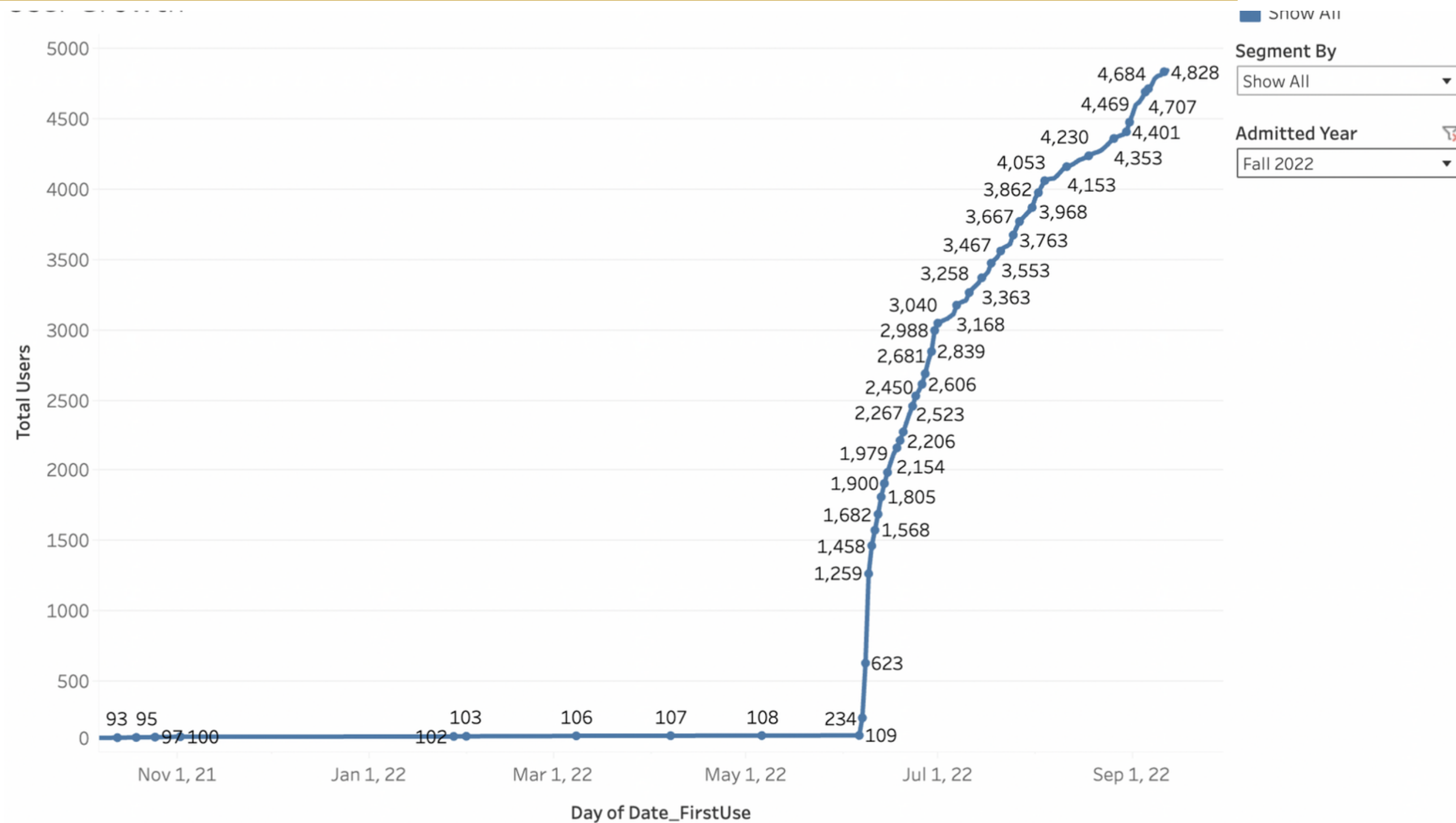
Net Promoter Score: 9.4/10  
(higher than Amazon or Google).

**87%**

Found the resources they  
were referred to helpful.

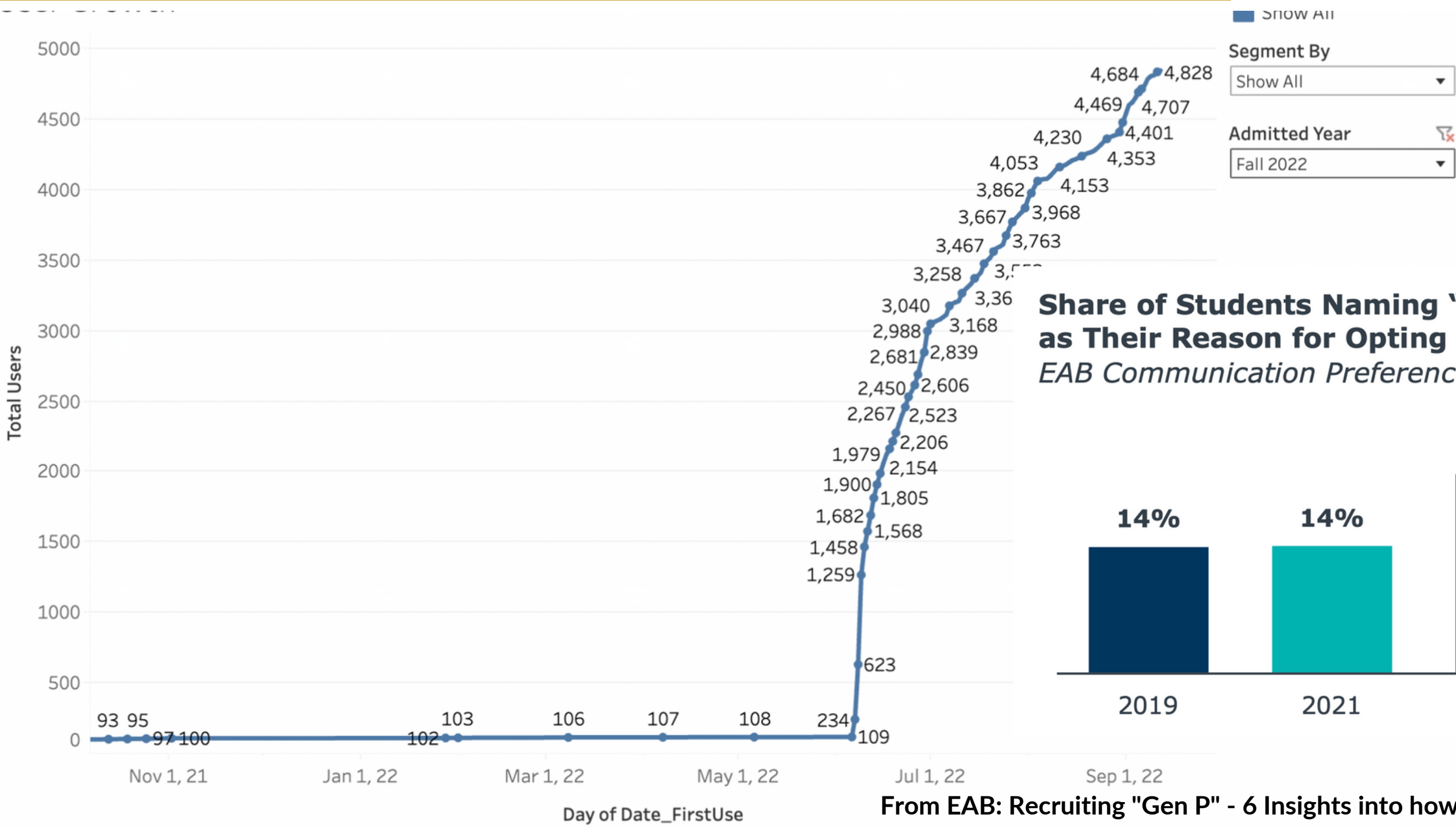
# The transition to college

Summer 2022



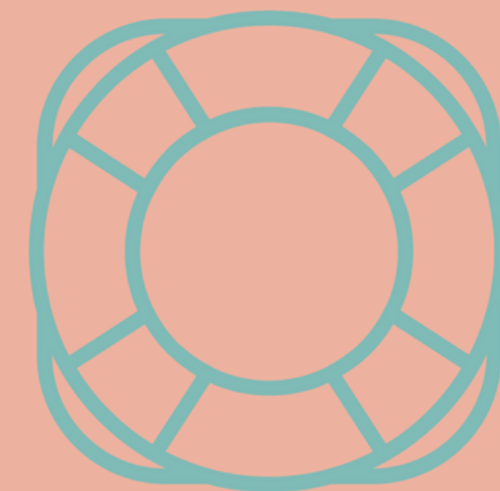
# The transition to college

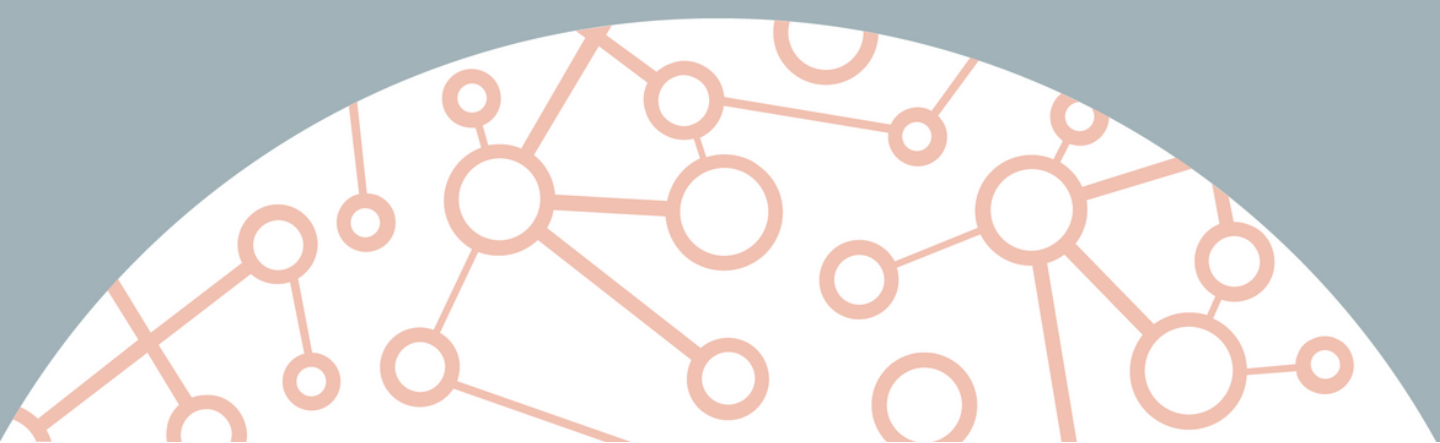
Summer 2022





# Present studies





## Year 2

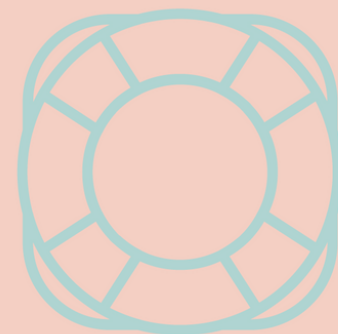
More rigorous test of engagement with MentorPRO on key academic and well-being outcomes

- Does *engagement* with the app relate to key outcomes?
- Does *matching* based on mentor and mentee backgrounds affect key outcomes?

We're interested in digging deeper into understanding how the peer mentoring relationship can support student success.

# Why look at engagement?

- Engagement as a proxy for relationship with peer mentor
- Greater engagement might indicate stronger relationships
- Greater engagement also might indicate higher *dose* of the intervention
  - More exposure to trainings
  - More exposure to resources
  - More skills learned





## Check-In

- Inspired by Weisz and colleagues' (2011) Top Problems Assessment for use in clinical practice with youth clients
- Students prompted to rate each domain weekly, can be done as frequently as each day
- Peer mentors see responses, reach out to students when challenges elevated

A smartphone screen displaying the 'Check-In' app interface. The status bar at the top shows the time 4:28, signal strength, and battery level. The app title 'Check-In' is at the top with a back arrow. Below is a prompt: 'Drag the sliders to let me know how things are going this week.' There are four sections, each with an icon, title, examples, and a slider:

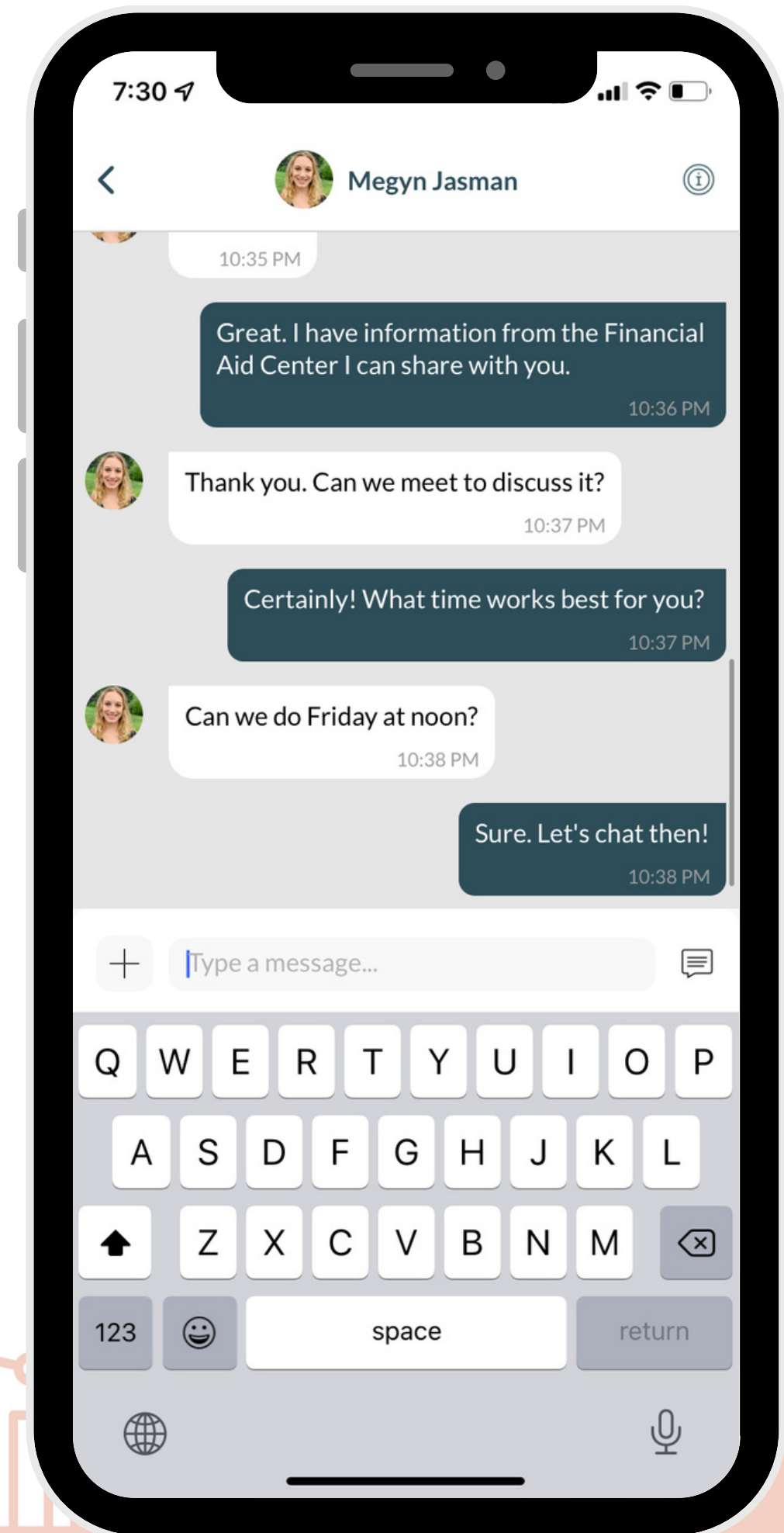
- Planning** (calendar icon): e.g., registration, majors, degree progress, class schedules, transfers. Slider is positioned near 'Going Well'.
- Well-being** (head with heart icon): e.g., stress, self-care, distress, loneliness, homesickness. Slider is positioned near 'Going Well'.
- Health** (heart with pulse icon): e.g., sleep, exercise, diet, illness, drinking/drugs. Slider is positioned near 'Somewhat Challenging'.
- Academics** (checkmark icon): e.g., time-management, grades, test anxiety, motivation, classes/major. Slider is positioned near 'Somewhat Challenging'.

A 'Save' button is at the bottom.



# Messaging

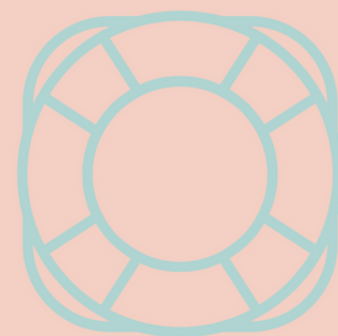
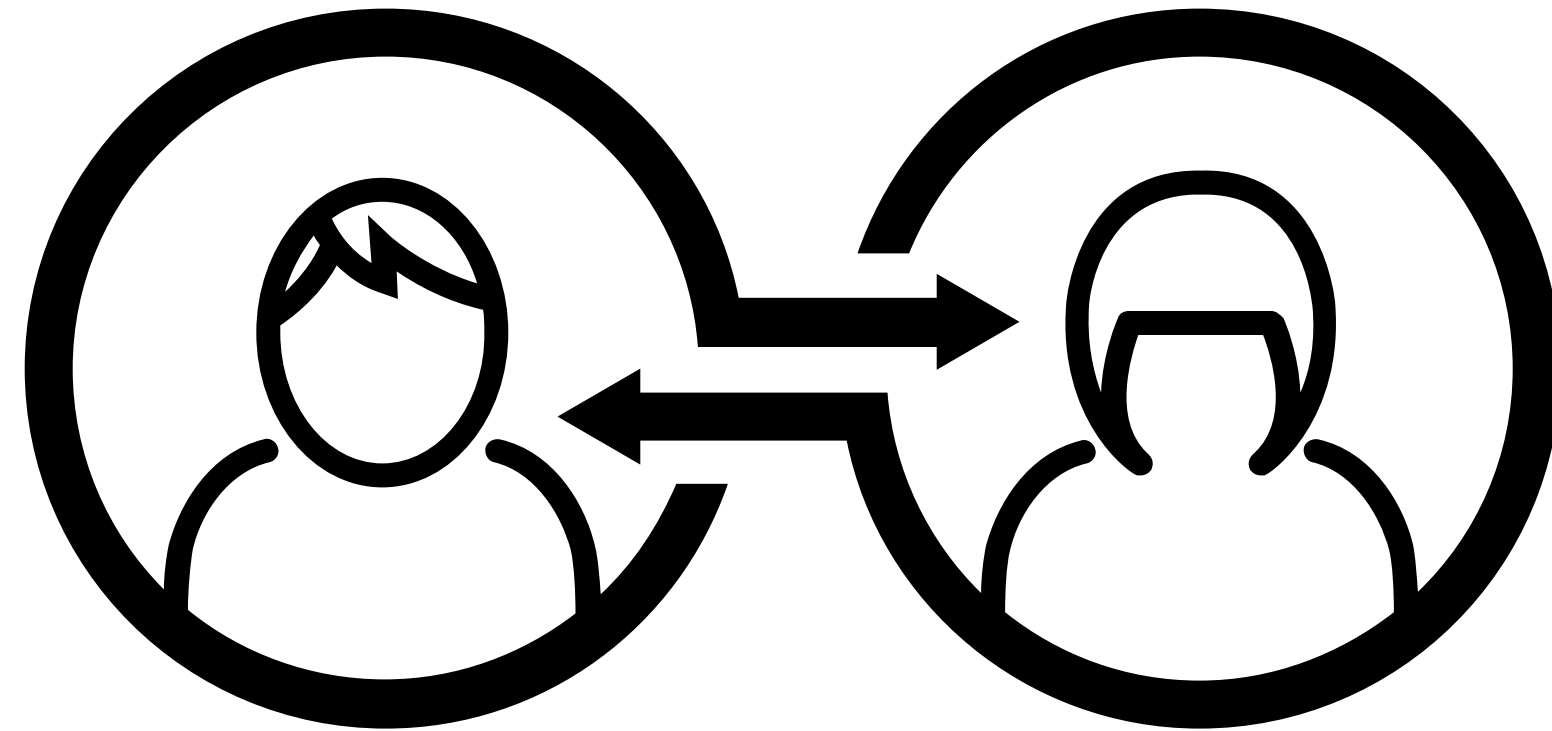
- Students and peer mentors can securely chat in app
- Peer mentors encouraged to reach out weekly
- Friendly and professional

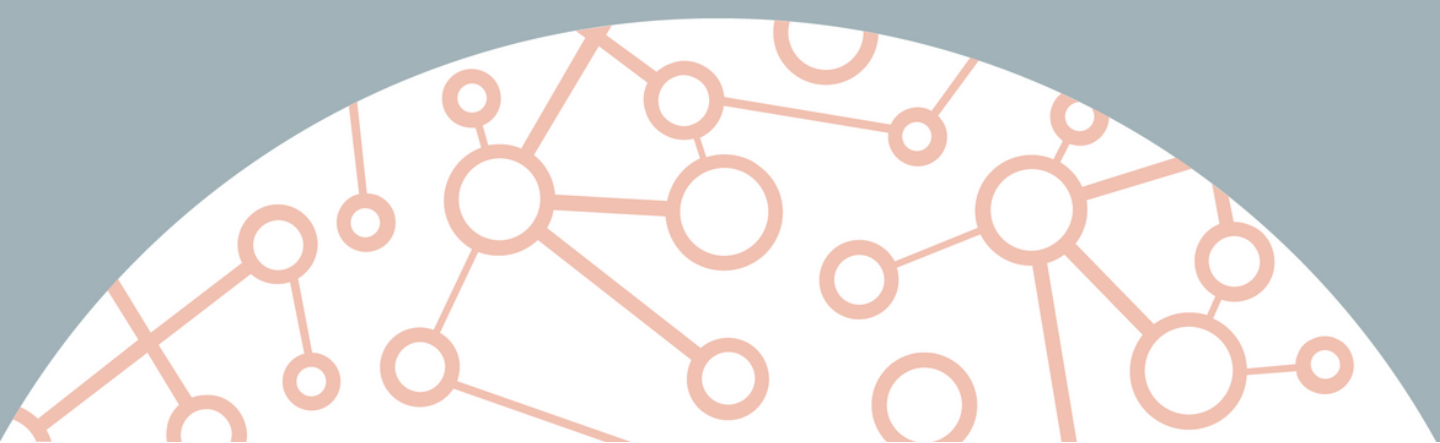




# Why look at matching?

- Mentoring programs always ask how mentors and mentees should be matched!
- Typically the examination of the efficacy of matching is restricted by a priori similarity-matching
- Relationship is important, and perceived similarity and connectedness strengthens bond
- Matching was constrained by major ONLY, retrospectively examine efficacy of similarity-matching





# Hypotheses Study 1

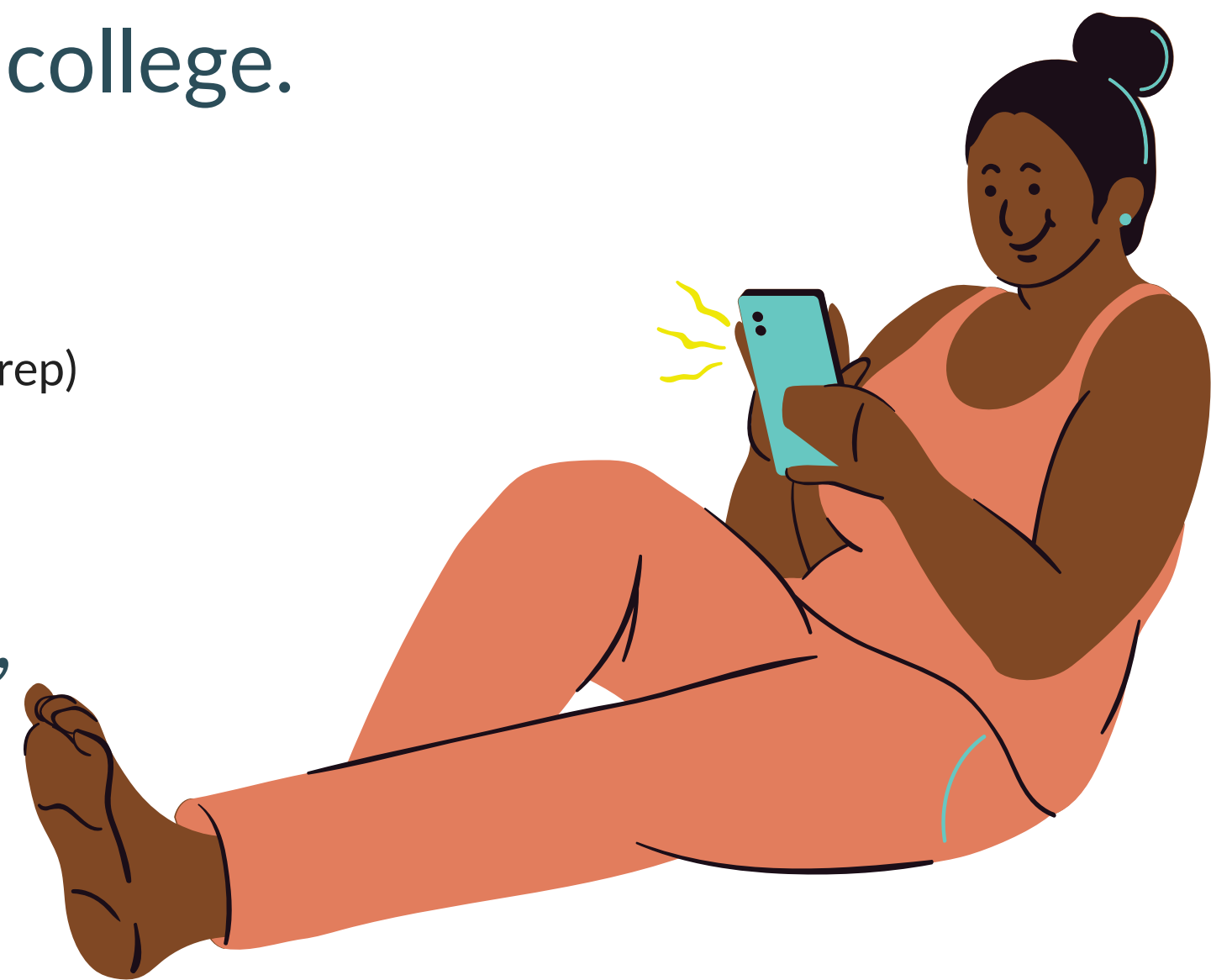
Werntz et al., (under review)

Greater engagement with peer mentors through MentorPRO will be significantly related to more positive academic and wellbeing outcomes at the end of the first year of college.

# Hypotheses Study 2

Ramadurai et al., (in prep)

In the context of MentorPRO, match on background and demographic features between mentor and mentee will predict positive academic, engagement, well-being, and relationship outcomes at the end of the first year of college.



# Methods





- 2022-2023 academic year (2nd year of implementation)
- First-year students who opted to use MentorPRO with peer mentor in their first year (sample sizes differed based on analytic samples, but roughly 50% of the incoming class,  $n \sim 2,000$ )



# Methods



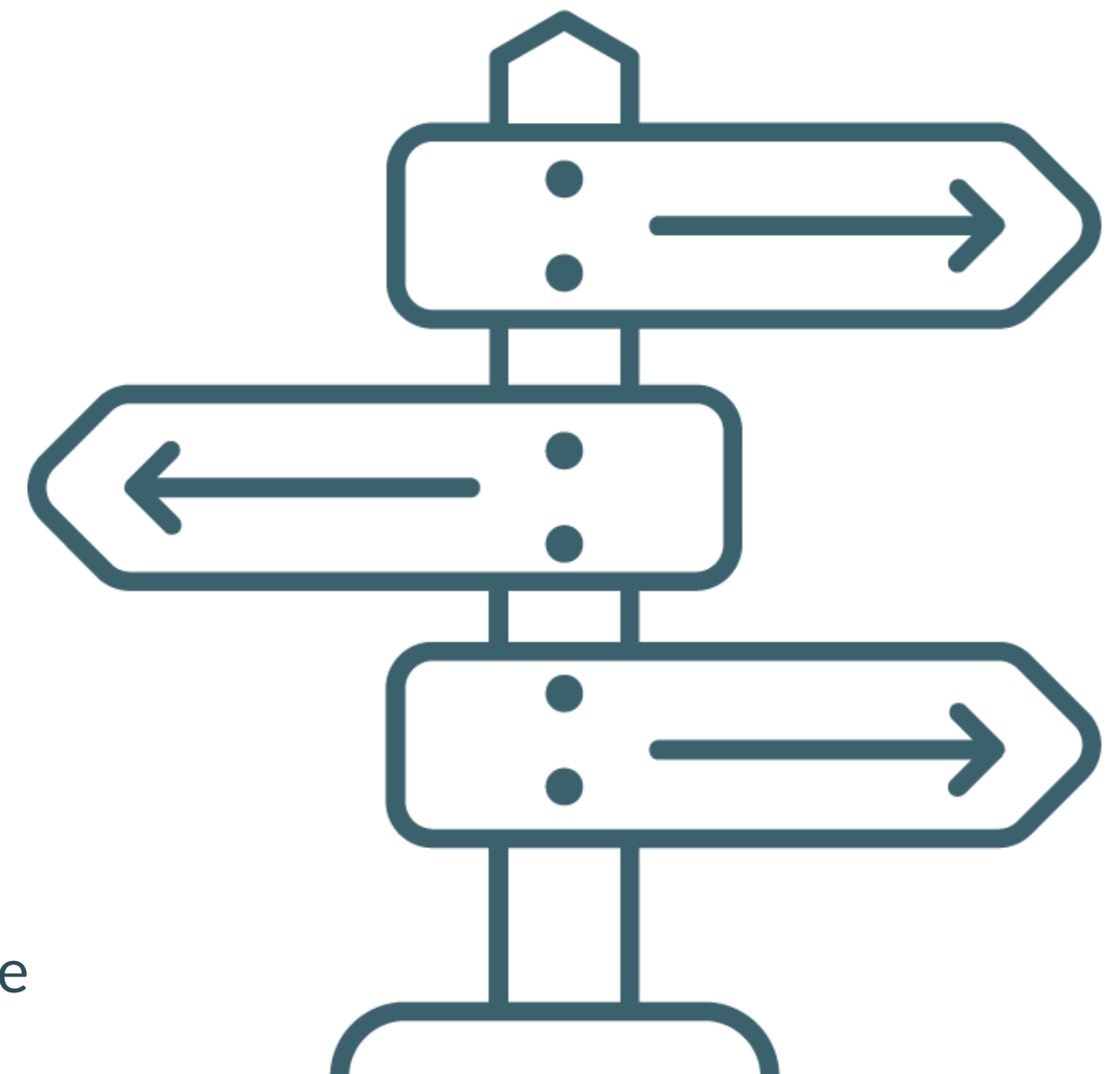
## Study 1 Predictors:

-  Number of times a student used Check-In during the year
-  Number of messages sent to peer mentor during the year

## Study 2 Predictors:

-  Gender, Race, Underrepresented, International, First Generation Match

\*Univariate & Multivariate





# Methods



## Academic

- Number of course withdrawals (Study 1)
- End-of-year GPA

## Engagement

- Number of Check-Ins
- Number of messages

## Wellbeing & Relationship

(1- Strongly Disagree to 5- Strongly Agree)

- Sense of belonging
  - Single item from the Psychological Sense of School Membership Scale (Goodenow, 1993)
  - “I feel part of the [university] community”
- Academic self-efficacy
  - Single item from the Perception of Academic Stress Scale (Bedewy & Gabriel, 2015)
  - “I am confident that I will be a successful student at [university]”
- Overall wellbeing
  - Single-item wellbeing measure (adapted from Cheung & Lucas, 2014)
  - “All things considered, I am satisfied with my life as a whole”
- Satisfaction with mentor (Study 2)
  - “How close do you feel to your mentor?”
- Perceived Support (Study 2)
  - “When I have questions about [the university], I reach out to my peer mentor”

# Study 1 Analyses

## Predicting academic outcomes (Propensity Score Matching)

Groups were aligned on:

- Gender
- Age
- First-generation status
- Under-represented minority status
- High school GPA

Two samples were created for analyses:

- Number of Check-Ins varied
- Number of messages sent to peer mentors varied

## Predicting well-being outcomes (Linear regression)

- Smaller sample of students who used MentorPRO for at least 3 months



# Results



**Number of  
Check-Ins**

**Number of  
Messages**

# Results



**Withdrawal**

**Number of  
Check-Ins**

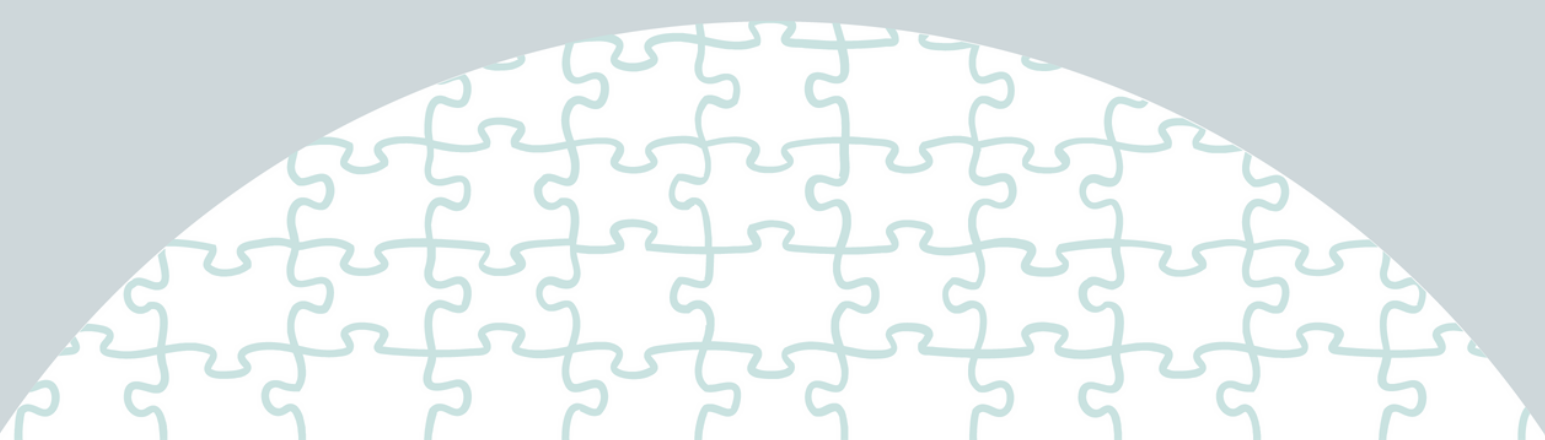






**Number of  
Messages**



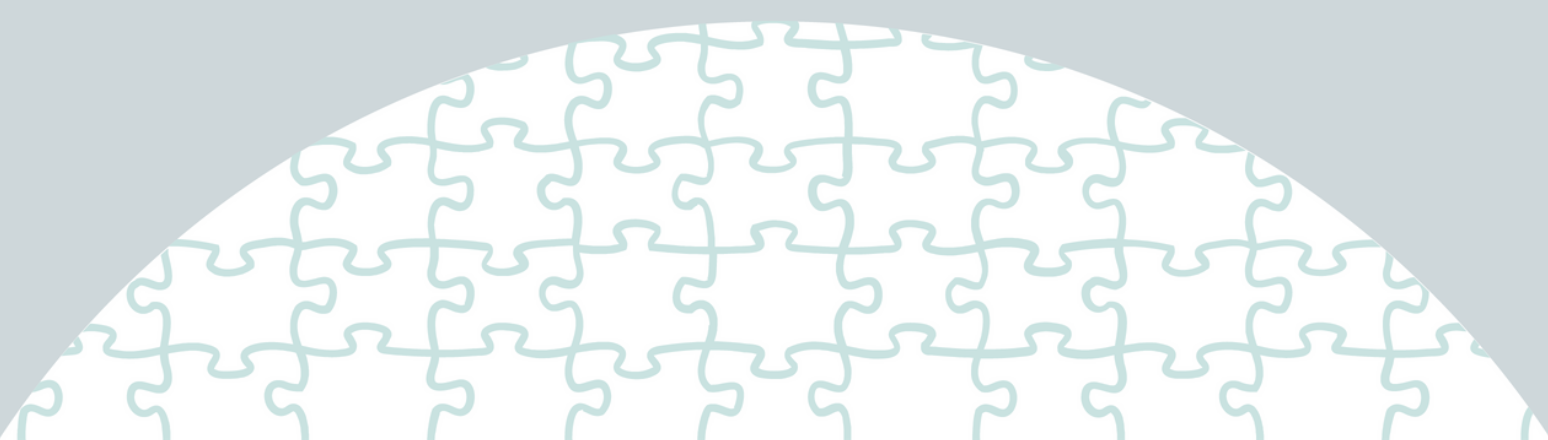


# Results



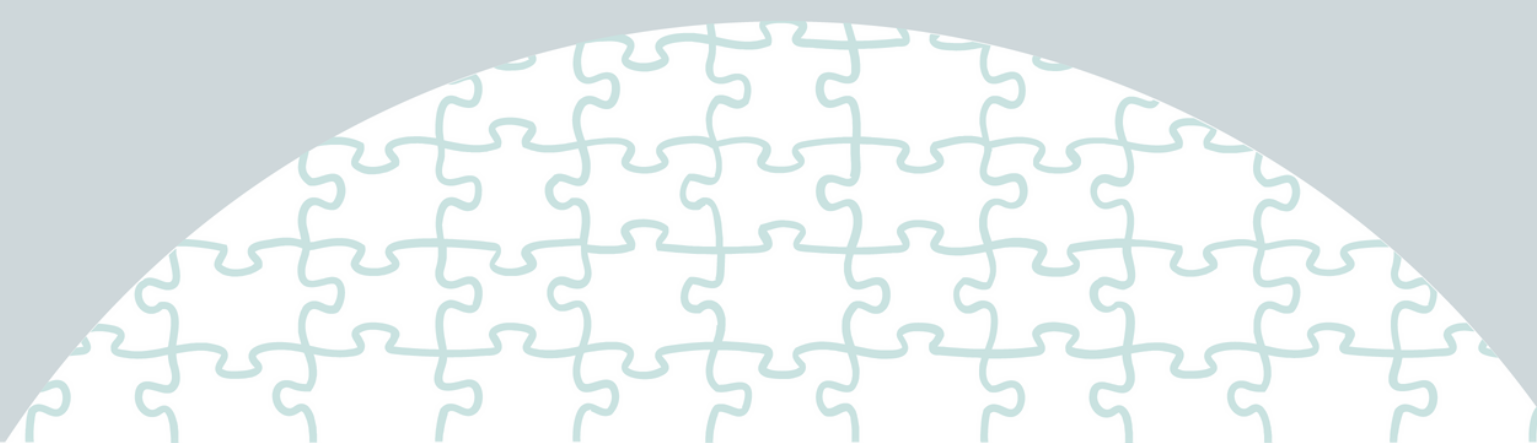
	Withdrawal	GPA
Number of Check-Ins		
Number of Messages		









# Results



	Withdrawal	GPA	Sense of Belonging
Number of Check-Ins			
Number of Messages			

# Results



	Withdrawal	GPA	Sense of Belonging	Academic Self-Efficacy
Number of Check-Ins				
Number of Messages				

# Results



	Withdrawal	GPA	Sense of Belonging	Academic Self-Efficacy	Satisfaction with Life
Number of Check-Ins					
Number of Messages					



# Study 2 Analyses



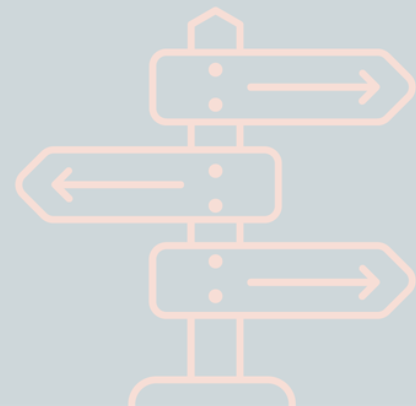
Matches were based on:

- Race (White, Black, Asian, Hispanic/Latino, Other) ( $n = 516$ )
- Gender (M/F) ( $n = 1153$ )
- First-Generation ( $n = 1654$ )
- International ( $n = 1540$ )
- Underrepresented Minority (Black/African American, Hispanic/Latino, or American Indian) ( $n = 1479$ )

Predictor variables were *binary* (matched vs unmatched)

Ordinary Least Squares Regression used to predict whether matching predicted each key outcome. Univariate and Multivariate Analyses were conducted.





Matched on	
White	✓ <b>HIGHER</b>
Black	✓ <b>LOWER</b>
International	✓ <b>HIGHER</b>
First Generation	✓ <b>HIGHER</b>
Underrepresented Minority	✓ <b>HIGHER</b>

✓  $p < .001$

✓  $p < .01$

✓  $p < .05$

✓  $p = .05$

# Well-being



Matched on	Academic Self-Efficacy	Well-being	Satisfaction with Mentor
White		✓ HIGHER	
Asian	✓ LOWER		
Underrepresented Minority			✓ LOWER
International			✓ HIGHER

✓  $p < .001$

✓  $p < .01$

✓  $p < .05$

✓  $p = .05$

# Engagement



Matched on

Messages

Check-Ins

International



**LOWER**



**LOWER**

First Generation



**HIGHER**



**HIGHER**



# Future Directions

- Engagement important to positive outcomes
- The mechanisms by which engagement led to beneficial outcomes requires attention
- Matching may be a valuable practice generally for promoting GPA
- Training for Mentees and Mentors who share a marginalized background
- Measurement of cultural beliefs/values and other outcomes that reflect benefits of matching

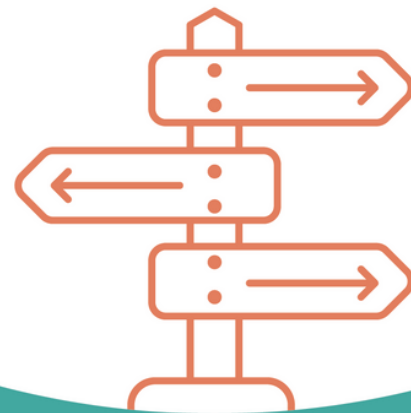


# Our partners

“Probably the most helpful program our school has ever come out with.”

Peer mentor





*Please remember to submit  
your evaluation on  
Guidebook!*

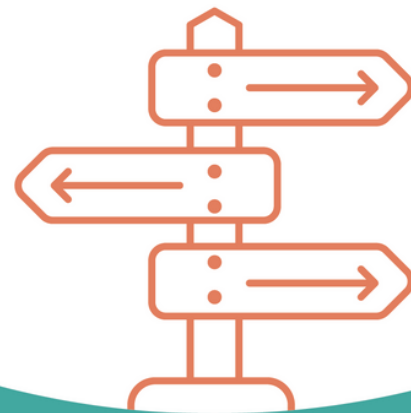


**#FYE24**

**NATIONAL RESOURCE CENTER**

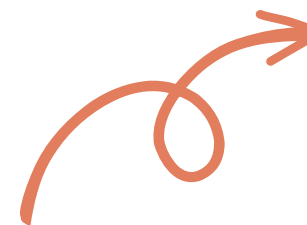
FIRST-YEAR EXPERIENCE® AND STUDENTS IN TRANSITION

UNIVERSITY OF SOUTH CAROLINA



Learn more about

**mentorPRO**



@mentorpro\_



MentorPRO



@MentorPRO\_



Learn more!

[www.cebmentoring.org](http://www.cebmentoring.org)

# Welcome to The Center for Evidence-Based Mentoring

## Putting Research Into Action

*The Center for Evidence-Based Mentoring* was founded in 2012 through a generous gift from MENTOR: National Mentoring Partnership. Our mission is to drive evidence-based innovation that advances mentoring practice and helps to bridge gaps in mental health care among young people, particularly in marginalized communities. Our team of clinical and community psychologists, postdocs, doctoral students, and undergraduates generate, test, and apply scientific knowledge in collaboration with a broad network of mentoring programs, practitioners, and scholars.

THE  
**CHRONICLE**  
OF EVIDENCE-BASED MENTORING





T Mentor PRO

[Go back](#)



Thomas Wittrup

Select Child Organization

MentorPRO University



Dashboard



Programs



Program Managers



Success Coordinators



Mentors



Mentees



Reports



Resource Hub



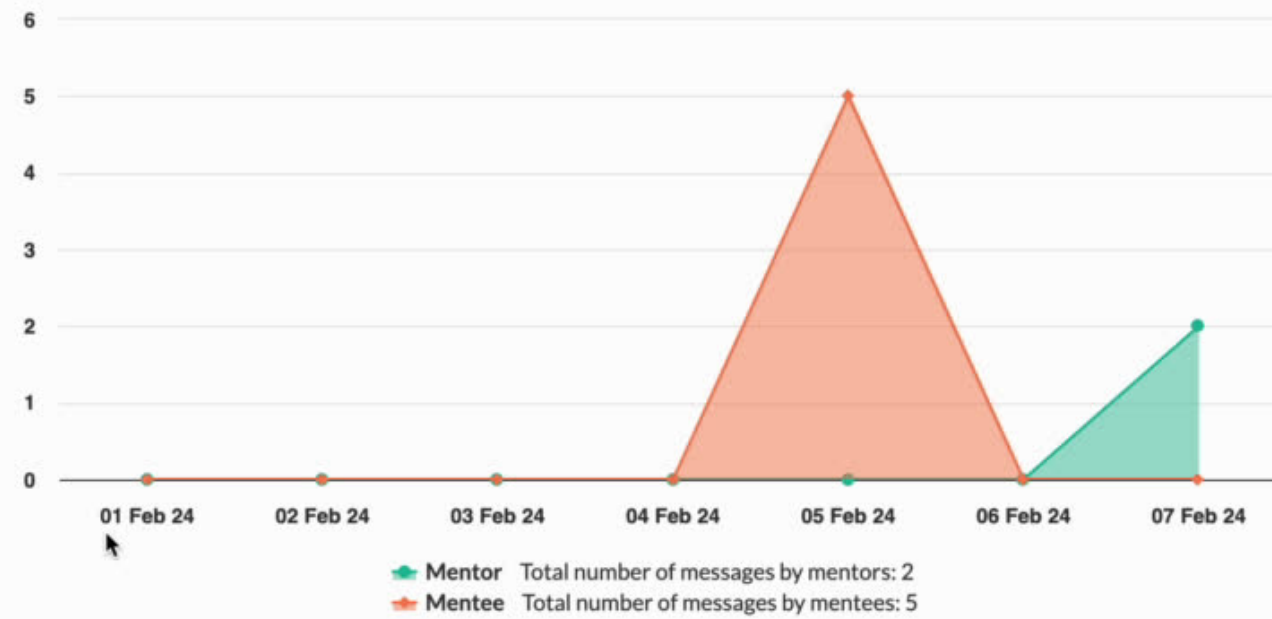
Announcements



Events



General Information



### Meeting Statistics

Total Meetings

8

Meetings Managers

1

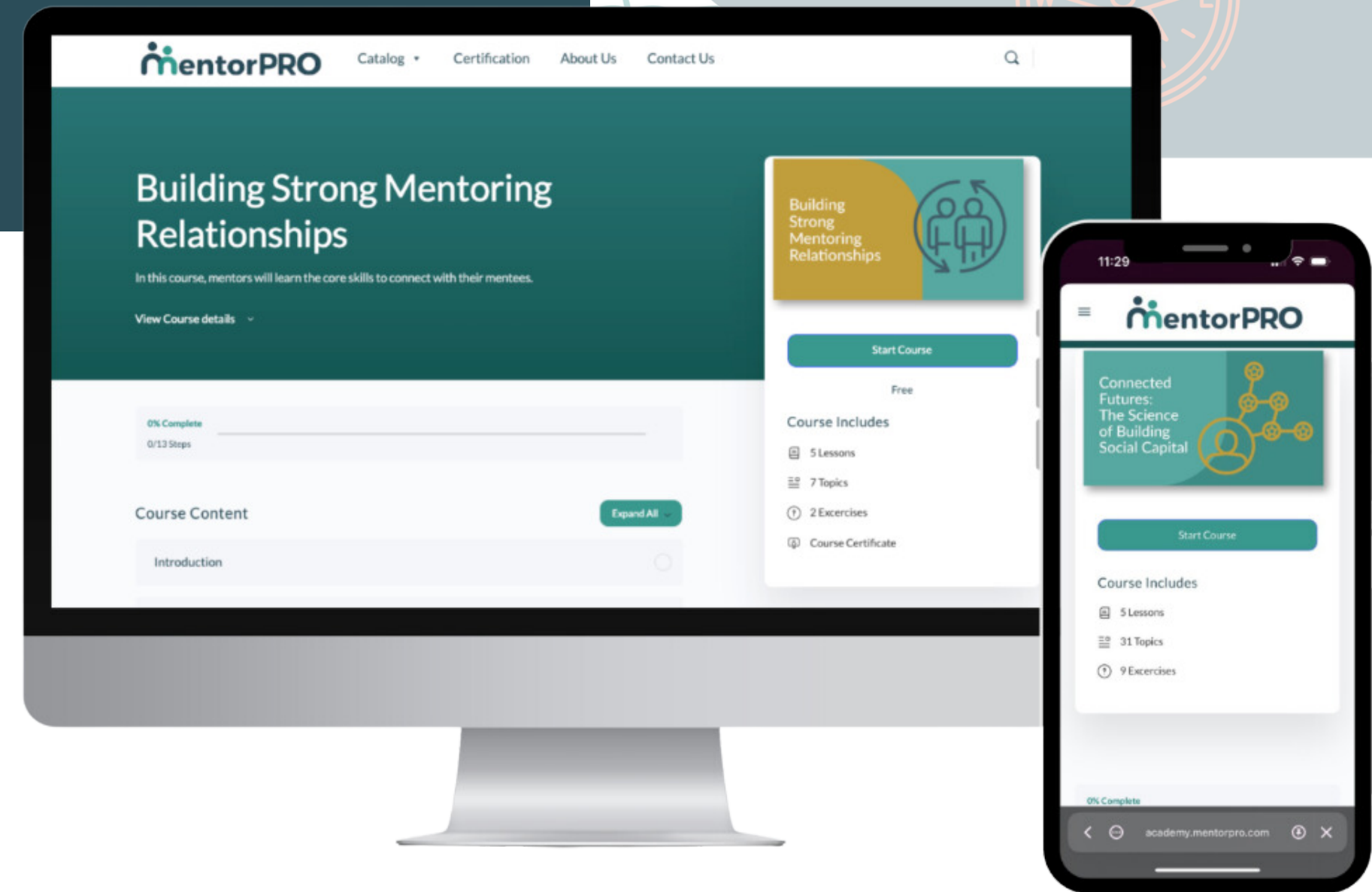
### Meeting Hours



# Evidence-Based Trainings

The research is clear:  
**Better training leads to  
better outcomes.**

MentorPRO Academy is a premier learning management system (LMS) that provides self-guided, evidence-based mentor and mentee trainings.



## Course examples:

SuperReady  
to Mentor:  
The Science of  
Effective  
Relationships



SuperReady  
to Work:  
Evidence-  
Based  
Practices for  
Developing Job Skills



SuperReady  
to Learn:  
The Science of  
Academic  
Planning and Success



SuperReady  
to Thrive:  
The Science of  
Resilience and  
Stress  
Management



