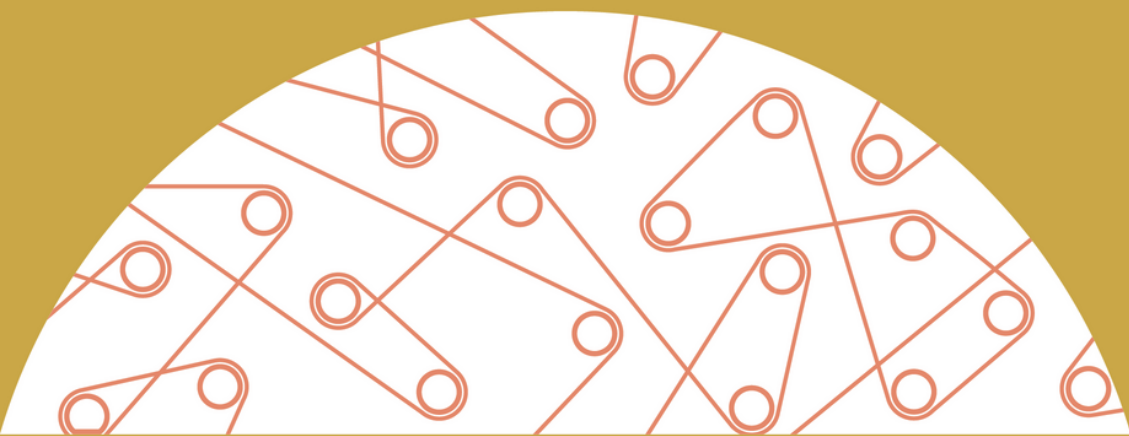


# Technology-Enhanced Peer Mentoring Program for Students Transitioning to College

*Jean E. Rhodes, PhD<sup>1</sup>*  
*Alexandra Werntz, PhD<sup>1</sup>*  
*Megyn Jasman, BA<sup>1</sup>*  
*Yangyang Deng, PhD<sup>2</sup>*

1 - Center for Evidence-Based Mentoring, UMass Boston

2 - 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 stressed 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)

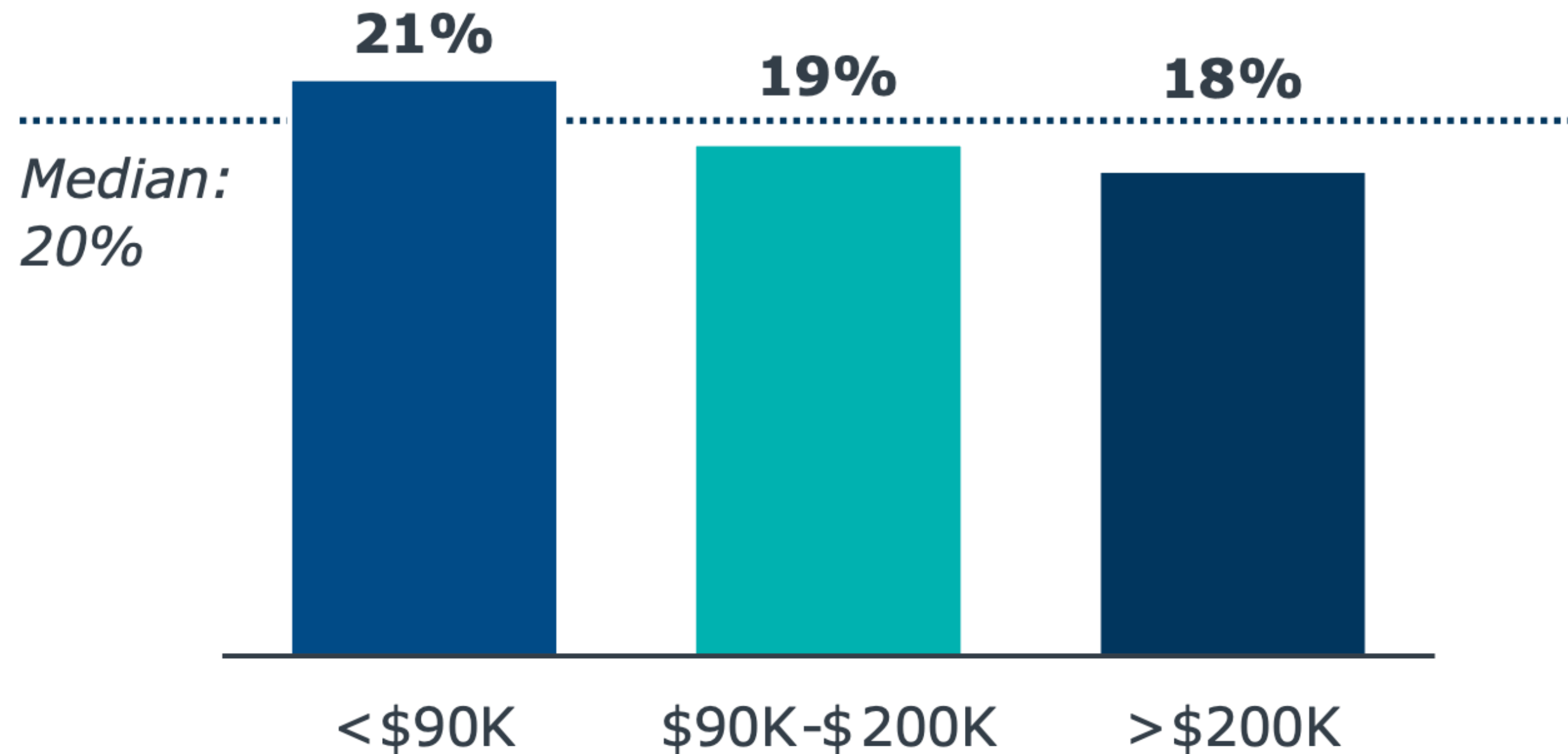
60%

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

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

## UNIVERSITIES

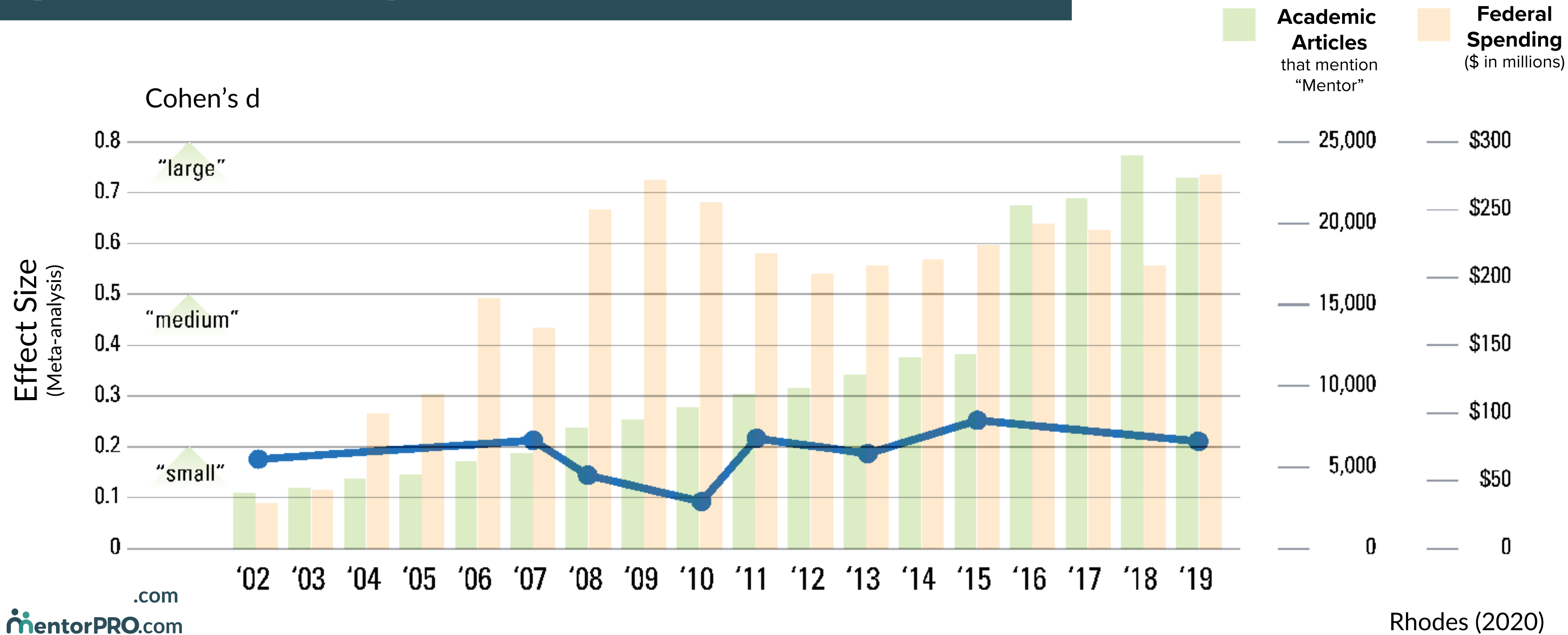
03

**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

# Most mentoring programs produce only small effects



# Help Them Get There Be a Mentor

SERVE.GOV/MENTOR



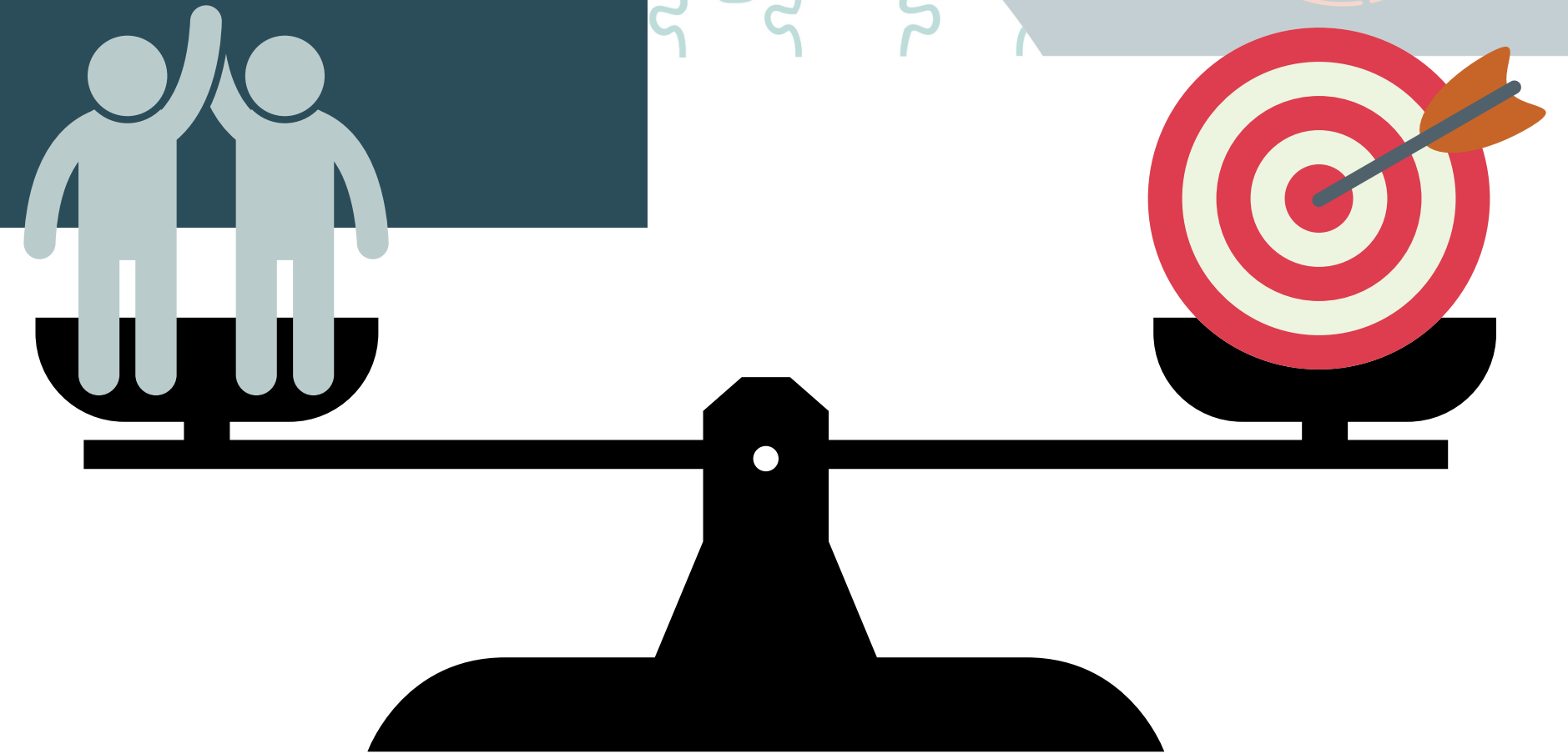
You don't need special skills to be a mentor. You just need to listen, show that you care, and share your experience. Becoming a mentor is one of the best investments you can make for the future. Just imagine how you'll feel when graduation day arrives.

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.



# 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”



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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...

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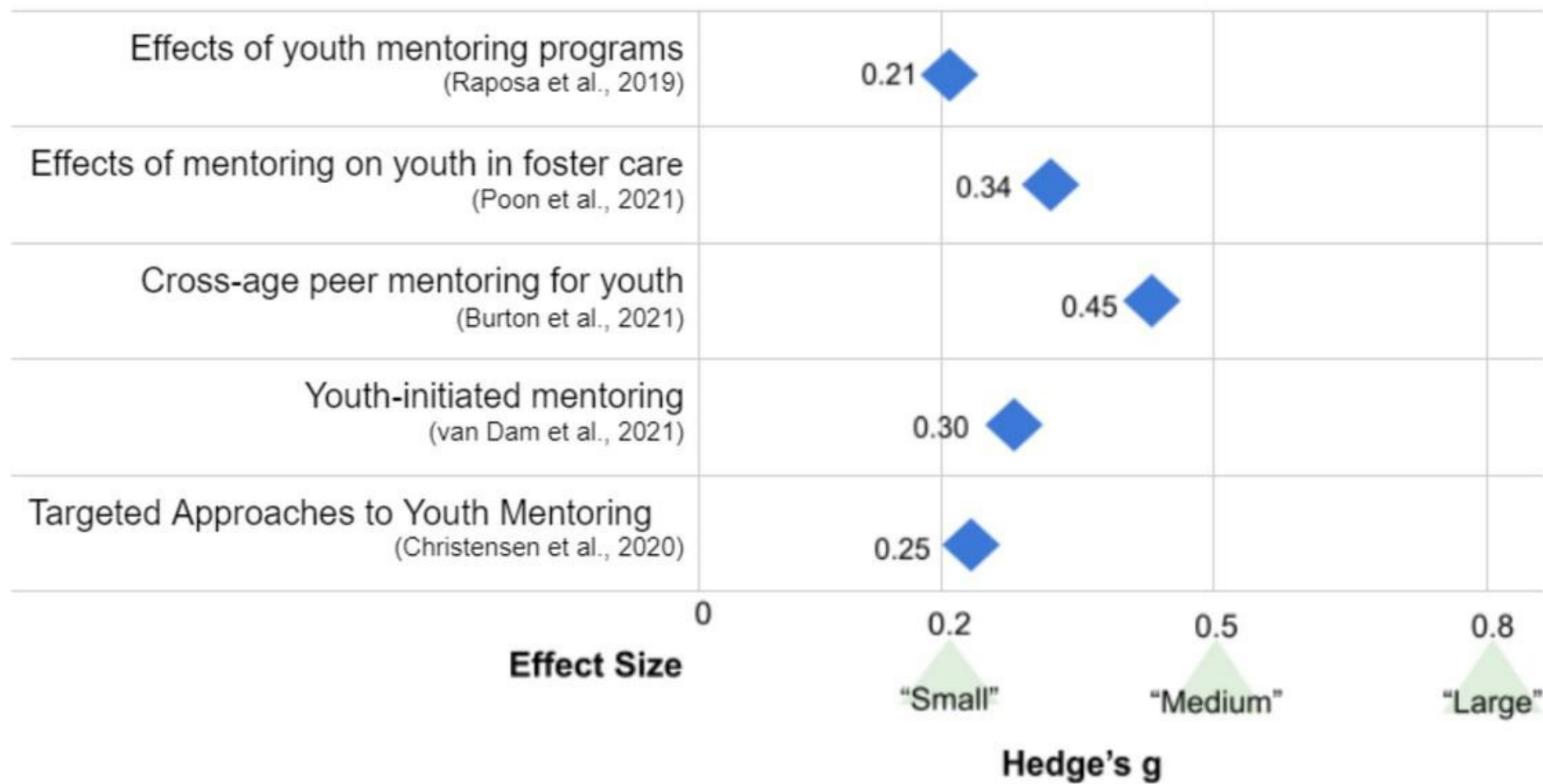
3

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.”

# Peer mentoring is particularly effective

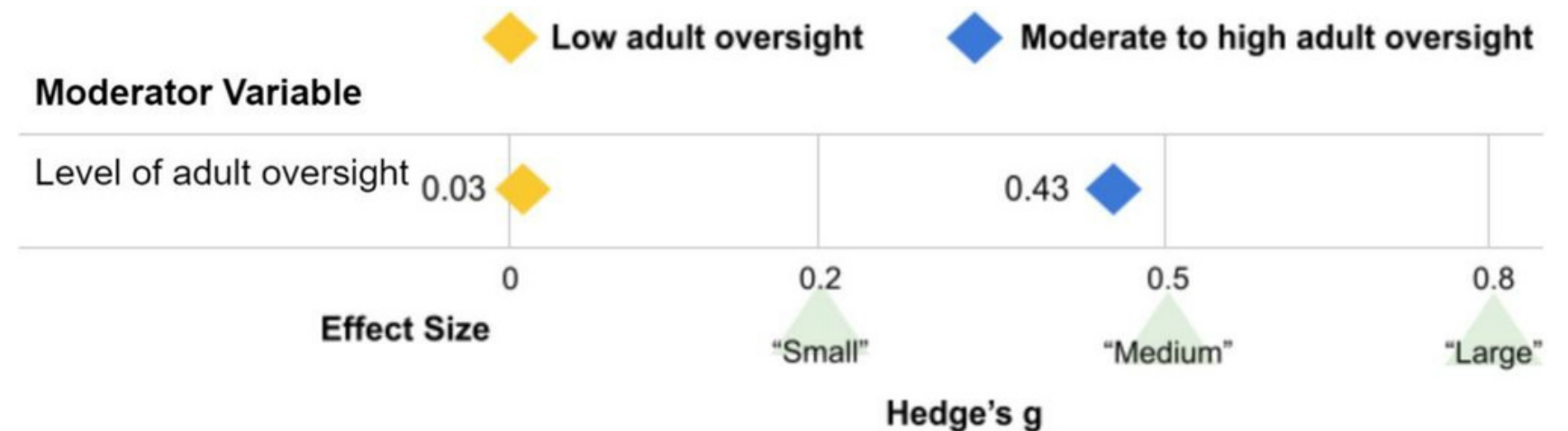
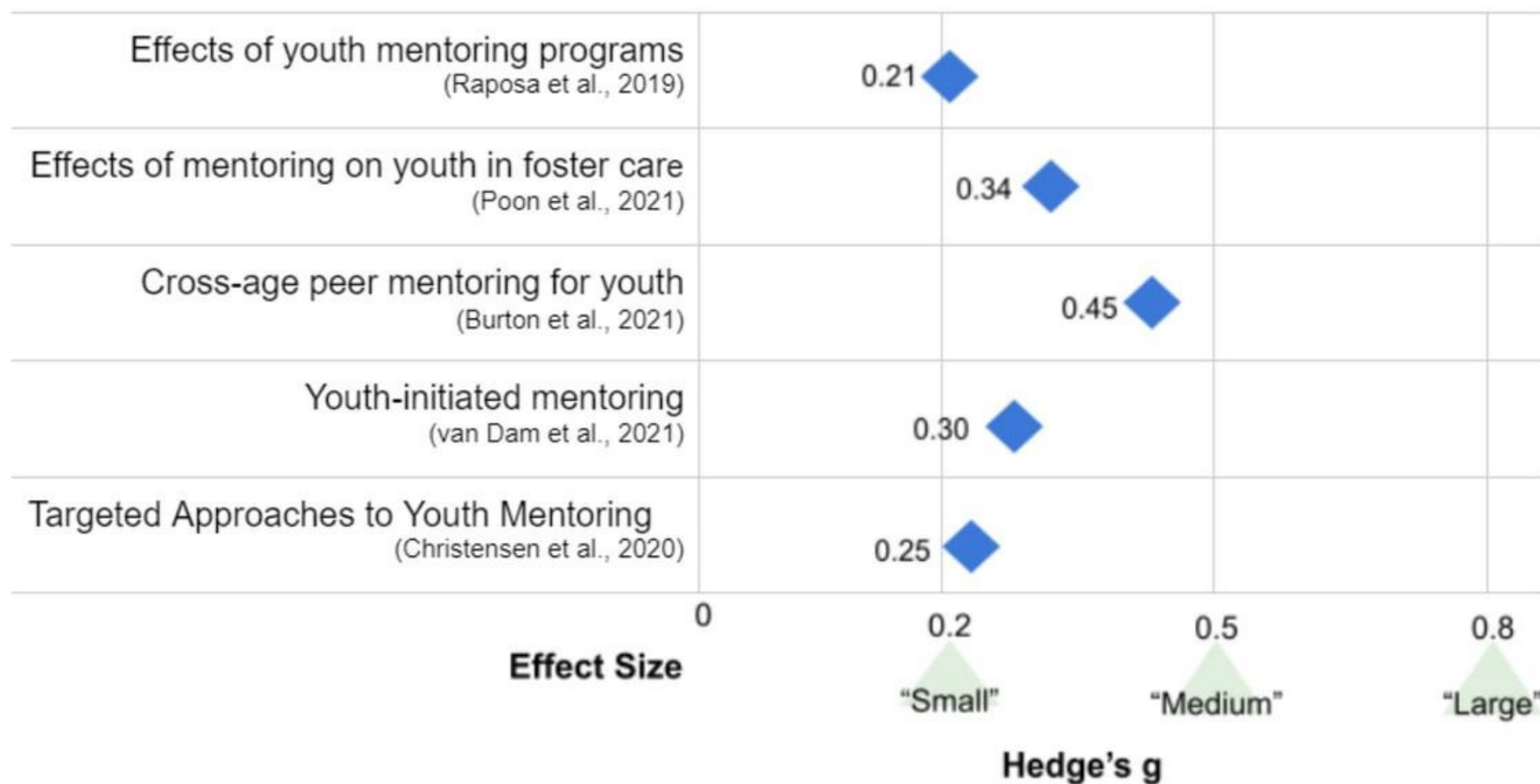
## Meta-Analysis





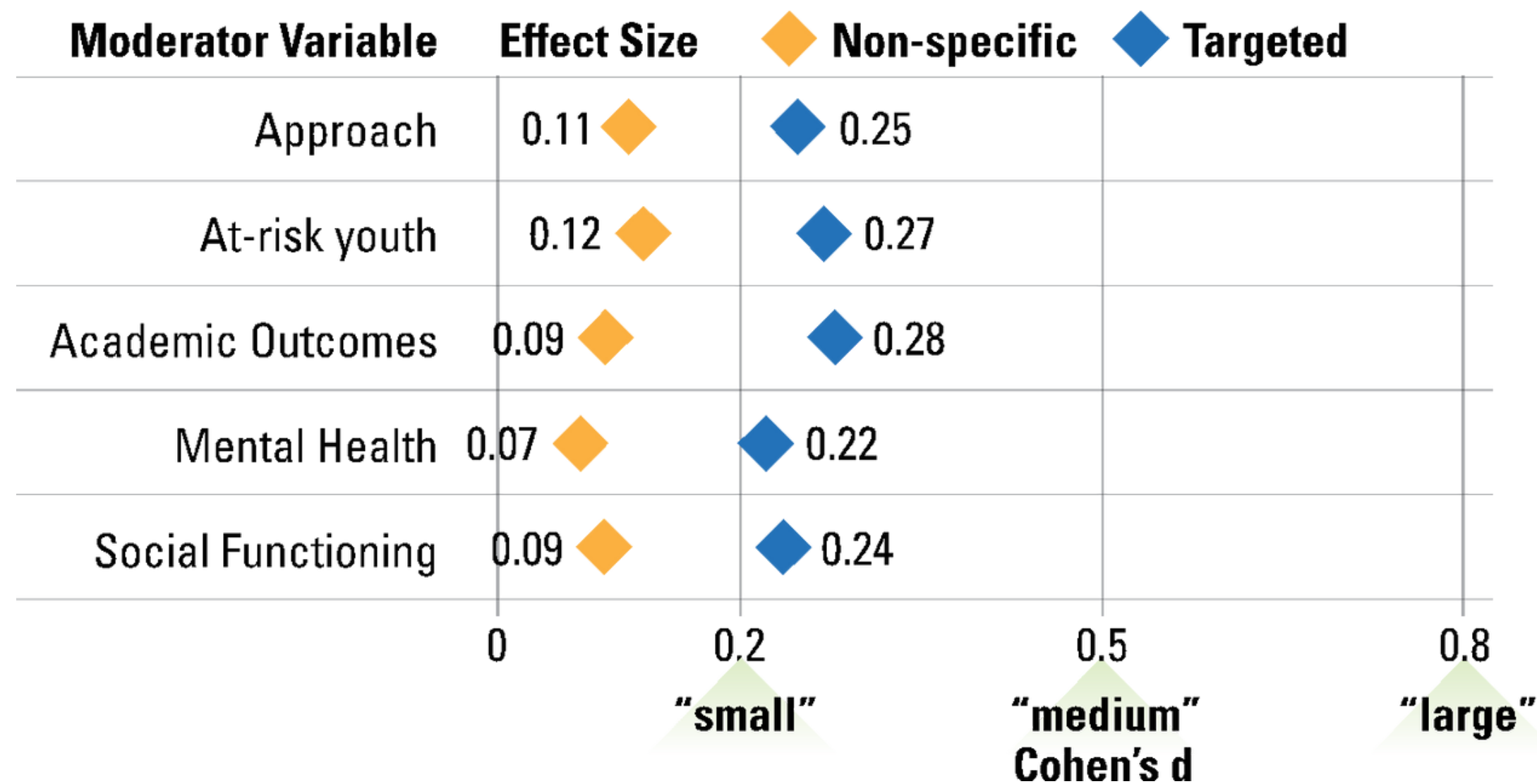
# Peer mentoring is particularly effective

## Meta-Analysis



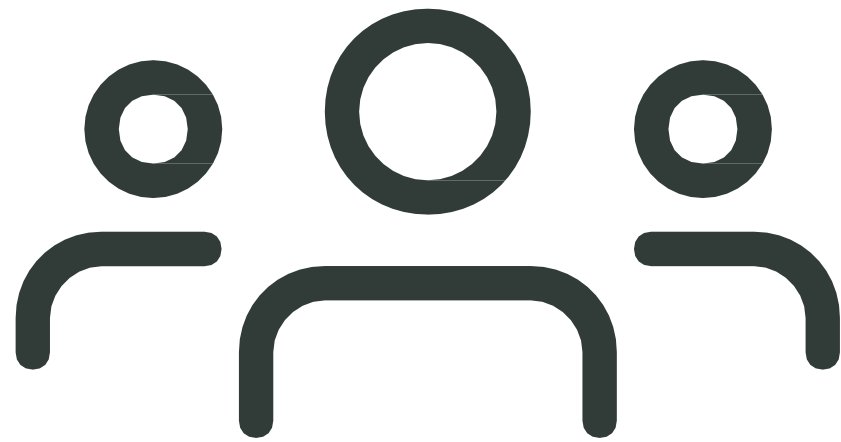
*...but only with training and support*

# 2-3x stronger effects!

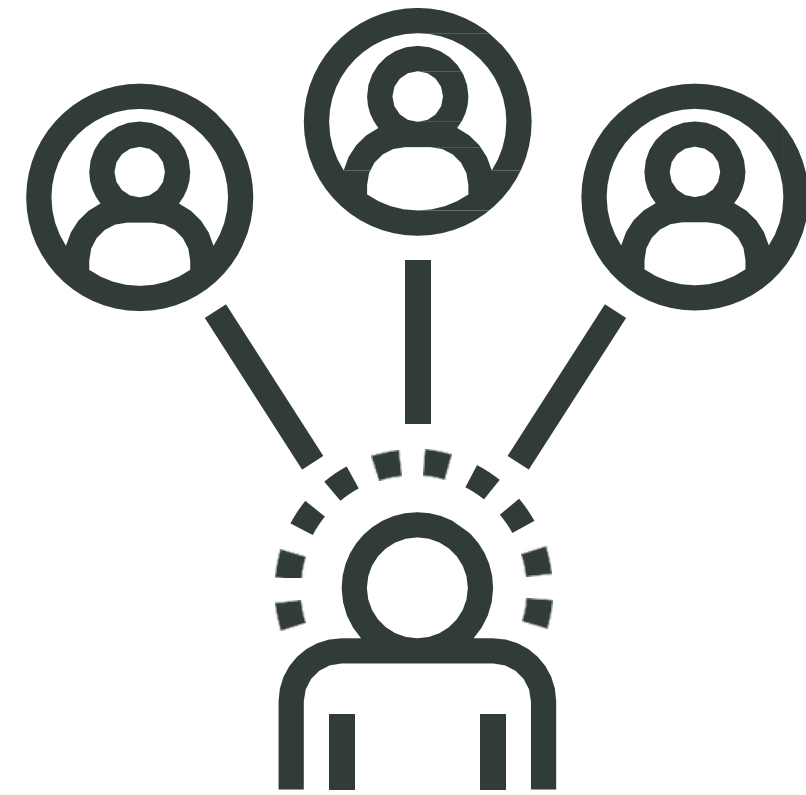
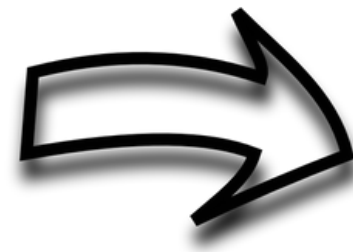


Non-Specific versus Targeted Approaches to Youth Mentoring: A Follow-Up Meta-Analysis

# Goal-focused, blended approach



Relationships as the  
intervention



Relationships as context for targeted, evidence-  
based intervention





# Mentoring is most effective when...

1

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

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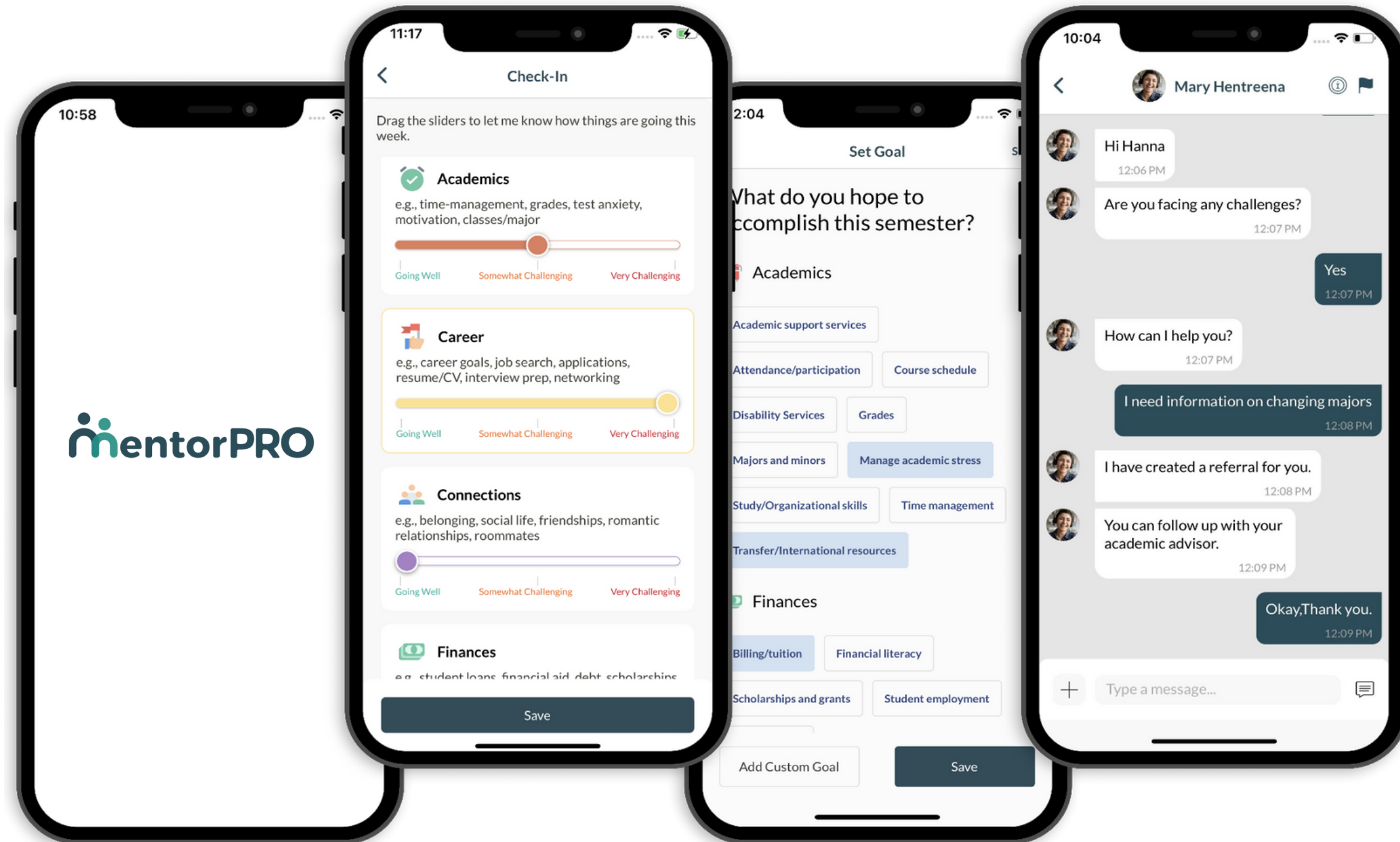
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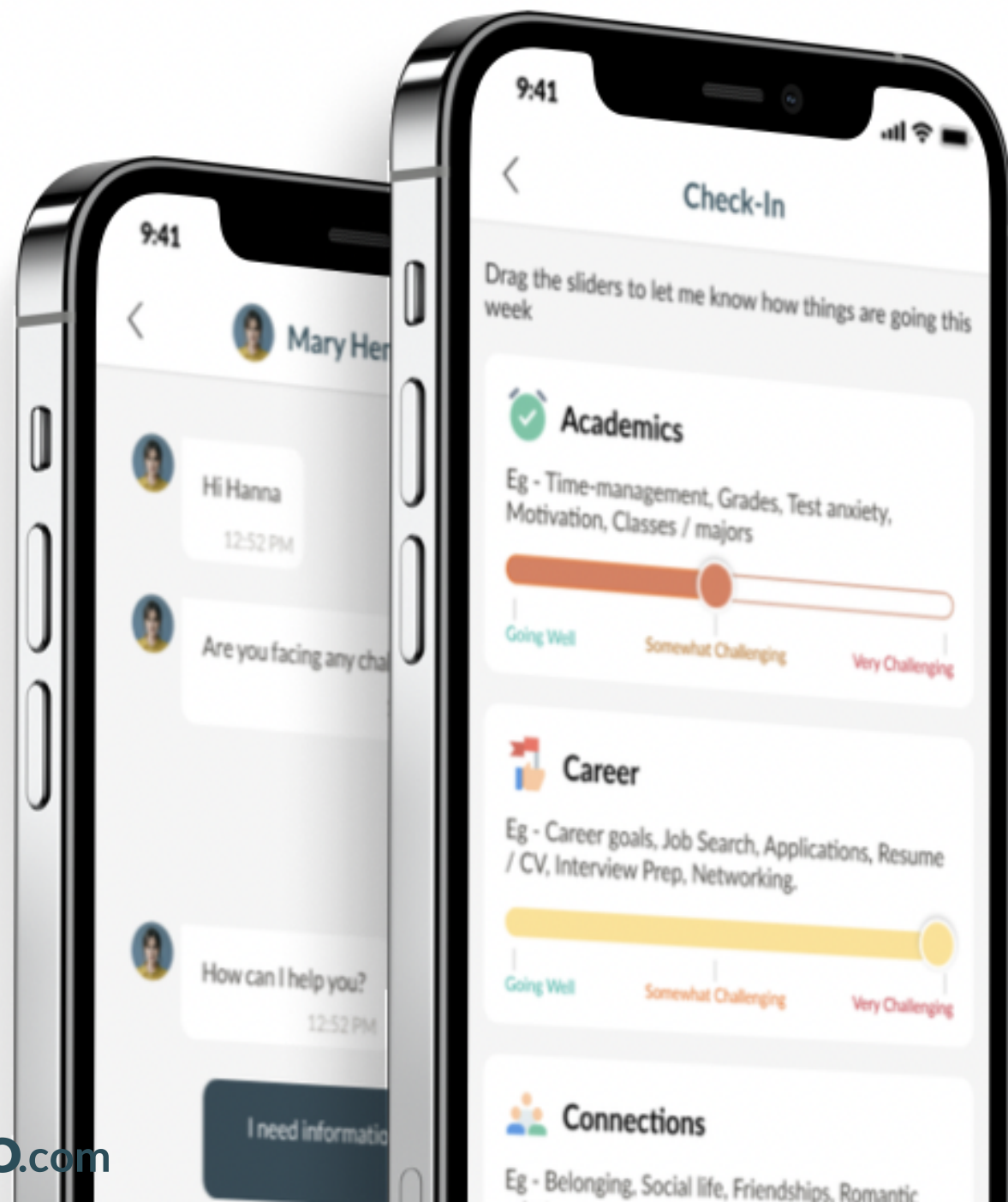
“Samples with a higher percentage of  
mentors who worked within the helping  
professions also showed higher effect  
sizes for youth outcomes.”

# mentorPRO

Improving Programs, Relationships, and Outcomes



# How it works



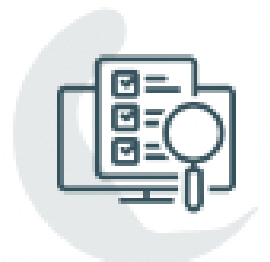
## Student Success Platform

Our training, support, and expertise ensure high-impact mentoring



## Seamless Connection

Learners and Mentors connect through MentorPRO app



## Continuous Engagement

Learners check in, set goals, and complete validated surveys

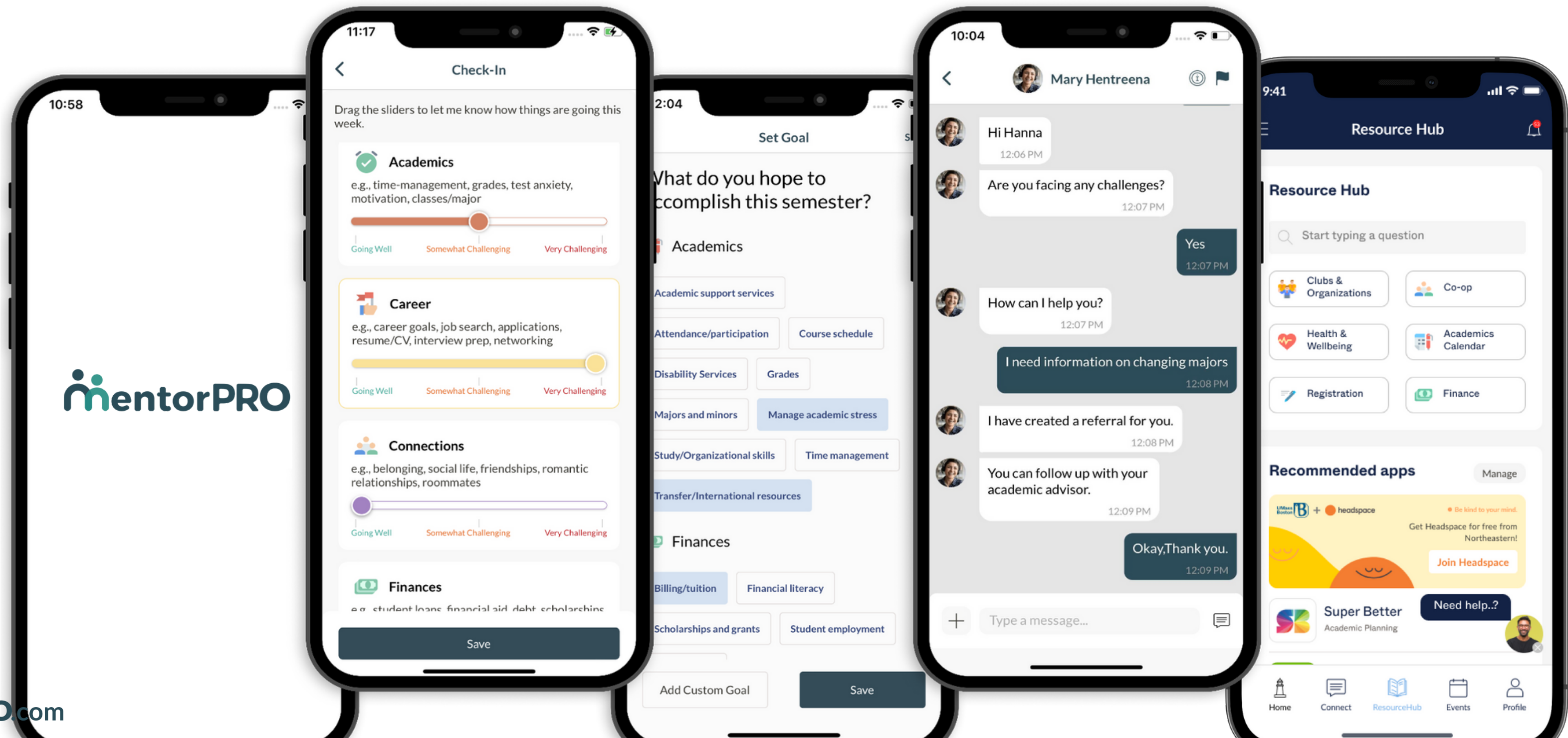


## Concierge Engagement Peers

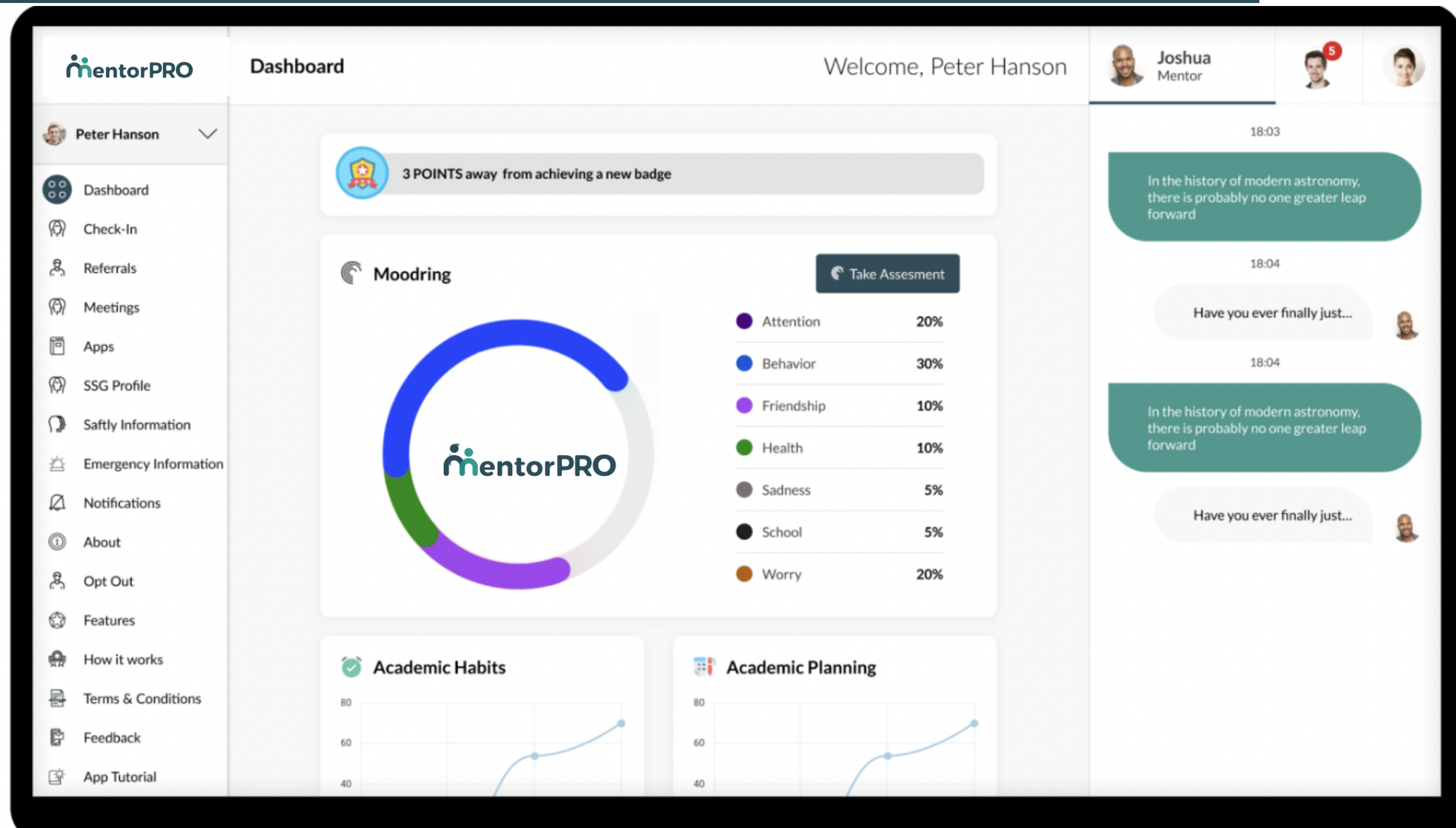
Peer mentors answer questions and create referrals



# Students complete Check-Ins, set goals, and chat with mentors



# Transparency for programs and staff





# Suite of rigorous courses and trainings



EMPIRICAL REVIEW

# Paraprofessional Youth Mentoring: A Framework for Integrating Youth Mentoring with Helping Institutions and Professions

Samuel D. McQuillin,<sup>1</sup> Matthew A. Hagler,<sup>2</sup> Alexandra Werntz,<sup>2</sup> and Jean E. Rhodes<sup>2</sup>

## Highlights

- We propose a framework for delegating some mental health service tasks to paraprofessional mentors.
- Appropriately scaled, paraprofessionals can reduce the burden of youth's mental health difficulties.
- With training, a subset of mentors could increase engagement in and deliver mental health services.
- Training, supervision, and documentation of services will be critical to scale.
- Paraprofessional youth mentorship requires research to establish efficacy.



# New roles for mentors?

We have developed a model, referred to as “**Supportive Accountability**.” We argue that human support increases adherence through accountability to a coach who is seen as trustworthy, benevolent and having expertise. (Mohr et al., 2011)

Without **supervised practice**, it is highly unlikely that participants will be able to master new behaviors and apply them appropriately in the future. (Conley et al., 2015)





# Youth Interventions With and Without Supervised Practice: A Second-Order Meta-Analysis

Kirsten M. Christensen<sup>1</sup> · Mark Assink<sup>2</sup> · Levi van Dam<sup>2</sup> · Geert-Jan Stams<sup>2</sup> · Cyanea Y. S. Poon<sup>1</sup> · Jeremy Astesano<sup>1</sup> · Jean E. Rhodes<sup>1</sup>

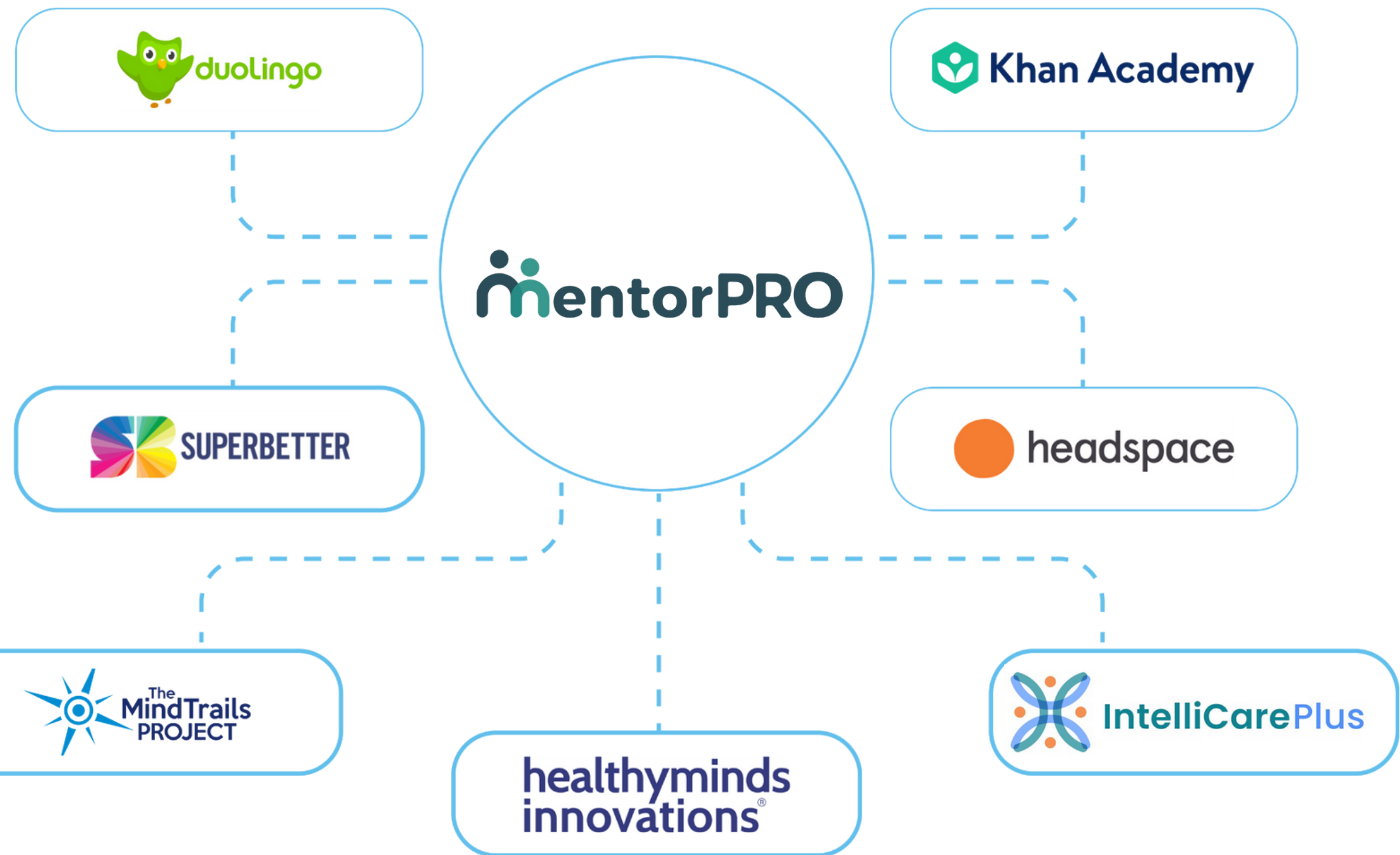
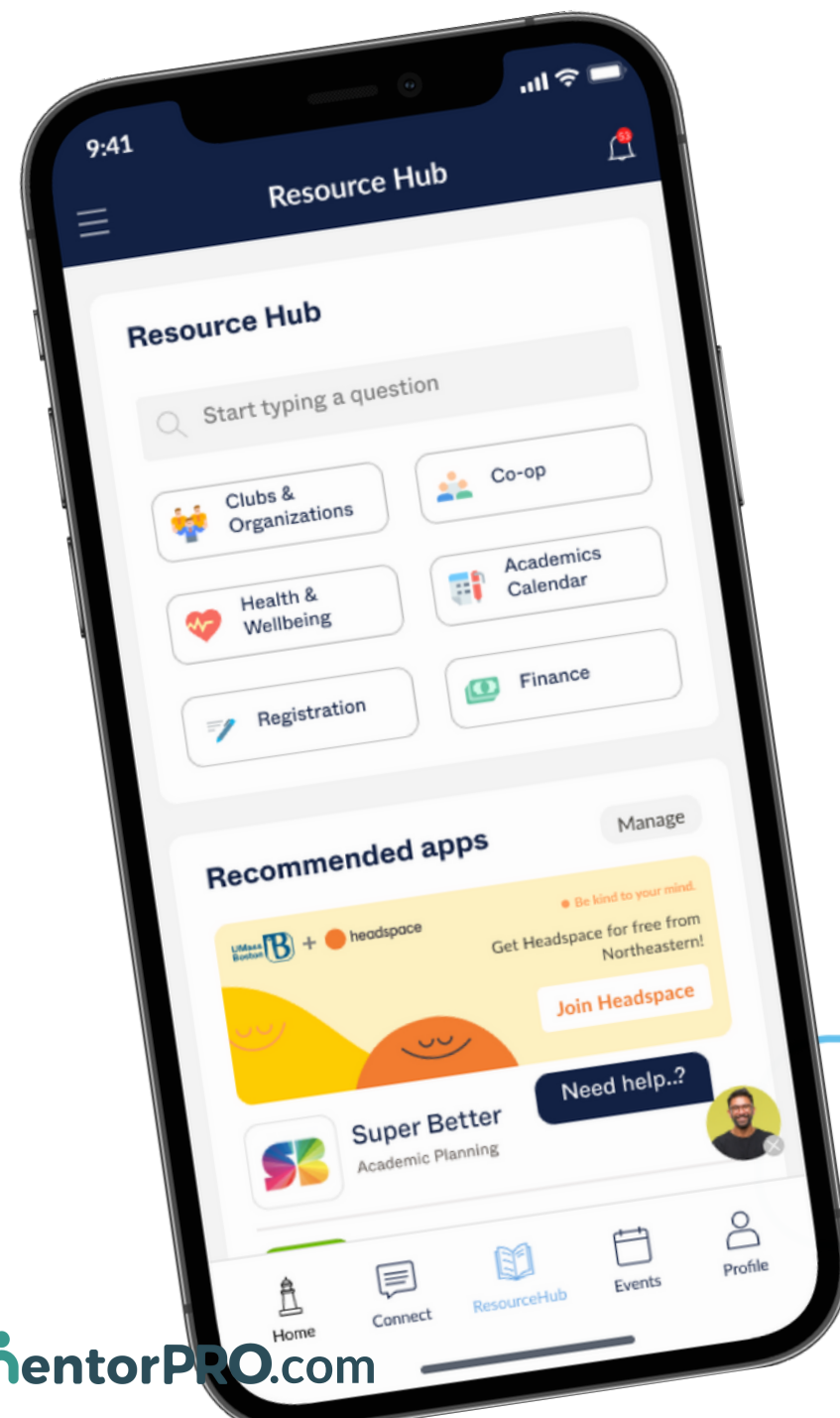
- Supervised practice of skills with constructive and supportive feedback yielded stronger effects when compared to unsupervised practice across five meta-analyses, SMD=0.22
- Youth internalizing behavior showed the strongest effect

# Data analytics & visualizations





# And integrations with other applications




# The promise of digital interventions

- ✓ Dynamic
- ✓ Addresses concerns re: stigma, privacy
- ✓ Self-monitoring
- ✓ Free or low-cost
- ✓ Self-paced
- ✓ Data analysis, machine learning

## And the limitations

 Attrition

 Curation

 Misuse

# Peer mentors can provide *supportive accountability*





Review

# Providing Human Support for the Use of Digital Mental Health Interventions: Systematic Meta-review

(*J Med Internet Res* 2023;25:e42864) doi: [10.2196/42864](https://doi.org/10.2196/42864)

**KEYWORDS**

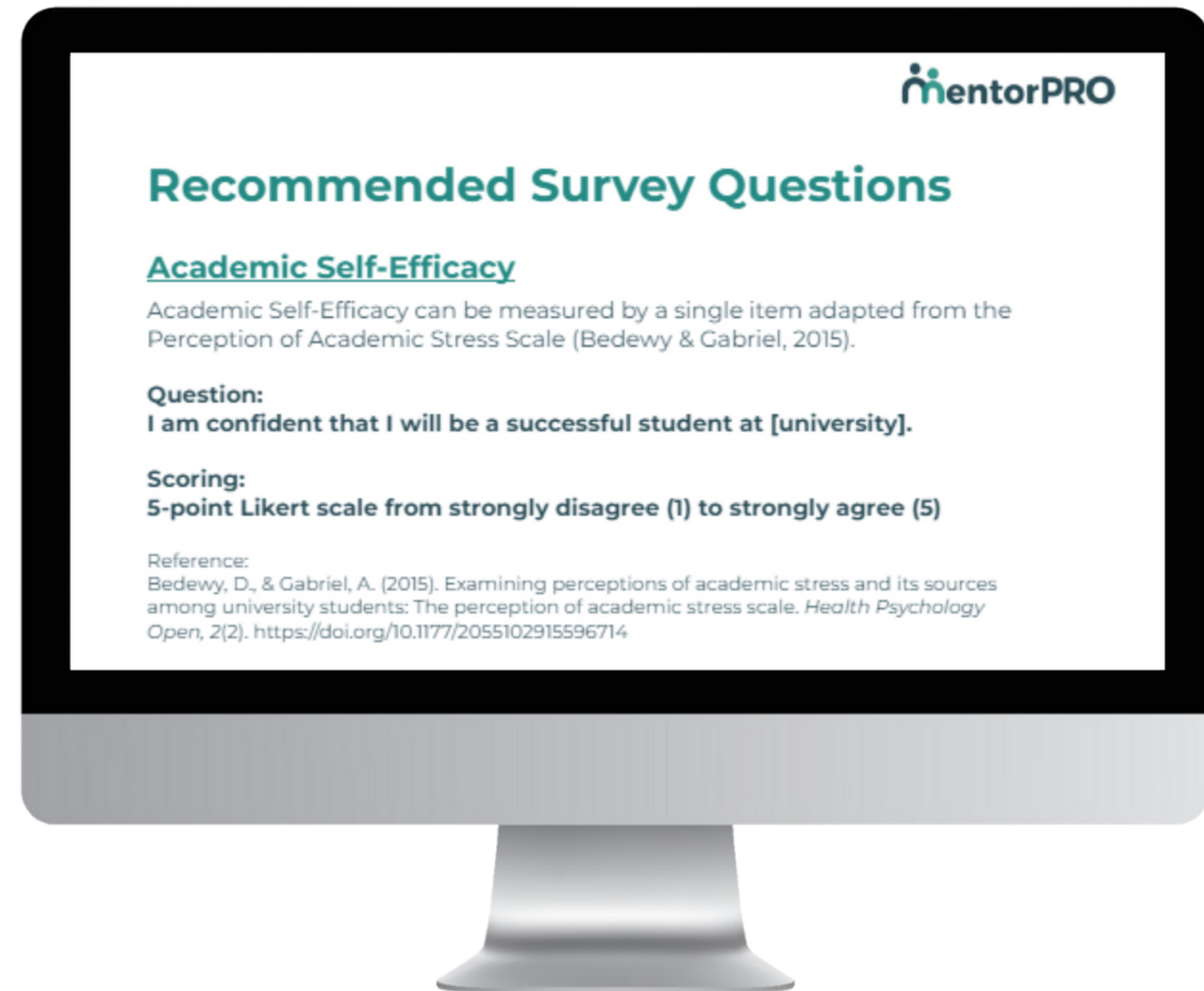
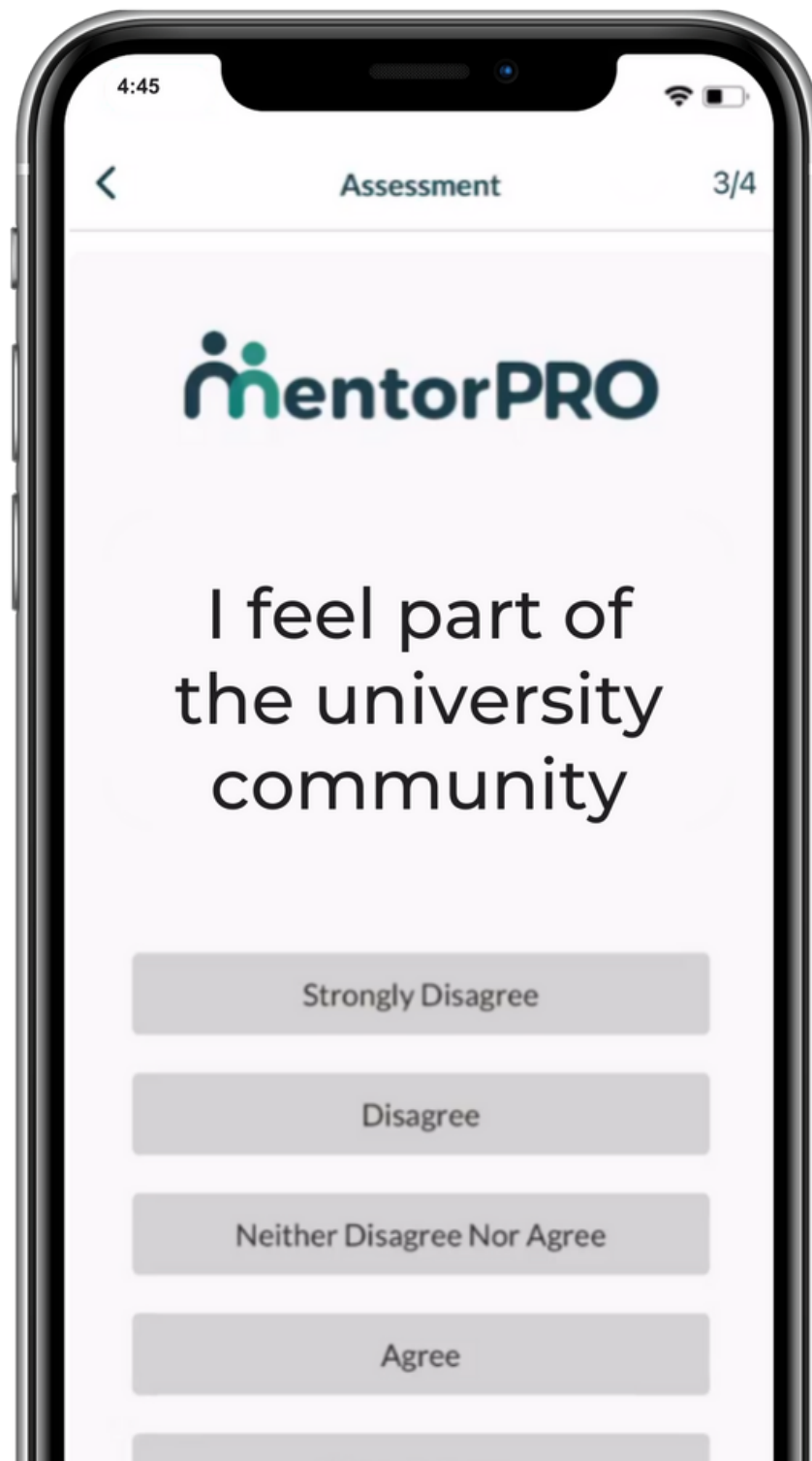
digital mental health interventions; human support; supportive accountability; systematic meta-review

Alexandra Werntz, PhD; Selen Amado, MA; Megyn Jasman, BA; Ariel Ervin, BA; Jean E Rhodes, PhD

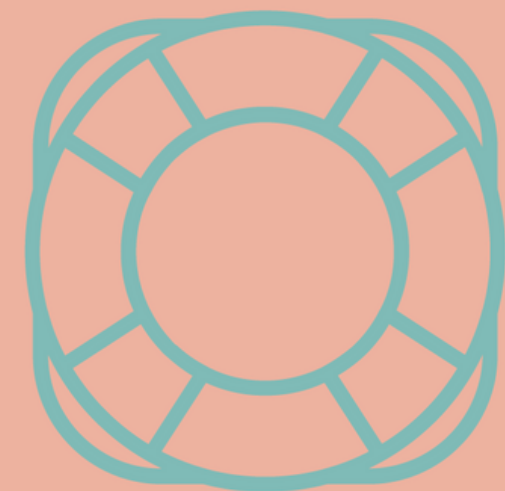
Center for Evidence-Based Mentoring, University of Massachusetts Boston, Boston, MA, United States

- 22 of 45 (48%) effect sizes showed supported interventions had stronger effects compared to unsupported interventions (only 4 showed stronger effects of unsupported interventions)
- No clear pattern emerged by outcome domain (e.g., depression vs. PTSD)
- Mixed findings for anxiety
- No clear differences between highly-trained (e.g., clinicians) and paraprofessionals

# In-app evaluation



# Promising initial results

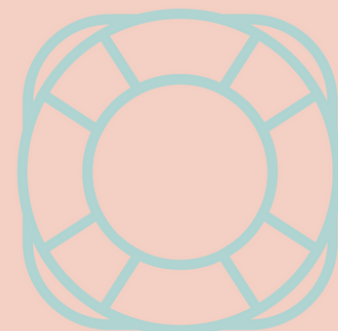


# MentorPRO + Peer Mentor Program

- 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).

**92%**

Incoming students used MentorPRO with less than 5% attrition.

**87%**

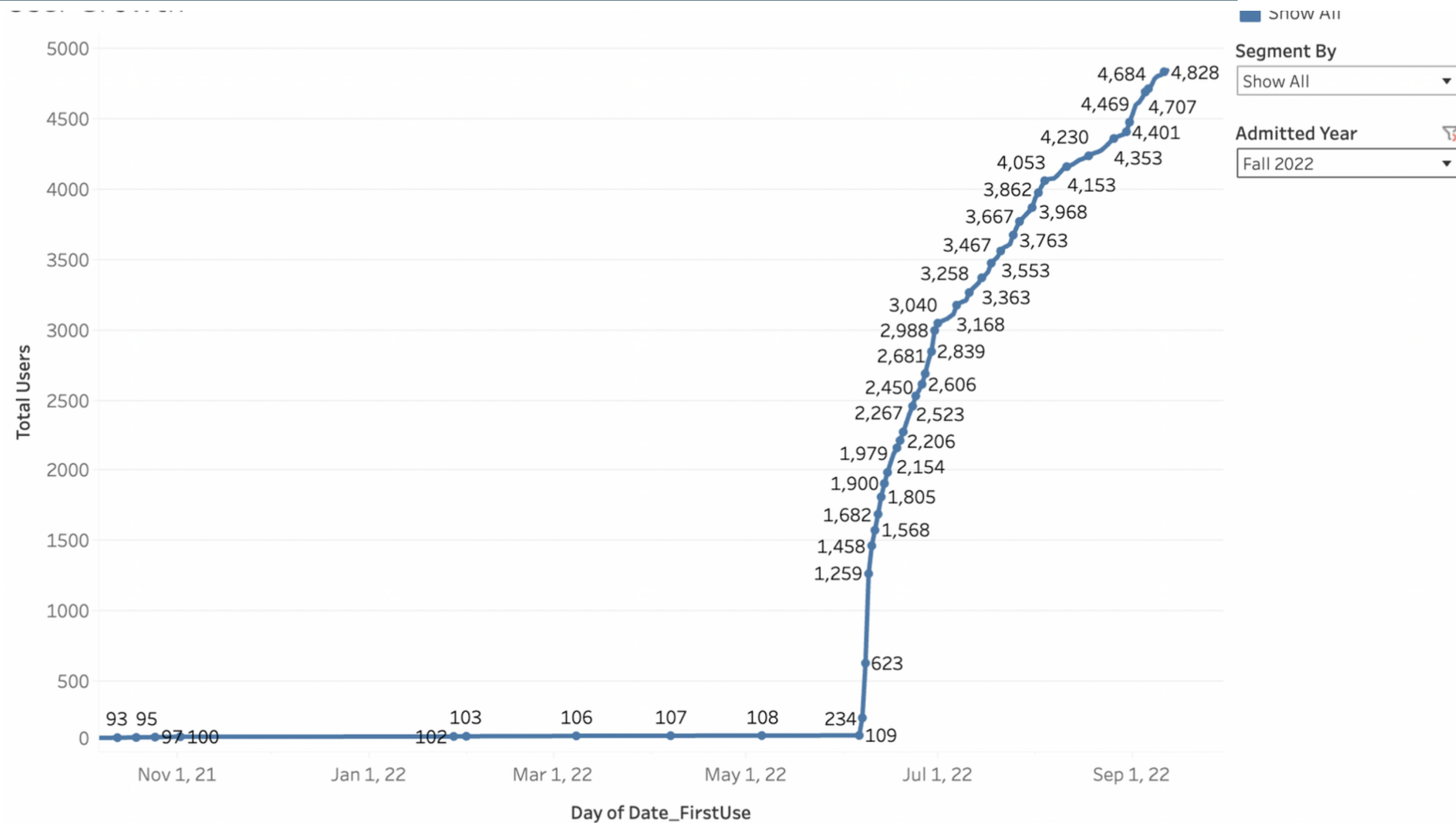
Found the resources they were referred to helpful.

**97%**

Students have used the check-n feature.

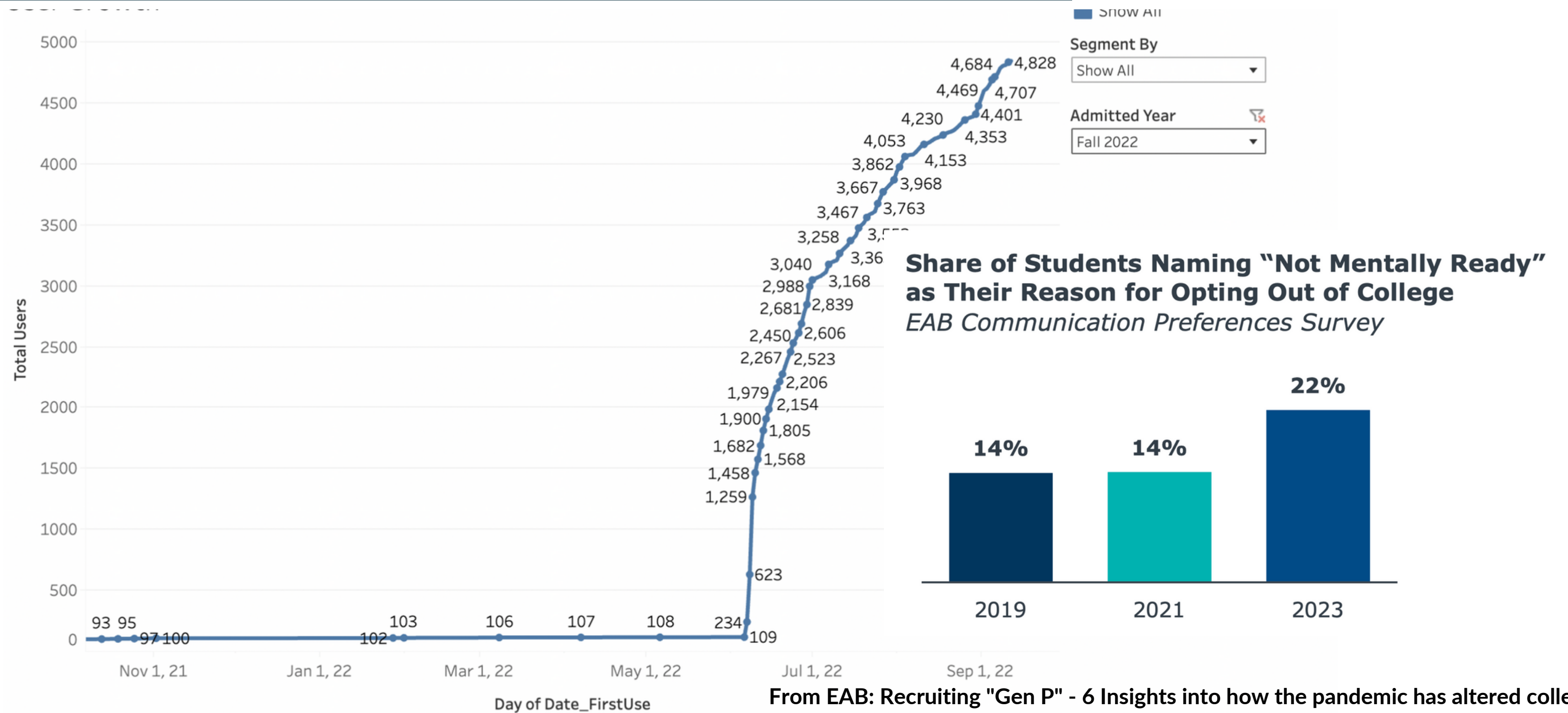
# The transition to college

Summer 2022



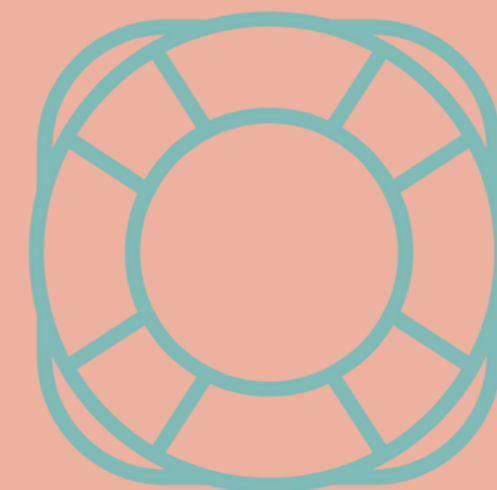
# The transition to college

Summer 2022

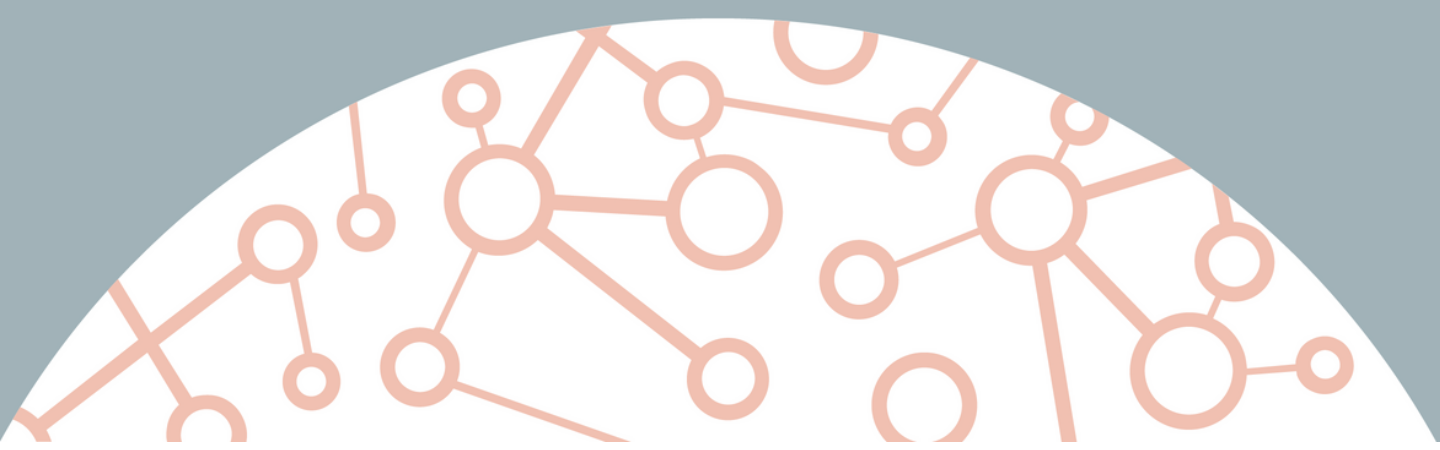


From EAB: Recruiting "Gen P" - 6 Insights into how the pandemic has altered college search behavior from EAB's survey of 20,000+ students

# Present study







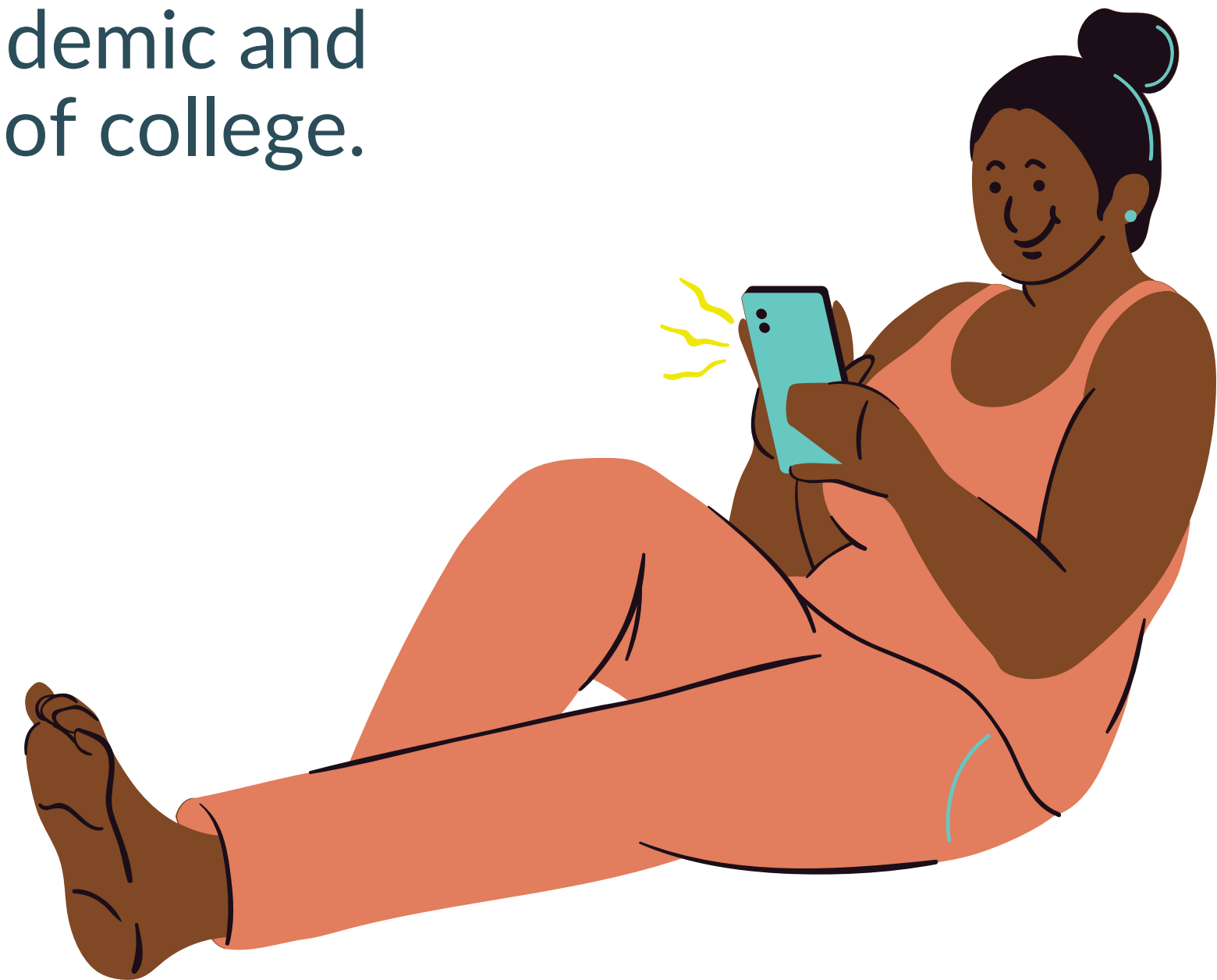
# Hypotheses

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.

## *Engagement:*

Number of times used Check-In

Number of messages to peer mentor





## 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:

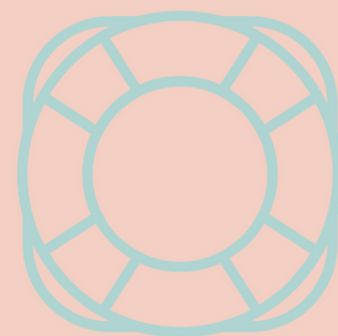
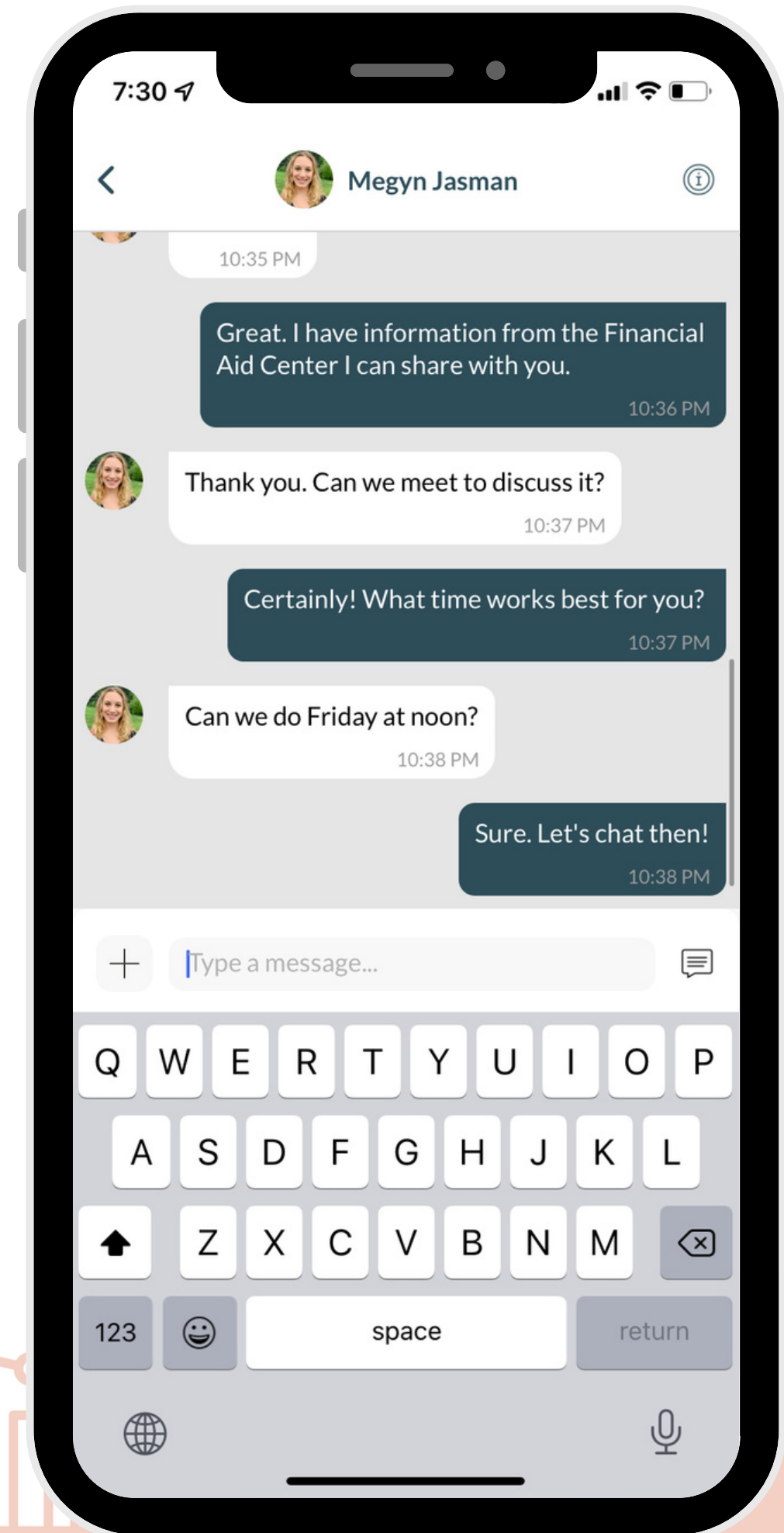
- Planning** (calendar icon): e.g., registration, majors, degree progress, class schedules, transfers. Slider is positioned near "Going Well".
- Well-being** (head with heart icon): e.g., stress, self-care, distress, loneliness, homesickness. Slider is positioned near "Going Well".
- Health** (heart 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



# Methods



- 2022-2023 academic year (2nd year of implementation)
- 2,572 students who opted to use MentorPRO with peer mentor in their first year (53% of full first-year cohort)





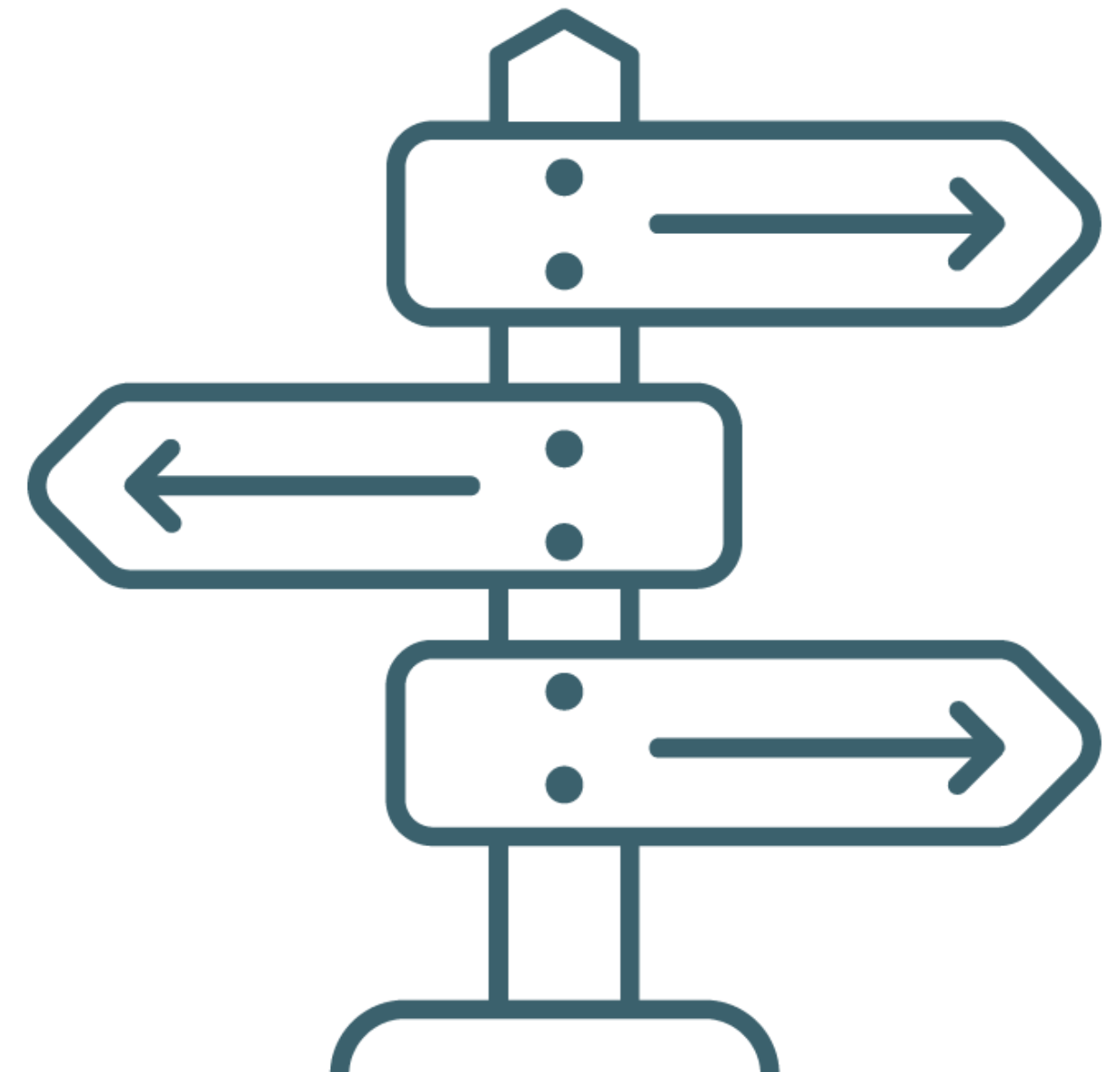


# Methods



## Predictors:

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



# Methods



## Academic outcomes

- Number of course withdrawals
- End-of-year GPA

**Propensity score  
matching**

## Wellbeing outcomes

- Sense of belonging
  - Single item from the Psychological Sense of School Membership Scale (Goodenow, 1993)
  - “I feel part of the [university] community”
  - Strongly disagree (1) to strongly agree (5)
- 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]”
  - Strongly disagree (1) to strongly agree (5)
- Overall wellbeing
  - Single-item wellbeing measure (adapted from Cheung & Lucas, 2014)
  - “All things considered, I am satisfied with my life as a whole”
  - Strongly disagree (1) to strongly agree (5)

# Propensity Score Matching



Groups were matched 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



# Results

## Is **number of Check-Ins** related to academic outcomes?

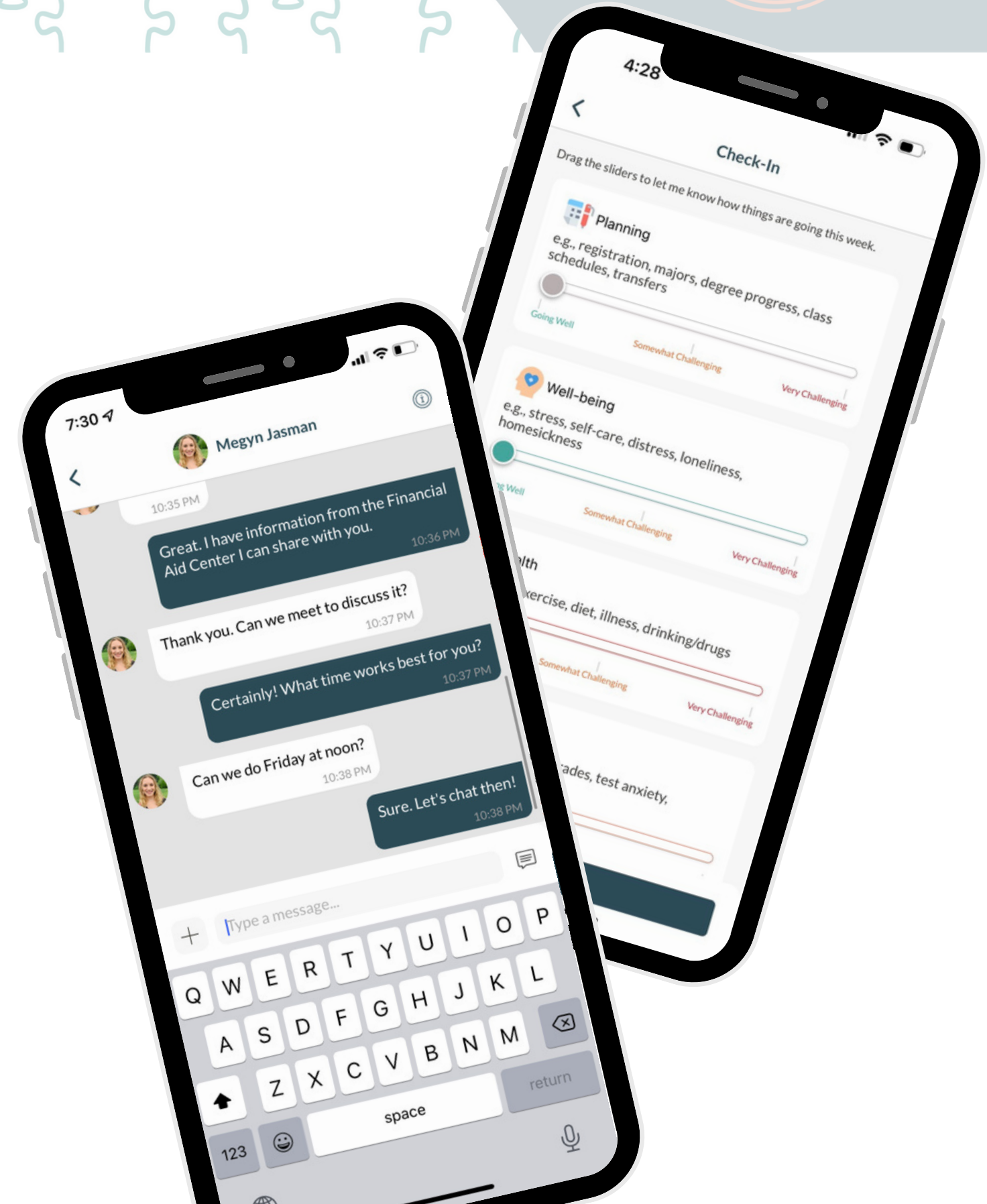
Matched samples:  $n = 958$  in each group ( $N = 1,916$ )

- ~18-years-old
- 64% female
- 22% under-represented minority
- 19% first-generation
- 30% low HS GPA

## Is **number of messages** related to academic outcomes?

Matched samples:  $n = 1,100$  in each group ( $N = 2,200$ )





- ~18-years-old
- 63% female
- 21% under-represented minority
- 17% first-generation
- 28% low HS GPA








# Results



	Withdrawal	GPA
Number of Check-Ins		
Number of Messages		

-   $p < .01$
-   $p < .05$
-   $p = .05$

# Wellbeing Outcomes



Wellbeing measured in-app

Students who used MentorPRO 3+ months,  $n = 798$

Linear regression analyses:




- Engagement predicting follow-up wellbeing outcomes



# Results



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

-   $p < .01$
-   $p < .05$
-   $p = .05$

# Results



Check-In frequency was significantly associated with:

- *higher* first-year GPA,
- *stronger* sense of belonging to the university,
- *greater* academic self-efficacy,
- and *greater* satisfaction with life overall.

Messaging peer mentor was significantly associated with:

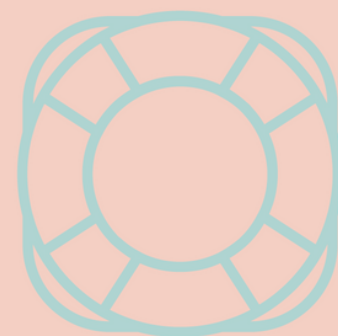
- *greater* likelihood of class withdrawal,
- *higher* first-year GPA,
- *stronger* sense of belonging to the university,
- *greater* academic self-efficacy,
- and *greater* satisfaction with life overall.





# Future Directions

- Continued feasibility/efficacy studies
- Workforce development for mentors and mentees
- AI functionalities
- Additional partnerships!

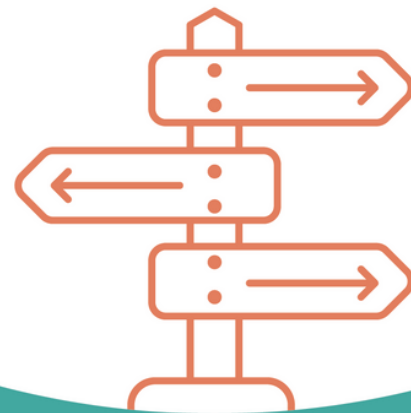


# Our partners

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

Peer mentor





*Please remember to submit  
your evaluation on  
Guidebook!*



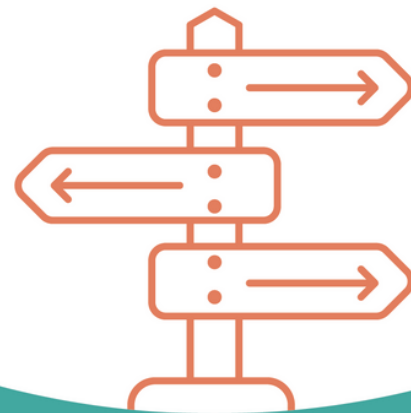
**#SIT23**



**NATIONAL RESOURCE CENTER**

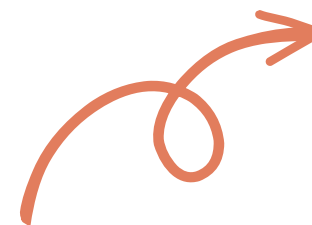
FIRST-YEAR EXPERIENCE® AND STUDENTS IN TRANSITION  
UNIVERSITY OF SOUTH CAROLINA

**[www.sc.edu/fye](http://www.sc.edu/fye)**



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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



