

# DiscoverU

Katie Hendel (Arlinghaus)

NOPREN School Wellness Working Group

Tuesday, April 9, 2024

[karlingh@umn.edu](mailto:karlingh@umn.edu)



UNIVERSITY OF MINNESOTA

Driven to Discover®

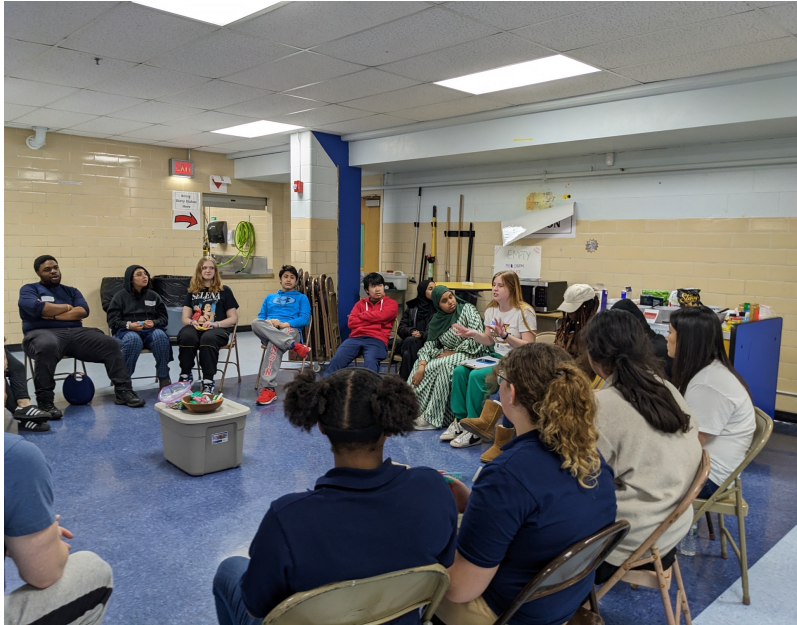
## Funding disclosure

The research presented today was supported by Cooperative Agreement (U48DP006414; Sieving, PI) funded by the Centers for Disease Control and Prevention, Prevention Research Center Program

The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention

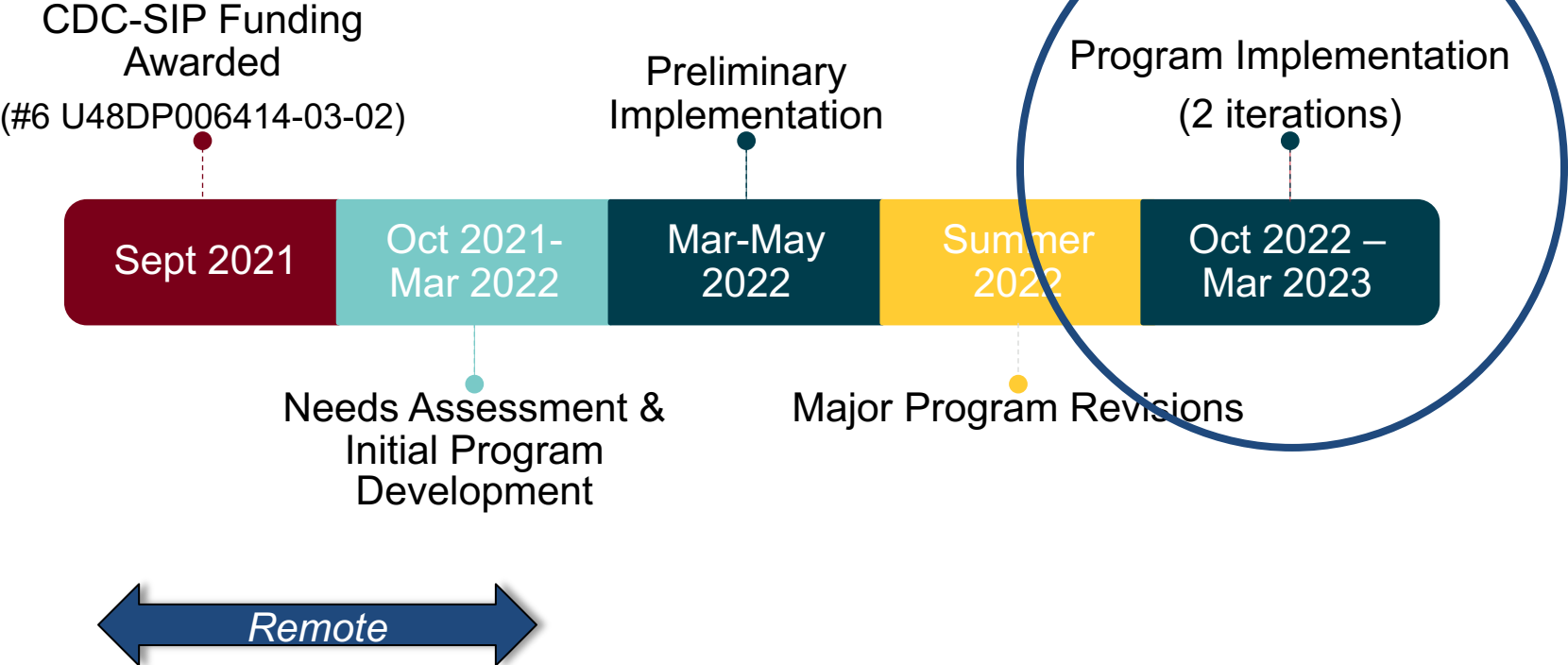


# Goals today

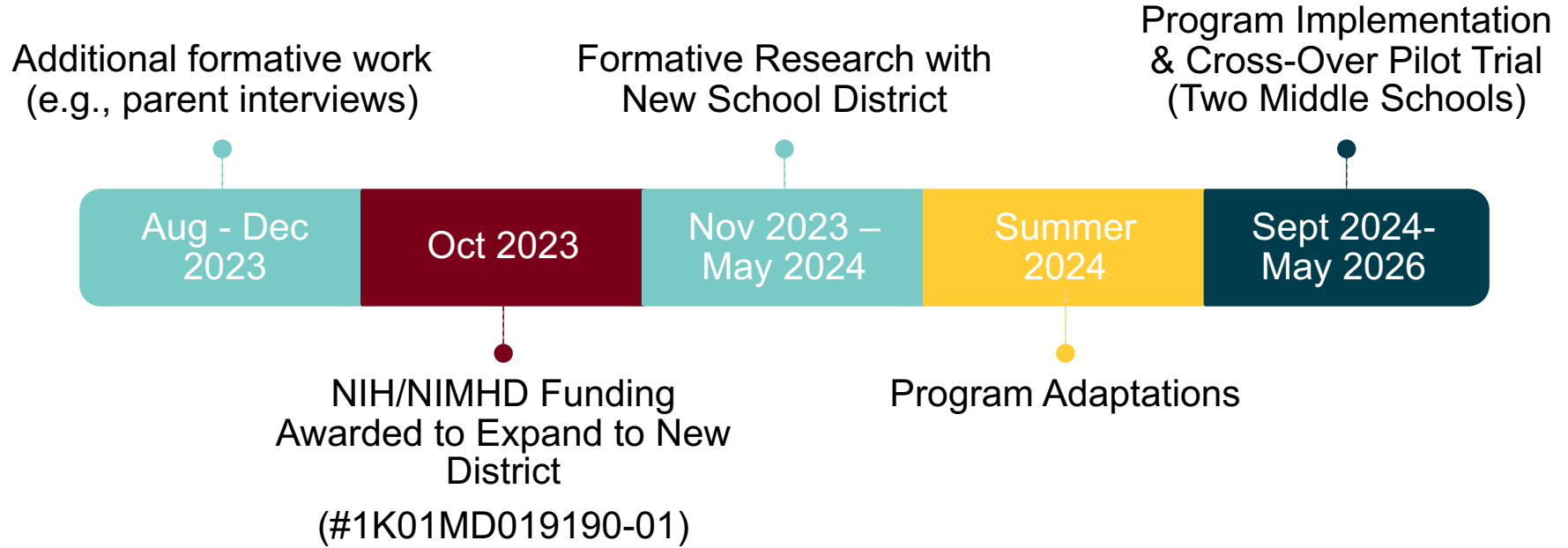


1. DiscoverU Overview
2. Share proof-of-concept findings
3. Discuss challenges for moving forward

# Demonstration Project Timeline

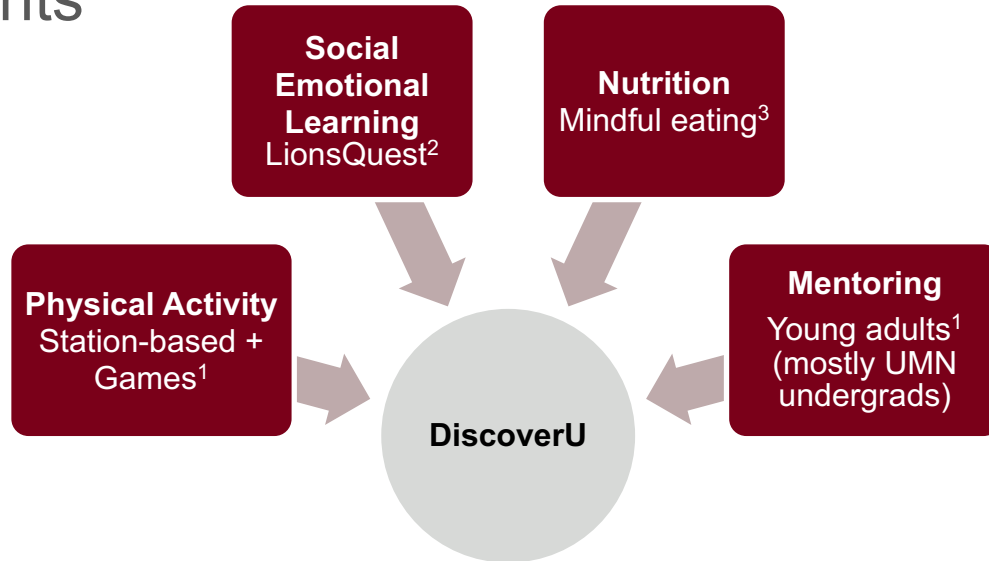


# Spoiler Alert: *Peeking Ahead*



# What is DiscoverU?

- Health-focused mentoring afterschool program for adolescents



<sup>1</sup>Arlinghaus et al, *J Sch Health*, 2021; Arlinghaus et al, *Int J Obes*, 2021; <sup>2</sup>Eisen, Zellman, & Murray, *Addictive Behaviors*, 2003; <sup>3</sup>Kristeller & Wolever, *Eat Disord*, 2011



# Continuum of Community Engaged Research

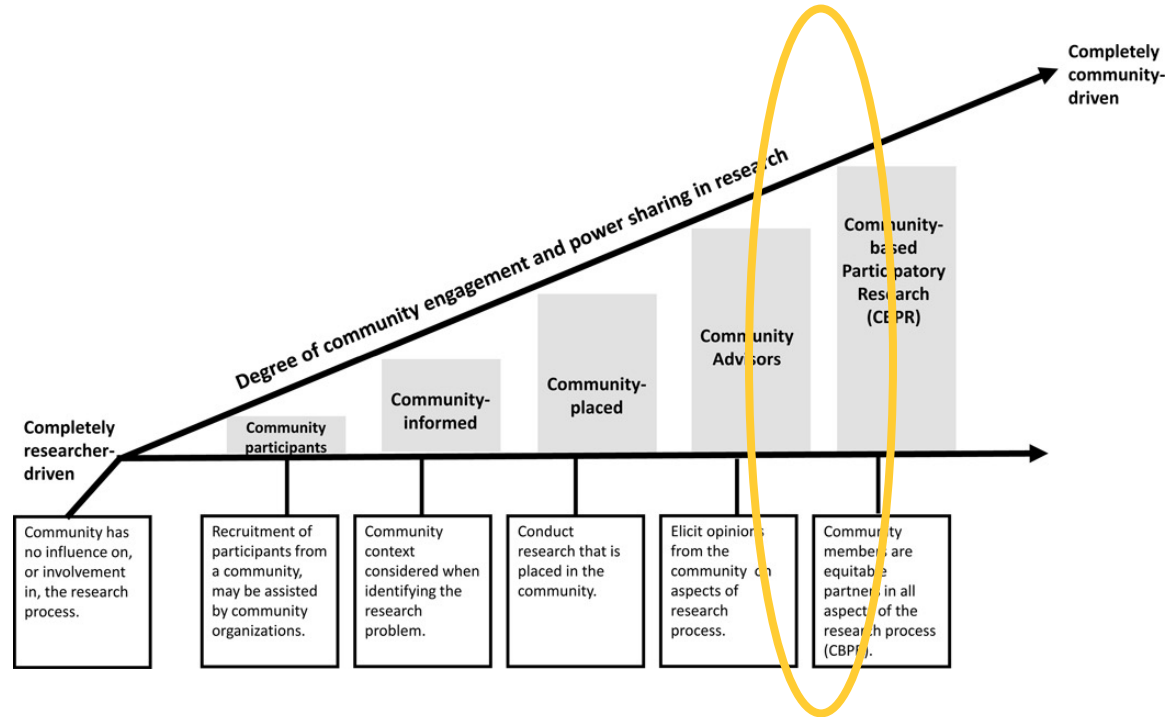


Figure: Marrone NL et al., *Ear and Hearing*. 2022





# Study design



- Community-engaged
- Demonstration project, one group feasibility, proof-of-concept trial
- Middle and high school in low resource community
- 21CCLC supported afterschool program
- Students self-selected into afterschool class
  - Other options: robotics, pottery, mock trial, gaming, weightlifting...





# Intervention Schedule

<b>Pre-program</b>	<b>Wks 1-8</b>					<b>Wks 9-10</b>
	<i><b>Mon</b></i>	<i><b>Tues</b></i>	<i><b>Wed</b></i>	<i><b>Thurs</b></i>	<i><b>Fri</b></i>	
Mentor Training (8 hrs)			Program Day A	Program Day B	Implementation Meeting	Post-Program Data Collection
Program Enrollment					Mentor Booster Training (1 hr)	



# Integration: SEL + PA + Nutrition

SEL Area	Focal Points	Example Exercises/Activities
<b>Self-Awareness</b>	<ul style="list-style-type: none"> <li>• Identify values and strengths</li> <li>• Recognize emotions &amp; their relation to eating/PA</li> <li>• Notice how PA &amp; eating make you feel</li> <li>• Recognize internal vs. external cues to eat</li> <li>• Practice eating slowly</li> </ul>	<ul style="list-style-type: none"> <li>• Strengths relay races</li> <li>• Hunger scale</li> <li>• Body check-ins during and after physical activity</li> <li>• Mindful eating meditations</li> <li>• Emotions meter</li> </ul>
<b>Self-Management</b>	<ul style="list-style-type: none"> <li>• Manage emotions appropriately</li> <li>• Use breathing techniques and various types of physical activity to release emotions and find a calm state</li> <li>• Set goals &amp; create action plan to achieve them</li> </ul>	<ul style="list-style-type: none"> <li>• Breathing exercises</li> <li>• Yoga</li> <li>• Kickboxing</li> <li>• PA &amp; nutrition goal setting discussions</li> </ul>
<b>Social Awareness</b>	<ul style="list-style-type: none"> <li>• Identify people who can support you to be healthy/adopt health behaviors</li> <li>• Identify how social and environmental factors can influence eating and PA choices</li> </ul>	<ul style="list-style-type: none"> <li>• Role model identification</li> <li>• Food advertising stations</li> </ul>
<b>Relationship Skills</b>	<ul style="list-style-type: none"> <li>• Identify social aspects of PA &amp; eating</li> <li>• Improve cooperative behaviors and listening skills to make games more fun and manage conflict</li> <li>• Resist and respond to negative social pressures</li> </ul>	<ul style="list-style-type: none"> <li>• Partner workouts</li> <li>• Peer pressure scenarios</li> <li>• Affirmation sign race</li> <li>• Silent handball</li> <li>• Conflict cone ball</li> </ul>
<b>Responsible Decision Making</b>	<ul style="list-style-type: none"> <li>• Use identified values and social supports to make healthy decisions</li> <li>• Know positive options for common challenging scenarios</li> <li>• Anticipate and evaluate the consequences of eating and physical activity choices</li> </ul>	<ul style="list-style-type: none"> <li>• Choose your own adventure problem solving skits</li> <li>• Walk and shares</li> <li>• Anytime anywhere workouts</li> </ul>



# DiscoverU Session Structure

Time (minutes)	Activity	Description & Rationale
15-20	Welcome Game & Grounding	Help to transition into afterschool from the rigid school day & set positive environment Rapport-building activities with mentors Mindfulness practices (e.g., breathing exercises, stretching, gratitude, positive affirmations)
15-20	Mindful Eating & Snack	Mentors model eating healthy snack Practice mindful eating practices
15-30	Explicit SEL topic	College mentor participation increases likelihood students will engage in material Provides focused time for explicit, sequenced SEL programming & discussion Some activities integrated into PA (relays to identify strengths), some are less active (e.g., discussions)
30-45	Physical Activity	Opportunity to learn & practice PA; mentors model PA, provide encouragement (competence/self-efficacy) Choices with varying levels for different skill abilities and variety help support autonomy development. Stations and teams create small groups to promote relationship development (Relatedness) Opportunities for active application of SEL topics. (e.g. interpersonal development with “copycat” exercises in which one student does a movement and another mirrors that movement; emotion regulation & problem solving to work through naturally arising conflicts like whether a ball is fair play or out).
10-15	Reflection & Goal Setting	Journaling provides opportunity to explicitly reflect on topics of day Goal setting skills taught & practiced (autonomy); mentors hold adolescents accountable for goals & help troubleshoot barriers (emotional support, self-efficacy) Token economy system for goals and for demonstrating social, emotional, and physical health behaviors taught in DiscoverU.
<5	Closing	Help transition students to the rest of their day; mindfulness practices (gratitude, positive affirmations)



# Considerations for the start of the program

After school teens are:

- “Squirrely”
- On their phones
- Hungry
- Tired
- Bringing whatever happened that day into the program
- On their own time schedule



# Considerations for program activities

- Still “squirrely,” want to chill and have fun
- Cannot feel like school
  - Explicit, short, and repeated
  - Visuals, hands-on application, “show then tell,” no lectures or worksheets
- Needs to be flexible to meet needs of students that day



# Considerations for program ending

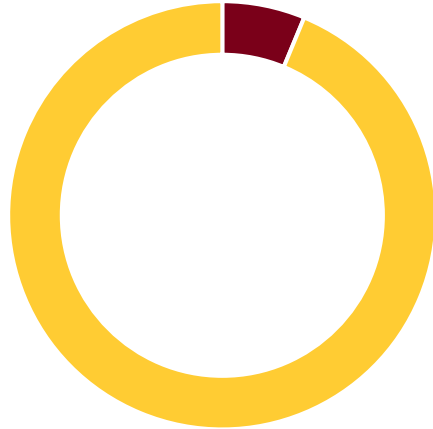
- Still squirrels that want to chill and have fun, but now also anxious about transportation home
- With our “show then tell” approach, we really emphasized reflection and debriefs
  - Different ways to do this (e.g., journaling vs. discussion)
- Reminders and *genuine* gratitude





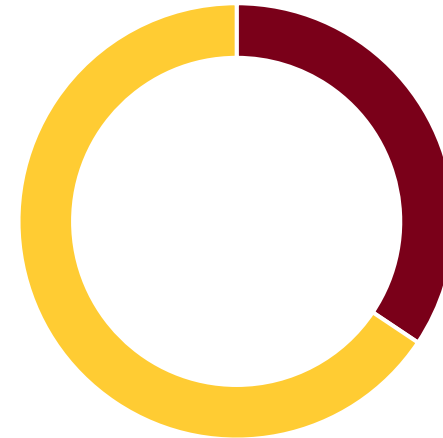
# Who joined DiscoverU? 32 students

Free/Reduced School Meal Eligibility



■ Not eligible ■ Free/reduced

Grade

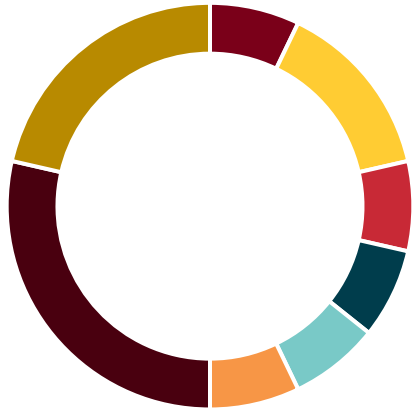


■ Middle (6-8) ■ High (9-12)



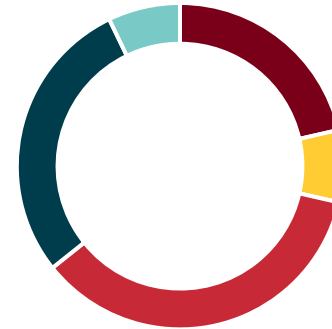
# Who joined DiscoverU? 14 mentors

Major



- English
- Family social science
- Nursing
- Psychology
- Management
- Human physiology
- Neuroscience
- Undeclared

Year in College

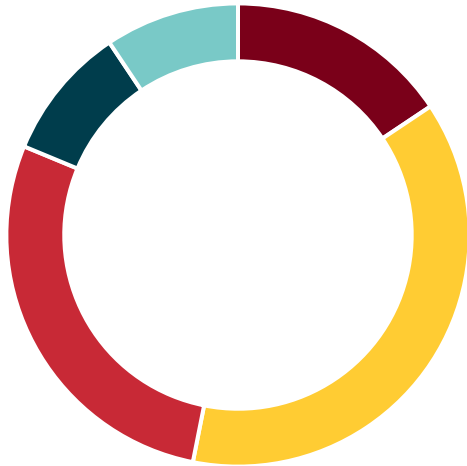


- First
- Second
- Third
- Fourth
- Graduated



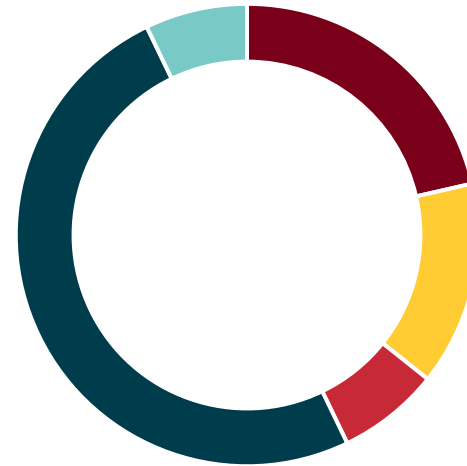
# Who joined DiscoverU?

Student Ethnicity



- Asian
- Black
- Hispanic/Latino
- White
- Two or more races

Mentor Ethnicity



- Asian
- Black
- Hispanic/Latino
- White
- Two or more races



# Who joined DiscoverU?

Student Sex



■ Boys ■ Girls

Mentor Sex

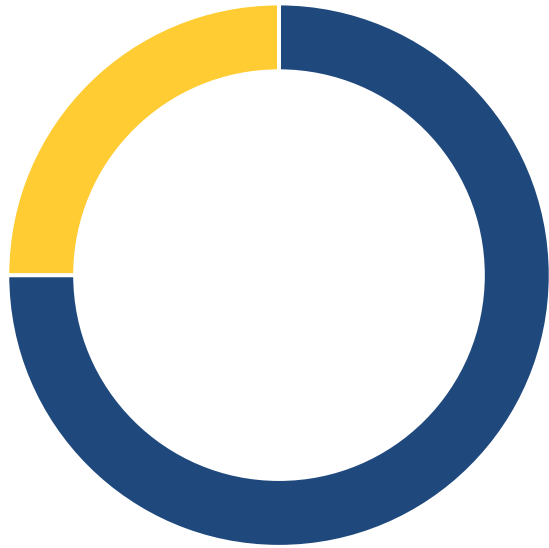


■ Males ■ Females



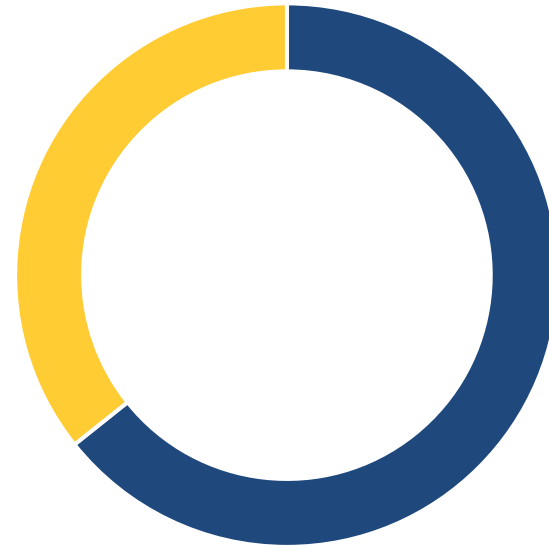
# Who joined DiscoverU?

Student Depression Symptoms



■ Negative Screen ■ Positive Screen

Mentor Depression Symptoms

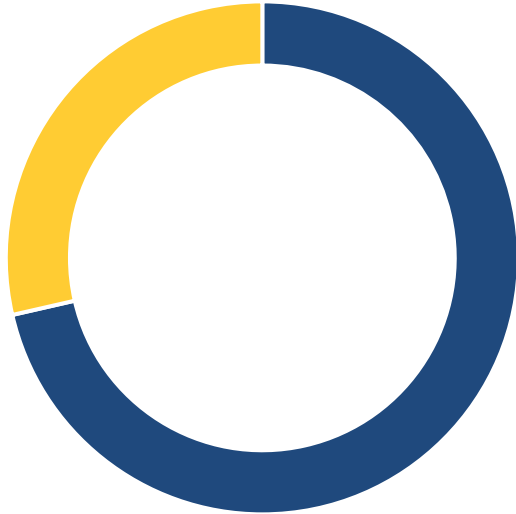


■ Negative Screen ■ Positive Screen



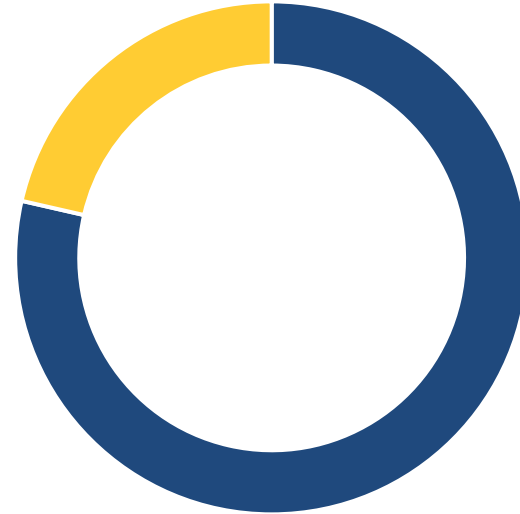
# Who joined DiscoverU?

Student Anxiety Symptoms



■ Negative Screen ■ Positive Screen

Mentor Anxiety Symptoms



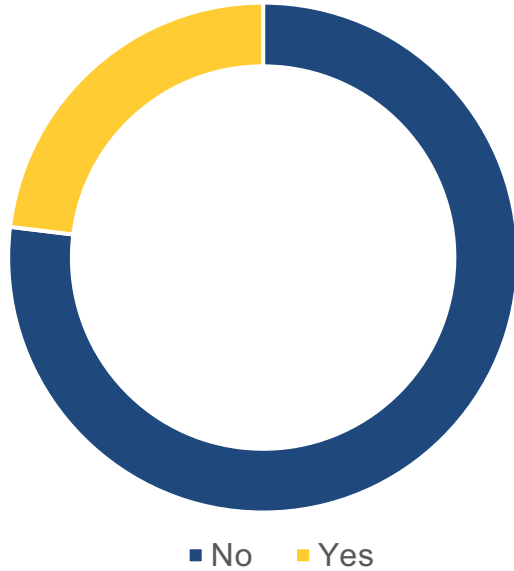
■ Negative Screen ■ Positive Screen



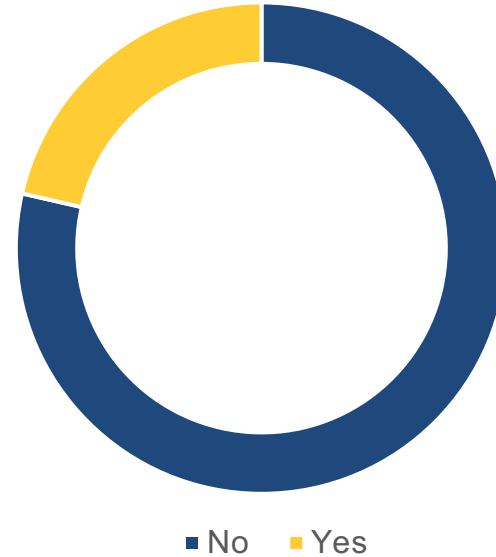


# Who joined DiscoverU?

Student Physical Health Condition



Mentor Physical Health Condition



# DiscoverU was well-liked by students

“I’m the oldest so I don’t have an older sibling or someone to talk to. So it’s kinda necessary to talk to them [the mentors], like [about] the things you don’t wanna tell your parents but you still need someone to talk to. And since they are like older, and since we are getting older they can like teach us things...The dos and the dont’s.” -Student

“They [mentors] made me feel good about myself. I feel like whenever I see them, it seems like positive vibes.” – Student

“They [Mentors] make me feel very happy. They're always positive and kind. They support me. They give me confidence too; tell you can do this, you got this” – Student

“This was a 10/10, will try this at home. The people here are nice. I feel like I belong here. Mindful eating was a first time for me. I think it’s good for me cause there will be lots of things on my mind.” – Student



# DiscoverU was well-liked by mentors

“It was so refreshing, just to go to DiscoverU and hang out with these kids and talk to them and hear about what’s going on in their lives. So I always looked forward to that.” – Mentor

“I’ve learned a lot through [DiscoverU], especially about activities, a lot of like, the lesson plans. So, I really enjoy that too. And taking that back into my personal life.” – Mentor

“I loved it so much that I never really viewed it as a job, and then it just kind of made me realize that I do wanna work with kids in like my profession.” -Mentor

“I kind of shifted my schedule around to be here both days, just because I enjoyed it so much. I realized that we were doing certain activities on one day...and I didn’t want to miss out. So, I made some adjustments to be here both days and get the full experience.” -Mentor



# DiscoverU was well-liked by school staff

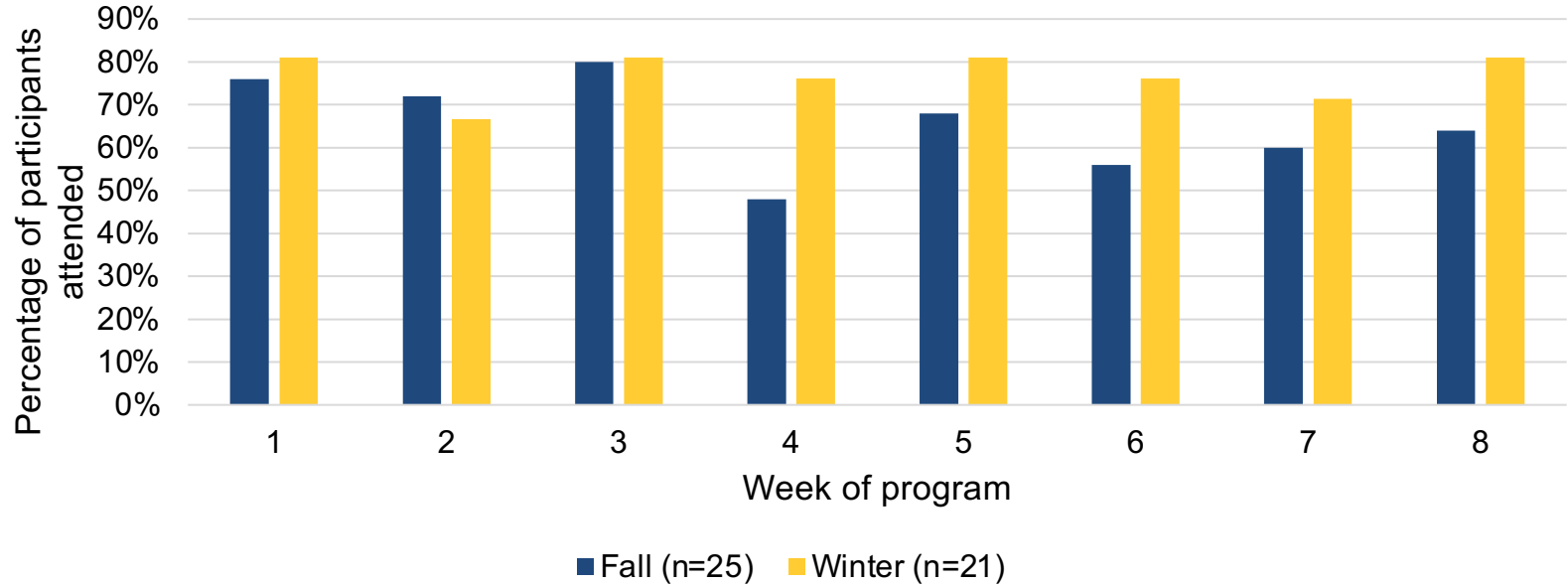
“[DiscoverU] is like relationships on steroids...anything that we could do to help people to feel connected. This is good.” -**School staff**

“The mentors you guys had were really incredible...they were all around really good, even with that type of [adolescent] personality that usually is pretty quiet.” -**School Staff**

“Especially with some of our students, and coming out of the pandemic, and just like the way it is now, I feel like... we're serving very much of a need for students.” -**School Staff**


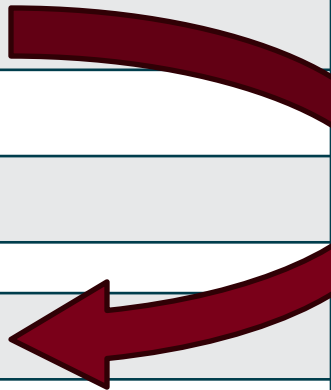


# Attendance improved over time



# But attendance was still inconsistent

Implementation Period	Number of Weeks Attended Program	Percentage of Students Attending
Fall 2022 (n=25)	1-2	16%
	3-6	40%
	7-8	44%
Winter 2023 (n=21)	1-2	0%
	3-6	48%
	7-8	52%





# Reasons for inconsistent attendance

- Characteristic of afterschool programming
  - Not a team-based thing
  - Some competing activities
  - Homework
  - Commitments at home
  - Often out of the student's control
- Mentally exhausted after the school day

“If I'm not coming to DiscoverU, I go home and help babysit... do household chores...groceries for my parents. Sometimes, I'm **just so mentally tired.... I just have to go home and reflect on what caused it and how I can fix it.** And sometimes we have a crisis in the family when like something bad happens.”

–DiscoverU student

“A lot of times we'll have kids who will pop in...they **want to let us know that they can't make it today**, but they wanted to...they would be like, 'I'm sorry I can't make it, I'm behind on my **math test** but I would love to be here, might be able to come later.’” -Facilitator



# Student outcomes

Outcome Metrics	Pre-Program Mean (SD)	Post-Program Mean (SD)
<b><u>Physical Activity</u></b>		
PA days in a week	<b>2.95 (1.94)</b>	<b>4.00 (1.87)</b>
PA self-efficacy	3.16 (0.80)	3.35 (0.95)
<b><u>Mindful Eating</u></b>		
Mindless eating	2.83 (0.56)	2.57 (0.55)
Eating awareness	3.80 (0.54)	3.60 (0.81)

“My team and the other team was a sweat. I've never ran like this before. I felt burn in my chest. But in the end I very much enjoyed it! Then we also did some breathing to calm ourselves down.” –Student

“One thing I do is mindful eating, so like sometimes...when I'm eating something I realize that I'm just like not even paying attention. Like when I'm watching a movie or something. And I think back to Discover U and be like, let me like breathe or like take a moment before I continue eating because I don't want to be too full later.” - Student



# Student outcomes

**“I feel like I do “feel, think, do” a lot more than I used to.** When I first started DiscoverU, we did talk about it. I brought stories about the things I did, which were not okay, and I could have done better for how I reacted. And what I learned with “feel, think, do” is **I've been more in control of my emotions**, especially when there's conflict. Instead of me bursting about trying to find the simple way out...” –Student

“My problem solving skills...friend A was angry at friend B because friend B said some questionable things to her, I was obviously on friend A's side because friend B was wrong. **I helped friend A calm down** and eventually, friend A regained friend B.” - Student

Outcome Metrics	Pre-Program Mean (SD)	Post-Program Mean (SD)
<b><u>Social-Emotional Skills &amp; Self-Determination</u></b>		
Cooperation with Peers	<b>5.09 (1.38)</b>	<b>5.74 (1.25)</b>
Self-Determination Capacity	14.0 (4.31)	14.7 (3.92)
Opportunities for Self-Determined Behaviors	15.0 (4.98)	15.5 (5.16)
Self-Realization	3.51 (0.71)	3.62 (0.73)



# Student outcomes



Metric	% Rated Very Much
<b><u>Belonging</u></b>	
I feel comfortable at DiscoverU.	76.9%
I am a part of DiscoverU.	84.6%
I am committed to DiscoverU.	69.2%
I am supported at DiscoverU.	72.0%
I am accepted at DiscoverU.	84.6%
<b><u>Group cohesion</u></b>	
People in DiscoverU care about each other.	76.9%
People in DiscoverU make each other feel good.	80.0%
When someone says something, it stays at DiscoverU (nobody will repeat it outside the program).	69.2%
If people in DiscoverU are really mad or upset about something they can talk about it at DiscoverU.	57.7%



# Mentor outcomes

## Broadened perspectives

*"I look forward to speaking to different students who come from different backgrounds and talk about same kind of things or differences. It was definitely a reminder that I need to get out there a little more."*

## Built interpersonal skills and mentoring skills

*"I feel like I've been able to apply what I've learned to my everyday conversations and it's helped me grow my relationships."*

## Helped with professional development

*"I applied for a [resident hall/community advisor] position in the dorms... There were 400 people, applying for 90 positions and because of my experience with DiscoverU and learning how to create a sense of belonging with students, I got the job!"*



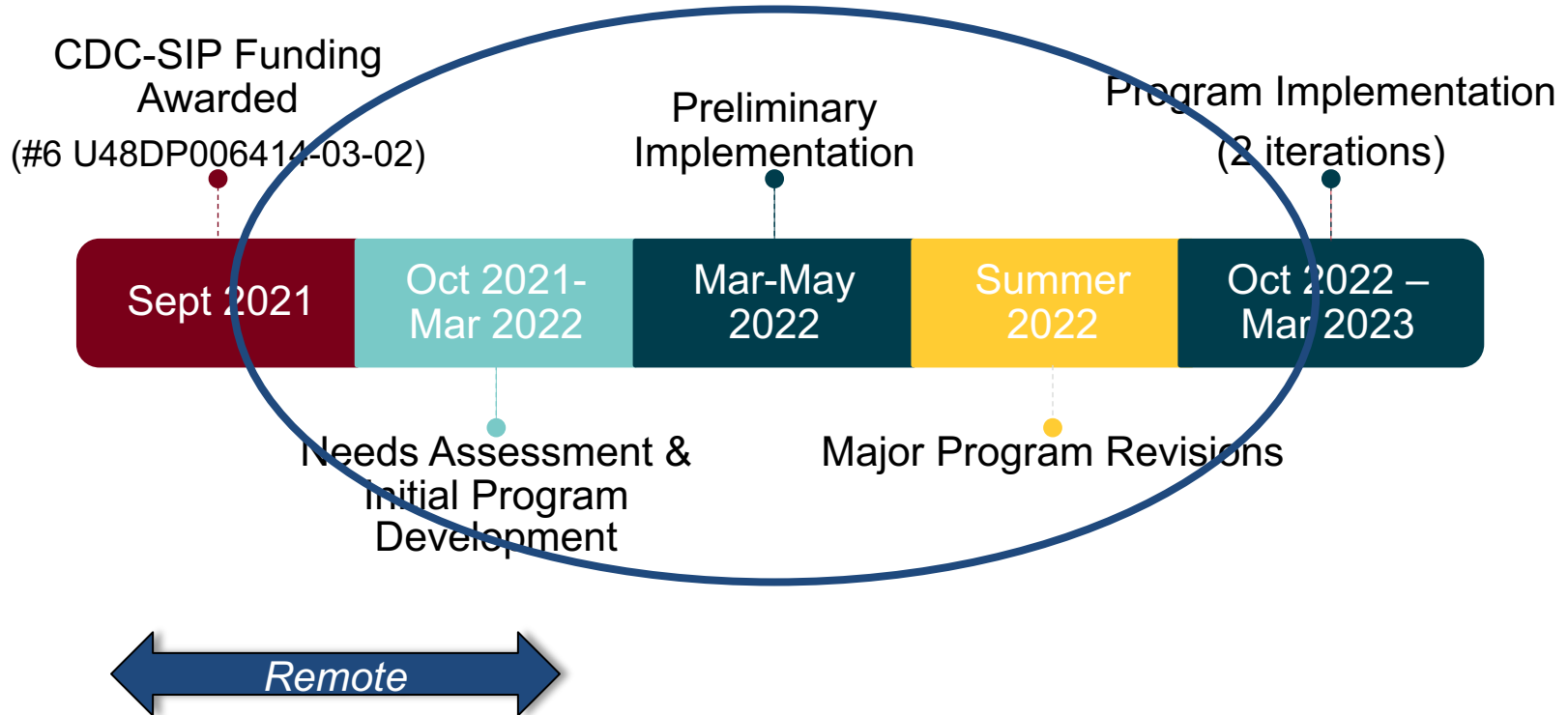


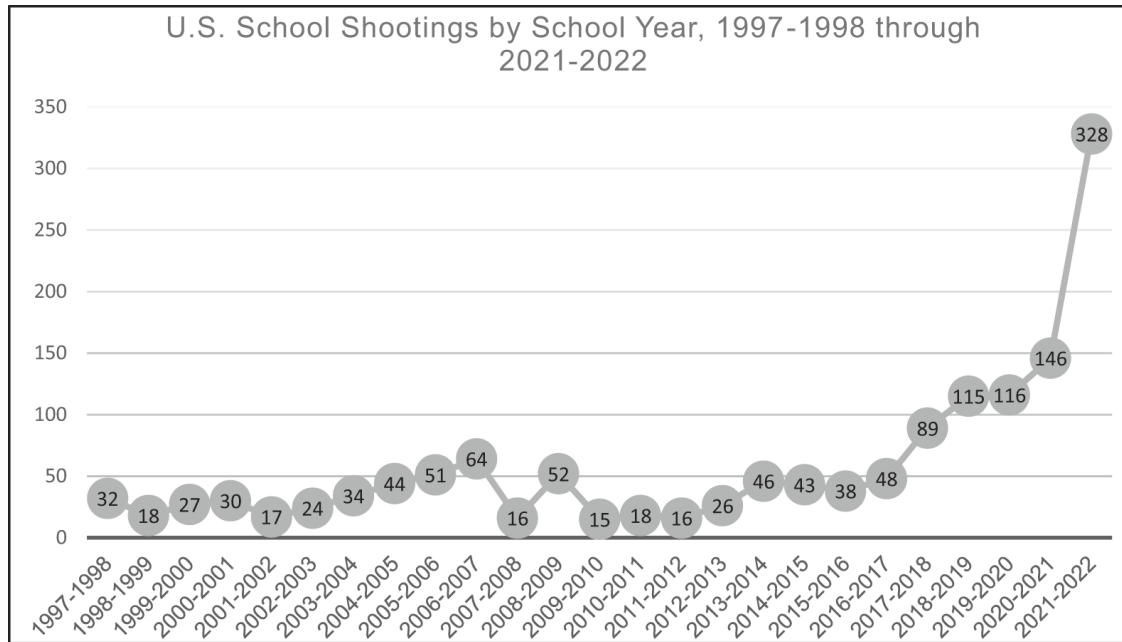
# Mentor outcomes

	Pre Fall 2022 Mean (SD)	Post Fall 2022 Mean (SD)	Post Winter 2023 Mean (SD)	p-value	Effect size	Confidence Interval
<b>Expectations, Skills, and Attitudes</b>						
Expectations about mentoring role	3.72 (0.38)	3.81 (0.55)	4.34 (0.39)	<b>0.0005</b>	0.68	0.60-0.87
Self-efficacy for mentoring	2.17 (0.42)	2.71 (0.42)	2.73 (0.22)	<b>0.001</b>	0.60	0.35-0.88
Skills to get along with youth	2.12 (0.64)	2.67 (0.47)	2.88 (0.17)	<b>0.001</b>	0.64	0.40-0.93
Skills to work with youth	1.89 (0.52)	2.23 (0.54)	2.66 (0.26)	<b>0.0004</b>	0.72	0.55-0.90
Interpersonal problem-solving skills	4.38 (0.32)	4.47 (0.39)	4.65 (0.33)	<b>0.07</b>	0.25	0.05-0.64
Leadership	3.93 (0.56)	3.89 (0.52)	3.89 (0.65)	0.84	0.02	0.002-0.37
Intentional action	4.38 (0.48)	4.46 (0.52)	4.46 (0.45)	0.92	0.01	0.003-0.36
Civic attitudes	4.32 (0.43)	4.59 (0.49)	4.68 (0.32)	<b>0.02</b>	0.34	0.12-0.71
<b>Health Behaviors and Mental Health</b>						
Days/week physically active	3.00 (1.79)	3.00 (0.57)	3.82 (1.99)	0.13	0.19	0.02-0.64
Self-efficacy to be physically active	3.61 (1.22)	3.18 (1.11)	3.59 (0.91)	0.12	0.20	0.04-0.58
Mindful eating						
Awareness of senses while eating	2.91 (1.28)	2.82 (0.70)	3.13 (0.84)	0.29	0.11	0.01-0.59
Awareness of eating triggers and motives	3.25 (1.20)	3.75 (0.87)	3.91 (0.85)	<b>0.03</b>	0.34	0.05-0.82
Eating in response to cues of fullness	3.04 (1.08)	3.06 (0.73)	3.14 (1.11)	0.85	0.02	0.002-0.35
Focused attention on eating	1.27 (0.88)	1.68 (0.96)	1.68 (0.59)	0.51	0.06	0.01-0.49
GAD-7 symptom score for anxiety	8.91 (5.92)	8.82 (5.06)	9.54 (5.65)	0.90	0.01	0.002-0.40
CES-D 10 symptom score for depression	5.82 (4.33)	5.91 (5.26)	7.09 (5.03)	0.25	0.13	0.02-0.47



# Looping Back: Lessons Learned





### **Rapa et. al., *Pediatrics*. 2024**

US school shootings by school year, 1997–1998 through 2021–2022. School year denoted as July 1–June 30. Source: CHDS School Shooting Safety Compendium. Per the definition provided in the Compendium, a school shooting is defined as brandishing a gun, firing a gun, or a bullet hitting school property for any reason.





# Community Violence

- Is community violence directly or indirectly impacting work you're doing in schools?
- If so, how are you handling it?
- How do you navigate changing priorities with funders?



# Meeting students where they are at



- What is the role of universal or preventative programming when so many students are in need?
- How to be therapeutic without being a therapist?
- What if the “dose” of intervention is not feasible?
- Is something better than nothing afterschool?



# Thank you to our DiscoverU team

## University of Minnesota

Barb McMorris  
Nancy Sherwood  
Annie Bell  
Lenora Goodman  
Hailey Matteson  
Mai Thao  
Abby Rose  
Kali Starin  
Marjorie Colindres  
Mary Onchiri  
Pamela Moore

## Columbia Heights School District

Kristen Stuenkel  
Jodi Gadiant  
Vanessa Lotito-Meier  
Angela Jacobson  
Stephanie Vang  
Emma Bute  
Zach Johnson  
Jake Henderson

