Bridging Tech's Wi-Fi Pilot Program Final Report February 2024

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Acknowledgements

- Thank you to our partners
  - Global Impact Initiative
  - Hamilton Families
  - Next Door Solutions To Domestic Violence
  - Mobile Citizen
- Tony's fellowship sponsors in 2023
  - CoGenerate (formerly Encore.org)
  - Intel Corporation

The Bridging Tech Charitable Fund

Agenda

- Executive Summary
- Our Mission
- Our Challenge
- Our Partners' Needs
- Our Response: Bridging Tech Wi-Fi Pilot Program
- Our Results
- Participant Testimonials
- Next Steps
- Summary
- Q&A

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Executive Summary

- Bridging Tech's Wi-Fi Pilot ensured that participating K-12 students and their families had 30 Wi-Fi hotspots and service through three non-profit partners
  - Participants provided feedback via three online questionnaires over 6 months
- Key feedback from K-12 students and their families:
  - Laptops and hotspots helped the students and their parents to meet their goals
  - **Students felt more confident in school as a result of the devices**
  - Students and parents requested computer literacy training
  - The families provided numerous positive testimonials on the value of the devices
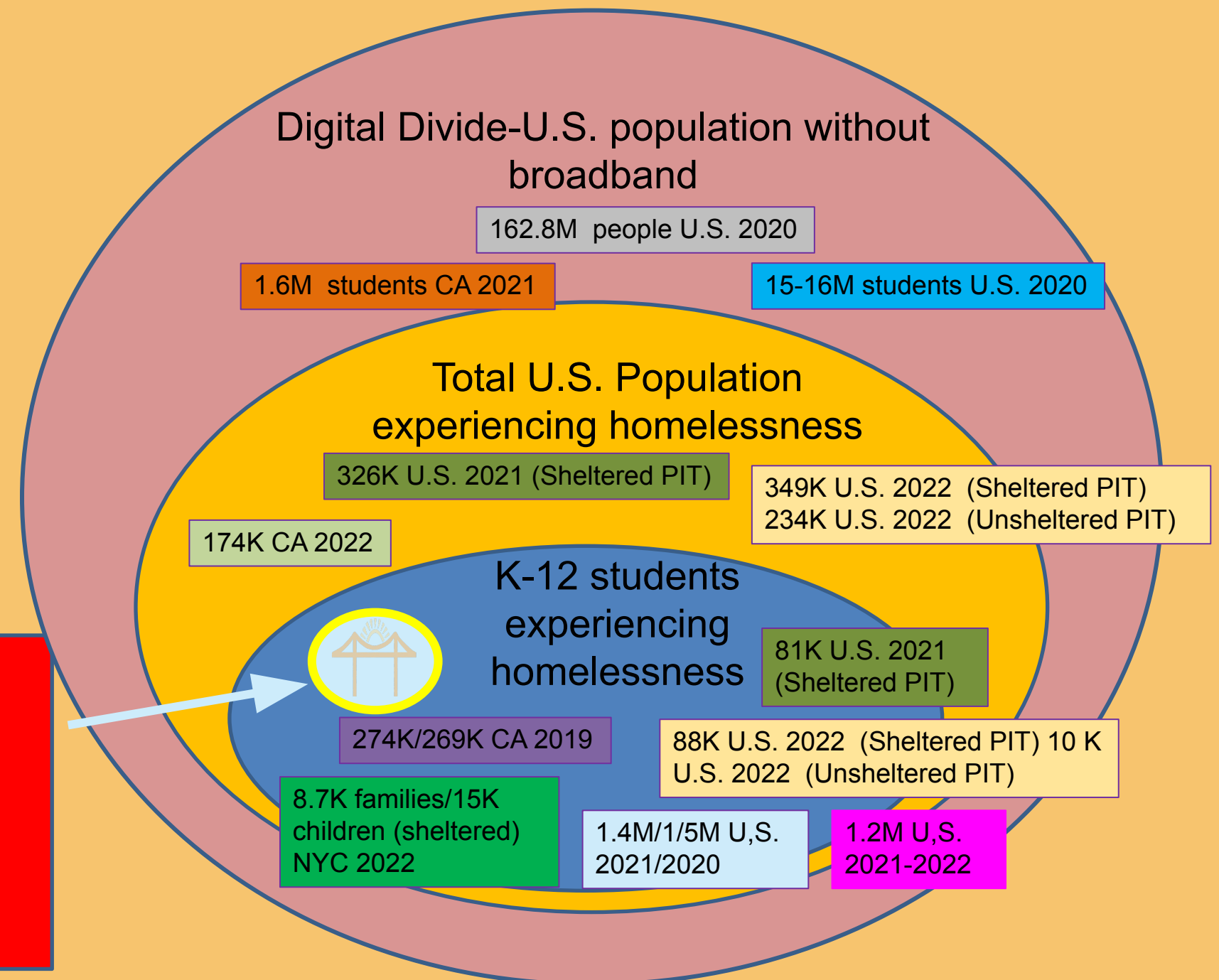
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Our Mission

- **Bridging the digital divide and empowering K-12 students affected by homelessness and housing insecurity in the United States by providing technology and educational opportunities.**

- Our actions focus on:

  - Addressing the tech access gap for students experiencing homelessness/housing insecurity nationwide.

Bridging Tech was founded in 2020 by Margot Bellon and Isabel Wang in response to the impact of the pandemic and the digital divide on students experiencing homelessness

Our Challenge

- The number of K-12 students in the U.S. experiencing housing insecurity <u>and</u> the digital divide is huge
- Our challenge is to close the Digital Divide (lack of devices, connectivity and digital literacy) for these students and their families

https://www.commonsensemedia.org/press-releases/k-12-student-digital-divide-much-larger-than-previously-estimated-and-affects-teachers-too-new-analysis

https://calmatters.org/housing/2022/10/california-homeless-crisis-latinos/

https://www.allconnect.com/blog/americas-broadband-divide-revealed

https://all4ed.org/press_release/california-students-caught-in-the-homework-gap/

https://www.auditor.ca.gov/reports/2019-104/supplemental.html

2021 Annual Homeless Assessment Report (AHAR) to Congress

https://www.schoolhouseconnection.org/wp-content/uploads/2020/11/Lost-in-the-Masked-Shuffle-and-Virtual-Void.pdf

2022 Annual Homeless Assessment Report (AHAR) to Congress

https://citylimits.org/2022/05/25/nyc-installs-wifi-at-every-family-homeless-shelter-following-legal-settlement/

https://nche.ed.gov/wp-content/uploads/2023/12/SY-21-22-EHCY-Data-Summary_FINAL.pdf

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Bridging Tech shelter partners ~6K students (2020-2023)

Digital Divide-U.S. population without broadband

162.8M people U.S. 2020

1.6M students CA 2021

15-16M students U.S. 2020

Total U.S. Population experiencing homelessness

326K U.S. 2021 (Sheltered PIT)

349K U.S. 2022 (Sheltered PIT)
234K U.S. 2022 (Unsheltered PIT)

174K CA 2022

K-12 students experiencing homelessness

81K U.S. 2021 (Sheltered PIT)

274K/269K CA 2019

88K U.S. 2022 (Sheltered PIT) 10 K U.S. 2022 (Unsheltered PIT)

8.7K families/15K children (sheltered) NYC 2022

1.4M/1/5M U,S. 2021/2020

1.2M U,S. 2021-2022

Our Partners are across the U.S.

Partners of all sizes.

Cities:
San Francisco
New York City
Seattle
Boston
Phoenix
Atlanta
Los Angeles
San Diego
Chicago
Austin
San Jose
Sacramento

Seattle
Sacramento
San Francisco
Chicago
Boston
New York City
San Jose
Atlanta
Phoenix
Los Angeles
Austin

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Our Partners' Needs (Feb. 2023)

- Based on our Feb. 2023 partner survey, Bridging Tech's shelter partners
  - Need more computers for their students even with the return to in-person school
  - Mostly have Wi-Fi already installed in the shelters (but can be improved in some cases)
  - Would like online tutoring, job training and digital literacy training (14/15 respondents)
- **Wi-Fi mobile hotspots would fulfill the families' need for Wi-Fi when they transition out of the shelter**
  - **Hotspots were requested by 8/15 responding partners**
- **This led us to launch our Wi-Fi Pilot Program in the summer of 2023**

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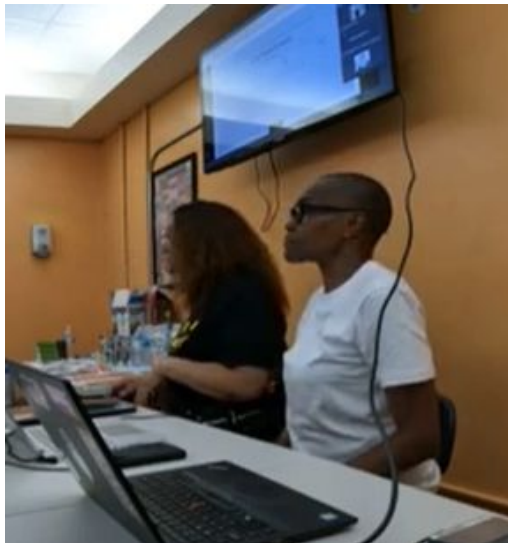# Bridging Tech Wi-Fi Pilot Program (May 2023-February 2024)

- Goals
  - Prototype Bridging Tech's device distribution, Digital Literacy training and support processes to provide a seamless experience for our partners and their K-12 students
  - Receive feedback from participants on the value of BT laptops and Wi-Fi hotspots for meeting their goals
  - Collect and analyze quantitative metrics on benefits of devices for K-12 students and their families

- Collaborate with three Partners
  - Hamilton Families, San Francisco, CA
  - Next Door Solutions To Domestic Violence, San Jose, CA
  - Global Impact Initiative (Gii), Austin, TX

Wi-Fi Pilot Program (May 2023-February 2024)

Franklin T-10 mobile hotspot from Mobile Citizen provides
10Mbits per second downlink and 10Mbits per second uplink based on our real-world testing with T-Mobile data plan.

Code Tenderloin team presented at Career Night at Hamilton Families

Sticker attached to each hotspot

- Hardware
  - Refurbished laptops
  - 30 **Franklin T10** mobile hotspots (10 per partner) from *Mobile Citizen*, each with 1 year of T-Mobile data service ($10/mo for unlimited data for a total of $203 each)
- Digital Literacy Training
  - Training slides in English and Spanish
  - Links to curated online content (in English and Spanish) on set up process, troubleshooting issues, computer security and safety
  - Career night at Hamilton Families (August 17) Presenters from *Google Chrome*, *Microsoft*, *Code Tenderloin* and *Farming Hope*
- Bridging Tech Customer Support
  - Contact information including help email and toll-free voicemail **1-866-BRDGTCH** via QR code on hotspot sticker
  - English and Spanish support
  - We solved most customer issues in 24 hours

Our Data Analysis Process

- Google forms distributed in June 2023, September 2023 and January 2024
- Separate questionnaires
  - K-12 students and adults (parents)
  - English, Spanish and Pashto
- $30 E-gift cards (Visa, Target, or Amazon) for completing each questionnaire
- Raffle of donated iMac 27" for participants who completed Questionnaire 3

- Data Analysis Process
  - Data Collection, Organization, Cleaning, and Analysis: Microsoft Excel.
    - Organizing short answer responses
    - Data Modeling
    - Analysis of quantitative and qualitative responses
    - Calculating Averages, Percent frequencies
  - Data Analysis and Visualization: Microsoft PowerBi and Tableau
    - Dashboards in upcoming slides.

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Sample Questions

K-12 Student Questions

Over the past **6 months** since receiving my Bridging Tech laptop and Wi-Fi **I am doing better in school** *

○ Yes

○ No

Over the past **6 months** since receiving my Bridging Tech laptop and Wi-Fi **I am improving relationships with teachers** *

○ Yes

○ No

Over the past **6 months** since receiving my Bridging Tech laptop and Wi-Fi **I am making new friends** *

○ Yes

○ No

Adult (Parent) Questions

Over the past **6 months** since receiving my Bridging Tech laptop and Wi-Fi I am using my Bridging Tech laptop **for making online healthcare appointments for my family** *

○ Yes

○ No

Over the past **6 months** since receiving my Bridging Tech laptop and Wi-Fi I am using my Bridging Tech laptop **for searching for jobs online** *

○ Yes

○ No

Over the past **6 months** since receiving my Bridging Tech laptop and Wi-Fi I am using my Bridging Tech laptop **for keeping in touch with family and friends** *

○ Yes

○ No

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Questionnaire 1 (June 2023) Results

Wi-Fi Pilot Questionnaire 1 Results

K-12 Student Results - Summer 2023

Average Score on Educational Impact of Bridging Tech Devices

How much do you think the laptop will help your educational goals?
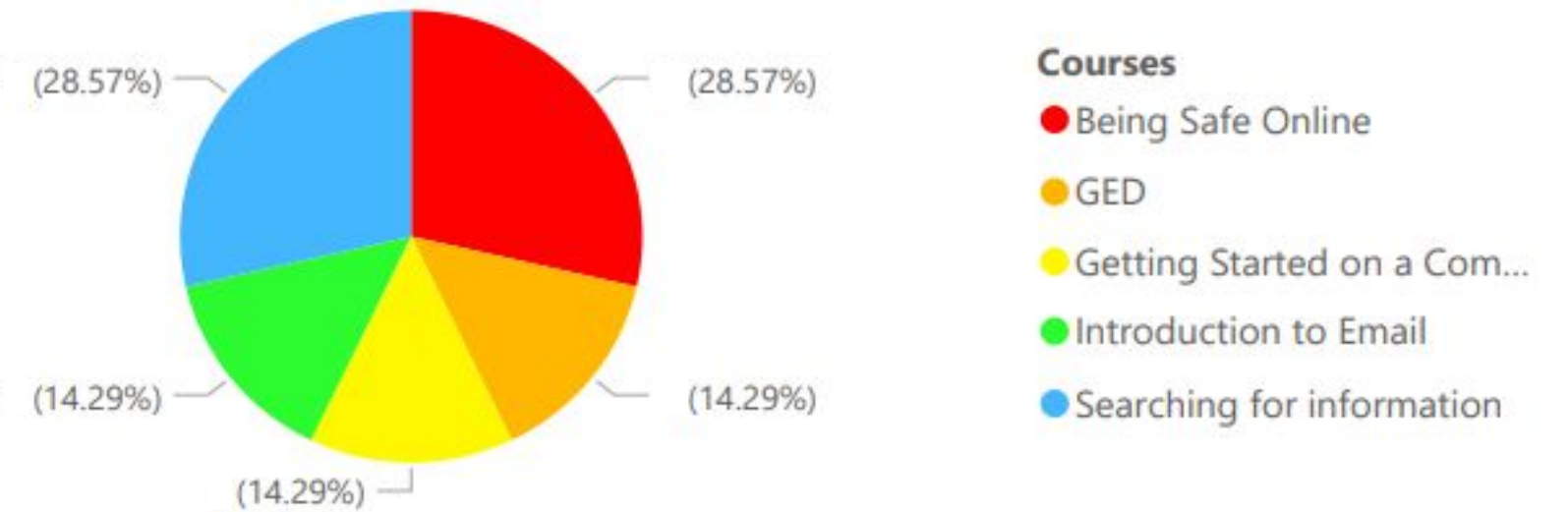
9.33/10

(AVG Score)

How much do you think the wi-fi hotspot will help your educational goals?

9.33/10

(AVG Score)

Online Course Interest by Percent Frequency

Frequency Demand by Course

(28.57%)

(28.57%)

(14.29%)

(14.29%)

(14.29%)

Courses

- 🔴 Being Safe Online
- 🟠 GED
- 🟡 Getting Started on a Com...
- 🟢 Introduction to Email
- 🔵 Searching for information

Tutoring and Usage Statistics

I am interested in receiving tutoring

66%

(% who answered yes)

I feel confident using the internet

5/5

(AVG Score)

I use the internet for school

5/5

(AVG Score)

In the past 7 days, I have checked my email 5 or more times

100%

(% who answered yes)

Wi-Fi Pilot Questionnaire 1 Results

Adult Results - Summer 2023

Average Score on Family Impact of Bridging Tech Devices

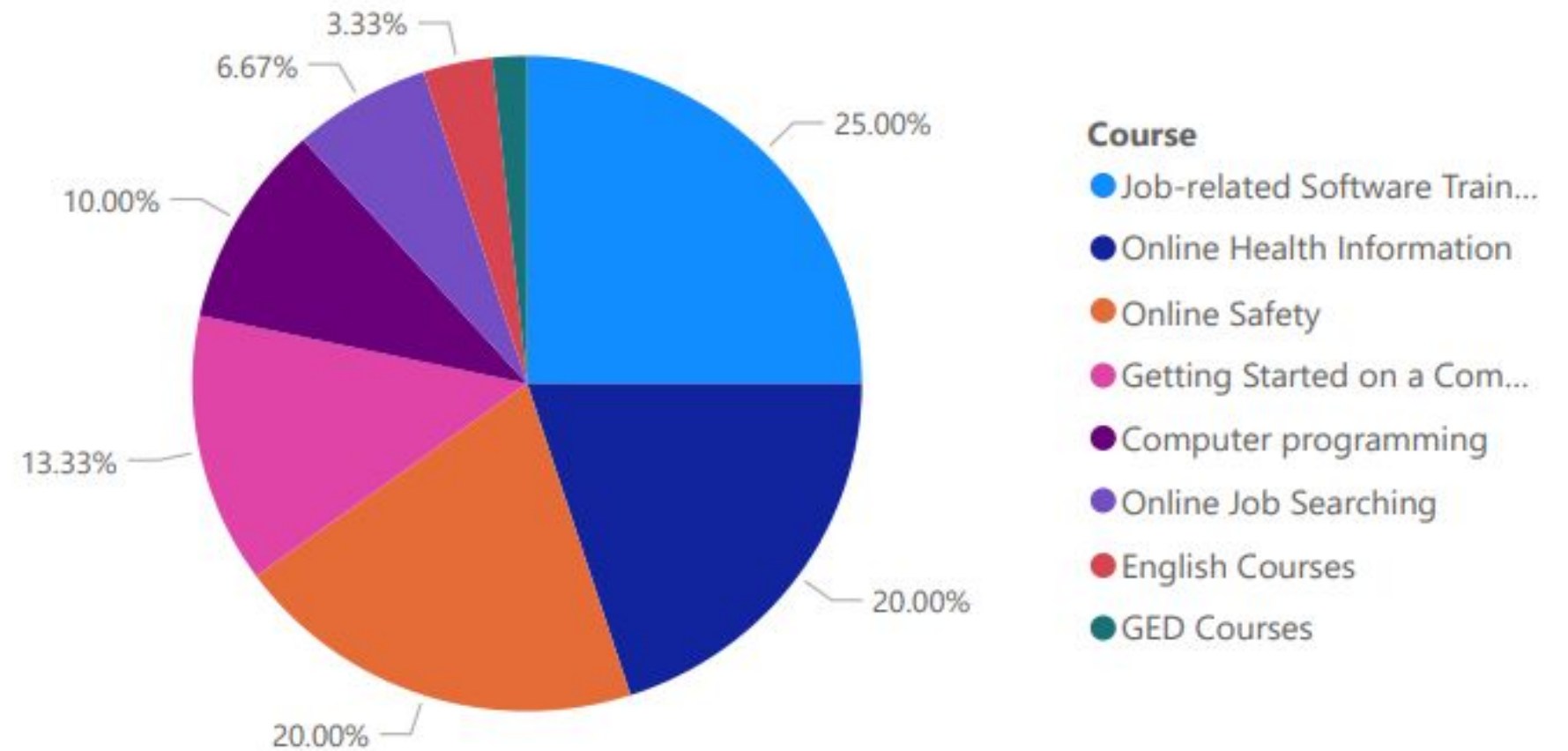How much do you think the <u>laptop</u> will help your family goals?

9/10

(AVG Score)

How much do you think the <u>wi-fi hotspot</u> will help your family goals?

9/10

(AVG Score)

Mentoring and Usage Statistics

I use the internet to search for job opportunities

4.53/5

(AVG Score)

I am interested in job training/mentoring

69.23%

(% who answered yes)

Online Course Interest by Percent Frequency

Frequency Demand by Course

Course
● Job-related Software Train...
● Online Health Information
● Online Safety
● Getting Started on a Com...
● Computer programming
● Online Job Searching
● English Courses
● GED Courses

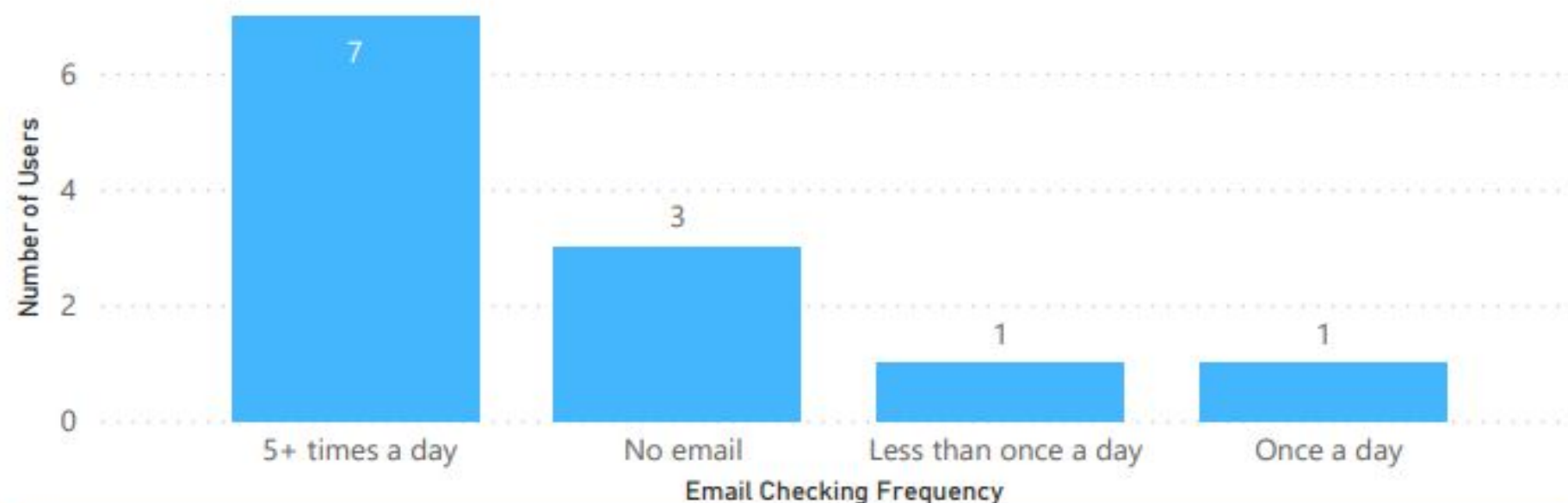Pie chart percentages: 25.00%, 20.00%, 20.00%, 13.33%, 10.00%, 6.67%, 3.33%

Wi-Fi Pilot Questionnaire 1 Results

Adult Results - Summer 2023

Email Checking Frequency of Adult Users

Number of Users by Email Checking Frequency

Email Checking Frequency	Number of Users
5+ times a day	7
No email	3
Less than once a day	1
Once a day	1

Accessing Resources

I use the internet to access my bank account

4.08/5

(AVG Score)

I would like to use my laptop and hotspot to learn English

90%

(% who answered yes)

Health and Security

I use the internet for telehealth medical appointments

3.92/5

(AVG Score)

I know how to keep my information safe and secure online

4.75/5

(AVG Score)

Family and Community

I use the internet to connect with family

4.42/5

(AVG Score)

I use the internet to find events in my community

3.92/5

(AVG Score)

Questionnaire 2 (September 2023) Results

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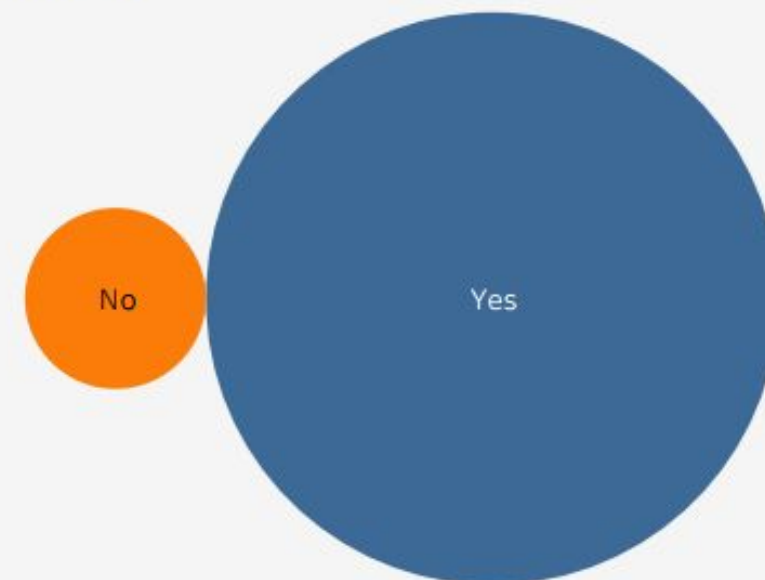
Questionnaire 3 (February 2024) Results

Wi-Fi Pilot Questionnaire 3 Results (K-12)

Free Course Interest

100.00%	100.00%	100.00%	50.00%	50.00%
Being Safe Online	English	Introduction to Computers	Introduction to Email	Searching for Information
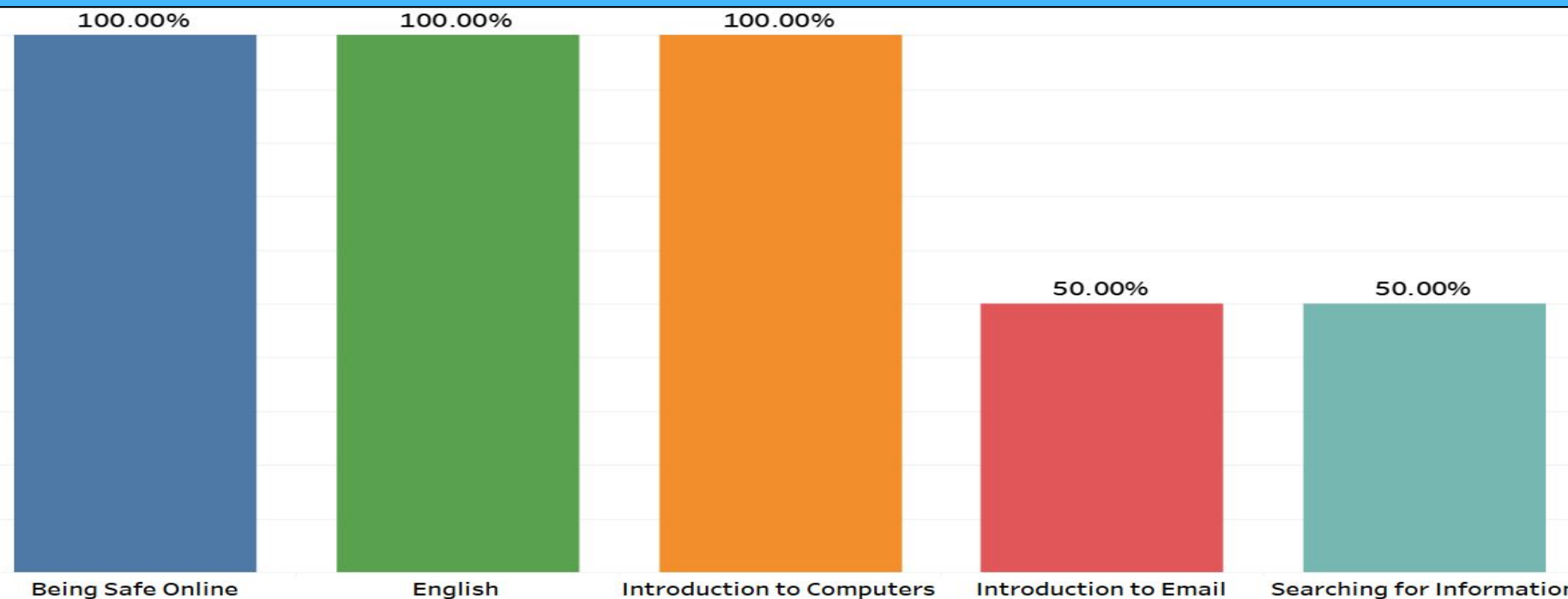
Bridging Tech Device Impact on Educational Goals

Impact of **Laptop** on <u>educational</u> goals

9/10

(AVG Score)

Impact of **Hotspot** on <u>educational</u> goals

9.5/10

(AVG Score)

Tutoring and Usage Statistics

Interested in receiving **Tutoring**

50%

(# of Yes Respondents)

Confidence using the Internet

4.5/5

(AVG Score)

Using the Internet for School

5/5

(AVG Score)

Bridging Tech Devices improve confidence at School

100%

(# of Yes Respondents)

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n = 2

PowerBI Dashboards built by Coby Chun and Manuel Marquez

Wi-Fi Pilot Questionnaire 3 Results (Adults)

Average Score On Family Impact of Bridging Tech Devices

8.86/10

Average impact of Wi-Fi hotspot on **Family Goals**

1.71

Average number of family members using BT Devices

Online Course Interest by Percent Frequency

The pie chart shows the 7 most demanded courses. According to the guests that replied to our survey.

Impact of Bridging Tech Devices & Job Search

3.71/5

Average of Internet for Job Search

1

Sum of Help with Mentorship, Coaching, OJS

Pie chart — Online Course Interest:
- Google Workplace Training (16.67%)
- Microsoft Office (16.67%)
- Computer Programming (16.67%)
- (8.33%)
- Online Safety (16.67%)
- Computer Literacy (16.67%)
- (8.33%)

Legend:
- Microsoft Office
- Comp. Programing
- Zoom
- Online Safety
- Computer Literacy
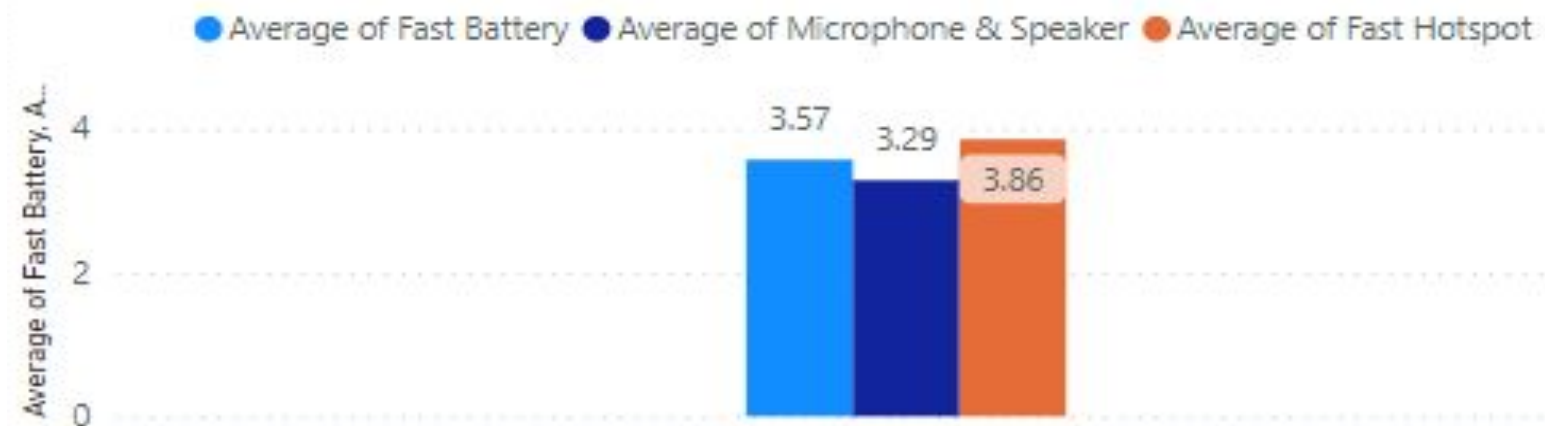- Email
- Google Workspace

Key Insights
1. Our Bridging Tech hotspots turned out to be beneficial when it comes to doing **Online Job Search**.
2. Our **Course Demand** section gave us information about some of the knowledge gaps that adults try to fill. The **Five Most Demanded Courses were: Computer programming, How to stay safe online (Online safety), Computer Literacy, Google Workplace (Slides, spreadsheets, Docs, etc) as well as Microsoft Office.**

This reaffirmed the value of providing an **Educational Platform** in partnership with other tech nonprofits.

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Wi-Fi Pilot Questionnaire 3 Results (Adults)

Quality of Hotspot(s)

BT Hotspot with Wi-Fi & SupportingDaily Tasks

Average of Fast Battery, Average of Microphone & Speaker and Average of Fast Hotspot

● Average of Fast Battery ● Average of Microphone & Speaker ● Average of Fast Hotspot

3.57 3.29 3.86

# of users by email checking frequency 4.14/5 (AVG Score)

I use the internet to access my bank account 85.7% (% who answered yes)

Wi-Fi Hotspot General Usage

I use the internet for telehealth medical appointments 4.14/5 stated Yes

I know how to keep my information safe & secure 4.57/5 stated yes

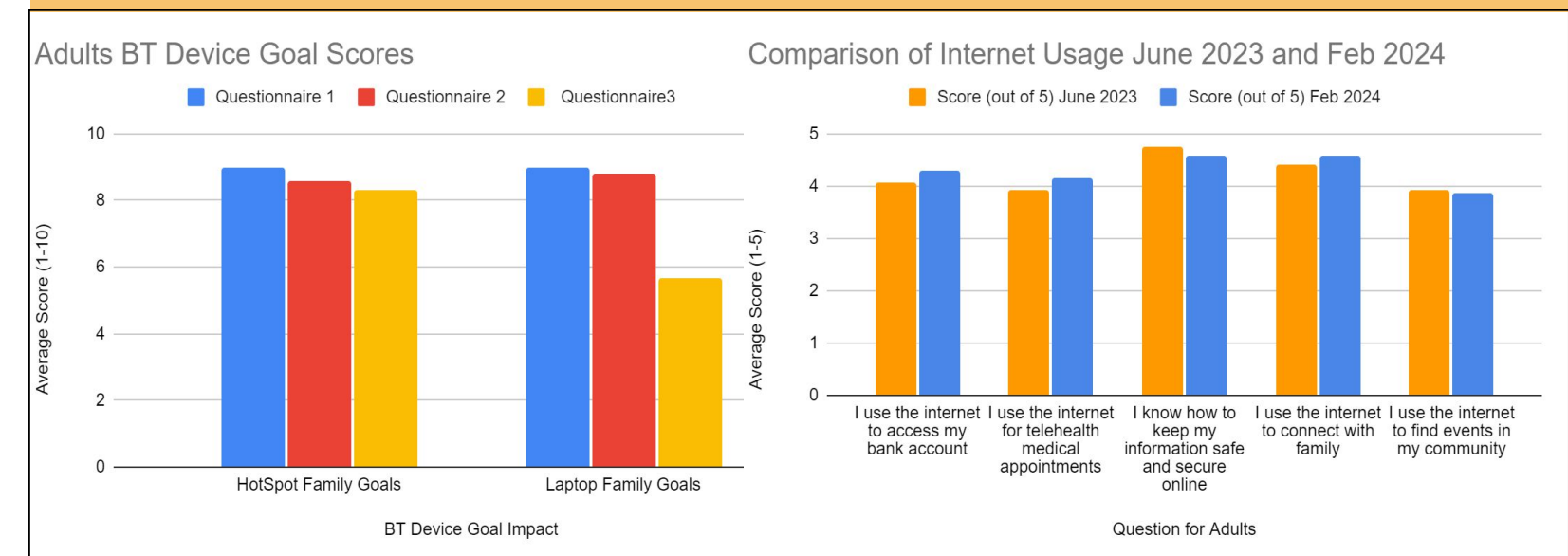**I use the internet to connect with Social Workers (85.7% said yes)**

I use the internet to find events in my community 3.86/5 (AVG Score)

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Dashboard built by Manuel Marquez

- K-12 Students consistently…
  - believed that the devices would help them meet their educational goals
  - felt confident using the Internet and using the Internet for school
 - indicated the need for online training
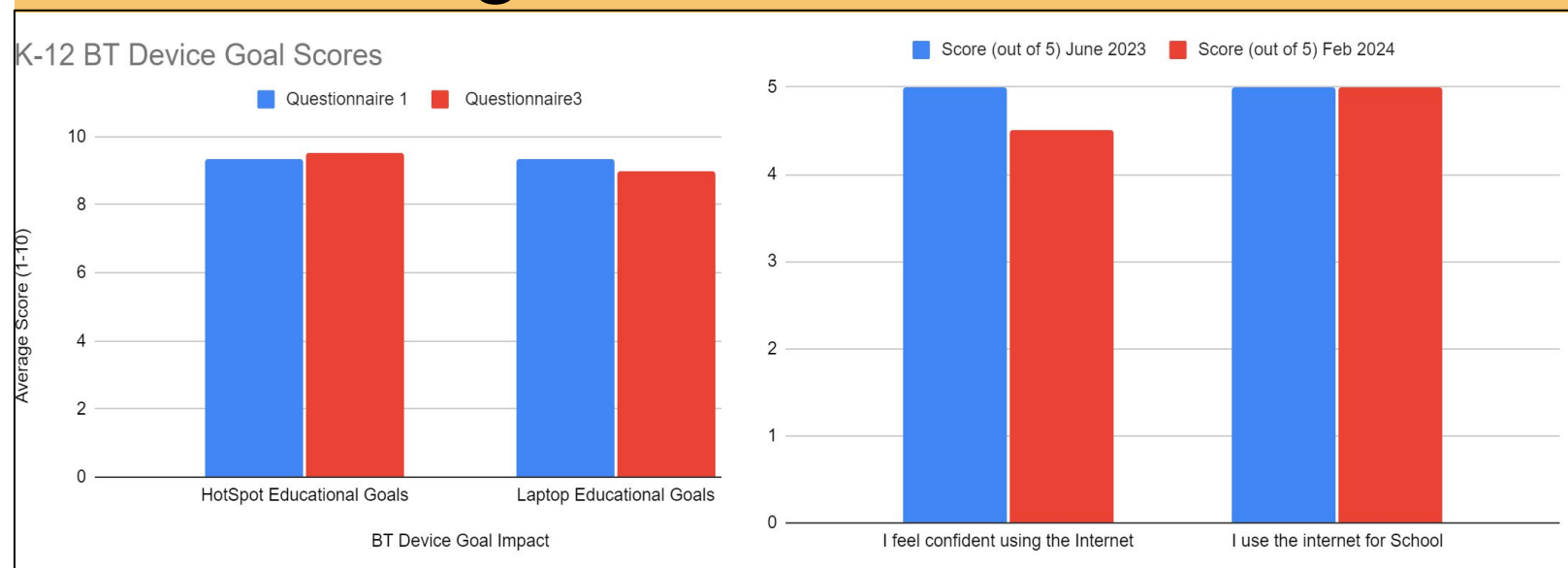
- Parents used the hotspot to connect
  - with social workers
  - for telehealth
  - for job searching
- Parents revealed need for computer literacy training

K-12 BT Device Goal Scores

Questionnaire 1 ▮ Questionnaire3 ▮

Score (out of 5) June 2023 ▮ Score (out of 5) Feb 2024 ▮

Adults BT Device Goal Scores

Questionnaire 1 ▮ Questionnaire 2 ▮ Questionnaire3 ▮

Comparison of Internet Usage June 2023 and Feb 2024

Score (out of 5) June 2023 ▮ Score (out of 5) Feb 2024 ▮

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Graphs Created by Tony Chun

Participant Testimonials from Questionnaire 2

- "Thank you so much for your support, this has helped me a lot"
- "Crucial for my professional career development goals and children's home-schooling"
- "Using Wi-Fi is important not only for everyday basic Internet surfing, but for my work activity and for online English classes"
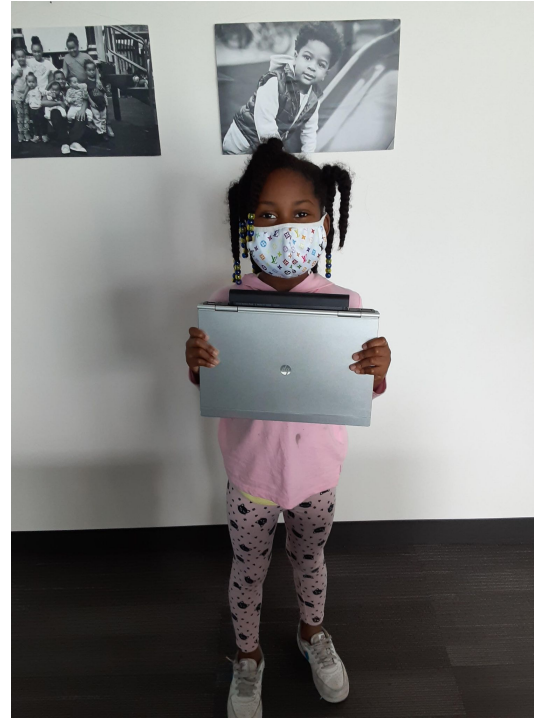
- "Very helpful"
- "It has helped me to resolve many issues"
- "Your program is very helpful for getting assets and training that we often use for securing a job"
- "Yes I need Wi-Fi"
- "Helping my family"

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Participant Testimonials from Questionnaire 3

- "Wi-Fi is portable what is very very convenient, when you work either at home or somewhere else that helps to be flexible."
- "Wi-Fi is important for helping my family with our needs and goals."

- "Helping a lot"
- "Thank you so much"
- "You guys are excellent"
- "Thank you"
- "Yes I need Wi-Fi"
- "Thank you so much for giving this help to my family"

Next Steps and Summary

Next Steps

- ## Conclusion of Wi-Fi Pilot
  - Mobile Citizen hotspot data plan concludes at end of April 2024
  - We will assist pilot participants in finding economical broadband alternatives

- ## Education Platform Web App
  - Complements device distribution with online computer literacy training and educational resources for K-12 students
  - Addresses online training requests by pilot participants
  - Development started in January 2024 with partner **Code Tenderloin**
  - Minimum Viable Product (MVP) will begin testing in April 2024

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Summary

- K-12 students experiencing housing insecurity need laptops and Wi-Fi to meet their educational goals
- 30 Wi-Fi hotspots and data service went to K-12 students experiencing housing insecurity via three nonprofit partners
- We measured the impact of the devices on the K-12 students via participant feedback over several months

- Students…
  - strongly valued the devices for meeting their educational goals
  - were more confident in using the internet and more confident in school
  - would like online courses on computer safety, English and introduction to computers
- Their parents...
  - are interested in job and computer literacy training
  - strongly valued the devices for meeting their family goals such as learning English, searching for jobs, connecting with family, transitioning into permanent housing and healthcare

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How can you help?

- Volunteer as a SW Developer

Tech Stack
HTML
CSS
Typescript
Node / Express
PostgreSQL
Git / Github
Figma (UX/UI Designers)
Content Creation / Instructional Designer / Curriculum Developer

Contact: diyana@bridgingtech.org

- Computer Donations
  – New computers will be sent directly to our partners
  – Used computers can be sent to our refurbishers for credits
- Monetary Donations
  bridgingtech.org/giving

Donate Now

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Q&A

We look forward to your questions.

contact@bridgingtech.org

Thank You

Resources

- Reports on the Digital Divide
  - https://www.commonsensemedia.org/press-releases/k-12-student-digital-divide-much-larger-than-previously-estimated-and-affects-teachers-too-new-analysis
  - https://www.allconnect.com/blog/americas-broadband-divide-revealed
  - https://all4ed.org/press_release/california-students-caught-in-the-homework-gap/
  - https://www.schoolhouseconnection.org/wp-content/uploads/2020/11/Lost-in-the-Masked-Shuffle-and-Virtual-Void.pdf
- Reports on Homelessness
  - https://calmatters.org/housing/2022/10/california-homeless-crisis-latinos/
  - https://www.auditor.ca.gov/reports/2019-104/supplemental.html
  - https://citylimits.org/2022/05/25/nyc-installs-wifi-at-every-family-homeless-shelter-following-legal-settlement/
  - 2021 Annual Homeless Assessment Report (AHAR) to Congress
  - 2022 Annual Homeless Assessment Report (AHAR) to Congress
- Partner Wi-Fi Questionnaire
  - Questionnaire is here
  - Results are here
  - Partner list
- Bridging Tech Resources https://www.bridgingtech.org/resources.html
- Bridging Tech Support https://www.bridgingtech.org/product-support.html
- Our partners
  - Hamilton Families
  - Next Door Solutions
  - Gii
  - Mobile Citizen

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