Citizen Science Month 2024 Evaluation Report

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Prepared by:

College Research and Evaluation Services Team (CREST)

Wendy M. Barnard, PhD

Emerson Weinbrecht, MA

Arizona State University

INTRODUCTION

Global Citizen Science Month occurs in April of each year and has grown from what was just a single day of programming in 2017 to 30 days today. Throughout Citizen Science Month, SciStarter, the National Network for Libraries of Medicine (NNLM), the NNLM *All of Us* Program Center, and other partners collaborate to bring people together in training, education, community engagement, and programs related to citizen science.

The College Research and Evaluation Services Team (CREST) was the independent evaluation team working with the grant partners to create an evaluation that captured information from facilitators and participants on the impact of their engagement. After approval from the SciStarter team on the data collection instruments, CREST created online surveys accessed through links and QR codes. Participants in the program could go into the survey, remaining anonymous, to respond to questions about their experiences. These surveys were available for responses from April 1, 2024, through May 15, 2024.[1] Respondents of the survey could choose an English or Spanish version to complete. This summative evaluation report details the following:

- Evaluation Findings
    - Participants
        - Satisfaction
        - Engagement
        - Awareness and Knowledge
        - Behavior and Impact
        - All of Us Awareness
    - Facilitators
        - All of Us Awareness
        - Engagement
- Conclusions and Recommendations
- Appendices

[1] Surveys along with information on accessing the surveys through QR codes and/or survey links were approved by Arizona State University's Institutional Review Board (Study 00019803).

EVALUATION FINDINGS

Overall, Citizen Science Month events and activities resulted in positive experiences for both participants and facilitators. Participants in Citizen Science Month activities were provided an anonymous link and a QR code to access a survey following participation. The survey included questions assessing satisfaction, engagement, awareness, knowledge, and their behavior. Citizen Science Month event facilitators received a link and a QR code to complete a survey after hosting an event that examined satisfaction, confidence, and their perception of participant engagement.

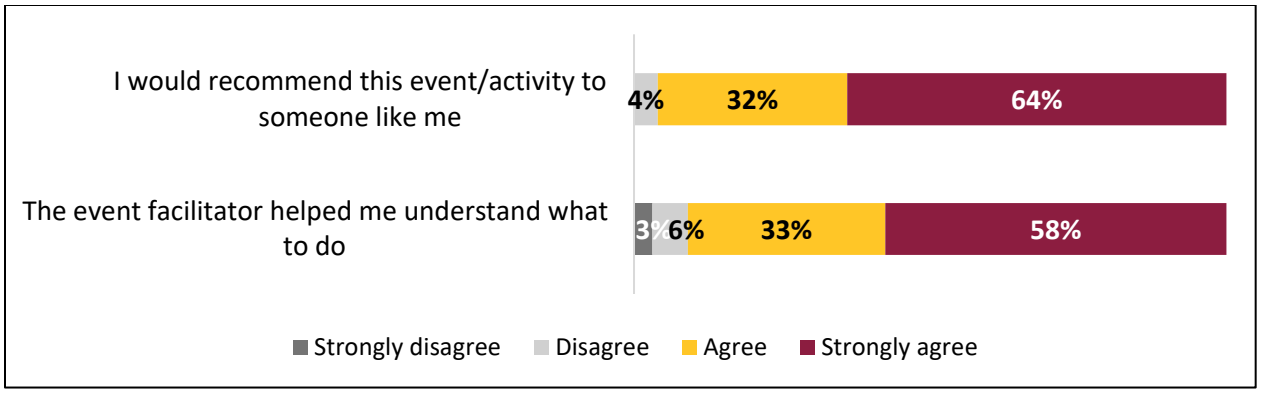
PARTICIPANTS

After participating in a Citizen Science Month event or activity, a total of 193 participants began the participant survey, with 148 responding to at least one question. As responses to every survey question were not required, the response rates to the measures reported on below vary.

Participant Survey	n	Percentage
Answered All of Us questions	93	63%
Answered Citizen Science questions	29	20%
Answered Both	26	18%
Total	*148*	*100%*

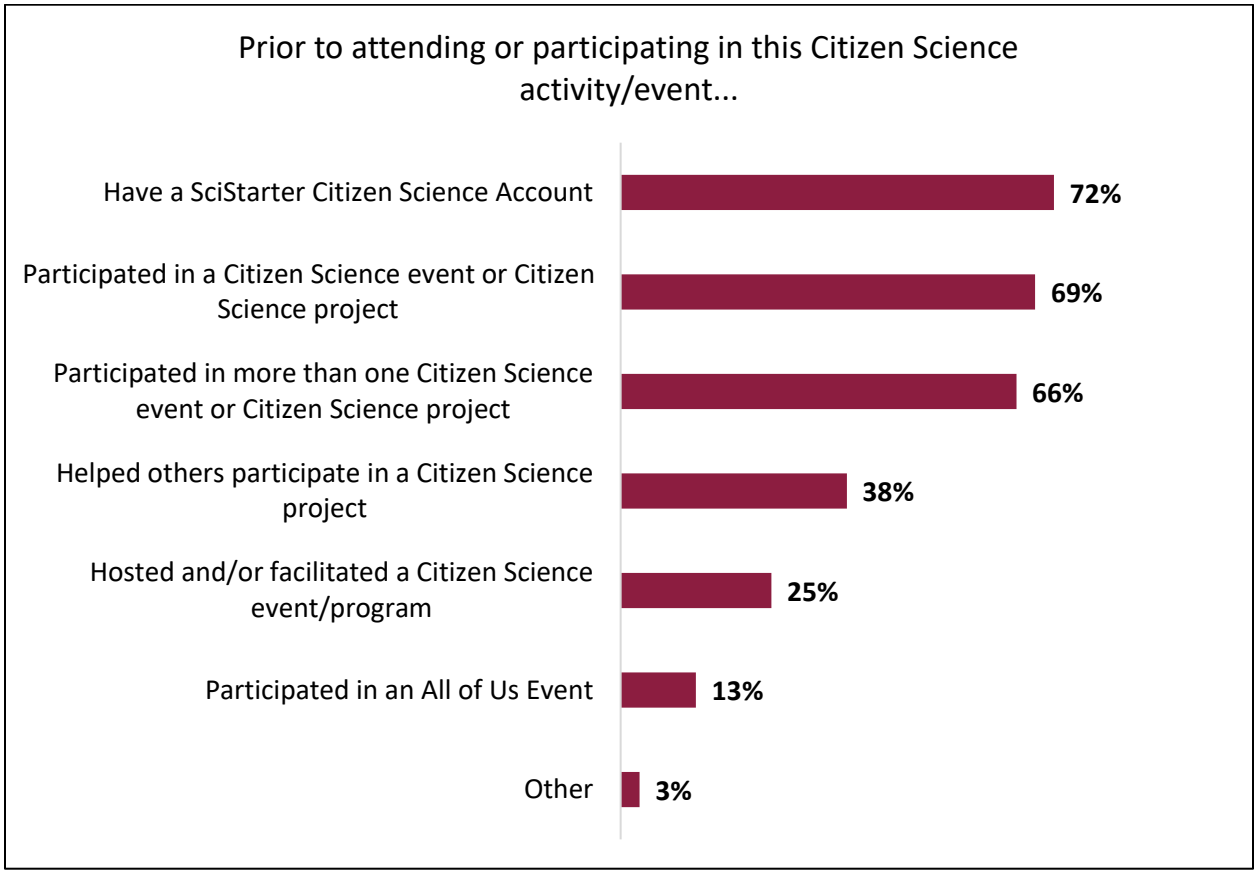
SATISFACTION

Participants overwhelmingly reported that they enjoyed the event or activity they engaged with, with 94% (48/51) rating the event or activity as “good” or “excellent.” Nearly all participants (96%, 48/50) “agreed” or “strongly agreed” that they would recommend the event or activity to someone like them. The two participants indicating they would not recommend the event or activity to someone like them noted the following reasons: wanting more time to engage in the event or activity, and activities not being suitable for those who work a lot (full responses are in Appendix A). Additionally, 91% (30/33) of participants who attended a Citizen Science Month event “agreed” or “strongly agreed” that the event facilitator helped them know what to do.



ENGAGEMENT

Participants were asked to report on their experiences with citizen science prior to Citizen Science Month 2024. As shown below, a majority of participants reported being familiar with citizen science, through previous participation (69%, 22/32) and/or having a Citizen Science account with SciStarter (72%, 23/32). In addition, 66% (21/32) of participants indicated that they had participated in more than one Citizen Science event or project prior to Citizen Science Month 2024.



Note. Participants were able to select as many options as applied.

To gain an understanding of the events and activities frequently engaged with, participants were asked to report what Citizen Science Month event or activity they participated in. With help from the

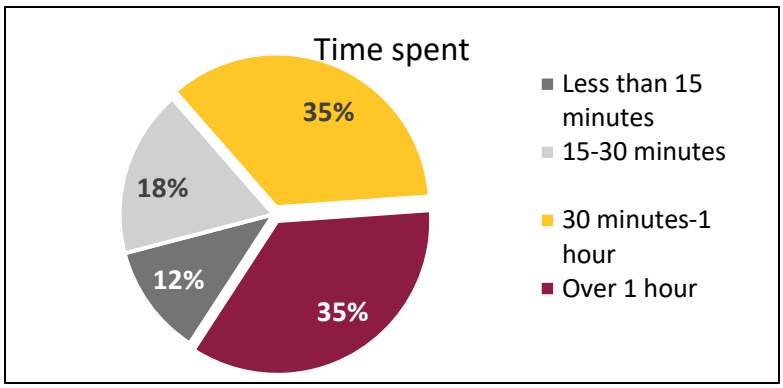
SciStarter team, the open-ended responses were categorized into events, projects, and miscellaneous. The results are summarized in the table below.

EVENTS	N
All of Us: Genes and Journeys	52
Unspecified All of Us event	8
All of Us: Taking Charge of Your Health Data!	5
All of Us: DNA Day	2
Becoming a Citizen Scientist	2
NASA Eclipse event	2
All of Us Nutrition for Precision Health Study	1
April 2024 Global Citizen Science Month organized by Unique Mappers Network, Nigeria in partnership with SciStarter -tagged #OneMillionActsofScience	1
iMGAINE Upstate STEAM Festival	1
Presentation at ASQ 1312	1
Hack Your Brain: You're the Scientist!	1
Crowd the Tap on April 18	1
Summer reading with StarNet and NGCP	1
PROJECTS	**N**
Unspecified Eclipse activity	6
Stall Catchers	5
Eclipse Soundscapes	4
iNaturalist	4
Planet 9	3
Project budburst	3
Project Feederwatch	3
Globe at Night	3
Globe Observer	3
City Nature Challenge	2
CoCoRaHS	2
Darwin's Ark	2
Disk Detective	2
Solar Eclipse Safari	2
Instant Wild	2
Planet Hunter TESS	2
Project Squirrel	2
Introduction to Sci-Starter	2
eBird	2
Project Sidewalk	2
Black Hole Finder	1
Cedar Creek Zooniverse	1
Click A Coral project	1
Did you feel it	1

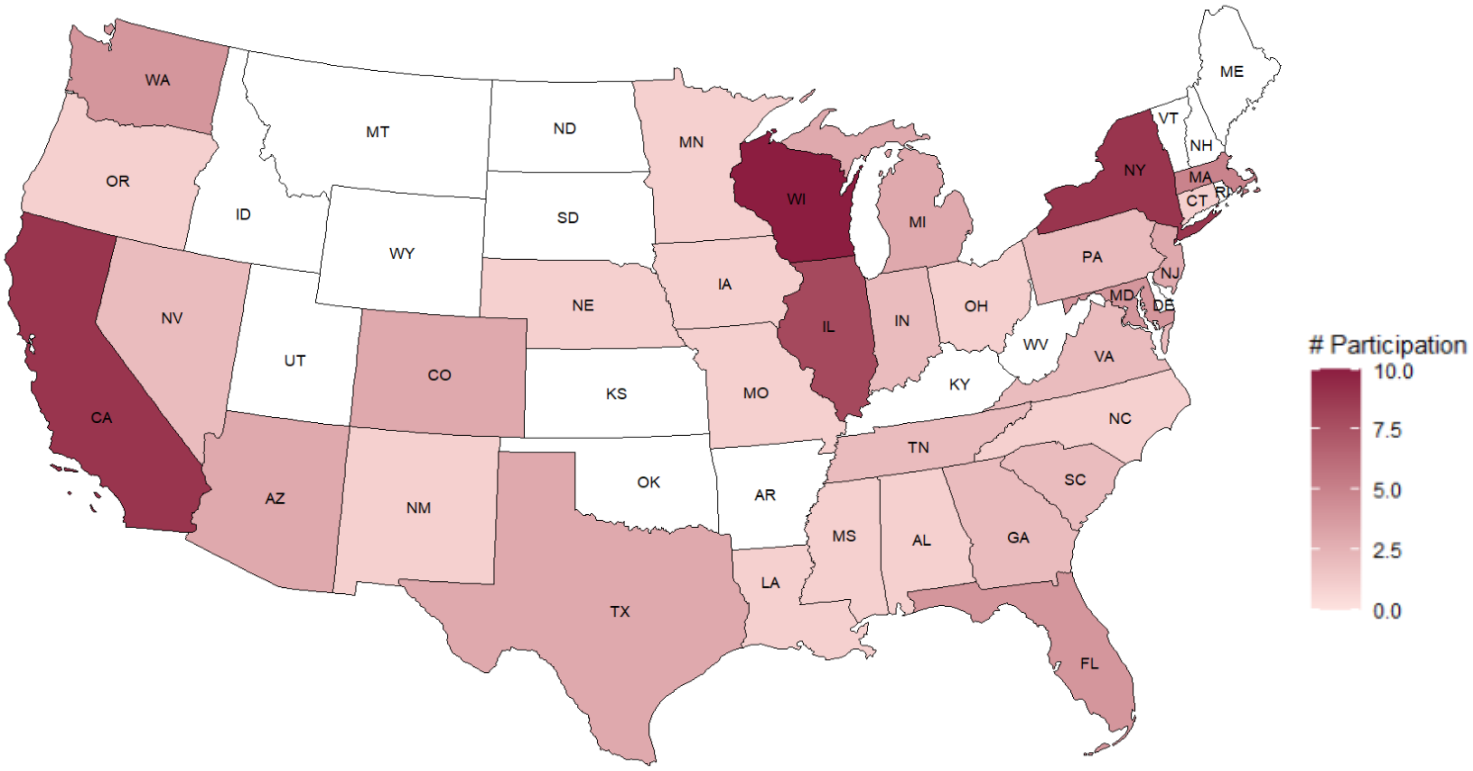
Dolphin Chat	1
Hug a Tree	1
Nest Quest Go-wrens	1
Neureka	1
North American Butterfly Association	1
Satellite Streak Watcher	1
SciQuest	1
Solar Jet Hunter	1
Sun Jet Mappers	1
SunSketcher	1
MISCELLANEOUS	**N**
April	7
One Million Acts of Science	4
SciStarter	3
Webinar	1
I educated others on the solar eclipse by putting on a play for my school	1

Note. Some participants reported engaging with multiple events or projects.

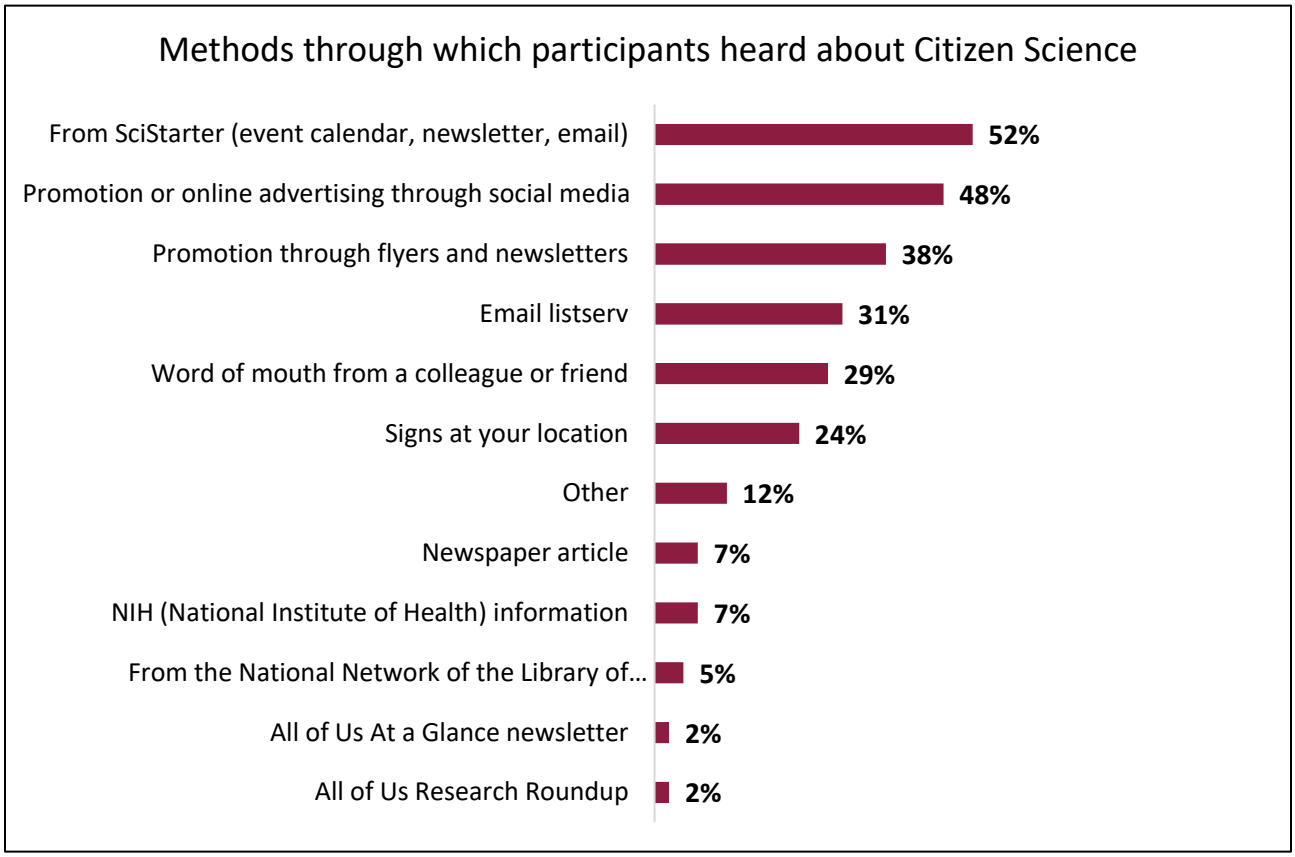
Given the variety of Citizen Science Month events and activities available, participants were also asked to report on the length of time they spent on their event or activity. As shown below, a majority of participants (71%, 36/51) spent upwards of 30 minutes on their event or activity, 18% (9/51) spent 15-minutes to 30-minutes on their event or activity, and 12% (6/51) spent less than 15-minutes on their event or activity.



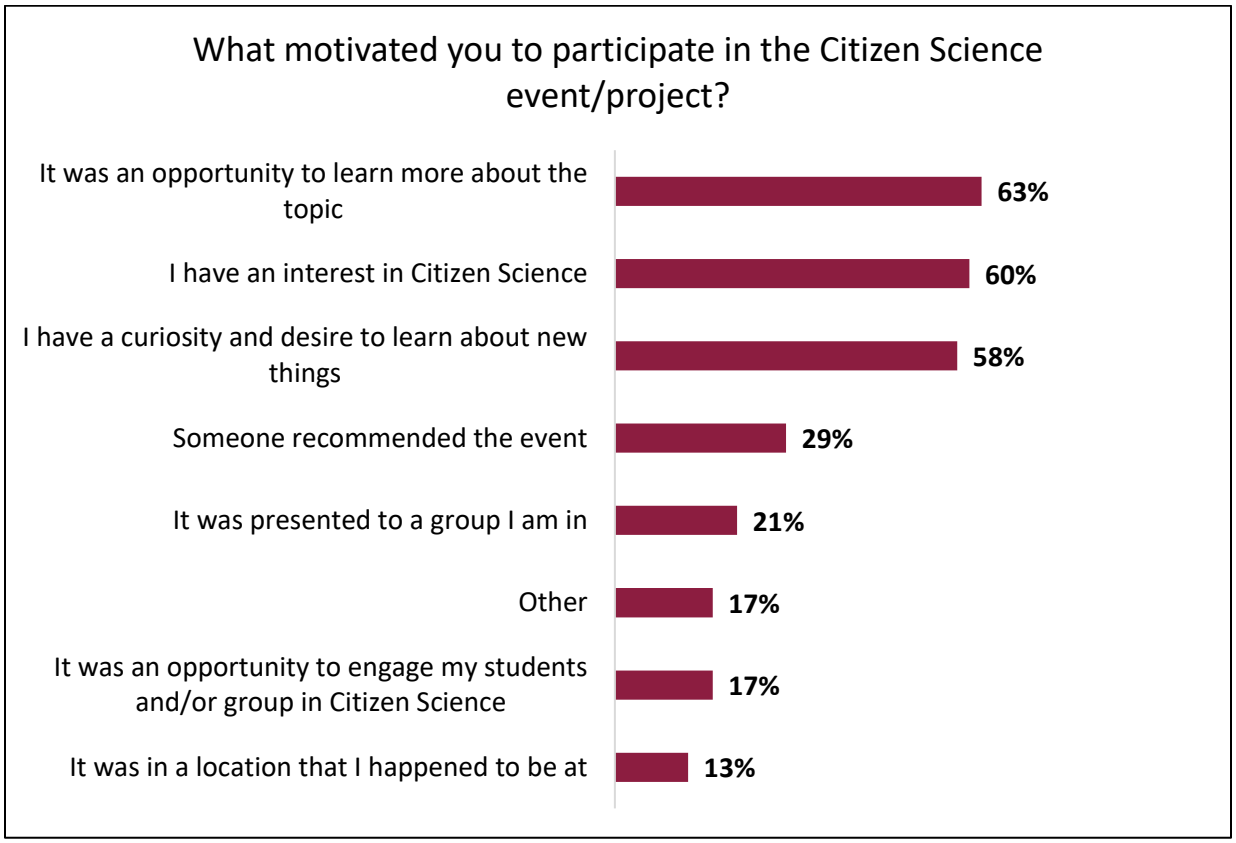
To further assess the spread of engagement, participants were asked to report their zip code. As shown in the map below, participants were part of Citizen Science Month activities from 33 different U.S. states and three other countries (New Zealand, Scotland, and India). The states that were most frequently reported were Wisconsin (n = 10), California and New York (n = 9), and Illinois (n = 8). A table detailing this information can be found in Appendix B.



Participants reported on the ways they heard about Citizen Science Month. A majority of participants (52%, 22/42) heard about Citizen Science Month events or activities from SciStarter, this aligns with data shown previously that a majority of this year's participants have a SciStarter account or had participated in citizen science previously. Participants also commonly reported hearing about citizen science through online promotion (48%, 20/42), flyers and newsletters (38%, 16/42), and email listserv (31%, 13/42). Five participants (12%) indicated they heard about citizen science through "other" ways, and nine (21%) participants provided additional written answers regarding how they heard about the events. These included other programs announcing it and hearing about it from articles (all of these results are listed in Appendix C).



In addition to reporting on the methods through which they heard about Citizen Science, participants were asked to report on factors that motivated them to participate in their event or activity. Over half of participants reported an opportunity to learn about a certain topic (63%, 30/48), a general interest in citizen science (60%, 29/48), and a curiosity to learn about new things (59%, 28/48) as a motivating factor in their participation in Citizen Science. Responses from those who indicated "other" can be found in Appendix D.



Additionally, individual participants were asked to report on demographic information such as age, gender identity, and race. Demographic information was reported by Citizen Science and All of Us participants. The table below specifies demographics for participants who answered Citizen Science questions, All of Us questions, and those that answered both. As shown, the age distribution of participants differed slightly from All of Us participants to Citizen Science and those who responded to both sets of questions. Seventy-three percent (63/86) of All of Us participants reported being at least 55 years old, whereas 68% of Citizen Science and 60% All of Us and Citizen Science participants reported being 44 years old or younger. There were minimal differences in the distribution of participants' gender identities between groups. Participants also self-reported their race and ethnicity. As shown below, there are slight differences in the distribution of participants' reported race/ethnicity.

	All of Us		Citizen Science		All of Us and Citizen Science	
Age	**n**	**Percentage**	**n**	**Percentage**	**n**	**Percentage**
18-24	3	3%	4	18%	1	5%
25-34	5	6%	7	32%	4	20%
35-44	6	7%	4	18%	7	35%
45-54	9	10%	2	9%	2	10%
55-64	15	17%	3	14%	4	20%
65-74	30	35%	2	9%	1	5%
75+	18	21%	0	0%	1	5%
Total	*86*	*100%*	*22*	*100%*	*20*	*100%*
Gender Identity	**n**	**Percentage**	**n**	**Percentage**	**n**	**Percentage**
Woman	66	77%	15	68%	14	70%
Man	17	20%	7	32%	5	25%
Transgender	1	1%	0	0%	0	0%
Non-binary	1	1%	0	0%	1	5%
Prefer not to say	1	1%	0	0%	0	0%
Total	*86*	*100%*	*22*	*100%*	*20*	*100%*
Race/Ethnicity	**n**	**Percentage**	**n**	**Percentage**	**n**	**Percentage**
White	59	71%	12	57%	16	80%
Black or African American	16	19%	4	19%	1	5%
American Indian or Alaska Native	1	1%	0	0%	0	0%
Asian	5	6%	4	19%	0	0%
Native Hawaiian or Pacific Islander	1	1%	0	0%	0	0%
Hispanic or Latino	2	2%	1	5%	3	15%
Total	*83*	*100%*	*21*	*100%*	*20*	*100%*

Note. Participants were able to mark as many racial and ethnic identities as applied.

Only two participants who engaged with the survey reported completing it on behalf of a group. These participants described their group as follows:

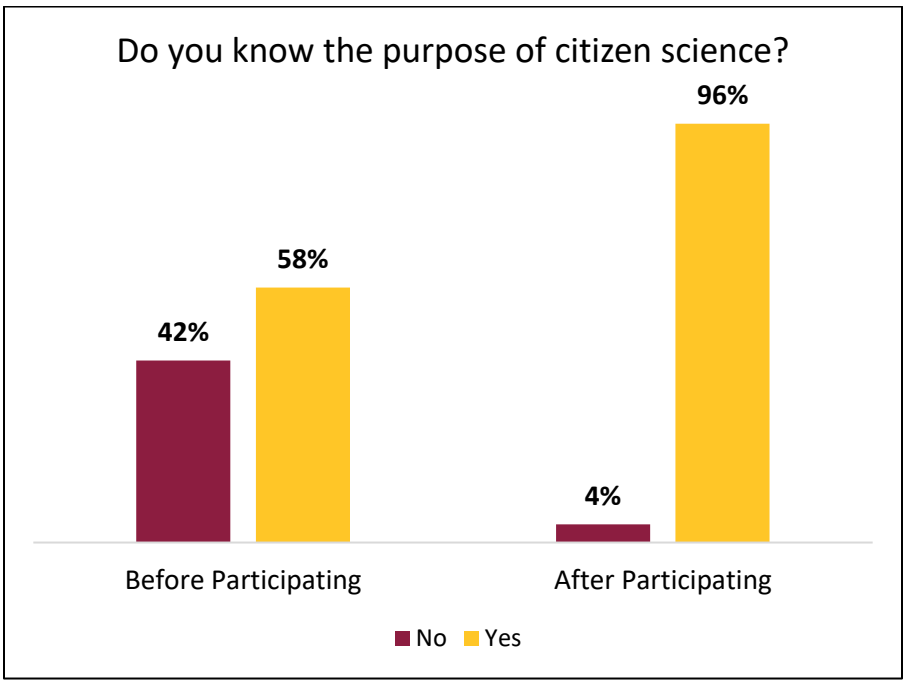
> *GRUPO DE DIVULGAÇÃO E DE PARTICIPAÇÃO EM PROJETOS DE CIÊNCIA CIDADÃ*
> *"Group for dissemination and participation in citizen science projects"*

> *Unique Mappers Network, Nigeria is a community NGO providing community engagement for Citizen Science, humanitarian response and Research. We are a local community of Citizen Science and OpenStreetMap in Nigeria, engaging more than 5000 volunteers in various projects.*

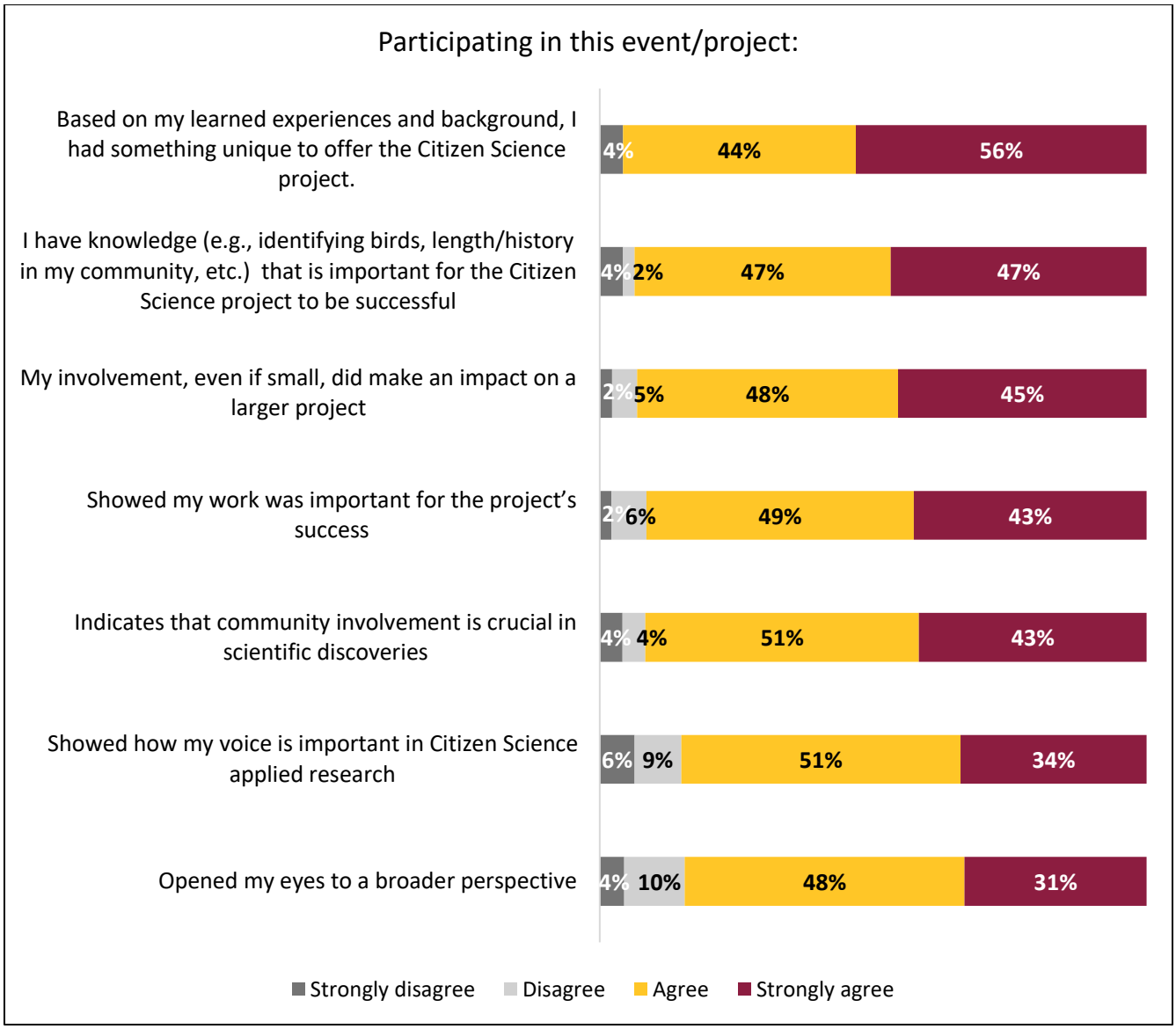
AWARENESS AND KNOWLEDGE

Upon engaging with their Citizen Science Month event or activity, participants were assessed on several measures regarding their awareness and knowledge of citizen science. These measures aim to provide insight into participants' awareness of the resources and impact of their engagement, knowledge of the importance of their engagement, understanding of the importance of diverse voices in citizen science, scientific self-efficacy, and attitudes about citizen science opportunities.

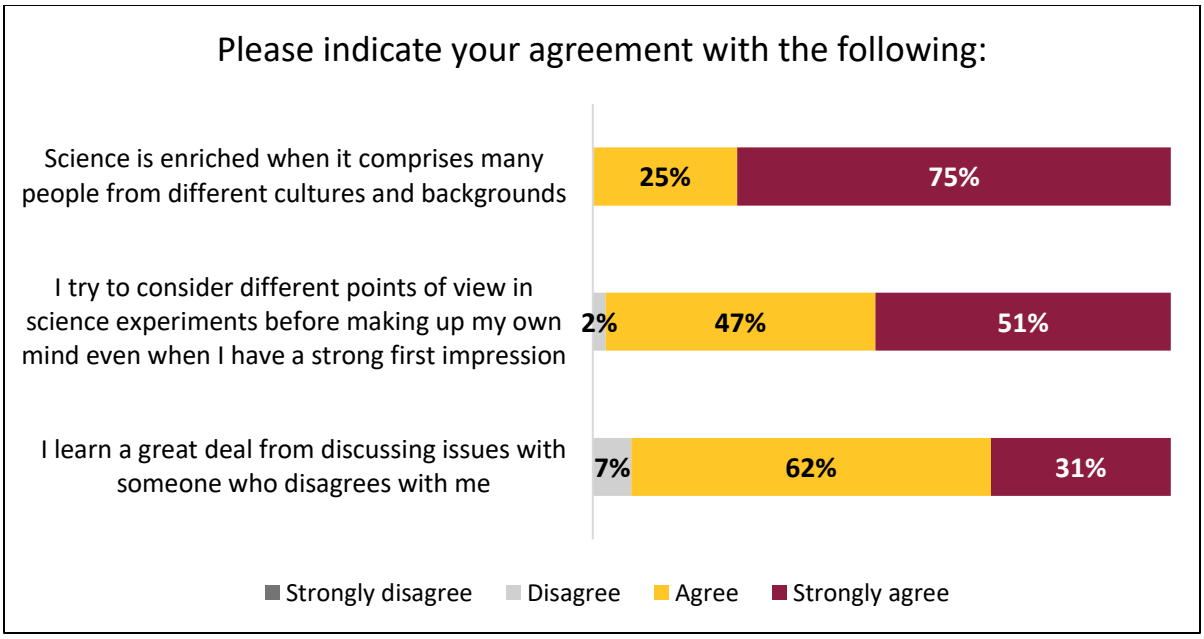
Participants were assessed on their awareness of the purpose of citizen science, retrospectively reporting on their knowledge prior to engaging as well as after engagement. As shown below, almost all participants (96%, 46/48) reported knowing the purpose of citizen science after engagement with their event or activity, compared to 58% (28/48) of participants before their engagement.



After participation in Citizen Science Month, participants reported knowledge of the importance of their engagement. As shown below, a majority of participants (56%, 25/45) strongly agreed that they have something to offer to Citizen Science projects based on their learned experiences. Over forty percent of participants strongly agreed that: they have knowledge that is important to the citizen science projects success (47%, 22/47), their involvement made an impact (45%, 20/44), their participation showed their work was important (43%, 20/47), and their participation indicated that community involvement is crucial in scientific discoveries (43%, 20/47). A smaller percentage of participants strongly agreed that their participation showed that their voice is important in citizen science research (34%, 16/47) and that their participation opened their eyes to a broader perspective (31%, 15/48).



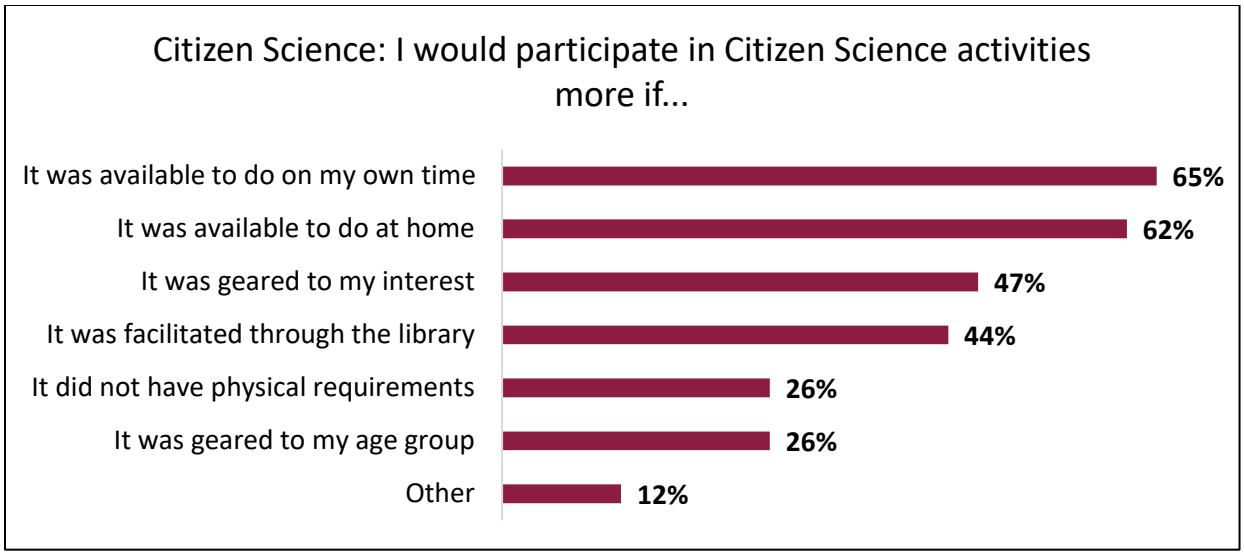
To assess understanding of the importance of diverse voices in citizen science research, participants were asked to report their agreement on different measures after engaging with their event or activity. As shown below, at least 93% of participants agreed or strongly agreed on all measures. All participants (n = 44) agreed or strongly agreed that science is enriched when it comprises many people from different cultures and backgrounds.



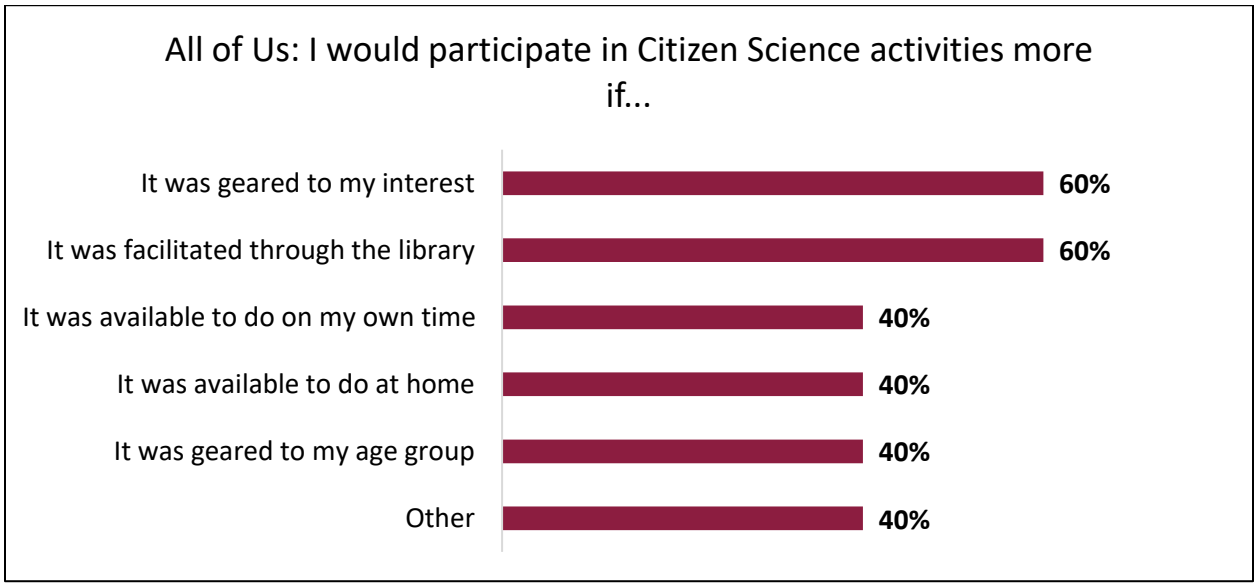
BEHAVIOR AND IMPACT

In addition to measures of awareness and knowledge, participants were asked to respond to measures regarding their behavior and the impact of citizen science. These measures aim to provide insight into participants' awareness of the resources and impact of their future participation, sense of contribution to science and value of their voices, ability to participate in data collection efforts, and their trust in data sharing and researchers.

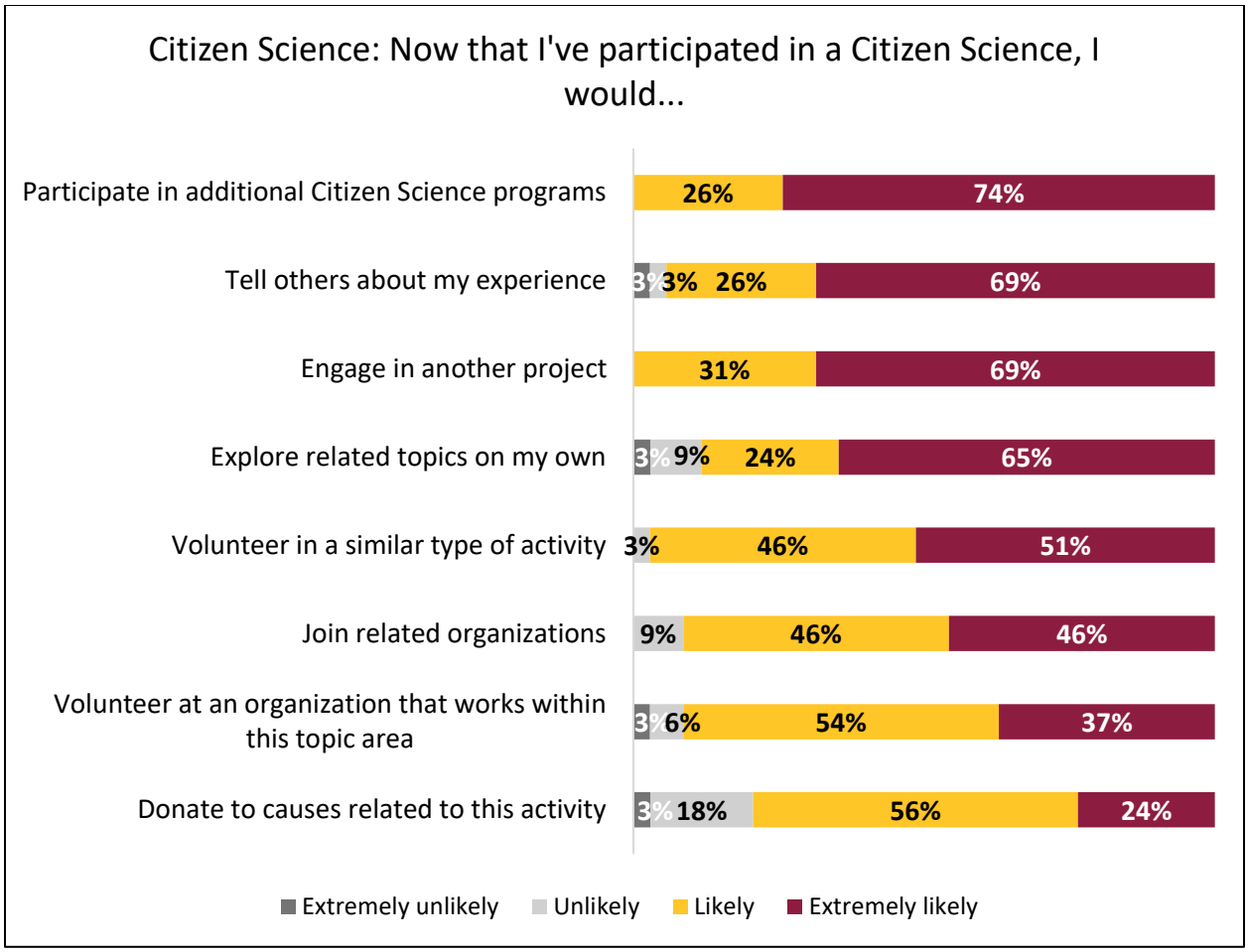
As shown below, Citizen Science participants reported on factors that would lead them to participate in citizen science activities more. The majority of participants indicated that they would participate in activities more if they were available to do on their own time (65%, 22/33) or they were available to do at home (62%, 21/34). Participants also reported having activities more geared to their interest (47%, 16/34) or being facilitated through the library (44%, 15/34) would encourage them to engage more. Those that reported "other" (12%, 4/34) specified reasons such as: time commitment, cost, and compensation (see Appendix E for detailed responses).



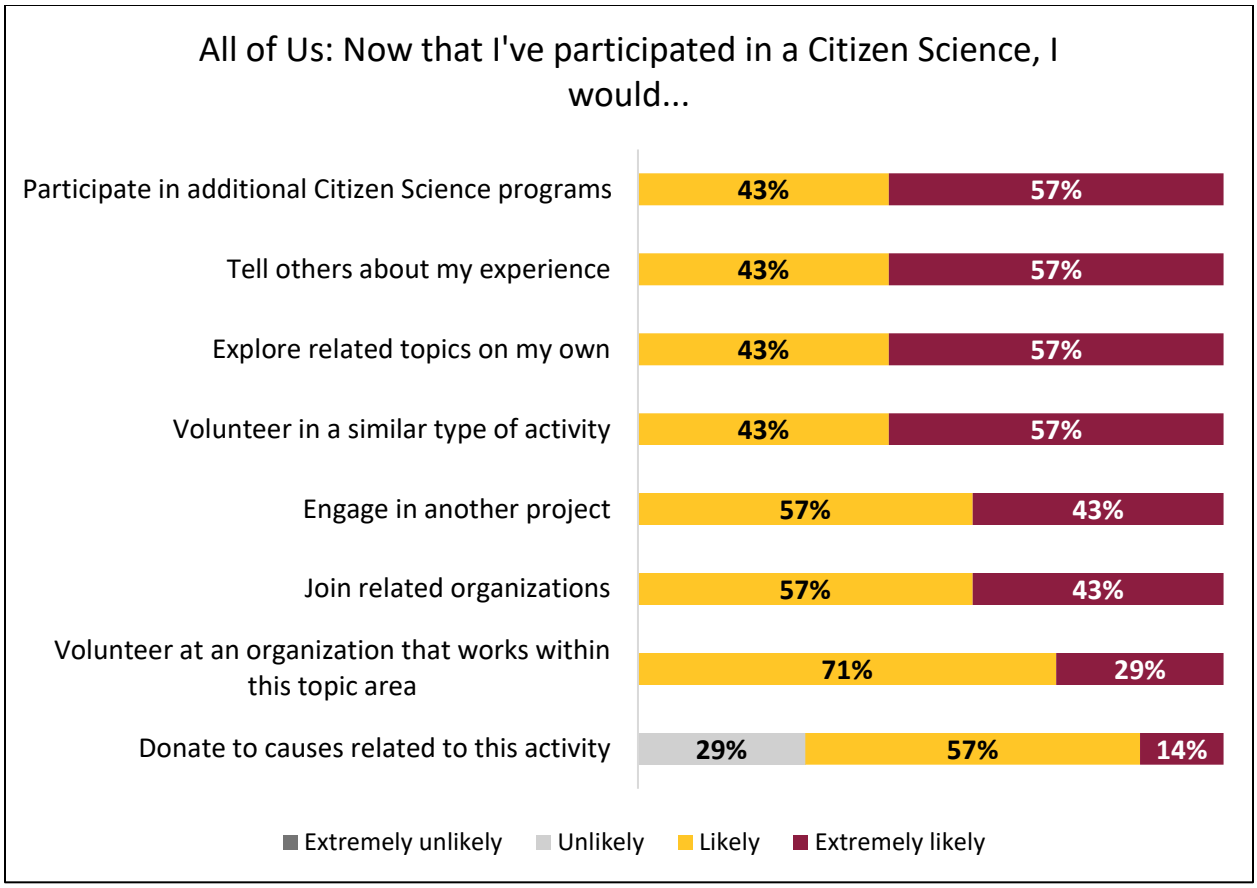
All of Us participants also reported on factors that would lead them to participate in citizen science activities more. A majority of participants (60%, 3/5) indicated that they would participate in activities more if they were geared toward their interests or if events were facilitated through the library. Forty percent of participants (2/5) reported that having activities available to do on their own time, available to do at home, or more geared toward their age group would encourage continued participation.



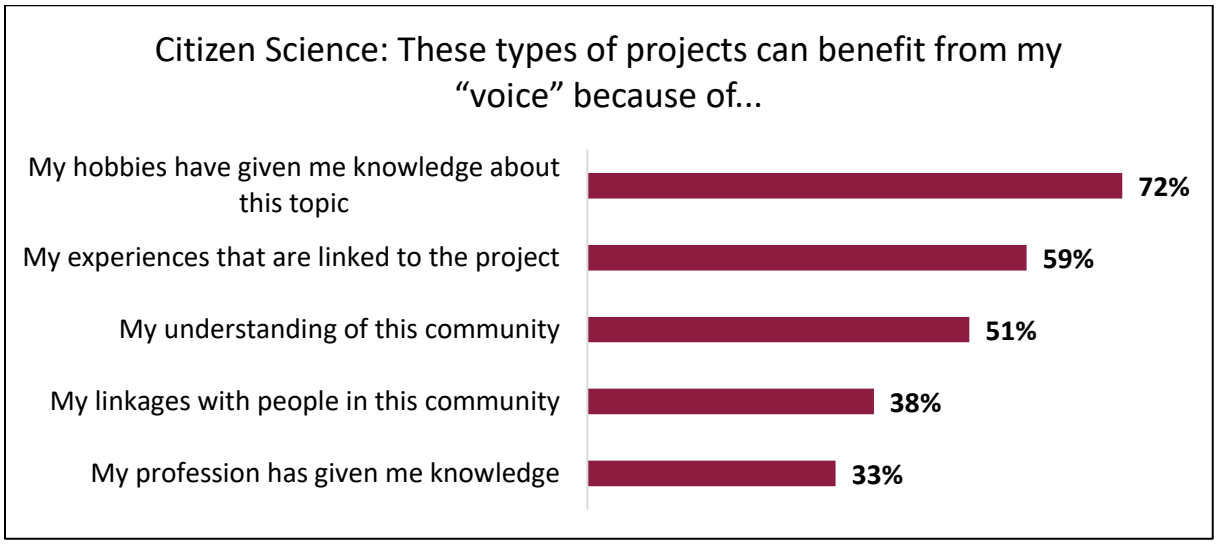
To further understand participants' behavior with citizen science, they were asked to report on their likelihood of further engagement. As shown below, all Citizen Science participants reported being likely or extremely likely to participate in additional citizen science programs (100%, n = 35) and engage in another project (100%, n = 35). Over eighty-eight percent of participants reported being likely or extremely likely to continue to engage with citizen science in all but one of the ways presented. Participants also reported they would be more likely to donate to similar causes with 79% (n = 27/34) of participants reporting being likely or extremely likely.



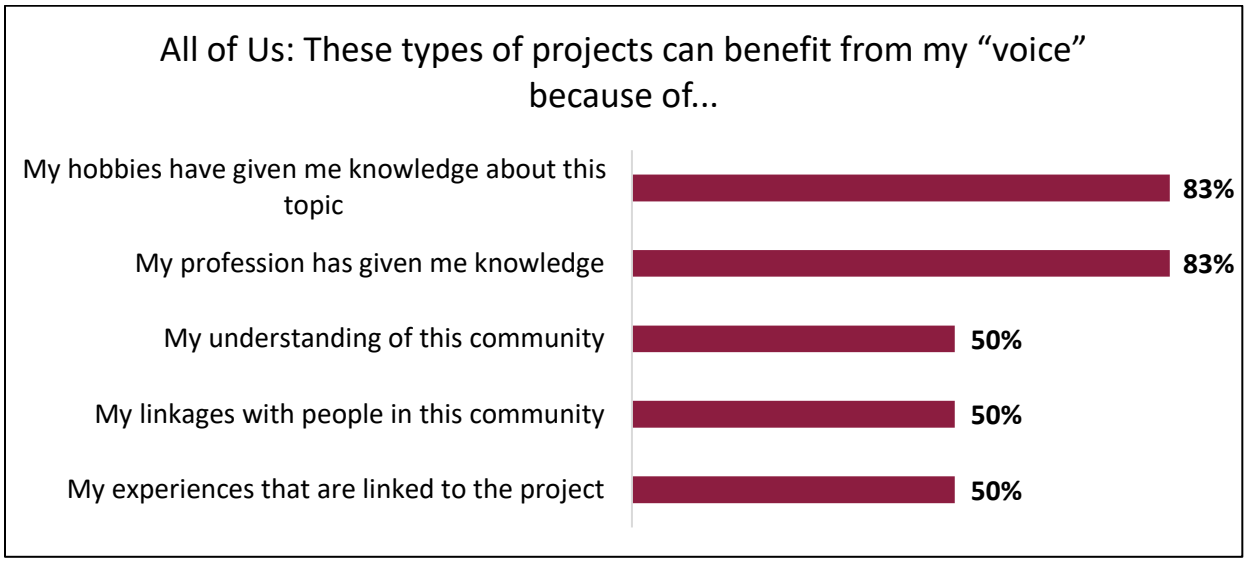
Similarly, to further understand All of Us participants' behavior with citizen science, they were also asked to report on their likelihood of further engagement. As shown below, all participants reported being likely or extremely likely to continue to engage with citizen science in all but one of the ways presented (100%, n = 7). Seventy-one percent (n = 5/7) of All of Us participants reported being likely or extremely likely to donate to similar causes.



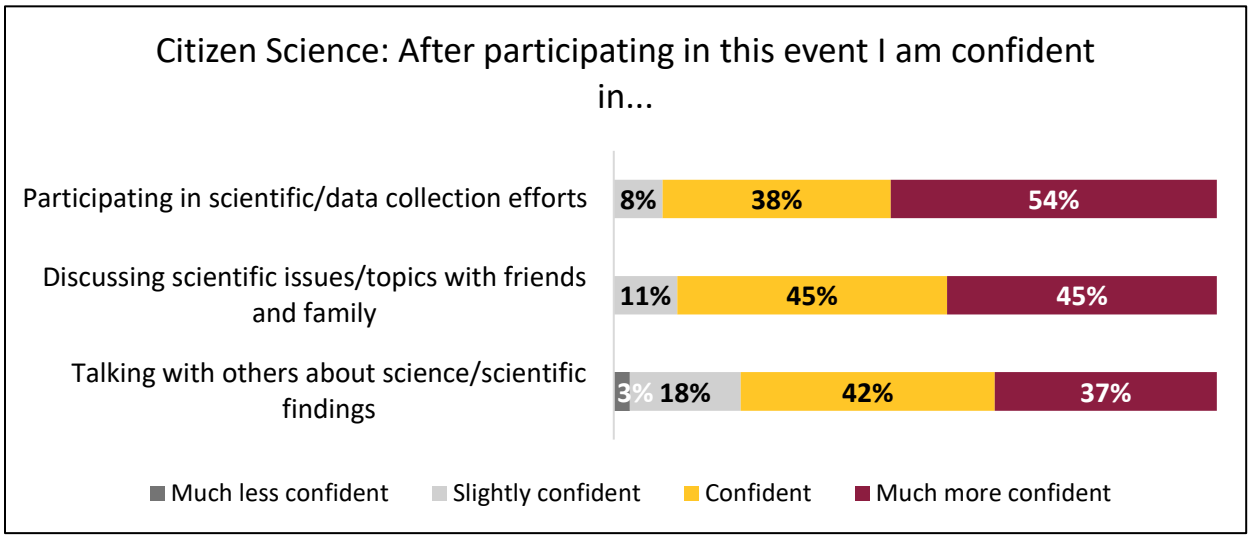
Citizen Science participants also completed measures to provide an understanding of their sense of contribution to science and their voices being valuable after participation. As shown below, most participants felt that citizen science can benefit from their voice because of knowledge that their hobbies have given them (72%, 28/39), their experiences that are linked to the project (58%, 26/45), and their understanding of their community (59%, 23/39). Fifty-one percent of participants (20/39) also reported that their understanding of their community would be a benefit to citizen science projects.



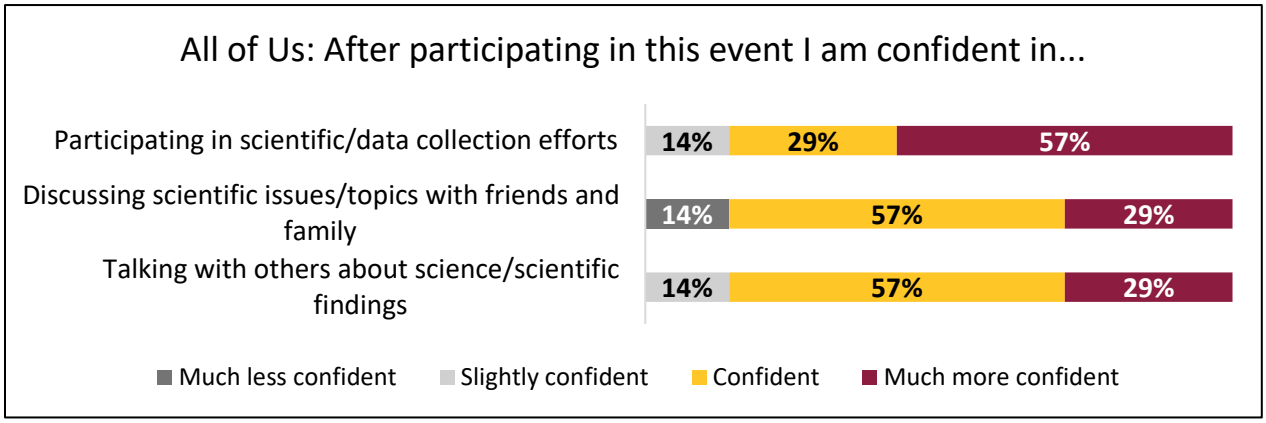
All of Us participants also completed measures to provide an understanding of their sense of contribution to science and their voices being valuable after participation. As shown below, 83% (5/6) of participants felt that citizen science can benefit from their voice because of knowledge that their hobbies and professions have given them. Fifty percent of participants (3/6) reported that their understanding of their community, their linkages with people in the community, and their experiences that are linked to the project would be a benefit to citizen science projects.



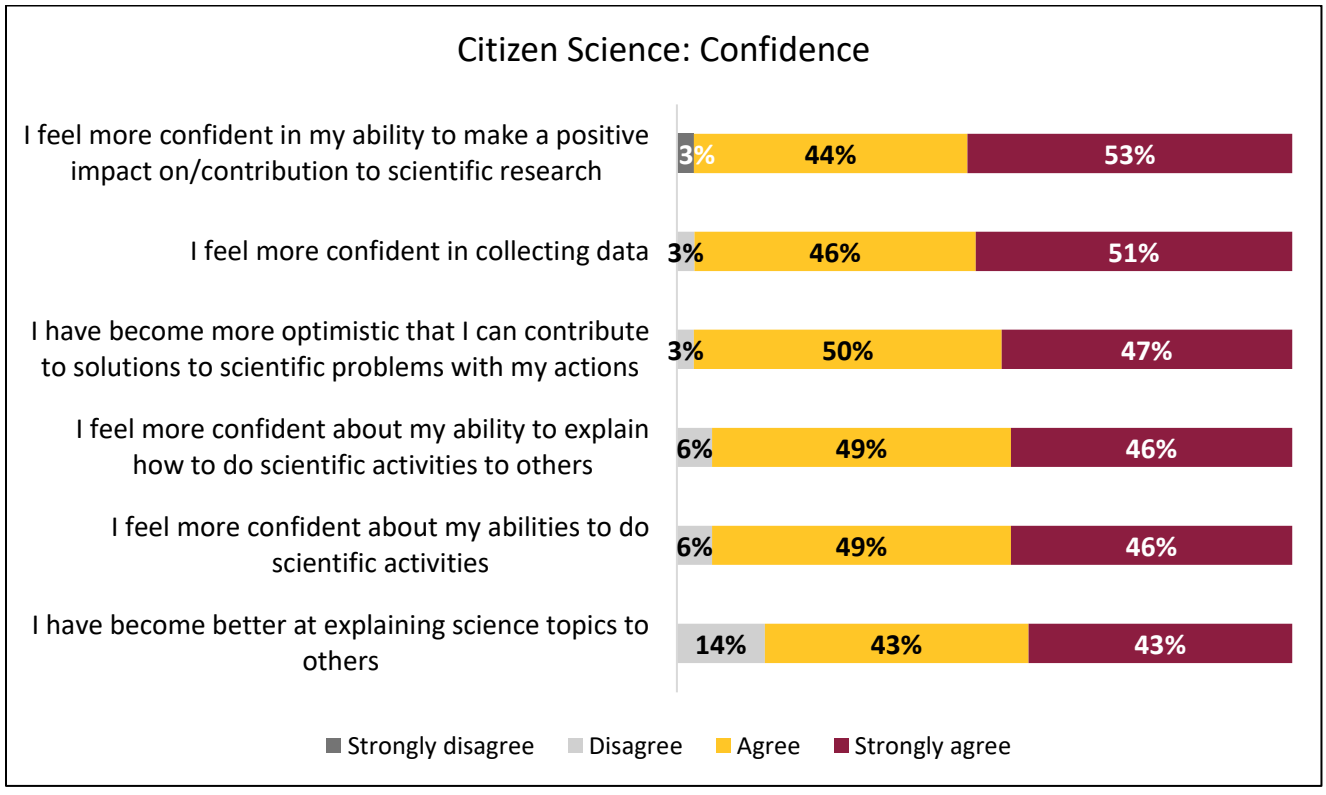
Citizen Science participants reported increased confidence in data collection and interpretation after their engagement. Ninety-two percent (34/37) of participants reported feeling confident or much more confident in participating in scientific data collection efforts, with a majority being much more confident (54%, 20/37). Eighty-nine percent (34/38) of participants felt confident or much more confident in discussing scientific topics with friends and family. Lastly, 79% (30/38) of participants reported being confident or much more confident in talking with others about scientific findings.



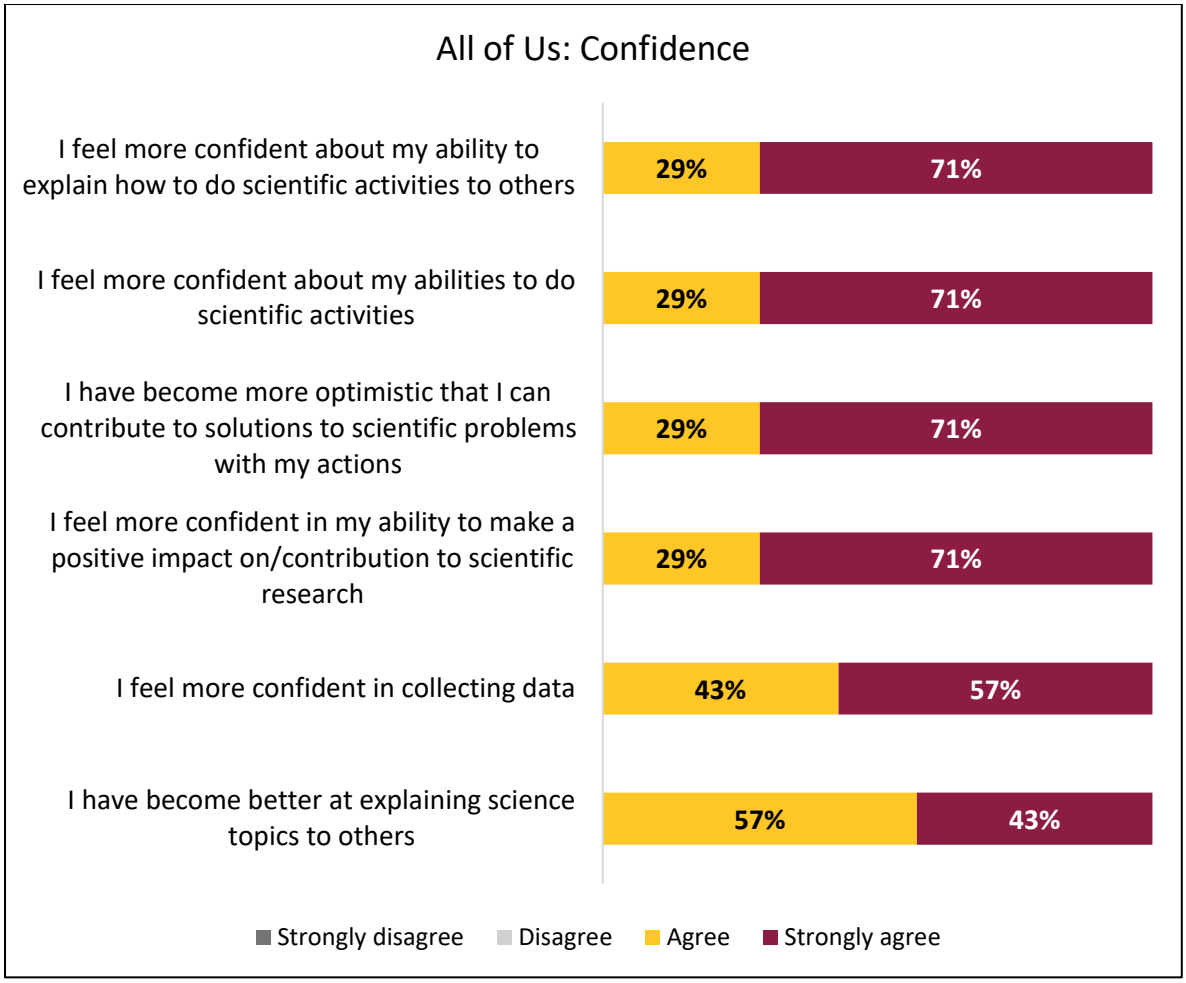
All of Us participants also reported increased confidence in data collection and interpretation after their engagement. As shown below, 86% (6/7) of participants reported feeling confident or much more confident for all measures. The majority (57%, 4/7) of All of Us respondents reported feeling confident in participating in scientific/data collection efforts.



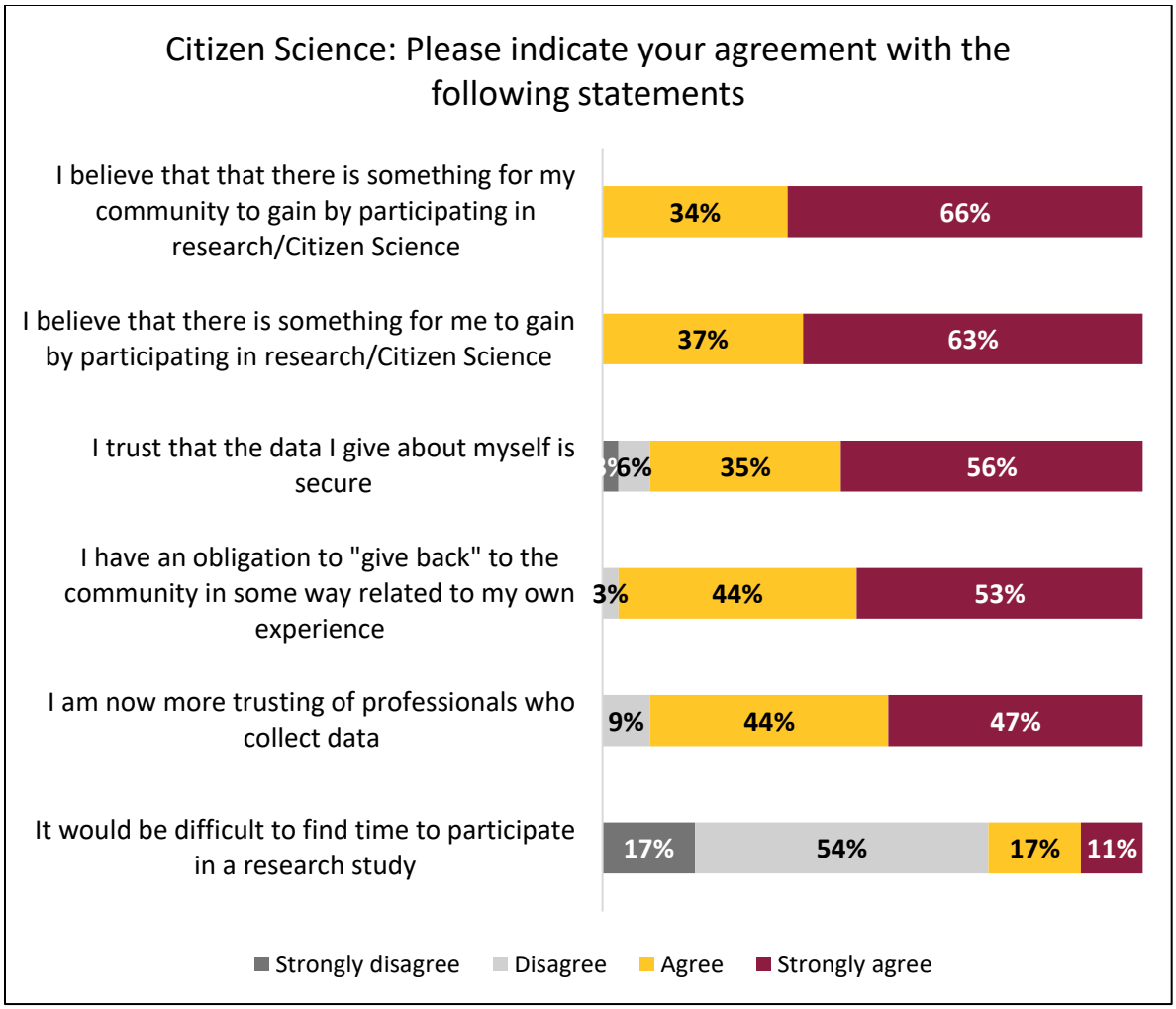
Further assessing confidence, Citizen Science participants responded to additional measures regarding data collection and other scientific activities. Ninety-seven percent of participants agreed or strongly agreed that they feel more confident in their ability to make an impact/contribution to scientific research (35/36), in collecting data (34/35), and that they have become optimistic about contributing to solutions to scientific problems (35/36). Ninety-four percent of participants (33/35) agreed or strongly agreed that they feel more confident about their ability to explain how to do scientific activities and about their abilities to do scientific activities.



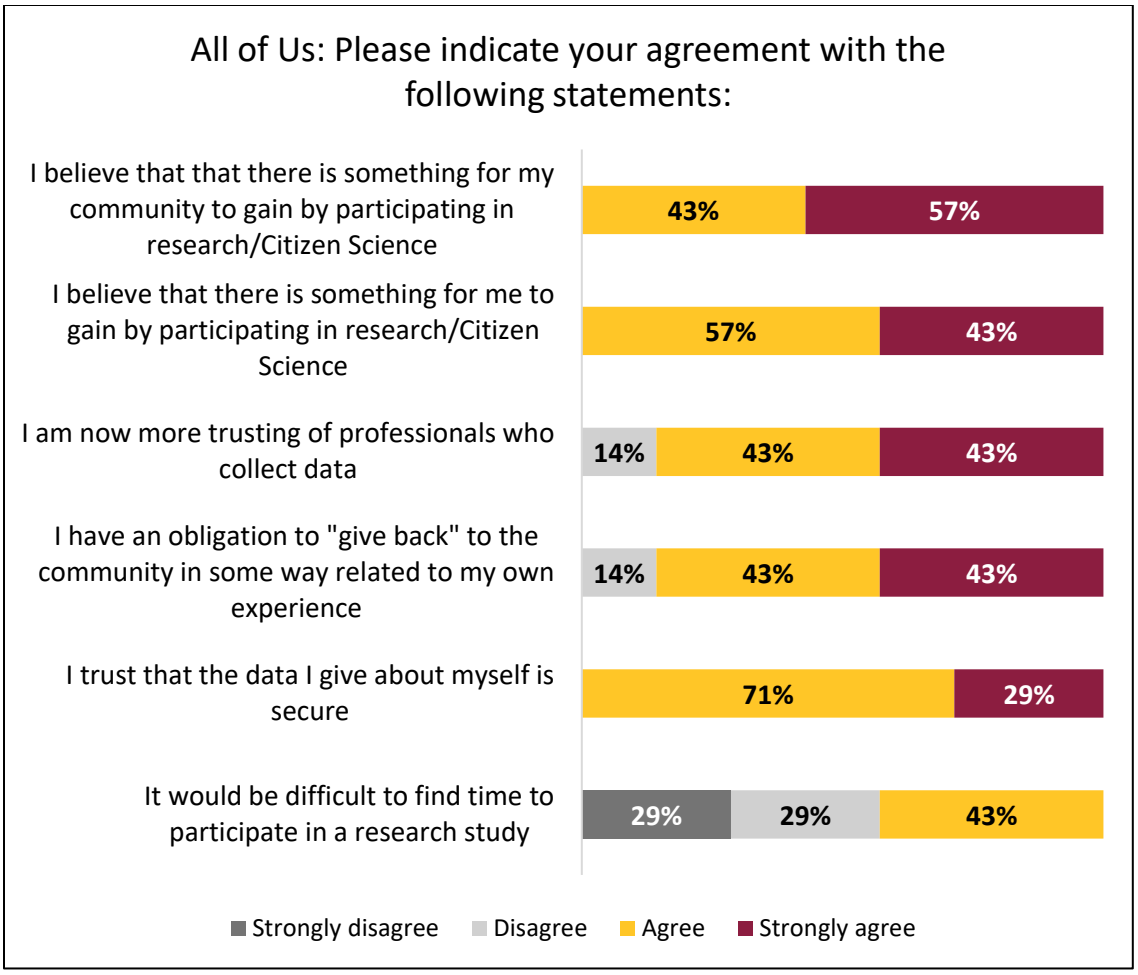
All of Us participants responded to the same measures regarding data collection and other scientific activities. All participants (100%, n = 7) agreed or strongly agreed to all measures.



All Citizen Science participants (n = 35) agreed or strongly agreed that they believe there is something for their community or themselves to gain by participating in Citizen Science research. At least 91% of participants agreed or strongly agreed that they are now more trusting that the data they share is secure (91%, 31/34), that they have an obligation to "give back" to their community (97%, 33/34), and are more trusting of professionals who collect data (91%, 31/34), and that they have. A majority of participants (71%, 25/35) reported that it would not be difficult to find time to participate in a research study.



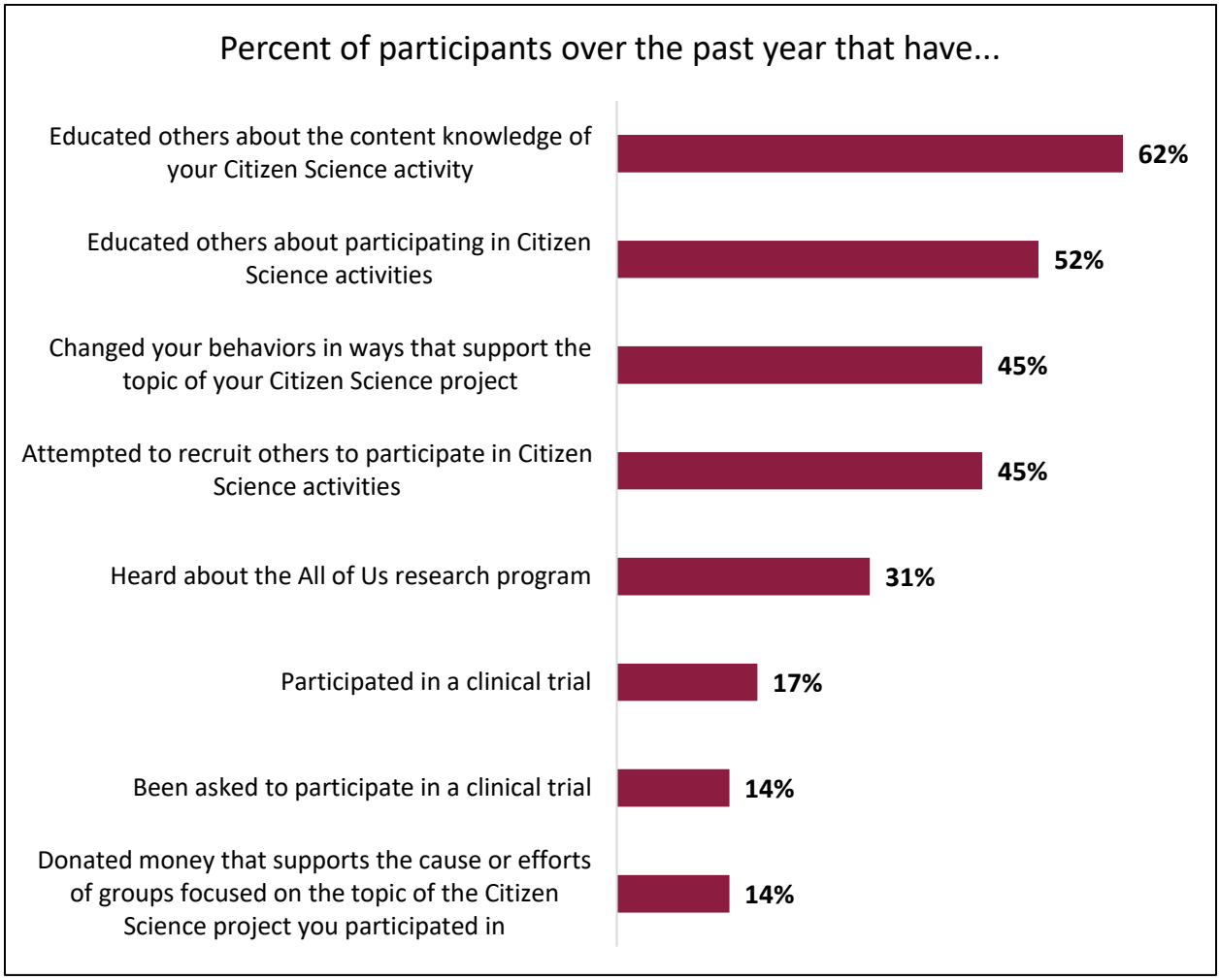
Similarly to Citizen Science participants, 100% (n = 7) of All of Us participants agreed or strongly agreed that they believe there is something for their community or themselves to gain by participating in Citizen Science research. All participants also agreed or strongly agreed that they trust that the data they give about themselves is secure. Eighty-six percent (6/7) of participants agreed or strongly agreed that they are more trusting of professionals who collect data and that they have an obligation to "give back" to their community. A majority of participants (57%, 4/7) reported that it would not be difficult to find time to participate in a research study.



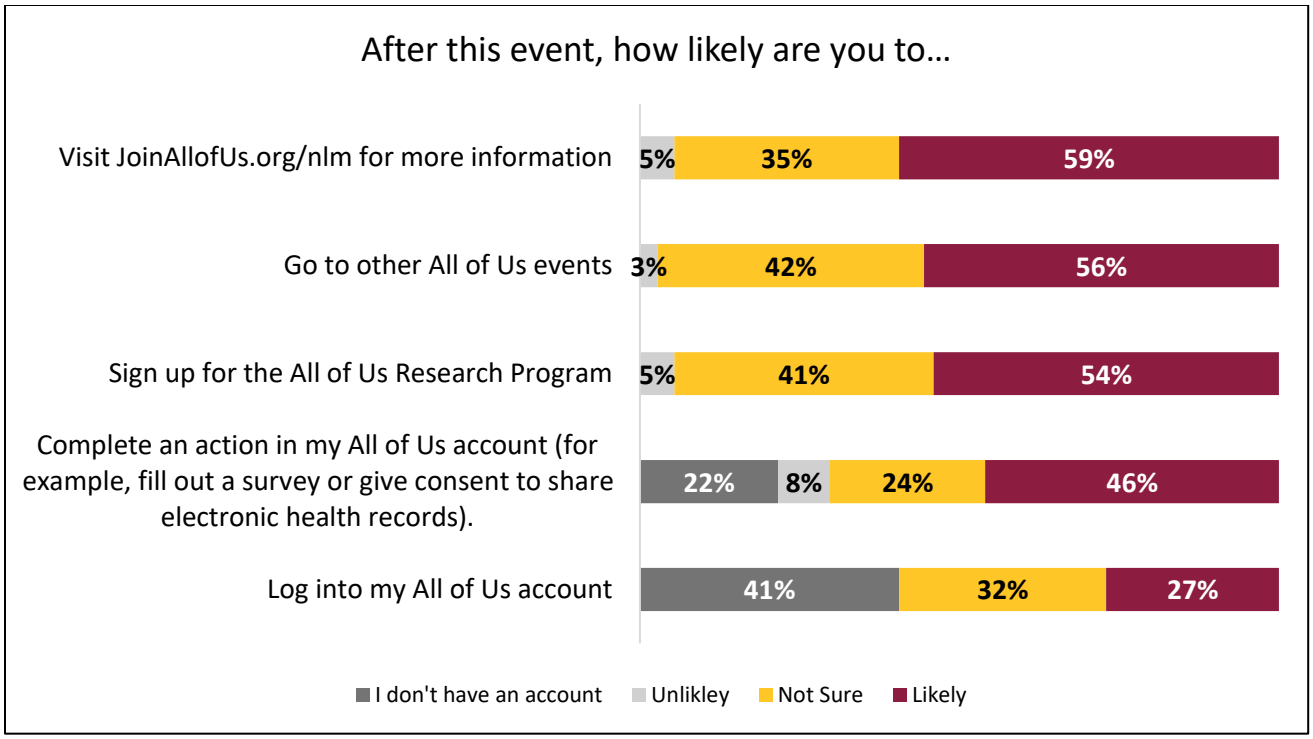
ALL OF US

A total of 93 participants who responded to the online survey indicated that the event or activity they engaged with was an All of Us event. As responses to every survey question were not required, the response rates to the measures reported on below vary.

To further understand participants' behavior with citizen science, participants in Citizen Science Month All of Us sponsored/specific events were asked to report on their engagement in different citizen science and clinical activities throughout the prior year. As shown in the chart below, a majority of participants reported educating others about the content of their citizen science activity (62%, 18/29) and educating others about participating in citizen science (52%, 15/29). Forty-five percent (13/29) of participants reported changing their behavior to support the topic of their citizen science month project and attempting to recruit others to engage in citizen science activities.



Additionally, participants in All of Us events reported on measures regarding future engagement with the All of Us Research Program. A majority of participants reported being likely to visit the All of Us website (59%, 22/37), attend other All of Us events (56%, 20/26), and sign up for the All of Us Research Program (54%, 20/37). Forty-six percent (17/37) of participants reported being likely to complete an action within their All of Us account. Twenty-seven percent (10/37) or participants reported being likely to log into their All of Us account, and 41% (15/37) reported that they do not have an account.



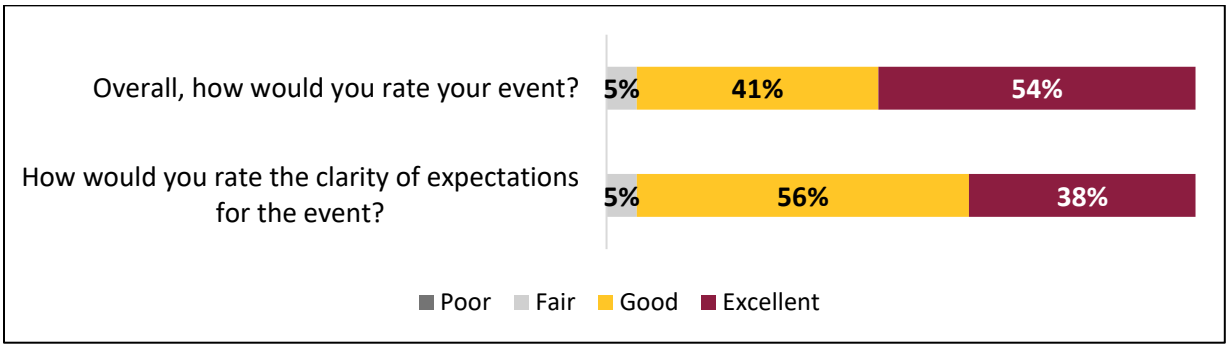
Note. The above chart excludes responses from those who reported already having an All of Us account. A chart including this data can be found in Appendix F.

FACILITATORS

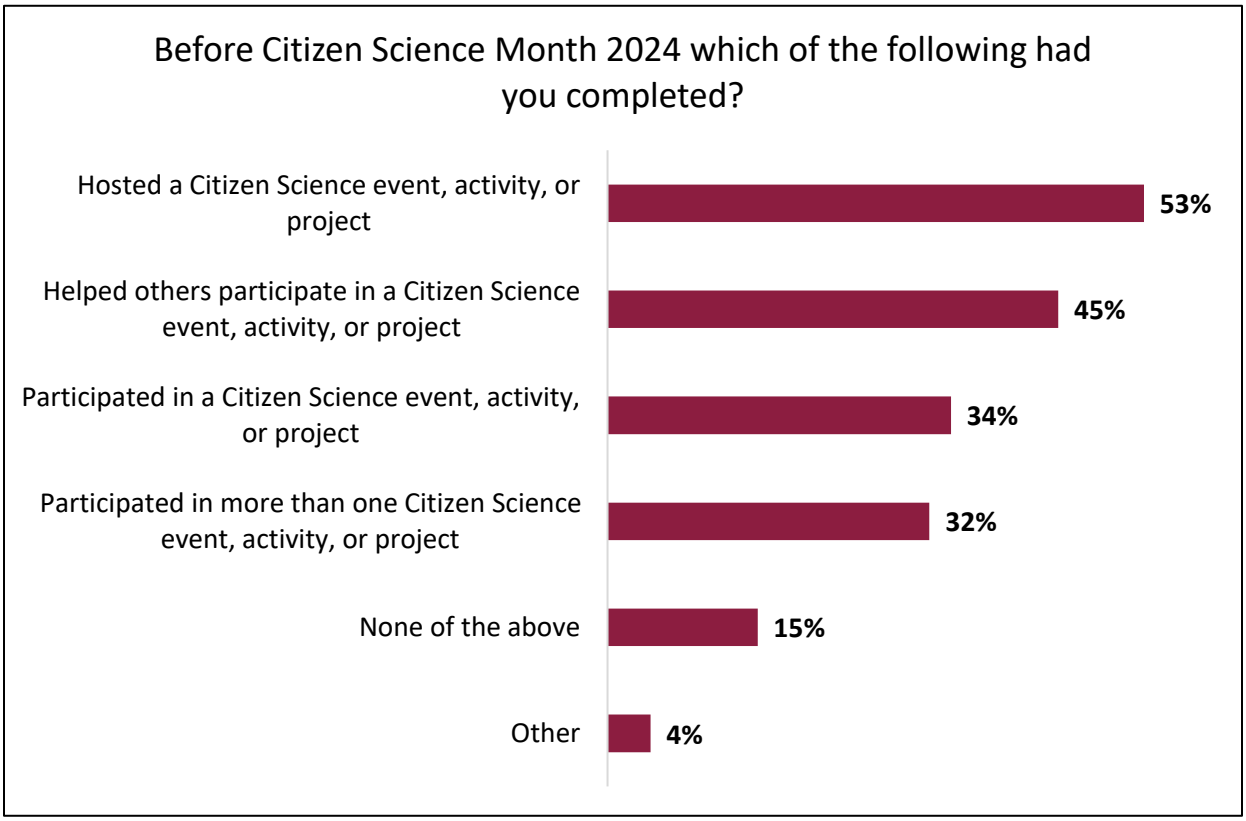
A total of 48 event facilitators began the online survey after facilitating/hosting a Citizen Science Month event. Forty-three facilitators answered at least one survey question. Five event facilitators indicated that their event was held in a language other than English. As responses to every survey question were not required, the response rates to the measures reported on below vary.

Facilitator Survey	n	Percentage
Answered only Citizen Science questions	20	47%
Answered Citizen Science & All of Us questions	23	53%
Total	*43*	*100%*

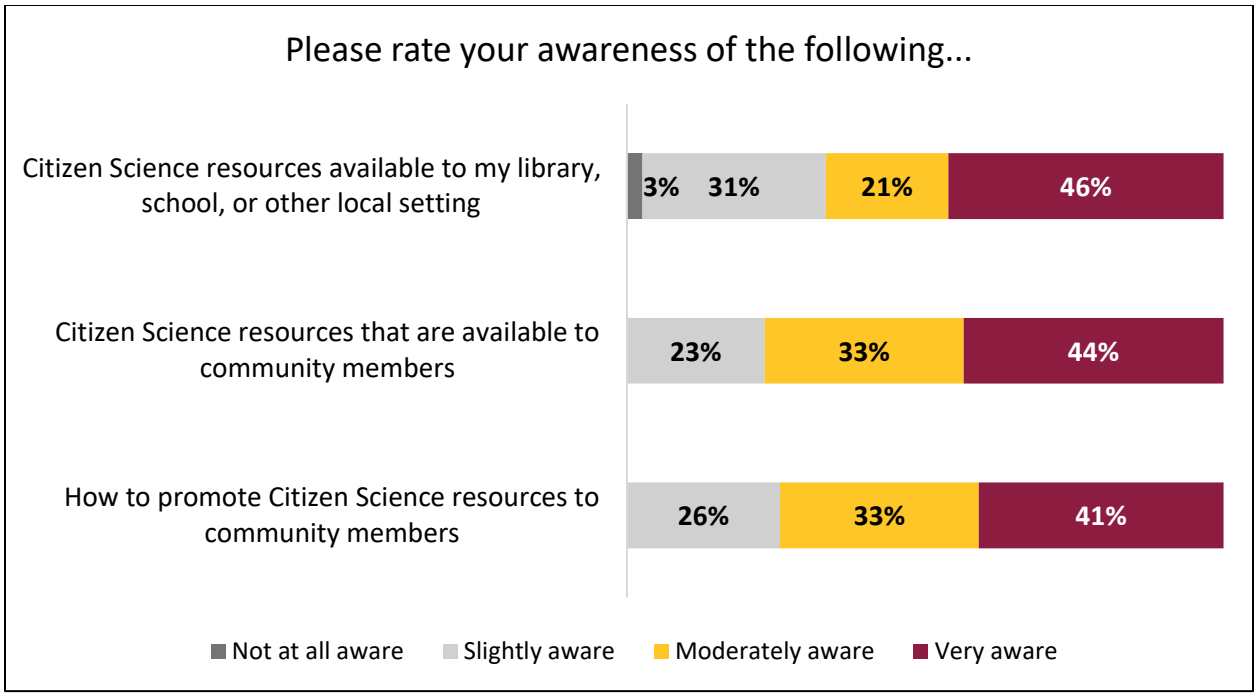
Overall, the majority of facilitators (95%, 37/39) rated their event as good or excellent. Ninety-five percent also rated the clarity of expectations for the event as good or excellent.



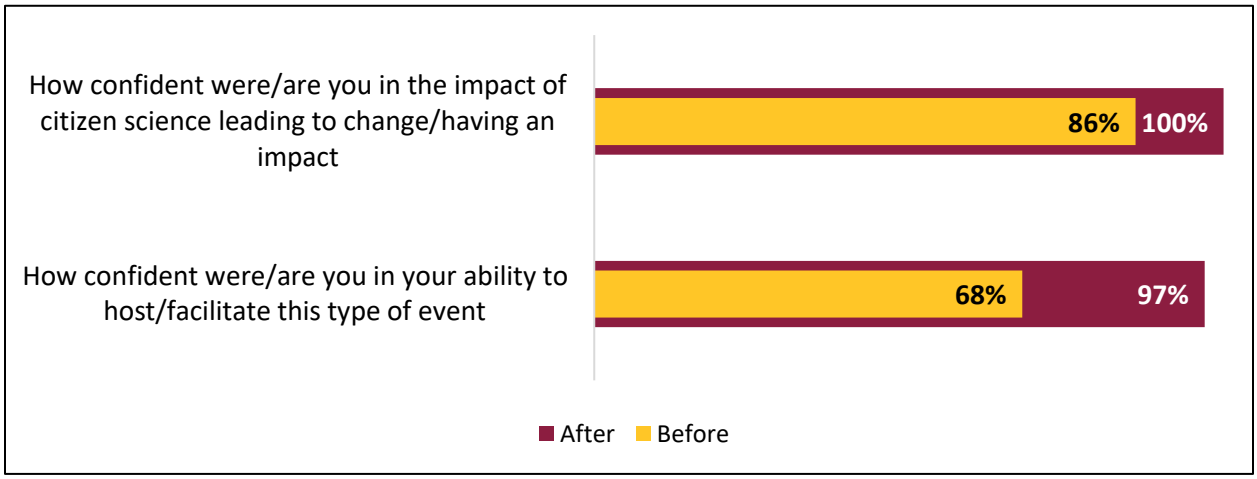
Event facilitators reported on their experiences with citizen science prior to Citizen Science Month 2024. As shown below, a majority of facilitators (53%, 25/47) reported previously hosting a citizen science event, activity, or project. Facilitators also reported previously helping others participate in citizen science (45%, 21/47), participating in a citizen science event activity or project (34%, 16/47), or participating in more than one citizen science event, activity, or project (32%, 15/47). A smaller percentage (15%, 7/47) of facilitators reported no engagement with citizen science prior to Citizen Science Month 2024. Two facilitators (4%) reported "other" engagement specifying that they used citizen science kits or were a presenter at a previous All of Us event (Appendix G).



To investigate awareness on ways to engage the public regarding citizen science, event facilitators were assessed on their awareness of citizen science resources. At least 67% of facilitators reported being moderately aware of citizen science resources available to their local settings, or community members, as well as how to promote said resources to community members. Forty-six percent (18/39) of facilitators reported being very aware of citizen science resources available to their local settings and 44% (17/39) reported being very aware of resources available to community members. Forty-one percent (16/39) reported being very aware of how to promote citizen science resources to community members.

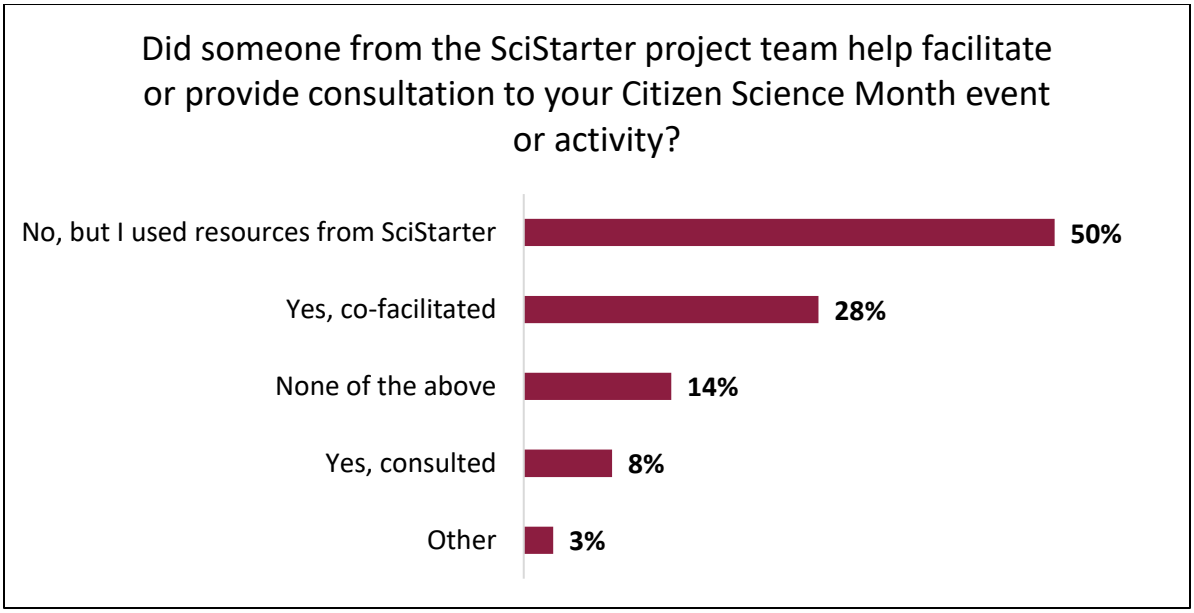


Facilitators were also assessed on their confidence in the impact of citizen science and their ability to host this type of event. As shown below, after facilitating their event 100% (n = 36) of respondents felt confident or very confident in the impact of citizen science leading to a change. Ninety-seven percent (36/37) of facilitators felt confident or very confident in their ability to host this type of event after facilitating.



Citizen Science Month event facilitators were also asked to report on their collaboration with SciStarter for the event/activity they hosted. As shown below, 50% (18/36) of facilitators did not have a SciStarter team member assist with their Citizen Science Month event or activity, but they utilized SciStarter resources. Thirty-six percent of facilitators indicated assistance from the SciStarter team, 28% (10/36) had a team member co-facilitate and 8% (3/36) had a team member consult on their event or activity. Fourteen percent (5/36) of facilitators reported not receiving any assistance from SciStarter for their

event or activity. The one facilitator (3%) that reported "other" indicated that they were a SciStarter team member themselves.



Note. Respondents were able to select more than one option, leading to percentage values totaling more than 100%.

Facilitators also reported on the value that collaborating with SciStarter added to their Citizen Science Month event. Respondents noted that collaborating with SciStarter provided: awareness and recognition, access to support and resources, and enhanced collaboration and promotion. Illustrative quotes are provided below (see Appendix H for additional information).

Collaboration and Promotion n = 6

It gave me an opportunity to highlight some of the projects we do at the facility where I work and I used it as a call to action to encourage people to contribute

Coordinating conversations

Access to Resources and Support n = 5

The webinars, social media assists and slides saved me a lot of time while preparing an informational workshop.

Provided additional information as to what's possible and offered support for projects.

Awareness and Recognition n = 4

It provided us with a strong awareness that SciStarter is a very valuable tool in assisting us with our science projects.

SciStarter was the source of the Citizen Science Month and opened my eyes to a world of opportunity in Citizen Science.

In addition to addressing the value and level of assistance from SciStarter, facilitators were asked to report on ways collaboration with SciStarter could be improved in the future. Responses included: additional education and communication, increased resource availability and organization, and preparation and timing. Some illustrative quotes are included below (see Appendix I for additional information).

Resource Availability and Organization n = 6

Disponibilizar o site também em outros idiomas como "Português" (Brasil)
"Make the site also available in other languages such as Portuguese (Brazil)"

Have the same program resources developed for a variety of ages vs a one-size-fits-all situation. I utilized the Citizen Science PowerPoint, and it was too high-level for younger learners.

Education and Communication n = 2

Maybe more communication between the people at SciStarter and the event facilitators

We need a "thorough" education on how SciStarter and the website works. There are so many components that getting started is very difficult. Classes should be held on the logistics of the website.

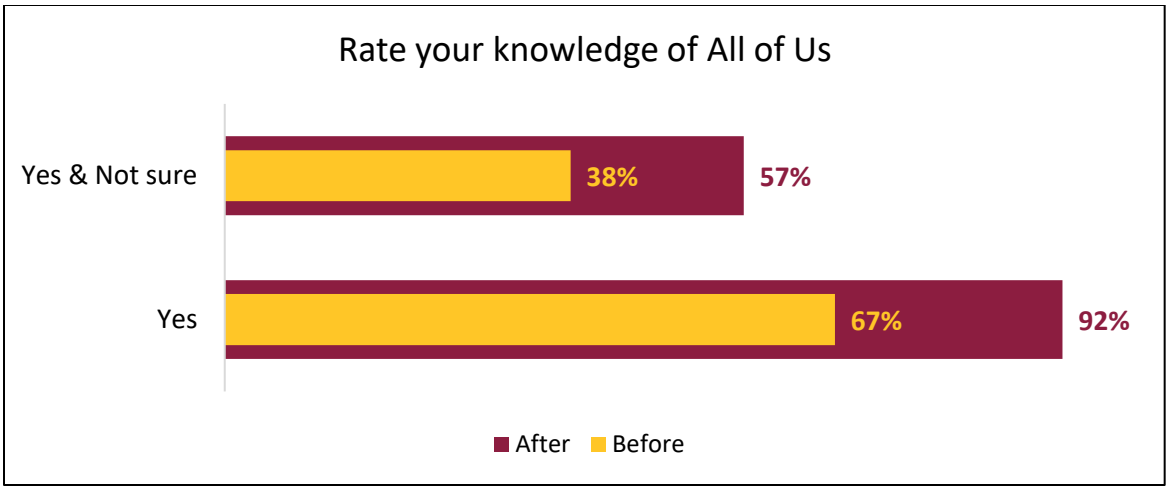
Preparation and Timing n = 2

A bit more preparation.

ALL OF US

Similar to Citizen Science Month participants, event facilitators were asked to report on various measures regarding the All of Us Research Program. Of the 43 facilitators that completed the facilitator survey, 13 indicated that their event did cover information about All of Us, 10 facilitators reported they were not sure, 16 reported that their event did not cover information about All of Us, and 4 did not provide an answer. Only facilitators indicating "yes" or "I'm not sure" to the above question were asked to report on the measures included in the analysis that follows.

All of Us event facilitators were asked to report on their knowledge of the All of Us Research Program before and after facilitating their event. They were asked to rate their knowledge on a scale of "never heard of it," "heard of it," "know a fair amount," and "could explain it well to others." As shown in the chart below, 92% (11/12) of facilitators that indicated "yes" their event covered information on All of Us reported knowing a fair amount or could explain it well to others after facilitating, compared to 67% (8/12) before facilitating.



Note. Percentages reflect responses "know a fair amount" and "could explain it well to others."

Facilitators that indicated their event did cover the All of Us Research Program were asked to report on the experience of their participants during the event. Three facilitators responded "yes" that participants at the event indicated reasons they may not consider participating in the All of Us research program. Two facilitators elaborated with the following quotes:

> *"Sharing their personal medical files and the amount of time involved in the survey."*

> *Concerns about time, medical information and privacy, the complexity of sharing medical information."*

Finally, facilitators who indicated "yes" or "I'm not sure" to their event covering information on the All of Us research program were asked to report on their likelihood of collaborating again in the future. All facilitators (100%) that indicated "yes" reported being likely or extremely likely to collaborate again in the future.

ENGAGEMENT

To assess participant engagement, event facilitators were asked to report on the utilization of different outreach strategies as well as different experiences to recruit and engage participants.

As shown below, most facilitators (85%, 33/39) reported their event use promotion through social media to recruit participants for their event. A majority of facilitators also relied on word of mouth (59%, 23/39) and promotion through flyers and newsletters (54%, 21/39). Those that reported "other" used library resources and additional forms of media (see Appendix J).

Facilitators also reported on components included in their event used to engage participants. As shown below, a majority of events included hands-on experiences for participants (68%, 26/38) and subject matter experts (53%, 20/38). Those that responded "other" elaborated that their events included volunteer opportunities and interactive webinar activities (see Appendix K for detailed responses).

CONCLUSIONS & RECOMMENDATIONS

Overall, the majority of participants reported high levels of satisfaction with the Citizen Science Month events and projects they engaged in, and most were repeat participants in some regard. Participants expressed that after their experience this Citizen Science Month, they are likely to participate in an event or project again and continue to engage in citizen science generally. Based on participant reported zip codes, Citizen Science Month programming created broad engagement across the U.S. and a few other countries.

Participants reported an increase in their awareness of the purpose of citizen science as well as the value and impact of their individual participation. Awareness of the All of Us Research Program was also impacted, paired with an increased likelihood of engagement. Citizen Science Month programming also led participants to increased confidence surrounding scientific research.

Based on findings from the data collected in the participant survey, recommendations can be made to continue to expand on the impact and reach of Citizen Science Month programming. As detailed in the above report, the majority of survey participants reported being above the age of 55 (58%), identified as White (70%), and identified as women (74%). Citizen Science Month partners should continue to make efforts to expand outreach in an effort to increase the number of new participants who report first-time engagement with citizen science. This could be done through expanding outreach avenues and broadening methods for dissemination and recruitment (social media, on-site advertising, etc.). Consider expanding on and continuing efforts to create events and projects covering topics that are relevant and important to groups who are underrepresented in biomedical research. Expanding outreach and continuing to build relationships with local institutions and libraries may help to increase engagement from groups that are underrepresented in biomedical research.

Further, Citizen Science Month event facilitators were satisfied with the event they hosted and the clarity of what was expected of them as a facilitator. Event facilitators reported increased confidence in themselves as an event host as well as the overall impact of citizen science. Facilitators were also able to provide feedback as to ways collaboration between them and Citizen Science Month partners could improve, as well as feedback on event participants behaviors. Dissimilar to what was reported by participants, there was a lower rate of return facilitators, or facilitators who had engaged with citizen science previously.

Based on findings from the data collected in the facilitator survey, recommendations are made to continue to expand on the impact and reach of Citizen Science Month programming. A recommendation to expand the availability of resources is suggested; for example, one facilitator noted the desire for resources to be available in additional languages. Consider expanding on the current materials to reach a broader audience to continue fostering collaborations globally.

Facilitators were able to report on recommendations to improve collaboration with Citizen Science Month partners. Consider these recommendations in future planning allowing for: an increase in

communication leading up to Citizen Science Month, an increase to the amount of lead time and preparation allotted for facilitators, and an expansion of program resources to apply to broader audiences (for example, adding more age groups as the target audience).

Additionally, consider taking steps to improve communication between All of Us personnel and All of Us facilitators. Varying results were reported by facilitators when asked if the event they hosted covered information on the All of Us Research Program. Facilitators also had the opportunity to report on reasons why event participants may be hesitant to participate in the All of Us Research Program. Consider expanding facilitator resources and materials to provide a toolkit to address participant concerns surrounding the security and complexity of sharing personal medical information, and the amount of time needed to dedicate to participation.

Appendix A

I would not recommend this project to someone like me because...

An introduction could be made with less hype, would have liked to do more that night but now I know where and how to do more sciencing.

Some people work a lot. I would recommend this project to kids, teenagers, graduate students. Maybe people who work full-time at entry level. Even elderly people can work on this project.

Appendix B

State	N	State/Country	N
WI	10	TN	2
CA	9	VA	2
NY	9	AL	1
IL	8	CT	1
MA	5	DC	1
FL	4	IA	1
MD	4	LA	1
WA	4	MN	1
AZ	3	MO	1
CO	3	MS	1
MI	3	NC	1
NJ	3	NE	1
TX	3	NM	1
GA	2	OH	1
IN	2	OR	1
NV	2	New Zealand	1
PA	2	Scotland	1
SC	2	India	1

Appendix C

TNP

NIH

Local Newspaper

identifying

Presentation

Teacher

magazine articles

Naturalist Program

From Zooniverse

Appendix D

My 7-year-old grandson wants to be a scientist when he grows up and he was excited to attend when I asked if he wanted to attend the open house.

I enjoyed getting my children to show interest in science.

I got bonus points towards my final

To gain experiences in different areas for resume and future projects.

it was fun!

I love studying

supporting community partner's project

Appendix E

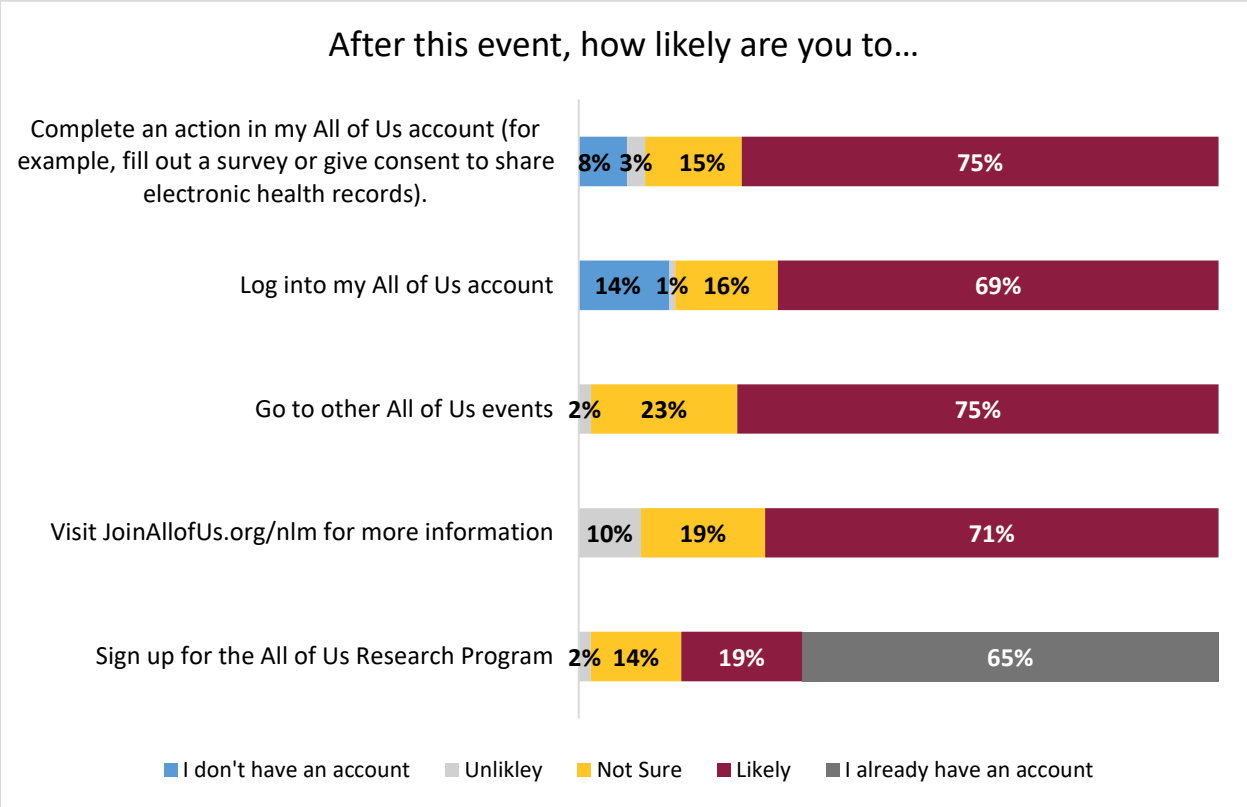
I would participate in Citizen Science activities more if…

If I didn't have to invest money since I don't have enough resources to do so

If data collection devices are provided, If compensation is provided for time and knowledge.

if i had more time

Appendix F



Appendix G

I used 2 citizen science kits

Was a presenter at the AllofUs Event at the Philly Free library

Appendix H

What value (if any) did collaborating with SciStarter add to your Citizen Science month event?

Awareness and Recognition

I think it makes people more aware.

It provided us with a strong awareness that SciStarter is a very valuable tool in assisting us with our science projects.

SciStarter was the source of the Citizen Science Month and opened my eyes to a world of opportunity in Citizen Science.

International platform to get recognize for small efforts for a better world.

Access to Resources and Support

The resources and webinars are great.

Extra resources!

The webinars, social media assists and slides saved me a lot of time while preparing a informational workshop.

Provided additional information as to what's possible and offered support for projects.

recipe cards for events was helpful in adding new events to our calendar

Collaboration and Promotion

Coordinating conversations

It gave me an opportunity to highlight some of the projects we do at the facility where I work and I used it as a call to action to encourage people to contribute

It gave us another location to advertise our event and get the word out

It had access to the "main stage" of promotion

Referred others to SciStarter website.

great ideas for checkout kits, projects, books to get.

Generally Added Value

A HUGE amount -- Caroline was the organizational backbone, the facilitator, and a wonderful person to work with.

Agregou muito valor ao meu projeto

"It added a lot of value to my project"

Other

Become a Citizen Scientist, was our sole Citizen Science event for the month.

Appendix I

How can collaboration be improved: themes and illustrative quotes:

Education and Communication

Maybe more communication between the people at SciStarter and the event facilitators

We need a "thorough" education on how SciStarter and the website works. There are so many components that getting started is very difficult. Classes should be held on the logistics of the website.

Resource Availability and Organization

Disponibilizar o site também em outros idiomas como "Português" (Brasil)

"Make the site also available in other languages such as Portuguese (Brazil)"

Have the same program resources developed for a variety of ages vs a one-size-fits-all situation. I utilized the Citizen Science PowerPoint, and it was too high-level for younger learners.

Some of the resources are somewhat buried on the website.

template for additional science kits so that more science organizations can contribute and libraries can add them to our collections

Broader outreach across North America (including Canada)

Physical resources that could be shared directly

Preparation and Timing

A bit more preparation.

Earlier notice.

None/Misc.

I can't think of anything off-hand.

I thought y/all did a great job with this event!

I found it to be helpful.

I'm very aware of SciStarter resources and the team, so I have no suggestions for improvements.

SciStarter was a dream partner -- I was thoroughly impressed by their leadership.

SciStarter contact (Caroline Nickerson) was super. Great at information sharing, facilitating and positive energy.

Providing a platform to spread words with our limited knowledge, but if we stand together we have lot to learn. Also, a certification to event organizer and the participants so they fell they got some take away, all though, the session itself is take away for them.

Appendix J

Social media, social media advertising

This event was mentioned at several service team meetings.

Collaborated with town library hence promoted through town website and library website

I am a teacher - it was a class assignment.

Road signs. Library display

press release

Workshop to prepare for event

CR3 News Magazine https://joom.ag/isAd

I was not provided enough lead time.

Appendix K

Interactive activities built into the webinar

Enabled kids to volunteer and set it up as a volunteer opportunity for older kids

partnerships with local organizations to promote their science mission