Americans' Motivations for and Barriers to Engaging with Science

EXECUTIVE REPORT | *5•12•22*

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Study and Report by

ScienceCounts | ASTC | LISTEN Network — Leaders in Science and Technology Engagement Networks | LabX | EDGE research

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ASTC ScienceCounts

Project Goals

PRIMARY GOAL

To acquire new **insights and data** *to develop* **more effective public engagement strategies and activities.**

RESEARCH QUESTIONS

- **What motivates interest in science?**
- **What motivates engagement with science?**
- **What is getting in the way?**



KEY RELEASES

- **Strategic Overview**
  May 12, 2022
- **Online Interface** *to access operational- and tactical-level data*
  Early Summer, 2022
- **Complete Database**
  for use by researchers
  Early Summer, 2022

Research Methodology



Focus Groups

- *Eight virtual focus groups*
- *Some broad, some focused exclusively on African American, Hispanic, and Young adults*
- *Conducted before (September 2021) and after (February 2022) the survey*

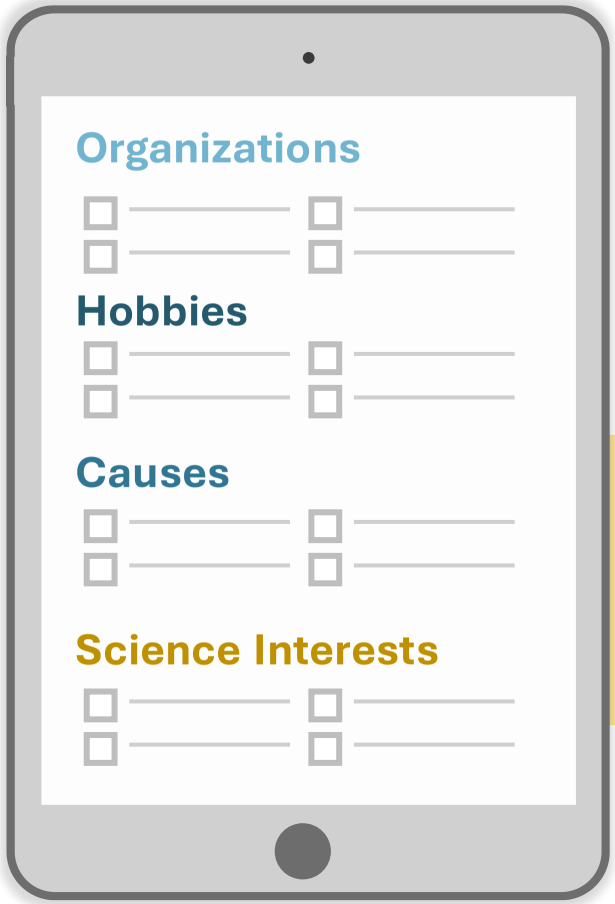


Survey

- *National online survey*
- *Approximately 50 questions*
- *2,590 American adults only*
- *Statistical oversampling of African American and Hispanic adults*
- *Fielded December 3–23, 2021*

Science Interests

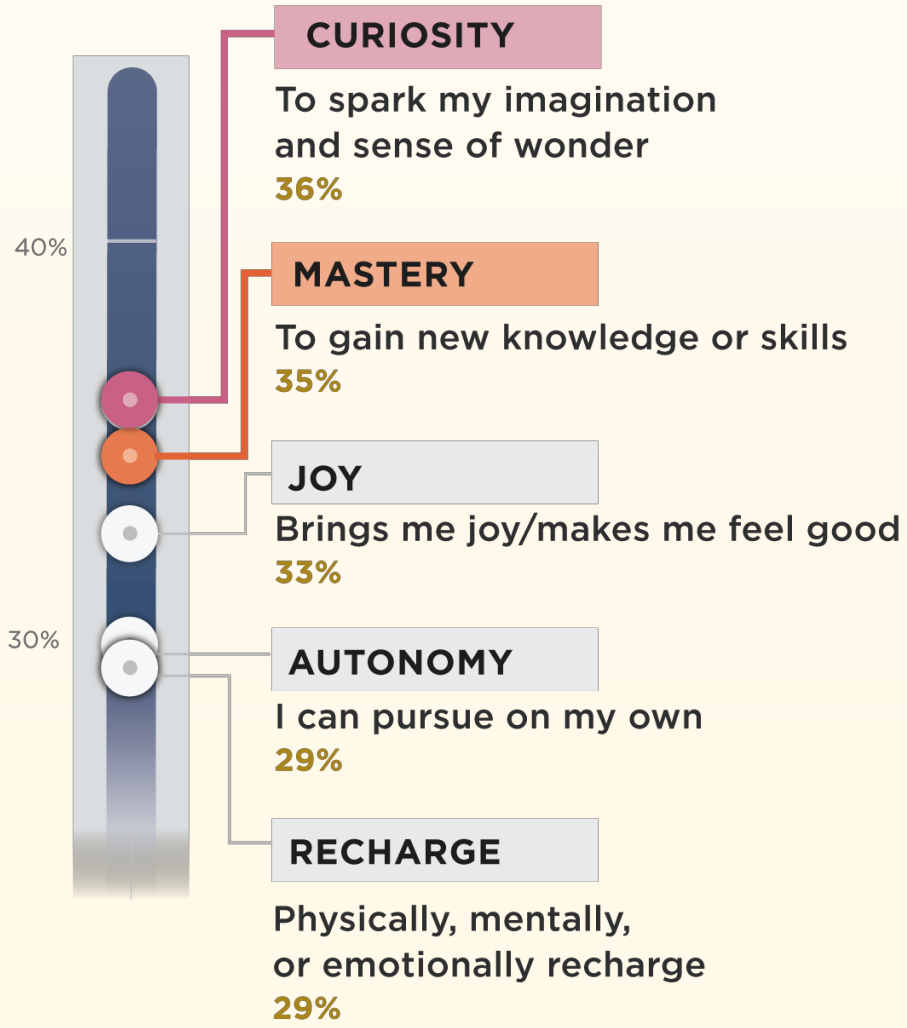
Exploring the motivations behind Americans' interests



94% *of Americans are interested in* **at least one science topic.**

20 possible motivations behind these **interests***?*

Top 5 Motivations for Science Interests

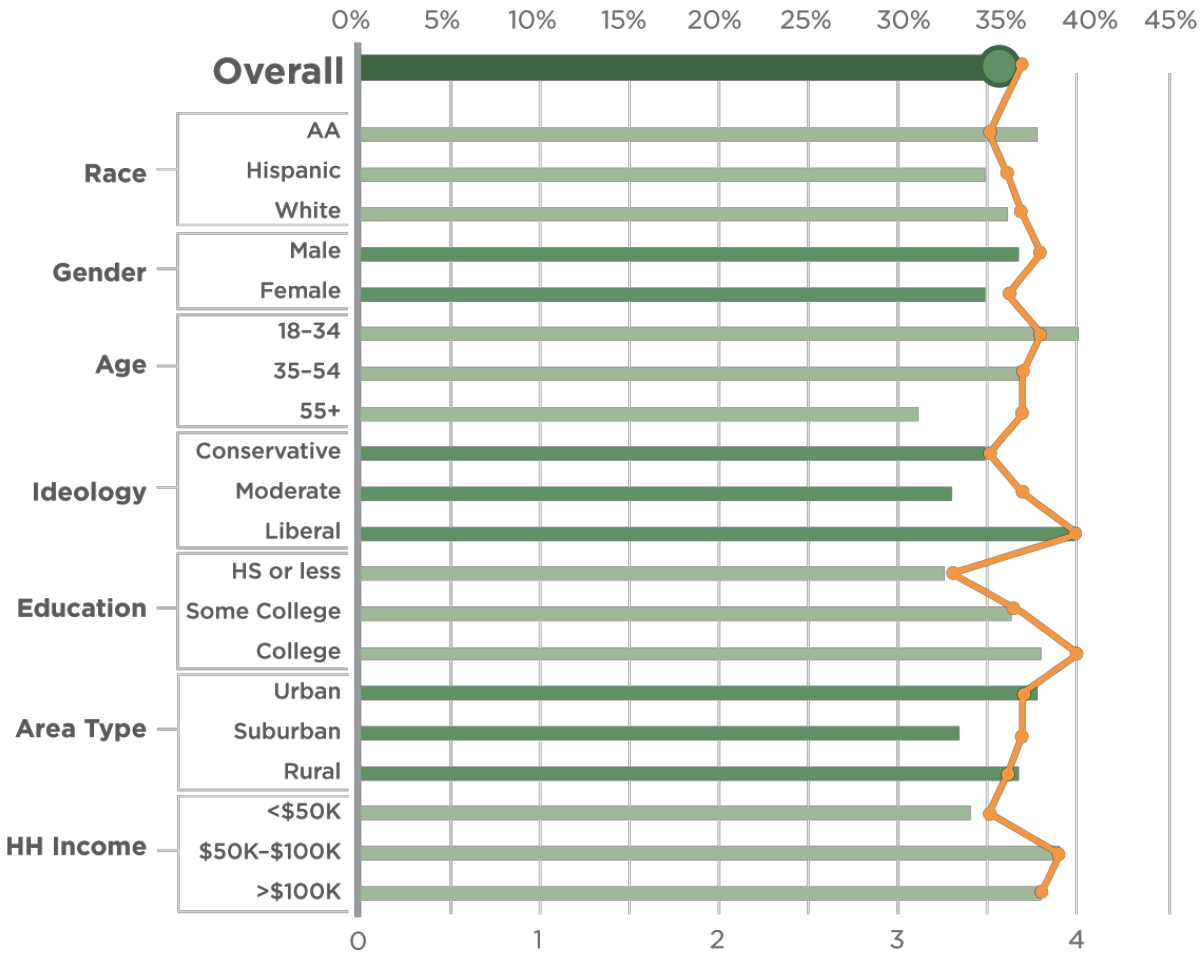


Curiosity Is Key to Science Interest

High curiosity—the rate of which is consistent across population segments—tracks closely with number of selected science topics

Percentage That Are Highly Motivated by **Curiosity** **36%**

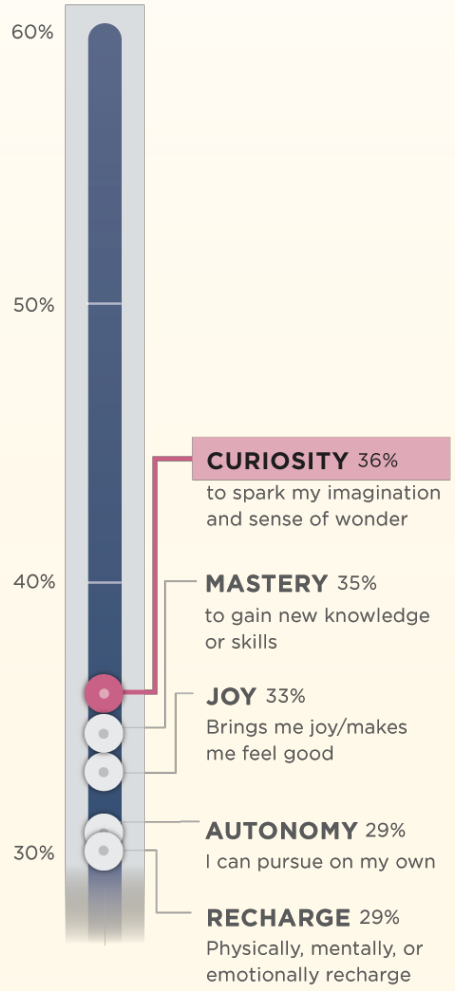
3.7 *Number of Selected* **Science Topics**



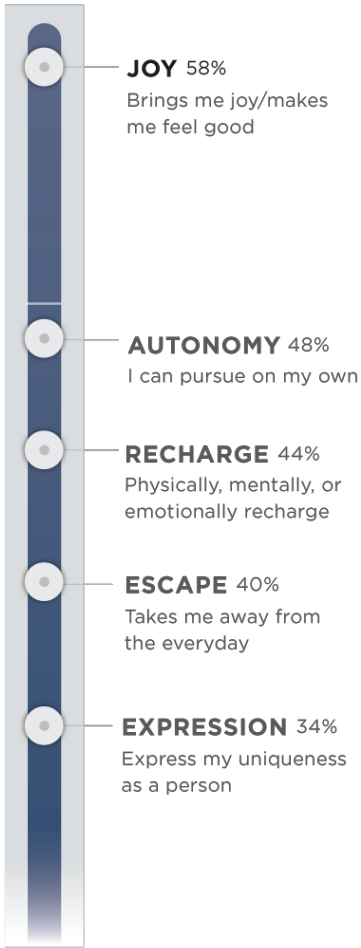
ASTC ScienceCounts

Comparing Top 5 Motivations

Science



Hobbies



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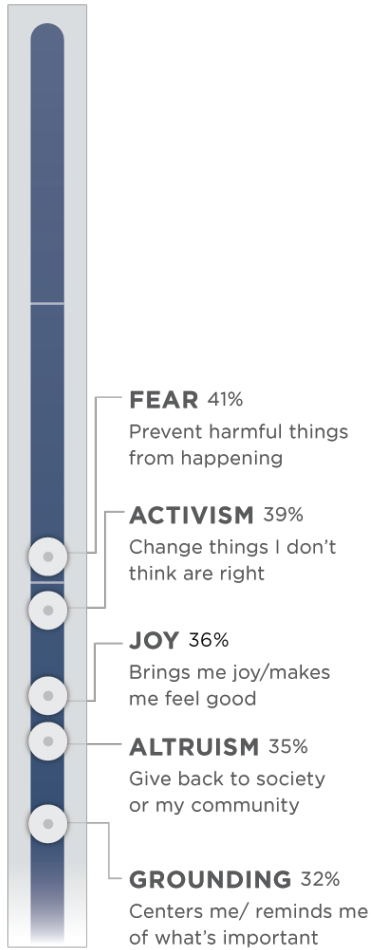
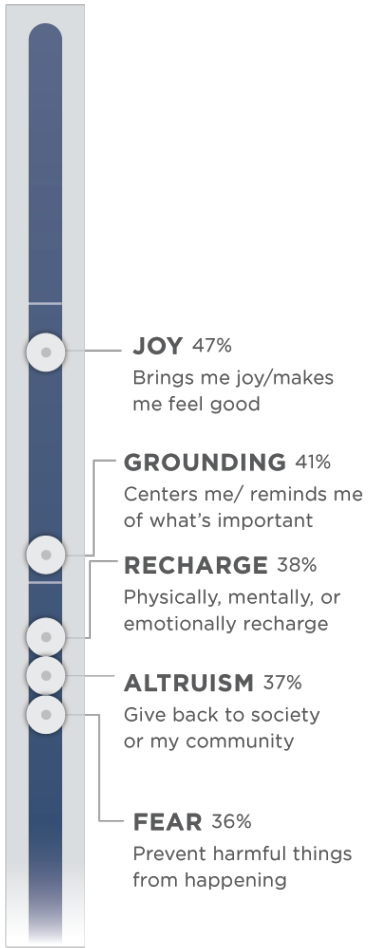


Organizations



Science Interests

Comparing Top 5 Motivations

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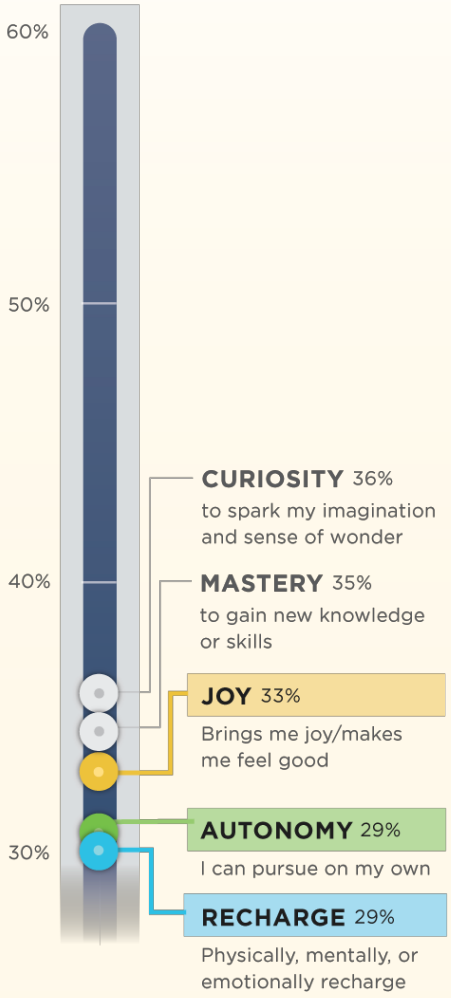

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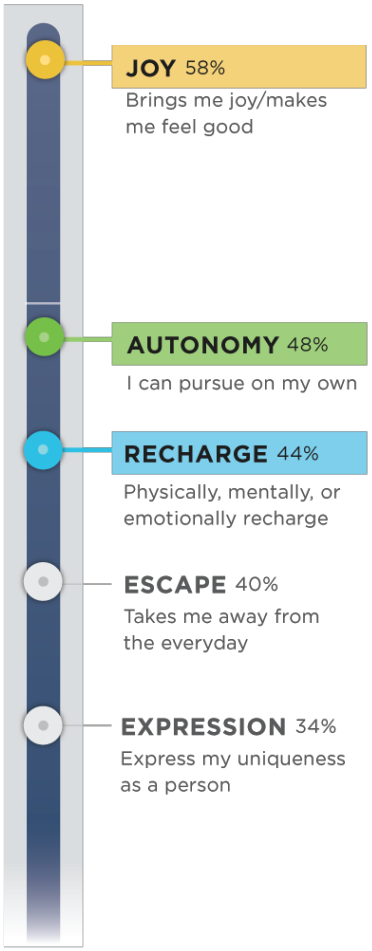
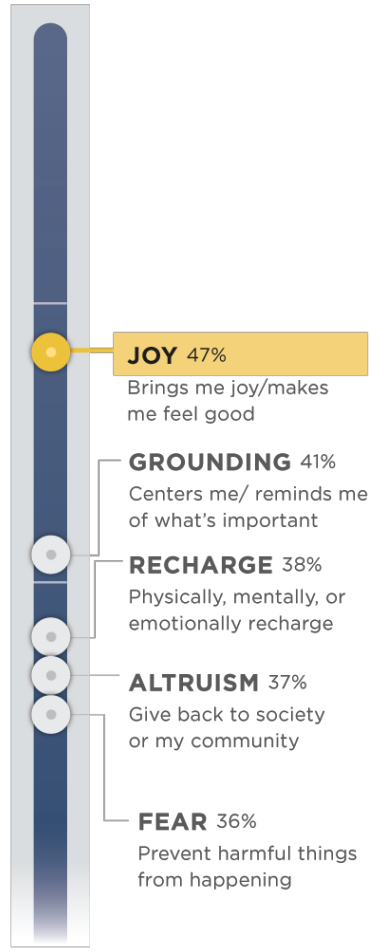


Causes



Organizations



ASTC ScienceCounts

Science Engagements

Exploring the motivations behind Americans' engagement with science



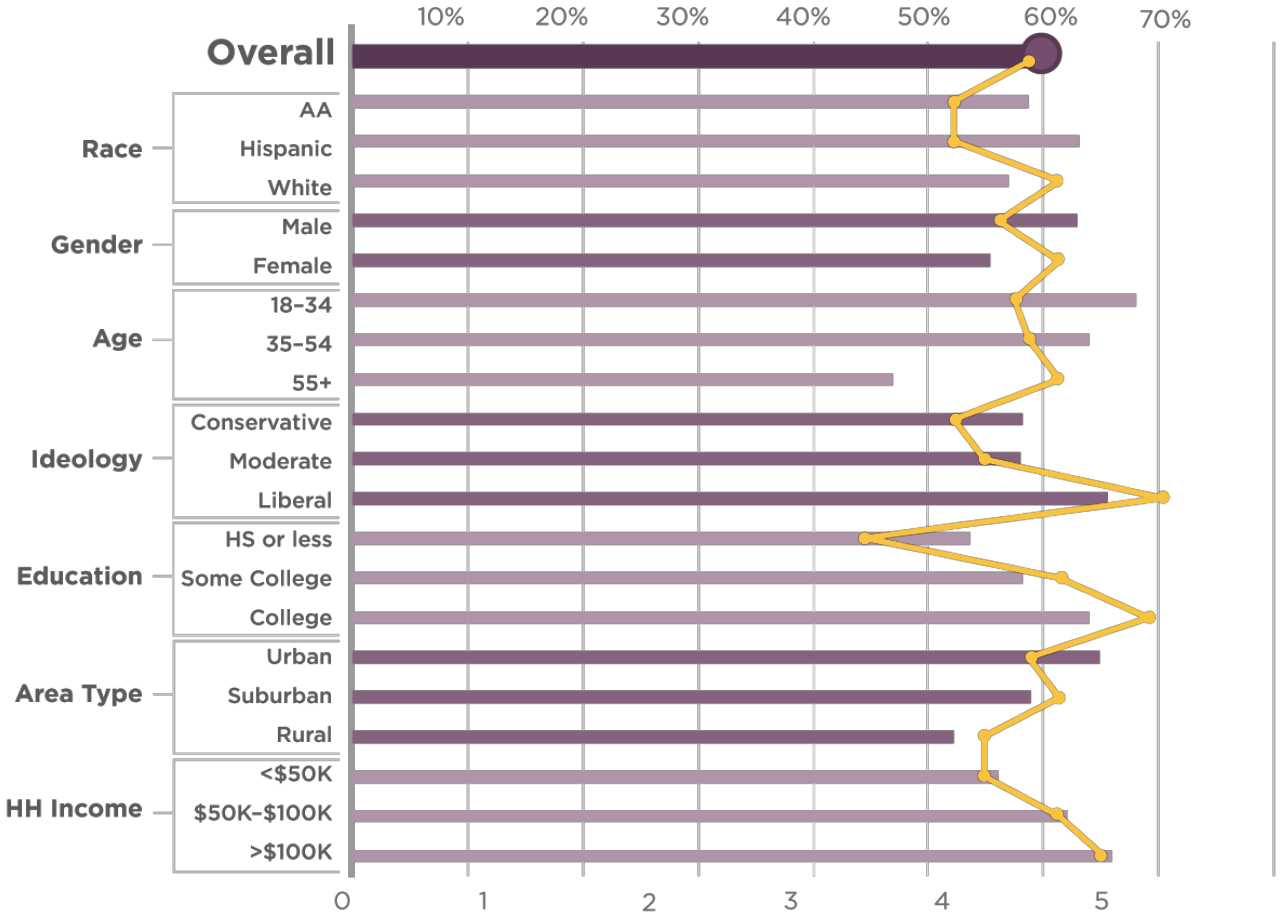
93% *of Americans had an interest in* **at least one science activity.**

Wanting More Time with Science

Most Americans want more time to engage with science, and those that do select a greater number of science engagement activities.

Percent Wanting More Time	59%

4.6	*Number of Selected* **Science Activites**



ASTC ScienceCounts

Motivations for Science Engagement

Using a regression analysis, we identify the motivations that positively affect the number of selected engagement activities.

White Adults

Avg. **4.8** *activities*



African American Adults

Avg. **4.1** *activities*



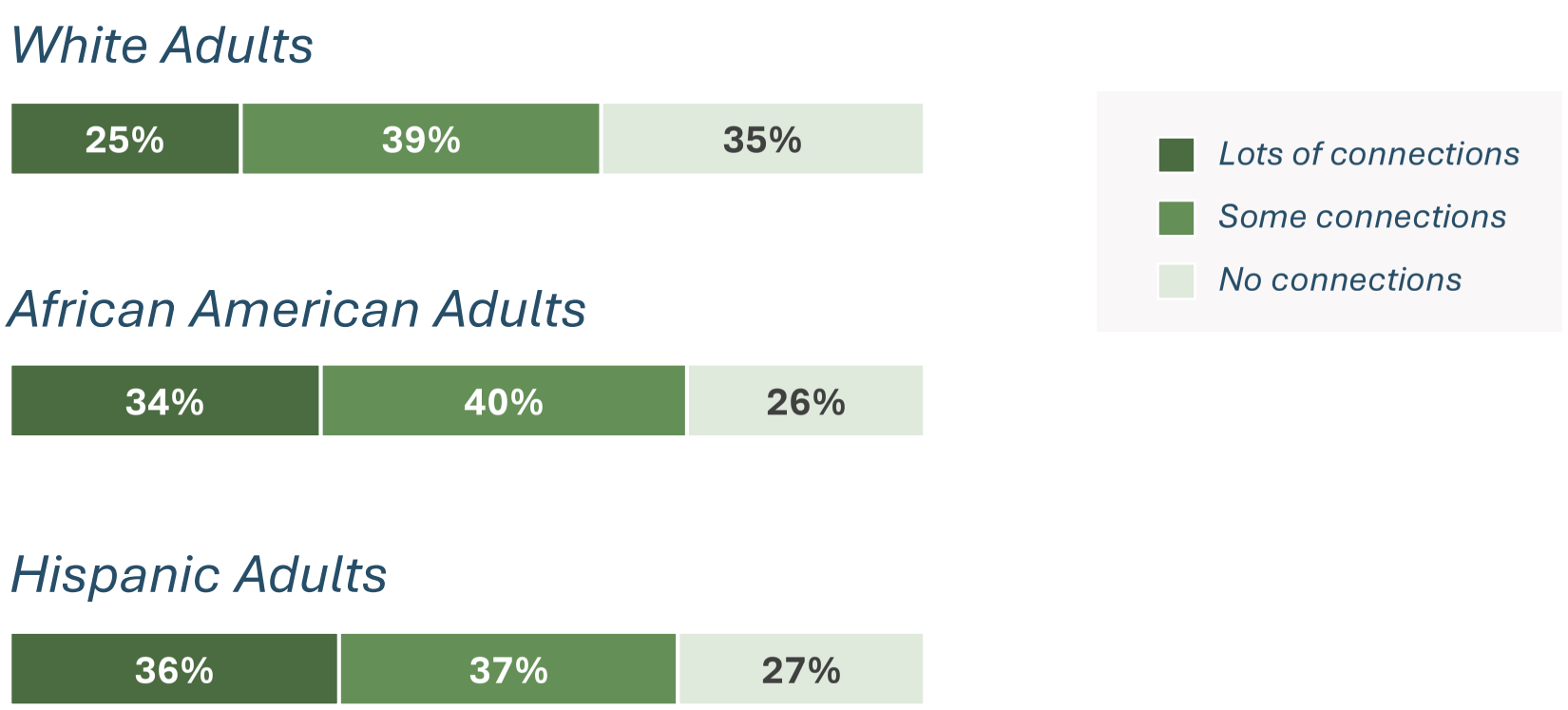
Hispanic Adults

Avg. **4.1** *activities*



Seeing Connection

Approximately two-thirds of white adults see **connections between their science** *and* **non-science interests**. *Among African American and Hispanic it's higher, about three-quarters.*

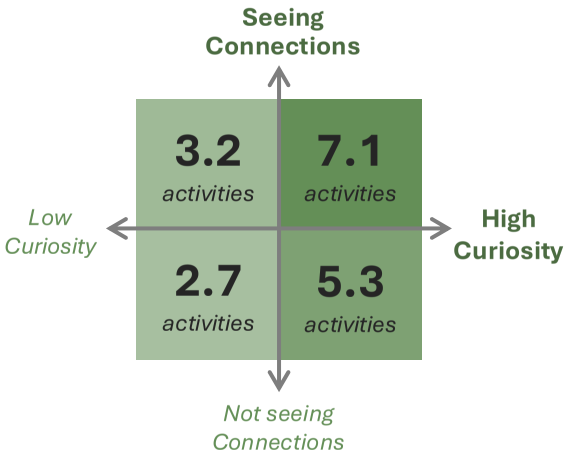


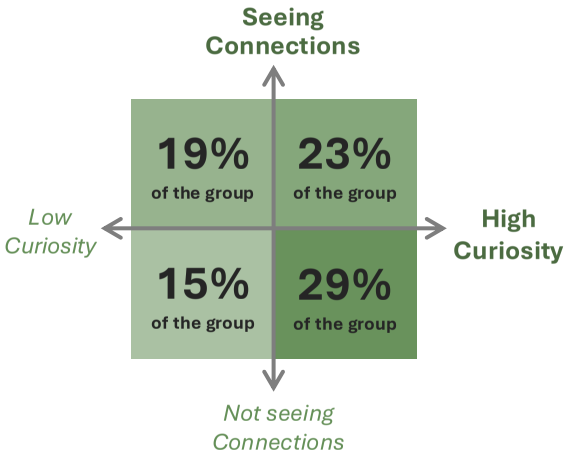
Science Engagements

Roles of Curiosity and Connection

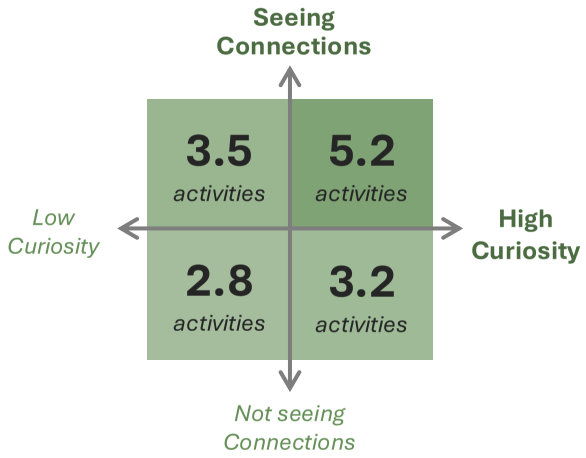
High curiosity *and* **seeing connection** *synergistically motivate a greater selection of engagement activities.*

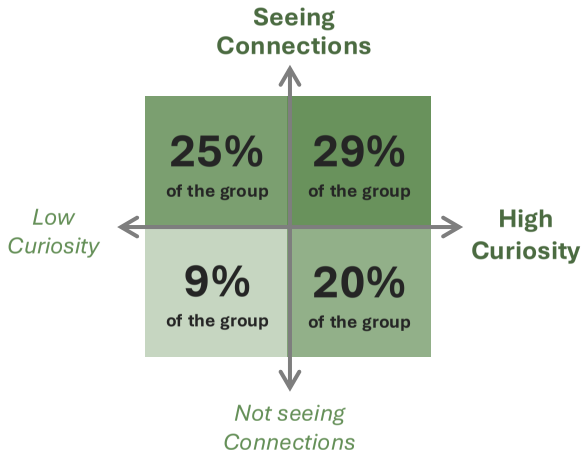
White Adults



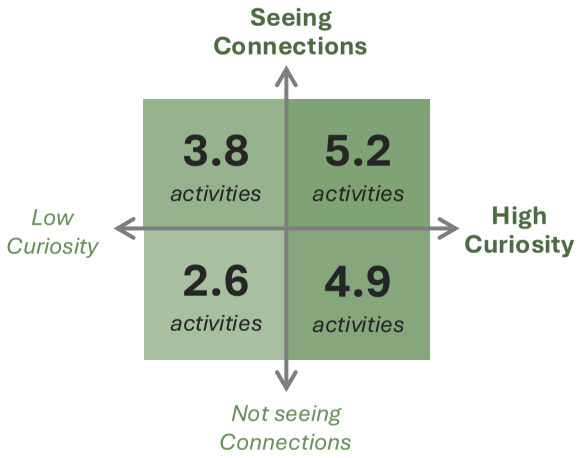


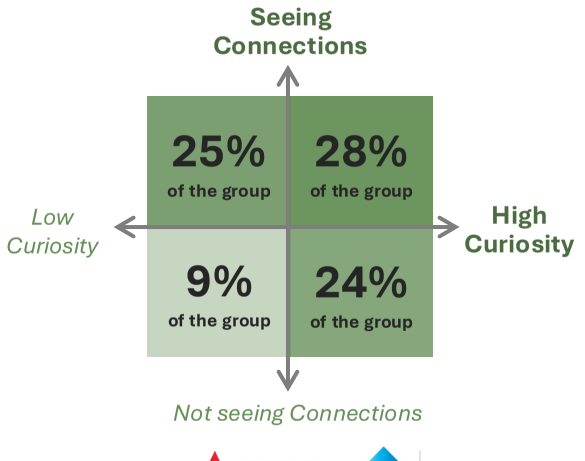
AA Adults





Hispanic Adults





ASTC ScienceCounts

Curiosity *and* **Connection** *motivate different kinds of engagement activities*

Curiosity *is most influential on interests in casual, convenient, and/or one-time events.*



Watching a movie/TV program *about nature, science, or technology*



Listening to podcasts or radio program *about science-related topics*



Visiting a science museum

Connection *is most influential on interests in more participatory and/or longer term activities.*



Participating in a discussion *to help set priorities for future research*



Collaborating with scientists *on research question that benefits your community*



Being a research subject *in experimental research*

Barriers to Engagement

Barriers to Engagement

Barriers to Engagement

I feel uncomfortable asking questions about topics I don't know much about, so I don't enjoy the experience

I find them boring

Logistics

I don't have time

I don't know where to find activities/am not made aware of them

I don't have anyone who will participate with me

They are too expensive

There are no opportunities to participate that I can access

It's hard for me to find transportation to places where these opportunities take place

I don't have the time.

Value Proposition

I find them boring

It usually isn't worth the time or cost

I tend to be disappointed in the experience

They are too geared toward children

There are not enough options/there is not enough variety in options

There are too many options so I don't get to do all that I would like to

They are hard to understand

Things I am interested in are not usually covered

Belonging

I feel uncomfortable asking questions about topics I don't know much about, so I don't enjoy the experience

I don't feel welcome in places like museums, science centers, etc.

In the past, I have felt embarrassed or put on the spot at some of these activities

I have been treated with disrespect in these situations, so I avoid them

Science activities don't reflect contributions of people with backgrounds like mine

Identity

Science activities don't reflect contributions of people with backgrounds like mine

Not enough exhibits or activities are in the language I speak/my family speaks

I am not much of a science person; other things engage me more

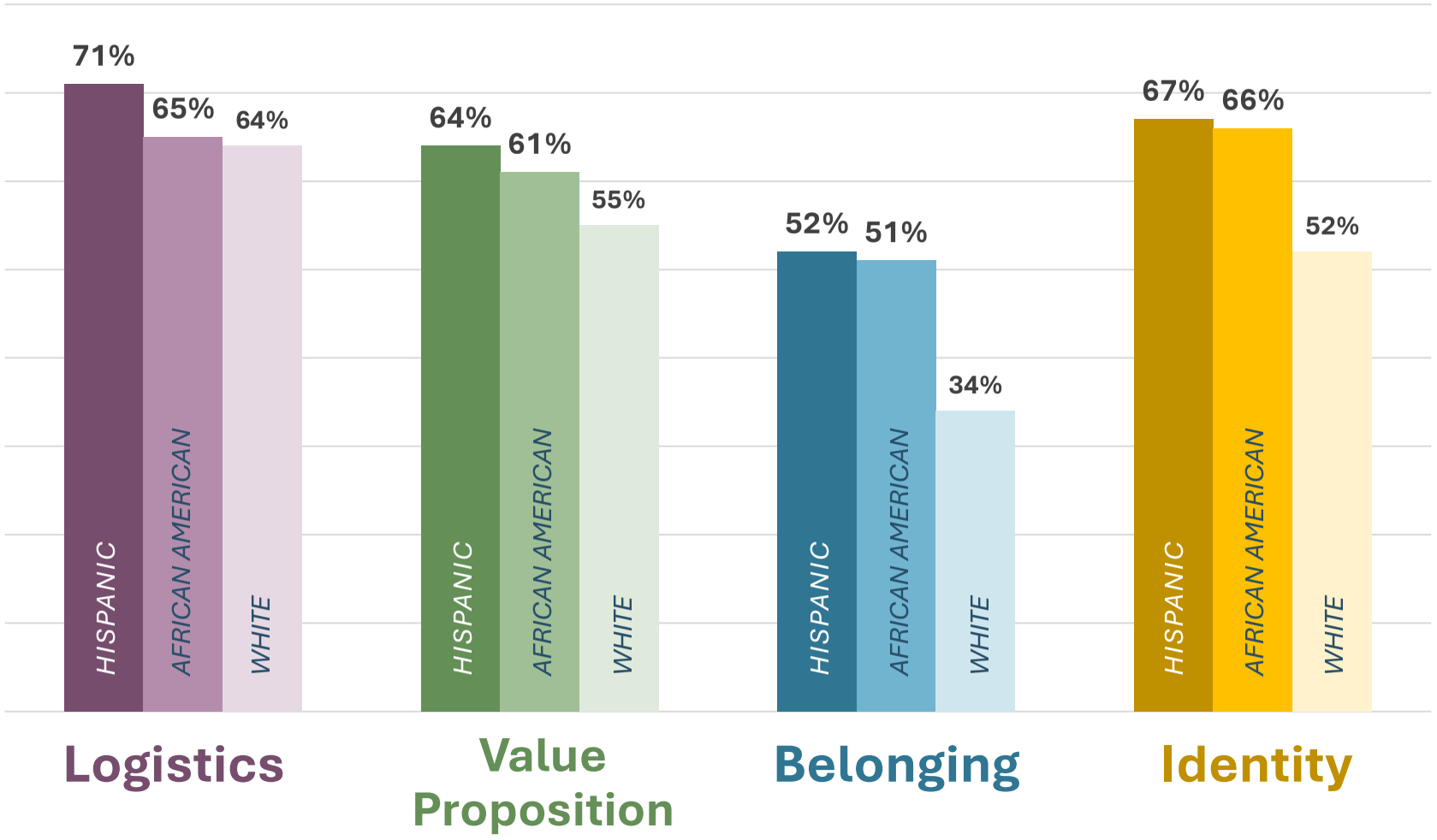
Museums and other science organizations are not doing enough to create experiences that people like me enjoy

Events and activities related to science don't seem to be for people like me

Science exhibits and activities are usually about the accomplishments of white men

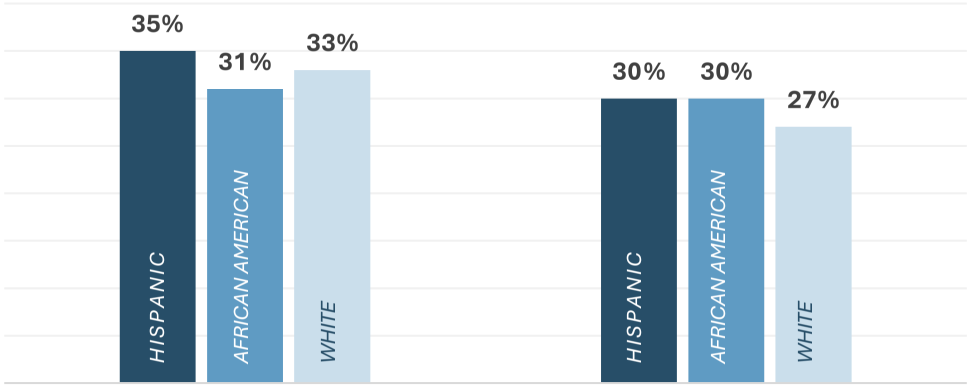
Hispanic and African American adults are more likely to experience barriers

Percent that selected at least one barrier in these categories



Some barriers...

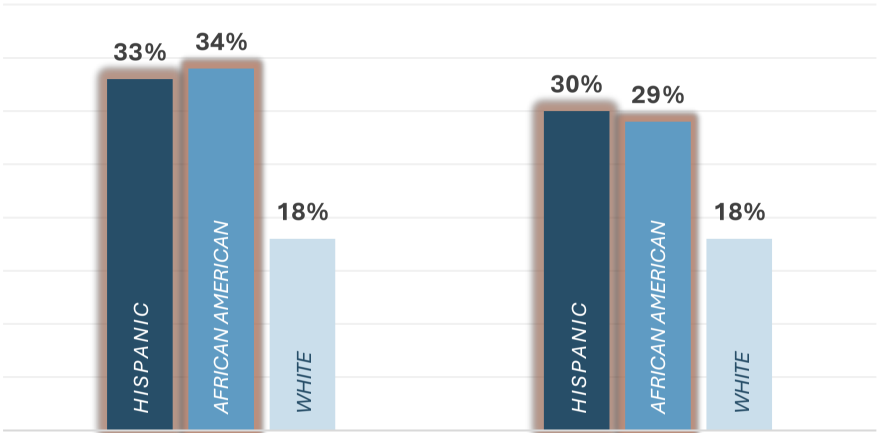
Impact everyone



They are too expensive

I'm not much of a science person; other things engage me more

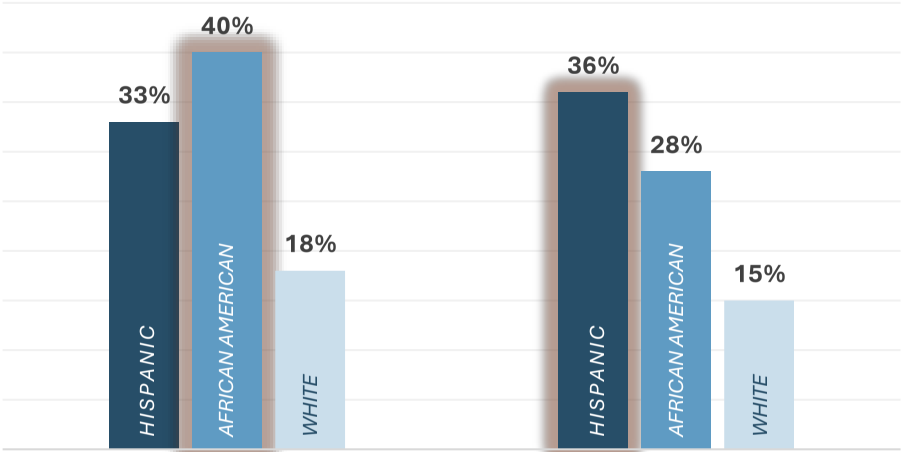
Impact both African American and Hispanic adults equally



Science activities don't reflect contributions of people with backgrounds like mine

In the past I have felt embarrassed or put on the spot at some of these activities

Impact one racial/ethnic community more than others



Science exhibits and activities are usually about the accomplishments of white men

Not enough exhibits or activities are in the language I speak/my family speaks

Barrier statements

Barrier statements are expressed through an individual's nuanced experience.

> *"I think representation goes a long way in the lack of sort of feeling welcome..."*

BELONGING

> *"It's not like a library where it truly is come one come all. So there is a sense that you have to have some type of socio-economic standing to be able to acquire knowledge or the benefits of being in science centers."*

IDENTITY

> *"We're a family of three. To go to the science center and go to exhibits, it's going to cost over $100. And not everyone has that..."*

LOGISTICS

Participation does not always indicate the absence of barriers but instead may be the result of an individual working to overcome them.

> *"It's like you have to put in extra, have to do twice the work..."*

> *"I believe it's my right and it's my privilege to be there, so that's why I always do it..."*

Americans who are most likely to engage also report the most barriers to engagement.

Takeaways

- **Curiosity is the principal motivator for Science Interest** *across all segments of American society*
- *While* **Curiosity** *and* **Connection** *are independent motivators of public engagement with science, they lift interest in different kinds of activities and vary in ratio between different racial/ethnic groups*
- **Barriers to engagement** *related to feelings of belonging or identity have a greater impact on AA and Hispanic communities*
- *Impact of* **barriers** *should be evaluated based not only on those who are deterred but also on those who are putting in extra work to participate despite the barriers*