

# Creating Middle Ground: Transforming Urban Outdoor Spaces with Social Science Exhibits and Facilitation about Biases



## Middle Ground

Reconsidering ourselves  
and others

ASTC  
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# Presenters



**Josh Gutwill**  
Exploratorium

[jgutwill@exploratorium.edu](mailto:jgutwill@exploratorium.edu)



**Hsin-Yi Chien**  
Exploratorium

[hchien@exploratorium.edu](mailto:hchien@exploratorium.edu)



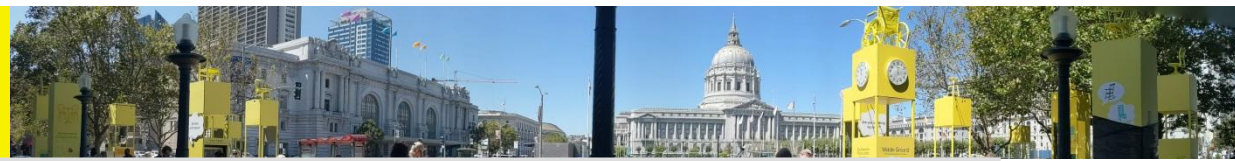
**Louie Hammonds**  
Urban Alchemy

[louieh@urban-alchemy.us](mailto:louieh@urban-alchemy.us)



**Robert Dixon**  
Urban Alchemy

[robertd@urban-alchemy.us](mailto:robertd@urban-alchemy.us)



## Exploratorium Project Team

Shawn Lani – Principal Investigator  
**Josh Gutwill – Co-Principal Investigator**  
Heike Winterheld – Content Lead  
Steve Gennrich – Project Director  
Dana Goldberg – Project Lead  
Toni Dancstep – Senior Researcher  
**Hsin-Yi Chien — Research Associate**  
Meghan Kroning - Exploratorium  
Eileen Campbell – Writer  
Sue Pomon – Graphic Artist  
Adam Esposito – Design Engineer  
David Torgersen – Exhibit Developer  
Doug Thistlewolf – Exhibit Developer  
Jenny Villagran – Web Lead  
Emma Bailey – Social Media Lead  
Josh Bacigalupi – Lead Architectural Design  
Phoebe Schenker – Architectural Design

## Advisors

Mahzarin Banaji - Harvard  
Larry Bell - Museum of Science, Boston  
Hugh McDonald - Ideum  
Jeff Risom - Gehl Studio

## Project Partners

Barakah Aly & Manny Lee - SF Coffee Cruisers  
Chris Cardiel - OMSI  
Randy Carter -  
Amy Cohen - SF Economic and Workforce  
Development  
**Robert Dixon - Urban Alchemy**  
Thomas Fortin - SF Public Library  
Julie Flynn - City Planning  
Cecilia Garibay - Garibay Group  
**Louie Hammonds - Urban Alchemy**  
Neil Hrushowy - City Planning  
Elena Madison - Project for Public Spaces  
Lena Miller - Urban Alchemy  
Greg Nottage - Community Housing Partshp.  
Romie Nottage - Downtown Streets  
Allison Wyckoff - Asian Art Museum  
Nina Simon - Of / By / For All

## Research Team

David Chang - Exploratorium  
Gabriel Ehrlich - Exploratorium  
Cynthia Lee - Exploratorium  
Allen Gerrue - Hunter's Point Family  
Kevin Lee - Urban Alchemy  
Timothy Smith - Urban Alchemy

# Session Overview

- A model for community engagement through STEM exhibitions
- Context of Civic Center
- Exhibition and Facilitation
- Research Study on Facilitation and Results
- Discussion
- Q&A





# Middle Ground





# Middle Ground

Understanding an era of division: Social science of bias, stereotyping, connection (humor)

Goal: Promote interactions with strangers, empathy for others, and metacognitive self-reflection about social science phenomena and the forces that shape those phenomena





# Context: Civic Center





# Context: Civic Center





# Context: Civic Center





# Urban Alchemy



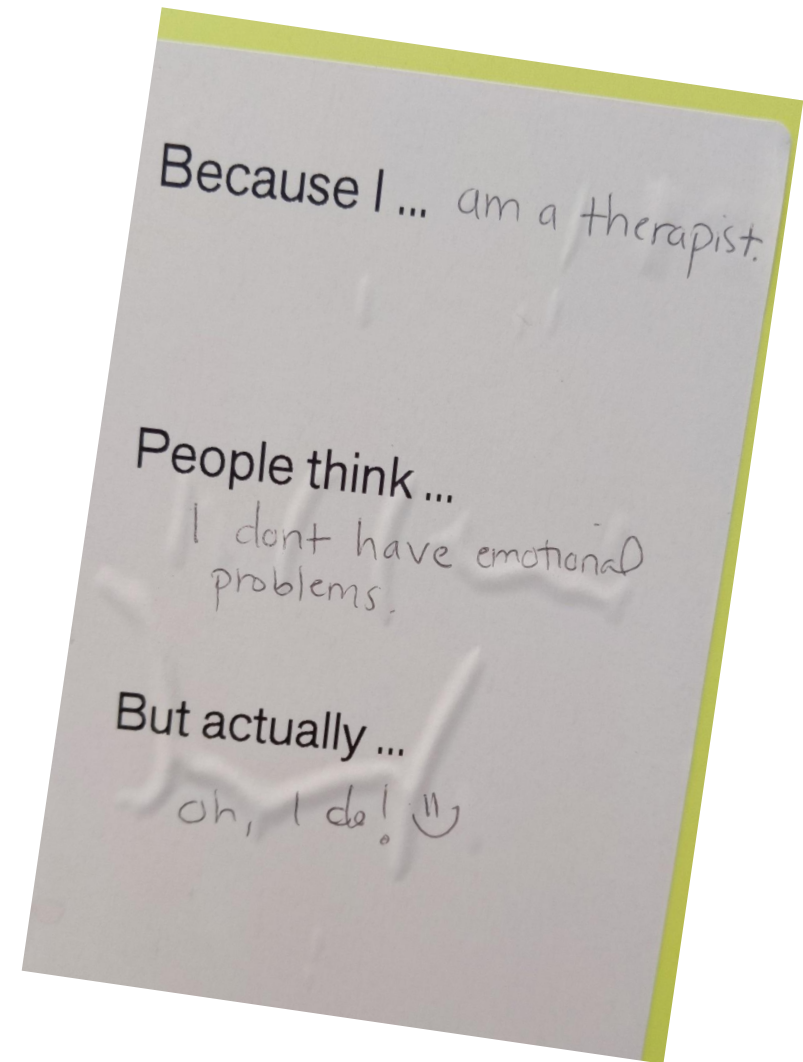


# Middle Ground Exhibition

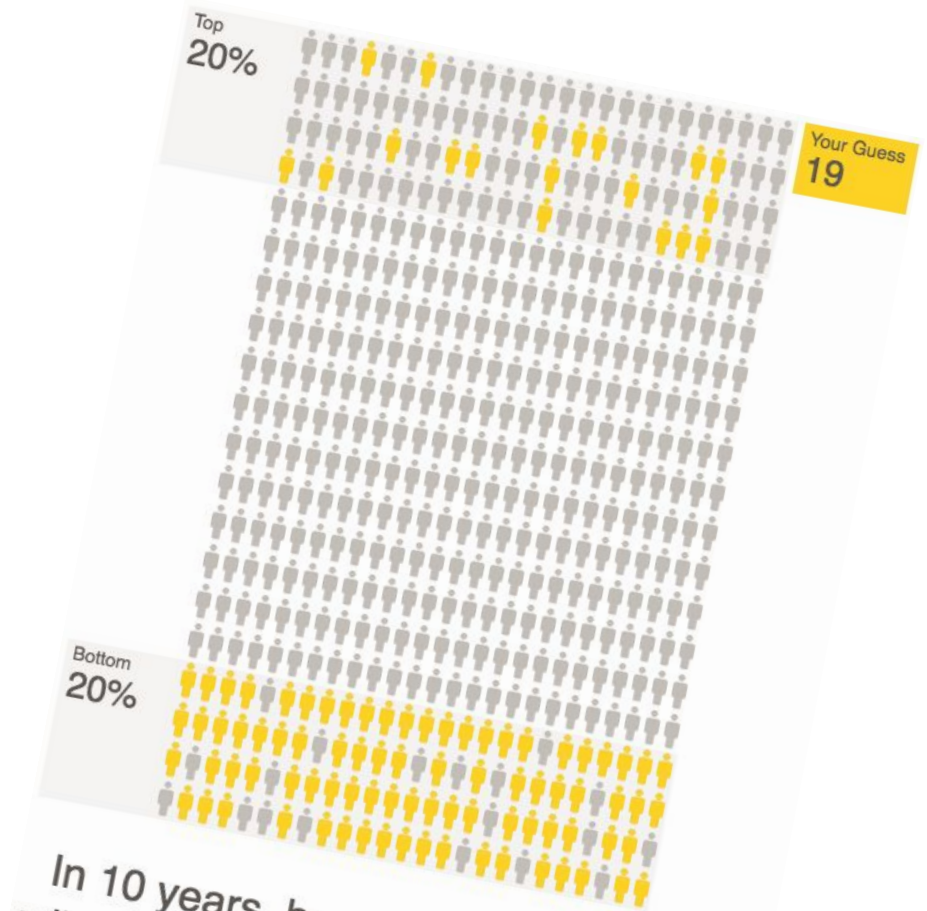




# Unseen Stories exhibit



# Making It in America



In 10 years, how many do you think will move into the top 20% of income?

# Making it in America

Most people think it's much easier to move up than it actually is.

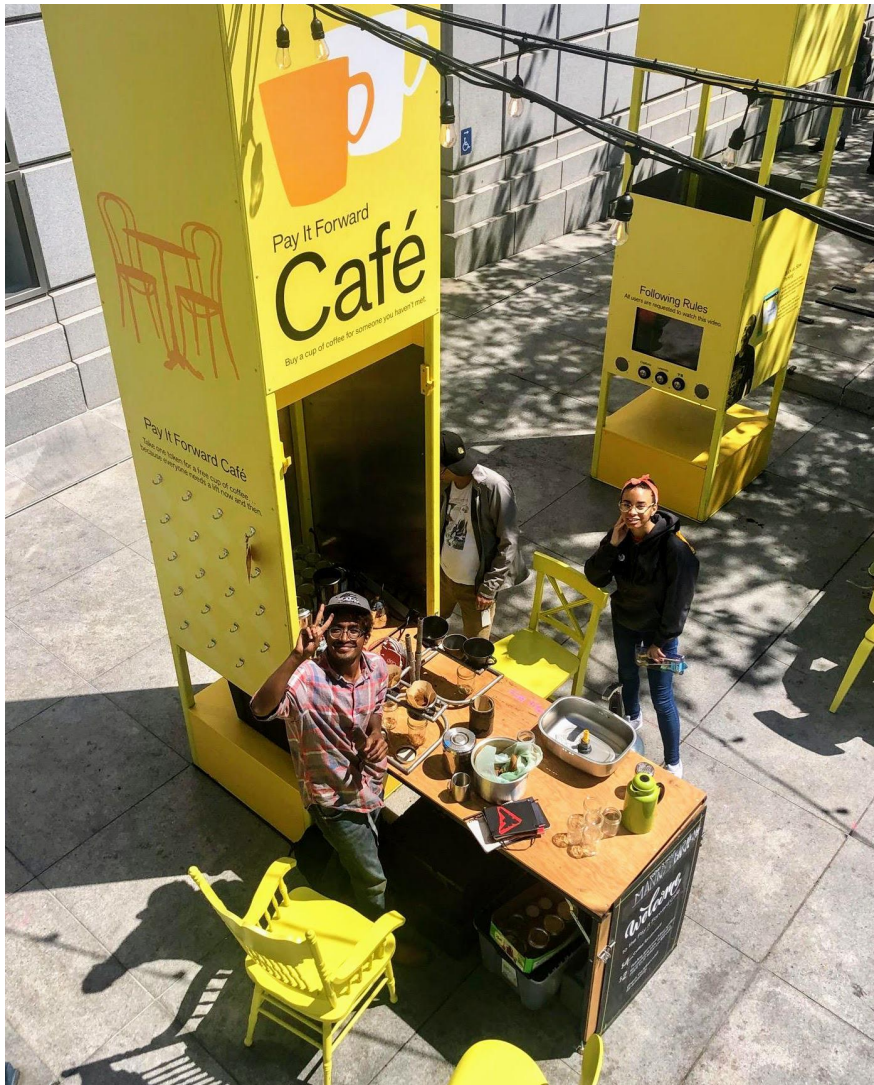
People who call themselves upper class are especially likely to get it wrong.

Does knowing the facts change how you think about people and opportunity in our society?





# Pay It Forward Café





# Hands-on Music exhibit





# Facilitate welcome



# Facilitate prolonged engagement





# Facilitate deeper reflection



# Research Question

*What's the effect of Urban Alchemy facilitation?*



- Overall experience rating
- Motivation for exhibit use
- Feeling compassion, connection, respect for “different” others
- Self-reflection about biases and interactions



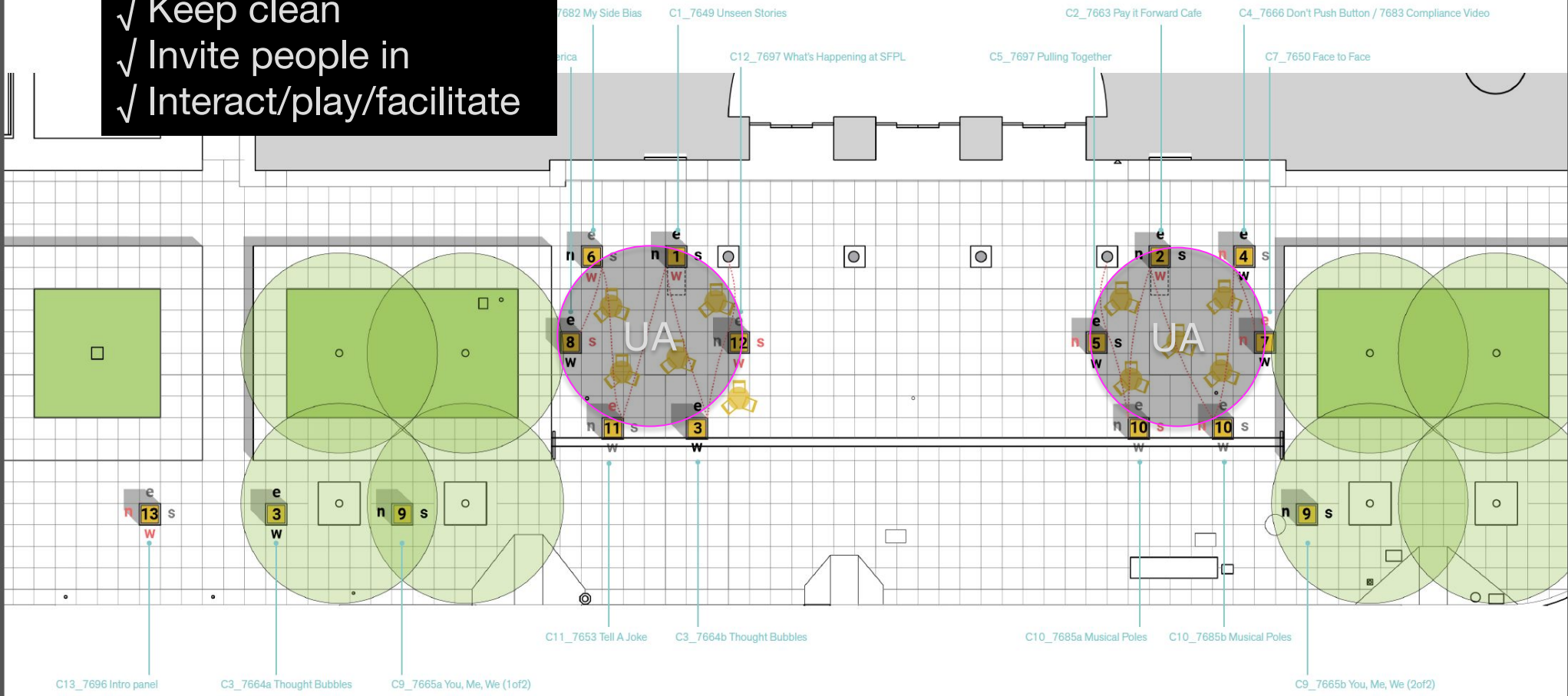
# Methods

- Quasi-Experimental design



# Middle Ground plan - Facilitated condition

- ✓ Keep Safe
- ✓ Keep clean
- ✓ Invite people in
- ✓ Interact/play/facilitate

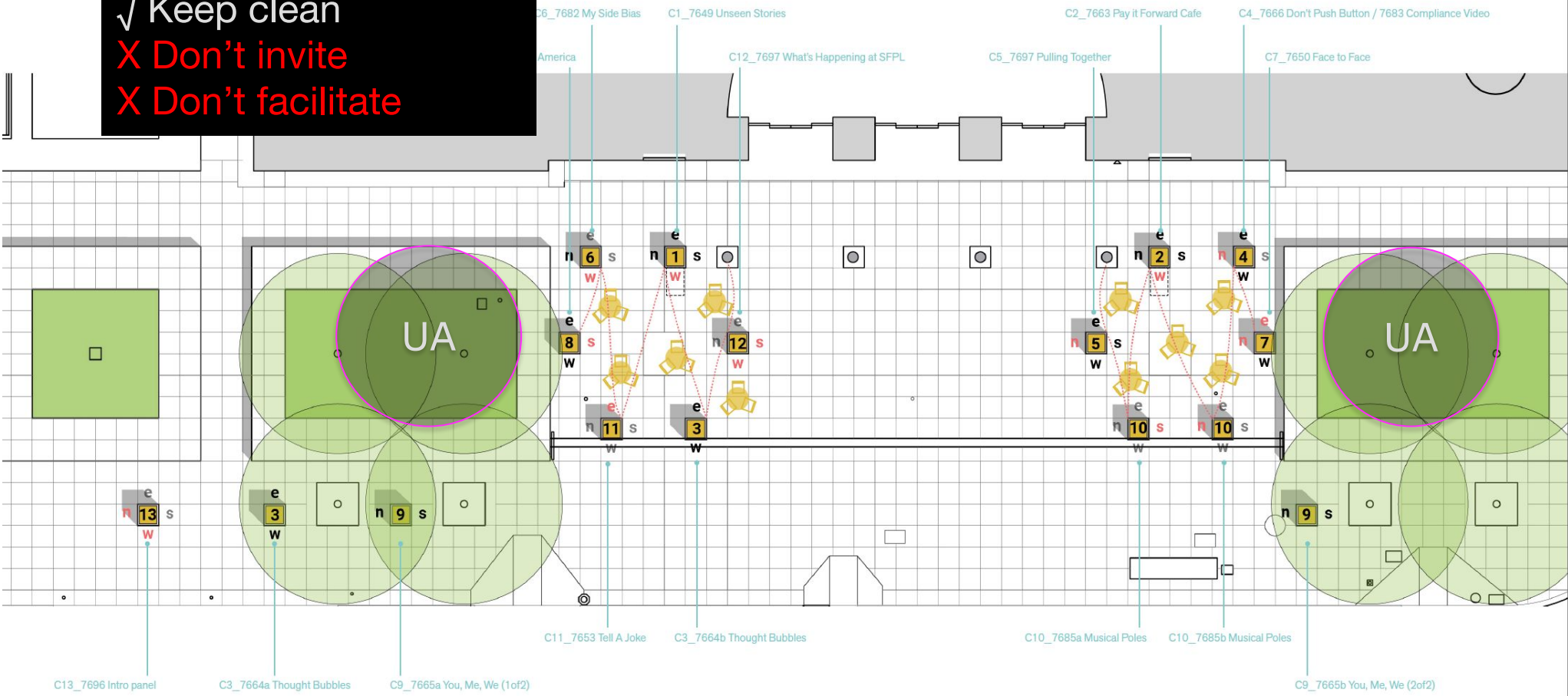


81 Interviews in Facilitated Condition



# Middle Ground plan - Non-facilitated condition

✓ Keep Safe  
 ✓ Keep clean  
 ✗ Don't invite  
 ✗ Don't facilitate



88 Interviews in Non-facilitated Condition

# Methods

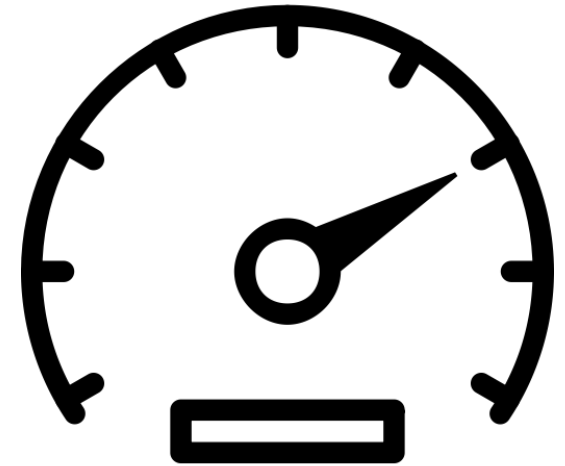
- Quasi-Experimental design
- Community-based research approach



# Results: Overall Experience

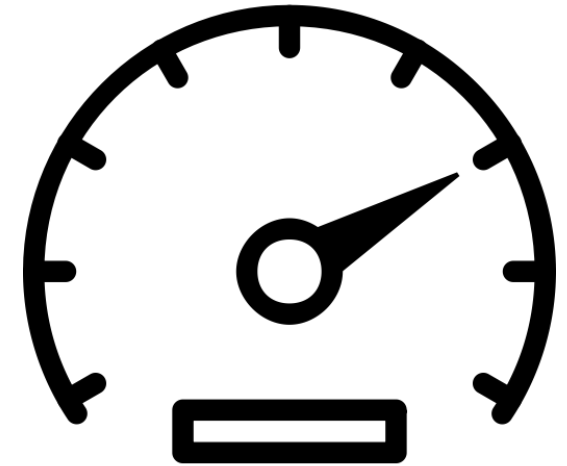
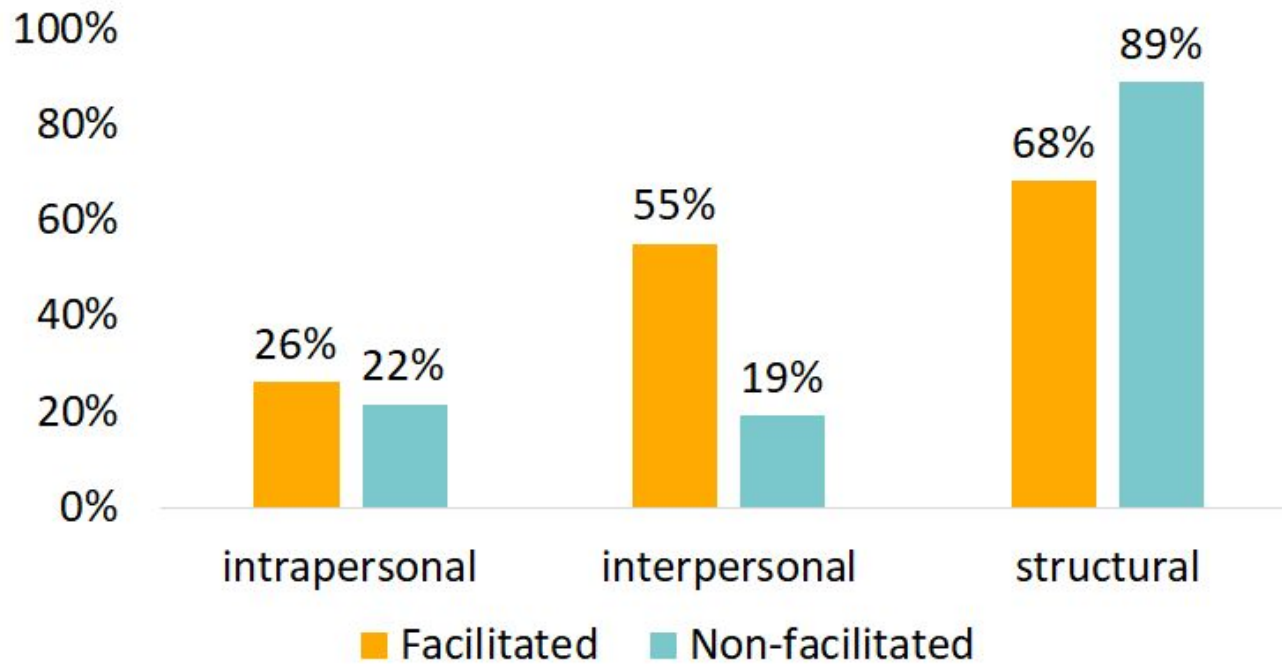
Visitors who were facilitated:

- Rated their **overall experience** more positively,  $U = 2768$ ,  $p < .01$ ,  $r = .21$ .



# Results: Overall Experience

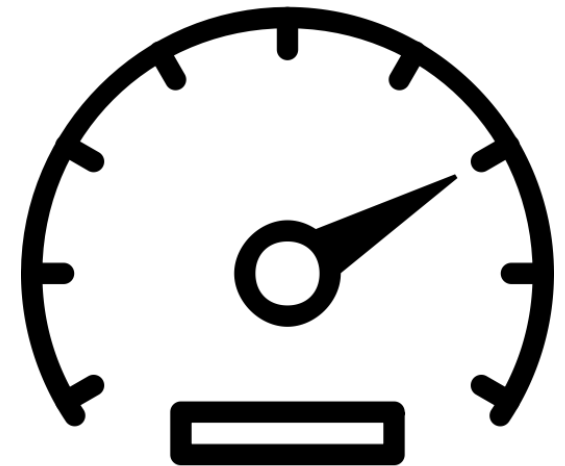
Reasons for OER



*Interpersonal factor:  $\chi^2 (1, N = 160) = 21.5$ ,  
 $p < .001$ ,  $\phi = .37$ .*

# Overheard: Overall Experience

“Well the person that introduced me to it, **he's very open about his life. And that opened me up and that allowed me to be very open as well. So I enjoyed it.**”



# Results: Motivation

Visitors who were facilitated:

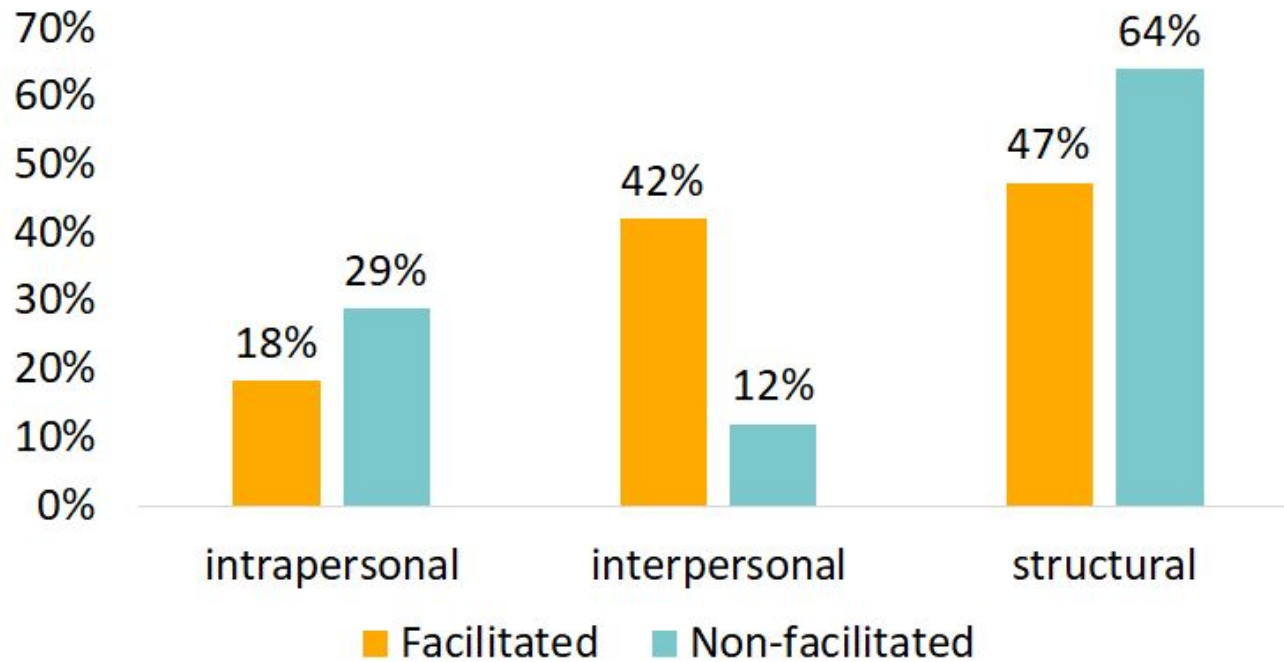
- Rated their **overall experience** more positively
- Were more likely to mention interpersonal reasons as their **motivation** for engagement





# Results: Motivation to Stop

Motivation to Stop



*Interpersonal factor:  $\chi^2 (1, N = 160) = 18$ ,  
 $p < .001$ ,  $\phi = .34$ .*

# Overheard: Motivation to Stop

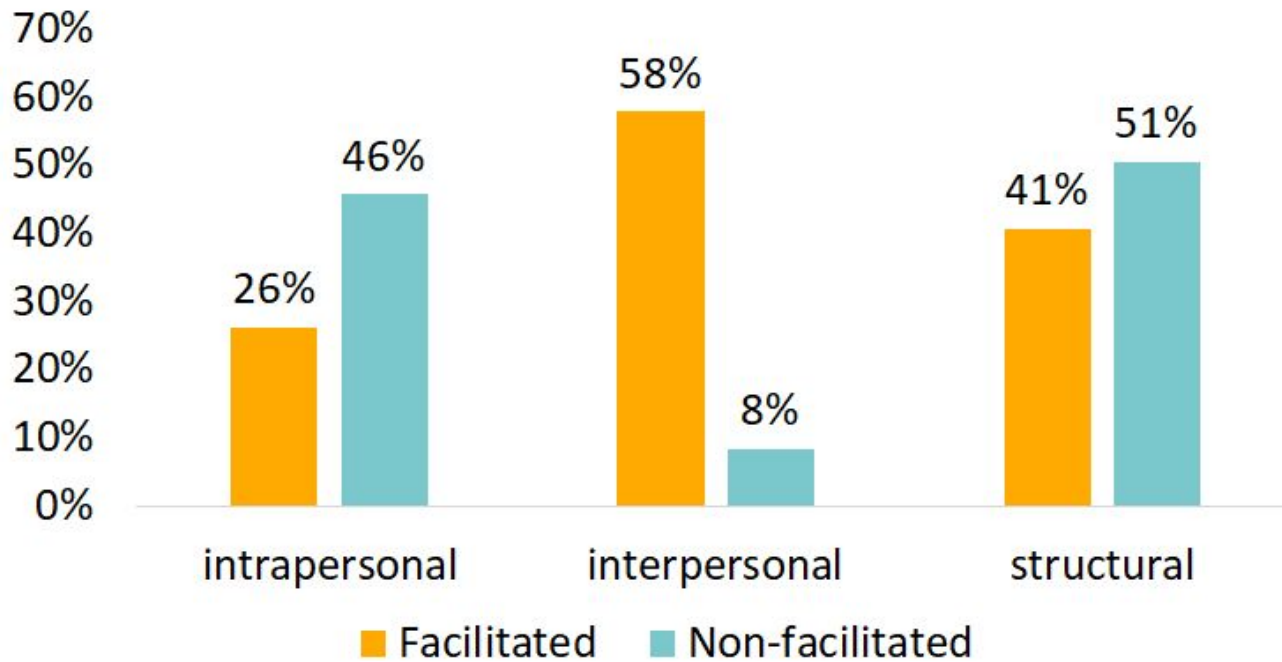
“I: Who or what motivated you to first stop and use the exhibition?”

P: I was just walking by and **I think Robert stopped me and asked me if I wanted to hear a joke, and I was like sure.”**



# Results: Motivation to Continue

Motivation to Continue



*Interpersonal factor:  $\chi^2$  (1, N = 160) = 43.6,*  
*p < .001, phi = .55*

# Overheard: Motivation to Continue

“I: I think you used several exhibits. Who or what motivated you to use multiple exhibits?”

P: F1 did. I had tried the holding hand music one (Hands On Music) by myself first, but realized **I needed someone else, and he offered, and then he showed me two or three of the others.**”



# Results: Affective Experience

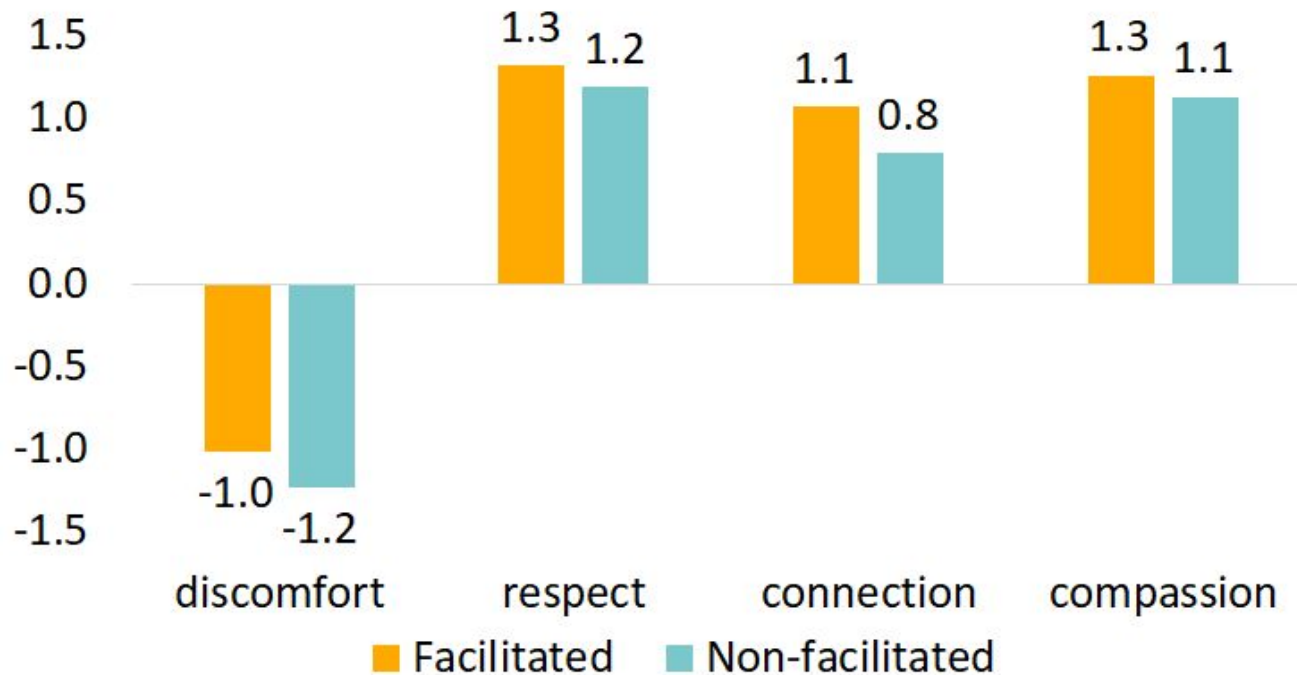
Visitors who were facilitated:

- Rated their **overall experience** more positively
- Were more likely to mention interpersonal reasons as their **motivation** for engagement
- Felt more **connected** to different others



# Results: Affective Experience

## Feelings Toward Different Others



*Connection:  $U = 2320.5, p < .05, r = .18.$*

# Overheard: Affective Experience (connection)

“Again, so that curiosity and that sort of desire to learn about someone, you know. And I hope that people just generally look. **I think [Facilitator] was saying - if this wasn't here would he and I have met - and that sort of brings up this whole idea of how we're all just sort of walking by each other, you know?** Whereas we could just stop by and even just a little simple hello or wave, you know, that's a form of connection.”





# Results: Metacognition

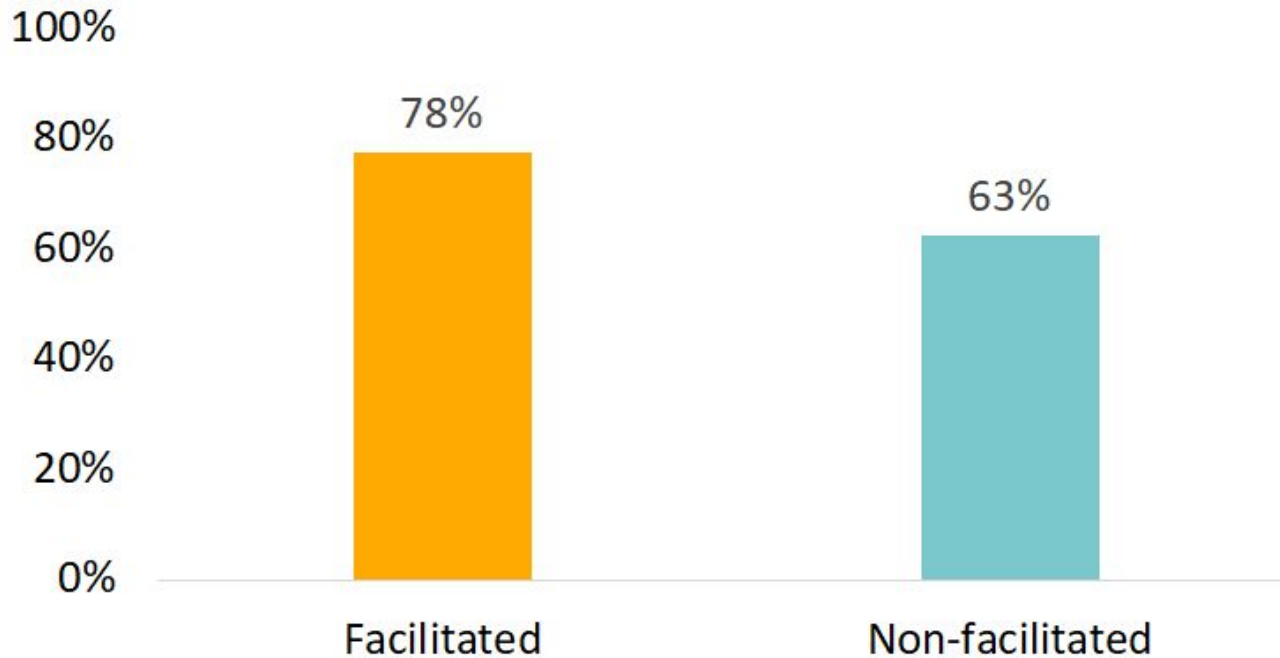
Visitors who were facilitated:

- Rated their **overall experience** more positively
- Were more likely to mention interpersonal reasons as their **motivation** for engagement
- Felt more **connected** to different others
- Were more likely to engage in **metacognition about bias** during their experience in the exhibition



# Results: Metacognition

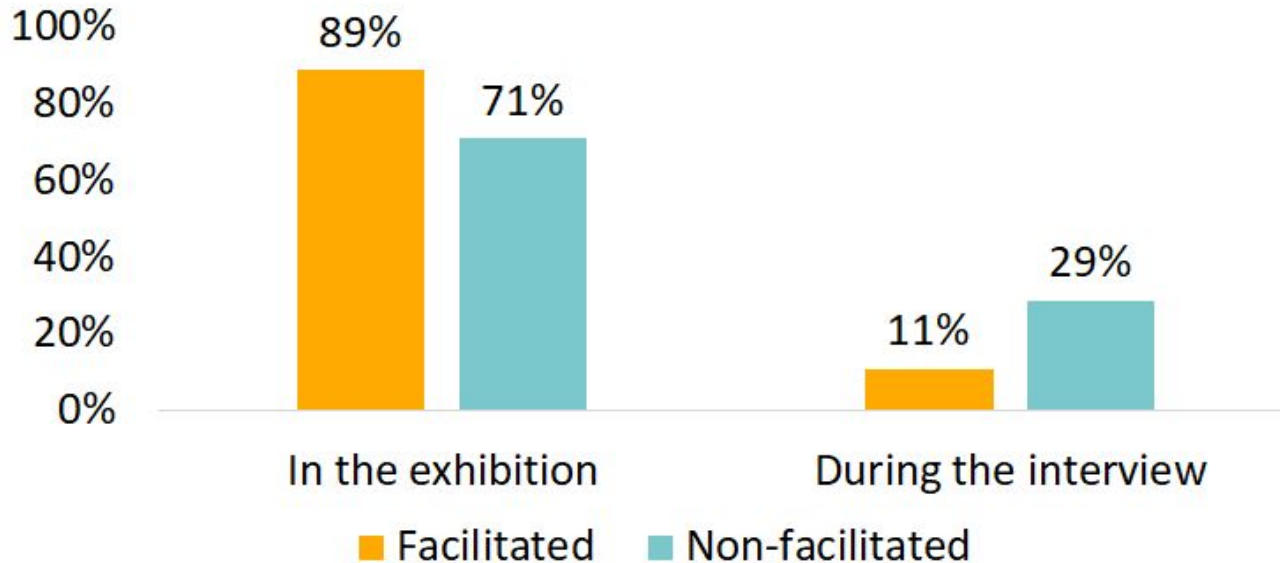
## Metacognition About Self and Others



*Presence of metacognition:  $\chi^2 (1, N = 151) = 3.98$ ,  
 $p < .05$ ,  $\phi = .16$ .*

# Results: Metacognition

## Metacognition About How One Acts With Others



*Timing of metacognition:  $\chi^2 (1, N = 106) = 5.25$ ,  
 $p < .05$ ,  $\phi = .22$ .*

# Overheard: Metacognition

“I think a key element to all of that was how important listening to others is. So hopefully [it] encourages non-judgmental, where you're listening and you're not pre-deciding whether they are. And **I think having him [F] as one of the volunteers here is very interesting . . . a real local guy and he's living here in San Francisco....And just to see we're all people.**”





# Results Summary

Visitors who were facilitated:

- Rated their **overall experience** more positively
- Were more likely to mention interpersonal reasons as their **motivation** for engagement
- Felt more **connected** to different others
- Were more likely to engage in **metacognition about bias** during their experience in the exhibition



# Facilitation Implications

- Creates interpersonal connections
- Reduces barriers for engagement
- Strengthens exhibit interaction and content learning
- Enhances place-making



# Discussion: Challenges

- Protect the physical and emotional safety of visitors and staff
- Considerations for designing for outdoor exhibits
  - Glare
  - Weather
- Vandalism
- Ownership of the space
  - People literally live in this space
  - When do we open and close, so they can comfortably reclaim it as their spot for sleeping?
  - Did we reduce the quality of their lives?





# Discussion: Takeaways

- Radical accessibility model: Free and placed in high traffic, highly diverse area
  - breaks down barriers to informal science learning
  - allows science centers to create more equitable learning opportunities for excluded communities
- Place-making: Social science exhibits in urban spaces
  - content more salient, prominent, relatable
  - space more welcoming
- Partnering with CBOs: greater cultural relevance and inclusivity





FREE OFFSITE EXHIBITION

# Middle Ground

Reconsidering ourselves and others

**About the Exhibition**

- Play
- Who Do You Think I Am?
- Unseen Stories
- My-Side Bias
- Puzzling Public Behaviors
- Making it in America
- exploratorium.edu

This exhibition is temporarily closed due to COVID-19.

Larkin Street Entrance of the San Francisco Main Library, [100 Larkin St, San Francisco, CA 94102](https://www.sfgov.org/library/100-Larkin-St)

From August 2019 through June 2020, the Exploratorium invites you to pull up a chair and dive into *Middle Ground*, an exploration into human social interactions in the middle of San Francisco's vibrant Civic Center.



LOCATION

[Map of Middle Ground](#)

# exploratorium.edu/middleground





# Questions?

Hsin-Yi Chien

[hchien@exploratorium.edu](mailto:hchien@exploratorium.edu)

Robert Dixon

[robertd@urban-alchemy.us](mailto:robertd@urban-alchemy.us)

Josh Gutwill

[jgutwill@exploratorium.edu](mailto:jgutwill@exploratorium.edu)

Louie Hammonds

[louieh@urban-alchemy.us](mailto:louieh@urban-alchemy.us)

