

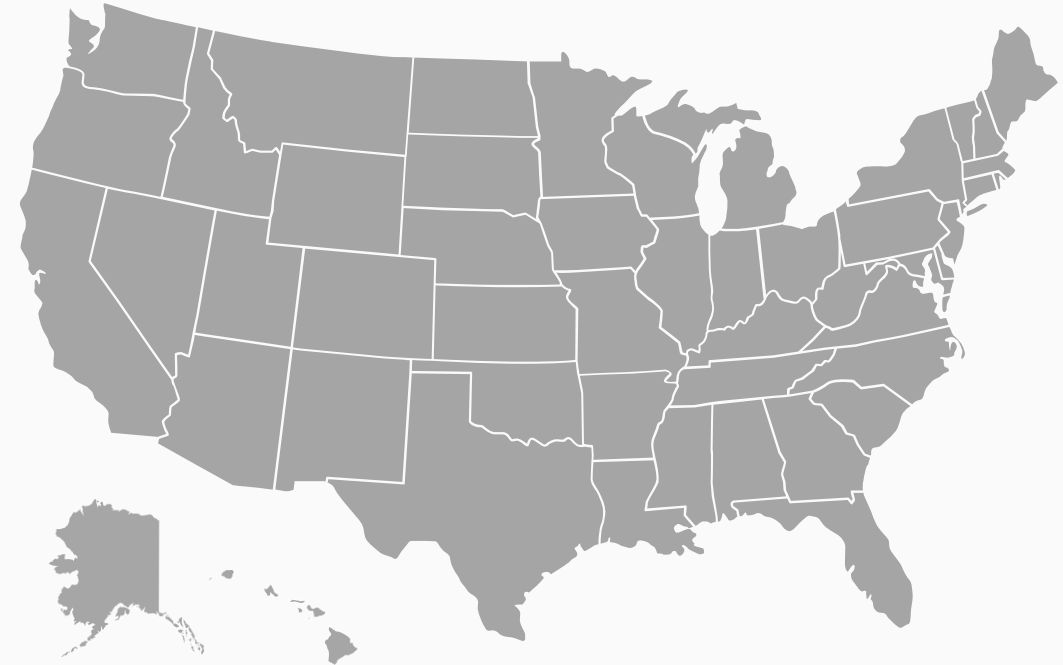
WELCOME!



Please take a moment to introduce yourself in the chat.

- Where are you joining us from?
- What is your role?
- What are your most pressing recycling challenges?

Please continue to share your questions in the chat throughout the webinar.



The Center for Sustainable Behavior & Impact

Incorporating Motivational Messaging for Recycling Education and Outreach

September 27, 2023



**The Recycling
Partnership**
Solving for Circularity

We mobilize people, data, and solutions across the value chain to reduce waste and our impact on the environment while also unlocking economic benefits.



Host

Louise Bruce

Managing Director

Center for Sustainable
Behavior & Impact

The Recycling Partnership



Elizabeth Schussler

Senior Director of Social
Change, Behavior & Impact

The Recycling Partnership



Michelle Metzler

Director of Community
Programs

The Recycling Partnership



Joseph Sherlock

Principal Behavioral
Scientist

Duke Center for Advanced
Hindsight

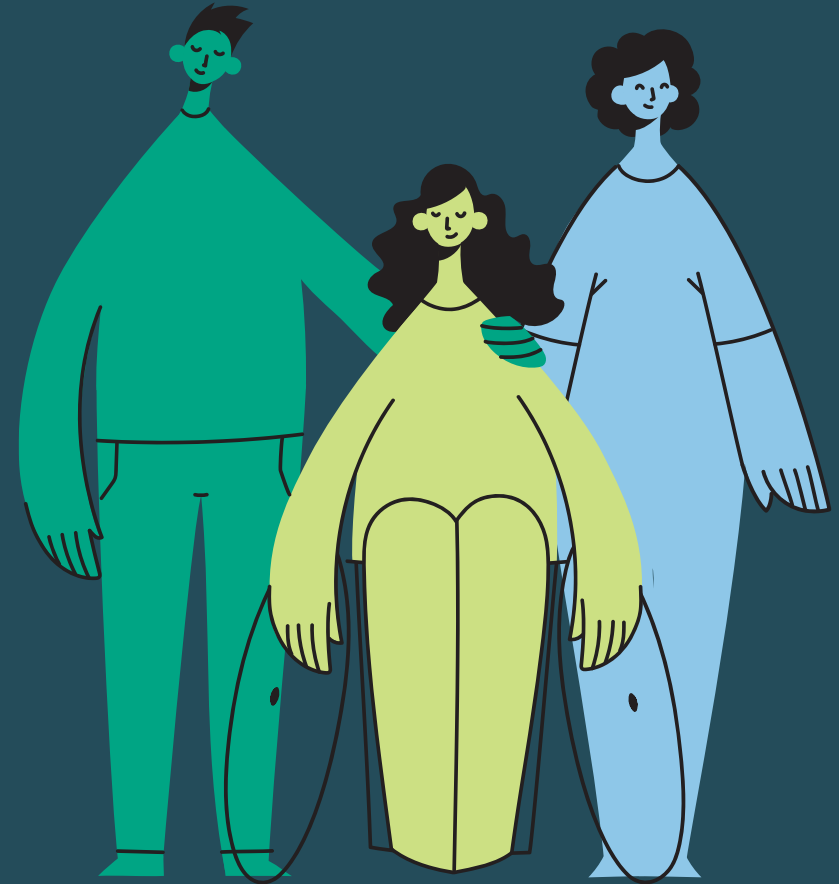


Lisa Ruggero

Assistant Director of
Programs

Syracuse University Center
for Sustainable
Community Solutions

Why focus on household recycling behaviors?



Our Challenge: Overcoming the Intention-Action Gap



Despite consistently high levels of public support for recycling, **half** of all residential recyclables are **lost to landfills** each year due to **behavior gaps**.



That adds up to **15 million tons** of recyclables, the equivalent of **63 million metric tons** of carbon dioxide.



Despite High Levels of Public Support, >50% of Recyclables Lost Due to Behavior Gaps



These 10 homes generate 7,680 lbs of recyclable material per year.

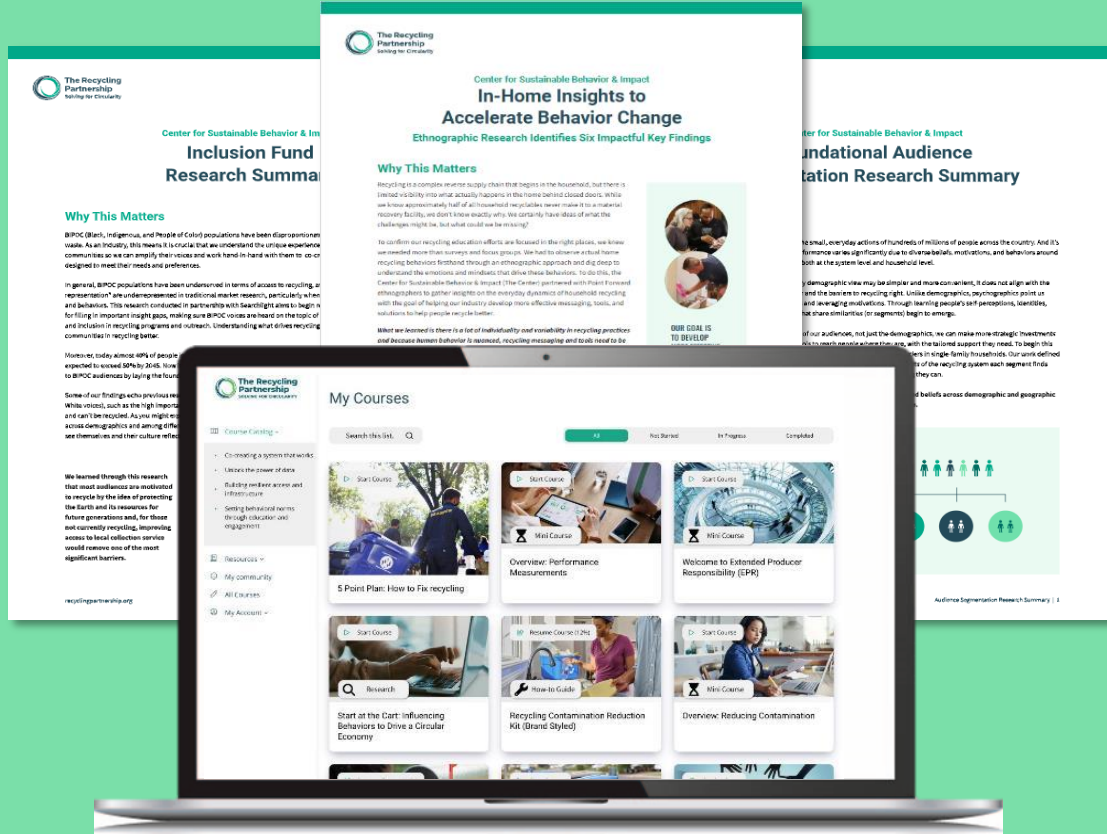


3 of the 10 don't participate in recycling at all.
They dispose of 2,150 lbs of recyclable materials each year.



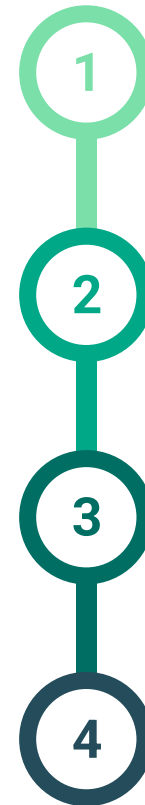
Those that do participate still put some (38.5%) of their materials in the trash, disposing of another 2,130 lbs.

Material Type	Participant Capture Rate
Cardboard	81%
Mixed Paper	60%
Aseptic & Gabletop	50%
Glass Containers	63%
Steel Cans	49%
Aluminum Cans	56%
Aluminum Foil & Trays	18%
PET Bottles	55%
PET Non-bottle	45%
HDPE Natural Bottles & Jars	65%
HDPE Colored Bottles & Jars	57%
HDPE Non-bottle	52%
Polypropylene	30%



2023 Knowledge Report

People Intend to Recycle. We Must Clear the Way for Them to Act.



1 We Must Have Systematic Communications

2 People Must Have Confidence in Recycling Outcomes

3 Engagement and Outreach Must Be Tailored to Different Audiences

4 Recycling Systems Must Be Designed with Behavior In Mind

Segmentation Overview



Elizabeth Schussler

Senior Director of Social Change, Behavior & Impact:
The Recycling Partnership

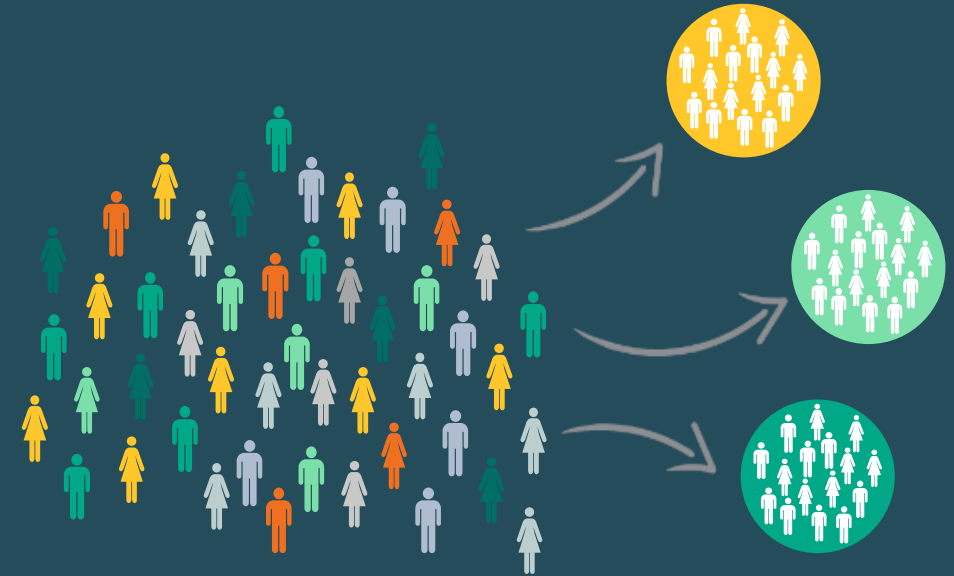
Case Study: Using Segmentation Research to Improve Curbside Recycling Behaviors

Comparing Behavior to Survey Data

Poll

Case Study #1

Using Segmentation Research to Improve Curbside Recycling Behaviors



Broad national, and demographic views of recycling are valuable, but different people have different motivators and obstacles

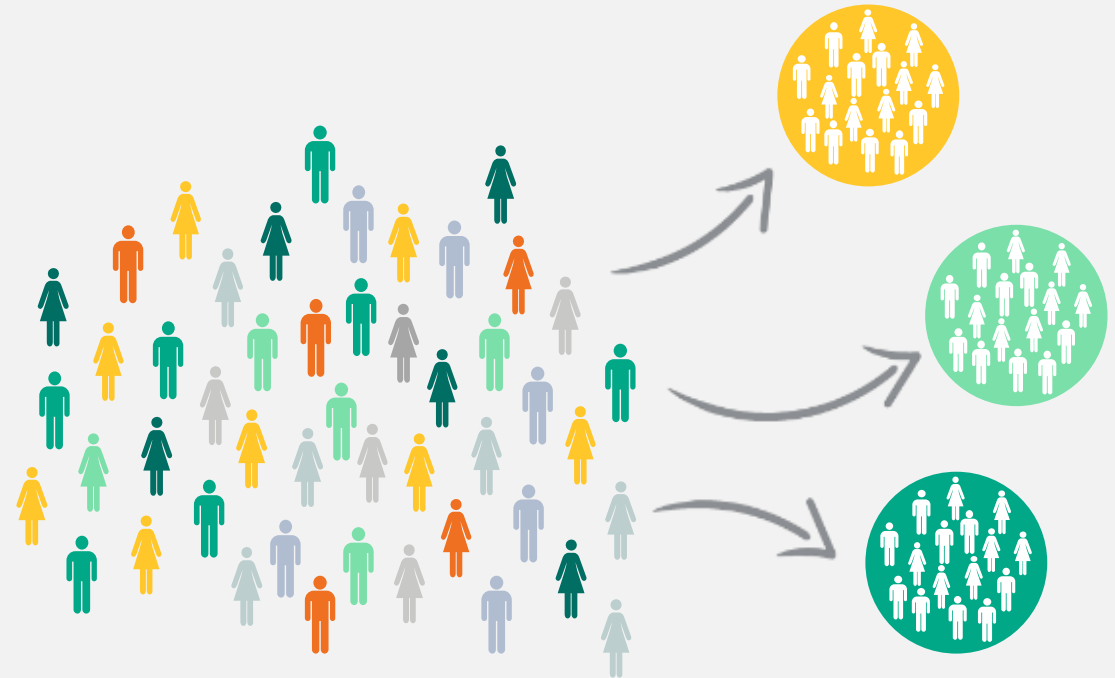
People have a range of:

- **Attitudes**
- **Obstacles**
- **Behaviors** about recycling

Demographics skew, but we do see some overlaps

SEGMENTATION MEANS...

Dividing people in distinct groups with distinct characteristics to target them with different solutions and in different ways.



Across segments, people struggle with confidence and confusion around recycling...

and some segments have additional challenges

Half need reassurance that recycling is worth the effort and becoming new things and not being trashed.

1 in 5

need more capacity (larger bins, more frequent collection).

1 in 3

are frustrated that others are not recycling.

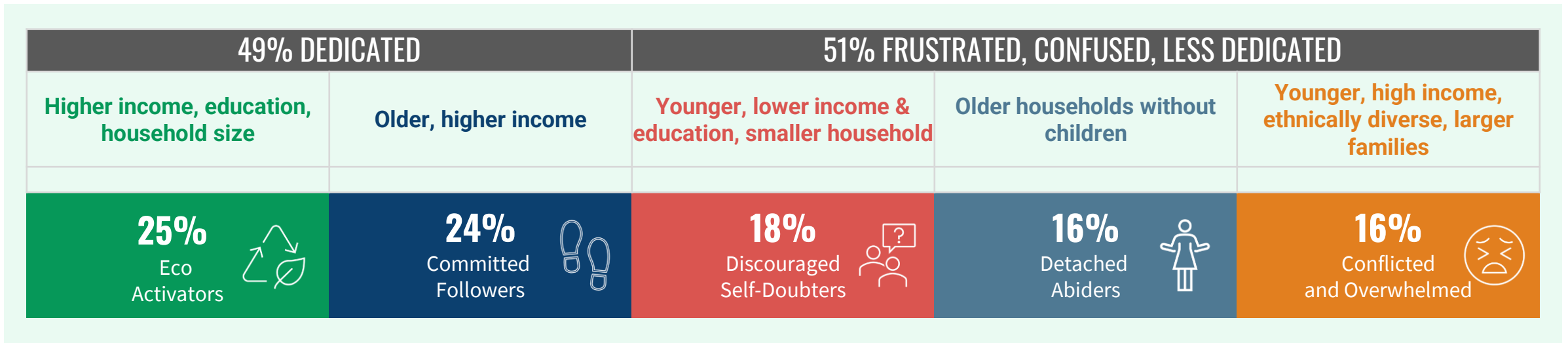
1 in 4

face functional barriers in the home such as space, lack of bins, cleaning/emptying

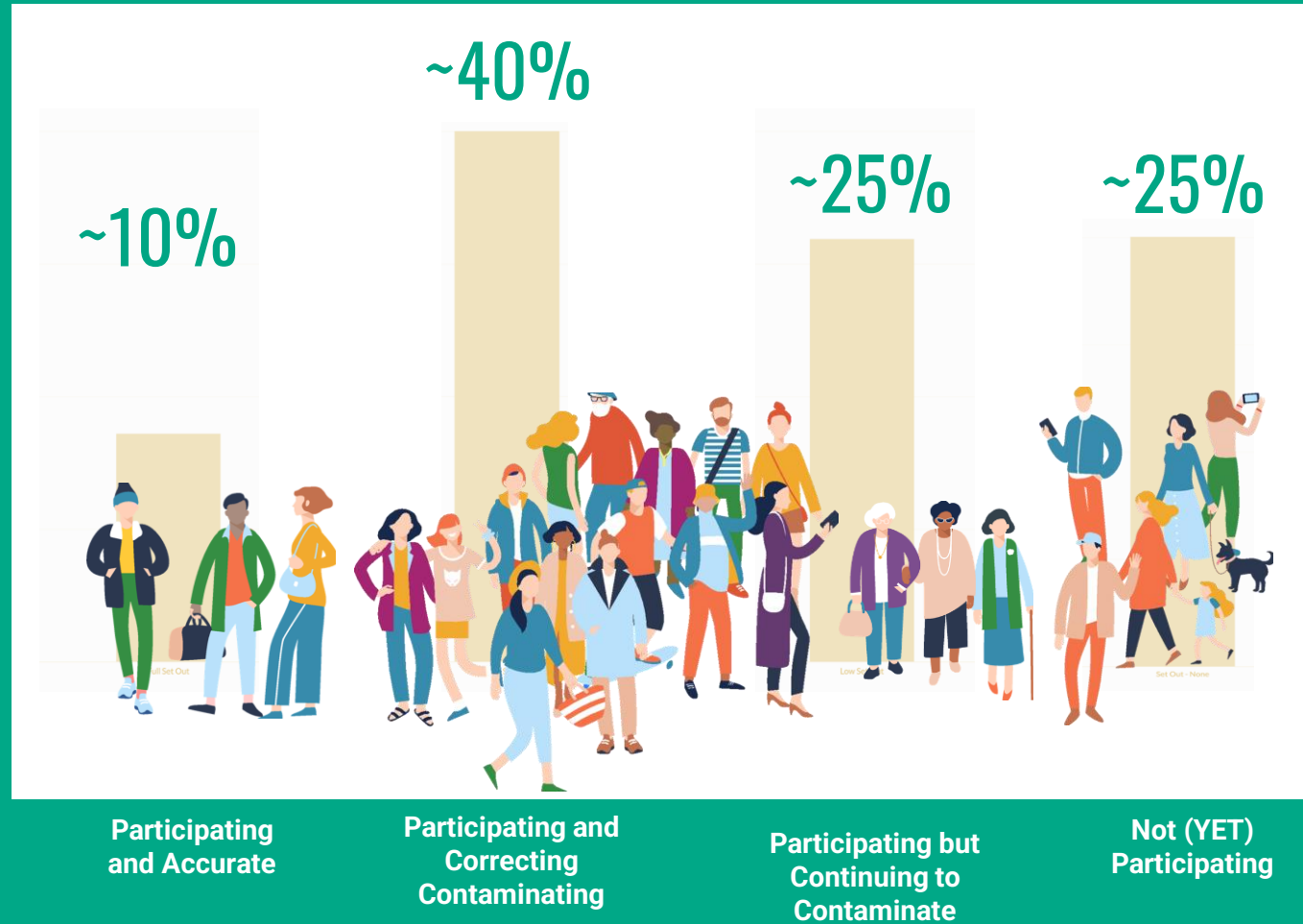
40%

report confusion in the moment and less than a third (30%) feel they have the information and frequent support that they need.

Segmentation Identified 5 Groups, Each With A Few Key Traits (Single Family, Curbside)



Segments appear to show up in behavioral data



Why aren't some people participating?

What would it take to change their behavior?

Why do some households continue to put the wrong items into their recycling cart?

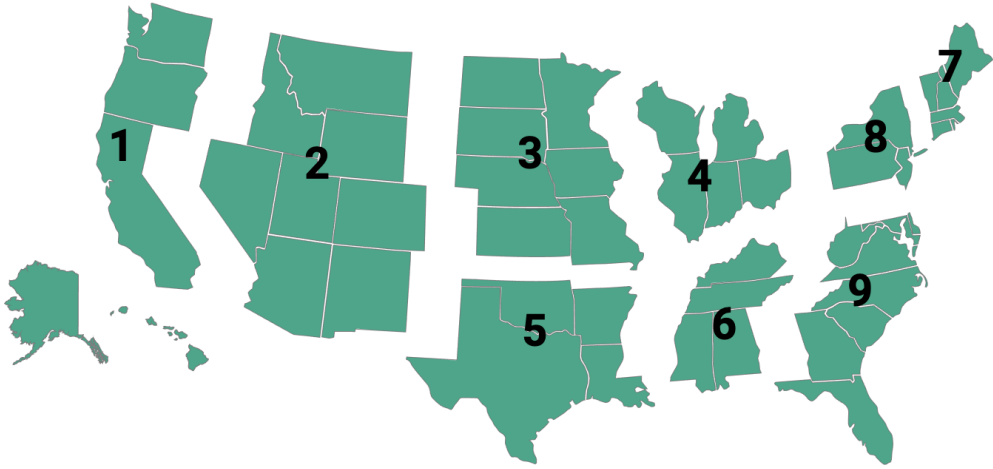
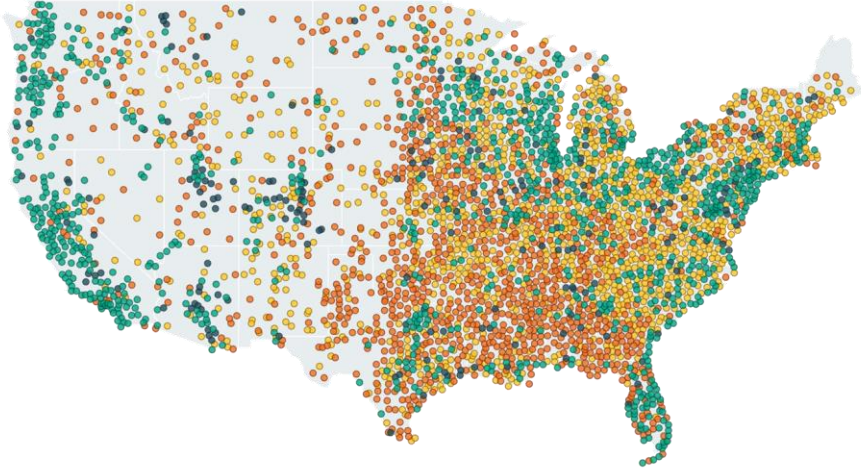
We still see bagged recyclables, plastic bags and wrap as top contaminant.

We hear ~60% don't know they shouldn't do this.

Areas with more curbside access have more dedicated recyclers

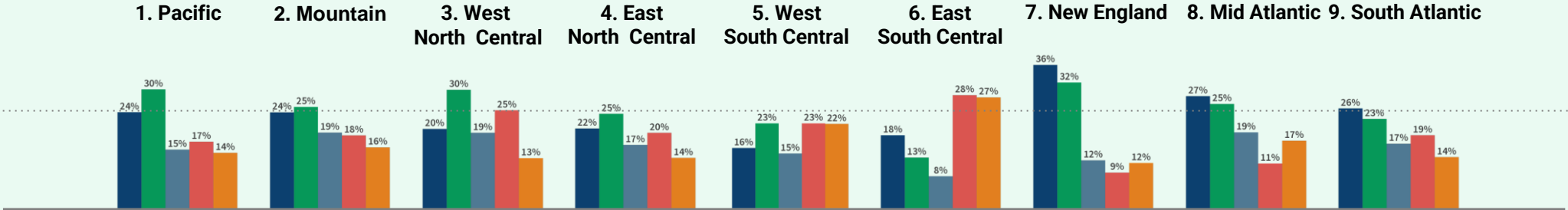
ACCESS

- Curbside ●
- Subscription ●
- Drop-off ●
- None ●



SEGMENTATION

- Committed Followers
- Eco Activators
- Detached Abiders
- Discouraged Doubtters
- Conflicted Overwhelmed



POLL:

Which of the following audiences do you have the most difficulty reaching?



Eco Activators



Committed Followers



Discouraged Self-Doubters



Detached Abiders



Conflicted and Overwhelmed

Impact of Motivational Messages On-the-Ground



Michelle Metzler

Director of Community Programs
The Recycling Partnership

Recycling & Behavior Change

Stage Gates of Influencing
Recycling Behavior

Case Study: Using Motivational
Messaging to Improve Recycling Behavior

Chicago, IL In-field Pilot

Reynoldsburg, OH In-field Pilot

Motivational Messaging as a Tool for
Behavior Change






Knowledge Report

Impact of Motivational Messages on-the-ground





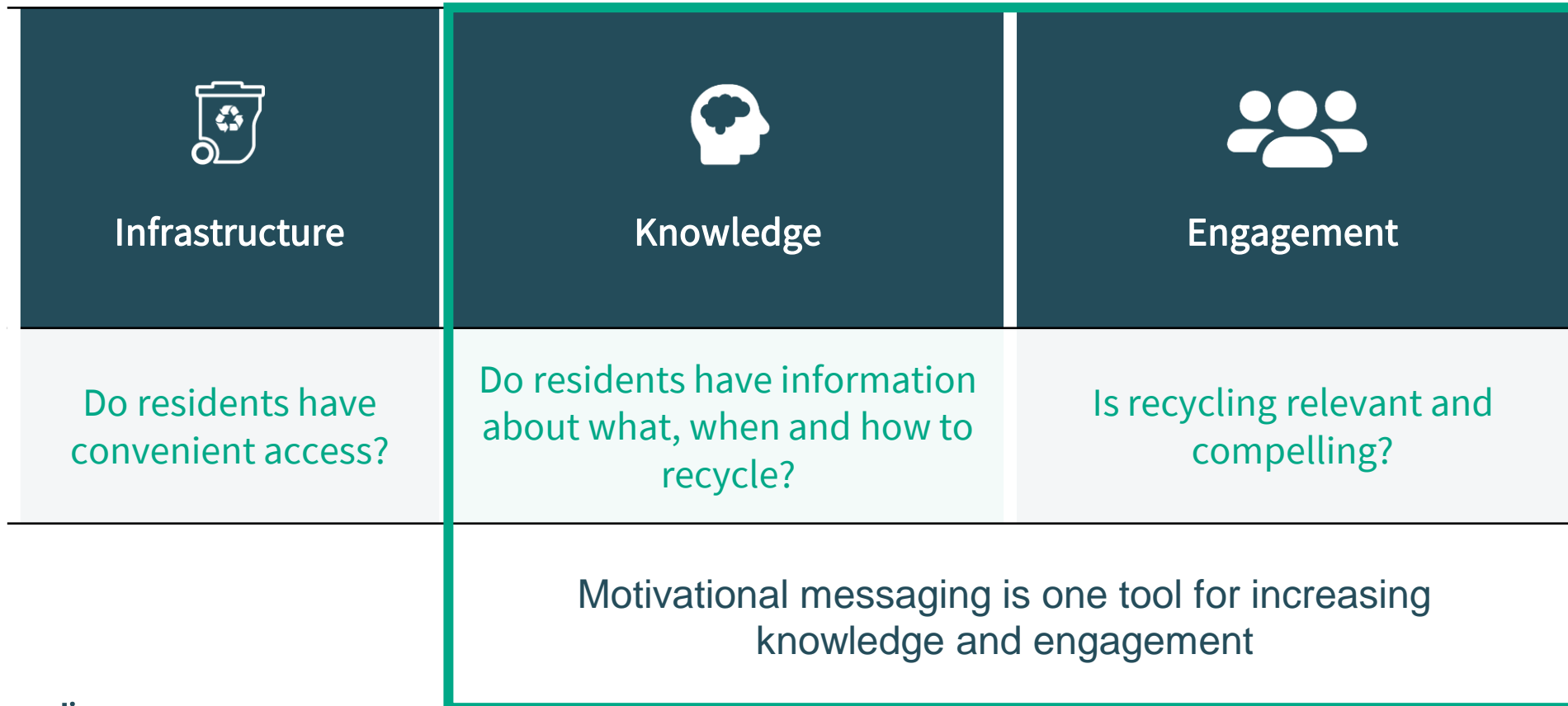
Improving Access Improves Capture, and Improving Education, Engagement, Behaviors Is Needed for Maximum Capture

	 Drop-Off Only	 Curbside Opt-In	 Curbside in Bins	 Curbside in Carts, No Education	 Curbside in Carts, Good Education
<i>Avg Pounds per HH Captured Annually</i>	Minimal	100	200	375	400+
Stepped Behavior Change	Add Access or Drop-Off	Universal Access	Cart Access	Basic Education	Evidence-Based Tailored Engagement

On average, single-family households generate ~750-800lbs of recyclables each year.



Improving Access Improves Capture, *and* Improving Education, Engagement, Behaviors Is Needed for Maximum Capture



Case Study

Using Motivational Messaging to Improve Recycling Behaviors



Demonstrated Success: Motivational Messaging Informed by Audience Segmentation



Top Messages



Empathy "We get it. It can be confusing."



Logic "Recycling makes sense."



Emotion "We have to do better!"



Community Snapshot

- Universal recycling in carts
- Every other week recycling service

Study Overview

- 3,600 households
 - 14 intervention groups
 - Control group
- Interventions includes motivational messages and in-home tools
- Baseline and post measurement of household recycling cart volumes



POLL:

Which motivational message was most successful in driving behavior change?

- Empathetic
- Logical
- Emotional
- Other / None of the Above



Confused about recycling?
¿Dudas respecto al reciclaje?

...always...
...siempre...

I hear you!
¡Lo comprendo!

Recycle your boxes, bottles, and cans.
Recicla tus cajas, botellas y latas.

CHICAGO DSS recyclebycity.com/chicago (312) 744-2413

Scan to ask a question
Escanee para hacer una pregunta

Supported by The Recycling Partnership

EMPATHETIC



Recycle boxes, paper, bottles, and cans.
Recicla cajas, papel, botellas y latas.

- ✓ less to the landfill
menor aporte al vertedero
- ✓ cleaner water and air
agua y aire más limpios
- ✓ new t-shirts, bottles, boxes, etc.
nuevas camisetas, botellas, cajas, etc.

CHICAGO DSS recyclebycity.com/chicago (312) 744-2413

Scan to ask a question
Escanee para hacer una pregunta

Supported by The Recycling Partnership

LOGICAL



Ever wonder what tomorrow will bring?
¿Alguna vez piensa acerca de lo que le deparará el mañana?

CHICAGO DSS recyclebycity.com/chicago (312) 744-2413

Scan to ask a question
Escanee para hacer una pregunta

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EMOTIONAL

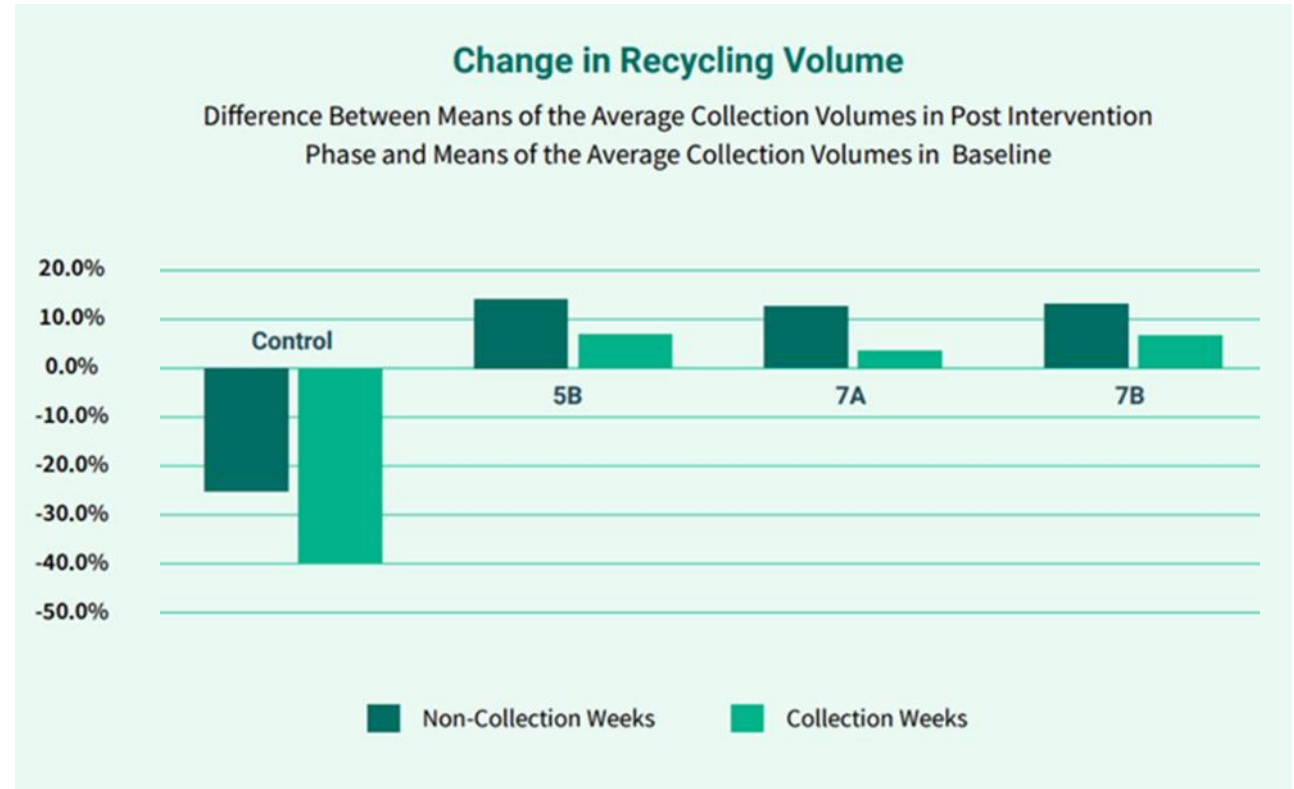


Pilot Design

- 14 micro pilots
- Tested messaging with in-home tools to make recycling easier

Findings

- Cart tags + mailers using **emotional** and **empathetic** motivational messages increased average recycling volumes



According to the control recycling went down, but the interventions (5B, 7A, 7B) using the emotional and empathy messages saw increases in recycling volume.

Community Snapshot

- Universal recycling in carts
- Weekly recycling service

Study Overview

- 10,950 households
 - 3 intervention groups
 - Control group
- Interventions includes motivational messages delivered by mail and cart tag
- Baseline and post measurement of household recycling set outs and route tons





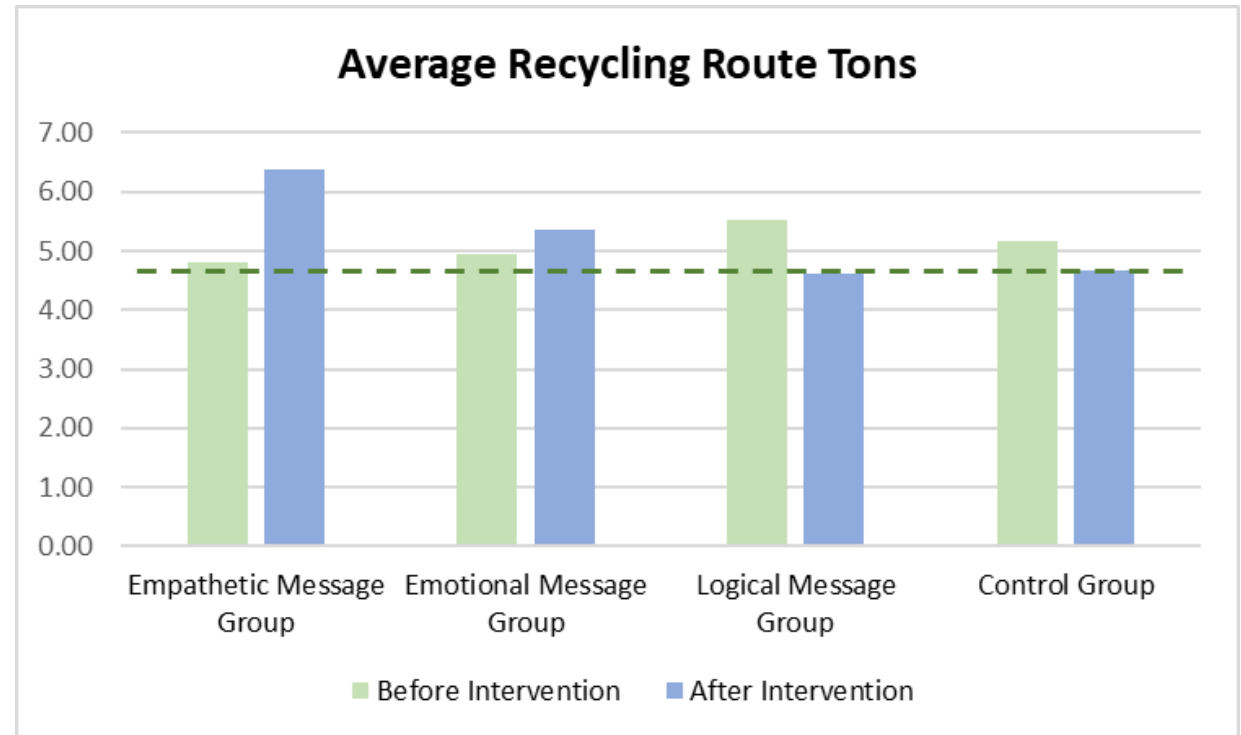
Pilot Design

3 pilots testing motivational messaging delivered by cart tag and mail

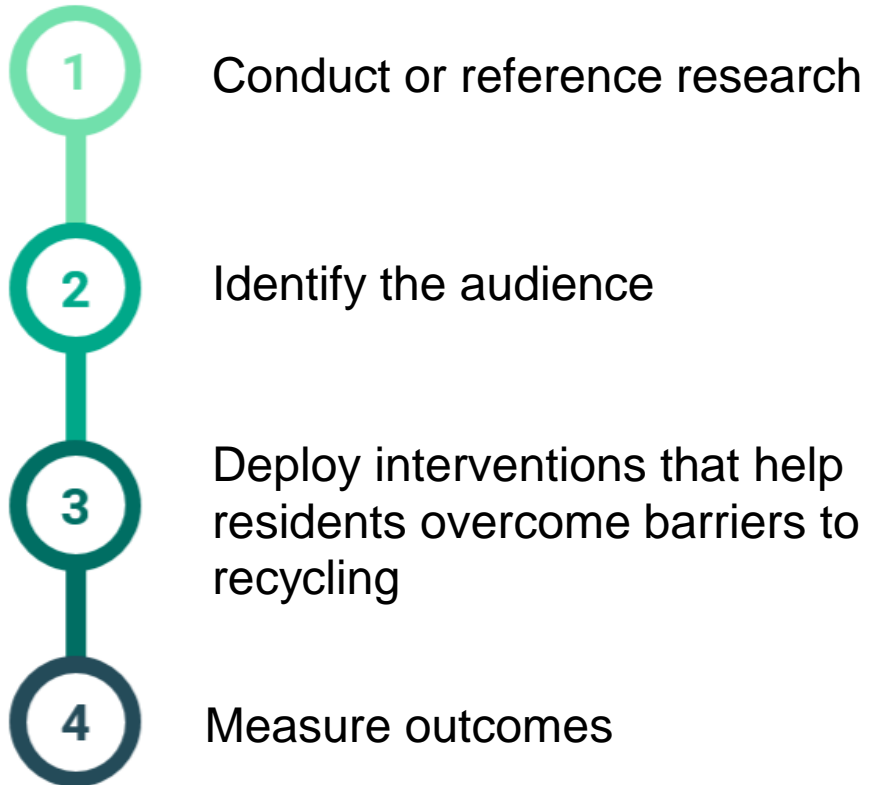
Findings

Cart tags + mailers using emotional and empathetic messages increased recycling route tons substantially.

- **Empathetic Message Group:**
38% increase in average route tons (51% increase on one route)
- **Emotional Message Group:**
16% increase in average route tons (38% increase on one route)



According to the control route tons went down, but the interventions using the emotional and empathy messages saw increases.



Role of Motivational Messaging

- Address gaps in knowledge
- Increase recycling awareness, confidence and relevance
- Reassure residents that recycling is worth the effort

POLL:

Is misinformation about recycling impacting participation in your local recycling program?

- Yes, strong impact
- Yes, moderate impact
- No, no impact



Empathetic Responses on Twitter



Joseph Sherlock

Principal Behavioral Scientist
Duke Center for Advanced Hindsight
jjs92@duke.edu

Effectively Correcting Misinformation

Literature & Research Summary

Methodology & Sample Split

Key Findings

Research Summary

Research Question

Can individuals who share misinformation on Twitter be deterred by fact, reputation, or empathy-based feedback?

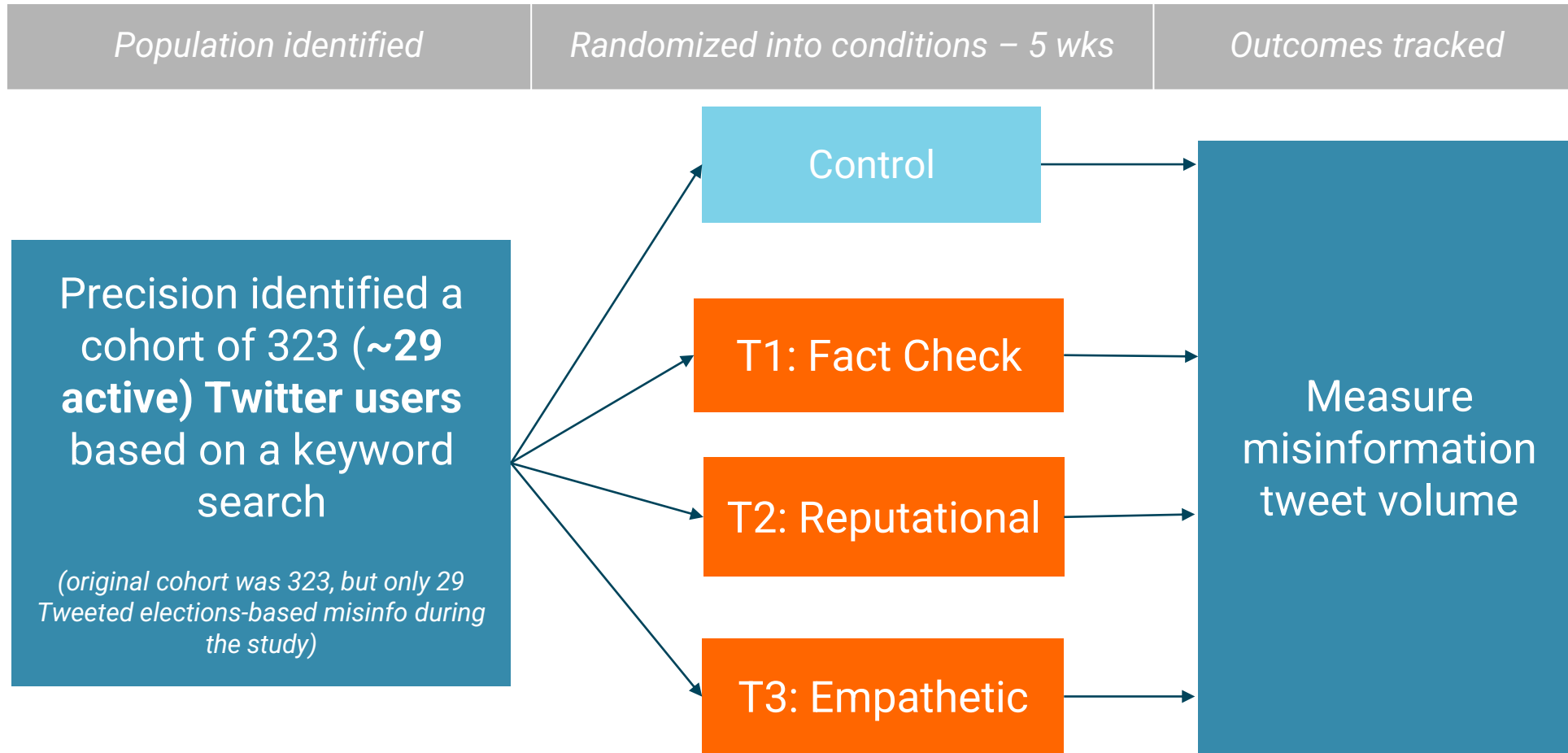
Hypothesis

H1: Fact-checking, reputational, and empathy will reduce the volume of misinformation a user continues to share.

Application

We look to give guidance to responding to misinformation on Twitter based on which types of responses (if any) seem most effective at preventing the spread of misinformation.

Methodology



Methodology - Conditions



Control

Group serves as counterfactual for comparing outcomes.

No replies to misinformation Tweets.



Fact Check

Give evidence from a fact-checking source that refutes the claim.

"This is not true according to the [AP factcheck](#). The number you cite includes early ballots cast in-person."



Reputational

Call into question the reputation of either the source of the claim or the person posting the Tweet.

"This is not true. CyberNinjas has pushed this and other false claims to drum up business for themselves. Their claims have been widely disproven again and again."

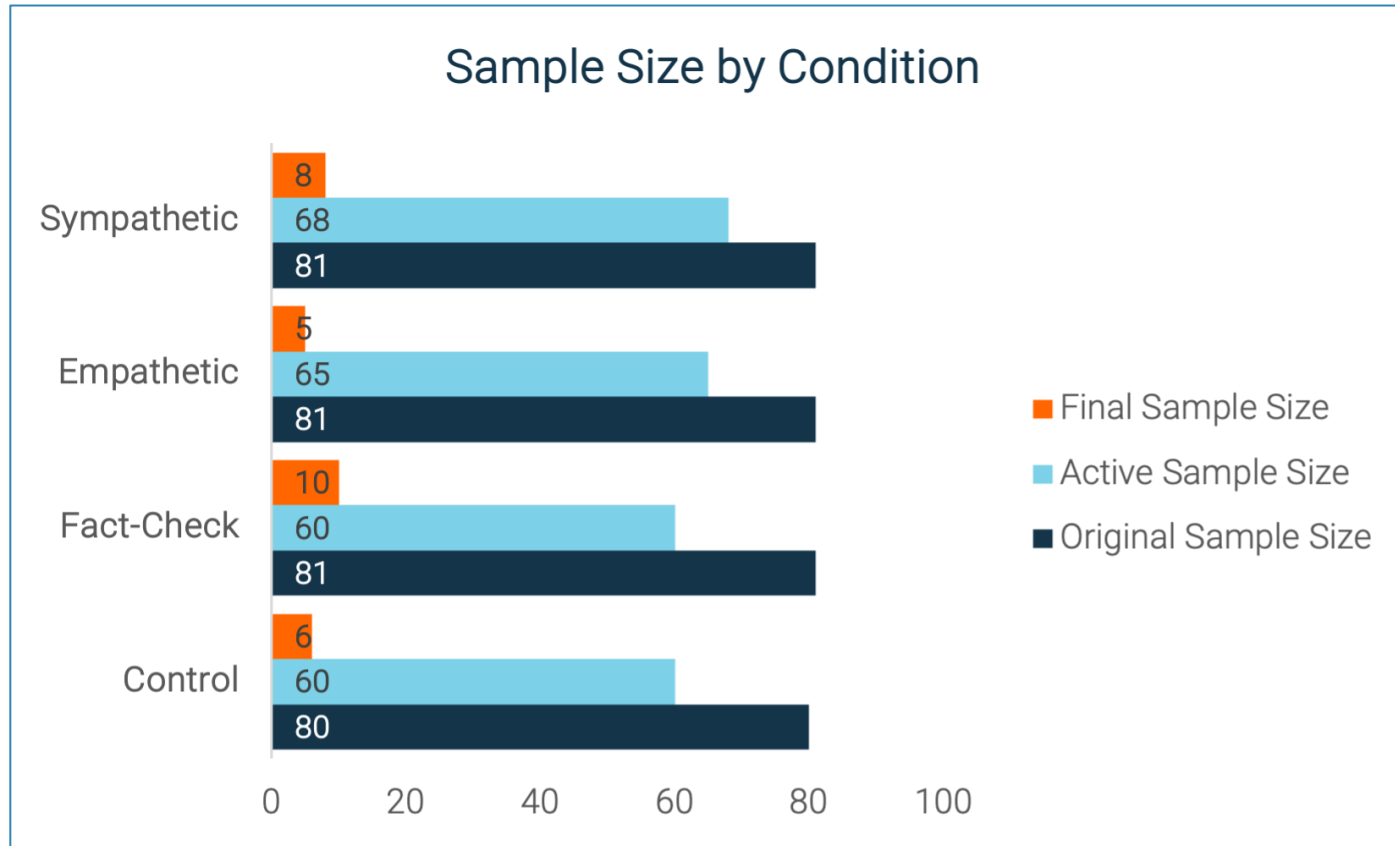


Empathetic

Counter the claim in a friendly and sympathetic manner.

"I thought this could be true when I first heard it -- I worry about foreign interference in the election too. But no ballots on illegal paper have been found."

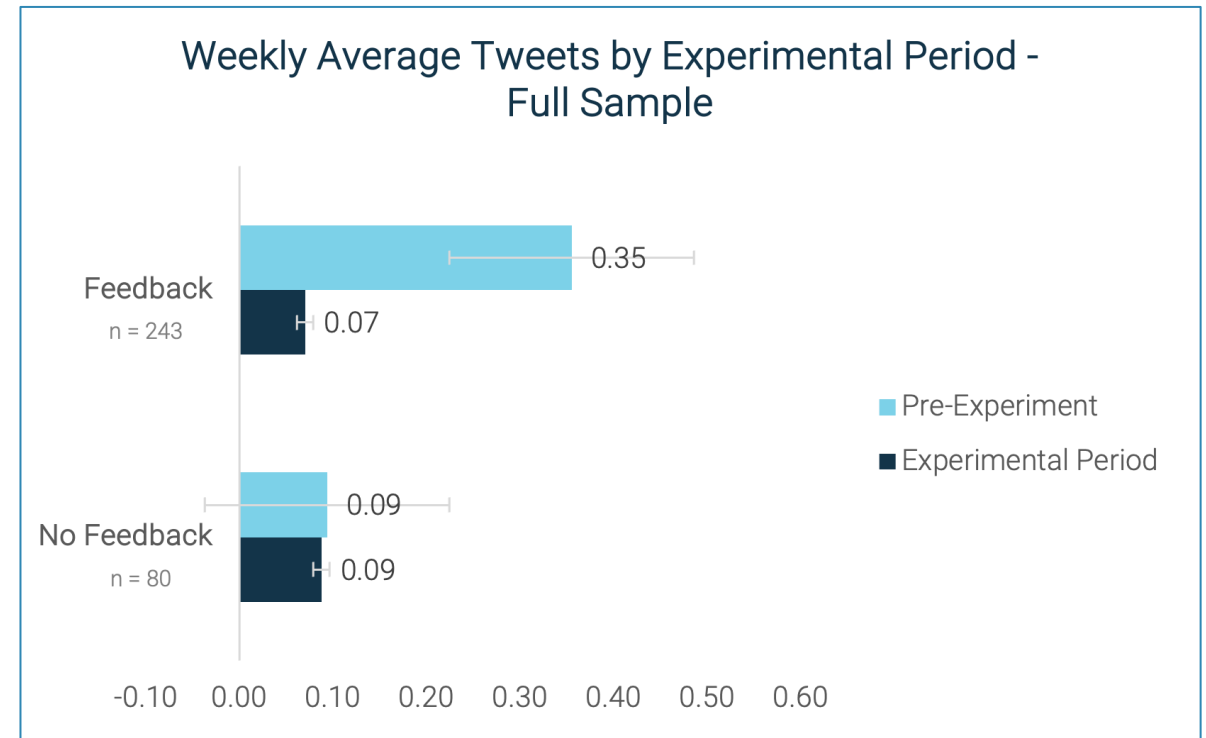
Sample Split (Type & Condition)



- Our original sample consisted of **323 misinformation sharers** in the Arizona region.
- Of the entire sample, 236 (or 73.07% of the original sample) of these users were considered “active users” (i.e. they tweeted during the experimental period).
- The **final sample size** was reduced to **29 Twitter users** (or 9.29% of the original sample). This consisted of individuals that tweeted any misinformation during the experiment.

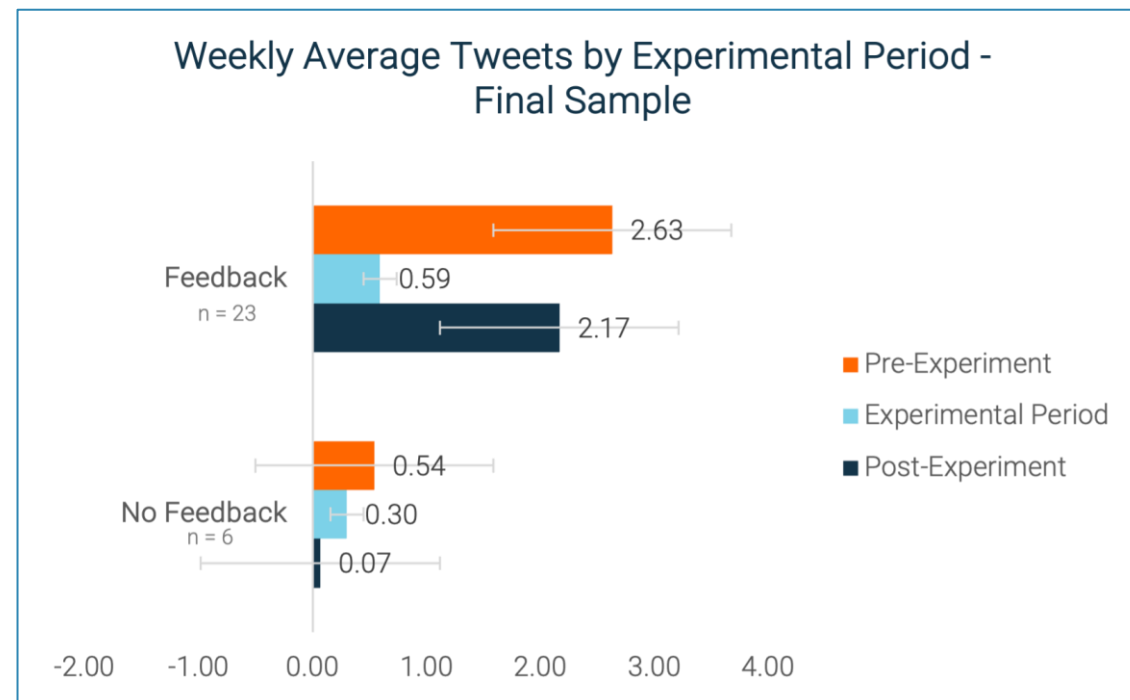
Key Finding: Intention to Treat Impact for Full Sample

- With feedback, we can expect a weekly decrease in misinformed posts.
- Overall, feedback resulted in a **~0.27 weekly reduction in inaccurate tweets** ($p < 0.001$) when compared to the control.



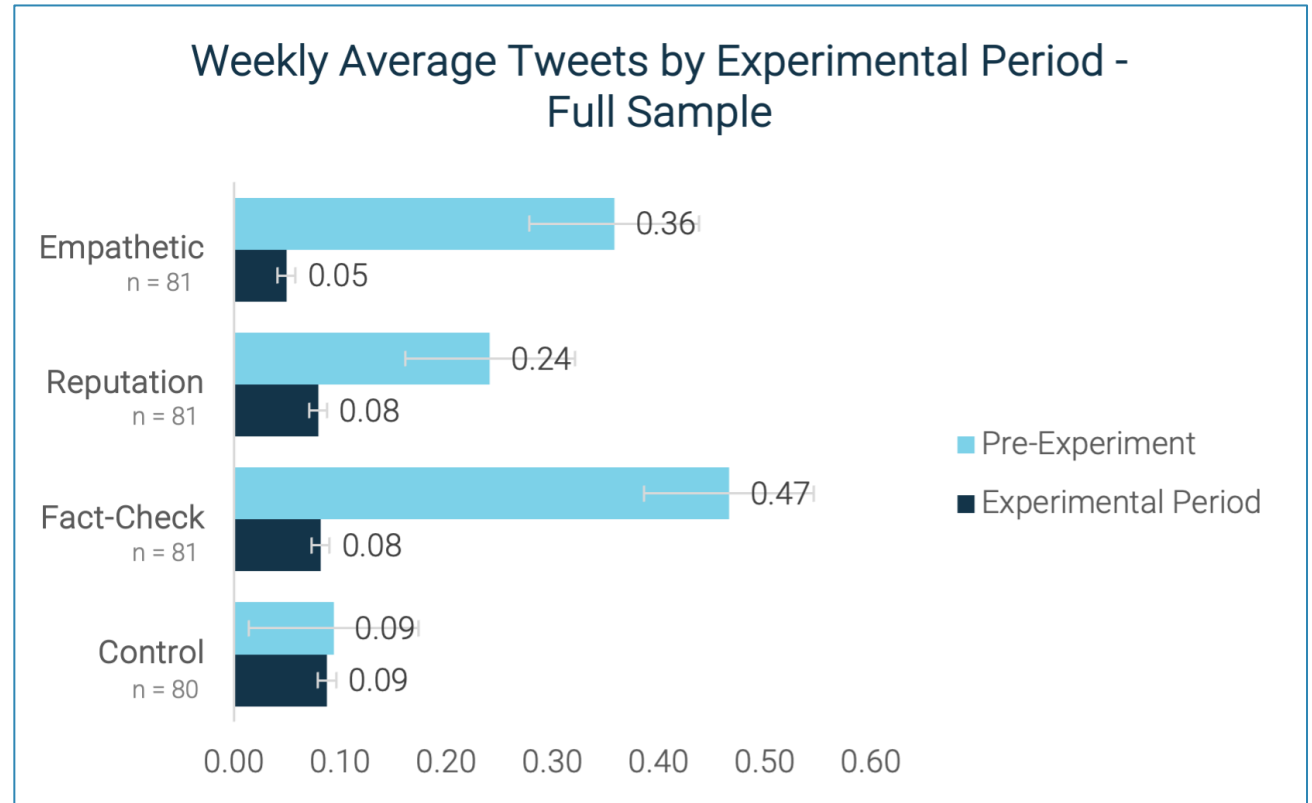
Treatment Impact for Final Sample

- Again, with feedback, we can expect a weekly decrease in the volume of misinformed tweets.
- Overall, feedback resulted in a **~1.79 weekly reduction in inaccurate tweets** ($p < 0.001$) when compared to the control.



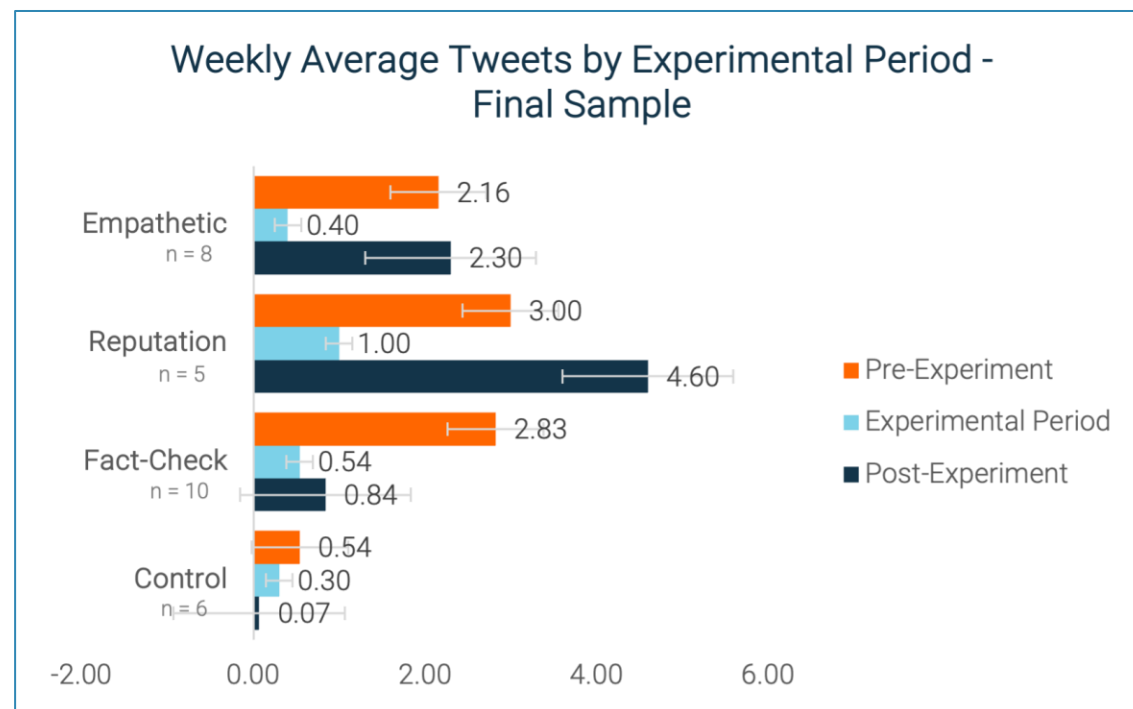
Intention to Treat Impact for Full Sample

- We see all treatment conditions appear to reduce misinformation



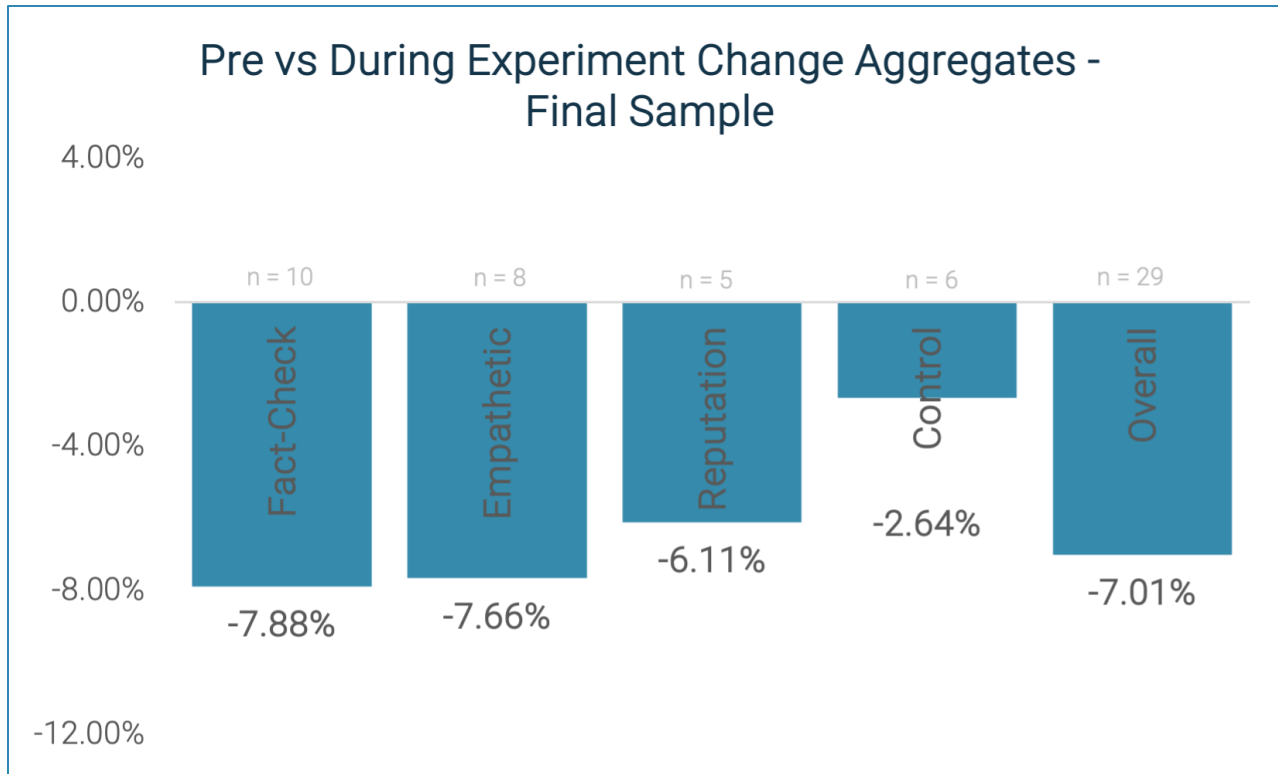
Treatment Impact for Final Sample

- Again, with feedback, we can expect a weekly decrease in misinformed tweets.
- Fact-checking had the strongest impact, reducing misinformation volume by **2.04 weekly misinformed tweets**.
- This was followed by reputation then empathy, which were also statistically significant.



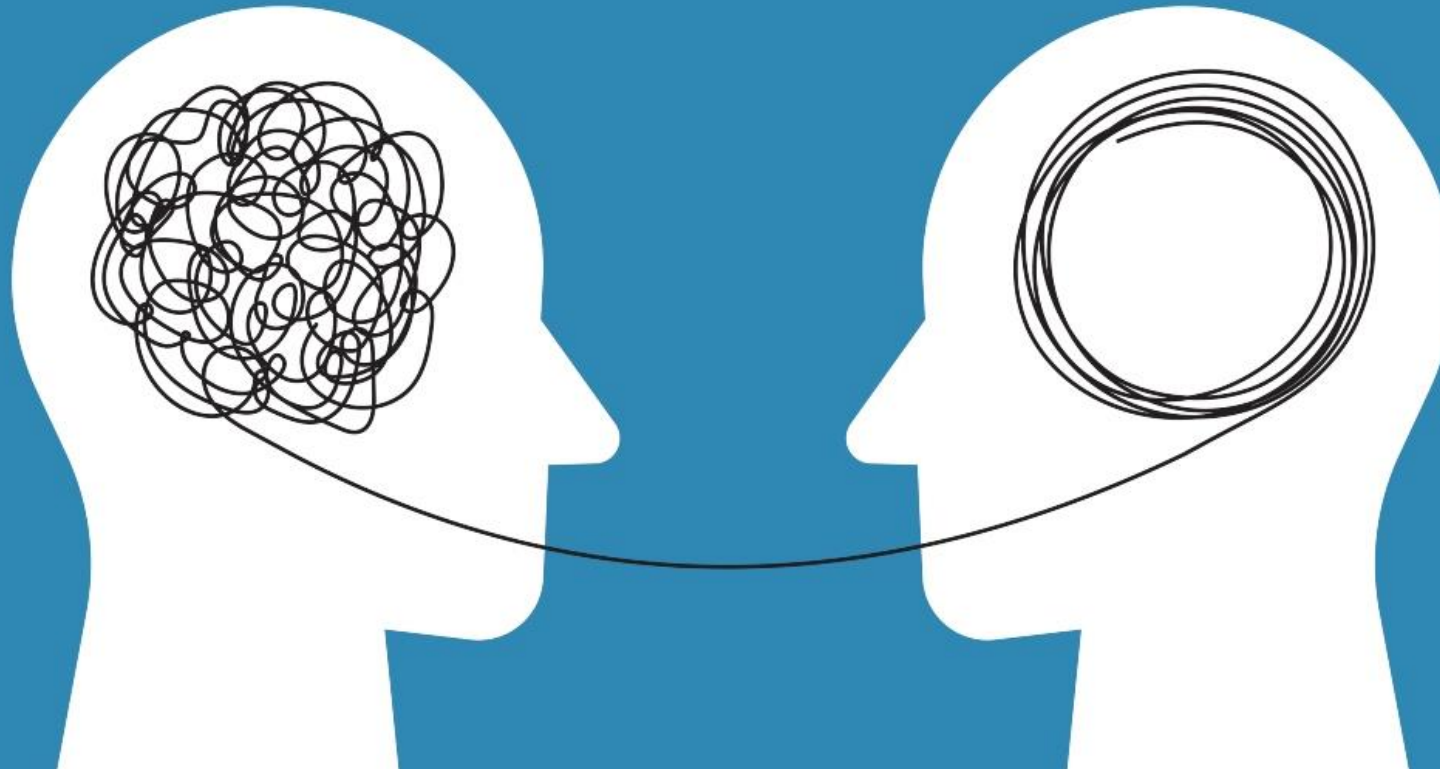
Misinformation Change by Condition

Final Sample Aggregate Changes



- Overall, misinformation rates decreased during the experimental period by 7.01%.
- The **fact-checking** condition had the strongest impact, reducing misinformation for the final sample by **7.88%**.
- This was followed by the **empathy** condition, which **reduced misinformation by 7.66%**.

Empathetic feedback can be a powerful tool for behavior change...



Recycle Right New York's Approach to Connection



Lisa Ruggero

Assistant Director of Outreach Programs
Syracuse University Center for Sustainable Community Solutions

Our Story

Our Stakeholders

Research

Response

Where to from here

RECYCLE RIGHT
NEW YORK

Outreach & Engagement Training Program



Our Story

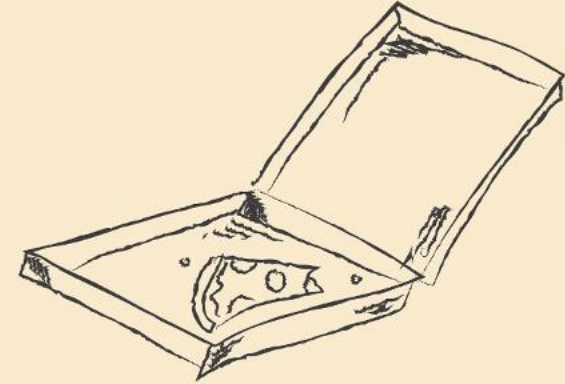
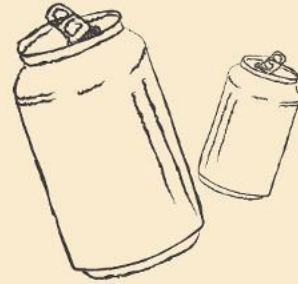


Our Stakeholders



Confused about recycling? You're not alone.

Visit recyclerightny.org



Have you ever heard this?:

“Why should I bother recycling? It all just gets put in the trash.”

Our Approach:

TRANSPARENCY

EMPATHY

VALIDATION

Our response:



- 1 Document**

Take note of the date, time, and location of the incident. If possible, take photographs or videos showing the mixing of recyclables and trash.
- 2 Contact your local waste management or recycling company**

They may be able to provide you with information on the recycling process in your area and help you understand why certain materials may be discarded: Sometimes, materials may be rejected from recycling facilities because they are contaminated or not properly prepared for recycling.
- 3 Check your local recycling guidelines**

Visit recyclerightny.org/local-recycling-guidelines to make sure that you are following your local recycling guidelines and properly separating your recyclable materials.

- 4 Report the issue**

If you believe that recyclable materials are being mishandled in your area, contact your local recycling coordinator <https://www.dec.ny.gov/chemical/8511.html>. You may also report the issue to NYSDEC (recycling@dec.ny.gov). They may be able to investigate the issue and work with your town, city, or waste management companies to improve recycling practices.
- 5 Reduce your own waste**

Lastly, one of the most effective ways to ensure that your recyclable materials are not being discarded is to reduce your own waste in the first place.

"You can question, probe, and even sometimes get lost in the mystery of material management, but still feel pride when you choose to recycle right to keep our recycling streams clean and strong."

RRNY for New York State Conservationist
October/November 2023



WHAT IS A SPLIT BODY TRUCK?

Where to from here?

- Continue to build trust and connection with NYS residents.
- Work with audience segmentation.
- Build upon existing tools: *check your local guidelines, recyclopedia, and recycling locator tools.*
- Humanize recycling: Stakeholder engagement focusing on frontline workers including haulers, transfer stations, MRF's.
- Explore other outreach/marketing opportunities outside of the social media space (e.g. billboards, bus ads, radio, tv)



Thank you!

Lisa Ruggero

Assistant Director of Outreach Programs

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Email: ldrugger@syr.edu

RecyclerightNY.org

@RecycleRightNY

Email: info@recyclerightny.org



Q&A



Join us to scale behavior change nationally!

How to stay involved:

- ✓ Download the 2023 Knowledge Report
- ✓ Sign up for the Recycling Program Solutions Hub
- ✓ Complete the Post-Webinar Survey
- ✓ Register for The Center's October 25th Webinar
- ✓ Stay tuned: 2024 Q1 in-person training to be announced soon!

Check the chat for links and instructions.



Get in Touch:

Center for Sustainable Behavior & Impact

✉ TheCenter@recyclingpartnership.org

🌐 recyclingpartnership.org/behavior-change/



We mobilize people, data, and solutions across the value chain to reduce waste and our impact on the environment while also unlocking economic benefits.