Dissemination Science and Clinical Practice Guidelines: Opportunities and Challenges

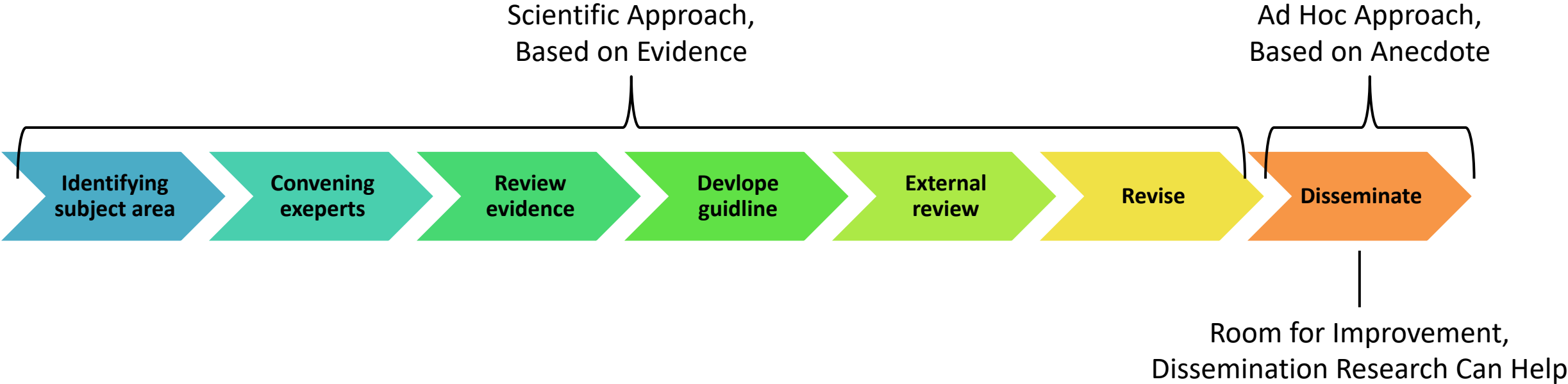Jonathan Purtle, DrPH, MSc
Associate Professor
New York University School of Global Public Health

February 22, 2024
Design for Implementation:
The Future of Trauma Research and Clinical Guidance Conference

The Clinical Practice Guideline Process Often Falls Short of Dissemination

Scientific Approach,
Based on Evidence

Ad Hoc Approach,
Based on Anecdote

Identifying subject area
Convening exeperts
Review evidence
Devlope guidline
External review
Revise
Disseminate

Room for Improvement,
Dissemination Research Can Help

What is Dissemination?

- Dissemination Research:
  - "The scientific study of targeted distribution of information and intervention materials to a specific public health or clinical practice audience. The intent is to understand how <u>best to spread and sustain knowledge</u> and the associated evidence-based interventions." (NIH PAR-18-007)

A Three Stage Approach For Dissemination Research

Formative Audience Research → Audience Segmentation Research → Dissemination Effectiveness Research
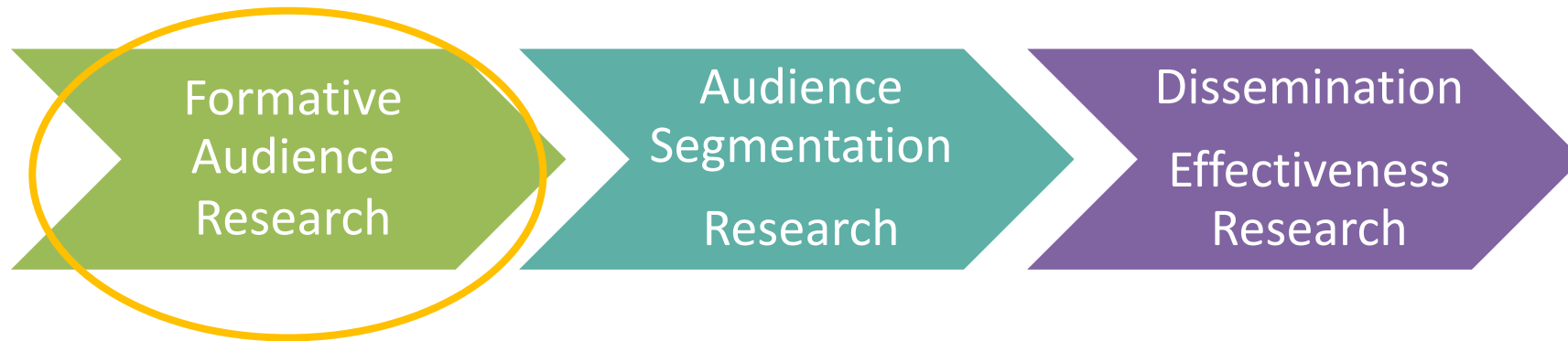
Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, 75(8), 1052.

Next 15 Minutes: Present Examples of Research From Across Each of These States

1. Dissemination of evidence about behavioral health and health disparities to policymakers

2. Dissemination of information about the American Psychological Association's Clinical Practice Guideline for PTSD to Psychologists

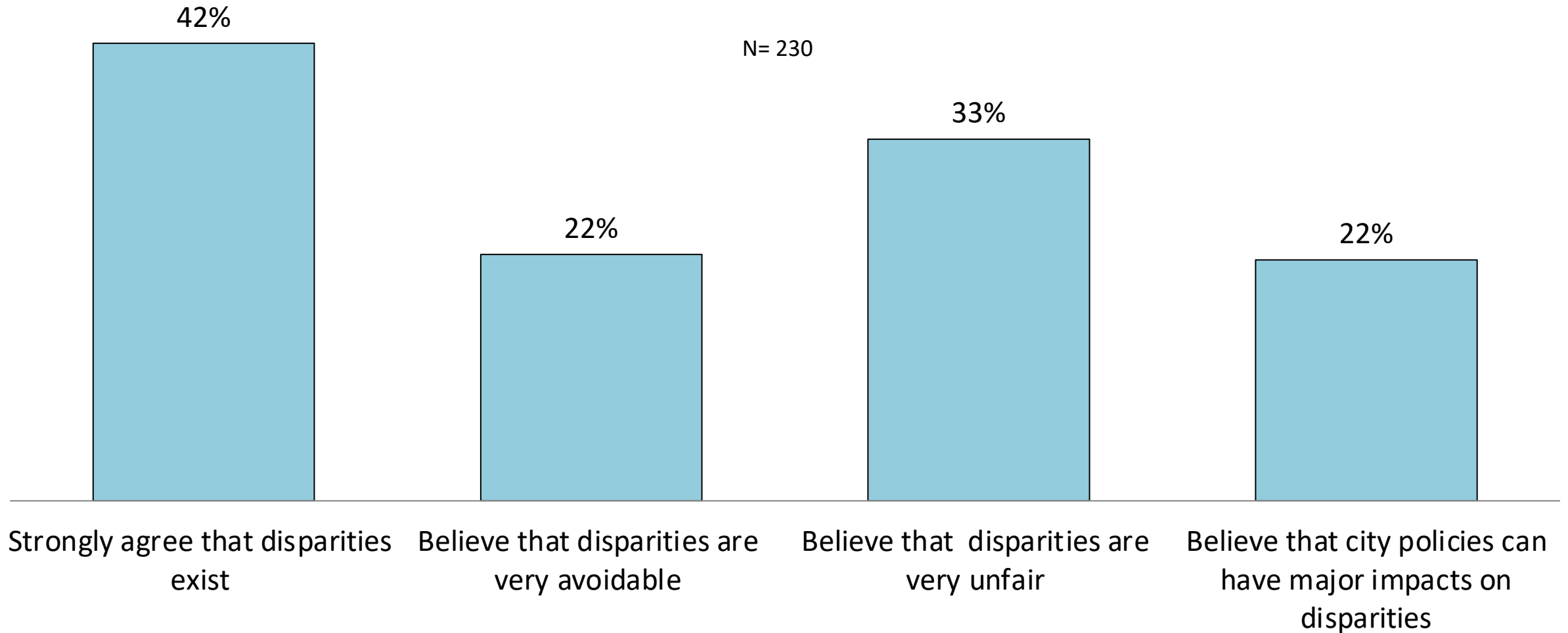# A Three Stage Approach For Dissemination Research

Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, 75(8), 1052.

Formative Audience Research

- <u>Goal</u>: Generate data to inform the design of dissemination materials and how they are distributed

- Assess…
  1. Awareness of an evidence-based intervention or the problem that the intervention addresses

U.S. City Mayor's Opinions about Health Disparities in Their Cities

N= 230

42% — Strongly agree that disparities exist

22% — Believe that disparities are very avoidable

33% — Believe that disparities are very unfair

22% — Believe that city policies can have major impacts on disparities
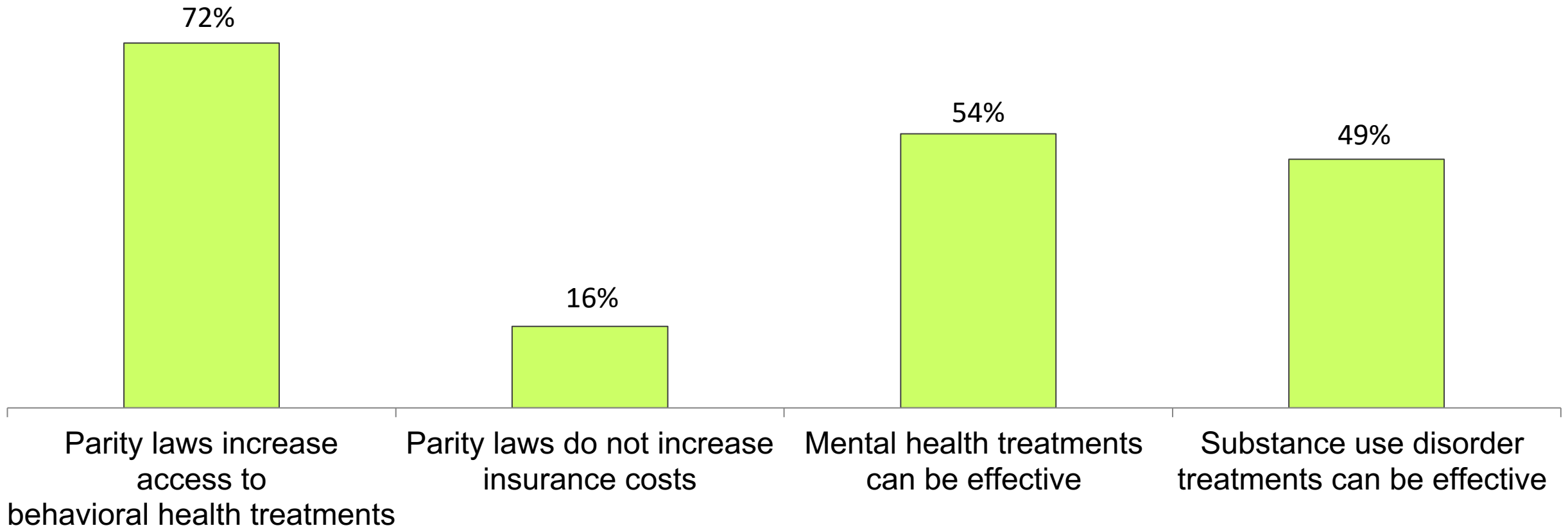
Purtle, J., Henson, R. M., Carroll-Scott, A., Kolker, J., Joshi, R., & Diez Roux, A. V. (2018). US mayors' and health commissioners' opinions about health disparities in their cities. *American journal of public health*, *108*(5), 634-641.
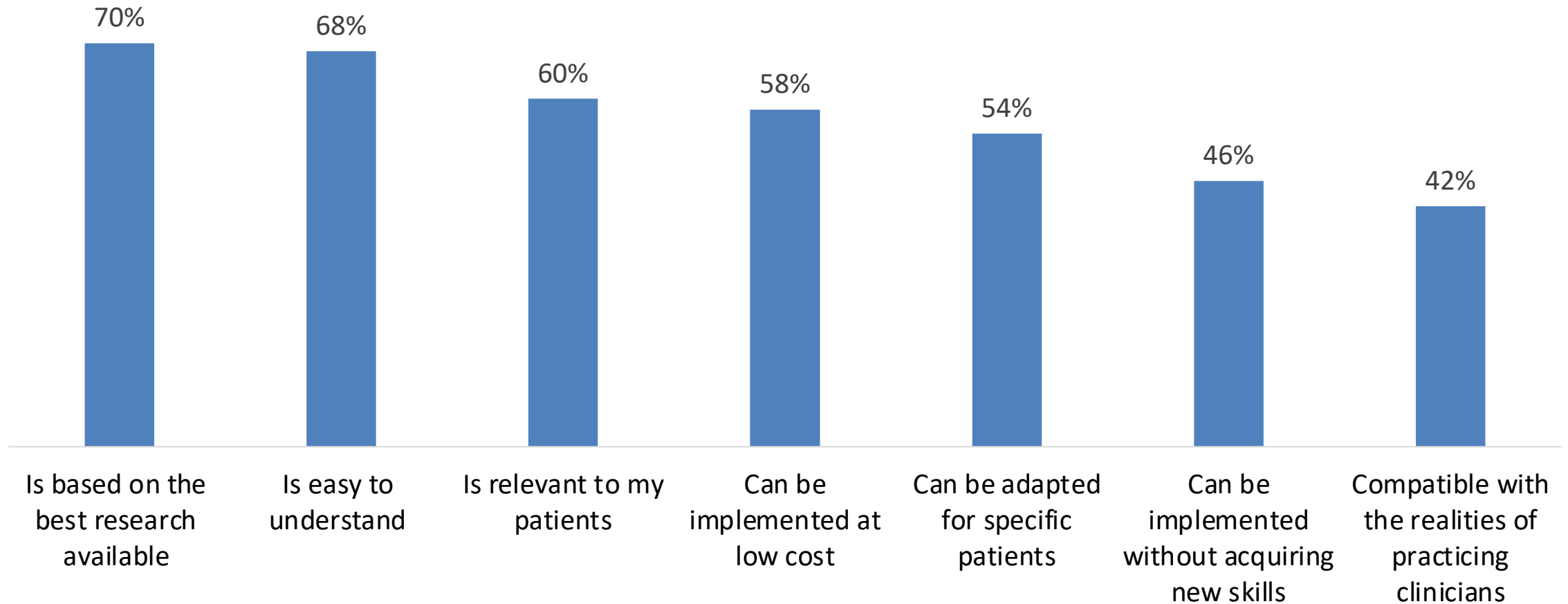
Formative Audience Research

- <u>Goal</u>: Generate data to inform the design of dissemination materials and how they are distributed

- Assess…
    1. Awareness of an evidence-based intervention or problem that the intervention addresses

    2. Attitudes towards the intervention
        - E.g., Rogers' constructs (relative advantage, complexity, trialability)

U.S. State Legislators' Attitudes Towards Comprehensive State Behavioral Health Parity Laws (N=475)

72% — Parity laws increase access to behavioral health treatments

16% — Parity laws do not increase insurance costs

54% — Mental health treatments can be effective

49% — Substance use disorder treatments can be effective

Purtle, J., Lê-Scherban, F., Wang, X.,... Brownson, RC. State Legislator Support for Behavioral Health Parity Laws: The Influence of Mutable and Fixed Factors at Multiple Levels. *The Milbank Quarterly*. 2019.

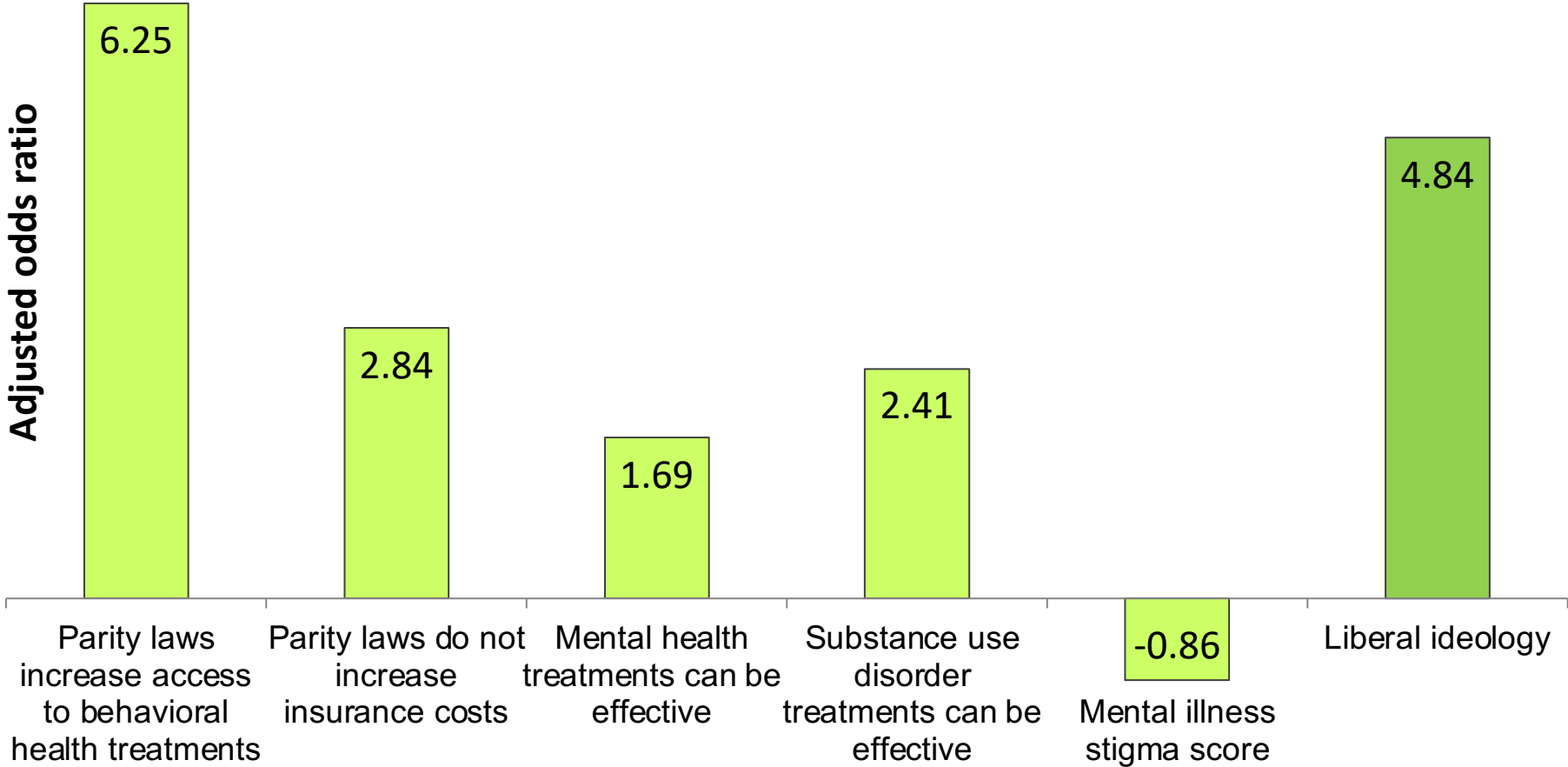# Psychologists' Attitudes Towards APA PTSD Clinical Practice Guideline (N=408)

Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, *75*(8), 1052.
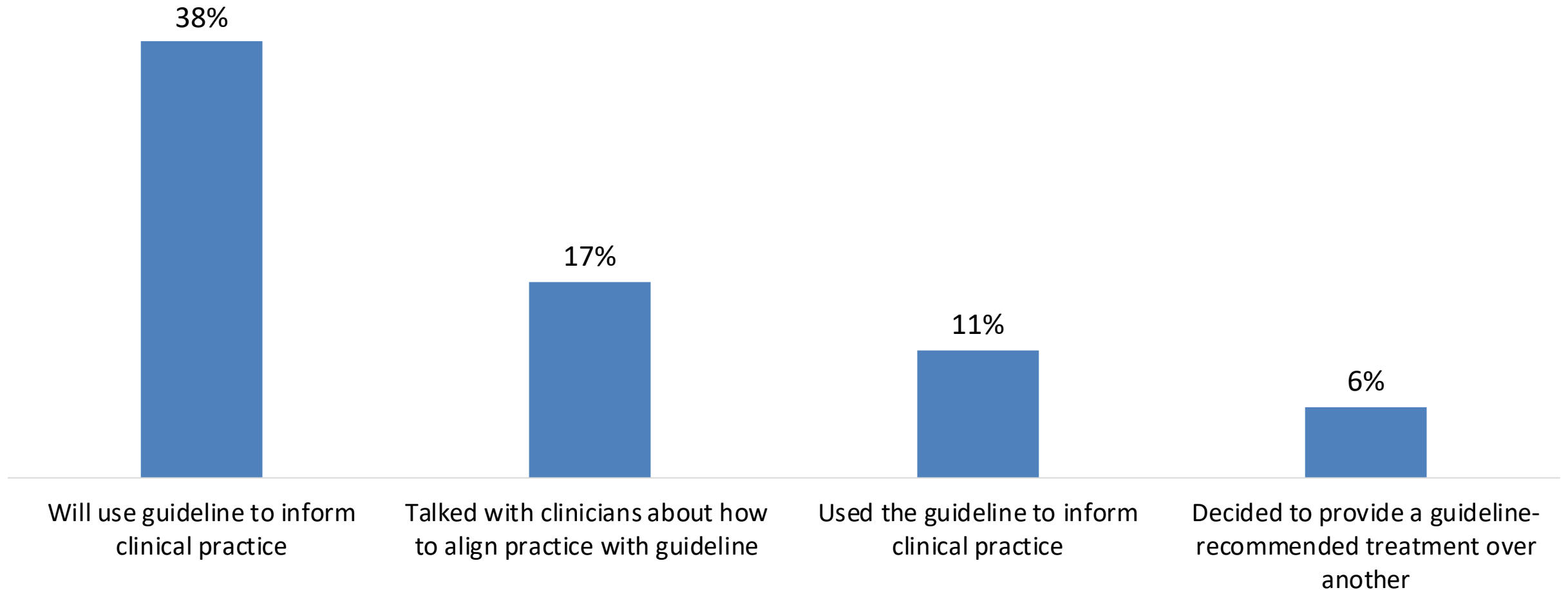
Formative Audience Research

- Goal: Generate data to inform the design of dissemination materials and how they are distributed

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  1. Awareness of an evidence-based intervention or problem that the intervention addresses

  2. Attitudes towards the intervention
     - E.g., Rogers' constructs (relative advantage, complexity, trialability)

  3. Adoption of, support for, intention to adopt the intervention

Legislator Factors Associated with Support for State Behavioral Health Parity Laws

Purtle, J., Lê-Scherban, F., Wang, X.,... Brownson, RC. State Legislator Support for Behavioral Health Parity Laws: The Influence of Mutable and Fixed Factors at Multiple Levels. *The Milbank Quarterly.* 2019.

Psychologists' Use/Behaviors Related to the APA PTSD Clinical Practice Guideline

38% — Will use guideline to inform clinical practice

17% — Talked with clinicians about how to align practice with guideline

11% — Used the guideline to inform clinical practice

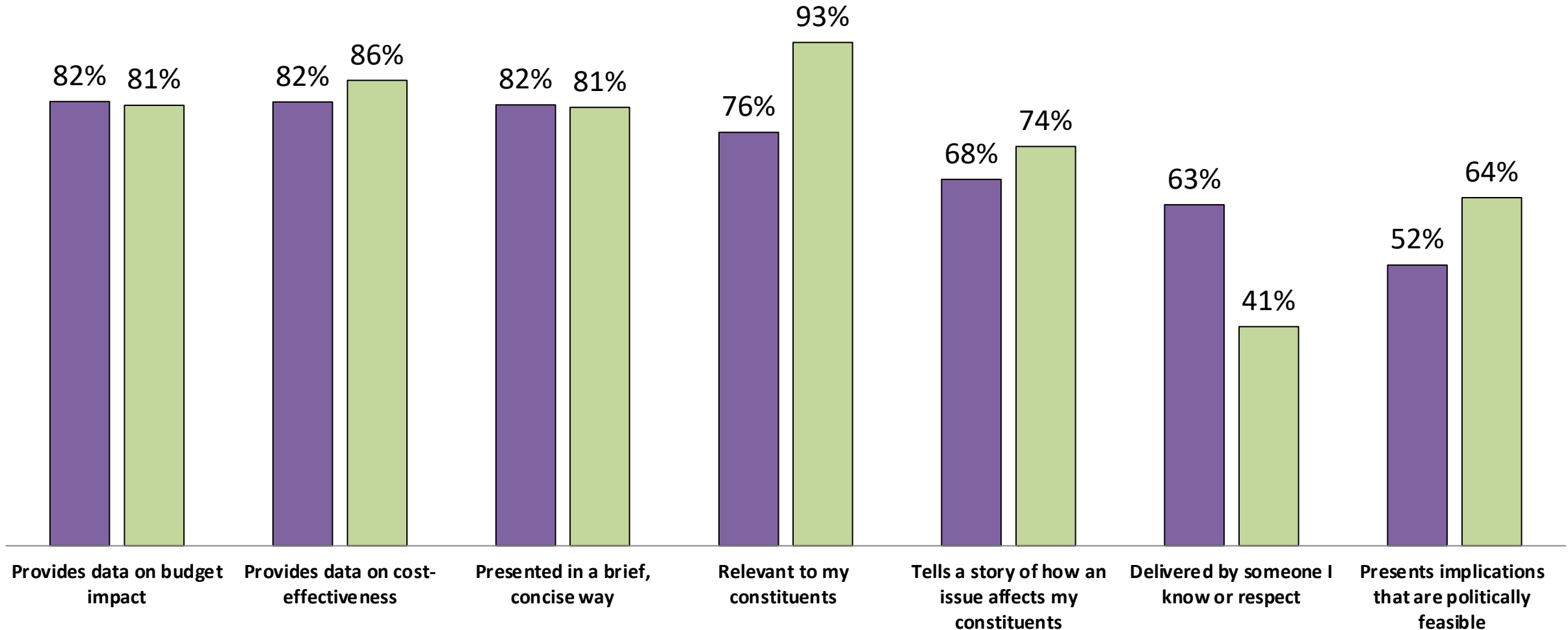6% — Decided to provide a guideline-recommended treatment over another

Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, *75*(8), 1052.

Formative Audience Research

- Goal: Generate data to inform the design of dissemination materials and how they are distributed

- Assess…

    1. Awareness of an evidence-based intervention or problem that the intervention addresses

    2. Attitudes towards the intervention
        - E.g., Rogers' constructs (relative advantage, complexity, trialability)

    3. Adoption of, support for, intention to adopt the intervention

    4. Preferences for receiving information about the intervention
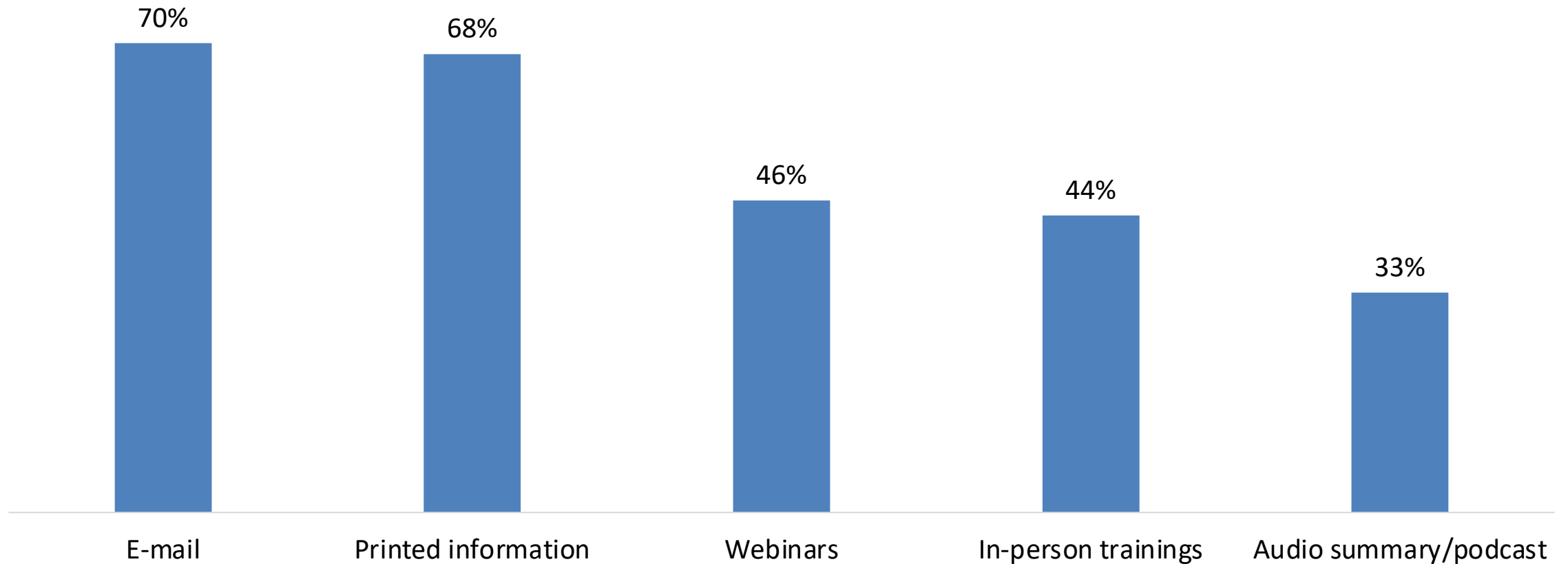   - E.g., content, source, mode of delivery

"Very Important" Features of Disseminated Behavioral Health Evidence
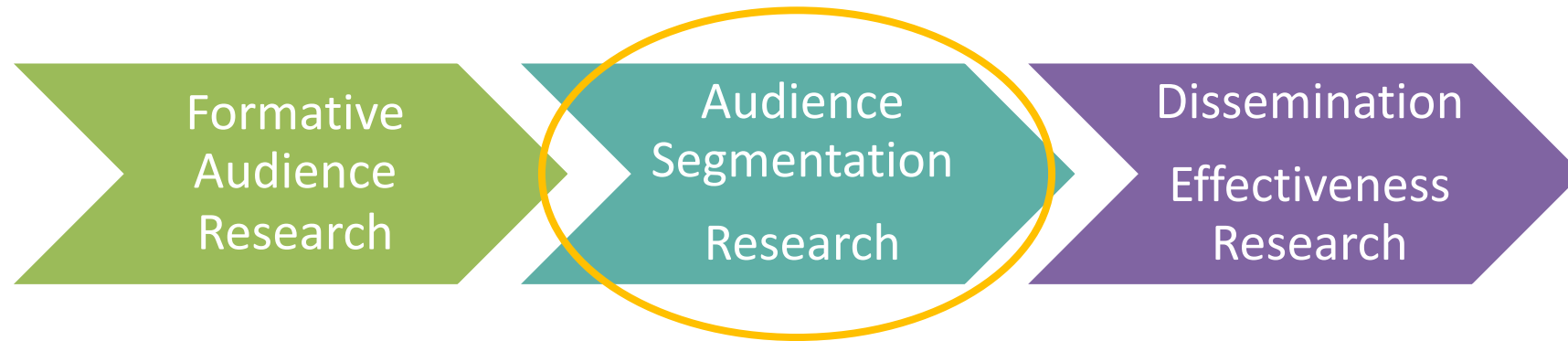
Legislators ■ SMHA Directors

Feature	Legislators	SMHA Directors
Provides data on budget impact	82%	81%
Provides data on cost-effectiveness	82%	86%
Presented in a brief, concise way	82%	81%
Relevant to my constituents	76%	93%
Tells a story of how an issue affects my constituents	68%	74%
Delivered by someone I know or respect	63%	41%
Presents implications that are politically feasible	52%	64%

Purtle, J., Lê-Scherban, F., Nelson, K.L., Shattuck, P., Proctor, E.K., Brownson, R.C. State Mental Health Agency Officials' Preferences for and Sources of Behavioral Health Research. *Psychological Services*. 2019

Psychologists' Preferred Modes of Receiving Information about the APA PTSD Clinical Practice Guideline
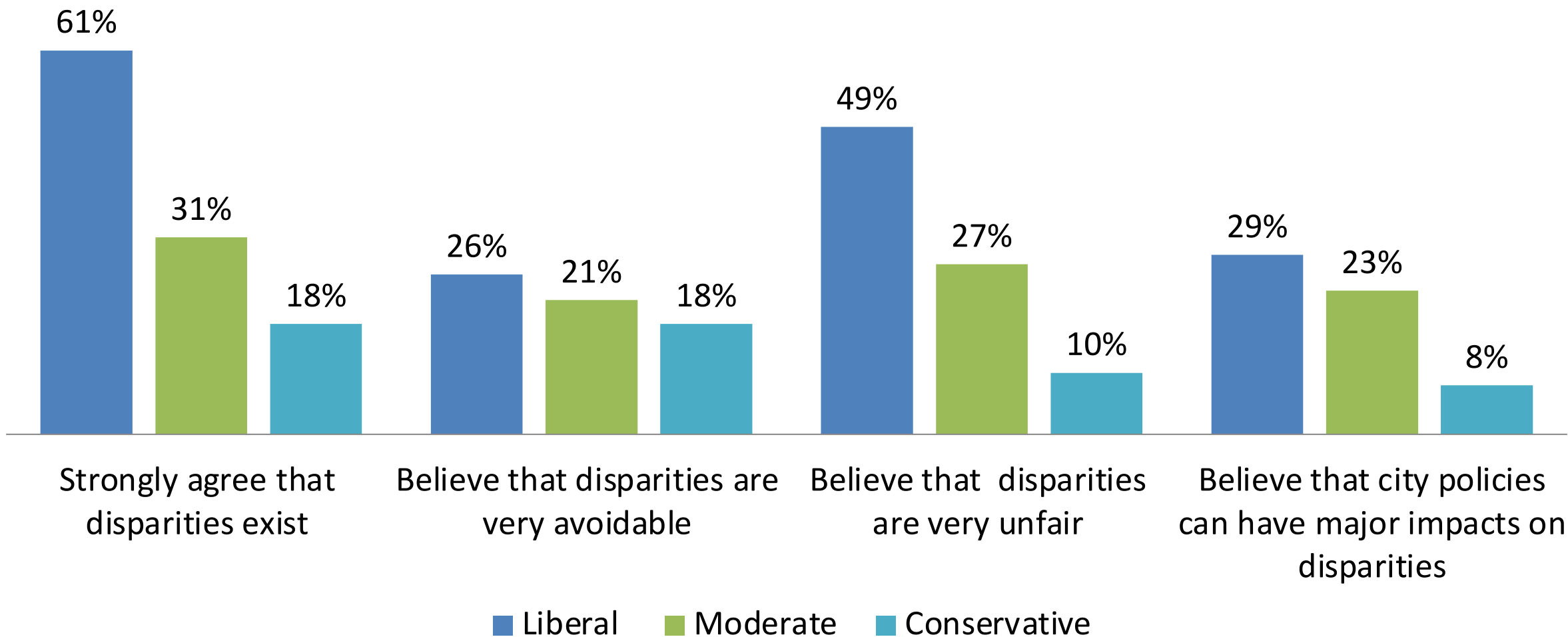
Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, *75*(8), 1052.

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Audience Segmentation Research

- <u>Goal</u>: Understand how dissemination materials might be tailored for different groups within a target audience

- Standard practice in marketing, common in health communication

- Premise: Members of a population are heterogeneous in their knowledge, attitudes, and behaviors related to an issue
  - Identify discrete sub-groups that have similar characteristics
  - Tailored dissemination strategies are generally more effective than "one-size-fits-all" strategies
  - Demographic separation and empirical clustering approaches

U.S. City Mayor's Opinions about Health Disparities in Their Cities, Stratified by Social Ideology

Strongly agree that disparities exist
- Liberal: 61%
- Moderate: 31%
- Conservative: 18%

Believe that disparities are very avoidable
- Liberal: 26%
- Moderate: 21%
- Conservative: 18%

Believe that disparities are very unfair
- Liberal: 49%
- Moderate: 27%
- Conservative: 10%

Believe that city policies can have major impacts on disparities
- Liberal: 29%
- Moderate: 23%
- Conservative: 8%

Legend: ■ Liberal ■ Moderate ■ Conservative

Purtle, J., Henson, R. M., Carroll-Scott, A., Kolker, J., Joshi, R., & Diez Roux, A. V. (2018). US mayors' and health commissioners' opinions about health disparities in their cities. *American journal of public health, 108*(5), 634-641.

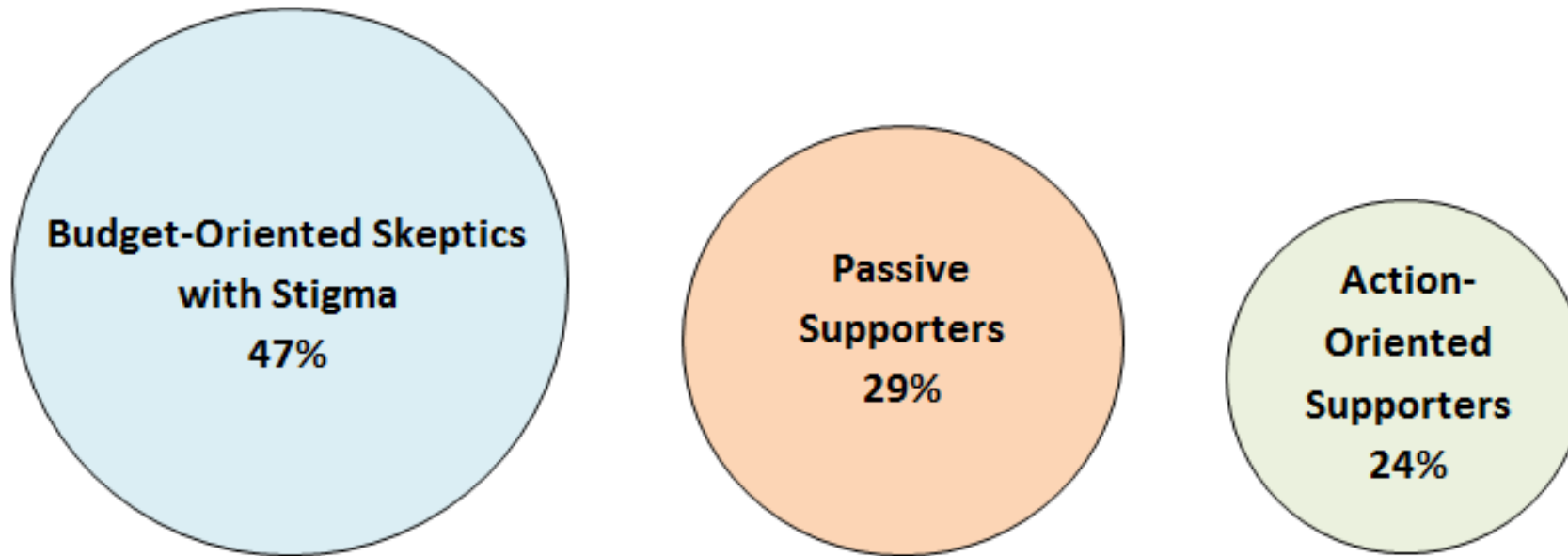# Empirical Clustering:

RESEARCH

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Audience segmentation to disseminate behavioral health evidence to legislators: an empirical clustering analysis

Jonathan Purtle[1*], Félice Lê-Scherban[2], Xi Wang[2], Paul T. Shattuck[1,3], Enola K. Proctor[4] and Ross C. Brownson[5,6]

Results:
Three Audience Segments Emerged

Budget-Oriented Skeptics with Stigma 47%

Passive Supporters 29%

Action-Oriented Supporters 24%

Where do psychologists turn to inform clinical decisions? Audience segmentation to guide dissemination strategies

Nayoung Kwon[1] iD, Rebecca E. Stewart[2], Xi Wang[3],
Jacob S. Marzalik[4] iD, Lynn F. Bufka[4], Raquel W. Halfond[4]
and Jonathan Purtle[5]

Sources	No-guidelines (n = 235) %	Research-driven (n = 83) %	Thirsty-for-knowledge (n = 47) %	No-reviews (n = 153) %
Colleagues	89.36	63.86	97.87	77.12
Clients/patients	30.64	22.89	63.83	30.07
Psychological, medical, or academic literature	80.00	91.57	100.00	88.89
Electronic applications or database	5.96	25.30	70.21	7.19
Internet	22.55	8.43	57.45	42.48
Guidance from government, regulatory agency, or professional society	0.00	39.76	85.11	67.32
Educational meetings/conferences	67.66	67.47	100.00	75.16
Psychological, medical, or health books	55.32	51.81	97.87	66.67
Systematic reviews	10.21	100.00	85.11	0.00
Guidelines	0.00	79.52	87.23	62.75

Kwon, N., Stewart, R. E., Wang, X., Marzalik, J. S., Bufka, L. F., Halfond, R. W., & Purtle, J. (2023). Where do psychologists turn to inform clinical decisions? Audience segmentation to guide dissemination strategies. *Implementation Research and Practice, 4*, 26334895231185376.

Table 4

Means, Standard Deviations, and One-Way Analyses of Variance of Each Information Feature Across the Four Segments
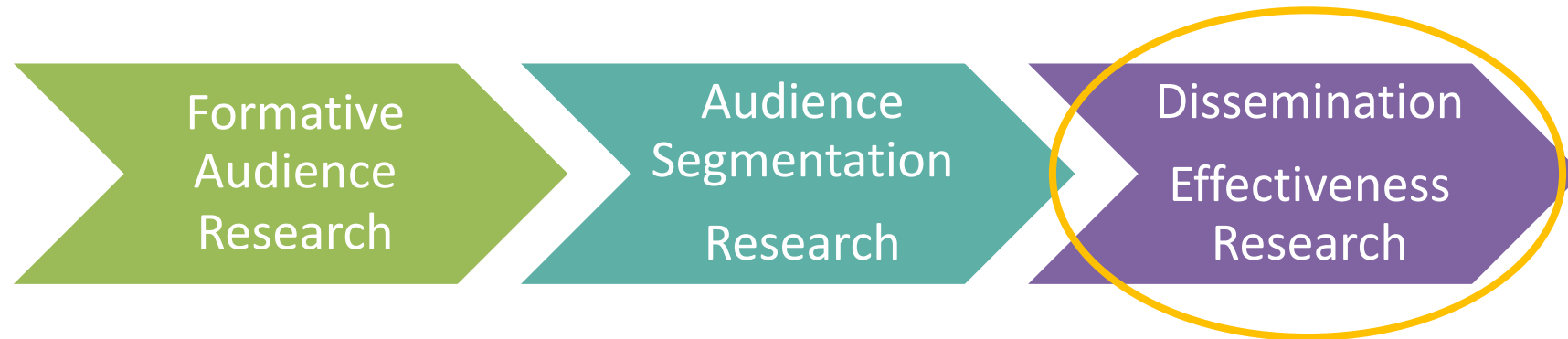
Information feature	No-guidelines		Research-driven		Thirsty-for-knowledge		No-reviews	
	M	SD	M	SD	M	SD	M	SD
Clear case examples	4.14	1.09	3.85	1.10	4.55	0.78	4.22	0.94
Guideline development process	3.04	1.28	3.05	1.11	3.63	0.97	3.07	1.08
Inclusion of practices/treatments	4.28	1.01	4.50	0.69	4.70	0.62	4.35	0.87
Exclusion of practices/treatments	4.08	1.15	4.37	0.79	4.48	0.82	4.22	0.96

Note. Rating on a 5-point scale: 1 = not important, 5 = very important.
*p < .05, **p < .01, ***p < .001.

Kwon, N., Stewart, R. E., Wang, X., Marzalik, J. S., Bufka, L. F., Halfond, R. W., & Purtle, J. (2023). Where do psychologists turn to inform clinical decisions? Audience segmentation to guide dissemination strategies. *Implementation Research and Practice, 4,* 26334895231185376.

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Dissemination Effectiveness Research

- Goal: Determine which dissemination strategies are more effective than others

- Outcomes:

  - Attitudes, knowledge, intentions
    – Surveys

  - Behaviors
    – Observed engagement with evidence (e.g., e-mail open and link clink rates)
    – Analysis of artifacts of policymaking processes (e.g., public statements, legislative committee reports, social media posts)
    – Clinical behaviors (claims data)

Implementation Science

Partisan differences in the effects of economic evidence and local data on legislator engagement with dissemination materials about behavioral health: a dissemination trial

Jonathan Purtle[1]* , Katherine L. Nelson[2], Luwam Gebrekristos[2], Félice Lê-Scherban[2] and Sarah E. Gollust[3]

Improving the Reach of Clinical Practice Guidelines: An Experimental Investigation of Message Framing on User Engagement

Alexandra Werntz[1] , Lynn Bufka[2], Brian E. Adams[2], and Bethany A. Teachman[1]

[1]Department of Psychology, University of Virginia, and [2]American Psychological Association, Washington, D.C.

Variant	Main Objective		Page Bounces		Session Duration	
Original	0.21% 1.61%		37.00% 45.16%		00:05:12 00:07:21	
"Treatment works: Feel like yourself again."	0.84%	3.86%	31.08% 41.53%		00:05:13 00:08:04	
"Treatment works: Say goodbye to symptoms."	0.84%	5.22%	21.30% 33.93%		00:07:05	00:11:24
"Science says, treatment works."	0.24% 2.81%		25.18% 36.58%		00:06:50	00:10:34
"Research shows, treatment works."	0.53% 3.32%		30.20% 41.05%		00:05:35 00:08:28	
"The APA supports these recommended treatments."	0.45% 2.38%		34.70% 43.57%		00:04:59 00:07:03	
"Others are getting better, you can too."	0.58% 3.59%		24.16% 34.84%		00:06:58	00:10:33
"Treatment works: No one has to go through PTSD on their	0.70% 3.64%		31.41% 42.11%		00:06:07 00:09:05	

Effect of Peer Comparison Letters for High-Volume Primary Care Prescribers of Quetiapine in Older and Disabled Adults
A Randomized Clinical Trial

Adam Sacarny, PhD; Michael L. Barnett, MD, MS; Jackson Le, PharmD; Frank Tetkoski, RPh; David Yokum, PhD; Shantanu Agrawal, MD

A Randomized Trial Testing the Effect of Narrative Vignettes Versus Guideline Summaries on Provider Response to a Professional Organization Clinical Policy for Safe Opioid Prescribing

Zachary F. Meisel, MD, MSHP ☺ ✉ ● Joshua P. Metlay, MD, PhD ● Lauren Sinnenberg, BA ● ... Frances S. Shofer, PhD ●
Karin V. Rhodes, MD, MA ● Jeanmarie Perrone, MD ● Show all authors

Thank You!

- Jonathan.Purtle@NYU.edu