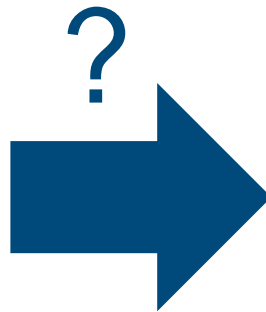


Dissemination to Policymakers

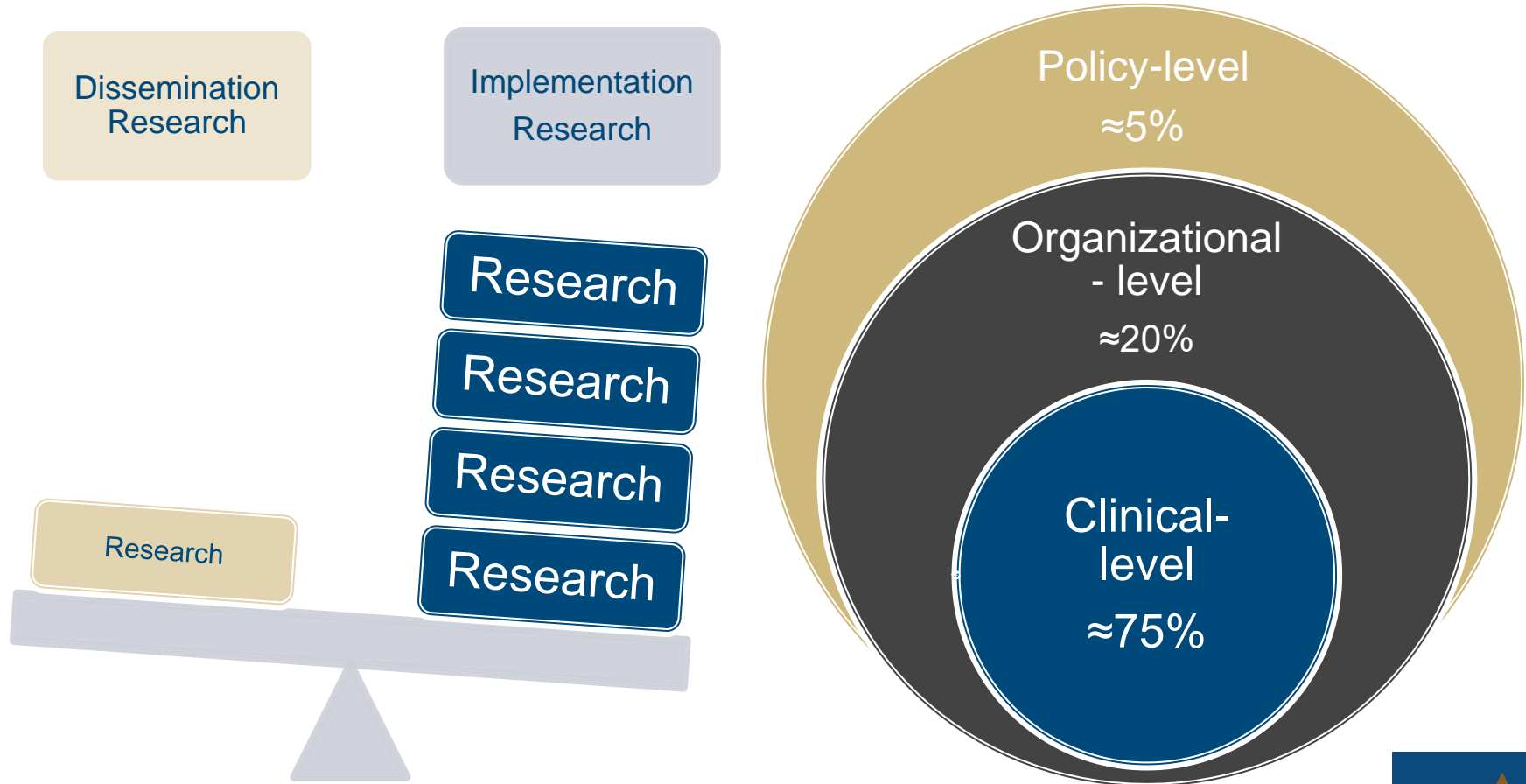
Jonathan Purtle, Associate Professor
New York University School of Global Public Health
Center for Global Implementation Science



My Burning Research Question: How Do We Translate Mental Health Evidence into Policy?



Emphasis in the Field of D&I Research (my subjective appraisal)



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 best to spread and sustain knowledge and the associated evidence-based interventions.” (NIH PAR-18-007)
 - “Implementation is the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings.”
 - $D \rightarrow I > D\&I$

A Three Stage Approach For Dissemination Research

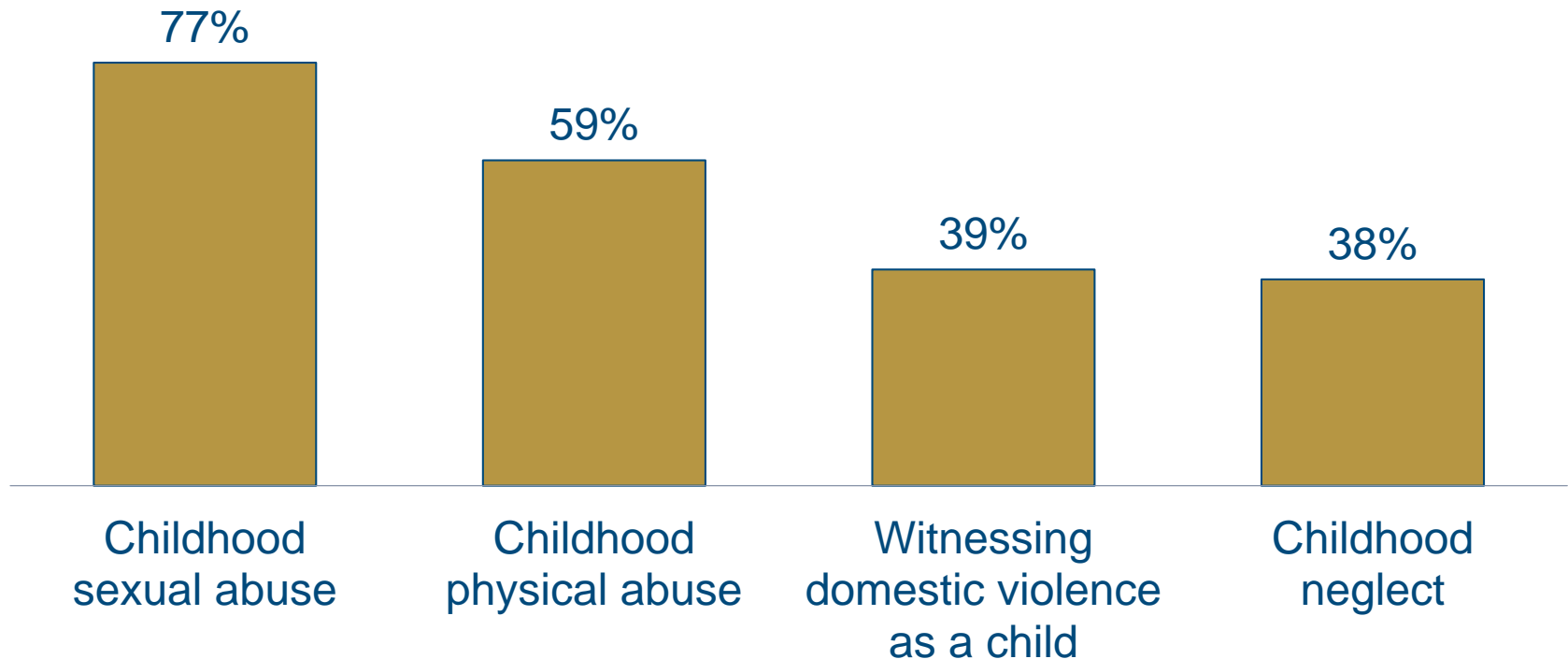


Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, 75(8), 1052.

Formative Audience Research

- Goal: Generate data to inform the design of dissemination materials and how they are distributed
- Assess...
 1. Awareness of an evidence-supported policy or problem that the policy addresses

Legislator Opinions about Adverse Childhood Experiences as Risk Factors for Adult Behavioral Health Conditions

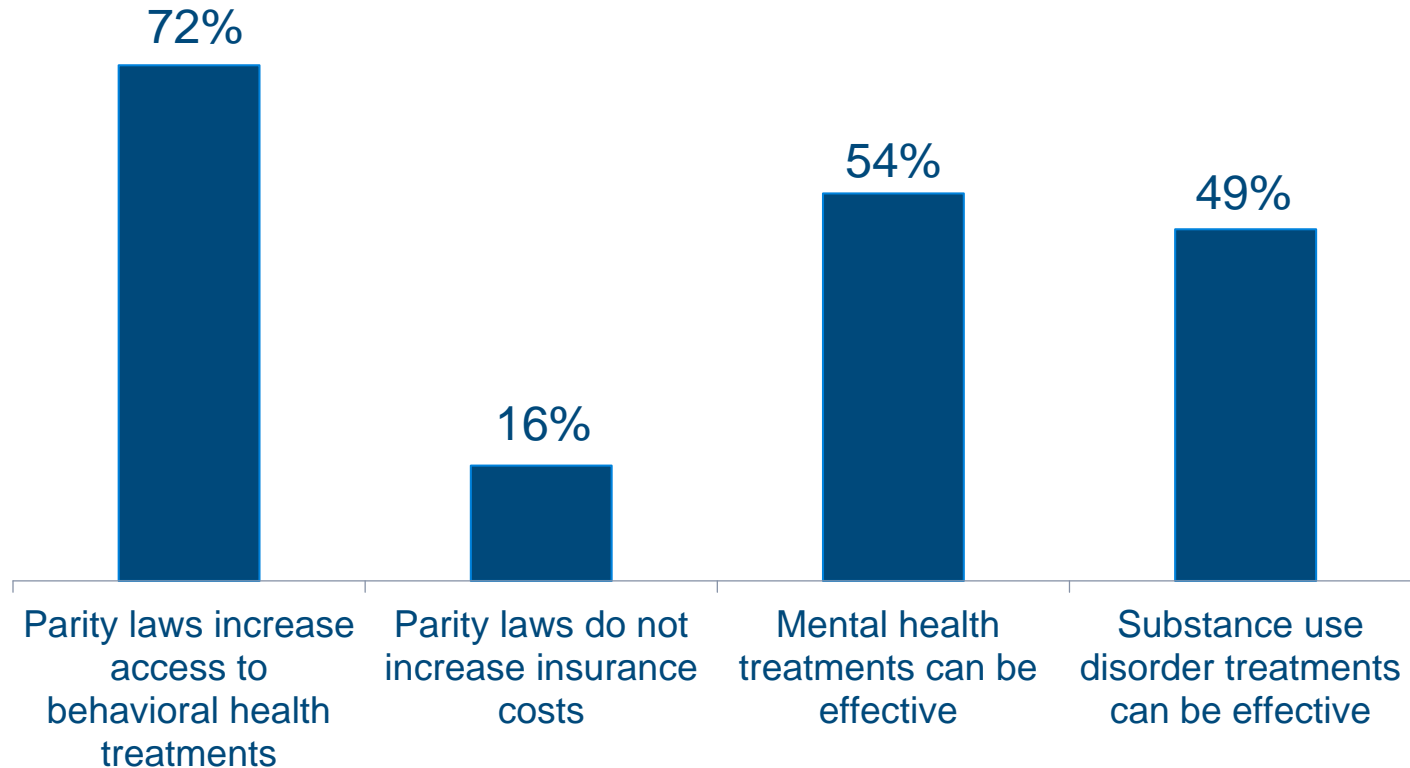


Purtle, J., Lê-Scherban, F., Wang, X., Chilton, M. Legislators' Opinions about Adverse Childhood Experiences as Risk Factors for Adult Behavioral Health Conditions. *Psychiatric Services*. 2019.

Formative Audience Research

- Goal: Generate data to inform the design of dissemination materials and how they are distributed
- Assess...
 1. Awareness of an evidence-supported policy or problem that the policy addresses
 2. Attitudes towards the policy
 - E.g., Rogers constructs (relative advantage, complexity, trialability)

Legislator Attitudes Related to State Behavioral Health Parity Laws

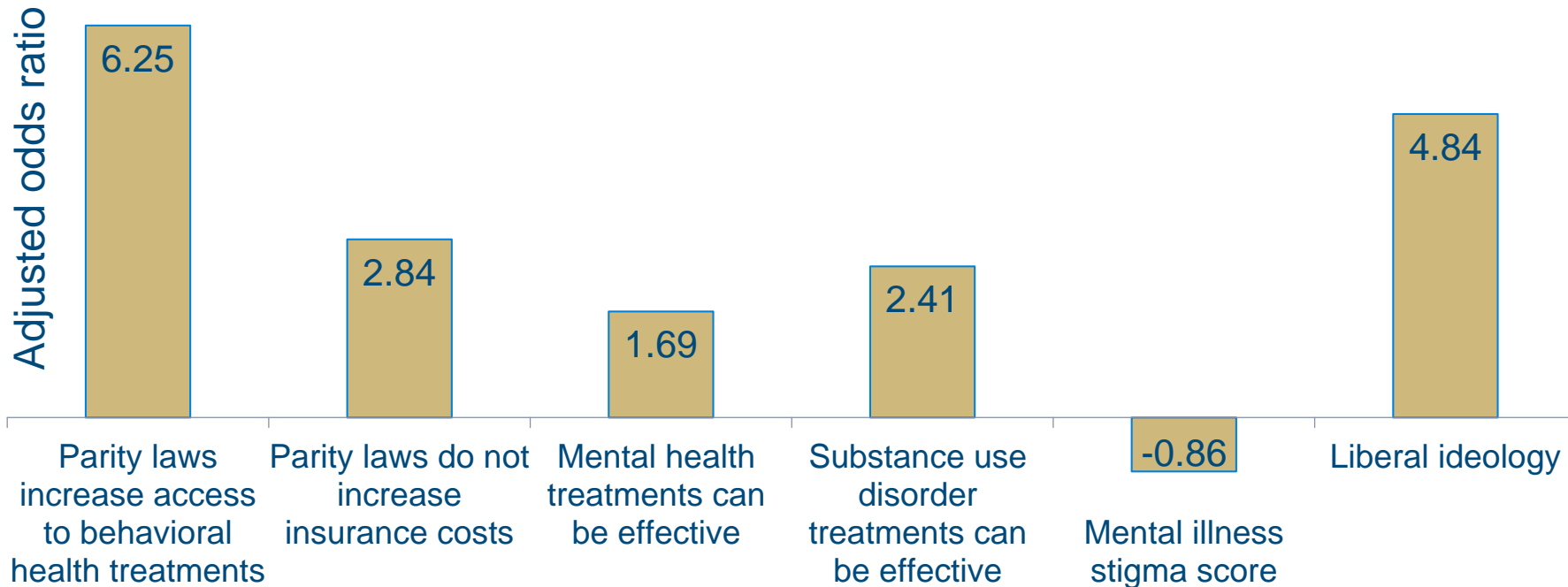


Purtle, J., Lê-Scherban, F., Wang, X.,... Brownson, RC. State Legislator Support for Behavioral Health Parity Laws: The Influence of Mutable and Fixed Factors at Multiple Levels. *The Milbank Quarterly*. 2019.

Formative Audience Research

- Goal: Generate data to inform the design of dissemination materials and how they are distributed
- Assess...
 1. Awareness of an evidence-supported policy or problem that the policy addresses
 2. Attitudes towards the policy
 - E.g., Rogers constructs (relative advantage, complexity, trialability)
 3. Support for the policy

Legislator Factors Associated with Support for State Behavioral Health Parity Laws

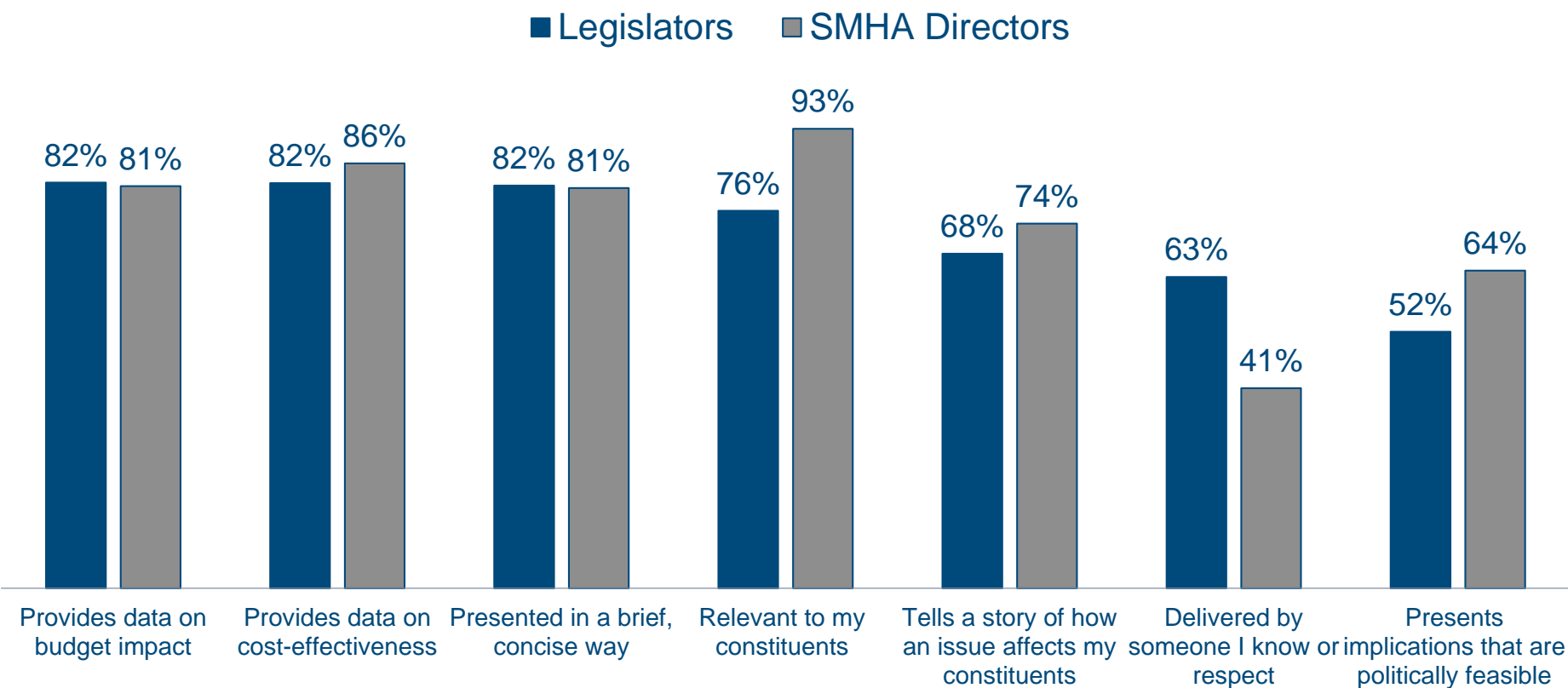


Purtle, J., Lê-Scherban, F., Wang, X.,... Brownson, RC. State Legislator Support for Behavioral Health Parity Laws: The Influence of Mutable and Fixed Factors at Multiple Levels. *The Milbank Quarterly*. 2019.

Formative Audience Research

- Goal: Generate data to inform the design of dissemination materials and how they are distributed
- Assess...
 1. Awareness of an evidence-supported policy or problem that the policy addresses
 2. Attitudes towards the policy
 - E.g., Rogers constructs (relative advantage, complexity, trialability)
 3. Support for the policy
 4. Preferences for receiving information about the policy or issue
 - E.g., content, source, mode of delivery

“Very Important” Features of Behavioral Health Evidence



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

A Three Stage Approach For Dissemination Research

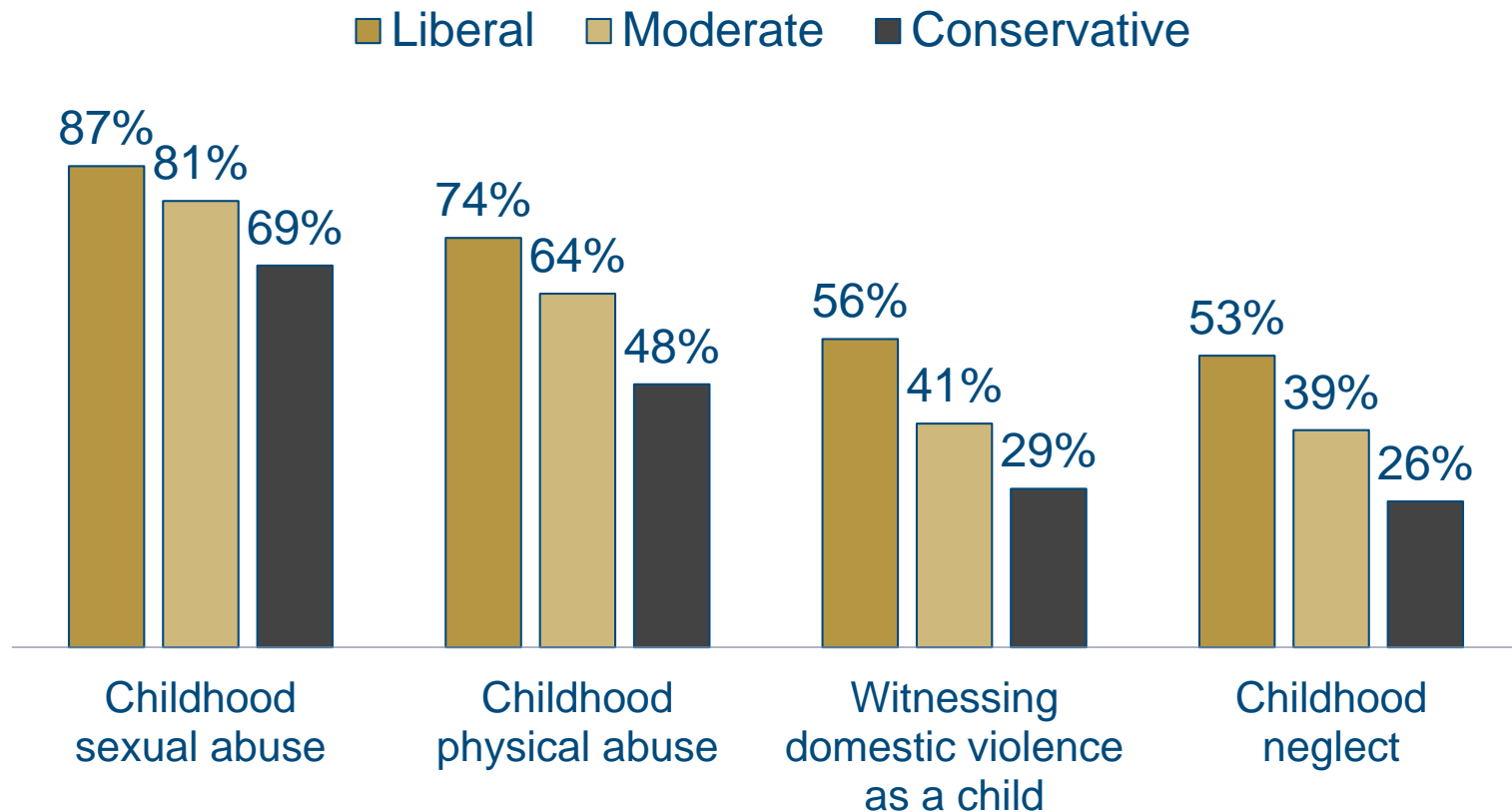


Purtle, J., Marzalik, J. S., Halfond, R. W., Bufka, L. F., Teachman, B. A., & Aarons, G. A. (2020). Toward the data-driven dissemination of findings from psychological science. *American Psychologist*, 75(8), 1052.

Audience Segmentation Research

- Goal: 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

Demographic Separation: State Legislators



Purtle, J., Lê-Scherban, F., Wang, X., Chilton, M. Legislators' Opinions about Adverse Childhood Experiences as Risk Factors for Adult Behavioral Health Conditions. *Psychiatric Services*. 2019.

Empirical Clustering: State Legislators

Purtle et al. *Implementation Science* (2018) 13:121
<https://doi.org/10.1186/s13012-018-0816-8>

Implementation Science

RESEARCH

Open Access

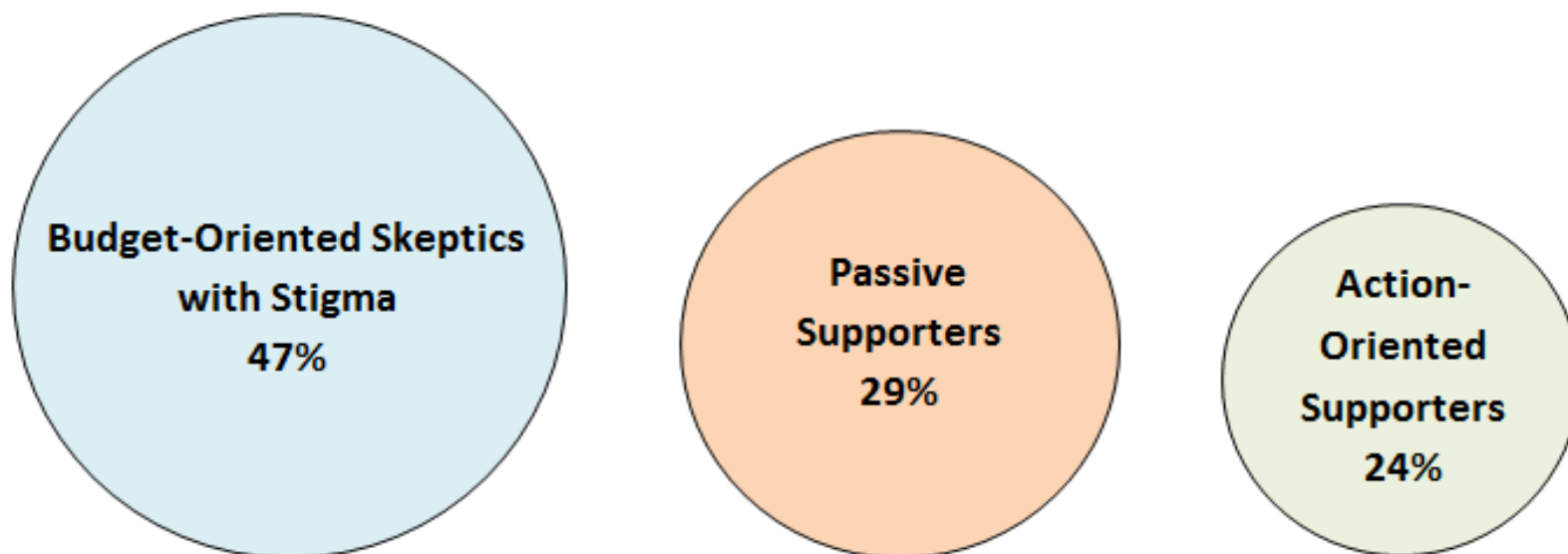


Audience segmentation to disseminate behavioral health evidence to legislators: an empirical clustering analysis

Jonathan Purtle^{1*}, Félice Lê-Scherban², Xi Wang², Paul T. Shattuck^{1,3}, Enola K. Proctor⁴ and Ross C. Brownson^{5,6}



Results: Three Audience Segments Emerged



	Budget-Oriented Skeptics with Stigma (47%)	Action-Oriented Supporters (24%)	Passive Supporters (29%)
Perceptions of behavioral health treatment effectiveness			
Strong agreement that mental health treatments can help people with mental illness lead normal lives			
Strong agreement that substance disorder treatments can help people with a substance use disorders recover			
Mental illness stigma score quartile			
1st quartile (least stigma)			
2nd quartile			
3rd quartile			
4th quartile (most stigma)			
Factors have the most influence on support for a behavioral health bill			
Extent to which the bill is going to impact the state budget			
Extent to which the bill is based on scientific evidence			
Most important health issues for legislative action in the state			
Mental health			
Substance use			
Ever introduced a bill focused on...			
Mental health			
Substance use			

	Budget-Oriented Skeptics with Stigma (47%)	Action-Oriented Supporters (24%)	Passive Supporters (29%)
Perceptions of behavioral health treatment effectiveness			
Strong agreement that mental health treatments can help people with mental illness lead normal lives	16.9%	73.8%	98.9%
Strong agreement that substance disorder treatments can help people with a substance use disorders recover	12.6%	78.5%	84.8%
Mental illness stigma score quartile			
1st quartile (least stigma)	12.0%	47.1%	46.6%
2nd quartile	11.2%	19.6%	27.1%
3rd quartile	42.6%	23.2%	18.5%
4th quartile (most stigma)	34.2%	10.1%	7.8%
Factors have the most influence on support for a behavioral health bill			
Extent to which the bill is going to impact the state budget	61.4%	29.2%	40.5%
Extent to which the bill is based on scientific evidence	46.1%	74.1%	72.7%
Most important health issues for legislative action in the state			
Mental health	29.3%	45.6%	43.0%
Substance use	41.1%	58.3%	40.2%
Ever introduced a bill focused on...			
Mental health	13.4%	90.7%	23.2%
Substance use	15.4%	96.3%	4.6%

	Budget-Oriented Skeptics with Stigma (47%)	Action-Oriented Supporters (24%)	Passive Supporters (29%)
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A Three Stage Approach For Dissemination Research



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Dissemination Effectiveness Research

- Goal: Determine which dissemination strategies are more effective than others
- Outcomes:
 - Support for, knowledge about, and attitudes towards policy
 - Surveys
 - Engagement with disseminated evidence
 - E-mail open and link click rates
 - Analysis of artifacts of policymaking processes (e.g., public statements, legislative committee reports, social media posts)



Adverse Childhood Experiences in Arkansas:

Costs and Mental Health/Substance Use Impacts



What are Adverse Childhood Experiences (ACEs)?

Adverse childhood experiences (ACEs) include things like abuse and neglect, having a parent with a serious substance use disorder or mental illness, and witnessing domestic or community violence. Studies have repeatedly shown that the risk of having mental health or substance use problems as an adult increases with the number of ACEs that a person has had. Positive childhood experiences can also prevent the consequences of ACEs (1). Research suggests that the social and economic consequences of the COVID-19 pandemic could result in more ACEs.

ACEs Increase Risk for Adult Mental Health and Substance Use Problems (2)

Compared to adults with 0 ACEs, adults with 4 or more ACEs have:

- 30.1 times higher odds of attempting suicide
- 10.2 times higher odds of problematic drug use
- 5.8 times higher odds of problematic alcohol use
- 4.4 times higher odds of depression

Percentage of Mental Health and Substance Use Problems in the U.S. Attributable to ACEs (3)

Depression
44%

Heavy
Drinking
24%

ACEs are Common and Costly in Arkansas (4)

In Arkansas in 2017 there were:

- 9,334 cases of child maltreatment reported
 - 2,051 cases of child physical abuse
 - 1,783 cases of child sexual abuse
 - 5,043 cases of child neglect

Lifetime Public Systems Costs Caused by Cases of Child Maltreatment in Arkansas, 2017 (4,5)

Child Welfare: \$78,396,266
Special Education: \$81,140,462
Criminal Justice: \$68,446,222

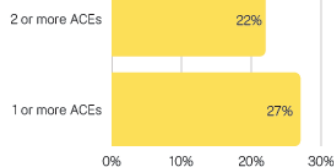


State Laws Can Prevent ACEs and their Consequences (7)

The National Conference of State Legislators summarized evidence about state laws that work. These include:

- Increasing access to early childhood education
- Expanding school-based mental health services
- Raising the minimum wage, extending earned income tax credits
- Funding nurse-family partnerships
- Increasing access to treatments that are proven to help people recover from mental health and substance use conditions

Percentage of Children in Arkansas with ACEs, Parent Reported, 2018 (6)



More Information and References:

1. Bethell et al. Positive childhood experiences and adult mental and relational health in a statewide sample. *JAMA Pediatrics*. 2018.
2. Hughes et al. The effect of multiple adverse childhood experiences on health. *The Lancet Public Health*. 2017.
3. Merrick et al. Estimated Proportion of Adult Health Problems Attributable to Adverse Childhood Experiences. *MMWR*. 2019.
4. US Department of Health and Human Services. *Child Maltreatment: 2017*. <https://bit.ly/2Z7igGZ>.
5. Peterson et al. The economic burden of child maltreatment in the United States, 2015. *Child Abuse & Neglect*. 2018.
6. National Survey of Children's Health. 2018 <https://www.childhealthdata.org/browse/survey/allstates?q=7442>
7. NCSL. Preventing and Mitigating the Effects of Adverse Childhood Experiences. 2018. <https://bit.ly/38U6JEf>

Questions?

Evidence brief by:
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Phone: 267-546-7541

50 States
Clustered, Stratified Randomization
N= 6,964 Legislators

**Intervention A,
Enhanced
State-tailored ACE
evidence and state-
tailored ACE
cost estimates**
17 states
1-page policy brief

**Intervention B,
State-tailored ACE
evidence**
17 states
1-page policy brief

**Control
National ACE
evidence**
16 states
1-page policy brief

Disseminate Policy Briefs

- Policy briefs e-mailed from university researcher 2 times over the course of 3 weeks
- Subject lines and e-mail text tailored to reflect condition

Track Evidence Engagement Outcomes

- E-mail view rates
- Policy brief view rates
- Requests for expert consultation
- Legislator mentions of ACEs and related concepts in: Twitter and Facebook posts, newsletters to constituents, bills sponsored or co-sponsored

Field Web-Based Survey of Legislators:

- Policy briefs that corresponds with randomized condition presented in survey
- Survey questions assess:
Support for policies to address ACEs, intention to engage in activities to address ACEs, prioritization of ACEs as a policy issue, parental blame for the consequences of ACEs

Field
Experiment

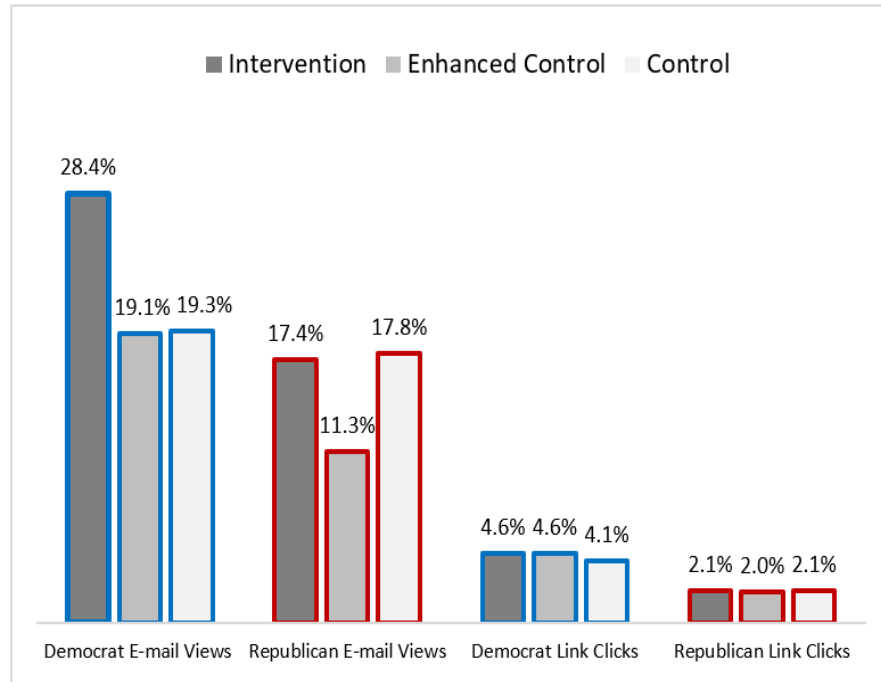
Web-Based
Survey Experiment



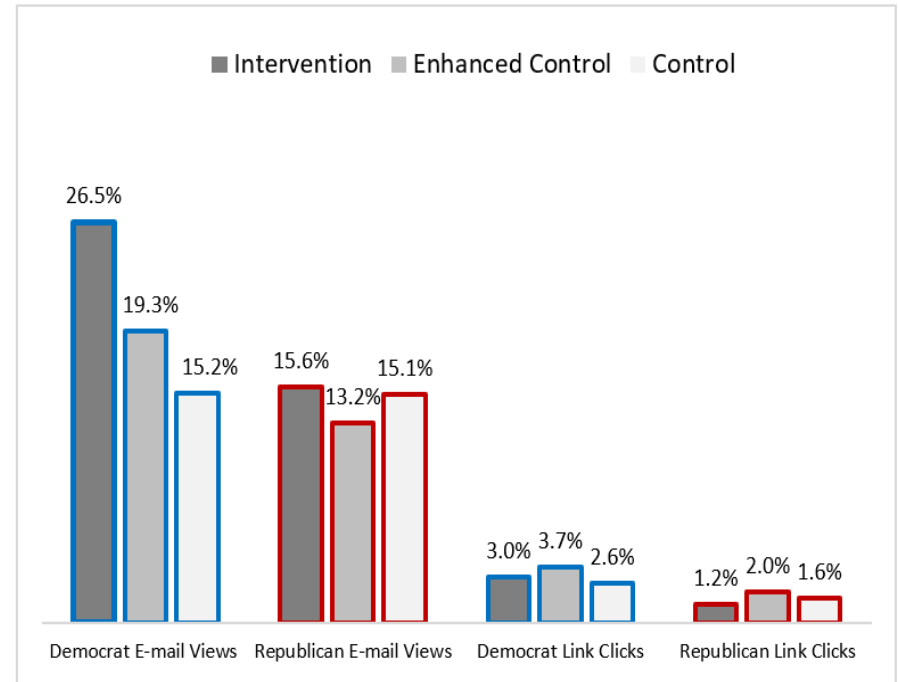
COPRH Con
Colorado Pragmatic
Research in Health
Conference

Unadjusted Rates of Engagement with Dissemination Materials Among U.S. State Legislators Stratified by Political Parity and Study Condition, 2021, n= 6,153

Panel A. First Dissemination E-mail, n= 6,509



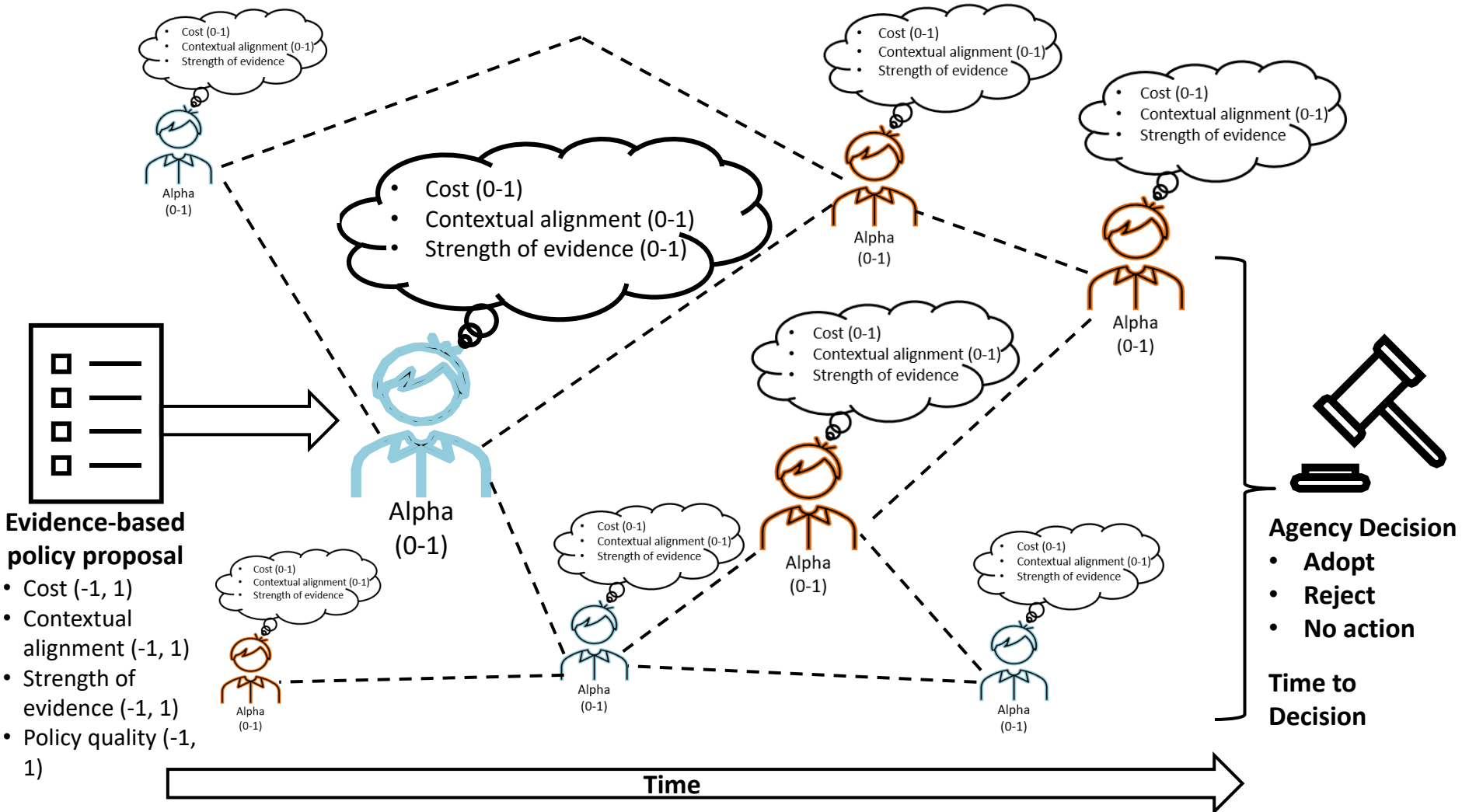
Panel B. Second Dissemination E-mail, (n= 6,153)



Purtle, J., Nelson, K.L., Gebrekristos, L., Lê-Scherban, F., Gollust, S.E. Partisan Differences in the Effects of Economic Evidence and Local Data on Legislator Engagement with Dissemination Materials about Behavioral Health: A Cluster-Randomized Dissemination Trial. Under review.

Simulating the Role of Knowledge Brokers in Mental Health Policymaking in State Agencies: An Agent-Based Model

Combs, T.B., Nelson, K.L., Luke, D., McGuire, F.H., Cruden, G., Henson, R.M., Adams, D., Hoagwood, K., Purtle J. *Health Services Research*. 2022.



RED_Mod (Research Evidence Decisionmaking Model)

Network size

25

Network type

Dekker

Policy quality

Random

Decision maker tie type

Low Degree

of knowledge brokers

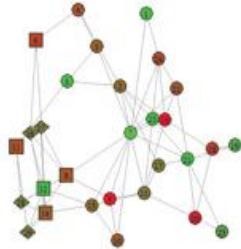
4

Knowledge broker tie type

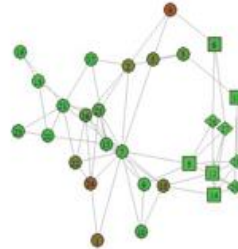
DM

- Circles are regular agency members
- Squares are decision makers
- Rhombuses are knowledge brokers

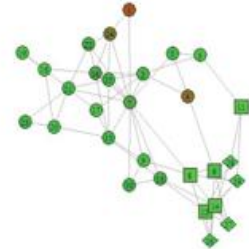
Network - Time 1



Network - Time 25



Network - Time 50



13

Maximum Degree

0.39

Centralization

5

Diameter

0.18

Policy Quality

-0.08

Policy Cost

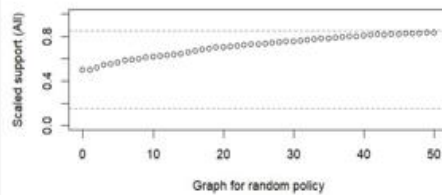
-0.31

Policy Feasibility

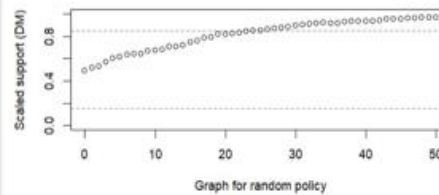
0.93

Policy Research

Behavior over Time (Scaled)



Behavior over Time (Decisionmakers)



Model Outcomes

Who	Qual	Dec	Tick	FinSupp	MaxSupp	MaxTick
All	0.18	Neither	NA	0.83	0.83	50
DM	0.18	Adopt	24	0.97	0.97	48

Concluding Thought

- Data-driven dissemination probably isn't going to transform practice or policy
 - But it can help

Thank You!

- Jonathan.Purtle@NYU.edu