

# **CLINICAL WEBINARS** FOR HEALTH SERVICE PSYCHOLOGISTS

TRANSLATING RESEARCH TO PRACTICE

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### The Origins of Parental Vaccine Decision-Making & What Clinicians Can Do

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# Matt Motta, PhD



Matt Motta, PhD, is an assistant professor of political science at Oklahoma State University. His research aims to better understand the psychological origins and policy consequences of health, environmental, and political misinformation endorsement. He is also interested in using insights from this work to inform effective health and climate communication. His research has been published in peerreviewed journals across the social sciences, including *Nature Climate* Change, Social Science & Medicine, Climatic Change, *Vaccine*, and *Political Behavior*. His work on COVID-19 misinformation and efforts to encourage vaccine uptake has also been featured in outlets like The New York Times, CNN, The Washington Post, The Atlantic, and Scientific American.



## Disclosures/Conflicts of Interest

I have no conflicts of interest to disclose.



# Learning Objectives

- 1. Describe peer-reviewed research on the causes of parental vaccine decision-making.
- 2. Explain how health communicators use research on the causes of vaccine hesitancy to inform effective vaccine promotion messaging.
- 3. Discuss several evidence-based strategies for encouraging vaccine promotion in clinical settings, and consider how to use each one appropriately in conversations with parents who decide to forgo vaccinating their children.



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#### France's Answer to Tucker Carlson

# Newsweek.

#### WOULD YOU GIVE THIS KID A SHOT?

Health experts strongly back a COVID vaccine for children. Parents aren't so sure

#### Figure 1

#### Three In Ten Parents Say They Will Definitely Not Get Their 5 To 11 Year Old Vaccinated

Thinking about your child between the ages of 5 and 11, once there is a COVID-19 vaccine authorized and available for your child's age group, do you think you will get them vaccinated...?

#### Right away Wait and see Only if required Definitely not





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Health experts strongly back a COVID vaccine for children. Parents aren't so sure

#### Figure 2

#### Long-Term Effects, Serious Side Effects, And Impacts On Fertility Are Among The Top Concerns Parents Have About Vaccinating Their 5-11 Year Old Child

Percent of parents of children ages 5-11 who say they are very or somewhat concerned about each of the following:

Not enough is known about the long-term effects of the COVID-19 vaccine in children	76%
Their child might experience serious side effects from the COVID-19 vaccine	71%
The COVID-19 vaccine may negatively impact their child's fertility in the future	66%
Their child might be required to get the COVID-19 vaccine even if they don't want them to	53%
They might need to take time off work to bring their child to get vaccinated or to care for them if they experience side effects	35%
They won't be able to get the vaccine for their child from a place they trust	25%
They might have to pay an out-of-pocket cost to get the COVID-19 vaccine for their child	25%
They will have difficulty traveling to a place to get their child vaccinated 19	%
NOTE: Among parents or guardians of children ages 5-11. See topline for full SOURCE: KFF COVID-19 Vaccine Monitor (October 14-24, 2021) • Download	question wording. KFF COVID-19 d PNG Vaccine Monitor



### How did we get here?

### And, what can we do about it?



## Structure of This Talk

Part I: The Social & Psychological Origins of Parental Vaccine Hesitancy

- Exposure to misinformation from partisan media sources
- Vaccine skepticism from political elites
- Anti-expert attitudes
- Social-psychological influences (e.g., religious commitments, moral values, etc.)

Part II: Three Clinical Recommendations for Promoting COVID-19 Vaccine Uptake Through Effective Health Communication

- Harness the Power of Reversal Narratives
- Emphasize Objective Risk over Factual Corrections
- Make an Effort to "Meet People Where They Are."







### What our research tells us

### What people *want*



Parents are more likely to hold negative views toward childhood vaccination if they...

- Are psychologically averse to needles (+14%)
- Are prone to conspiratorial thinking (+21%)
- Strongly value moral purity (+8%\*)

\* May be more-limited in application to HPV vaccination

# Contents lists available at ScienceDirect Social Science & Medicine ELSEVIER journal homepage: www.elsevier.com/locate/socscimed

#### Parent psychology and the decision to delay childhood vaccination

Timothy Callaghan<sup>a,\*</sup>, Matthew Motta<sup>b</sup>, Steven Sylvester<sup>c</sup>, Kristin Lunz Trujillo<sup>d</sup>, Christine Crudo Blackburn<sup>a</sup>

<sup>a</sup> Texas A&M University, United States <sup>b</sup> Oklahoma State University, United States <sup>c</sup> Utah Valley University, United States <sup>d</sup> University of Minnesota, United States

#### A R T I C L E I N F O

#### ABSTRACT

Keywords: Vaccine delay Hesitancy Psychological correlates Health Psychology Parent Childhood vaccines Objective: The study of vaccine hesitancy identifies parental decisions to delay childhood vaccinations as an important public health issue, with consequences for immunization rates, the pursuit of nonmedical exemptions in states, and disease outbreaks. While prior work has explored the demographic and social underpinnings of parental decisions to delay childhood vaccinations, little is known about how the psychological dispositions of parents are associated with this choice. We analyze public opinion data to assess the role of psychological factors in reported parental decisions to delay childhood vaccination.

Rationale: We anticipate that parents with certain psychological characteristics will be more likely to delay childhood vaccination. Specifically, we explore the roles of conspiratorial thinking, dispositions towards needle sensitivity, and moral purity, expecting that parents with high levels of any of these characteristics will be more likely to delay vaccinating their children.

Method: In an original survey of 4010 American parents weighted to population benchmarks, we asked parents about delay-related vaccination behavior, demographic questions, and several psychological batteries. We then developed a vaccination delay scale and modeled delay as a function of conspiratorial thinking, needle sensitivity, moral purity, and relevant demographic controls. We then re-specified our models to look specifically at the predictors of delaying HPV vaccination, which has a low uptake rate in the United States.

Results: Controlling for other common predictors of hesitant behavior, we find that parents with high levels of conspiratorial thinking and needle sensitivity are more likely to report pursuing alternative vaccination schedules. When analyzing the specific decision by parents to delay HPV vaccination, we find that tendencies towards moral purity and, in turn, sexual deviance are also associated with vaccine seeking behavior.

Conclusion: Parental decisions to delay childhood vaccinations are an important public health concern that are associated with conspiratorial thinking and needle sensitivity.

#### Social Science & Medicine XXX (XXXX) XXXX

In GENERAL, people (parents included!) are more likely to hold negative views toward vaccination if they...

- View anti-vaccine movement as central to one's sense of self
- Hold self- vs. other-focused values
- Hold negative views toward scientists and medical experts
- Embrace conservative ideological labels and/or identify as Republicans
- Are members of populations historically marginalized by the medical community

POLITICS, GROUPS, AND IDENTITIES https://doi.org/10.1080/21565503.2021.1932528 Routledge Taylor & Francis Group

Check for updates

#### Identifying the prevalence, correlates, and policy consequences of anti-vaccine social identity

Matt Motta 100°, Timothy Callaghan<sup>b</sup>, Steven Sylvester<sup>c</sup> and Kristin Lunz-Trujillo<sup>d</sup>

<sup>a</sup>Department of Political Science, Oklahoma State University, Stillwater, OK, USA; <sup>b</sup>Department of Health, Policy and MGMT, Texas A&M University, College Station, TX, USA; <sup>c</sup>Department of. History & Government, Utah Valley University, Orem, UT, USA; <sup>d</sup>Department of Political Science, University of Minnesota & Carleton College, Minneapolis, MN, USA

#### ABSTRACT

Scholarly and journalistic profiles of anti-vaxxers - i.e., individuals who are active in efforts to oppose widespread vaccination suggest that some Americans may identify with the "antivaccine" label in order to fulfill social goals (e.g., a sense of belonging in a broader community). This is potentially problematic, as anti-vaxx social identification (AVSID) could imply increased receptivity to vaccine misinformation, and resistance to evidence-based medicine. In a large and demographically representative survey (N = 1001), we propose a novel measure of AVSID, and take stock of its prevalence and correlates. We find that about 22% of Americans always (8%) or sometimes (14%) self-identify as "anti-vaxxers" (activists who support vaccine refusal), and that those who do tend to embrace the label as a form of social identity. We also find that people who score highly on our AVSID measure tend to be less trusting of scientific experts and more individualistic. Finally, predictive validation analyses suggest that - among selfidentified anti-vaxxers - AVSID is associated with increased opposition to childhood vaccine requirements. We conclude by outlining how our AVSID measure can be implemented to inform future research on opposition to evidence-based medicine and related public policies.

#### ARTICLE HISTORY

Received 30 June 2020 Accepted 7 May 2021

#### KEYWORDS

Health opinion; health policy; vaccine opinion; misinformation; social identification



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JOURNAL OF ELECTIONS, PUBLIC OPINION AND PARTIES 2021, VOL. 31, NO. 51, 206–217 https://doi.org/10.1080/17457289.2021.1924726



Check for updates

#### Basic human values & compliance with governmentrecommended prosocial health behavior

Matthew Motta <sup>1</sup><sup>a</sup> and Paul Goren<sup>b</sup>

<sup>a</sup>Department of Political Science, Oklahoma State University, Stillwater, OK, USA; <sup>b</sup>Department of Political Science, University of Minnesota, Minneapolis, MN, USA

#### ABSTRACT

At the start of the COVID-19 pandemic, both the federal government and local governments across the U.S. recommended that Americans engage in social distancing and other prosocial health behaviors (e.g. wearing a mask in public). While social scientists know a fair amount about compliance with these recommendations, we know less about why some people may have been more likely to comply than others. Building on insights from Human Values Theory, we argue that people who are more self-transcendent (i.e. more likely to put others' needs before their own) are more likely to engage in a variety of prosocial health behaviors (PSHB). In a demographically representative survey (N = 1,015) conducted at the pandemic's outset, we find that self-transcendent people were significantly more likely to engage in PSHB; irrespective of partisanship and local COVID-19 transmission rates. Recognizing the limitations of self-reported data, we validate these findings by merging international and interstate phone-tracking data into opinion surveys. We find that, on average, people in both countries and states that place a higher emphasis on self-transcendence values were more likely to engage in social distancing. Our work suggests that while prosocial health recommendations are politically contentious, variation in compliance transcends conventional partisan disagreements.

KEYWORDS Health behavior; human values; political psychology; public opinion



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> Soc Sci Med. 2018 Aug;211:274-281. doi: 10.1016/j.socscimed.2018.06.032. Epub 2018 Jun 25.

#### Knowing less but presuming more: Dunning-Kruger effects and the endorsement of anti-vaccine policy attitudes

Matthew Motta <sup>1</sup>, Timothy Callaghan <sup>2</sup>, Steven Sylvester <sup>3</sup>

Affiliations + expand PMID: 29966822 DOI: 10.1016/j.socscimed.2018.06.032

#### Abstract

**Objective:** Although the benefits of vaccines are widely recognized by medical experts, public opinion about vaccination policies is mixed. We analyze public opinion about vaccination policies to assess whether Dunning-Kruger effects can help to explain anti-vaccination policy attitudes.

Rationale: People low in autism awareness - that is, the knowledge of basic facts and dismissal of misinformation about autism - should be the most likely to think that they are better informed than medical experts about the causes of autism (a Dunning-Kruger effect). This "overconfidence" should be associated with decreased support for mandatory vaccination policies and skepticism about the role that medical professionals play in the policymaking process.

**Method:** In an original survey of U.S. adults (N = 1310), we modeled self-reported overconfidence as a function of responses to a knowledge test about the causes of autism, and the endorsement of misinformation about a link between vaccines and autism. We then modeled anti-vaccination policy support and attitudes toward the role that experts play in the policymaking process as a function of overconfidence and the autism awareness indicators while controlling for potential confounding factors.



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Vaccine safety skeptics are often thought to be more likely to self-identify as Democrats (vs. Independents or Republicans). Recent studies, however, suggest that childhood vaccine misinformation is either more common among Republicans, or is uninfluenced by partisan identification (PID). Uncertainty about the partisan underpinnings of vaccine misinformation acceptance is important, as it could complicate efforts to pursue pro-vaccine health policies. I theorize that Republicans should be more likely to endorse anti-vaccine misinformation, as they tend to express more-negative views toward scientific experts. Across six demographically and nationally representative surveys, I find that—while few Americans *think* that "anti-vaxxers" are more likely to be Republicans than Democrats—Republican PID is significantly associated with the belief that childhood vaccines can cause autism. Consistent with theoretical expectations, effect is strongly mediated by anti-expert attitudes—an effect which supplemental panel analyses suggest is unlikely to be reverse causal.

Keywords

vaccine skepticism, misinformation, political psychology, partisanship, public opinion



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2020 Vote Margin



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Figure 1- Racial Differences in Impact of Police Attitudes on Vaccine Beliefs



# Part II. What can we do about parental vaccine hesitancy?



### Strategy #1. Going Broad: The "Reversal Narrative"



## The "Reversal Narrative"

Vaccine skeptics who "see the light" may be particularly powerful communicators of provaccination talking points.

Skeptics share in common not only their views on vaccine safety and efficacy, but (potentially) a common anti-vaccine *identity*.

Emphasizing the stories of skeptics who opted to vaccinate, or those who regret *not* vaccinating, may be an effective way to change parents' attitudes and behaviors.

For example...





### **Great and Powerful Dr. Oz?**

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For example...

The Great and Powerful Dr. Oz? Alternative Health Media Consumption & Vaccine Views in the United States

#### Abstract

Media figures like television host Dr. Oz, whose programs provide platforms for alternative nonmainstream health and medical views, are household names in the US. This study examines public consumption of alternative health media (AHM), and whether exposure to that content contributes to acceptance of vaccine misinformation. In a large, probability-based national longitudinal study, we find that a majority of Americans consume at least some media that features AHM content and that consumption is associated with higher vaccine misinformation. We further demonstrate the impact of AHM news in a naturally-occurring and time-varying quasi-experiment. We documented a pro-vaccine shift in response to Dr. Oz's reversal of his previously skeptical position on MMR vaccine safety. Our study demonstrates the persuasive power of AHM and underscores the need for additional efforts to understand its effects on public health opinion. It further demonstrates the power of elites/popular medical authorities to change minds on controversial issues.

#### Keywords

Alternative health media; misinformation; vaccine attitudes; media effects



### Great and Powerful Dr. Oz?

THE GREAT AND POWERFUL DR. OZ?

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For example...

Figure 4. Vaccine Safety Attitudes (by Knowledge & AHM Consumption). Connected lines correspond to the weighted percentage of respondents in each wave who indicate the lowest levels of risk for the Flu and MMR vaccines. The bolded and solid black line represents responses for low-knowledge, regular viewers of the Dr. Oz show. Sample is limited to only those panel respondents administered Wave 4 following Dr. Oz's reversal story.





### Clinical Recommendation: Find & Share "Reversal" Stories

Make an effort to talk about the stories of those who initially resisted the vaccine (highlighting their reasons for doing so), and why they're either (a) glad that they got the vaccine, or (b) regret resisting it.



### Strategy #2. Going Broad: The Power & Pitfalls of Factual Corrections





Assumes that the reason why people reject vaccine safety is that they're unaware of scientific consensus



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Skeptics may be *aware* of the facts, but *motivated to reject them*.



Assumes that the reason why people reject vaccine safety is that they're unaware of scientific consensus

Skeptics may be *aware* of the facts, but *motivated to reject them*.

They might even use their superior understanding of the facts to *validate* their skepticism. (Flat Earth Theory; QAnon)



### Are "Just the Facts" Just Enough?

Sometimes! Fact check exposure *can* encourage misinformed people to change their minds.

But, these effects may be limited to issues that are not politically, socially, religiously, or culturally contentious.

That's **typically not the case** for vaccinerelated issues; especially vaccinating against COVID-19.

#### In Related News, That was Wrong: The Correction of Misinformation Through Related Stories Functionality in Social Media

#### Leticia Bode, Emily K. Vraga

Journal of Communication, Volume 65, Issue 4, August 2015, Pages 619–638, https://doi.org/10.1111/jcom.12166 Published: 23 June 2015

💪 Cite 🛛 🔎 Permissions 🛛 <\$ Share 🔻

#### Abstract

Research on social media and research on correcting misinformation are both growing areas in communication, but for the most part they have not found common ground. This study seeks to bridge these two areas, considering the role that social media may play in correcting misinformation. To do so, we test a new function of Facebook, which provides related links when people click on a link within Facebook. We show users a post containing misinformation, and then manipulate the related stories to either confirm, correct, or both confirm and correct the misinformation. Findings suggest that when related stories correct a post that includes misinformation, misperceptions are significantly reduced.

> 201E International Communication Accordiation



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But, these effects may be limited to issues that are not politically, socially, religiously, or culturally contentious.

That's **typically not the case** for vaccinerelated issues; especially vaccinating against COVID-19. Debunking: A Meta-Analysis of the Psychological Efficacy of Messages Countering Misinformation

Man-pui Sally Chan, Christopher R. Jones, Kathleen Hall Jamieson, more... Show all authors ~ First Published September 12, 2017 | Research Article | Find in PubMed | @ Checkforupdates

https://doi.org/10.1177/0956797617714579

Article information 🗸



#### Abstract

This meta-analysis investigated the factors underlying effective messages to counter attitudes and beliefs based on misinformation. Because misinformation can lead to poor decisions about consequential matters and is persistent and difficult to correct, debunking it is an important scientific and public-policy goal. This meta-analysis (k = 52, N = 6,878) revealed large effects for presenting misinformation (ds = 2.41-3.08), debunking (ds = 1.14-1.33), and the persistence of misinformation in the face of debunking (ds = 0.75-1.06). Persistence was stronger and the debunking effect was weaker when audiences generated reasons in support of the initial misinformation. A detailed debunking message correlated positively with the debunking effect. Surprisingly, however, a detailed debunking message also correlated positively with the misinformation-persistence effect.

#### Keywords

misinformation, correction, continued influence, science communication, belief persistence/perseverance, open data

**Continued Influence Effect:** factual corrections that change minds don't necessarily change behaviors, or lead to lasting attitude change.



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That's **typically not the case** for vaccinerelated issues; especially vaccinating against COVID-19.

#### Effective Messages in Vaccine Promotion: A Randomized Trial

AUTHORS: Brendan Nyhan, PhD,<sup>a</sup> Jason Reifler, PhD,<sup>b</sup> Sean Richey, PhD,<sup>c</sup> and Gary L. Freed, MD, MPH<sup>d,e</sup>

"Department of Government, Dartmouth College, Hanover, New Hampshim;"Department of Political Science, Georgia State University, Allanta, Georgia, "The Child Health Evaluation and Research (OHEAR) Unit, Division of General Pediatrics, University of Michigan, Ann Arbon, Michigan; and "Obgartment of Health Management and Policy; School of Public Health, University of Michigan An Arbon, Michigan

#### KEY WORDS

vaccines, myths, MMR, autism, false, misperceptions, misinformation

#### ABBREVIATION

a0R—adjusted odds ratio CDC—Centers for Disease Control and Prevention MMR—measles-mumps-rubella

Drs Nyhan and Reifler initiated the project, obtained funding for the study, designed the experiment, analyzed and interpreted the data, and drafted the initial imanuscript; Drs Nichey and Freed initiated the project, obtained funding for the study, designed the experiment, interpreted the data, and reviewed and revised the manuscript; and all authors approved the final manuscript as submitted.

www.pediatrics.org/cgi/doi/10.1542/peds.2013-2365

doi:10.1542/peds.2013-2365

Accepted for publication Dec 20, 2013

Address correspondence to Brendan Nyhan, PhD, Dartmouth College, HB 6108, Hanover, NH 03755. E-mail: nyhan@dartmouth.edu PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275). WHAT'S KNOWN ON THIS SUBJECT: Maintaining high levels of measles-mumps-rubella immunization is an important public health priority that has been threatened by discredited claims about the safety of the vaccine. Relatively little is known about what messages are effective in overcoming parental reluctance to vaccinate.

WHAT THIS STUDY ADDS: Pro-vaccine messages do not always work as intended. The effectiveness of those messages may vary depending on existing parental atitudes toward vaccines. For some parents, they may actually increase misperceptions or reduce vaccination intention.

#### abstract

**OBJECTIVES:** To test the effectiveness of messages designed to reduce vaccine misperceptions and increase vaccination rates for measles-mumps-rubella (MMR).

METHODS: A Web-based nationally representative 2-wave survey experiment was conducted with 1759 parents age 18 years and older residing in the United States who have children in their household age 17 years or younger (conducted June–July 2011). Parents were randomly assigned to receive 1 of 4 interventions: (1) information explaining the lack of evidence that MMR causes autism from the Centers for Disease Control and Prevention; (2) textual information about the dangers of the diseases pre-

**Continued Influence Effect:** factual corrections that change minds don't necessarily change behaviors, or lead to lasting attitude change.



# The Effectiveness of Perceived Personal Risk

In summer 2020, we varied N ~ 7,000 subjects' exposure to...

**Risk Frames:** Personal vs. Economic vs. Social

**Communicators:** Experts, Non-Experts

**Inoculation Effort:** "Pre-bunking" idea that FDA will cut corners to approve a vaccine.

<u>Key Takeaway:</u> *Personal risk* (irrespective of source) and to some degree *social risk* (from non-expert sources) move vaccination intentions by 2-4%



#### VIEWS 10,068

**ORIGINAL RESEARCH article** 

Front. Polit. Sci., 28 January 2021 | https://doi.org/10.3389/fpos.2021.630133



## Encouraging COVID-19 Vaccine Uptake Through Effective Health Communication

🌃 Matt Motta<sup>1\*</sup>, 🖭 Steven Sylvester², 🙁 Timothy Callaghan³ and 👱 Kristin Lunz-Trujillo4

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**Context:** Overcoming the COVID-19 pandemic will require most Americans to vaccinate against the virus. Unfortunately, previous research suggests that many Americans plan to refuse a vaccine; thereby jeopardizing collective immunity. We investigate the effectiveness of three different health communication frames hypothesized to increase vaccine intention; emphasizing either 1) personal health risks, 2) economic costs, or 3) collective public health consequences of not vaccinating.

**Methods:** In a large (N = 7,064) and demographically representative survey experiment, we randomly assigned respondents to read pro-vaccine communication materials featuring one of the frames listed above. We also randomly varied the message source (ordinary people vs. medical experts) and availability of information designed the "pre-bunk" potential misinformation about expedited clinical trial safety.



### The Effectiveness of Perceived Personal Risk

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Key Takeaway: *Personal risk* (irrespective of source) and to some degree *social risk* (from non-expert sources) move vaccination intentions by 2-4%

TABLE 1 Experimental design summary		
Frame	Source (lay)	Source (expert)
Personal health risk No clinical trial info N = 504 (lay) N = 522 (expert)	Thinking about skipping the COVID-19 vaccine? Take it from someone who had the virus: That's a bad idea	Thinking about skipping the COVID-19 vaccine? You're putting your health at risk
Clinical trial info (pre-bunk) N = 497 (lay) N = 546 (expert)	Corey Miller is an accountant from Austin, TX, who suffered complications from the novel coronavirus in March 2020	Dr. Corey Miller is a Medical Doctor at the University of Texas -Austin
Economic costs No clinical trial info N = 505 (lay) N = 485 (expert)	Thinking about skipping the COVID-19 vaccine? Take it from someone who lost their job: That's a bad idea	Thinking about skipping the COVID-19 vaccine? Prepare for a slower economic recovery
Clinical trial info (pre-bunk) N = 510 (lay) N = 471 (expert)	Corey Miller is an accountant from Austin, TX, who suffered job loss as a result of the novel coronavirus in March 2020	Dr. Corey Miller is a Professor in the Department of Economics at the University of Texas-Austin
Collective health consequences No clinical trial info N = 496 (lay) N = 506 (expert)	Thinking about skipping the COVID-19 vaccine? Tell that to people who depend on you to get vaccinated	Thinking about skipping the COVID-19 vaccine? Prepare for more deaths and hospitalizations
Clinical trial info (pre-bunk) N = 493 (lay) N = 533 (expert)	Corey Miller is an accountant from Austin, TX, who is currently undergoing chemotherapy treatments for lung cancer	Dr. Corey Miller is an Austin, TX based Pharmaceutical Consultant for Johnson and Johnson, a United States. company developing a vaccine for COVID-19



## The Effectiveness of Perceived Personal Risk

In summer 2020, we varied N ~ 7,000 subjects' exposure to...

Risk Frames: Personal vs. Economic vs. Social

Communicators: Experts, Non-Experts

**Inoculation Effort:** "Pre-bunking" idea that FDA will cut corners to approve a vaccine.

#### Key Takeaways:

*Personal risk* (irrespective of source) and to some degree *social risk* (from non-expert sources) move vaccination intentions by 2-4%



#### **BRIEF REPORT**



#### Emphasize personal health benefits to boost COVID-19 vaccination rates

Madison Ashworth, <sup>(2)</sup> Linda Thunström, <sup>(3)</sup> Todd L. Cherry, <sup>(2)</sup> Stephen C. Newbold, and Davi... + See all authors and affiliations

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Article Figures & SI Info & Metrics
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#### Abstract

The rapid development of COVID-19 vaccines is a tremendous scientific response to the current global pandemic. However, vaccines per se do not save lives and restart economies. Their success depends on the number of people getting vaccinated. We used a survey experiment to examine the impact on vaccine intentions of a variety of public health messages identified as particularly promising: three messages that emphasize different headfile from the vaccine (however) health the health of other, and the vaccine intentions of a variety of the vaccine intentions of a variety of the vaccine intentions of a variety of public health messages identified as particularly promising: three messages that emphasize different headfile from the vaccine (however) health the health of other.



# Clinical Recommendation: Focus less on factual corrections, and more on objective health risks.

If parents <u>want</u> to know more information about vaccine safety, clinical trial procedures, etc., provide that information in terms most people can understand. Otherwise, emphasizing the health risks to one's self/child of not vaccinating may be a more effective approach.



### Strategy #3. A More-Focused Approach: Meeting People Where They Are



### The Science of Science Communication

- Determine how many Americans hold views that are inconsistent with best available scientific evidence. (Survey Research)
- Suggest/test the potential causes of those beliefs (Correlational Analysis; sometimes Longitudinal Survey Analyses).
- Use what we know about why some people reject scientific evidence to inform communication interventions that correct misperceptions, change behavior, etc. (Randomized Controlled Trials).

An example of a study where we put the science of science communication into practice, regarding MMR vaccine hesitancy.

American Politics

Correcting Misperceptions about the MMR Vaccine: Using Psychological Risk Factors to Inform Targeted Communication Strategies Political Research Quarterly 1–15 © 2020 University of Utah Article reuse guidelines: sagepub.com/journals-permissions Dol: 10.1177/106591292097695 Journals.sagepub.com/home/pro SAGE

Kristin Lunz Trujillo<sup>10</sup>, Matthew Motta<sup>2</sup>, Timothy Callaghan<sup>3</sup>, and Steven Sylvester<sup>4</sup>

#### Abstract

Many Americans endorse misinformation about vaccine safety. This is problematic because those who do are more likely to resist evidence-based policies, such as mandatory vaccination for school attendance. Although many have attempted to correct misinformation about vaccines, few attempted have been successful. This study uses psychological correlates of vaccine misinformation acceptance to develop a novel misinformation corrector strategy by talloring provaccine messages to appeal to these psychological traits. For example, people with higher moral purity levels are more likely to view vaccines as contaminating the body, but messages highlighting disease via under-vaccination can use their higher moral purity to push them toward vaccine support. Using a large survey experiment (N = 7,019) and a smaller replication experiment (N = 825) of American adults, we demonstrate that interventions designed to appeal to people high in moral purity and needle sensitivity—two relatively understudied correlates of vaccine misinformation support—can also be targeted to effectively reduce vaccine misinformation andorsement. This study provides a better understanding of the psychological origins of misinformation and policy attitudes, and it suggests a strategy for combating policy-related misinformation more generally, ultimately boosting support for evidence-based policies.

Keywords

misinformation, moral purity, needle sensitivity, need for cognitive closure, science communication, policy attitudes



# Vaccinating Across the Aisle

Exemplars of high profile partisans who have chosen to vaccinate against COVID-19 is *thought* to have the ability to encourage vaccine uptake among skeptical groups. (Source cues & persuasion). Available evidence, however, is mixed.

We theorize that co-partisan source cues *can* increase uptake, but only among certain types of skeptical partisan sub-groups.

Strong identifiers may have little incentive to change their attitudes/behavior (entrenchment), and "leaners" may be too detached to heed advice from partisan elites. It's the "middle of the road" partisans who we expect to be most receptive to exemplars.





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# Vaccinating Across the Aisle

N = 3,000 adults, recruited via Lucid Theorem

Randomly assigned to receive a pro-COVID-19 vaccine message that either included or excluded partisan exemplars from one's *own party*. (Based on pre-treatment metadata).

Key finding: vs. the control, middleof-the-road Republicans were **3% more likely (p < 0.05)** to intend to vaccinate if provided with a copartisan source cue.

#### goptreatment1

As you may have heard, politicians like Jodi Ernst, Mike Pence, and Tim Scott recently chose to receive a COVID-19 vaccine and are encouraging others to do the same. Given this, when an FDA-approved vaccine for COVID-19 is available to you for free, which of these statements best describes your willingness to get a COVID-19 vaccine?



Jodi Ernst



Mike Pence

Tim Scott

Get the vaccine as soon as you can

Wait until it has been available for a while to see how it is working for other people.

- Only get the vaccine if you are required to do so for work, school, or other activities
- Definitively not getting the vaccine



### Clinical Recommendation: Ask Why People are Skeptics, & Tailor Communications in Response

Make an effort to (a) ask people about <u>why</u> they express doubt about vaccine safety/efficacy, and (b) make an effort to present the benefits of vaccination in a way that does not challenge their cherished worldviews, social identities, etc.



#### Remember this figure?

Figure 2 Long-Term Effects, Serious Side Effects, And Impacts On Fertility Are Among The Top Concerns Parents Have About Vaccinating Their 5-11 Year Old Child Percent of parents of children ages 5-11 who say they are very or somewhat concerned about each of the following: Not enough is known about the long-term effects the COVID-19 vaccine in children Their child might experience serious side effects from the COVID-19 vaccine The COVID-19 vaccine may negatively impact child's fertility in the future Their child might be required to get the COVID-1 vaccine even if they don't want them to They might need to take time off work to bring the child to get vaccinated or to care for them if they experience side effects They won't be able to get the vaccine for their from a place they trust hey might have to pay an out-of-pocket cost to the COVID-19 vaccine for their child They will have difficulty traveling to a place to get their child vaccinated tong parents or guardians of children ages 5-11. See topline for full qu KFF COVID-1 SOURCE: KEE COVID-19 Vaccine Monitor (October 14-24, 2021) • Download PNC

# Clinical Recommendation: Ask Why People are Skeptics, & Tailor Communications in Response

For example: if parents are concerned about the unknown long-term side effects of COVID-19 vaccination, maybe talk less about the rigors of clinical trials, and more about the potential long-term side effects of "long haul" COVID (which the vaccines have been shown to be very effective at preventing).



# Q&A With Dr. Motta



@matt\_motta Matthew.motta@okstate.edu

- Dr. Sammons will read select questions that were submitted via the Q&A feature throughout the presentation.
- Due to time constraints, we will not be able to address every question asked.

