

Are 'anti-vaxxers' doing their research? (Project summary)

- Anti-vaxxers were less critical about the information they consume.
- JTC is shown to be a new predictor of anti-vaccine attitudes.
- A manipulation designed to reduce JTC was used to try and reduce anti-vaccine attitudes.
- This manipulation was not as successful as hypothesized.

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References



Introduction

- 'Anti-vaxxers' often report feeling that they have, "done their research"^{1, 2}

Jumping-to-conclusions (JTC) cognitive style³:

- an information-gathering bias where individuals make decisions about probabilities without examining sufficient evidence.

General Methodology

JTC information gathering (fishing) task

- Ps view pieces of information (fish), one-by-one, to a max of 10 examples before making a probabilistic decision.
- Ps may stop whenever they feel they can guess correctly.



Vaccine Hesitancy Scale⁴ ($\alpha = .922$)

- "Vaccines are important for my health."

Skepticism toward emerging infectious diseases scale⁵ ($\alpha = .811$)

- "The threat of cold and flu season is exaggerated to increase sales of vaccines or medication."

Meta-cognitive training (MCT; Study 2)

- Ps are taught about the negative effects of JTC.
- Shown how to reason out of conspiracy theories.
- Practice slowing down their conclusions through picture completion tasks.



What does JTC add? (Study 1)

H1: JTC will predict new variance that is unaccounted for by the individual differences² identified in previous work anti-vaccine attitudes:

- Conspiratorial ideation, Psychological Reactance, Disgust toward Blood/Injections, Cultural worldview

Results:


- $N = 200$ ($\bar{X}_{Age} = 41.5$, $n_{men} = 102$) MTurkers
- JTC predicts different variance in vax hesitancy (Table 1) and vax skepticism ($\beta = .160$, $p = .003$).
- H1 = 
- Ps high in JTC were more likely to be vaccine hesitant ($r = .197$) and skeptical ($r = .242$), $ps < .001$

Table 1, Regression model: Vaccine hesitancy (Study 1)

	r	r^2	Δr^2	F	β	t	p
Step 1	.674	.455	-	40.65			<.001
Conspiratorial					.421	7.37	<.001
Disgust					.137	2.56	.011
Reactance					.032	.544	.587
Cultural worldview					.352	5.97	<.001
Step 2	.683	.467	.012	33.93			<.001
Conspiratorial					.417	7.35	<.001
Disgust					.120	2.23	.027
Reactance					.033	.571	.569
Cultural worldview					.344	5.87	<.001
JTC					.111	2.07	.040

Future Directions

1. Development of a vaccine-specific JTC task
2. Investigate the effect of overconfidence that accompanies JTC on biasing belief formation/maintenance.
3. Re-examine the effectiveness of MCT in a high-JTC sample.

Training manipulation (Study 2)

H2.1: A JTC-focused training manipulation (meta-cognitive training) can, in turn, reduce anti-vaccine attitudes.

H2.2: Training will increase favourable beliefs about a vaccine analogue (novel medication)

Results:



- $N = 301$ ($\bar{X}_{Age} = 41.0$, $n_{MCT} = 144$) MTurkers
- MCT **did** reduce JTC.
- MCT **did not** reduce:
 - Anti-vaccine attitudes [H2.1 = 
 - Beliefs in a vaccine-analogue [H2.2 = 

Figure 1, Participant JTC score by Condition (Study 2)

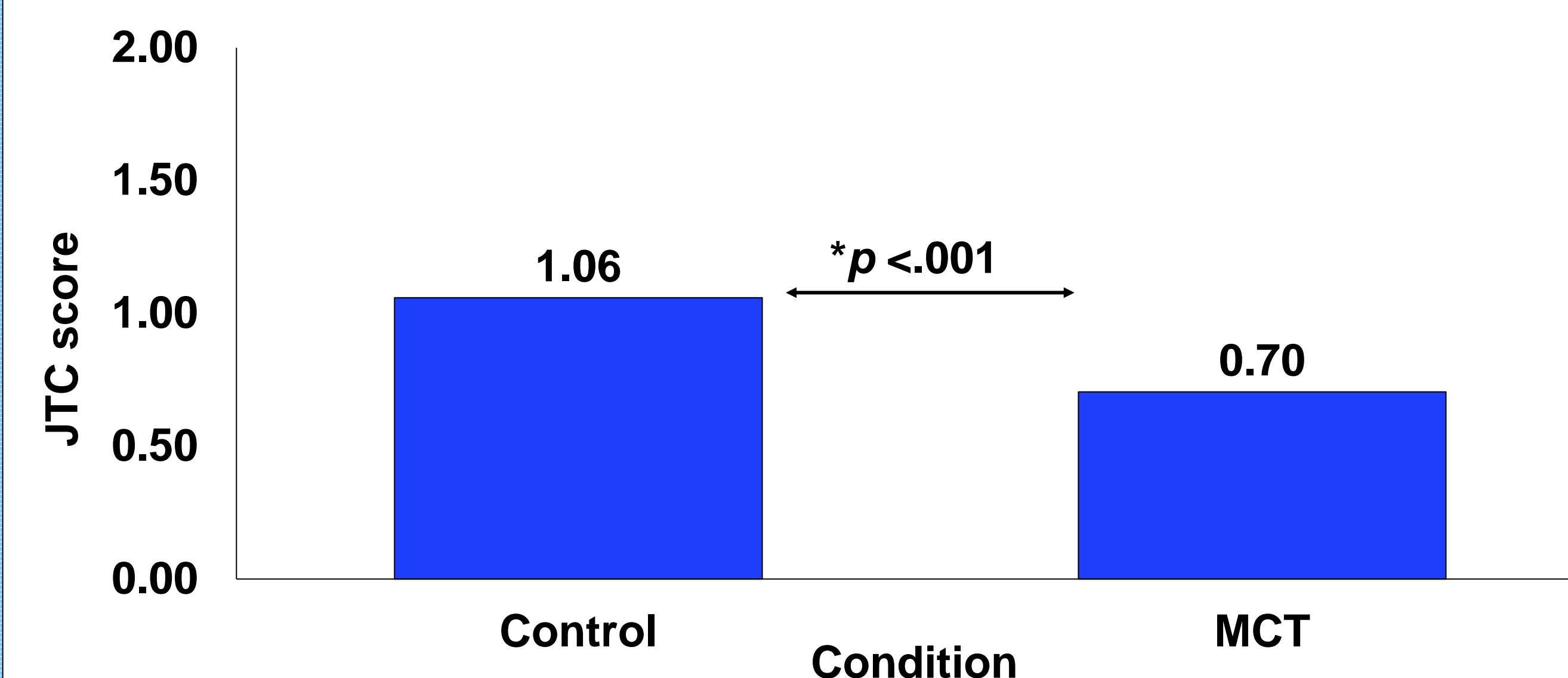


Figure 2, Anti-vaccine measure by Condition (Study 2)

