

Irrationalizing Pain? Pain Sensitivity and Irrational Beliefs





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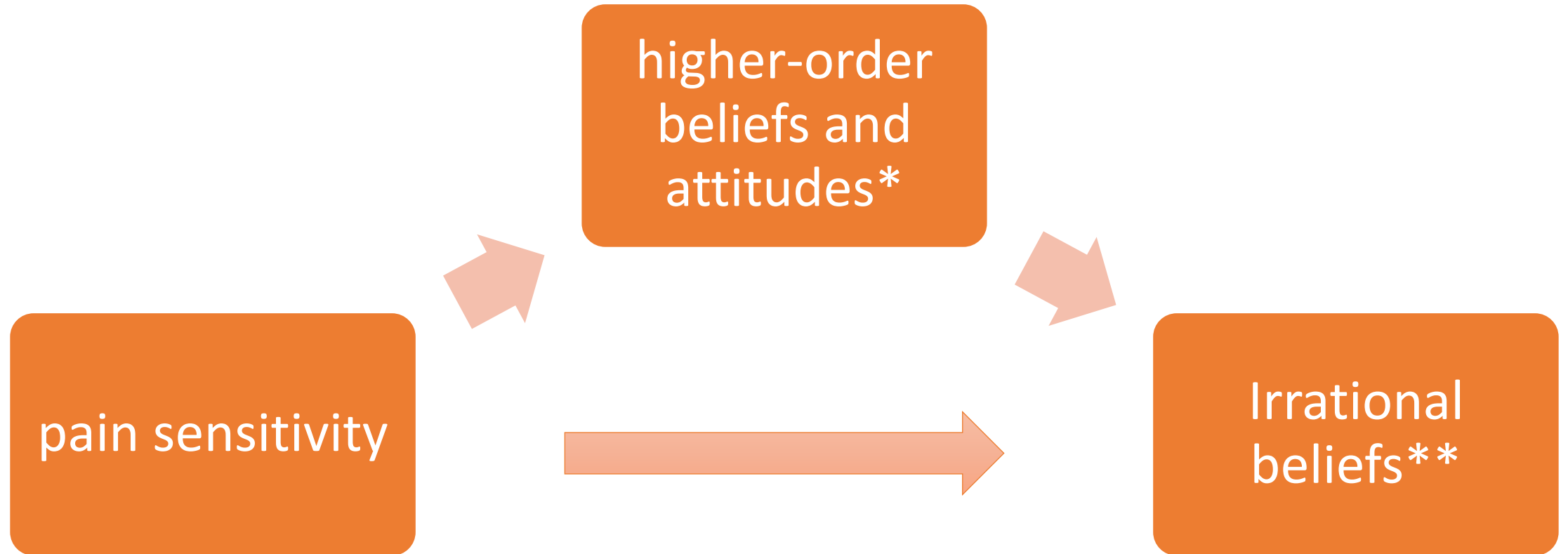
Introduction

-  Physical pain and social “pain”? The need to belong ([Baumeister & Leary, 1995](#))
-  Same or similar neural substrates, subjective experiences and linguistic expressions ([Eisenberger, 2012](#); [MacDonald & Leary, 2015](#))
-  Social-attachment system utilizing resources from the pain system ([Eisenberger & Lieberman, 2004](#))
-  Certain analgesics such as acetaminophen reduce social pain ([DeWall et al., 2010](#))

Introduction

- Sensitivity to pain varies by person ([Nielsen et al., 2009](#))
- Facing pain can lead to irrational beliefs in clinical populations ([Amundson, G. J. G. et al., 1995](#))
- Pain sensitivity is related to empathy ([Ren et al., 2020](#))
- Pain sensitivity predicts proximity to and endorsement of political outgroup views through harm perception ([Lee & Ma, 2023](#))

So, what's the question?



* e.g., thinking styles, risk attitude, severity of risk perception, emotional reactivity, emotional intensity

** e.g., conspiracy thinking, superstitious belief, belief in the paranormal, pseudo-profound bullshit receptivity

Methods

- Survey on Qualtrics
- 168 items (excluding demographics items)
- 189 participants from MTurk (out of an original 318)
- Demographics information collected:
 - Mean age = 50.55, SD = 13.04
 - 54.54% female, 1.60% non-binary/other
 - 52.94% Democrat, 22.99% Republican, 19.25% Independent, 4.81% Other
 - Race
 - Religion and religiousity
 - Socioeconomic Status

Methods

Irrational belief measures included (outcomes):

- Revised Paranormal Belief Scale ([Tobacyk, 2004](#))
- Belief in Superstition Scale ([Fluke et al., 2012](#))
- Bullshit Receptivity Scale ([Pennycook et al., 2015](#))
- Fantasy subscale of Interpersonal Reactivity Scale ([Davis, 1983](#))
- [Fedrico et al. \(2018\)](#)'s items on conspiracy thinking, plus four specific conspiracy theories
- Generic Conspiracist Beliefs Scale ([Brotherton et al., 2013](#))
- Vaccine Conspiracy Belief Scale ([Shapiro et al., 2016](#))

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- People are asked to rate statements as profound**
- “Perceptual reality transcends subtle truth”**
- “The invisible is beyond new timelessness”**

Methods

Other measures included (predictor and mediators):

- **Pain Sensitivity Questionnaire** ([Ruscheweyh et al., 2009](#))
- 4-Component Thinking Styles Questionnaire ([Newton et al., 2023](#))
- Modified Differential Emotions Scale ([Fredrickson et al., 2003](#))
- Perth Emotion Reactivity Scale – Short ([Becerra et al., 2017](#))
- Ten-item Personality Inventory ([Gosling et al., 2003](#))

Results

Notable correlations (between pain sensitivity and variables of interest)

modified Differential Emotions Scale

Positive emotions = **0.15**

Perth Emotional Reactivity Scale

Positive emotions (activation, intensity, duration) = **0.15**

Domain-specific Risk Perception – Overall = **0.42**

Revised Paranormal Belief Scale

Traditional religious belief = **0.16**

Witchcraft = **0.16**

Superstition = **0.15**

Spiritualism = **0.20**

Bullshit Receptivity Scale = **0.17**

Belief in Superstition Scale = **0.25**

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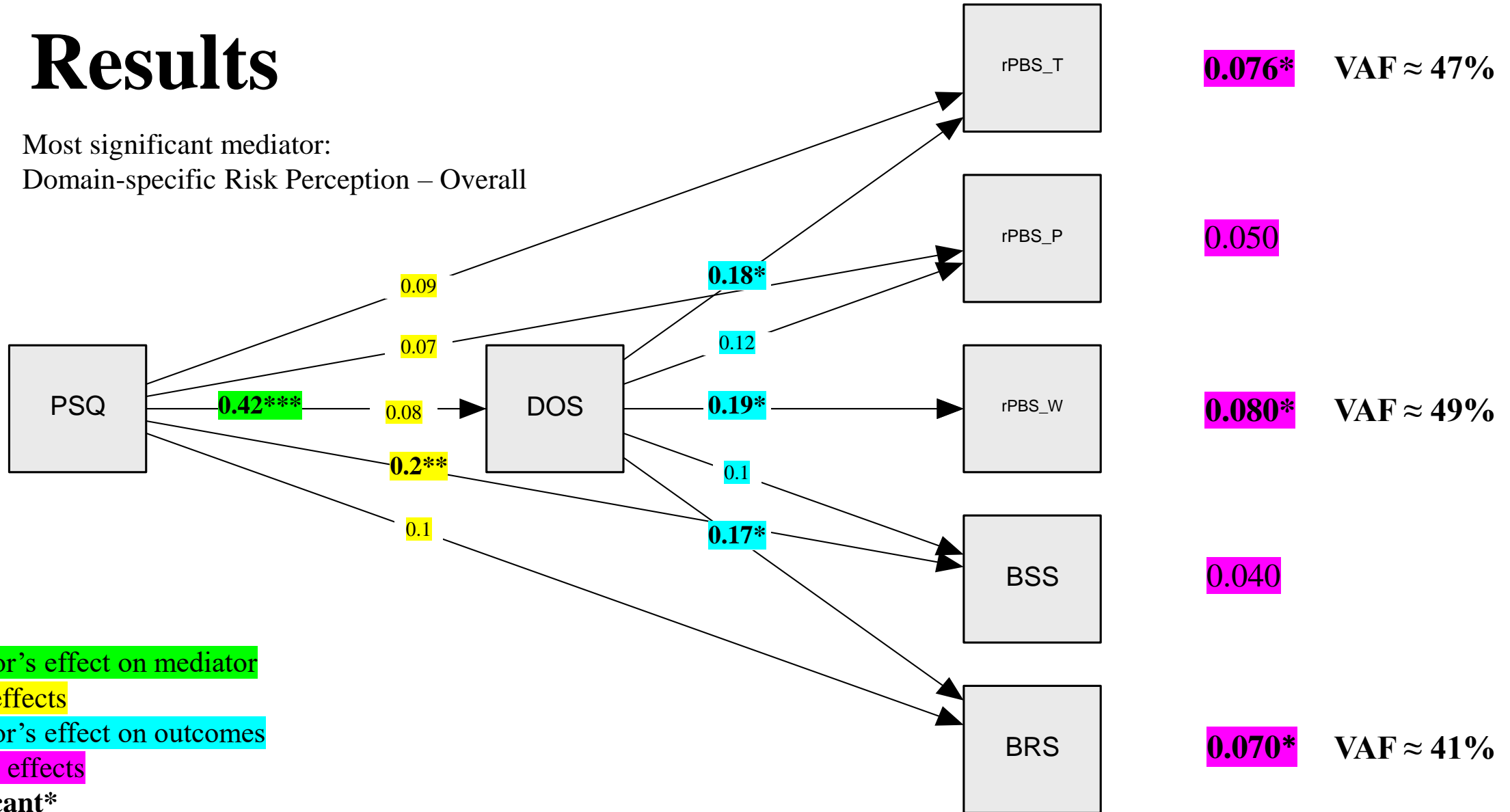
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Results

Most significant mediator:
Domain-specific Risk Perception – Overall



Predictor's effect on mediator
Direct effects
Mediator's effect on outcomes
Indirect effects
Significant*

Future Directions

- Pain sensitivity's link to other higher order variables?
- Focusing on other pain-related psychological variables (such as tolerance, threshold, just noticeable difference, etc.)?
- An experimental design to manipulate pain sensitivity?

Q/A time!