

# Attitudes towards disease model explanations of chronic pain among Canadian and US adults without chronic pain: A contrastive vignette technique study

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## BACKGROUND

- Chronic pain is highly stigmatized
- Chronic pain was recently recognized as a disease in its own right
- Assumption: Labelling chronic pain a brain disease will reduce stigma

## AIM


- Investigate the effects of a brain disease explanation of chronic pain on the degree to which people without chronic pain stigmatize others who live with chronic pain.

## METHODS

- **Design:** Contrastive Vignette Technique (5x1 between-subjects design)
- **Participants:** Adults in the U.S. and Canada without chronic pain
- **Data Collection:** 15-minute online survey
  - Demographics, Familiarity with Chronic Pain, Social Distance, and Attitude-Related Items.
- **Analysis:** Kruskal-Wallis, Mann-Whitney U, and Beta Regression Model

## VIGNETTE

Sam is 48 years old and is a store supervisor. Sam has been living with chronic pain for a while and sighs and winces throughout the day. Sam's physician orders a few medical tests for further investigation. Based on the findings of the tests, the physician suggests that Sam's chronic pain is...

No Physical Cause	...not due to an <b>underlying physical cause</b> .
Biopsychosocial Model	... <b>an interaction of biology</b> , such as Sam's genetics, <b>psychological factors</b> , such as Sam's mental health condition and <b>social factors</b> , such as Sam's work environment.
Disease Model	... <b>a disease</b> in itself and not merely a symptom of another medical condition.
Brain Disease Model	... <b>a disease of the brain</b> and not merely a symptom of another medical condition.
Brain Disease Model, Biomarkers, and Image	... <b>a disease of the brain as indicated by brain biomarkers</b> (biological markers) and not merely a symptom of another medical condition. 

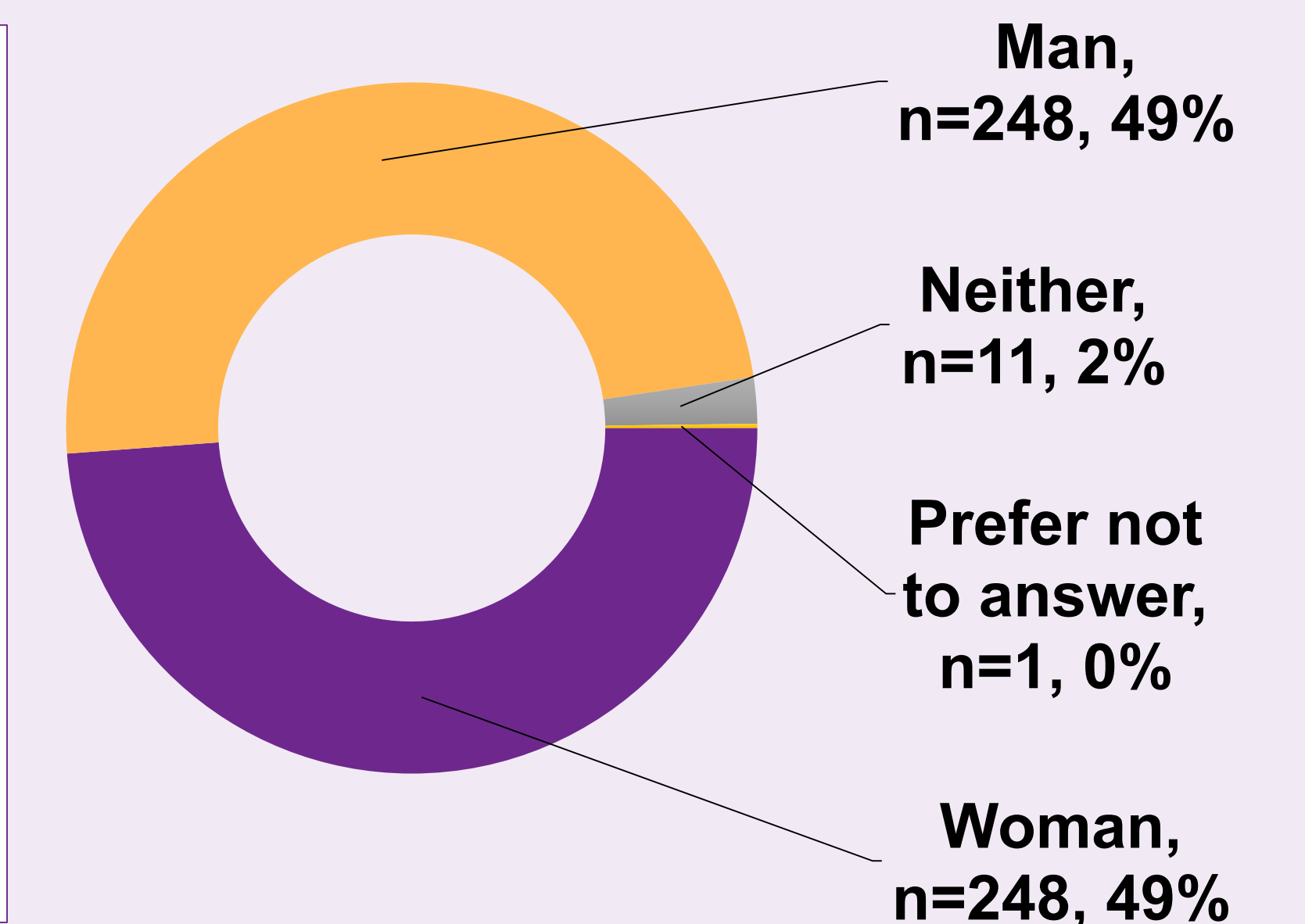
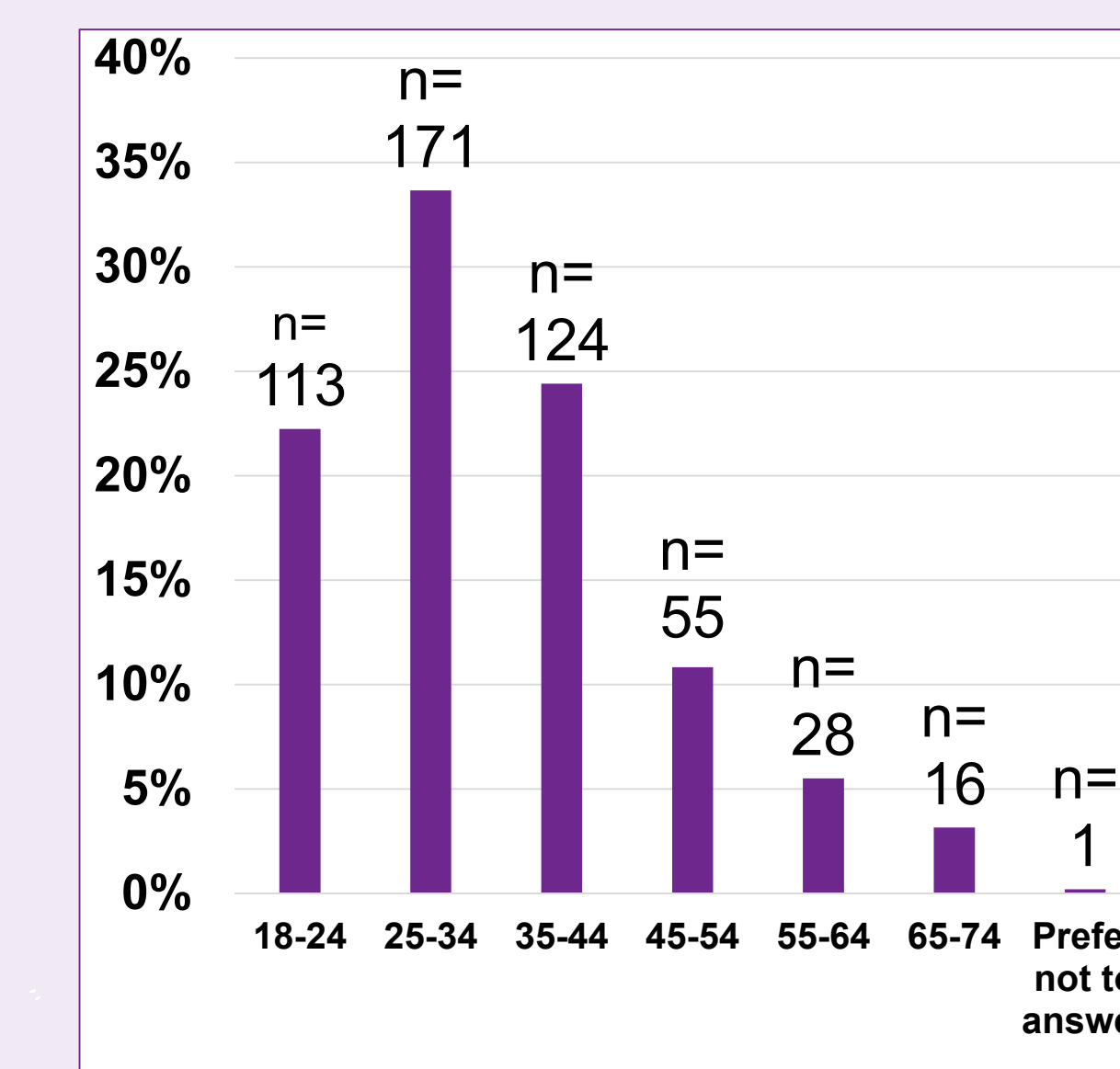
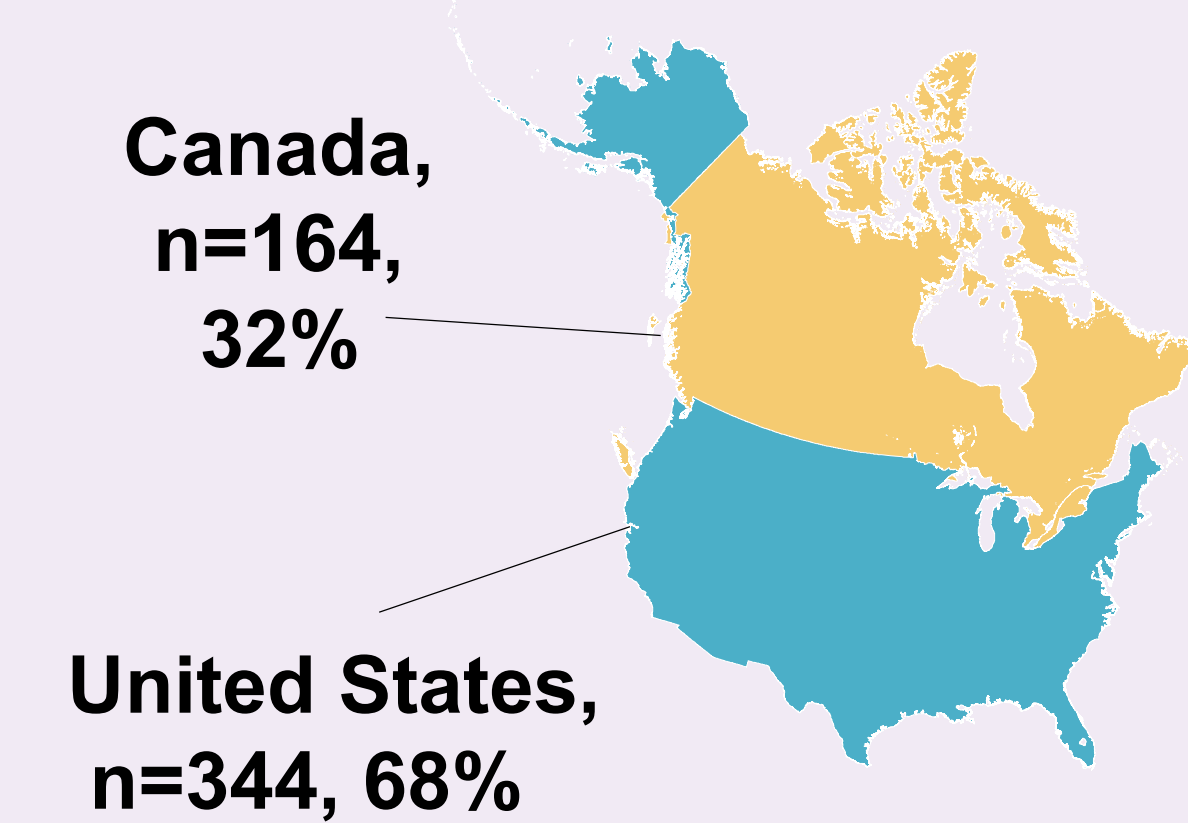
**TABLE 1.** 5x1 Contrastive Vignettes: each participant is randomized to read only one explanation of Sam's pain

Item	Rating (Likert Scale)
How much pain is Sam in?	0 = No Pain at All 7 = Pain as Bad as It Could Be.
How much sympathy do you have for Sam?	0 = No sympathy at all 7 = A lot of sympathy
How willing are you to help Sam with daily activities?	0 = Totally unwilling 7 = Totally willing

**TABLE 2.** Sample post-vignette scale items to measure three dimensions of stigma

## RESULTS

N=508



**FIGURE 1.** Country

**FIGURE 2.** Age

**FIGURE 3.** Gender

**FIGURES 1-3.** Participant Demographics

Compared to the *No Physical Cause* vignette, participants who viewed...

Vignette	Impact	Effect Size (Cohen's d) and Significance (p-value)
Disease or Brain disease vignettes	-Perceived Sam to be in <b>more pain</b>	Cohen's d=0.517 p-value <.001 Cohen's d=0.297 p-value =.026
Disease or Brain disease + biomarkers vignettes	-Thought Sam was <b>less likely to exaggerate</b> their chronic pain	Cohen's d=0.659 p-value <.001 Cohen's d=0.412 p-value =.003
Disease or Biopsychosocial or Brain Disease + Biomarkers vignettes	-Expressed <b>greater sympathy</b> for Sam	Cohen's d=0.561 p-value <.001 Cohen's d=0.439 p-value =.002
Disease or Biopsychosocial or Brain Disease + Biomarkers vignettes	-Had increased <b>willingness to help</b> Sam	Cohen's d=0.436 p-value =.002 Cohen's d=0.317 p-value =.021 Cohen's d=0.293 p-value =.032
Disease or Brain disease or Biopsychosocial or Brain disease + biomarkers vignettes	- Perceived an increased likelihood of Sam being <b>truthful</b>	Cohen's d=0.660 p-value <.001 Cohen's d=0.434 p-value =.002 Cohen's d=0.465 p-value <.001 Cohen's d=0.437 p-value =.002

**TABLE 3.** Kruskal-Wallis & Mann-Whitney U Test Results: Statistically significant impacts of vignette on dimensions of stigma

## CONCLUSION

- Brain- and disease-based explanations of chronic pain influence certain dimensions of pain-related stigma felt towards those living with chronic pain
- People without chronic pain perceive those living with chronic pain differently depending on the perceived source of the pain
- These findings have implications for public awareness and anti-stigma campaigns

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