

Cross-National Comparability of Disability Measures with Anchoring Vignettes

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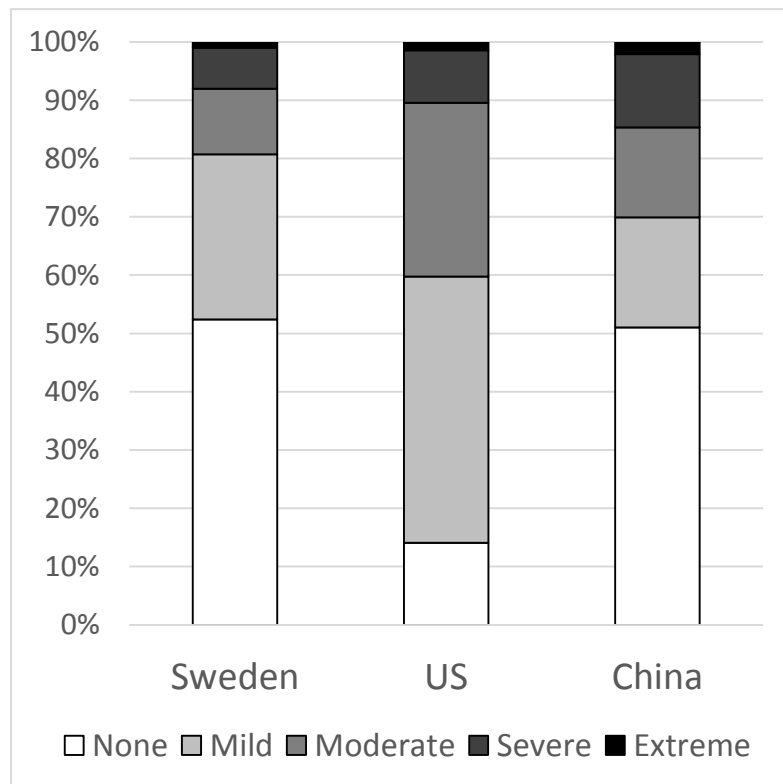
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Cross-National Comparison of Pain

Q: Overall, in the last 30 days, how much pain or bodily aches did you have?

1. Simple comparison



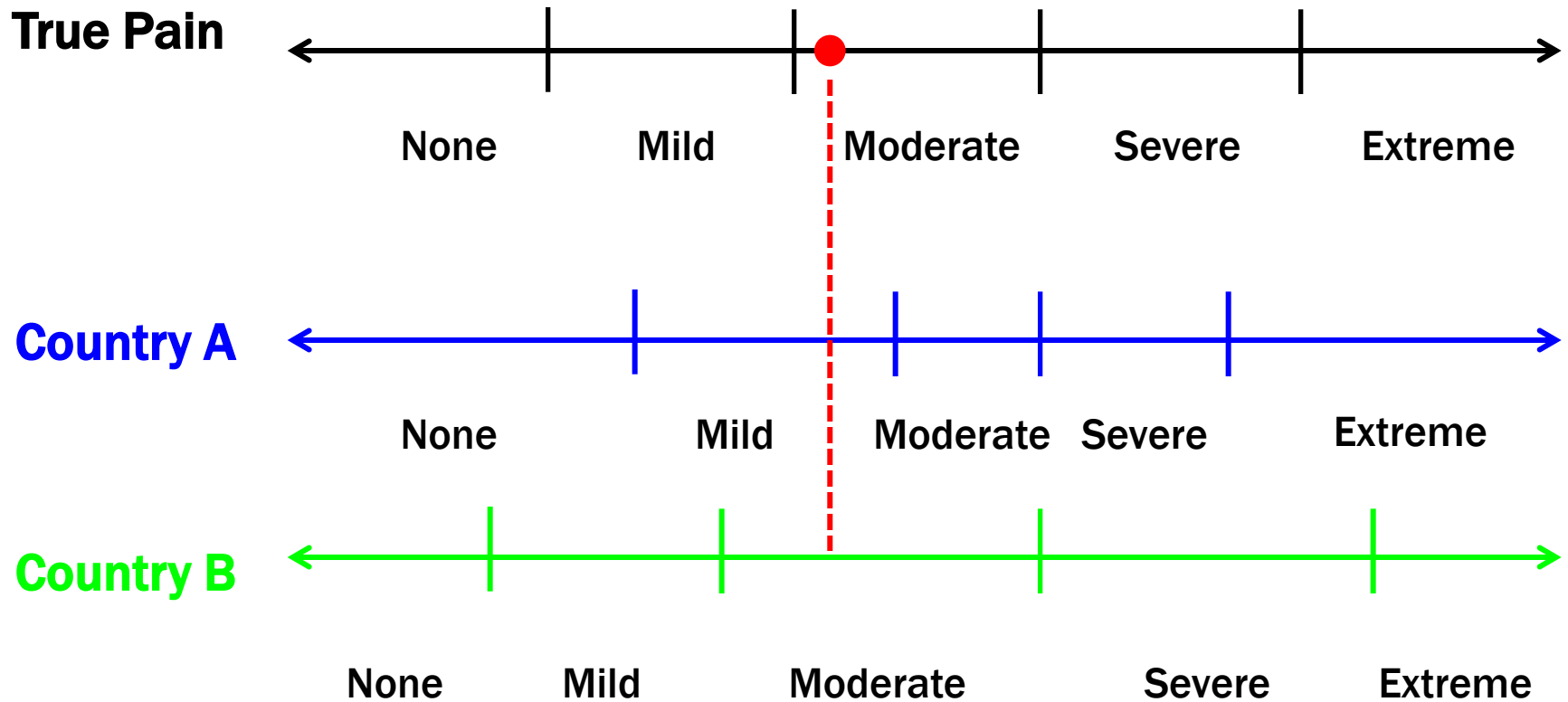
2. Adjustment for age, gender, and education differences through multivariate models (e.g., ordered probit)

	Coeff.
Sweden vs. China	-0.11
US vs. China	0.71***

Is the comparison valid?

Ordinal Response Scale Use

Q: Overall, in the last 30 days, how much pain or bodily aches did you have?



Anchoring Vignettes – 1

- Adjustment method for reporting heterogeneity
- Data requirement
 - Self-report item (e.g., Pain level)
 - Vignette items (typically more than one)
 - Hypothetical scenarios describing different pain levels
 - Identical items given to the comparison groups
 - Serve as response “anchoring” points

Anchoring Vignette Example

- Self-report: Overall, in the last 30 days, how much pain or bodily aches did you have?
- Vignette 1: Paul has a headache once a month that is relieved after taking a pill. During the headache he can carry on with his day-to-day affairs. Overall, in the last 30 days, how much of a problem did Paul have with bodily aches or pains?
- Vignette 2: Henry has pain that radiates down his right arm and wrist during his day at work. This is slightly relieved in the evenings when he is no longer working on his computer. Overall, in the last 30 days, how much of bodily aches or pains did Henry have?
- Vignette 3: Charles has pain in his knees, elbows, wrists and fingers, and the pain is present almost all the time. Although medication helps, he feels uncomfortable when moving around, holding and lifting things. Overall, in the last 30 days, how much of bodily aches or pains did Charles have?

Anchoring Vignettes – 1

- Adjustment method for reporting heterogeneity
- Data requirement
 - Self-report item (e.g., Pain level)
 - Vignette items (typically more than one)
 - Hypothetical scenarios describing different pain levels
 - Identical items given to the comparison groups
 - Serve as response “anchoring” points
- Assumptions
 - Vignette equivalence
 - Reporting consistency

Anchoring Vignettes – 2

- Nonparametric analysis
- Model-based parametric analysis
 - Hierarchical Ordered Probit (HOPIT)
 - Compound Hierarchical Ordered Probit (CHOPIT)

C.f. Ordered Probit for multivariate adjustment wo vignettes

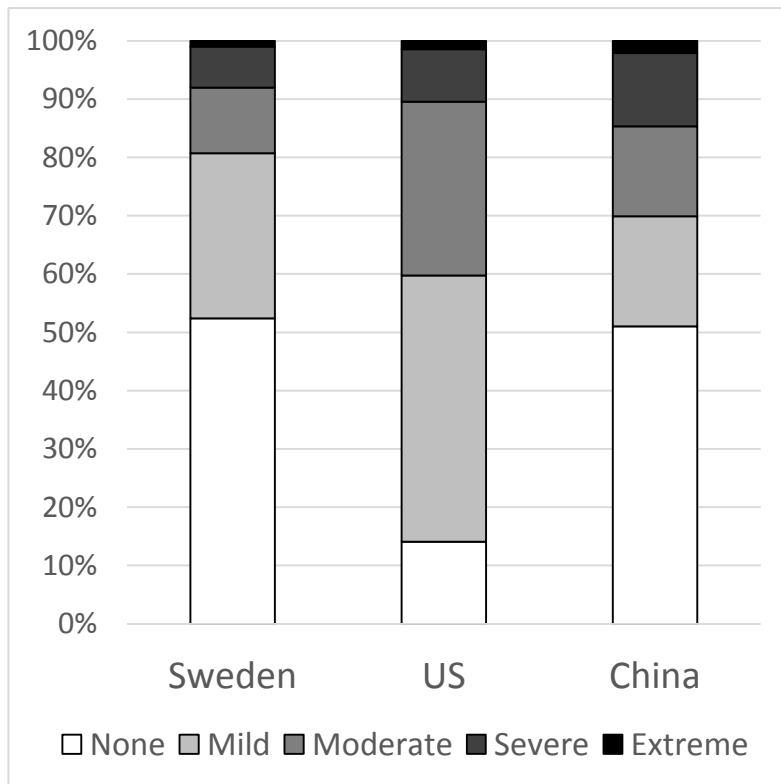
In this study

- Using anchoring vignette data from
 - Health and Retirement Study (HRS)
 - Survey of Health, Ageing, and Retirement in Europe (SHARE)
 - China Health and Retirement Study (CHARLS)
- Countries:
 - Sweden, US, and China
- Domains:
 - Cognitive difficulty and Pain
- Methods:
 - Simple comparisons
 - Multivariate comparisons without and with anchoring vignettes (Ordered probit vs. HOPIT)

Analysis Results

Pain Comparison

- **Simple comparison:
No adjustment**

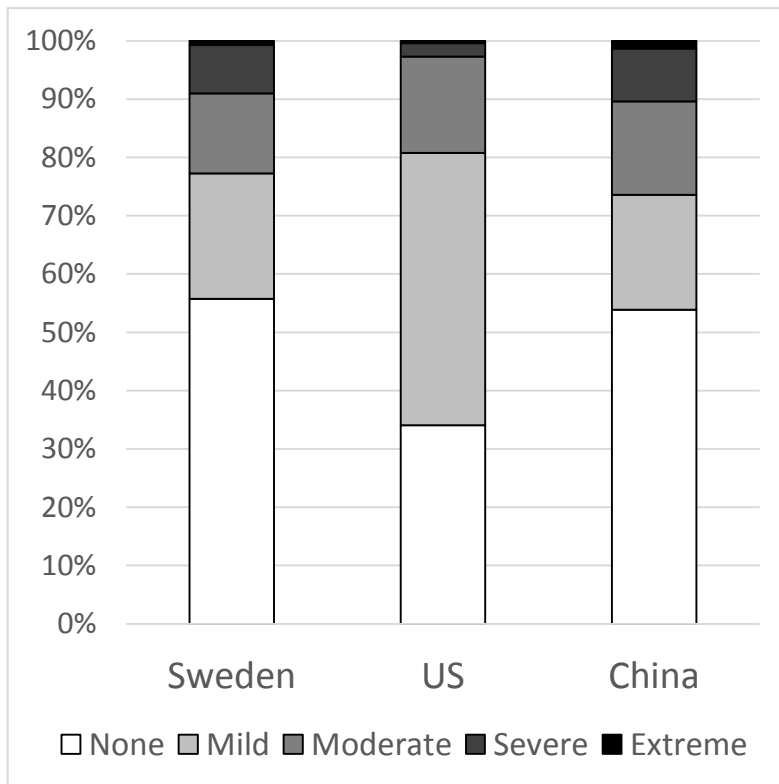


- **Multivariate comparisons:
Age, gender, educ adjustment**

	O Probit (wo vigs) Coeff.	HOPIT (w vigs) Coeff.
Sweden vs. China	-0.11	-1.78***
US vs. China	0.71***	0.21***

Cognitive Difficulty Comparison

- **Simple comparison:
No adjustment**



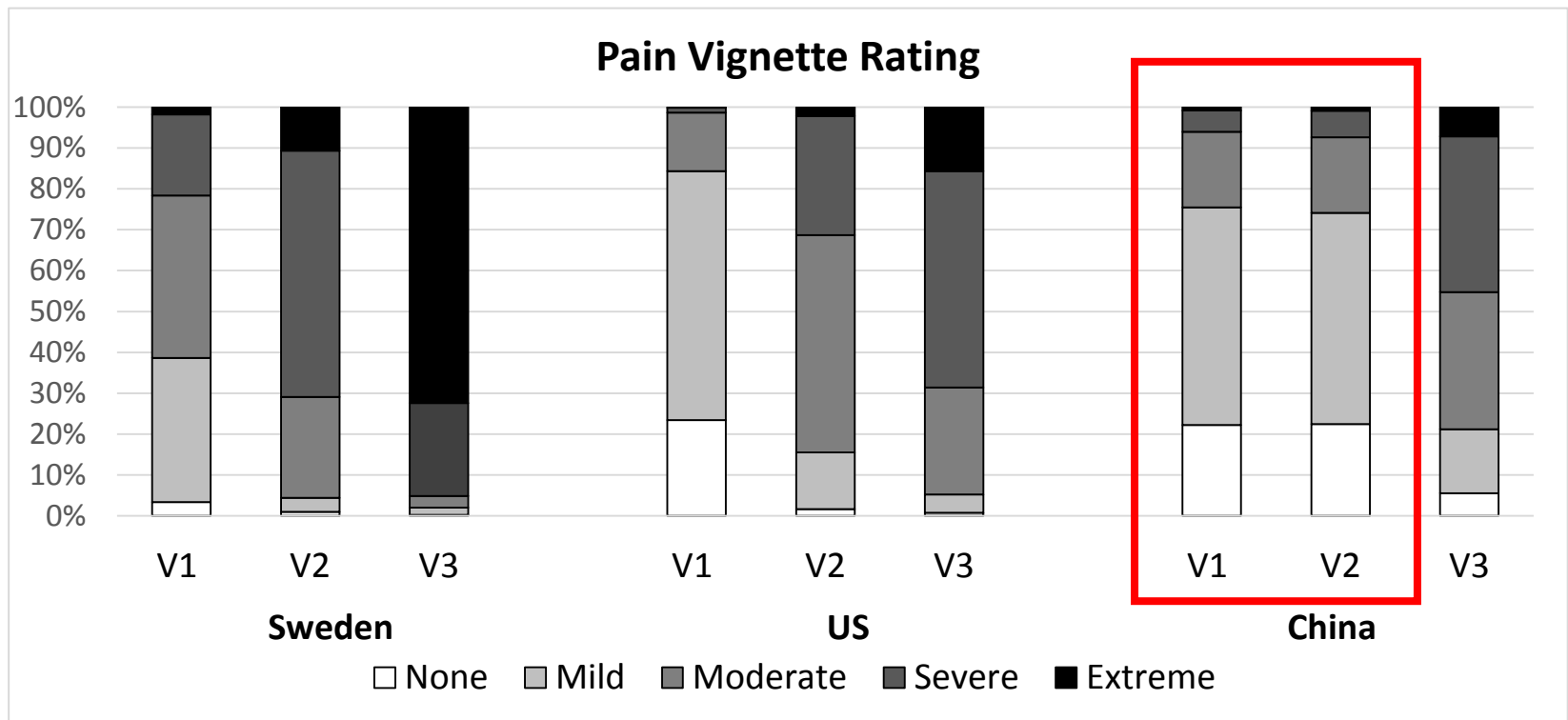
- **Multivariate comparisons:
Age, gender, educ adjustment**

	O Probit (wo vigs) Coeff.	HOPIT (w vigs) Coeff.
Sweden vs. China	0.02	-1.62***
US vs. China	0.34***	-0.43***

Is the problem solved?

Vignette Equivalence – 1

- Difficulty levels imposed in vignettes must be interpreted similarly across comparison groups
 - Tested through ranking of vignette items



Vignette Equivalence – 2

- Translation issues
 - Placement of “in the last 30 days” in CHARLS
 - V1: In the question
 - V2 & 3: In the vignette scenario
- Imposed concepts
 - V1: Headache
 - V2: Pain in arms
 - V3: Pain all over body

Translation Issues in CHARLS

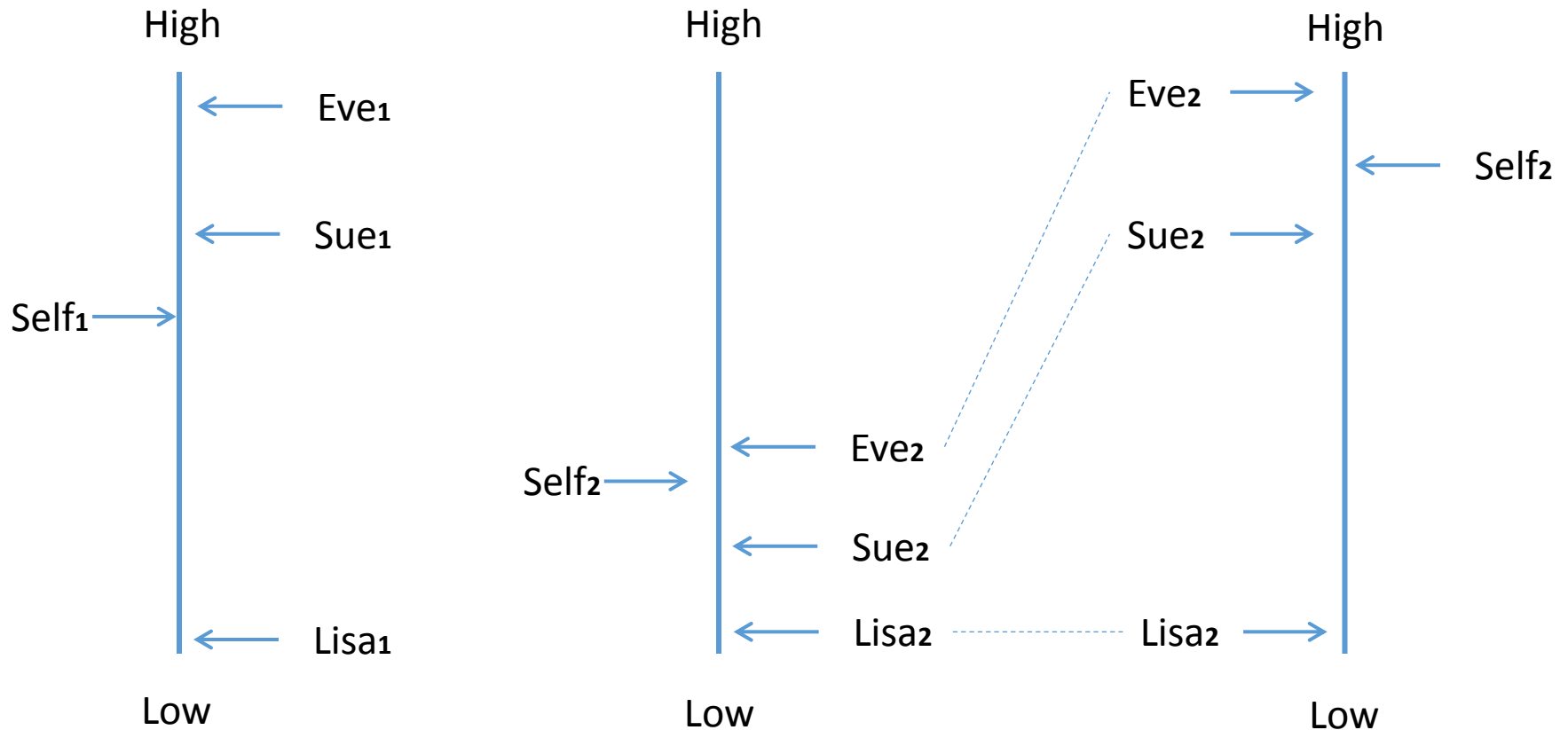
- Self-report: Overall, in the last 30 days, how much pain or bodily aches did you have?
- Vignette 1: Paul has a headache once a month that is relieved after taking a pill. During the headache he can carry on with his day-to-day affairs. Overall, **in the last 30 days**, how much of a problem did Paul have with bodily aches or pains?
- Vignette 2: **In the last 30 days**, Henry has pain that radiates down his right arm and wrist during his day at work. This is slightly relieved in the evenings when he is no longer working on his computer. Overall, ~~in the last 30 days~~, how much of bodily aches or pains did Henry have?
- Vignette 3: **In the last 30 days**, Charles has pain in his knees, elbows, wrists and fingers, and the pain is present almost all the time. Although medication helps, he feels uncomfortable when moving around, holding and lifting things. Overall, ~~in the last 30 days~~, how much of bodily aches or pains did Charles have?

Unexplored Dimensions & Future Research

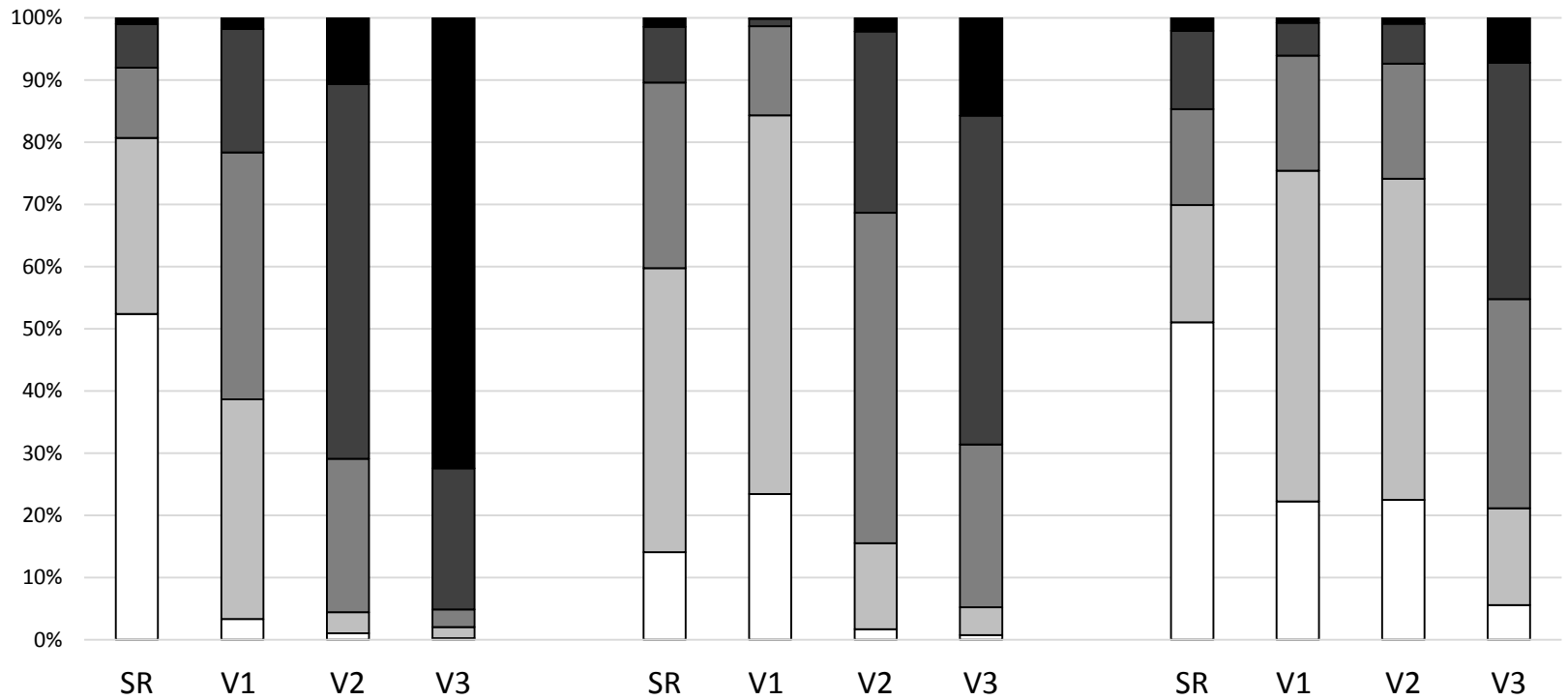
- Respondent burden
 - How is the vignette rating task viewed?
 - How do respondents process vignette vs. self-report items?
 - Response consistency assumption?
 - Item nonresponse
 - Response time
- Violation of assumptions
- Parametric analysis

Thank you!

Using Vignette Variables



Self-Reported and Vignette Pain Rating



None Mild Moderate Severe Extreme