



“What does not kill you makes you stronger”: Lay hardship beliefs impact judgments of climate vulnerability and resilience

Xuwen Hua & Adam R. Pearson
Columbia University, Pomona College
xh2637@gsb.columbia.edu



Introduction

Although popular lay beliefs like “what doesn’t kill you makes you stronger” could be empowering, past research suggests that they can bias harm perceptions, particularly for disadvantaged groups who tend to face more life difficulties [1, 2]. The current study examines hardship beliefs in the setting of climate hazards:

Hypothesis 1: The “hardship strengthens” (vs. weakens) lay belief would falsely decrease climate vulnerability and increase climate resilience perceptions.

Hypothesis 2: The effect of hardship beliefs would be stronger for disadvantaged communities (e.g., low-income, communities of color).

We found evidence supporting both hypotheses in three online survey experiments (N=1,395 US adults from CloudResearch Connect). Resilience judgements correlated with several policy and social justice outcomes.

Study Design

Study 1-2: 2x2 Between-Subject Factorial Design

Hardship belief manipulation

Fictitious climate-fueled flooding

Study 1-2:

Impacted Neighborhoods were described as primarily:

Subjects read scientific evidence and personal anecdote suggesting either **hardship strengthens** or **weakens** resilience [3]



Study 1:

Low-income or Middle-Upper income

Study 2:

Low-income Black or Low-Income White

Study 3 replicates the low-income condition in Study 1 with a third control hardship belief level.

Measures

Dimension	Individual Measure	Prompt	Response
Vulnerability	(Perception of) Harm Experienced	Physical (2-item)*	How much were the residents physically harmed?
		Psychological (5-item)	How much did the residents struggle psychologically?
Resilience	Recovery Capacity	Physical	Imagine that two months have passed since the flood. In your best estimate, to what extent have those affected been able to recover in the following ways? (Physically / Emotionally / Financially)
		Psychological	
	Future Resilience	Physical	People would be much less physically harmed by a similar flood in the future.
		Psychological	People would be much less emotionally harmed by a similar flood in the future.
	Speed of Recovery	People would recover much more quickly after a similar flood in the future.	

*One example item is shown for composite measures

Results (Part 1) : Hypothesis 1

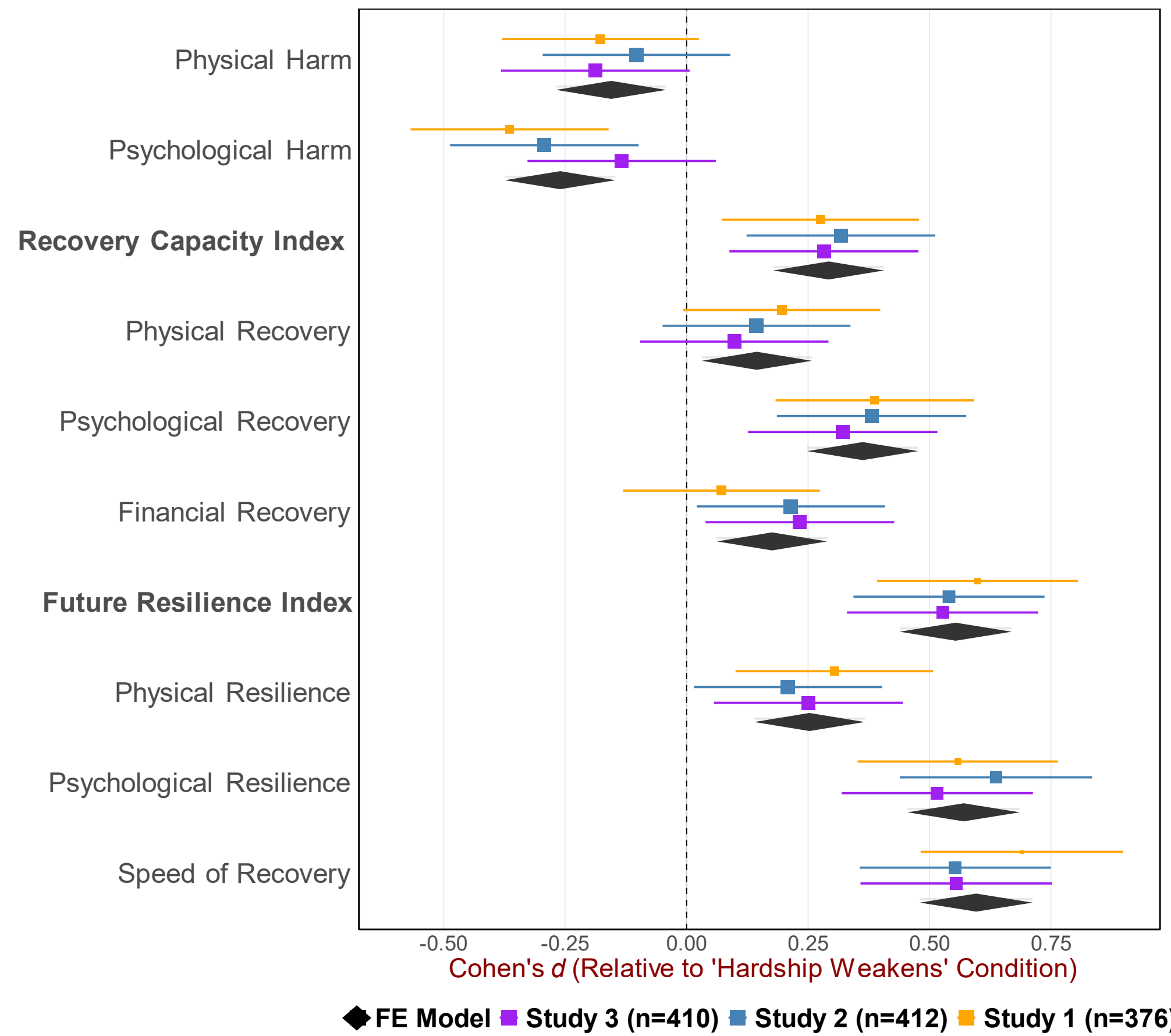


Fig 1. Fixed-effects meta-analysis results. DVs are on the y-axis. For Study 1-2, Cohen’s *d* compares marginal means between hardship belief conditions. Bolded indices represent the mean scores of individual measures listed below each index.

Results (Part 2): Hypothesis 2

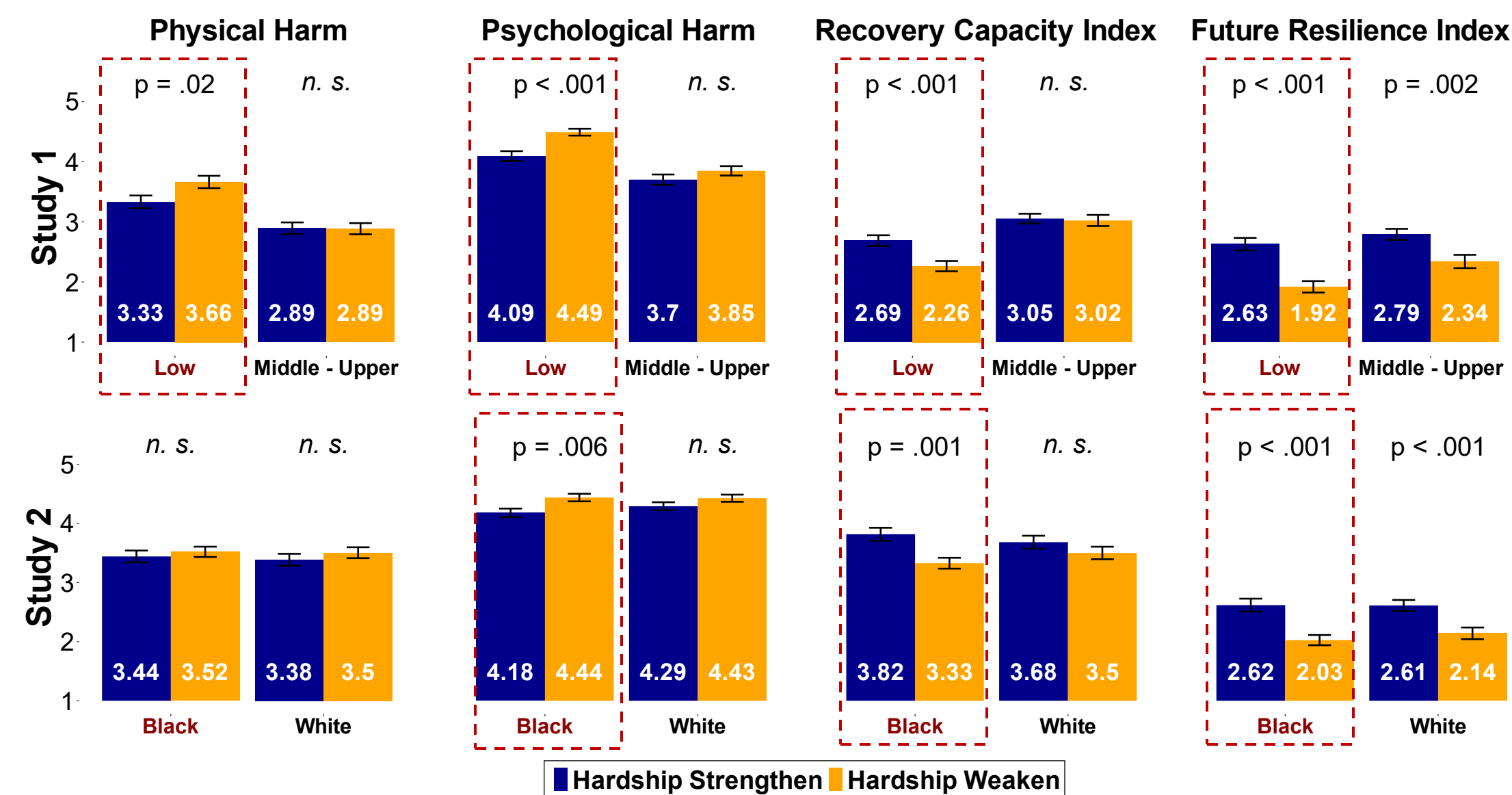


Fig 2. Contrasts in hardship belief levels based on community demographics (Study 1: low-income vs. middle-upper income; Study 2: low-income Black vs. low-income White). Hardship beliefs show a stronger effect among more disadvantaged communities, with only one exception.

Results (Part 3): Correlations w/ Justice & Policy Outcomes

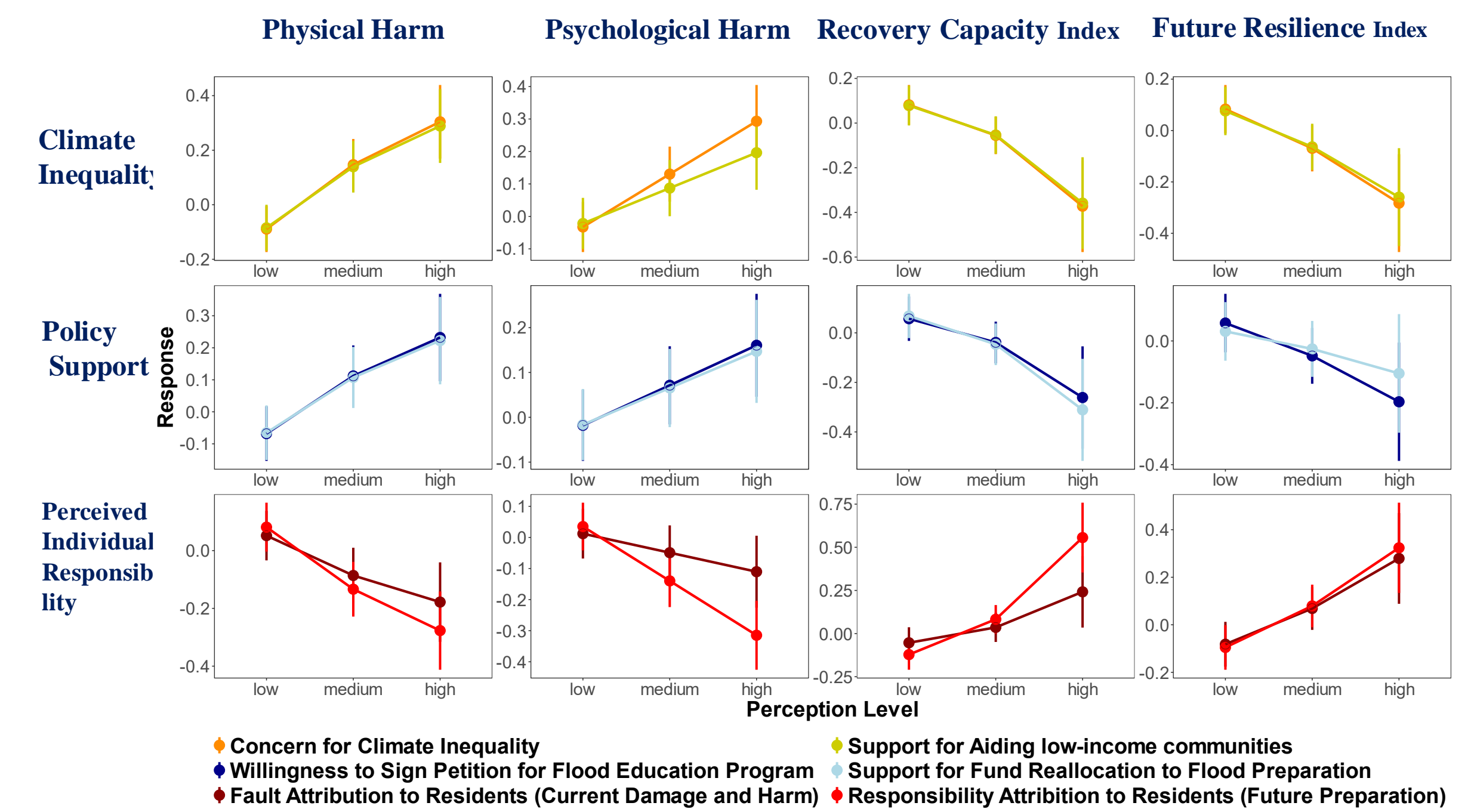


Fig 3. Linear models predicting social justice and policy outcome measures in Study 3, using individual vulnerability and resilience perception indices as predictors. Error bars represent 95% CIs. Perception levels are defined by the 33rd, 66th, and 99th percentiles, labeled as low, medium, and high, respectively.

Conclusion

Additional Findings:

- Study 3 found that subjects in a **control condition** expressed beliefs more similar to those in the “hardship strengthen” condition.
- Exploratory analysis found that when led believe that hardship confers resilience, higher-income subjects perceive **greater fault in residents affected by flooding for the harm and damage.**

Discussion:

Disadvantaged groups are **more vulnerable** to climate disasters due to limited access to resources, yet prevailing hardship beliefs such as “what doesn’t kill you makes you stronger” narrative can **obscure this social inequalities**. This may contribute to the widespread **failure among many Americans to recognize that climate change impacts “some groups more than others”** [3]. We advocate for mindful communication about developing climate resilience to prevent harmful **misconceptions** that vulnerable groups should “**always be resilient**” [4], which could potentially shift responsibility away from government action in preparing for climate hazards.

References

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