

The Positive Influence of Individual-level Disaster Preparedness on the Odds of Individual-level Pandemic Preparedness

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Background

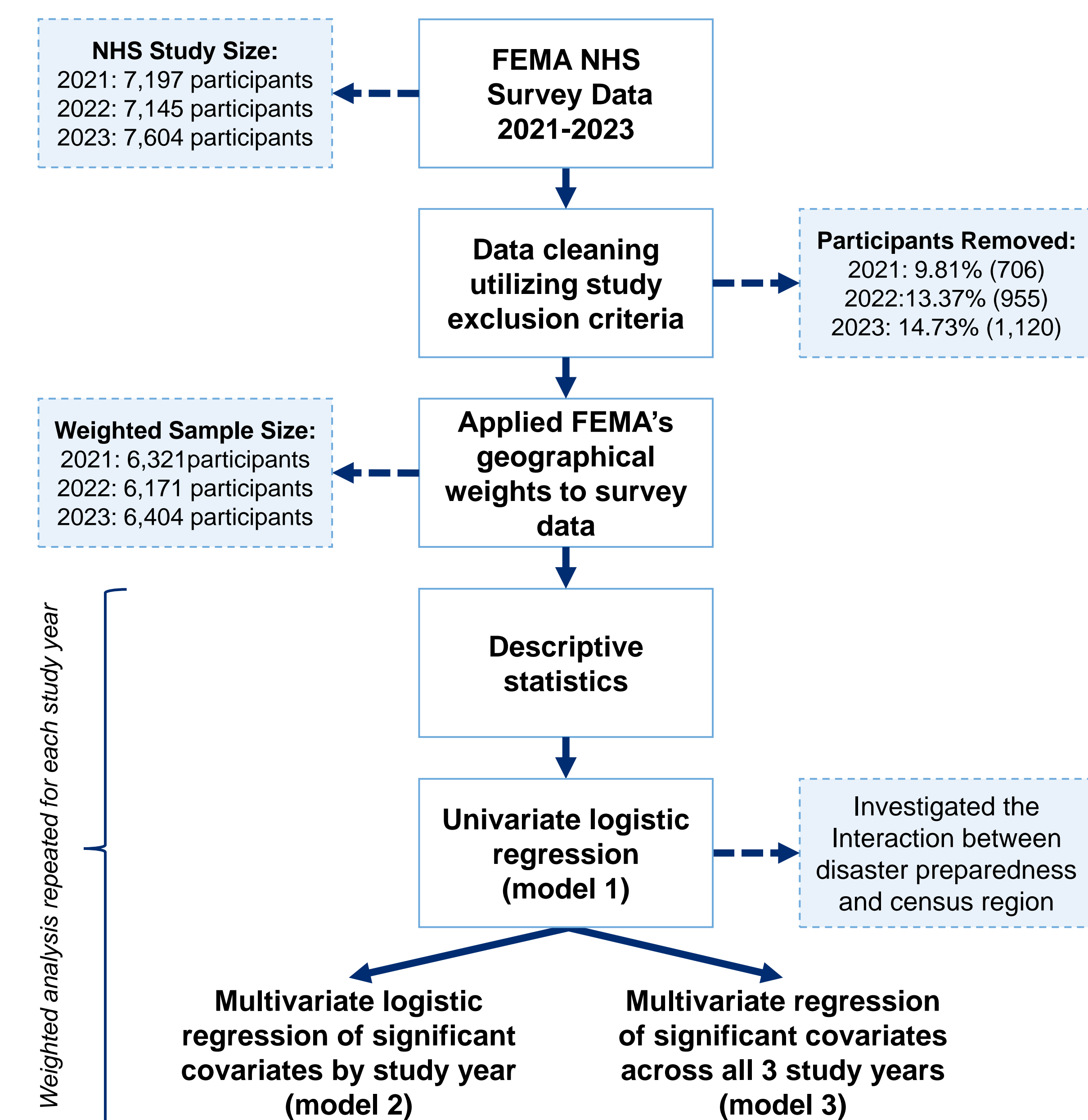
- Success of the individual-level disaster preparedness movement in the US has yet to transfer to pandemic preparedness largely due to resource constraints and limited understanding of predictors of personal pandemic preparedness.
- The **US Federal Emergency Management Agency (FEMA)** annually conducts the nationally representative **National Household Survey (NHS)** to collect and assess disaster preparedness behaviors among US adults.¹
- In the NHS, FEMA assesses the impact of **four “influencers” of disaster preparedness behavior**: awareness of disaster-related information, previous disaster experience, disaster-related self-efficacy, and disaster risk perception.
- Since **2021**, the NHS has included **pandemic preparedness-related questions**.
- Previous studies investigated the association between individual disaster and pandemic preparedness over a single study year.^{2,3}
- A need remains to study the **trajectory of predictors** of individual pandemic preparedness and its association with disaster preparedness **over several years**.

Objective

To explore the possible association and trends between **individual-level disaster preparedness status and the level of pandemic preparedness** among adults in the US from 2021 through 2023.



Methodology



Results

Figure 1. A visualization of key descriptive statistics related to the level of individual disaster and pandemic preparedness among FEMA's NHS Participants from 2021-2023.

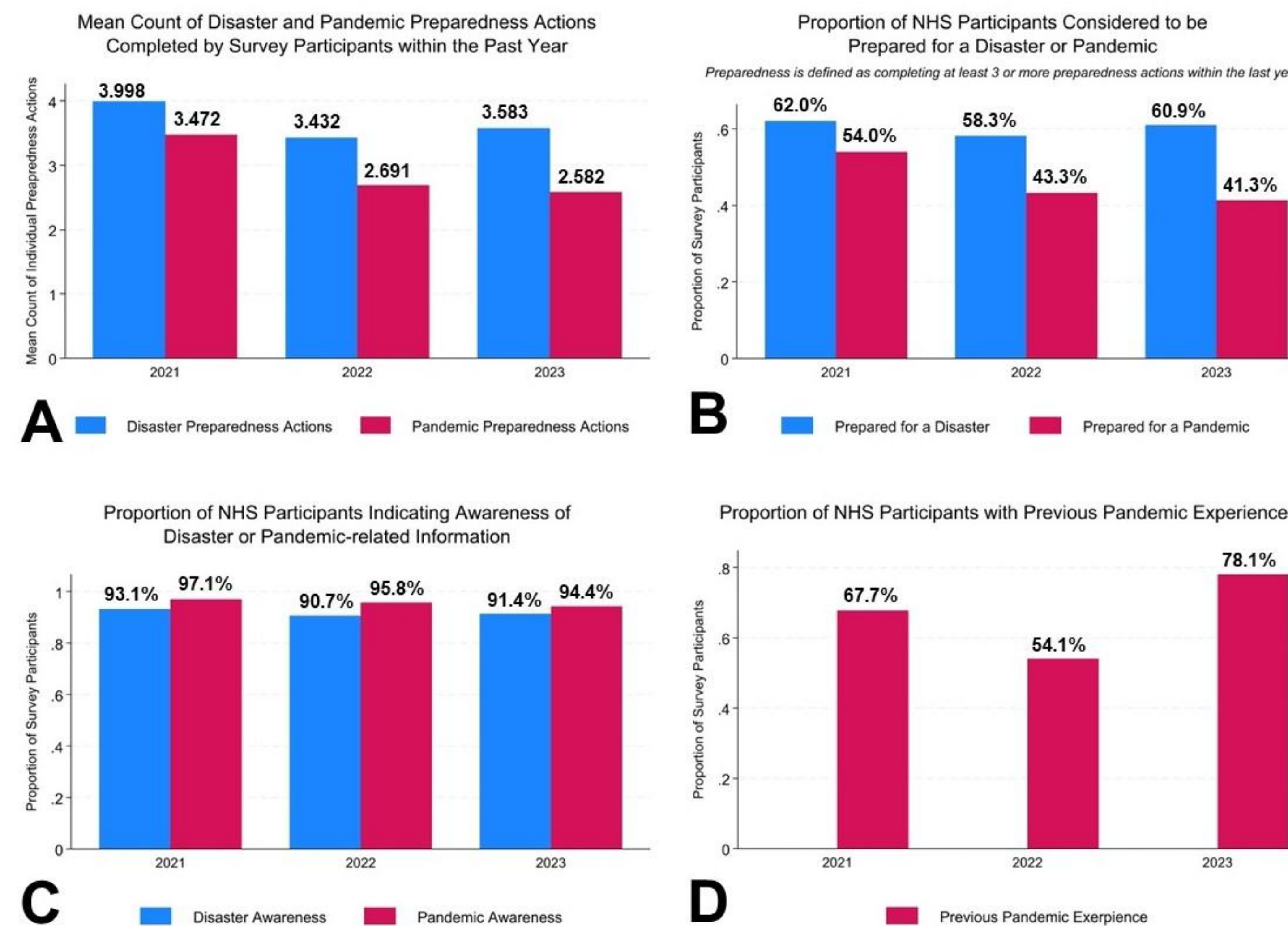
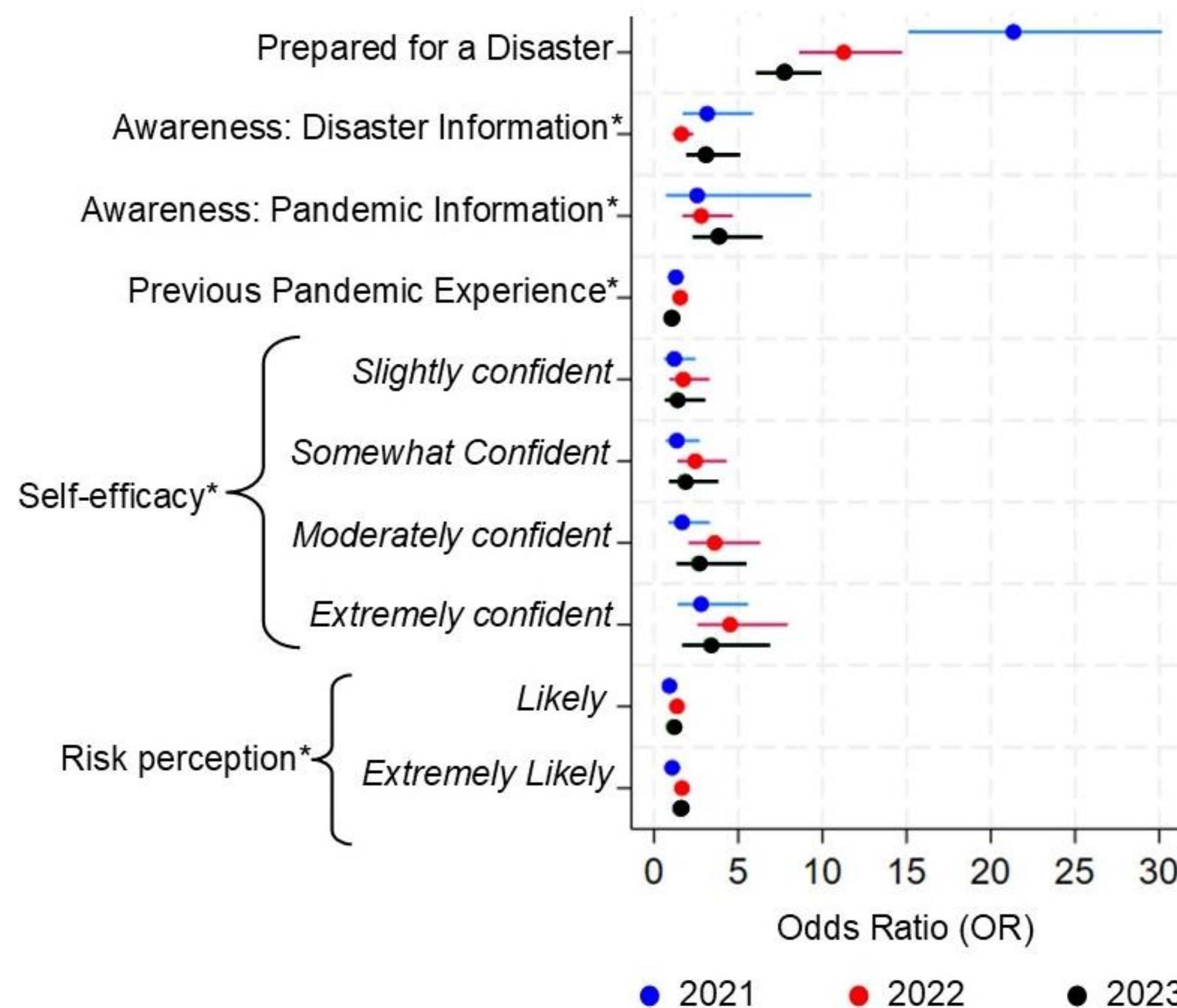


Figure 2. Key predictors of personal pandemic preparedness identified via weighted multivariate logistic regressions using covariates that were consistently significant for all three study years (model 3).

The Odds of an Individual Being Prepared for a Pandemic

Model 3 Results



*Denotes FEMA's four “influencers” of personal preparedness

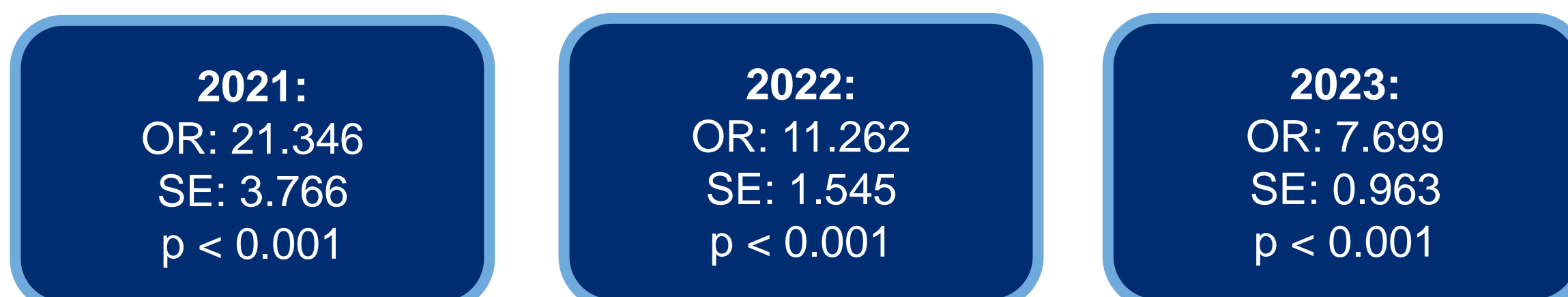
Figure 2 only contains key covariates from model 3. Additional covariates in model 3 include:

- Race, age, educational status, gender, and an interaction term between disaster preparedness and census region

Key Findings

- NHS participants considered to be prepared for a pandemic **peaked in 2021** and steadily decreased in 2022 and 2023.
- A **highly statistically significant relationship** ($p < 0.001$) exists between individual-disaster preparedness and the odds of an individual being prepared for a pandemic (models 1-3).
- All four of FEMA's “influencers”** of natural disaster preparedness were found to **have significant positive associations** with pandemic preparedness via univariate analysis (model 1).

Adults in the US who are prepared for a disaster have an increased odds of concurrently being prepared for a pandemic (model 3):



Discussion

Strengths

- Utilization of a **nationally representative study**.
- Analysis accounts for several confounders influencing individual preparedness.
- Results demonstrate the **synergistic influence of individual-level disaster and pandemic preparedness behaviors**, which can be harnessed to indirectly bolster community resilience.

Limitations

- Analysis is limited to the **data included in the NHS**.
- Survey participants provided with the same list of preparedness actions to assess both disaster and pandemic preparedness, which **assumes there is no variance in preparedness needs**.
- The analysis **assumes individuals are prepared** for a disaster or a pandemic following the **completion of three preparedness activities**, which might not be the case in each scenario.

Conclusions

- There is a **need to increase individual-level pandemic preparedness** through widely accessible resources and educational campaigns made available **in advance of the next pandemic**.
- Results **support enhanced future collaboration** between public health and emergency management entities to increase individual-level preparedness regardless of the event type as **an increase in individual-level preparedness actions for one field encourages preparedness for the other**.
- The **investment** in individual pandemic and disaster preparedness resources and programs can contribute to a **rise in overall community preparedness**.

References

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Let's Connect!



Threshold for Preparedness Status³⁻⁶

