The Effects of Experiencing Disaster on Support for Disaster Risk Reduction Policies in Latin America and the Caribbean

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Project Research Team

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The Project

- Identifies factors shaping public support for disaster risk reduction (DRR) policies & their enforcement
    - Individual & collective; subjective & objective
    - Change over time, esp if experiencing disaster

- Applies concepts (from Public Admin.) of "focusing events" & "windows of opportunity" (Kingdon 1984; Birkland 1997) for changes in policy and enforcement—especially the role of mass public opinion in the "politics of policy"

- Collects and analyzes public opinion data on DRR from 16 Latin American and Caribbean (LAC) countries, plus the United States (on the AmericasBarometer 2021 survey)

The Project

We study the effects of 3 sets of factors on support for DRR:

1. Governance (trust in government; perceptions of effectiveness / integrity in DRR; personal experience with corruption; national levels of corruption)
2. Disaster risk (perception of likelihood, severity, and type of hazard events; perception of risk as individual or general; national and local hazard risk profiles)
3. "Experience" with disasters (as individual/family, community, or nation)
   - Pilot studies: in the aggregate, support for DRR spiked after major hazard events then +/- returned to baselines over period of months.
   - The 2021 AmericasBarometer will serve as baseline for analyzing the impact of the *next* major hazard event in LAC.

Effects of Experiencing Disaster on Support for DRR Policies in Latin America & the Caribbean

Hypotheses

H1: Experiencing a major hazard event in the past increases one's support for DRR policies.

H2: The more harm a person or their family experienced from a major hazard event, the greater their support for DRR policies.

H3: The more recent a person's experience of a major hazard event, the greater their support for DRR policies.

Data:
The 2021 AmericasBarometer (AB)

- AB surveys 2004-2021: 310K+ interviews in 34 countries
- Made possible via support from USAID, NSF, IDB, Vanderbilt U. and partners across the region.

2021 AB survey wave:
- National mobile phone surveys, random-digit dial, live. (Previous waves conducted faced-to-face.)
- Nationally representative sample of voting age adults. (Previous waves representative at district/region.)
- Sample size ~3,000 per country; 22 countries (17 w/DRR)
- DRR module assigned to a random split, n= ~1,500.
- Weights for 2021 AB based on 2018-9 AB.

Dependent Variable

"The government should spend more money to enforce building codes/norms/regulations to make homes safer from natural disasters, even if it means spending less on other programs."
How much do you agree or disagree with this statement? [Read alternatives]
(1) Strongly agree
(2) Somewhat agree
(3) Neither agree nor disagree
(4) Somewhat disagree
(5) Strongly disagree

Support for DRR Policies
Weighted %
(AmericasBarometer 2021; n=23,361)

Strongly disagree 7%
Somewhat disagree 11%
Neither agree nor disagree 11%
Strongly agree 35%
Somewhat agree 35%
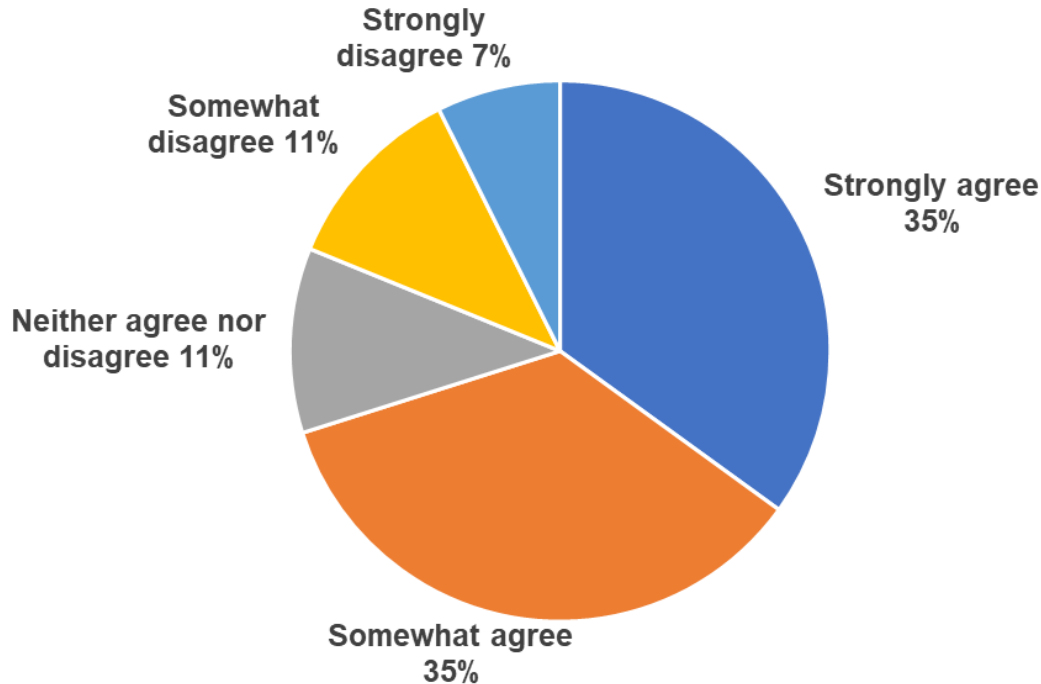
Support for DRR Policies, by Country
Weighted % "Strongly agree" or "Somewhat agree"
(AmericasBarometer 2021)
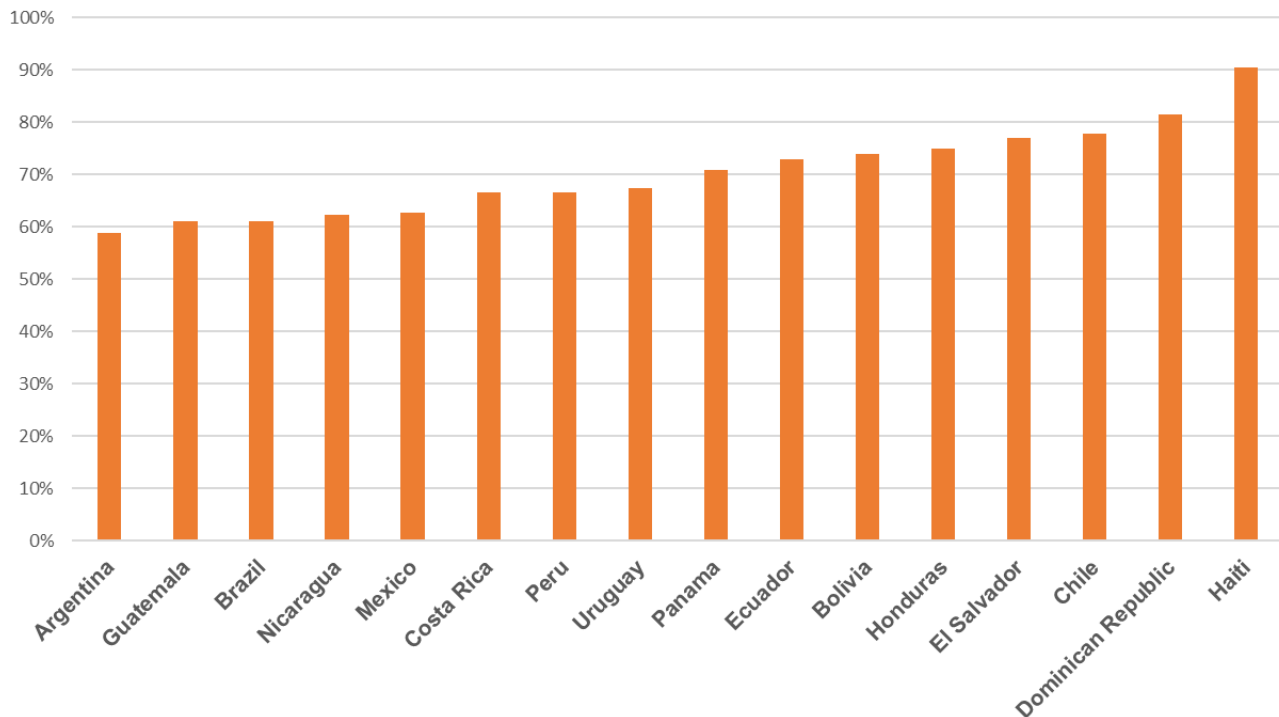
Independent Variable

Have you or someone in your immediate family ever been affected by a natural disaster such as floods, earthquakes, or hurricanes/landslides/tornados/storms resulting in injury, death, or damage to the home or other property here in [country]?
(1) Yes
(2) No

Experience of Disaster
Weighted % responding "Yes"
(AmericasBarometer 2021; n=23,904)

Yes
38%

No
62%
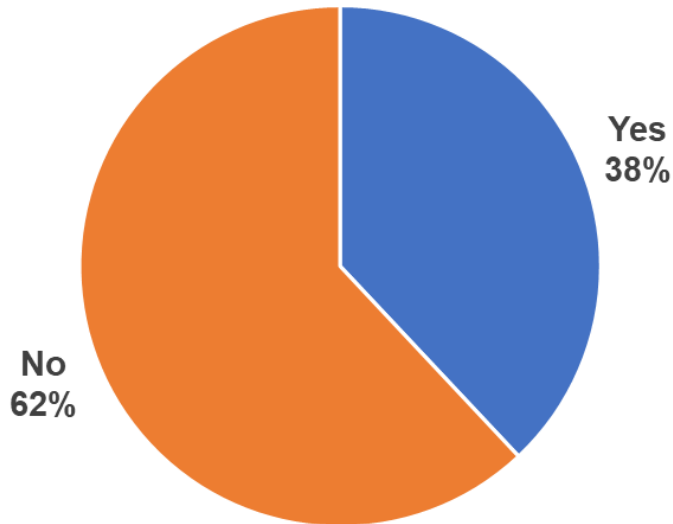
Experience of Disaster, by Country

Weighted % responding "Yes"
(AmericasBarometer 2021)
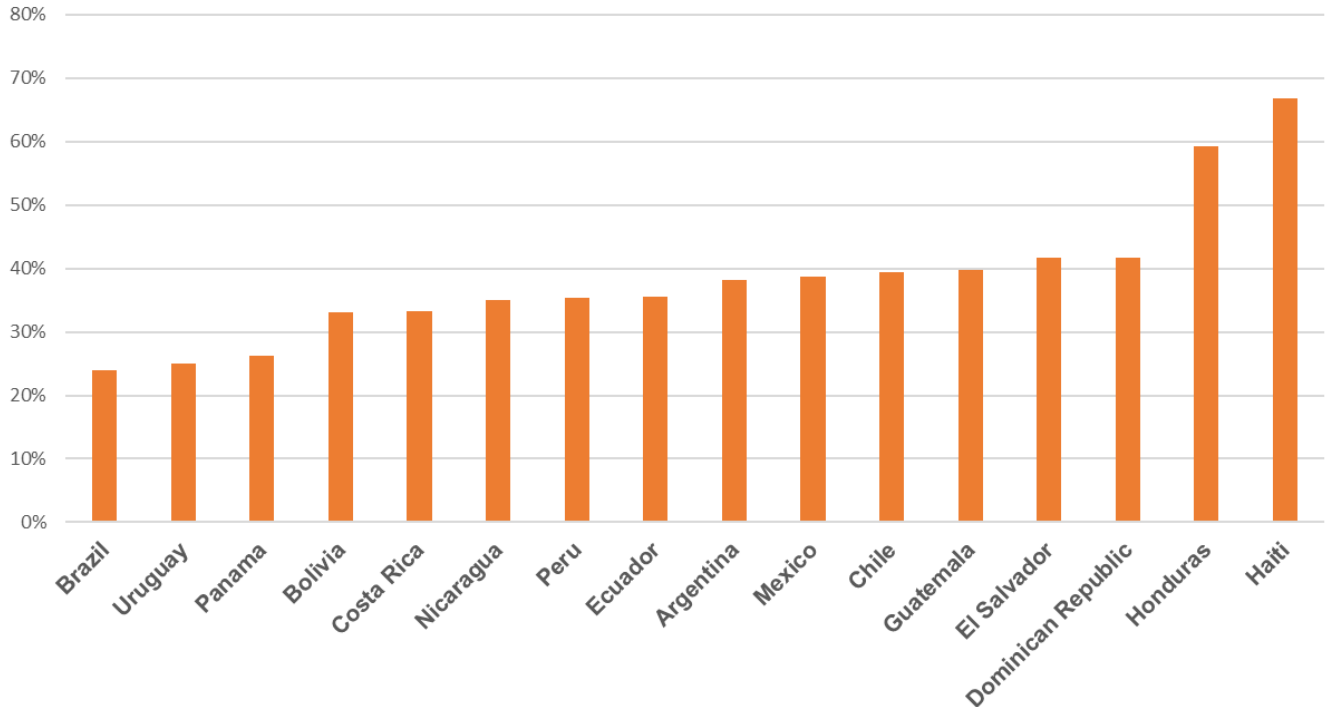
Independent Variable

And in what year did this natural disaster occur? [If the respondent has experienced more than one disaster, ask for the most recent one. If they don't remember, ask for an estimate.]

Experience of Disaster, by Year
Most recent. Only 1960-2021 displayed here.
(AmericasBarometer 2021; n=7,463)
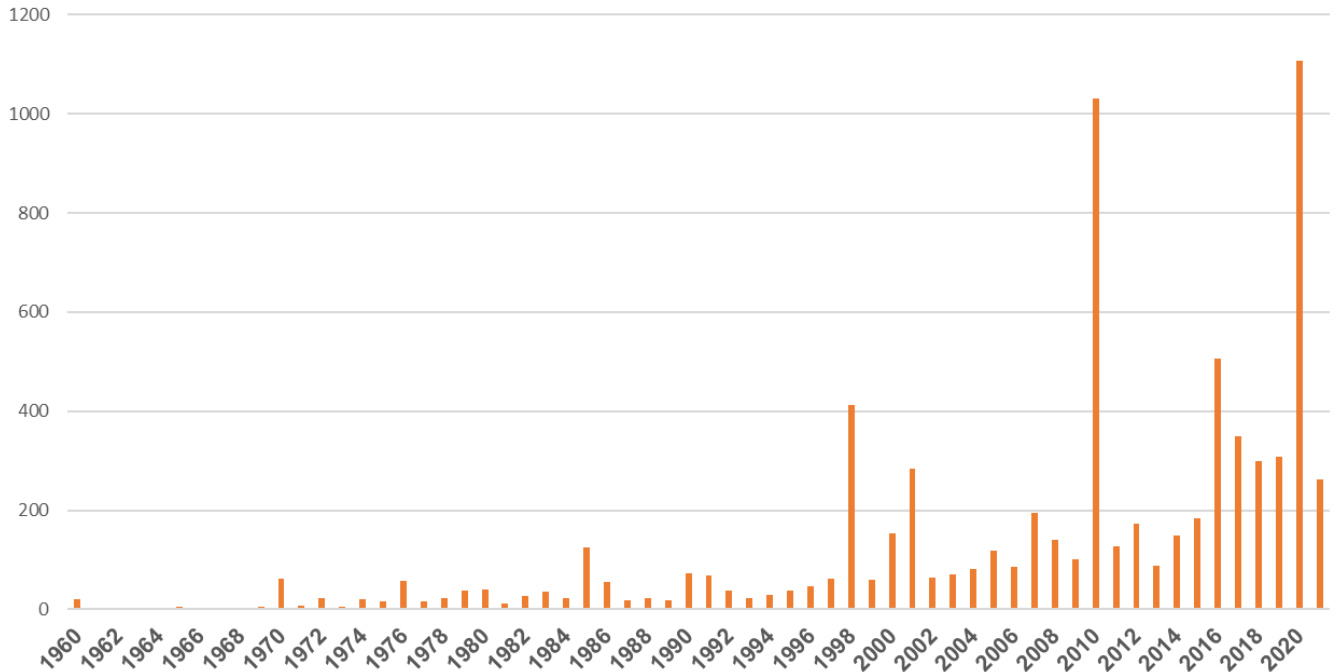
Independent Variable

And how affected, physically or materially, were you or members of your family as a result of this disaster? [Read alternatives]
(1) A lot
(2) Some
(3) A little
(4) Not at all

Impact of Disaster on Self / Family
(AmericasBarometer 2021; n=8,807)

Not at all 4%
A little 20%
A lot 53%
Some 23%
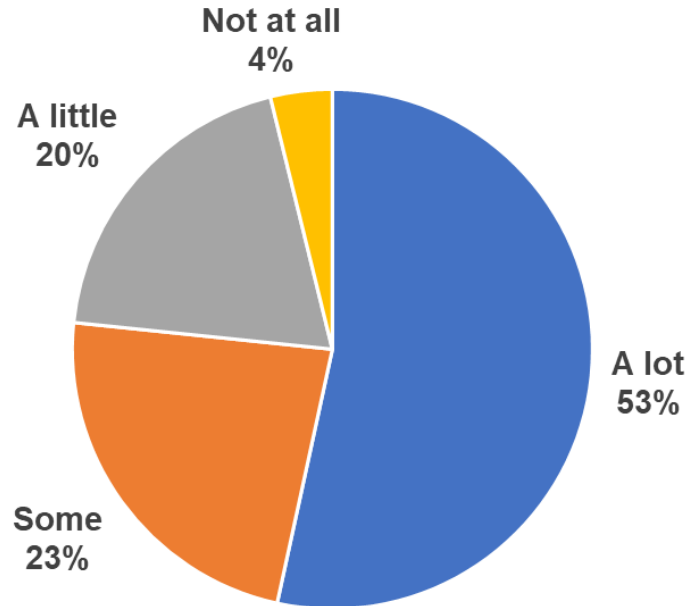
Control Variables

- Age
- Gender
- Ethnicity (self-identified)
- Poverty (food insecurity)
- Education level
- Community type (rural to urban)
- Trust in other people
- Trust in municipal government
- Change in economic situation (self), past 12 months
- Perceived risk (to the country) of disaster w/in next 10 yrs
- Perceived risk (to self / family) of disaster w/in next 10 yrs

DRR Support, Regressed on Exper. of Disaster

	Linear Regression	Logit	
Age	0.00	0.01	***
Gender (F)	0.01 *	0.00	
Mestizo	0.00	0.07	
Indigenous	-0.04 ***	-0.16	*
Black	0.09 ***	0.58	***
Mulato	-0.03 **	-0.16	*
Other	0.01	0.09	
Poverty	0.01 **	0.11	**
Education	-0.08 ***	-0.54	***
Community (more urban)	-0.02 ***	-0.16	***
Trust people	0.05 ***	0.32	***
Trust municip. govt.	0.09 ***	0.60	***
Econ situation (self)	0.01 ***	0.08	***
Risk percep (country)	0.01	0.07	
Risk percep (self/fam)	0.01	0.04	
Experienced disaster	**0.02 *** **	**0.11**	****

*p<.1   **p<.05   ***p<.01

DRR Support, Regressed on Exper. of Disaster
(w/ country dummy variables)

	Linear Regression	Logit	
Age	0.00	0.00	***
Gender (F)	0.01 **	0.01	
Mestizo	0.00	-0.02	
Indigenous	-0.03 *	-0.14	
Black	0.01	0.02	
Mulato	-0.03 *	-0.18 *	
Other	0.01	0.10	
Poverty	0.01	0.06	
Education	-0.09 ***	-0.70 ***	
Community (how urban)	-0.01	-0.09 *	
Trust people	0.05 ***	0.36 ***	
Trust municip. govt.	0.09 ***	0.60 ***	
Econ situation (self)	0.01 ***	0.09 ***	
Risk percep (country)	0.00	0.06	
Risk percep (self/fam)	0.01	0.04	
Experienced disaster	**0.01**	**0.06**	

*p<.1   **p<.05   ***p<.01

DRR Support, Regressed on Exper. of Disaster
(w/ country dummy variables)

Mexico	0.01	0.16
Guatemala	-0.01	0.02
El Salvador	0.14 ***	0.69 ***
Honduras	0.11 ***	0.62 ***
Nicaragua	0.03 *	0.11
Costa Rica	0.00	0.00
Panama	0.09 ***	0.59 ***
Ecuador	0.09 ***	0.65 **
Bolivia	0.09 ***	0.82 ***
Peru	0.04	0.40 **
Chile	0.15 ***	0.96 ***
Uruguay	0.05 ***	0.23 **
Brazil	0.04 **	0.22 *
Dominican Repub.	0.17 ***	1.13 ***
Haiti	0.28 ***	2.58 ***

*p<.1   **p<.05   ***p<.01

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DRR Support, Regressed on Severity of Impact

	Linear Regression		Logit		
Age	0.00		0.00		
Gender (F)	0.01		-0.06		
Mestizo	0.00		0.03		
Indigenous	-0.05	***	-0.17		
Black	0.11	***	0.72	***	
Mulato	-0.01		-0.06		
Other	0.02		0.29	**	
Poverty	0.01		0.04		
Education	-0.09	***	-0.70	***	
Community (more urban)	-0.01		-0.07		
Trust people	0.06	***	0.32	***	
Trust municip. govt.	0.11	***	0.69	***	
Econ situation (self)	0.01		0.06		
Risk percep (country)	0.00		-0.07		
Risk percep (self/fam)	0.02		0.07		
Severity of harm/effects	**0.04**	**	**0.19**	*	

*p<.1   **p<.05   ***p<.01

DRR Support, Regressed on Severity of Impact
(w/ country dummy variables)

	Linear Regression	Logit	
Age	0.00	0.00	
Gender (F)	0.01	-0.03	
Mestizo	0.00	-0.01	
Indigenous	-0.03	-0.11	
Black	0.00	-0.11	
Mulato	-0.02	-0.14	
Other	0.03	0.35 **	
Poverty	0.00	0.01	
Education	-0.11 ***	-0.88 ***	
Community (more urban)	0.00	-0.02	
Trust people	0.06 ***	0.36 ***	
Trust municip. govt.	0.11 ***	0.72 ***	
Econ situation (self)	0.01	0.09 *	
Risk percep (country)	0.00	-0.03	
Risk percep (self/fam)	0.02	0.08	
Severity of harm/effects	**0.03 ***	**0.16**	

*p<.1   **p<.05   ***p<.01

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DRR Support, Regressed on Severity of Impact
(w/ country dummy variables)

Mexico	-0.02	0.02
Guatemala	-0.04	-0.16
El Salvador	0.11 ***	0.57 ***
Honduras	0.08 ***	0.55 ***
Nicaragua	0.00	-0.01
Costa Rica	0.00	0.00
Panama	0.05	0.35 *
Ecuador	0.04 *	0.28
Bolivia	0.09 ***	0.92 ***
Peru	0.05	0.46
Chile	0.12 ***	0.86 ***
Uruguay	0.03	0.06
Brazil	0.01	0.17
Dominican Repub.	0.14 ***	0.99 ***
Haiti	0.27 ***	2.59 ***

*p<.1   **p<.05   ***p<.01

DRR Support, Regressed on Yrs of/since Disaster

- Recency of hazard event was never a significant predictor of support for DRR policies in any of our models, regardless of how time was operationalized (number of years passed; since 2020 vs. earlier; since 2010 vs. earlier; etc.)

- This survey (Phase I of the project) may not be capturing the shorter-term effects—months, not years--that our pilot studies revealed.

- Phase II of the project will further improve our understanding of the temporality of this phenomenon.

Discussion

- Effect of experiencing disaster, previously seen in the aggregate, here found at individual level.
- However: indirect evidence (here, and prior) that effect is sociotropic rather than egotropic.
- "Experiencing" a disaster, for the purposes of understanding political culture and political behavior, may take many forms.

Discussion

Control variables relevant to broader research questions posed by this project:

- Trust—both interpersonal and institutional—seems to matter: incr support for DRR policy.
- Perception of future risk—to country or to self/family—does <u>not</u> seem to matter. (Prior research suggests that effects may be indirect; need to expore more complex causality.)

Findings / Conclusions

H1: Experiencing a major hazard event in the past increases one's support for DRR policies. **PARTIALLY SUPPORTED**

H2: The more harm a person or their family experienced from a major hazard event, the greater their support for DRR policies. **PARTIALLY SUPPORTED**

H3: The more recent a person's experience of a major hazard event, the greater their support for DRR policies.
NOT SUPPORTED

Next Steps

1. Multilevel modeling, to better understand country-level effects on support for DRR
2. Phase II (post-event) data collection, to more accurately measure / model any temporal effects of experiencing disaster
3. Unpack concept of "experiencing" disaster
4. Effects of / possible interactions with the project's other key variables of interest (political trust; perceptions of risk)

To keep up with the work of this project:
- **https://eei.fiu.edu/research/rise/**

To contact or collaborate with our research group:
- **levittb@fiu.edu**

To work with this data (or other AB data):
- **https://www.vanderbilt.edu/lapop/raw-data.php**
- **https://www.vanderbilt.edu/lapop/interactive-data.php**

Thank You!