

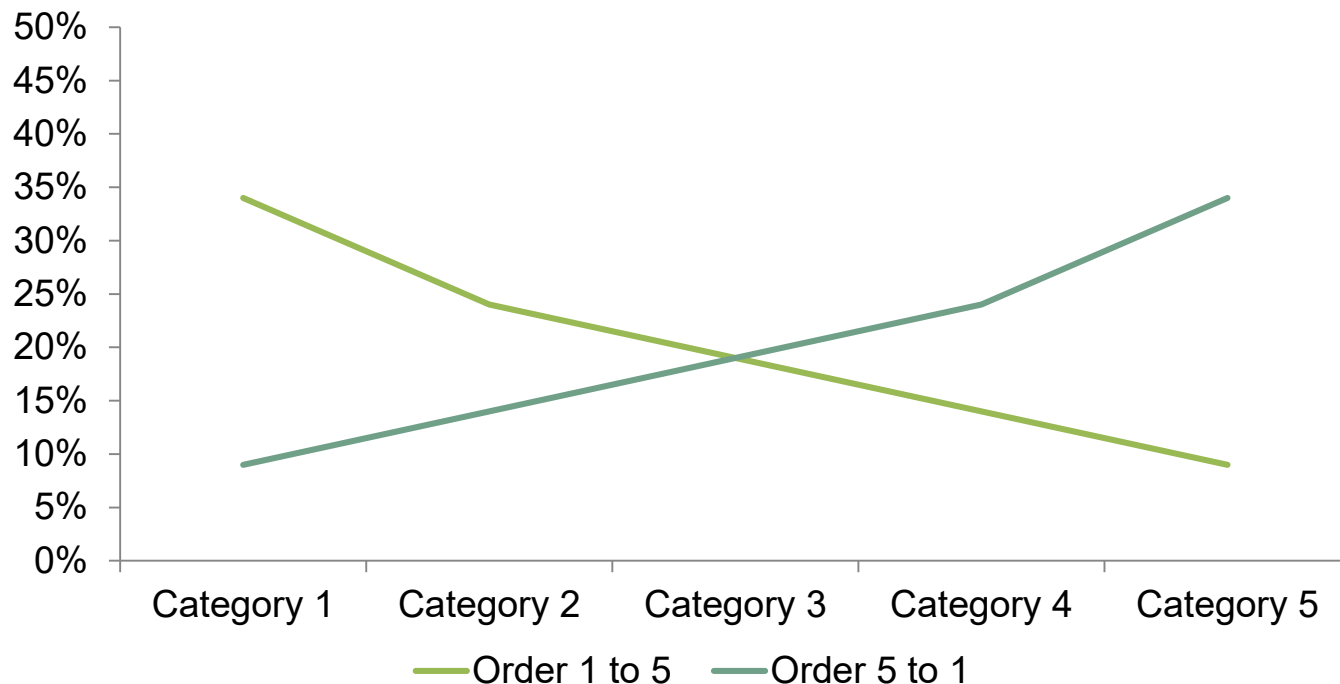


# Comparing Scale Direction Effects among Hispanics vs Non-Hispanic Respondents

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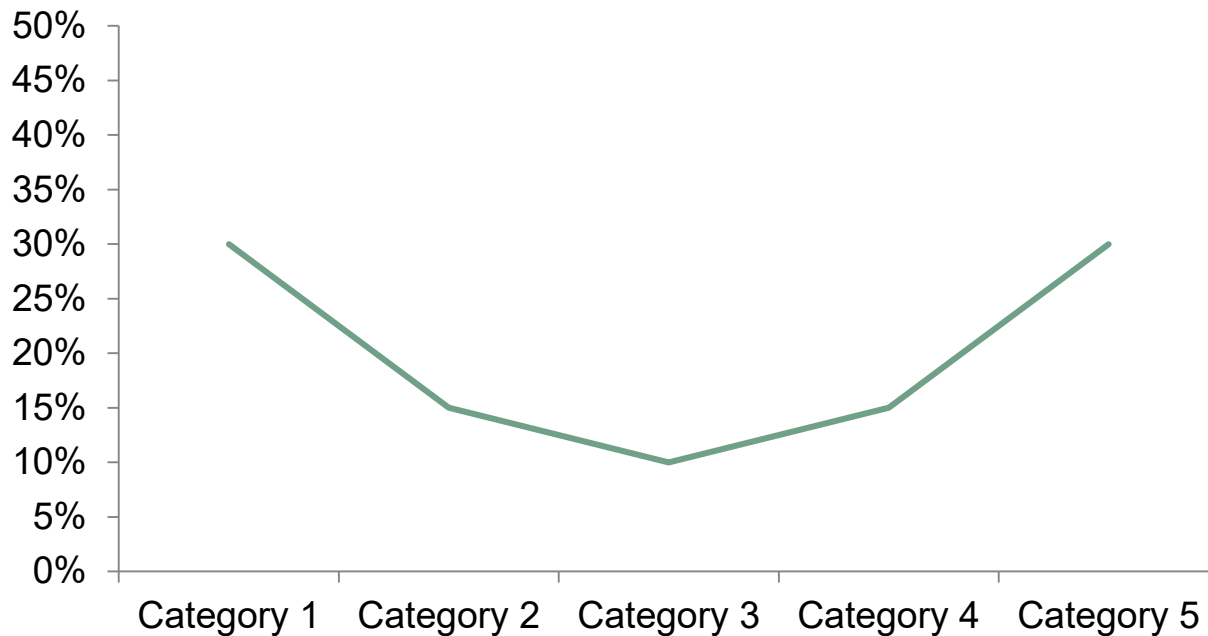
# Scale direction effects

- Responses concentrate on scale points closer to the beginning of a response scale (Yan and Keusch, 2015)



# Hispanics vs. Non-Hispanics

- Response style (Van Vaerenbergh and Thomas, 2013)
  - Acquiescence (ARS)
  - Extreme Response Style (ERS)



# Research questions

- How does scale direction affect Hispanics?
  - Scale direction effects or ERS?
- Does scale direction affect Hispanics and Non-Hispanics in the same way?
  - In univariate distributions?
  - In equivalence of factor structure?

# Data

- 2012 American National Election Study (ANES) Post-Election Survey
  - Face-to-face
  - Web
- An experiment randomizing scale order on two sets of items
  - Electoral integrity (5 items)
    - ✦ very often, fairly often, not often, not at all often
    - ✦ not at all often, not often, fairly often, very often
  - Egalitarianism (6 items)
    - ✦ agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly
    - ✦ disagree strongly, disagree somewhat, neither agree nor disagree, agree somewhat, or agree strongly

# Electoral Integrity

# Electoral Integrity

- In your view, how often do the following things occur in this country's elections?
  - Votes are counted fairly.
  - Journalists provide fair coverage of elections.
  - Election officials are fair.
  - Rich people buy elections.
  - Voters are offered a genuine choice at the ballot box.

# Univariate Distributions

	% "Very often"	
	Descending	Ascending
<i>countfair</i>		
Hispanics	30.0%	26.0%
Non-Hispanics	34.4%	32.1%
<i>jrnlfair</i>		
Hispanics	13.8%	14.3%
Non-Hispanics	9.0%	8.9%
<i>elecoffair</i>		
Hispanics	20.0%	15.8%
Non-Hispanics	22.0%	20.1%
<i>richbuy</i>		
Hispanics	21.4%	22.0%
Non-Hispanics	26.4%	23.8%
<i>votehc</i>		
Hispanics	27.8%	23.4%
Non-Hispanics	26.9%	25.5%



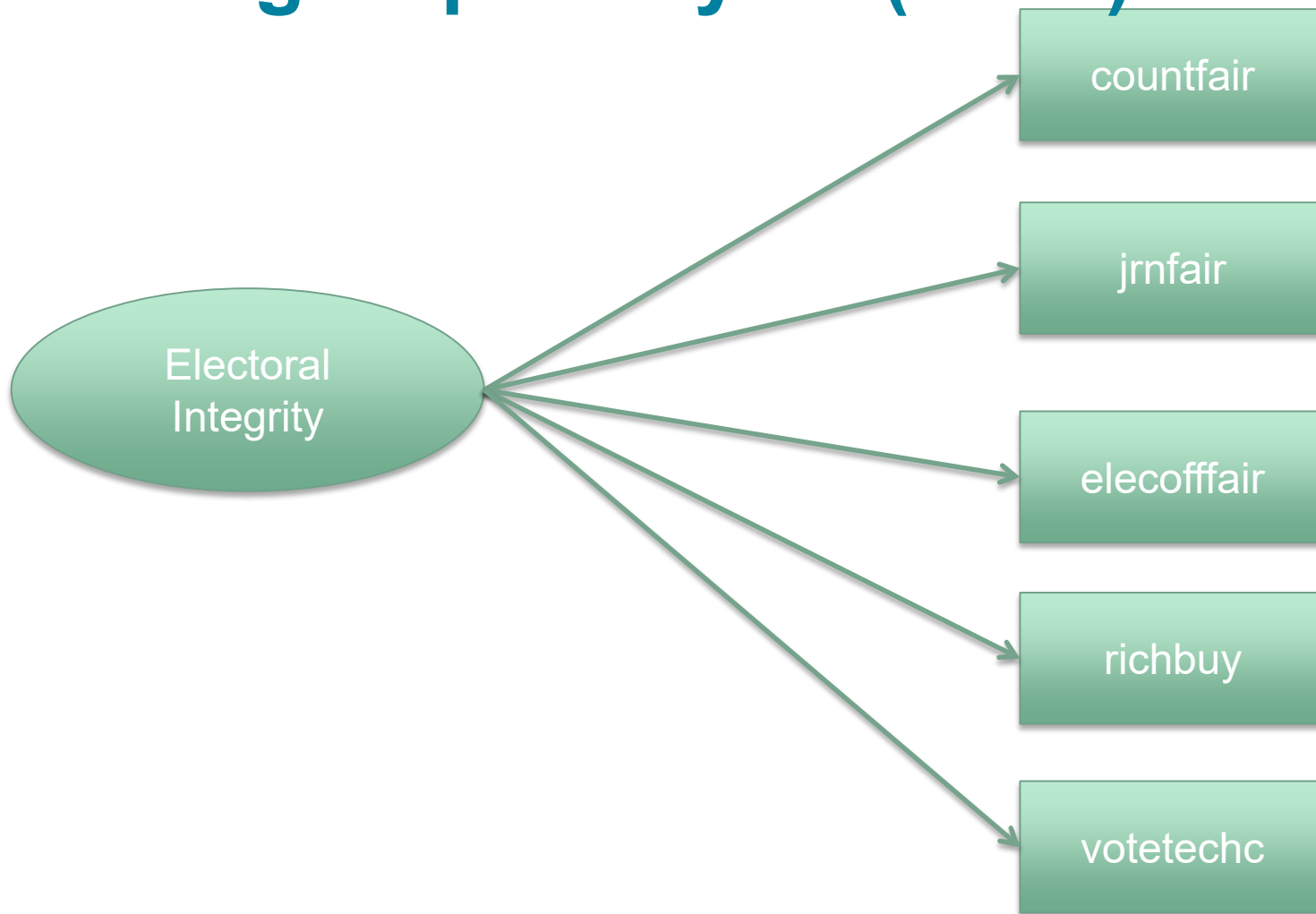
# Univariate Distributions

	% "Very often"		% "Not at all often"	
	Descending	Ascending	Descending	Ascending
<i>countfair</i>				
Hispanics	30.0%	26.0%	6.3%	5.3%
Non-Hispanics	34.4%	32.1%	4.6%	5.5%
<i>jrnlfair</i>				
Hispanics	13.8%	14.3%	12.4%	11.3%
Non-Hispanics	9.0%	8.9%	17.1%	18.6%
<i>elecoffair</i>				
Hispanics	20.0%	15.8%	8.0%	6.1%
Non-Hispanics	22.0%	20.1%	5.7%	5.5%
<i>richbuy</i>				
Hispanics	21.4%	22.0%	8.0%	8.7%
Non-Hispanics	26.4%	23.8%	7.4%	7.2%
<i>votehc</i>				
Hispanics	27.8%	23.4%	4.4%	5.3%
Non-Hispanics	26.9%	25.5%	5.8%	6.7%

# Univariate Distributions

	% "Very often"		% "Not at all often"		%ERS	
	Descending	Ascending	Descending	Ascending	Descending	Ascending
<i>countfair</i>						
Hispanics	30.0%	26.0%	6.3%	5.3%	36.3%	31.3%
Non-Hispanics	34.4%	32.1%	4.6%	5.5%	39.0%	37.6%
<i>jrnlfair</i>						
Hispanics	13.8%	14.3%	12.4%	11.3%	26.2%	25.6%
Non-Hispanics	9.0%	8.9%	17.1%	18.6%	26.1%	27.5%
<i>elecoffair</i>						
Hispanics	20.0%	15.8%	8.0%	6.1%	28.0%	21.9%
Non-Hispanics	22.0%	20.1%	5.7%	5.5%	27.7%	25.6%
<i>richbuy</i>						
Hispanics	21.4%	22.0%	8.0%	8.7%	29.4%	30.7%
Non-Hispanics	26.4%	23.8%	7.4%	7.2%	33.8%	31.0%
<i>votehc</i>						
Hispanics	27.8%	23.4%	4.4%	5.3%	32.2%	28.7%
Non-Hispanics	26.9%	25.5%	5.8%	6.7%	32.7%	32.2%

# Multi-group Analysis (MGA)



# MGA Results

	$\chi^2$	DF	p-value	RMSEA	CFI	SB scaled $\chi^2$ difference test	Model Comparison p-value
Hispanics							
Configural Model	24.6	10	0.01	0.057	0.958		
Metric invariance	28.5	14	0.01	0.048	0.958	4.44	0.035
Scalar invariance	33.1	19	0.02	0.040	0.960	3.92	0.048
Non-Hispanics							
Configural Model	189.1	10	<0.0001	0.089	0.922		
Metric invariance	193.7	14	<0.0001	0.075	0.922	4.02	0.045
Scalar invariance	210.5	19	<0.0001	0.067	0.917	11.03	0.001

# Egalitarianism

# Egalitarianism

- To what extent do you agree or disagree with the following statements?
  - Our society should do whatever is necessary to make sure that everyone has an equal opportunity to succeed.
  - We have gone too far in pushing equal rights in this country.
  - One of the big problems in this country is that we don't give everyone an equal chance.
  - This country would be better off if we worried less about how equal people are.
  - It is not really that big a problem if some people have more of a chance in life than others.
  - If people were treated more equally in this country we would have many fewer problems.

# Univariate Distributions

		% "Agree Strongly"	
		Descending	Ascending
Equal	Hispanics	54.9%	46.5%
	Non-Hispanics	46.1%	44.3%
Toofar	Hispanics	18.2%	9.3%
	Non-Hispanics	11.9%	11.1%
bigprob	Hispanics	21.0%	15.3%
	Non-Hispanics	13.8%	14.4%
worryless	Hispanics	11.9%	8.6%
	Non-Hispanics	14.0%	12.4%
notbigprob	Hispanics	6.5%	3.8%
	Non-Hispanics	5.8%	4.7%
fewerprobs	Hispanics	23.8%	26.0%
	Non-Hispanics	20.3%	19.7%

# Univariate Distributions

		% "Agree Strongly"		% "Disagree Strongly"	
		Descending	Ascending	Descending	Ascending
Equal	Hispanics	54.9%	46.5%	0.2%	6.1%
	Non-Hispanics	46.1%	44.3%	4.0%	3.8%
Toofar	Hispanics	18.2%	9.3%	16.8%	16.5%
	Non-Hispanics	11.9%	11.1%	17.9%	20.5%
bigprob	Hispanics	21.0%	15.3%	8.8%	6.0%
	Non-Hispanics	13.8%	14.4%	12.3%	11.7%
worryless	Hispanics	11.9%	8.6%	16.2%	18.7%
	Non-Hispanics	14.0%	12.4%	13.0%	15.5%
notbigprob	Hispanics	6.5%	3.8%	14.8%	20.6%
	Non-Hispanics	5.8%	4.7%	19.9%	18.4%
fewerprobs	Hispanics	23.8%	26.0%	7.0%	3.8%
	Non-Hispanics	20.3%	19.7%	6.1%	6.6%



# Univariate Distributions

		% "Agree Strongly"		% "Disagree Strongly"		%ERS	
		Descending	Ascending	Descending	Ascending	Descending	Ascending
Equal	Hispanics	54.9%	46.5%	0.2%	6.1%	55.1%	52.6%
	Non-Hispanics	46.1%	44.3%	4.0%	3.8%	50.1%	48.1%
Toofar	Hispanics	18.2%	9.3%	16.8%	16.5%	35.0%	25.8%
	Non-Hispanics	11.9%	11.1%	17.9%	20.5%	29.8%	31.6%
bigprob	Hispanics	21.0%	15.3%	8.8%	6.0%	29.8%	21.3%
	Non-Hispanics	13.8%	14.4%	12.3%	11.7%	26.1%	26.1%
worryless	Hispanics	11.9%	8.6%	16.2%	18.7%	28.1%	27.3%
	Non-Hispanics	14.0%	12.4%	13.0%	15.5%	27.0%	27.9%
notbigprob	Hispanics	6.5%	3.8%	14.8%	20.6%	21.3%	24.4%
	Non-Hispanics	5.8%	4.7%	19.9%	18.4%	25.7%	23.1%
fewerprobs	Hispanics	23.8%	26.0%	7.0%	3.8%	30.8%	29.8%
	Non-Hispanics	20.3%	19.7%	6.1%	6.6%	26.4%	26.3%

# MGA Results

	$\chi^2$	DF	p-value	RMSEA	CFI	SB scaled $\chi^2$ difference test	Model Comparison p-value
Hispanics							
Configural Model	31.7	16	0.011	0.046	0.978		
Metric invariance	41.3	20	0.003	0.048	0.970	9.87	0.002
Scalar invariance	55.7	26	0.001	0.050	0.958	14.70	<0.0001
Non-Hispanics							
Configural Model	69.6	16	<0.0001	0.038	0.990		
Metric invariance	74.7	20	<0.0001	0.035	0.990	3.26	0.071
Scalar invariance	91.3	26	<0.0001	0.033	0.988	15.69	<0.0001

# Conclusions

- Scale direction affects Hispanics' answers
  - Scale direction effects are observed
  - Metric inequivalence
  - Scalar inequivalence
- Scale direction affects Hispanics and non-Hispanic in the similar way
  - Except metric invariance for egalitarianism scale

# Conclusions

- Hispanics do not exhibit more ERS than non-Hispanics on items using frequency scales
- Hispanics do exhibit more ERS than non-Hispanics on items using agreement scales
- Scale direction affects amount of ERS for Hispanics
  - More ERS when scale begins with “very often” or “agree strongly”
- Scale direction doesn't affect amount of ERS for non-Hispanics
- More scale direction effects than ERS for Hispanics

# Discussion

- Scale direction affects both univariate distributions and multivariate relationships
- Surveys in 3MC contexts use scales of different direction
  - Comparability of findings
  - More research document effects and investigate on mechanisms
- Which scale direction is better?
  - More research is needed in terms of reliability and validity
  - Ascending scales beginning with ‘not at all often’/ ‘disagree strongly’ in terms of ERS



# Thank you!

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