

HARVARD



GRADUATE SCHOOL  
OF EDUCATION

# Parents' **Perceptions of Bilingualism:** The Role of Language Experience and Local Language Diversity

AERA 2018

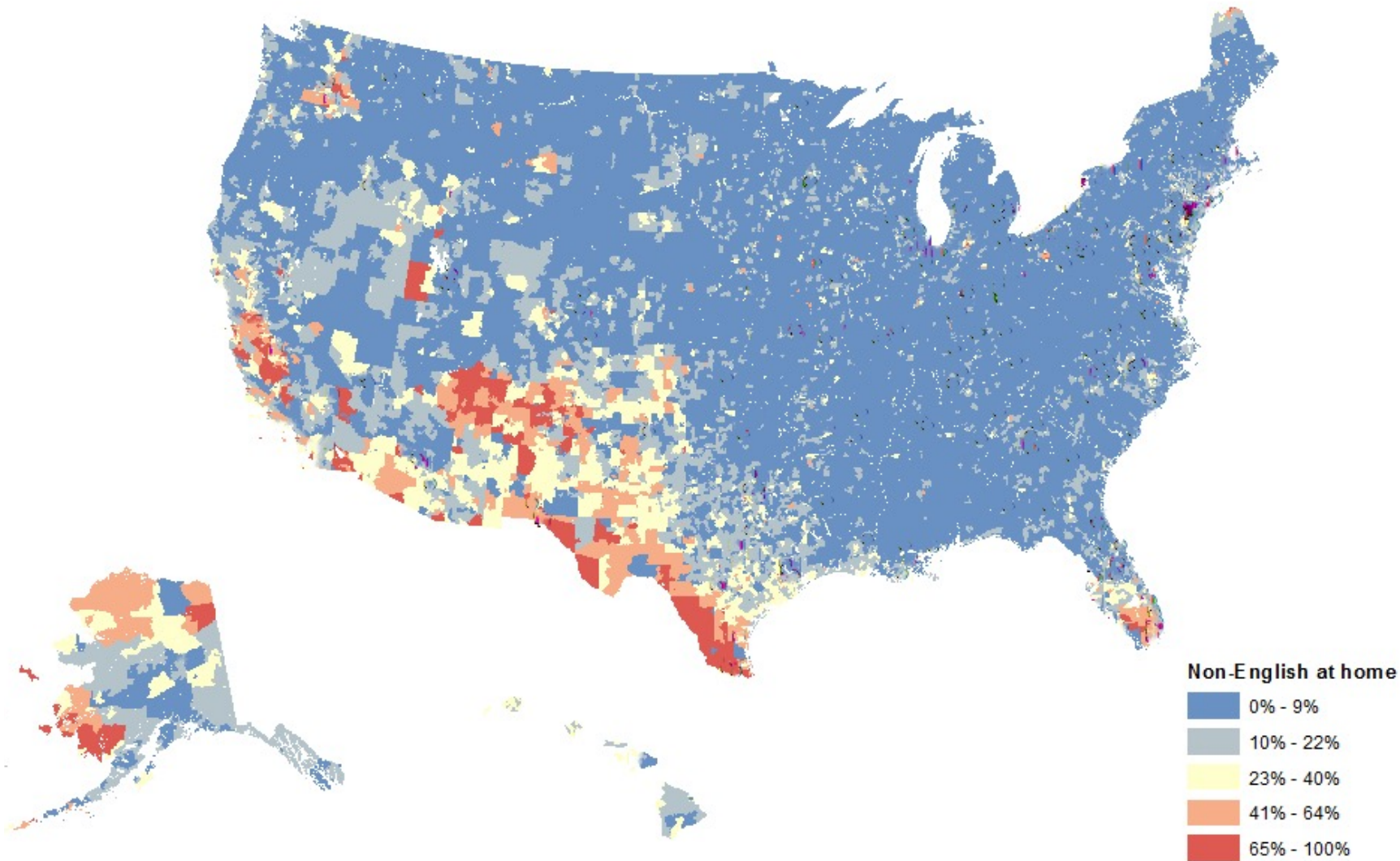
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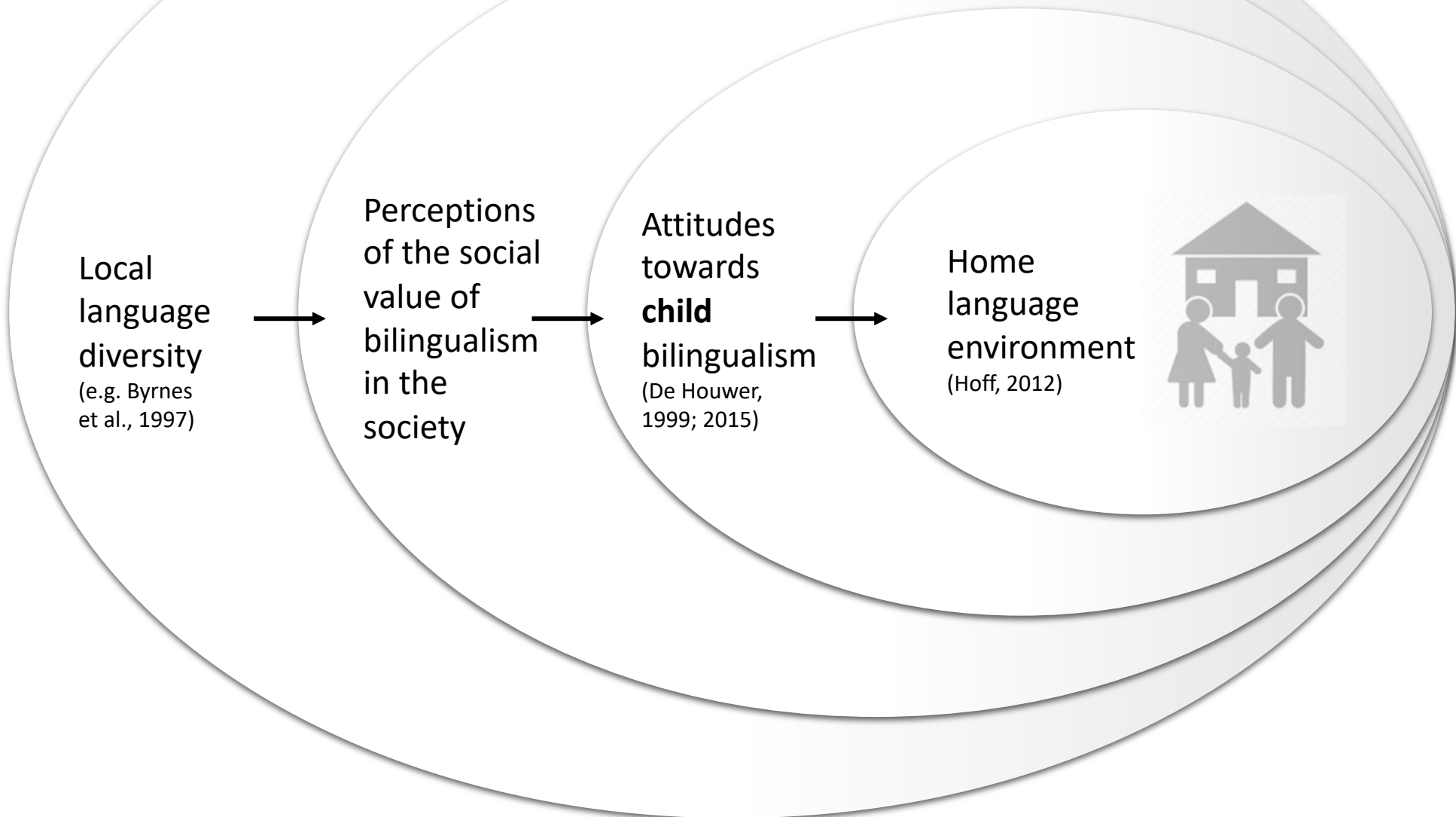
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# Languages in the United States Context



- Close to 400 languages spoken
- No official language
- English is dominant
- Regional differences

# What are the factors that support or inhibit bilingual development in early childhood?



# Perceptions of the value of bilingualism (PoB)

1. The ability to speak more than one language is highly valued in the United States.

2. The United States should have more than one official language.

3. Languages in addition to English should be taught in public elementary schools.

money in the United States.

5. To be successful in the United States you need to speak more than one language.

6. Teachers, doctors, lawyers and police officers in the United States should speak a language in addition to English so they can communicate with the people they serve.

7. Parents whose native language is not English should teach their native language to their children.

8. Learning a second language helps a person think more creatively.

10. Speaking more than one language helps a person understand people from different cultural backgrounds.

- 6-point Likert scale from strongly disagree (1) to strongly agree (6)
- Items tested and refined using cognitive interviews in English and Spanish, IRT and factor analysis
- Cronbach's Alpha = **.86**
- **PoB** score is average of 10 items



# Perception of the value of bilingualism for one's child (PoB+)

1. It is important for my child to SPEAK more than one language.

2. Speaking more than one language will help my child succeed in school in the long term.

than one language.

4. Speaking more than one language will help my child compete in the job market.

5. My child will be confused if he or she learns two languages at the same time. (reversed)

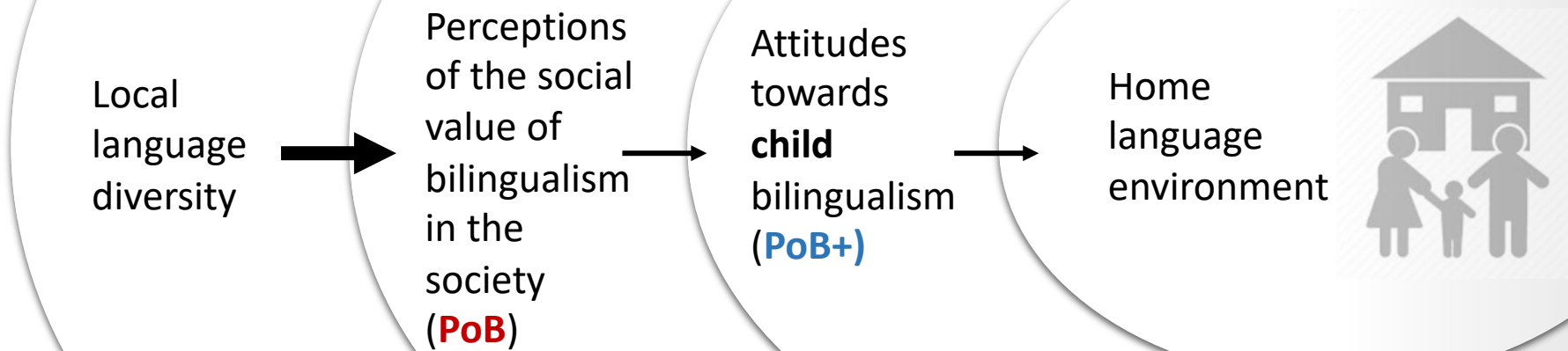
6. Speaking more than one language will help my child become a stronger thinker.

is English. (reversed)

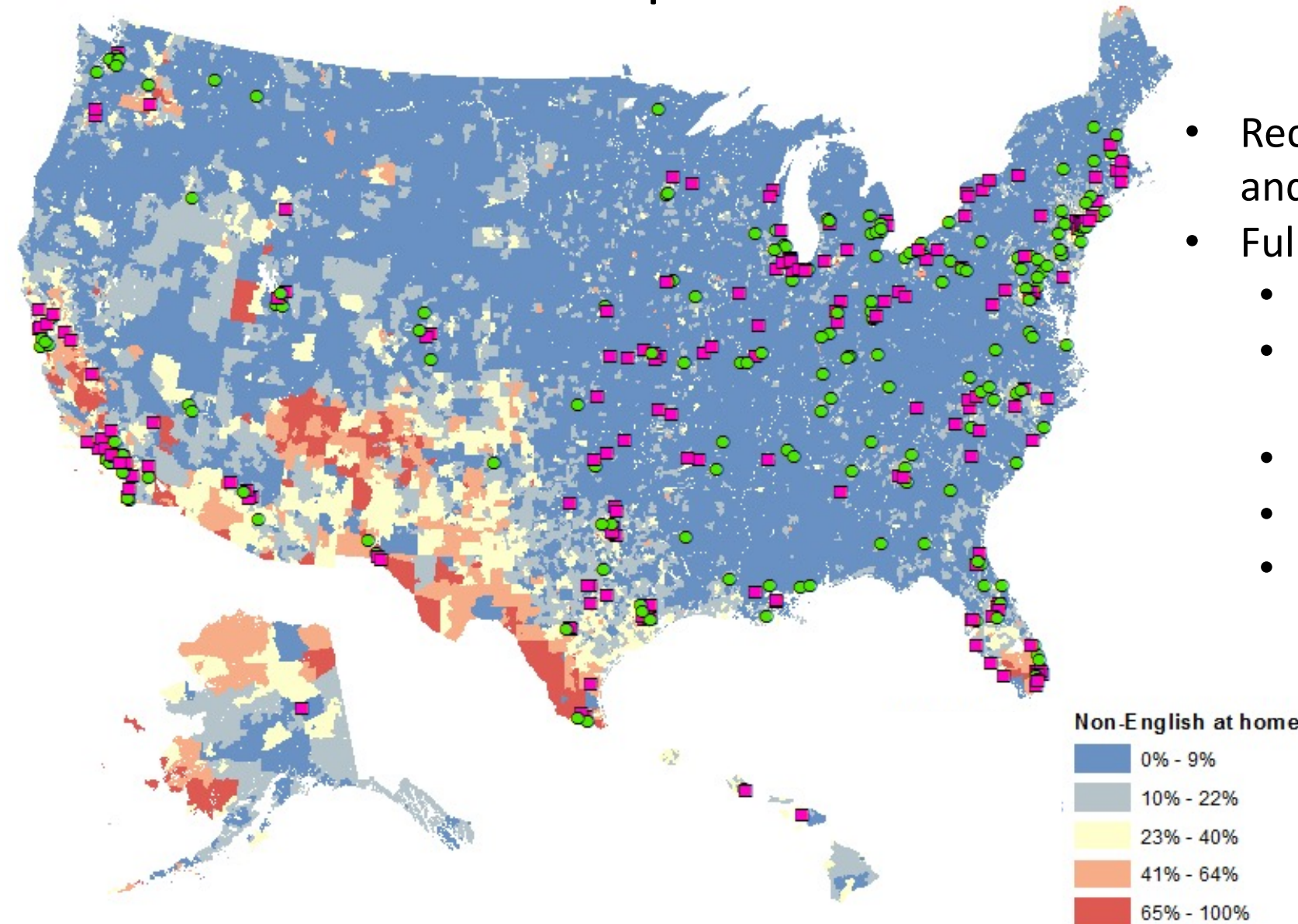
8. Speaking more than one language will help my child understand people from different cultural backgrounds.

- 6-point Likert scale from strongly disagree (1) to strongly agree (6)
- Items tested and refined using cognitive interviews in English and Spanish, IRT and factor analysis
- Cronbach's Alpha = **.88**
- **PoB+** score is average of 8 items (2 reverse-coded)

RQ1. Do **PoB** scores vary by **local language diversity**, even after accounting for language experience?



# Where did respondents come from?

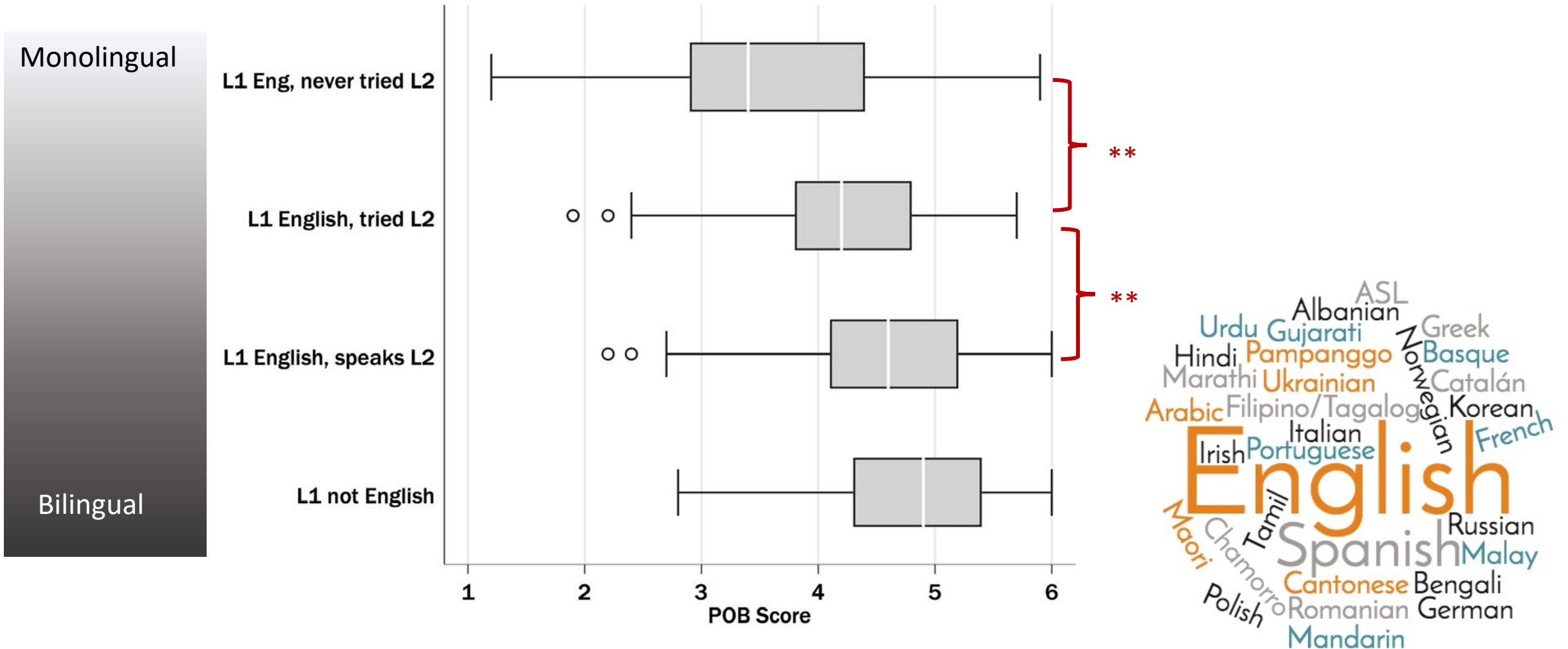


## Online Survey

- Recruited via **Qualtrics panels** (n=209) and **MTurk** (n=212)
- Full sample (n= 422)
  - Adults 18 and over living in the U.S.
  - Nationally representative (education, race, region)
  - 62% female
  - 321 parents of child <18
  - Average **PoB** “somewhat agree” (M=4.37, SD=.92, range 1.2 to 6)

Local language diversity = % who speak a non-English language at home in the respondent's zip code area (log transformed).

# Do perceptions vary by language experience?





# Do perceptions vary by local language diversity?

Those who scored higher on the **PoB** scale tended to

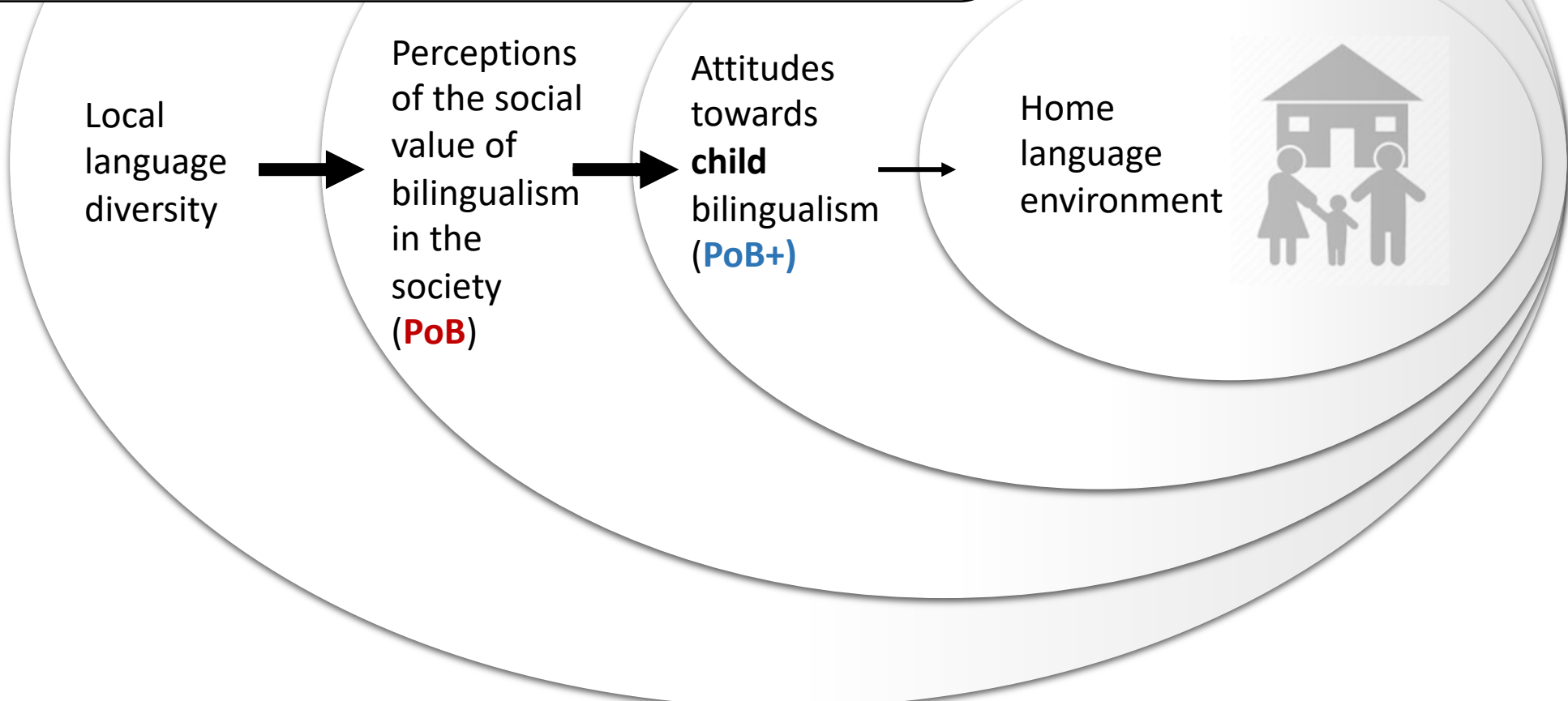
- Have more experience learning and using multiple languages ( $r = 0.43, p < .001$ )
- Live in areas with higher percentages of speakers of non-English languages ( $r = 0.28, p < .001$ )

Local language diversity explained additional variation in **PoB** beyond language experience ( $\beta = .19, SE = .06, p = .001$ )

	PoB score (n = 422)	PoB score (n = 417)
L1 English, tried L2	0.493*** (0.126)	0.521*** (0.126)
L1 English, speaks L2	0.916*** (0.127)	0.888*** (0.127)
L1 not English	1.157*** (0.126)	1.044*** (0.131)
Local diversity (log)		0.190*** (0.058)
Constant	3.651*** (0.100)	3.959*** (0.140)
$R^2$	.193	.216
Model df	3	4

Notes: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . L1 English, never tried L2 is the reference category.

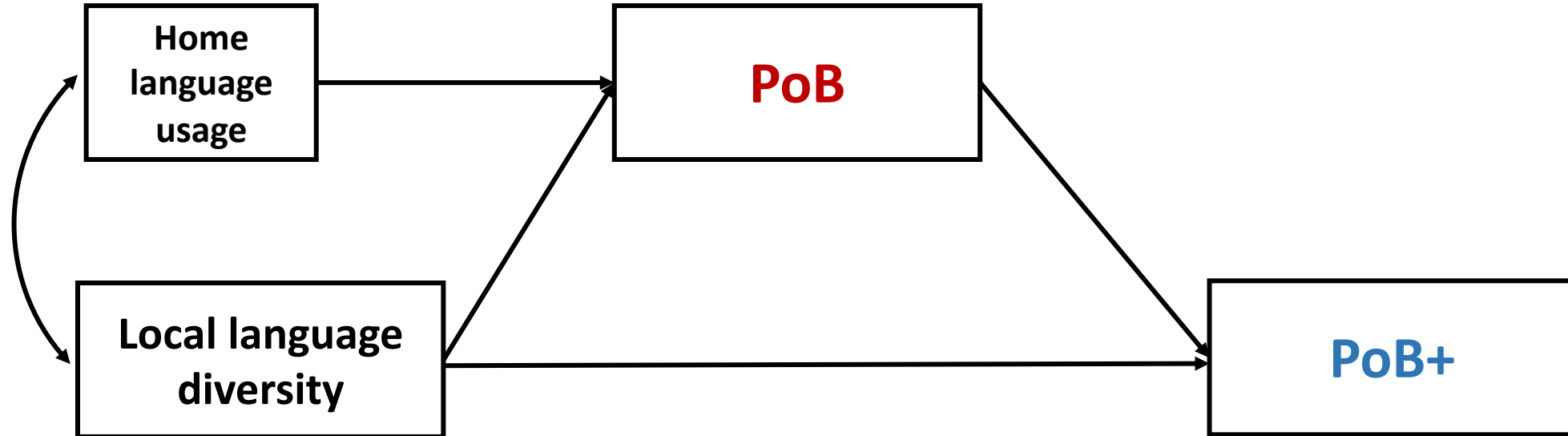
RQ2. For parents of toddlers, do **PoB** scores mediate the relationship between **local language diversity** and **PoB+** scores?



# Parents of toddlers (n = 177)

	<i>M (SD) or %</i>
Female	64%
Parent's age (in yrs.)	32 (7)
Toddler's age (in mos.)	25 (6)
College degree	64%
Born outside the U.S.	14%
Local language diversity*	30% (25%)
<b>PoB</b> score	4.58 (.82)
<b>PoB+</b> score	4.79 (.94)
<b>Home language usage</b>	
All English	41%
Mostly English	20%
Half English, half another language	29%
Mostly or only another language	10%

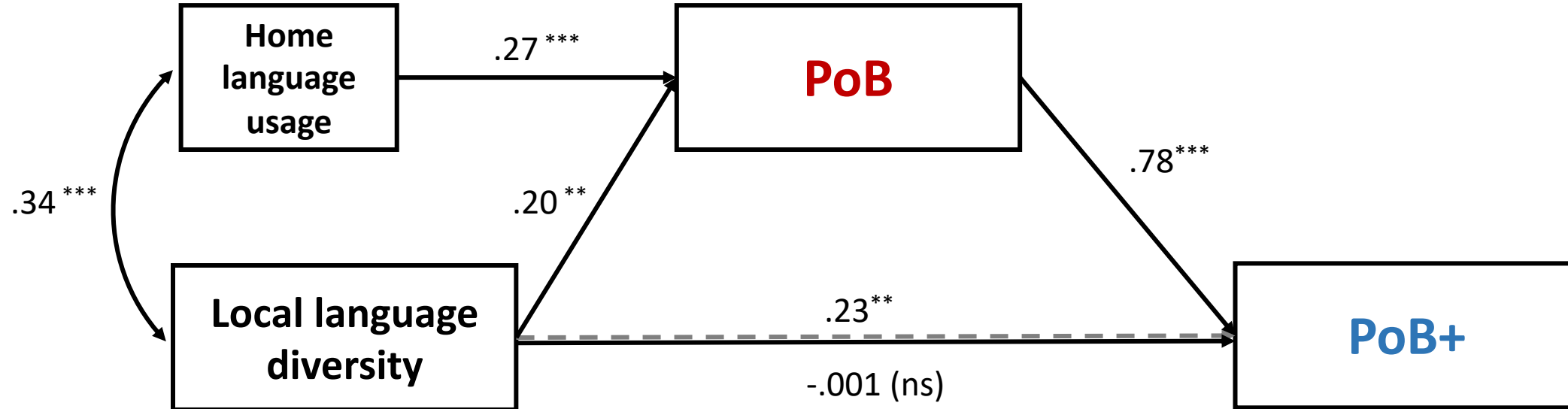
# Path Analysis: Conceptual Model





# Path Analysis: Results

n = 177



	$\chi^2$ (df)	CFI	TLI	RMSEA
Model 1: Partially mediated model	2.71 (1), p = .10	0.991	0.954	0.10

RQ3. Are parents' **PoB+** scores predictive of **home language practices** that promote development in a non-English language?

Local language diversity



Perceptions of the social value of bilingualism in the society (**PoB**)



Attitudes towards **child** bilingualism (**PoB+**)



Home language environment



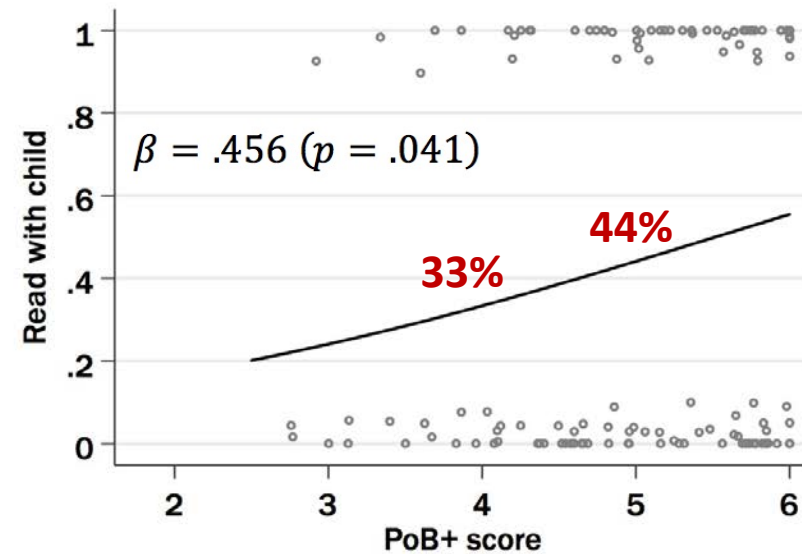
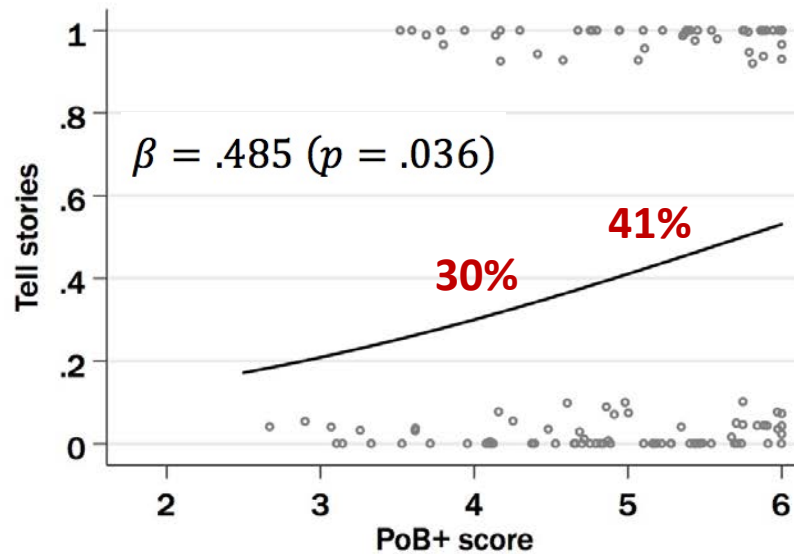
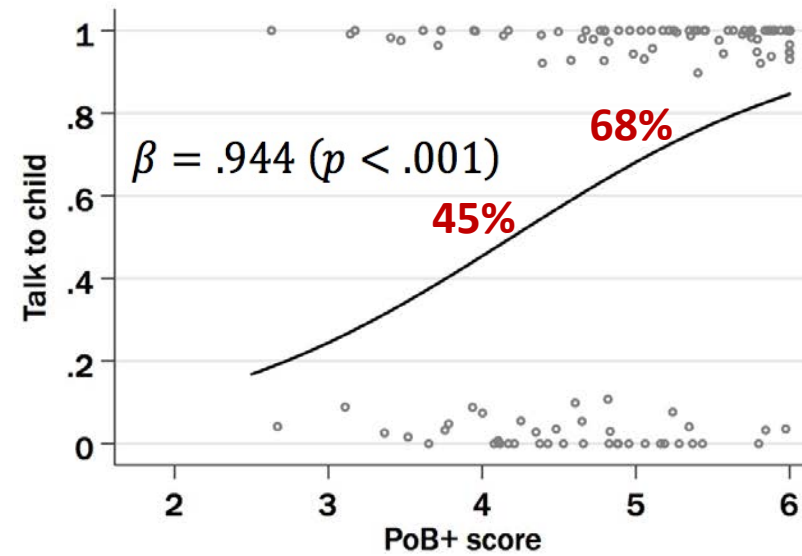
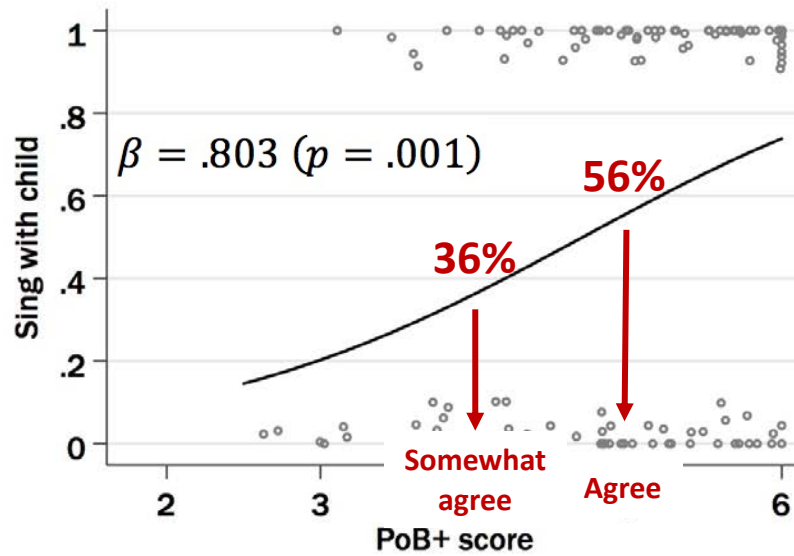
# Home language practices

Have you or another caregiver participated in the following activities with your child in the past week?

- Singing songs in [your non-English language] with your child.
- Talking to your child in [your non-English language] while you cook or eat together.
- Telling your child stories in [your non-English language].
- Reading books to your child in [your non-English language].

These items were only answered by parents who said their child was exposed to a non-English language (n=112)

# Does PoB+ predict home language practices?





# Summary of Findings

- In the larger sample, those with more experience learning languages had more positive **perceptions of the value of bilingualism**, and living in an area with more speakers of non-English languages explained additional variation in **perceptions**.
- For parents of toddlers, living in areas with more speakers of non-English languages was associated with more positive **perceptions**, which in turn was associated with more positive **attitudes towards the value of bilingualism for their child**.
- For the subset whose toddlers were exposed to a non-English language, those with more positive **perceptions of their child's bilingualism** were more likely to engage in practices such as telling their child stories or singing with their child in a non-English language.



# Thank you!



Gigi Luk



Gladys  
Aguilar



Alexandra  
Chen



Dasha  
Maghooli



So Yeon  
Shin



# Appendices

# Demographics by recruitment channel

		Qualtrics Panels (n=209)	MTurk (n=208)	Combined (n=417)
Female		64%	60%	62%
Age	18-34	45%	64%	55%
	35-54	27%	35%	31%
	55+	28%	1%	14%
Education	High School or less	37%	13%	25%
	Some college credit	26%	25%	26%
	College graduate	27%	45%	36%
	Graduate degree	10%	17%	14%
Born outside the U.S.		14%	10%	12%
L1 English, never tried L2		23%	10%	16%
L1 English, tried to learn L2		23%	33%	28%
L1 English, speaks L2		24%	30%	27%
L1 not English or multiple L1s		30%	27%	28%



# PoB and local language diversity

Characteristics	1	2	3	4	5
1. <b>PoB</b> score					
2. Age	-0.35***				
3. Female	0.19***	-0.09			
4. Education	0.17***	-0.11*	-0.03		
5. Local diversity (log)	0.28***	-0.19***	-0.01	0.03	
6. Language background	0.43***	-0.33**	0.10*	0.23***	0.37***

*Notes: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . Education is on a scale of 1-4 (HS or less, some college, college and graduate school). Language background is on a scale of 1-4 (L1 English, never tried L2; L1 English, tried L2; L1 English, speaks L2; L1 not English)*

# RQ1 regression

	PoB score (n = 422)	PoB score (n = 417)
L1 English, tried L2	0.493*** (0.126)	0.521*** (0.126)
L1 English, speaks L2	0.916*** (0.127)	0.888*** (0.127)
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Local diversity (log)		0.190*** (0.058)
Constant	3.651*** (0.100)	3.959*** (0.140)
$R^2$	.193	.216
Model df	3	4

Notes: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

# RQ2 Path analysis (fully mediated model)

	<i>b</i>	<i>SE</i>	<i>p</i>	$\beta$
<b>Direct paths</b>				
Local language diversity → <b>PoB</b>	.219	.080	.006	<b>.204</b>
Home language usage → <b>PoB</b>	.213	.059	<.001	<b>.267</b>
<b>PoB</b> → <b>PoB+</b>	.888	.054	<.001	<b>.777</b>
<b>Indirect paths</b>				
Local language diversity → <b>PoB</b> → <b>PoB+</b>	.195	.072	.007	<b>.158</b>
Home language usage → <b>PoB</b> → <b>PoB+</b>	.189	.054	<.001	<b>.207</b>
<b>Covariances/Correlations</b>				
Local language diversity, home language usage	.256	.063	<.001	<b>.337</b>

Notes: *b* = unstandardized path coefficient or covariance.  $\beta$  = standardized path coefficient or correlation

# Mediation analysis using OLS regression

	POB+ Sc~e	POB Score	POB+ Sc~e
Log of pct speaks ~o	<b>0.279**</b> (0.0913)	<b>0.316***</b> (0.0784)	<b>-0.00119</b> (0.0619)
POB Score			<b>0.888***</b> (0.0575)
Constant	<b>5.162***</b> (0.140)	<b>5.004***</b> (0.121)	<b>0.716*</b> (0.302)
R-squared	<b>0.052</b>	<b>0.086</b>	<b>0.604</b>
df_m	<b>1</b>	<b>1</b>	<b>2</b>
df_r	<b>172</b>	<b>172</b>	<b>171</b>
F	<b>9.358</b>	<b>16.20</b>	<b>130.5</b>

Standard errors in parentheses  
 \* p<0.05, \*\* p<0.01, \*\*\* p<0.001



# PoB+ and home language practices

Characteristics	1	2	3	4	5	6	7
1. <b>PoB+</b> score							
2. Tell stories	0.20*						
3. Talk to child	0.37***	0.35***					
4. Sing with child	0.32***	0.48***	0.41***				
5. Read to child	0.19*	0.62***	0.31***	0.46***			
6. Home usage	0.30***	0.24**	0.28**	0.22*	0.23**		
7. Language used with child	0.30***	0.24**	0.39***	0.27**	0.24**	0.61***	
8. Female	0.29***	0.18*	0.15	0.11	0.19*	0.14	0.19*

*Notes: \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ . **Home usage and Language used with child** are on a scale of 1-5 from only English to only another language (higher = more of the non-English language). **Home usage** is only for parent 1 (the parent taking the survey), while **Language used with child** is the average of responses for parent 1 & 2).*

# PoB+ as a predictor of home language practices using logistic regression

	<b>Tells stories</b> (n = 119)	<b>Talks to child</b> (n = 120)	<b>Sings</b> (n = 121)	<b>Reads</b> (n = 122)
<b>PoB+ score</b>	<b>0.485*</b> (0.231)	<b>0.944***</b> (0.249)	<b>0.803***</b> (0.236)	<b>0.456***</b> (0.223)
Constant	-2.789* (1.182)	-3.960** (1.220)	-3.778** (1.188)	-2.518* (1.141)
$\chi^2$	4.696	16.43	13.03	4.394
Model df	1	1	1	1
Deviance	156.5	137.7	153.3	163.1
Pseudo R <sup>2</sup>	.029	.107	.078	.026

# PoB+ as a predictor of home language practices, controlling for home usage

	<b>Tells stories</b> (n = 119)	<b>Talks to child</b> (n = 120)	<b>Sings</b> (n = 121)	<b>Reads</b> (n = 122)
<b>PoB+ score</b>	<b>0.386</b> (0.235)	<b>0.870***</b> (0.256)	<b>0.729**</b> (0.239)	<b>0.357</b> (0.228)
Home usage	0.456* (0.209)	0.525* (0.222)	0.374 (0.209)	0.445* (0.205)
Constant	-2.965* (1.196)	-4.307*** (1.268)	-3.950** (1.204)	-2.680* (1.156)
$\chi^2$	9.675	22.26	16.31	9.282
Model df	2	2	2	2
Deviance	151.6	131.8	150.0	158.2
Pseudo R <sup>2</sup>	.06	.144	.098	.055

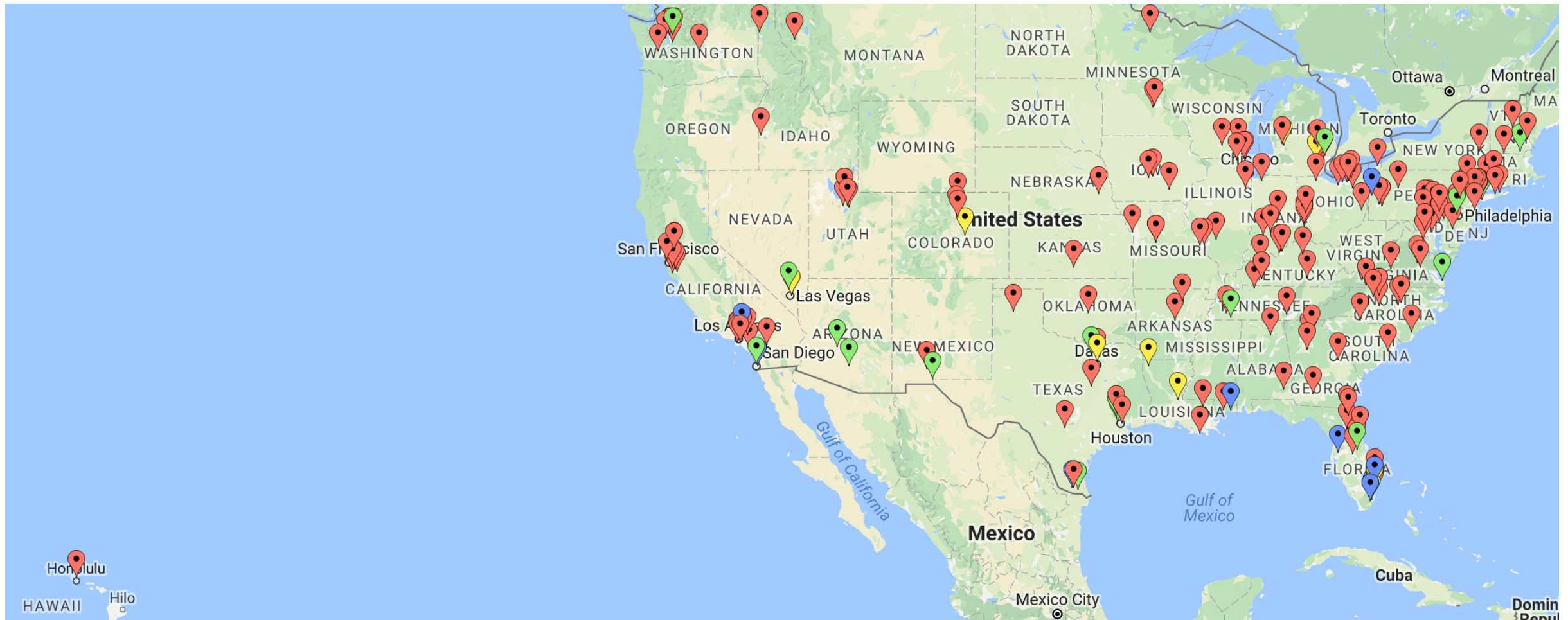
# Qualtrics data (n=209)

Blue=L1 English, Red=L1 Spanish, Yellow=L1 both English & Spanish, Green=L1 Other



# MTurk data (n=208)

Red=L1 English, Blue=L1 Spanish, Green=L1 both English & Spanish, Yellow=L1 Other

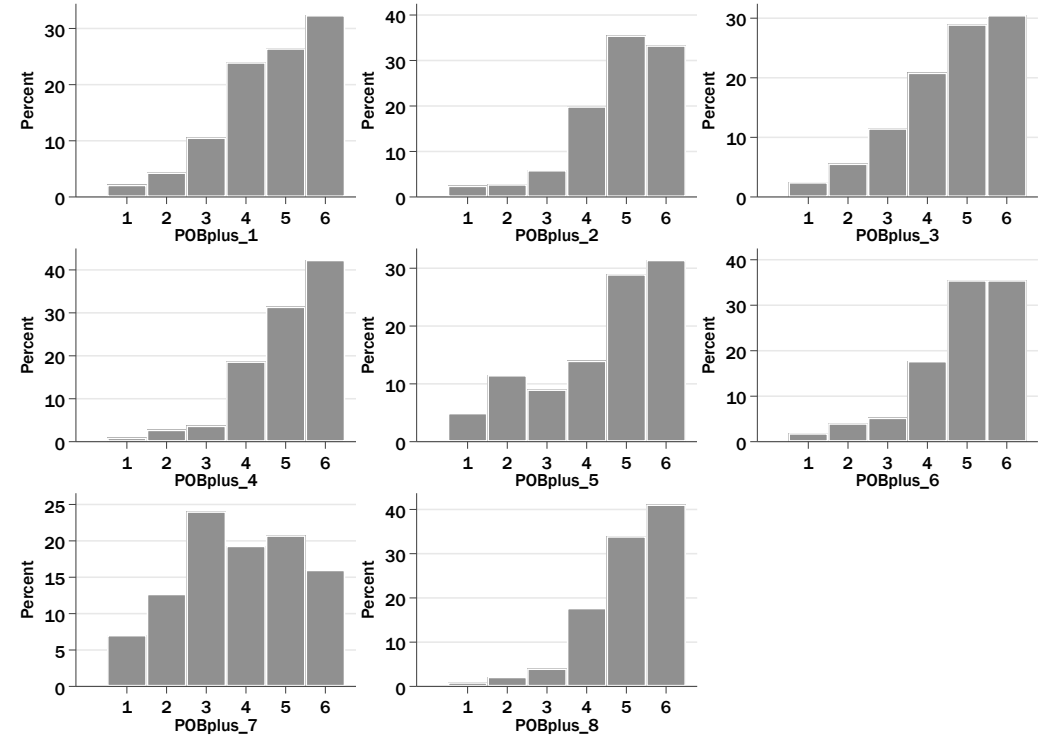
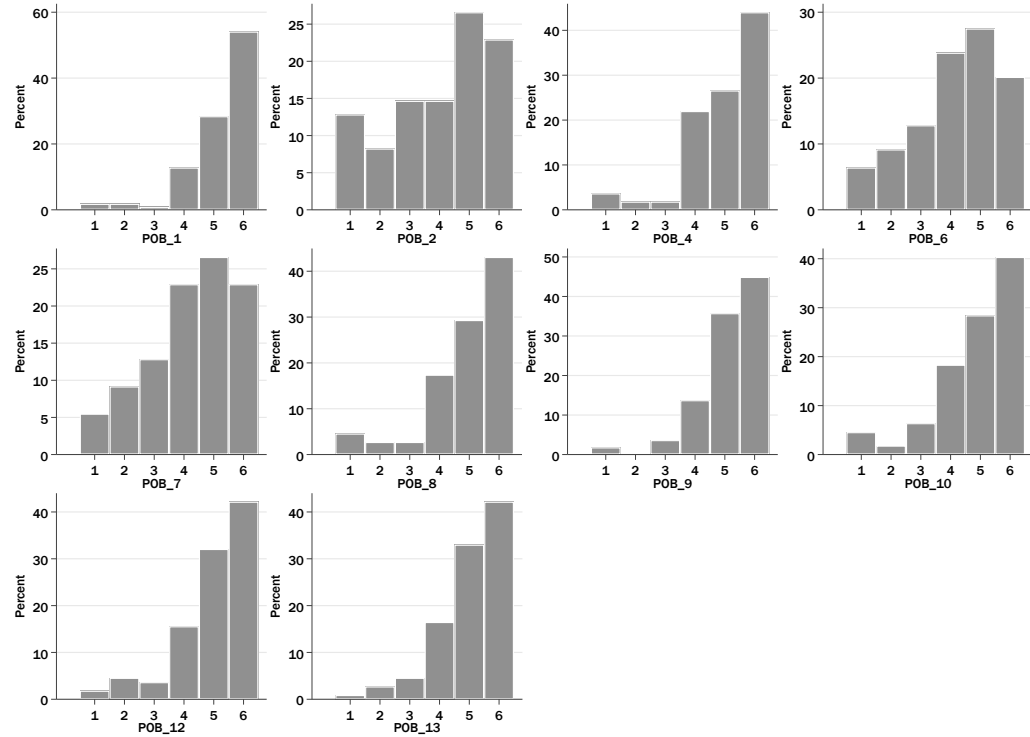


# 32 Languages spoken by participants

- English
- Spanish
- Mandarin
- Cantonese
- German
- French
- Filipino/Tagalog
- Pampango
- Albanian
- Portuguese
- Greek
- Polish
- Arabic
- Hindi
- Tamil
- Gujarati
- Marathi
- Urdu
- Bengali
- Italian
- Malay
- ASL
- Korean
- Ukrainian
- Maori
- Russian
- Vasque
- Catalán
- Chamorro
- Norwegian
- Romanian
- Irish



# Item-score histograms for PoB & PoB+

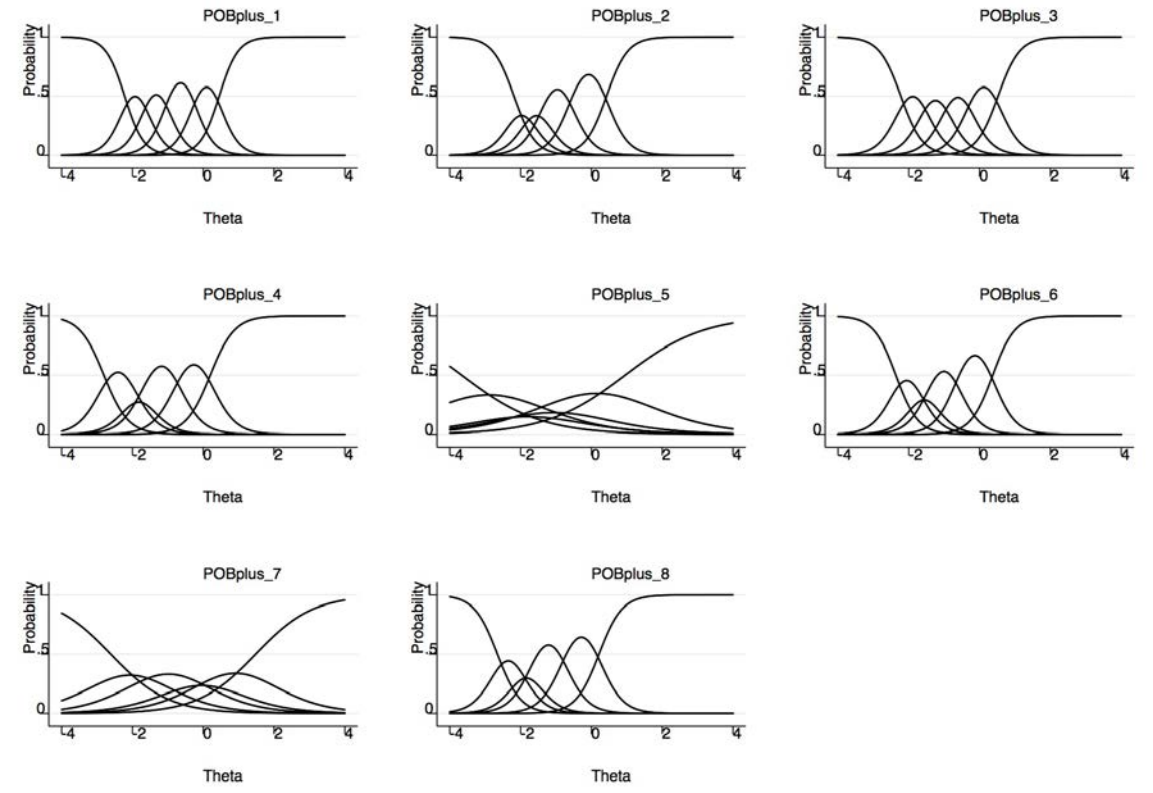
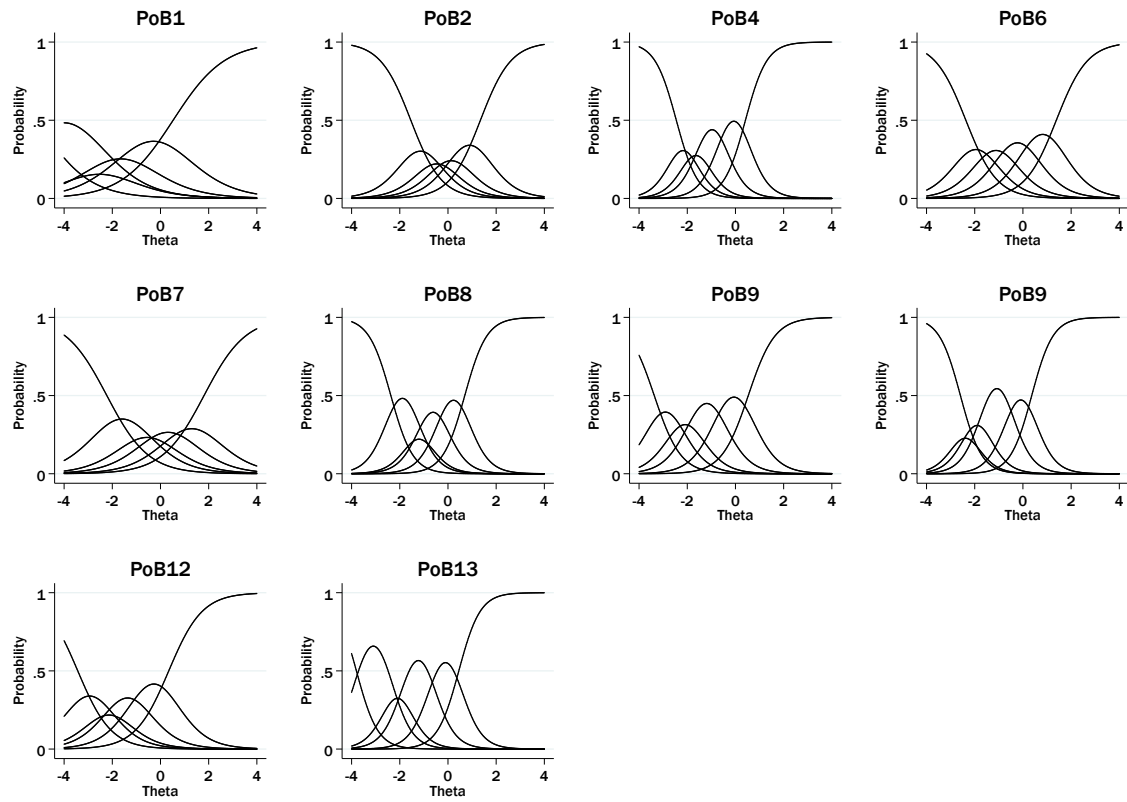


# PoB & PoB+ Factor Loadings

Variable	Factor1	Factor2	Factor3
PoB1	0.37	0.10	0.36
PoB2	0.61	0.23	-0.21
PoB4	0.71	-0.15	0.01
PoB6	0.61	0.21	-0.20
PoB7	0.53	0.48	0.10
PoB8	0.72	0.18	0.08
PoB9	0.60	-0.24	0.01
PoB10	0.70	-0.13	-0.03
PoB12	0.57	-0.32	0.02
PoB13	0.69	-0.23	0.01

Variable	Factor1	Factor2	Factor3
PoB+1	0.84	-0.20	0.09
PoB+2	0.81	-0.01	-0.18
PoB+3	0.80	-0.25	0.04
PoB+4	0.80	0.15	-0.13
PoB+5	0.34	0.18	0.17
PoB+6	0.81	0.15	0.07
PoB+7	0.77	0.08	0.03
PoB+8	0.84	-0.20	0.09

# Category Characteristic Curves for **PoB** and **PoB+**



# Discrimination and location parameter estimates for **PoB** items & **PoB+** items

Item	Discrim-	Location Parameter Estimates				
	ination	a	b1	b2	b3	b4
<b>PoB1</b>	0.94	-5.11	-2.87	-2.21	-1.11	0.52
<b>PoB2</b>	1.57	-1.54	-0.75	-0.18	0.45	1.35
<b>PoB3</b>	2.25	-2.45	-1.89	-1.39	-0.55	0.42
<b>PoB4</b>	1.54	-2.37	-1.53	-0.71	0.26	1.39
<b>PoB5</b>	1.16	-2.23	-0.97	-0.15	0.78	1.81
<b>PoB6</b>	2.18	-2.37	-1.41	-1.00	-0.24	0.70
<b>PoB7</b>	1.81	-3.37	-2.45	-1.73	-0.65	0.53
<b>PoB8</b>	2.26	-2.59	-2.18	-1.62	-0.54	0.37
<b>PoB9</b>	1.44	-3.43	-2.45	-1.83	-0.89	0.34
<b>PoB10</b>	2.25	-3.80	-2.40	-1.80	-0.66	0.45

Item	Discrim-	Location Parameter Estimates				
	ination	a	b1	b2	b3	b4
<b>PoB+1</b>	3.72	-2.22	-1.63	-1.02	-0.26	0.45
<b>PoB+2</b>	3.31	-2.19	-1.76	-1.34	-0.58	0.42
<b>PoB+3</b>	3.27	-2.22	-1.55	-0.94	-0.28	0.52
<b>PoB+4</b>	2.92	-2.81	-2.01	-1.63	-0.73	0.20
<b>PoB+5</b>	0.90	-3.66	-2.13	-1.47	-0.65	0.95
<b>PoB+6</b>	3.20	-2.37	-1.75	-1.38	-0.63	0.37
<b>PoB+7</b>	1.24	-2.61	-1.54	-0.43	0.35	1.48
<b>PoB+8</b>	3.07	-2.66	-2.04	-1.64	-0.78	0.21