Handshape as an Expression of Agency across Languages and Cultures

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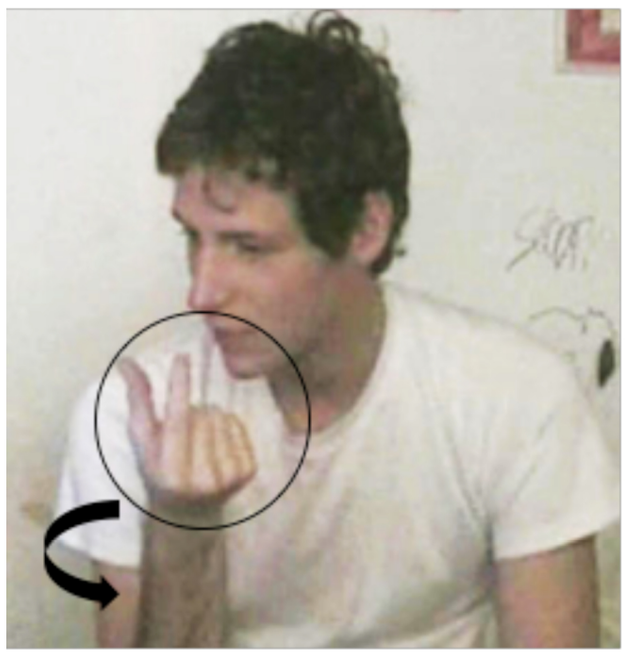
Research question

- We know that in many SLs, ***classifier constructions*** show this contrast:

"agent" event descriptions		*"no agent" event descriptions*
HANDLING HANDSHAPE	⟷	OBJECT HANDSHAPE
H-HS		O-HS

- Can gesturers produce this contrast? Or only signers? Is this an entirely LINGUISTIC phenomenon, or do CULTURAL and COGNITIVE factors also play a role?

Examples

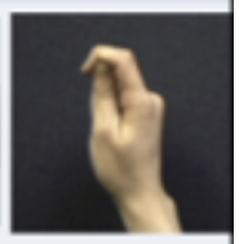
	handling HS	object HS
ASL (sign)		
Italian (gesture)		

8 Groups (38 participants)

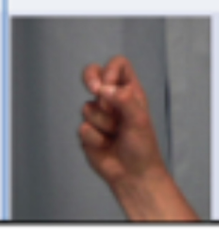
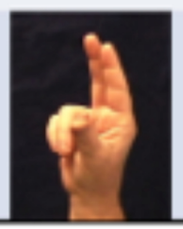
- Two countries: Italy and the USA
- 4 groups from each:
  - 2 native Deaf signing groups: adults & children (4;0-6;0)
  - 2 hearing, non-signing groups: adults & children (4;0-6;0). Gesturers respond without using their voices.

Task & Stimuli

Stimulus Items & expected handshapes for *the agentive/non-agentive opposition*: airplane and lollipop

	Conditions	Airplane		lollipop	
		stimulus object	expected handshape*	Stimulus object	expected handshape*
No Agent	1. [object] on table 2. [object] on table upside down 3. [multiple [objects] on table (regular arrangement in a row) 4. multiple [objects] on table (random arrangement) 5. [object] falling				
Agent	6. Put [object] on table 7. Put [object] on table upside down 8. Put [multiple [objects] on table (regular arrangement in a row) 9. Put multiple [objects] on table (random arrangement) 10. Demonstrate function of [object]				

Stimulus Items & expected handshapes for the *falling condition*

lollipop, pen, string cigar**	coin***	book****	TV: 2 hands	marble	tweezers, tape	airplane
						

Analyses

- We analyzed the data 2 ways:

  --by **communication group** (signers together, gesturers together; these analyses tell us about differences between ASL and LIS or between gesture groups in Italy and the US)

  --by **country** (Americans together, Italians together; these tell us about differences between gesture and sign in the US or between gesture and sign in Italy).

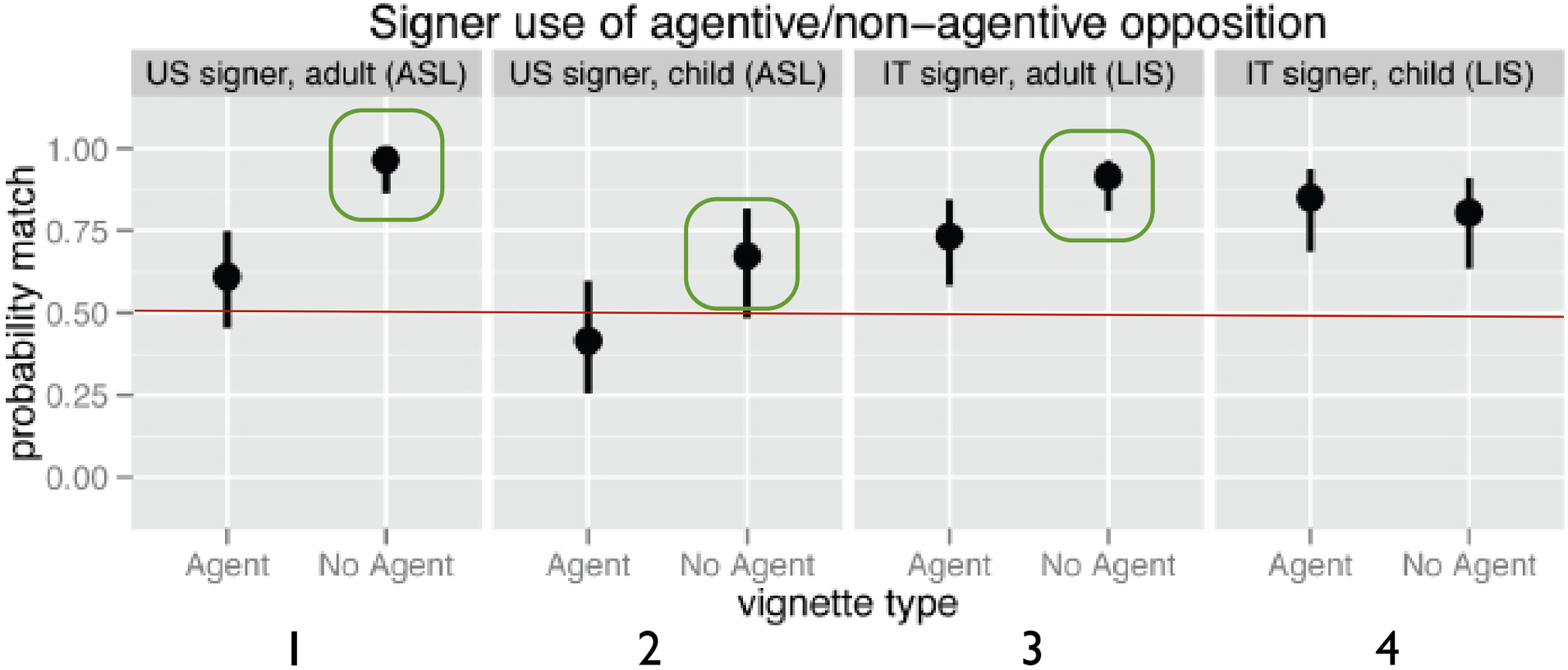
- Both analyses reports **MATCH rate**: How often the participant produced the expected handshape:

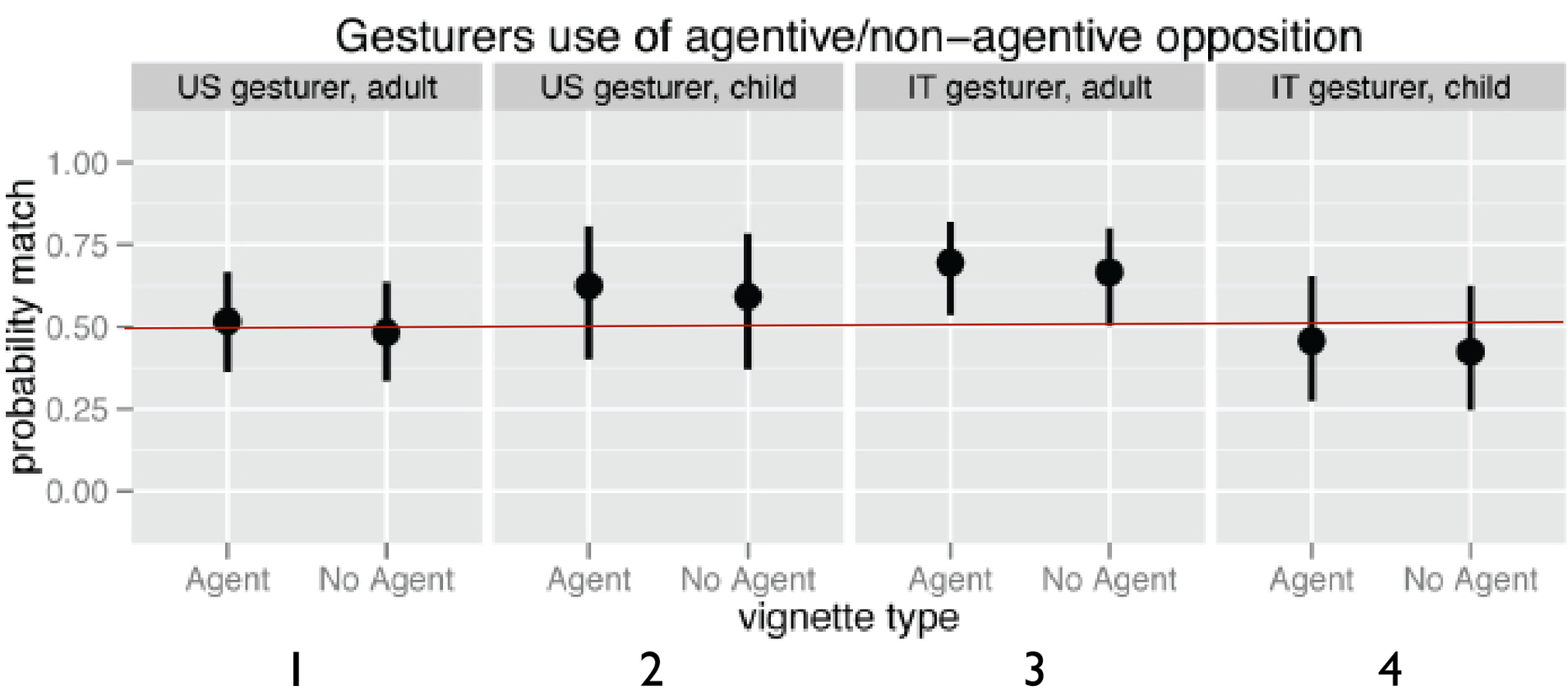
  --handling HS for agentive descriptions, and

  --object HS for non-agentive descriptions.

RESULTS: Communication groups ASL & LIS

- a very strong tendency to match overall ($p<0.001$)
- 3 of the 4 groups matched more with Object handshapes to no-agent descriptions ($p<0.001$).
- LIS signers tended to match more than ASL signers in using a Handling handshape in describing events with an agent. (marginal $p=0.09$)
- In the overall group comparisons, the child ASL signers were different from all the other groups; all other groups were statistically the same. This would indicate that the ASL child group has not yet mastered this form to meaning contrast ($p=0.001$).


Signer use of agentive/non–agentive opposition
US signer, adult (ASL)
US signer, child (ASL)
IT signer, adult (LIS)
IT signer, child (LIS)
probability match
1.00
0.75
0.50
0.25
0.00
Agent
No Agent
vignette type
1
2
3
4


Gesturers use of agentive/non–agentive opposition
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IT gesturer, adult
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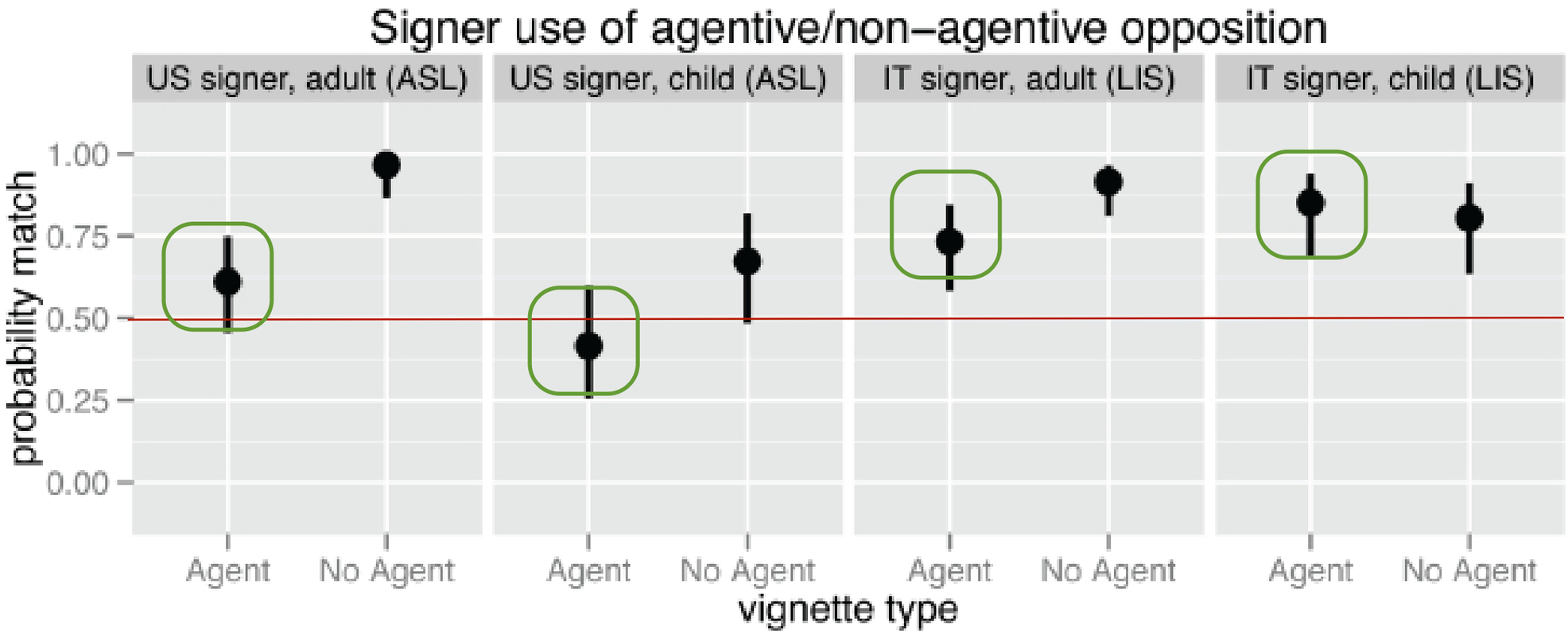
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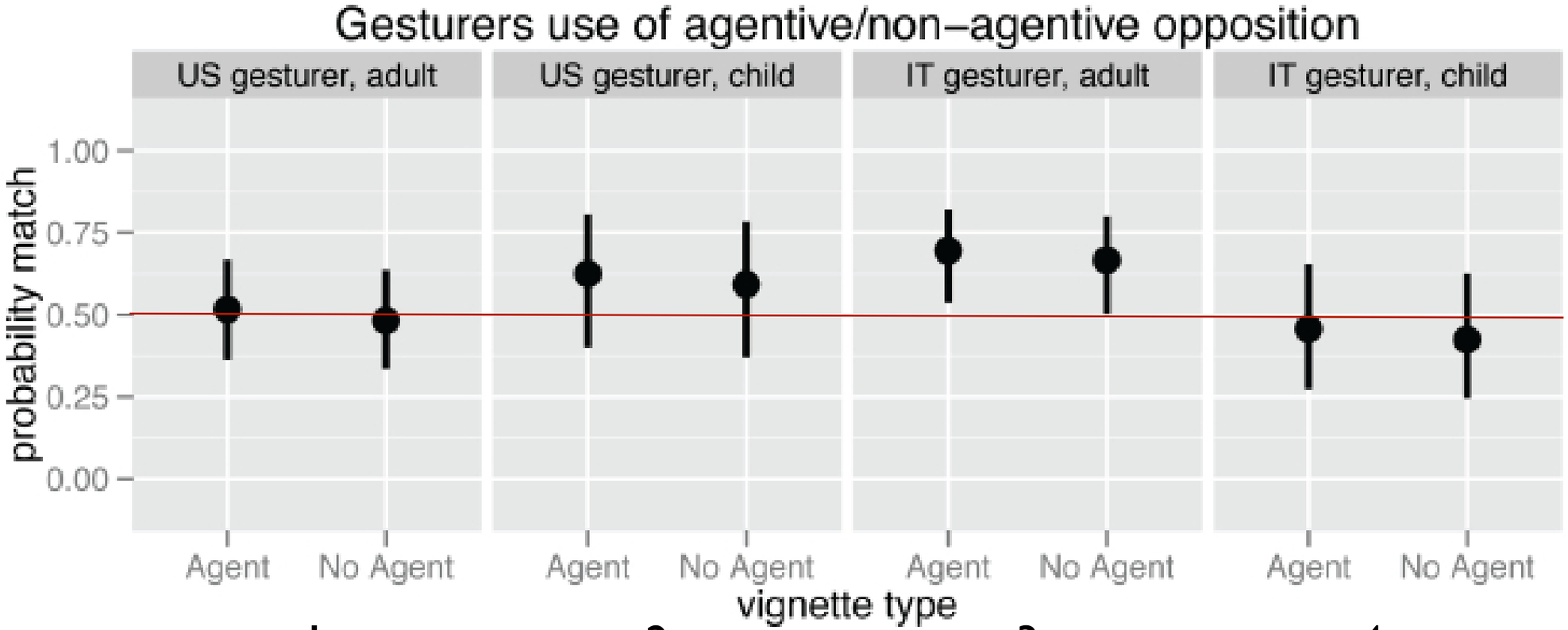
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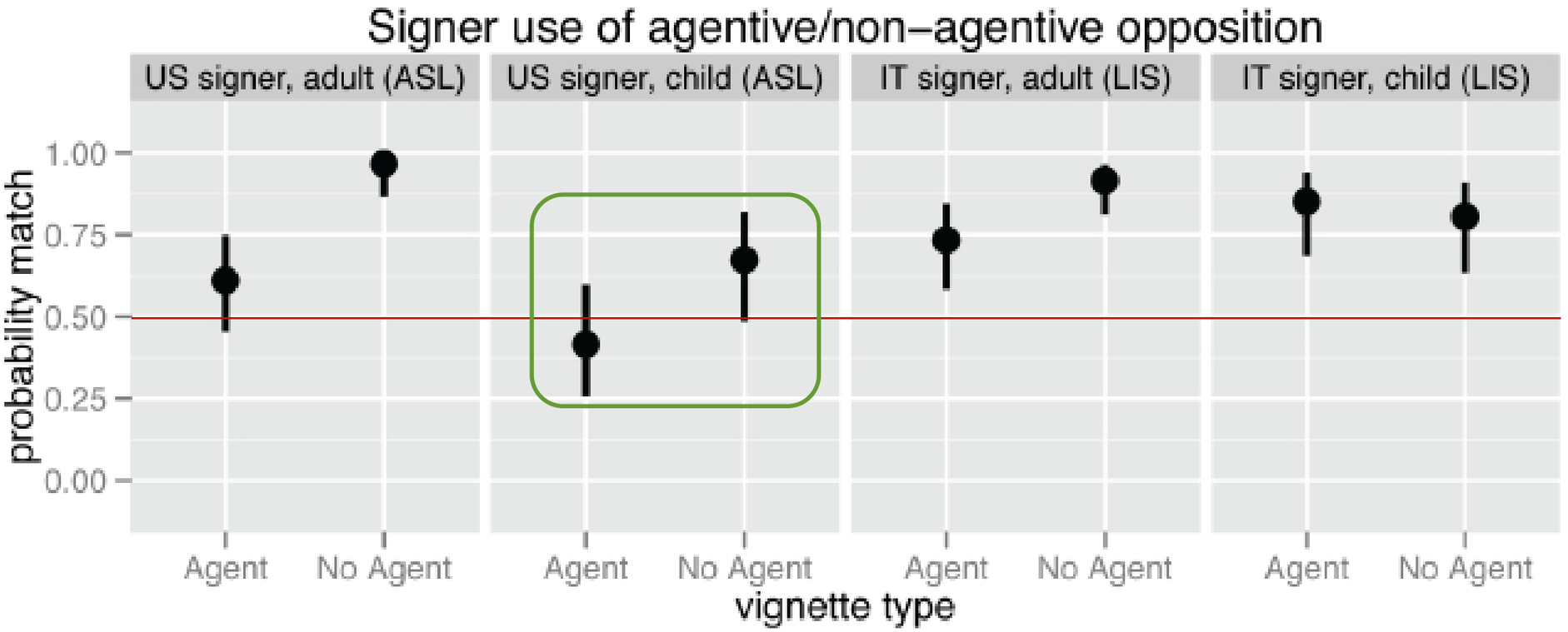
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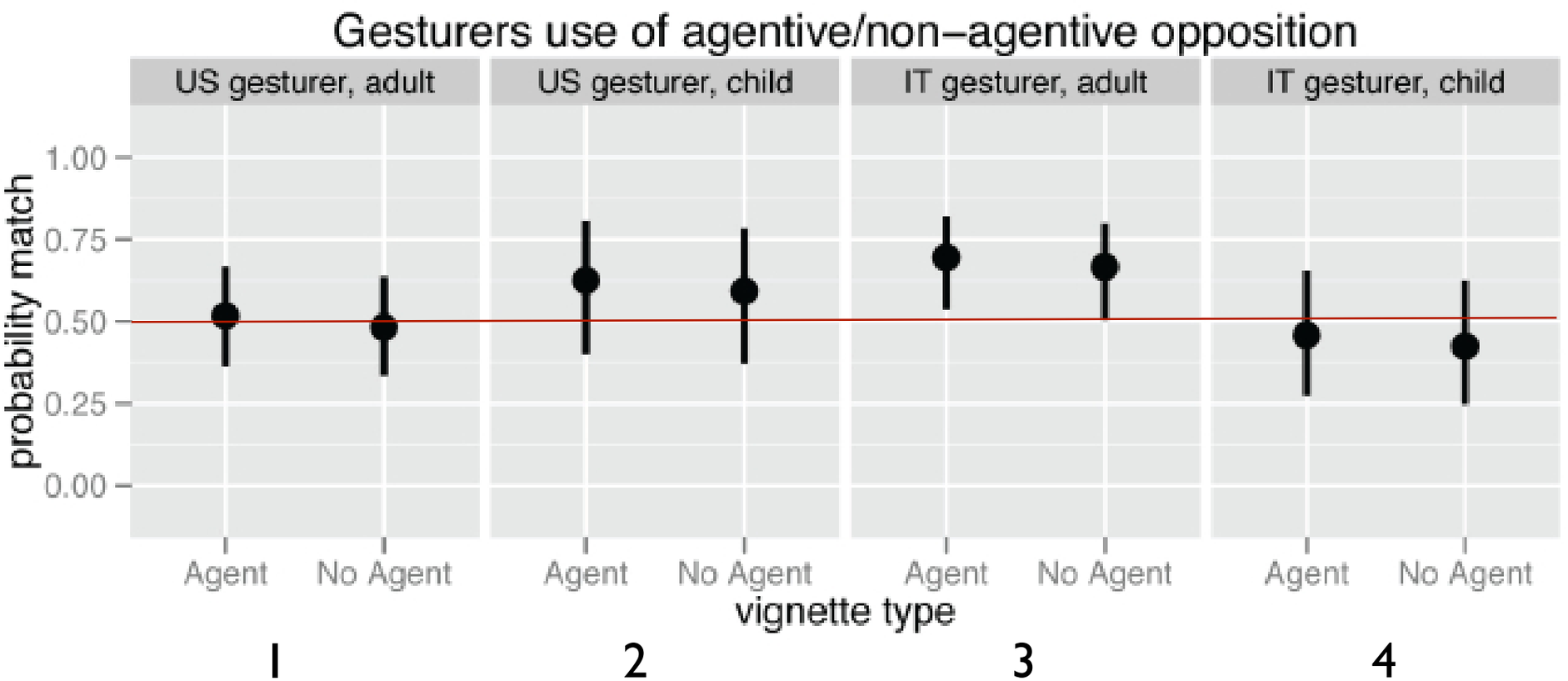
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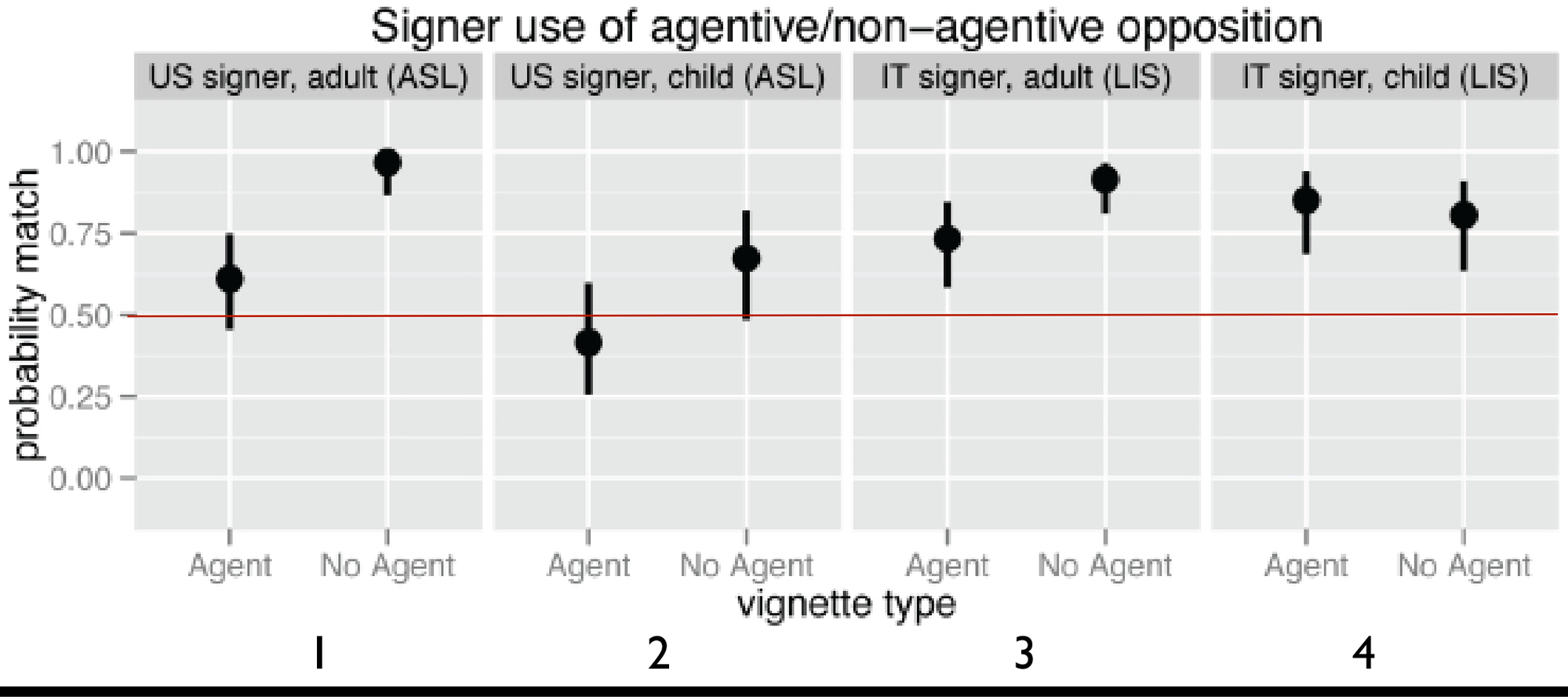
RESULTS: Communication groups American & Italian Gesture groups

- The gesture groups did not tend to match: most groups hovered around chance ($p=0.98$). There was also a great deal of variability.
- There was a marginally significant effect for country. Italians matched more than Americans ($p=0.09$), but there was also marginally significant interaction between country and age, with Italian child gesturers matching less than American child gesturers ($p=0.05$).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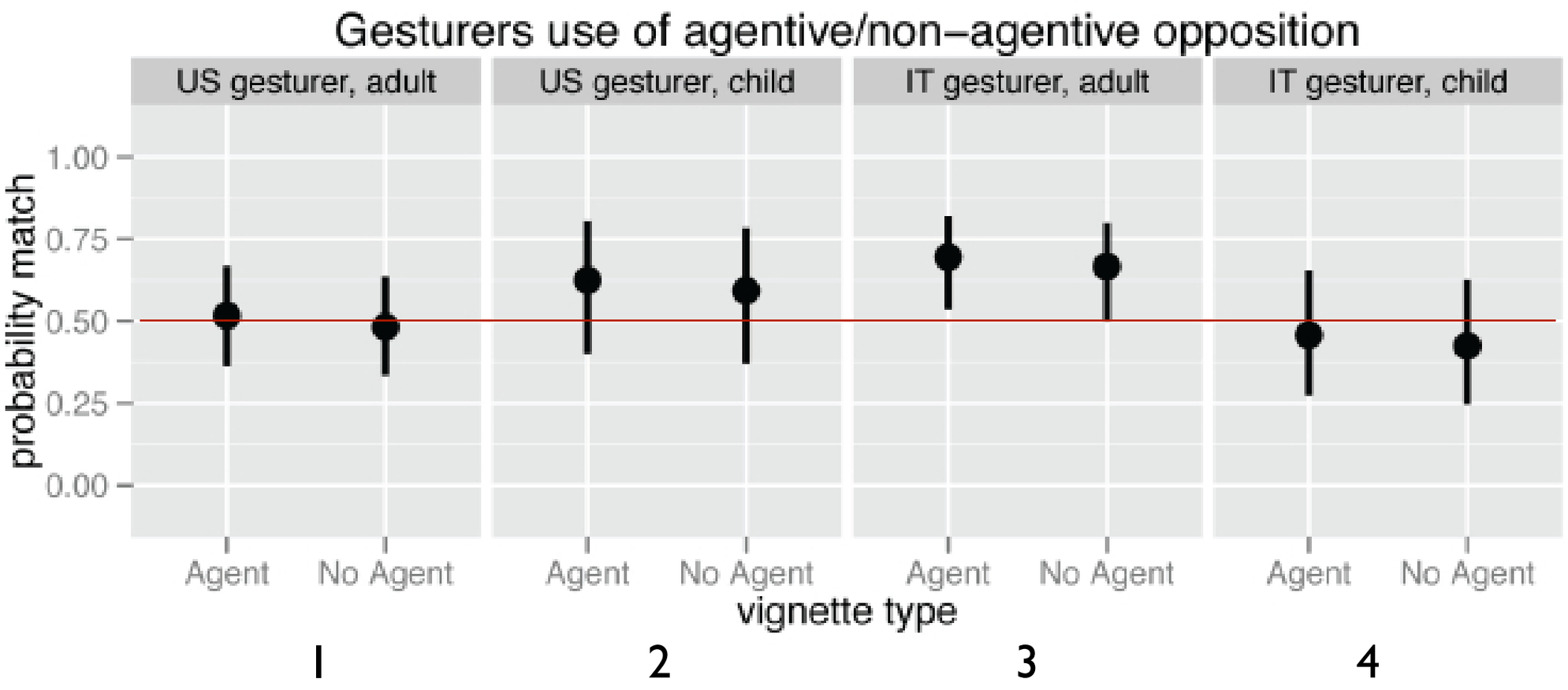
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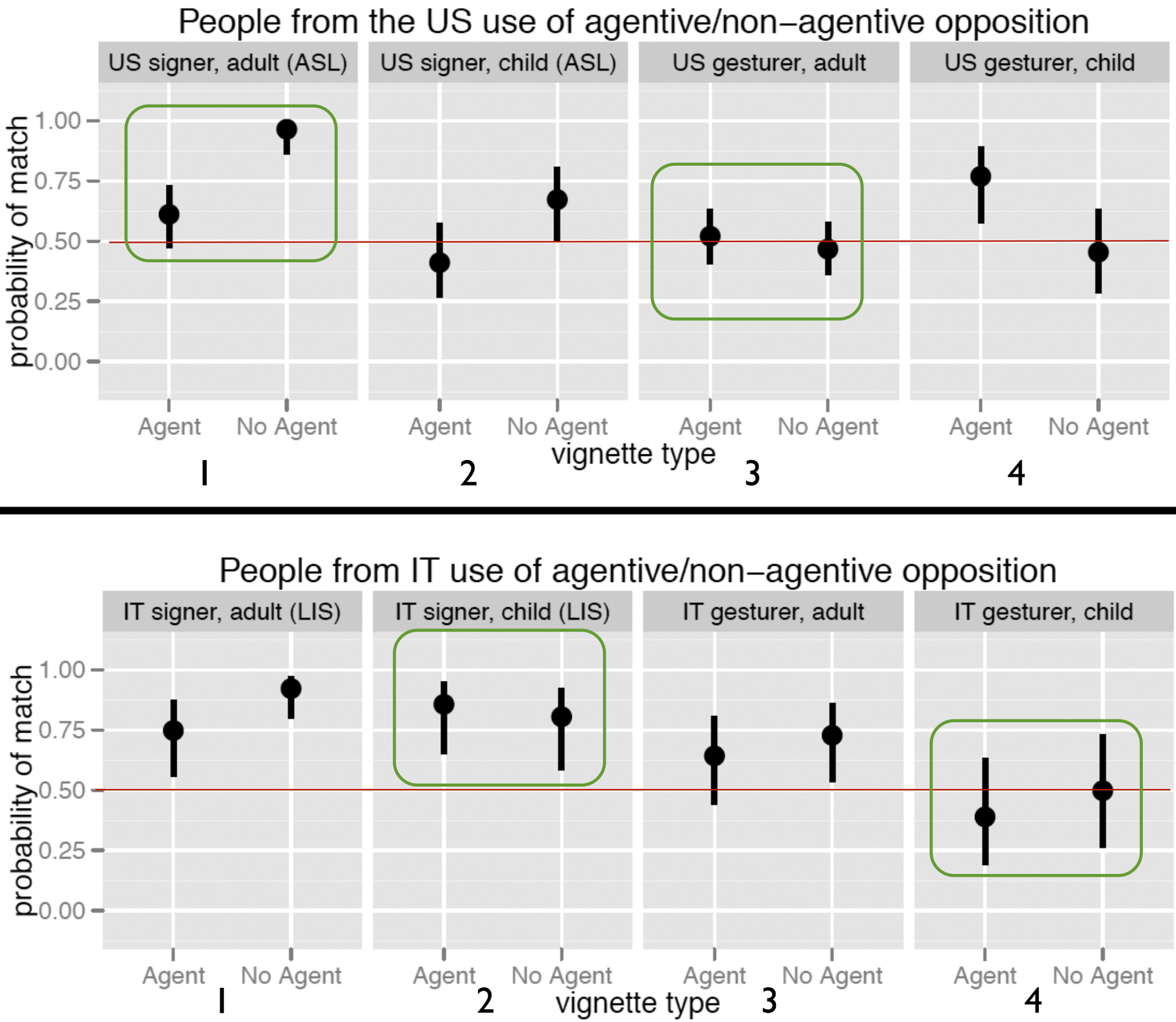
RESULTS: Analysis by Country

- For Americans (p=<0.001) and Italians (p=0.03), there was a significant effect for type of system (sign vs. gesture). The adults were responsible for the difference in the US, and the children were responsible for the difference in Italy (based on Tukey post-hocs).
- The difference between US sign language and gesture groups is more than twice as large for the US groups than for the Italian groups. (US, p<0.001 vs. ITALY, p=0.03)
    - Only 1 adult US gesturer varied her responses based on the vignette type; the others tended to use a single handshape type (O-HS or H-HS) in all of their event descriptions (3 used handling; 2 used object).
    - In contrast, 4 adult IT gesturers varied their responses based on the vignette type, and 2 tended to use a single handshape type (O-HS or H-HS) in all of their event descriptions (1used handling; 1 used object).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vignette type
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People from IT use of agentive/non–agentive opposition
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IT signer, child (LIS)
IT gesturer, adult
IT gesturer, child
probability of match
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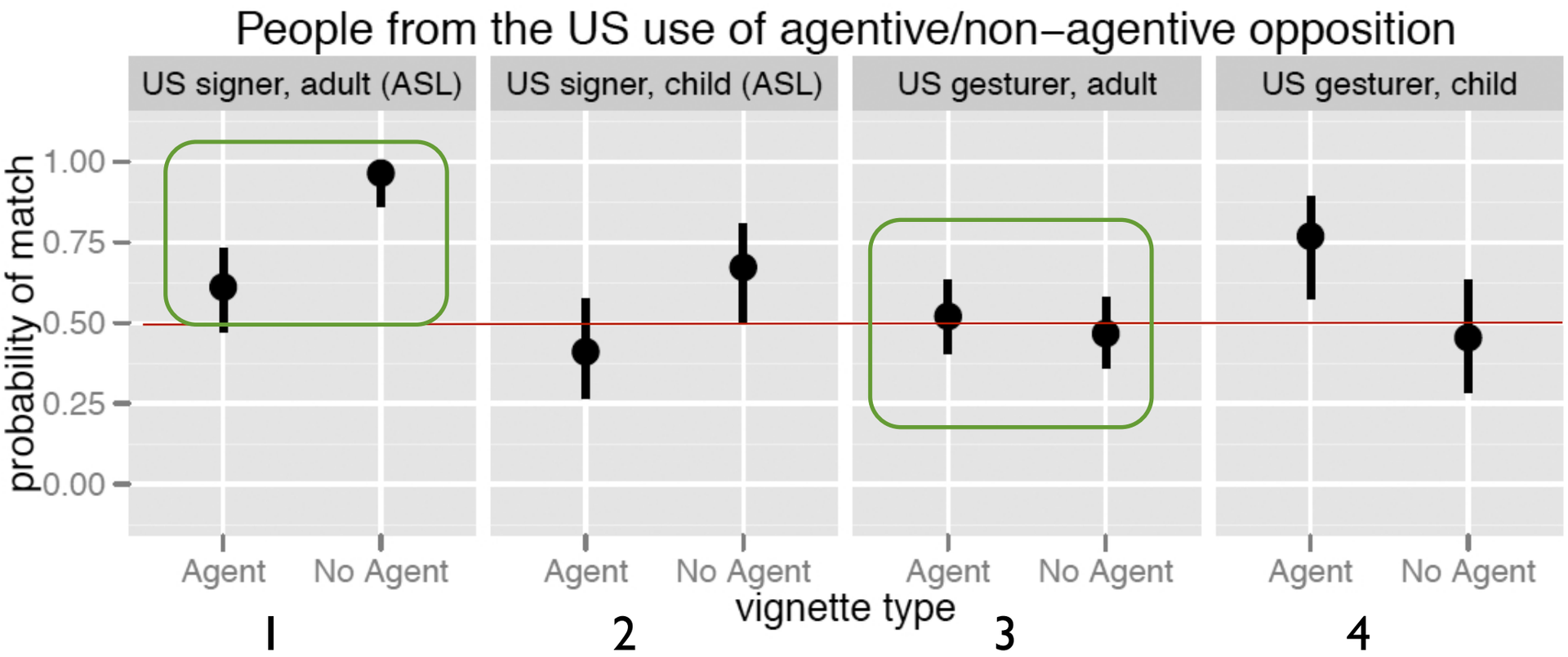
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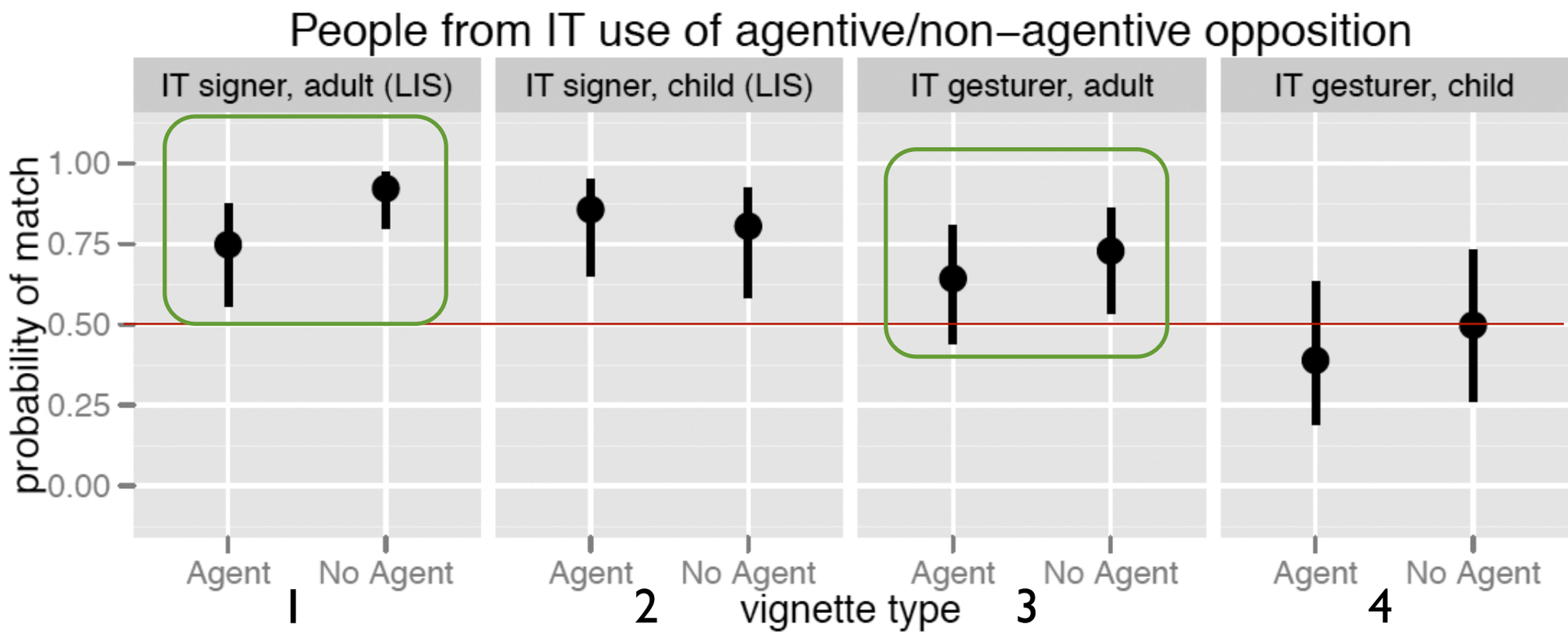
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Conclusions

- There is a significant difference between gesture and sign groups in both countries, so SL grammar is very important. But 4 of 6 Italian adults can produce the H-HS↔O-HS contrast. So culture and cognition also play a role.

  Could the presence of emblematic gestures in a culture make a difference?

- There is also a cross-linguistic difference for SLs: for vignettes with an agent, LIS signers produce more matches.

  Possibly a typological difference between SLs that prefer to use Handling HSs (e.g., LIS, JSL, BSL) and those that prefer to use Object handshapes (e.g., ASL, ABSL, CSL-Shanghai variety).

- LIS children at 4;0-6;0 already show the adult pattern; ASL children do not.

  Perhaps the LIS children show the adult pattern a bit earlier not only because of more regular input in LIS, but also because of the general gestural culture of Italy.

Thank you!

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