

We "might could" revisit syntactic processing: Studying dialectal variation with event-related potentials

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Background

- Variation across individuals, accents, and dialects is inherent to language
- Theories of language processing primarily draw on evidence from standard language varieties
- Syntactic processing research with EEG typically relies on written stimuli with grammatical violations or ambiguities
- Production-Distribution-Comprehension (PDC) model provides mechanistic account of relation between familiarity and processing in previous research on dialect (MacDonald, 2013)
- Double modals:** "socially diagnostic" Southern dialect feature signaling indirectness or hedging (Bernstein, 2003; Hasty, 2012; Mishoe & Montgomery, 1994)

Stimuli

Condition	Context sentence	Type	Target sentence
Critical	"Kaitlyn is having a hard time with her essay."	Standard single modal	"She thinks she <i>should</i> ask the professor for an extension."
		Attested double modal	"She thinks she <i>might should</i> ask the professor for an extension."
		Unattested double modal	"She thinks she <i>could should</i> ask the professor for an extension."
Filler	"Kaitlyn waits for the bus every morning to go to work."		"She said <i>the that</i> bus is usually late."

Root modals used: could and should

Predictions

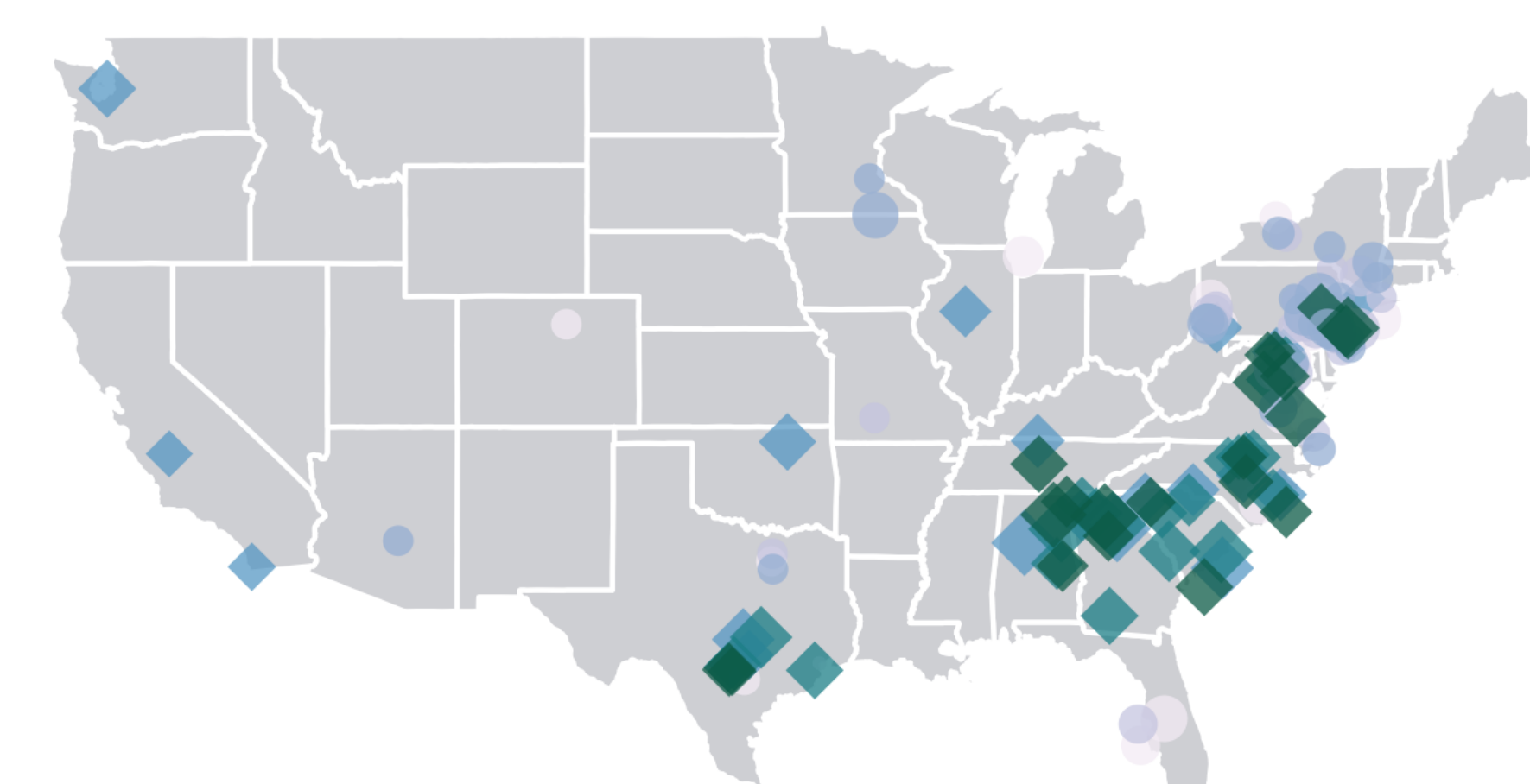
Type	ERP		Offline measures	
	Mainstream	Southern	Mainstream	Southern
Standard single modal	Baseline	Baseline	High	High
Attested double modal	(N400)-P600	Same as baseline	Low	Similar to standard single modals
Unattested double modal			Same as attested double modals	Lower than single and attested double modals

ERP time-locked to second modal (could or should) in attested double modal sentences to compare to standard single modal

Participants

Group	Stage	Location	Dialect	Total tested	ERP	Offline	Mean age
Mainstream	Complete	Did not live in the South for a significant period of time	Not exposed to "might could" and unfamiliar with double modals	30	25	27	19.61
Southern	Ongoing	Lived in the South during childhood or adolescence	Exposed to "might could" or familiar with double modals	23	20	22	19.86

Regional dialect exposure from birth through adolescence

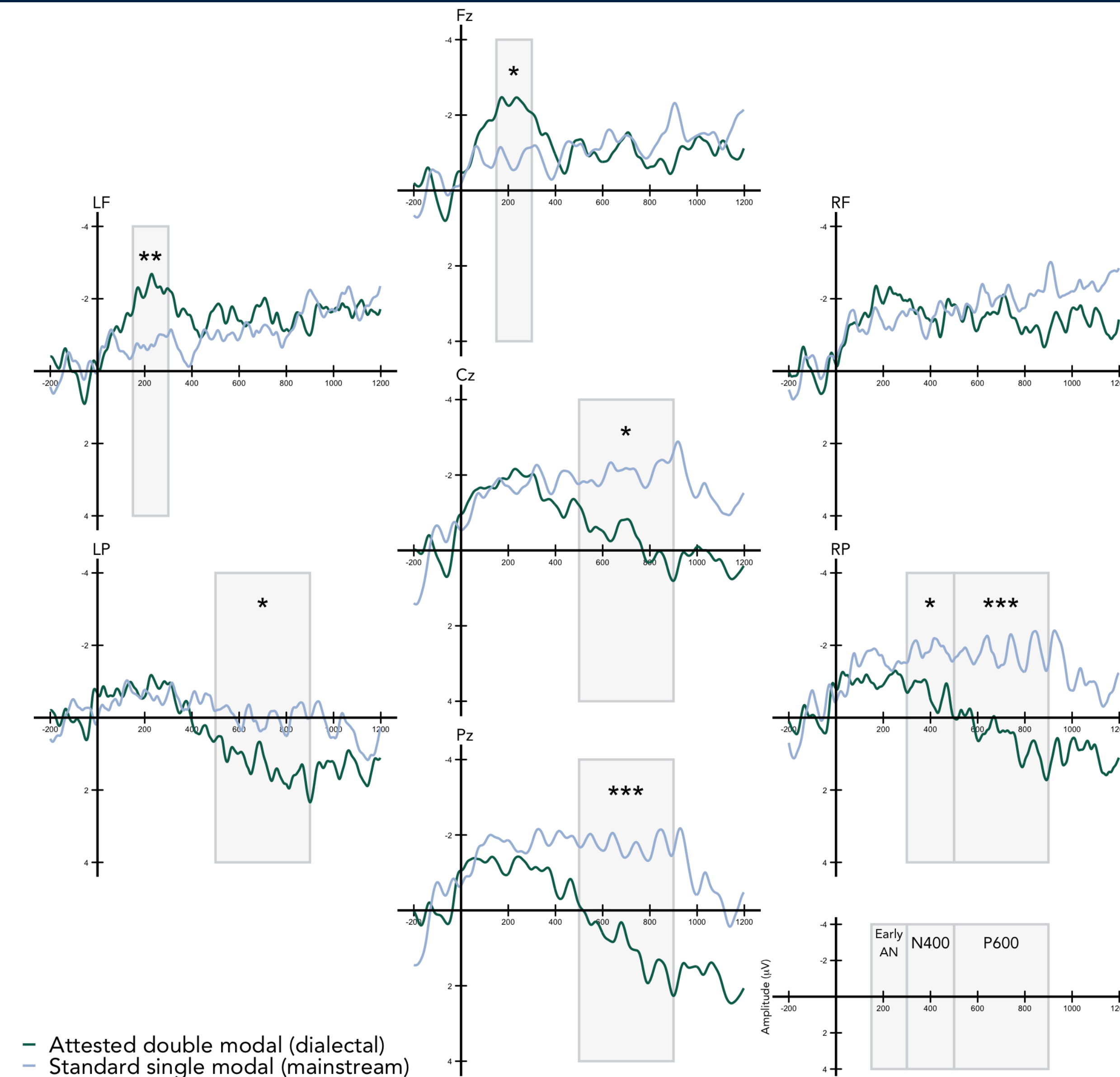


Dialect group and history

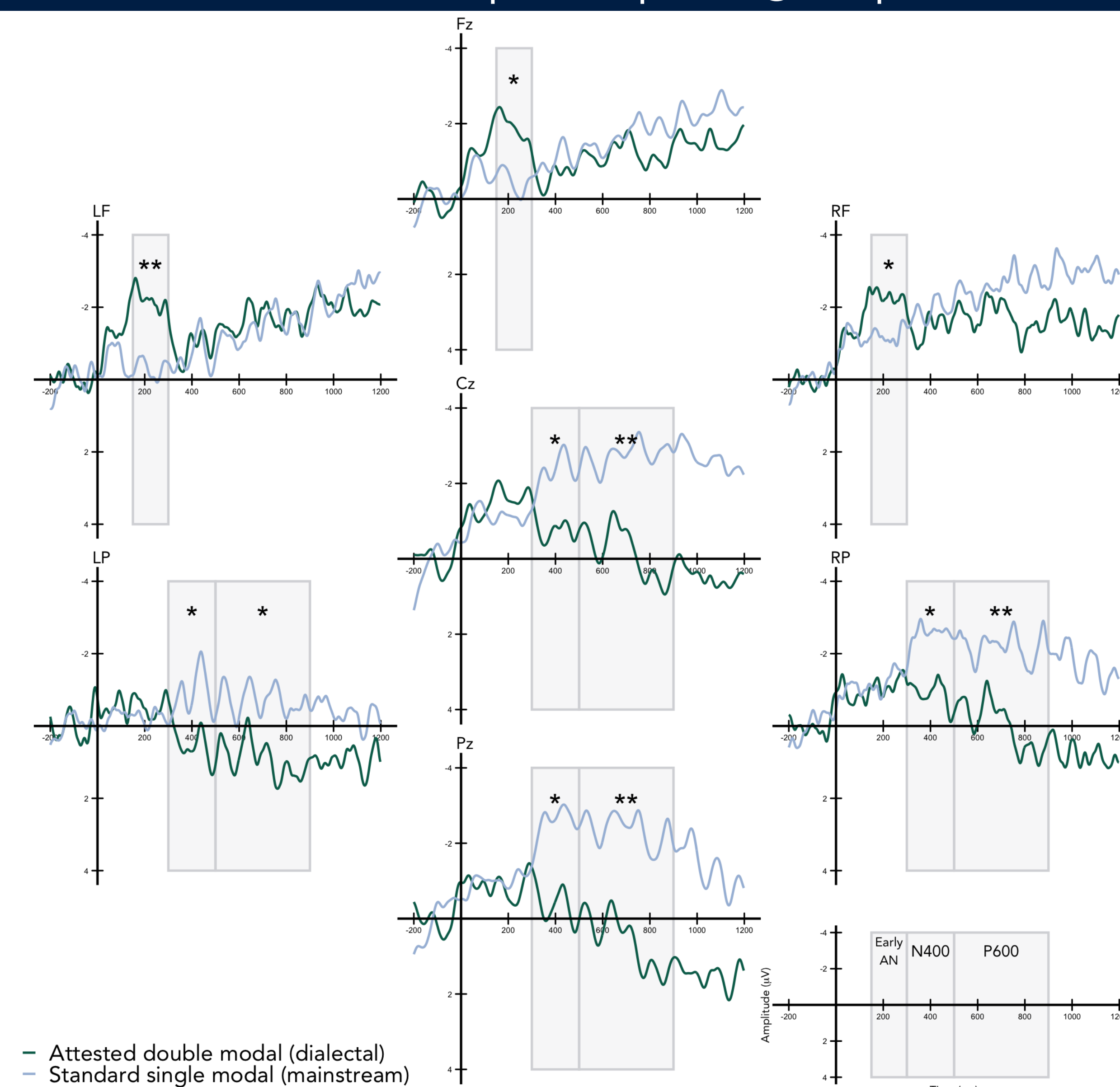
- Mainstream: birth
- Mainstream: childhood (3-13)
- Mainstream: adolescence (14-18)
- Southern: birth
- Southern: childhood (3-13)
- Southern: adolescence (14-18)

Both dialect groups were sensitive to syntactic variation at the structure-building (Early AN) and integration (P600) levels of processing

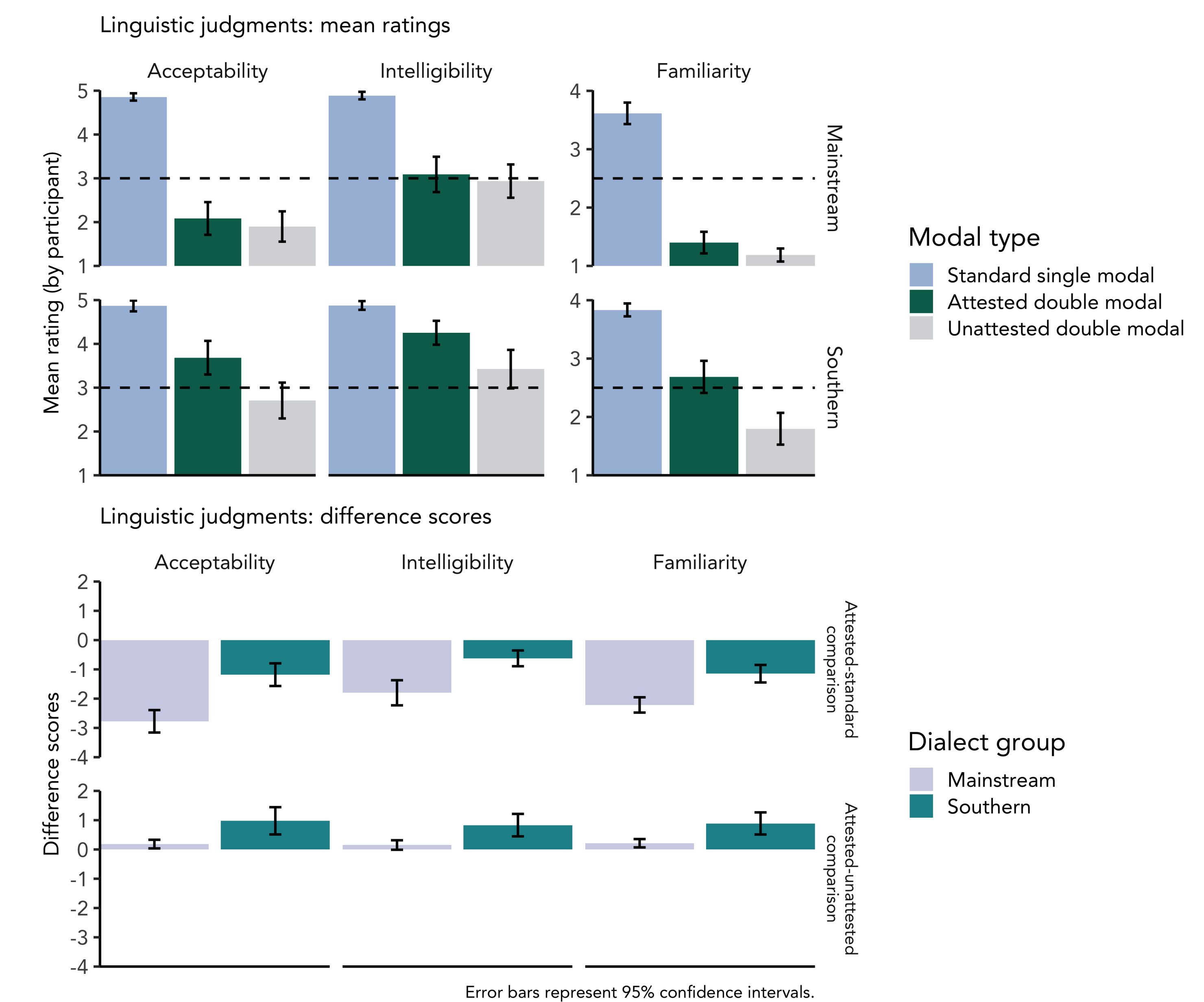
Mainstream participant group



Southern participant group



Offline tasks



Results

- Attested double modals engaged **automatic detection** of non-standard speech and **syntactic reanalysis** in both dialect groups
- Southern participants rated attested double modal constructions higher on acceptability, intelligibility, and familiarity than Mainstream participants
- Neural results went against experience-based predictions, but behavioral results reflected dialect experience

Conclusion

Are our brains more prescriptive than our mouths?

- Complexity and constraints of experience-based theories of language processing in accounting for dialectal variation
- Need for enhanced experience-based model of language processing incorporating notions of social weighting, salience, and prescriptive language ideologies (Sumner, Kim, King, & McGowan, 2014)
- Future direction:** studying Southern speakers in their local communities with *The Brain Bus* (mobile EEG system)

References and acknowledgements

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