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# Theory and Experiment: Toward Best Practices in Code-switching Research

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## Introduction

### Code-switching and Linguistic Theory

- Code-switching (CS) is the use of two languages within the same discourse or utterance
- Bilingual speakers have competence; CS falls within the range of possible human languages
- How do we access this competence?

### Goal

- To focus on methodological issues specific to CS research, providing illustrative examples and/or potential solutions to unique problems

## Example: Sluicing

- Stimuli designed to test particular claims in linguistic theory
- Choosing relevant languages and features

(1) John threatened someone, but I don't know who <John threatened>.

- Accounting for the deleted TP has been the subject of significant research
- Two main theories
  - Semantic identity: The antecedent and the deleted segment need only be semantically identical (Merchant 2001, van Craenenbroeck 2010)
  - Beyond semantics: Something else is in play, like morphosyntactic identity (Sag 1976, Chung 2006)
- How can we bring empirical evidence to bear on this theoretical question?
- Case is a morphosyntactic feature that could prove fruitful to investigate
- Case is overtly marked on the wh-word remnant in both Spanish and German:

(2) Juan amenazó a alguien, pero no sé a quién.  
Juan threatened ACC someone but not know.1SING ACC who  
'Juan threatened someone, but I don't know who.'

(3) Juan hat jemandem gedroht, aber ich weiß nicht wem.  
Juan has someone.DAT threatened but I know not who.DAT  
'Juan threatened someone, but I don't know who.'

- Code-switching the sentences allows us to investigate if morphosyntax is in play:

(4) Juan amenazó a alguien, aber ich weiß nicht wen.  
Juan threatened ACC someone but I know not who.ACC  
'Juan threatened someone, but I don't know who.'

(5) \*Juan amenazó a alguien, aber ich weiß nicht wem.  
Juan threatened ACC someone but I know not who.DAT  
'Juan threatened someone, but I don't know who.'

- Case appears to be determined by the language of the main clause
- Supports the "beyond semantics" account (Sag 1976, Chung 2006) of sluicing

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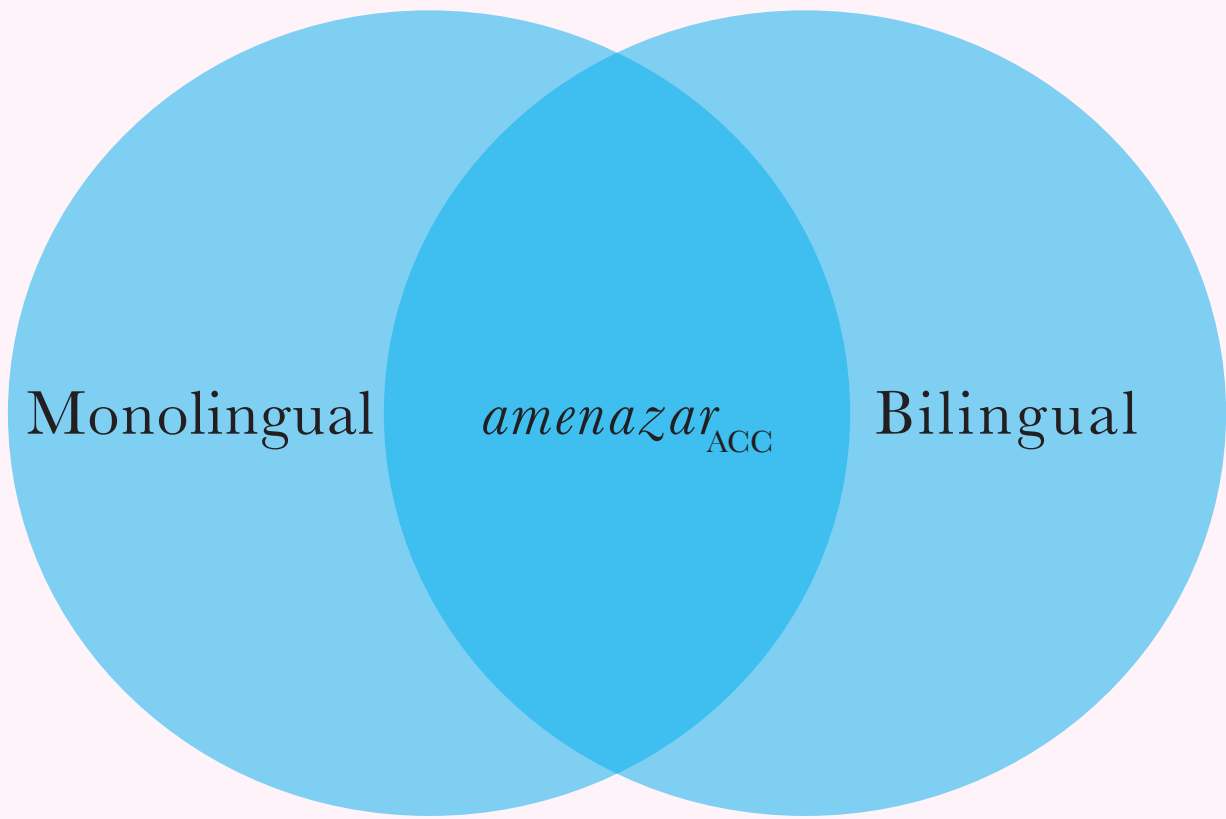
### For further information

For more information on this and related projects in the Bilingualism Research Laboratory, please visit:

<http://hispanic.las.uic.edu/spanish/bilingualallab.shtml>

## Participant Selection

- Pre-screening
  - Collect relevant demographic background information
- Maximum degree of overlap with monolinguals for relevant features
  - Overlap need not be global
  - Test monolingual items to assess L1 and L2 features, in addition to CS



## Stimuli Design

### Naturalness of CS: Lexical Items

- Grammaticality judgments are constrained by performance issues, including real-world plausability (Bader & Häussler 2009)

Spanish/Taiwanese

(6) Hia-e tue-chit riab bat-zang compró Mirta?  
Those which cl bat-zang bought Mirta  
'Which of those bat-zang did Mirta buy?'

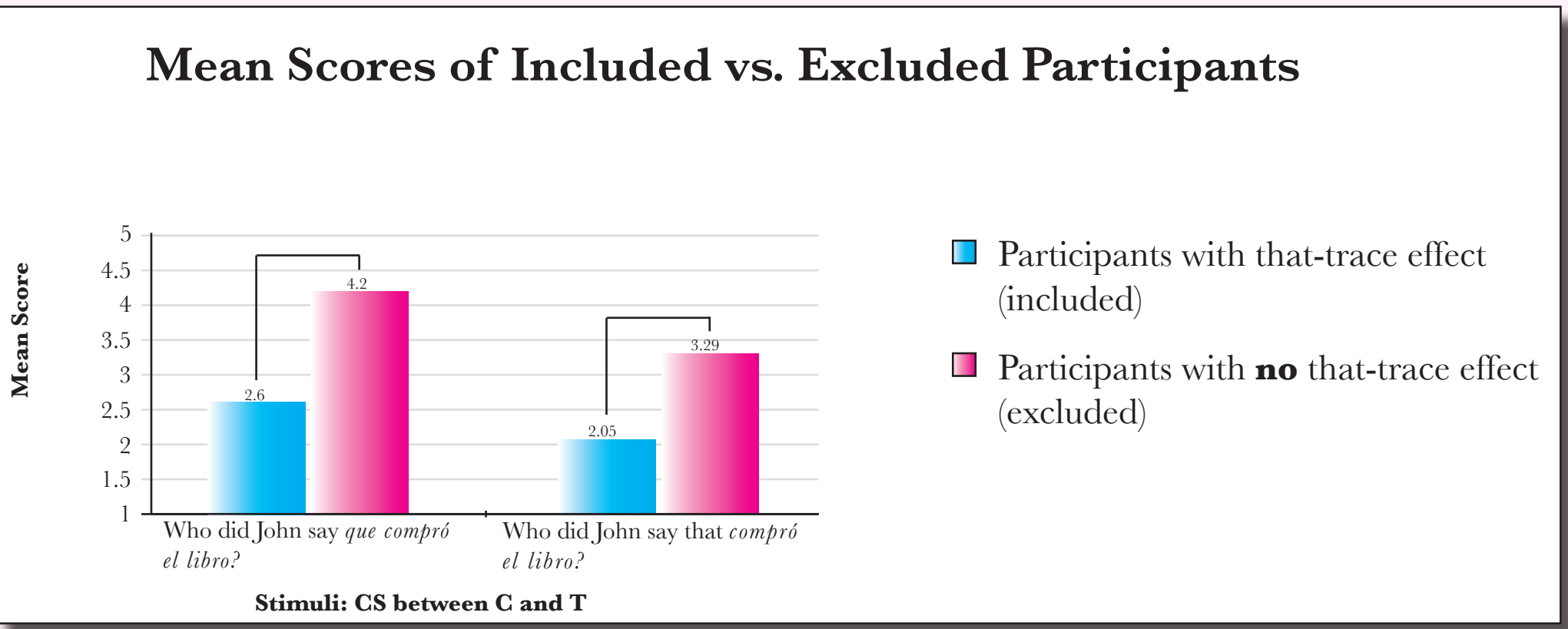
- A bat-zang is a rice dumpling specific to Taiwanese culture, and thus this sentence seems particularly natural to our consultants

(7) Mirta compró hia-e tue-chit pun ttse?  
Mirta buy those which cl book  
'Which of those books did Mirta buy?'

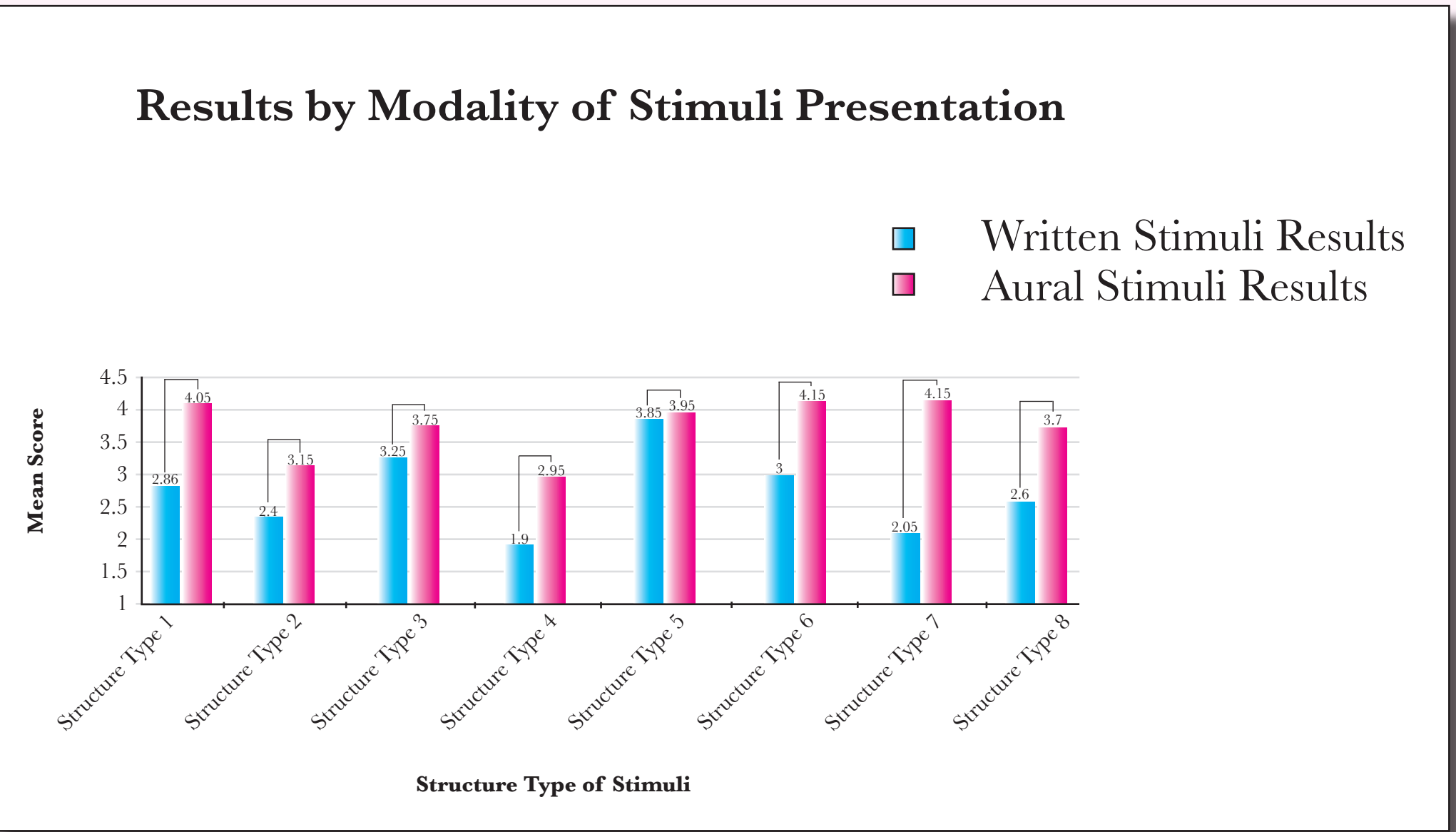
- To paraphrase our consultant: If you're talking about books, why switch?

### Modality of Stimuli Presentation

- CS can be influenced by prosody, pauses, etc. (MacSwan 1999, Toribio 2001)
- Though CS is sometimes written it is primarily a spoken phenomenon (cf. Grosjean 1982, Mahootian 2005, Montes-Alcalá 2001)
- Aural stimuli:
  - + Control for phonology; more natural
  - Additional work to create and administer
- Written stimuli:
  - + Easy to create and administer; common in theoretical linguistics
  - No control for phonology; less natural



- Do written stimuli produce comparable results with aural (recorded) stimuli?



## Experimental Procedure

### Potential Confounds:

- CS often subject to stigma (Poplack 1980), may influence judgments
- CS influenced by situation
  - Participants comfortable producing or listening to mixed language (Grosjean 1998)
- Bilingual language mode continuum (Grosjean 1985, 1994, 1997a, 1998, 2001)

### Potential Solutions:

		Confounds		
		Stigma	Comfort Level	Mode Continuum
Solutions	Instructions in CS	-	+	+
	Training	+	+	+
	Priming	-	-	+

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## Conclusion and Outlook

- Control for:
  - Participant selection - Overlap between monolinguals and bilinguals on relevant features
  - Stimuli design - Choose relevant features and language pairs, naturalness of CS
  - Modality of stimuli presentation
  - Potential confounds in experimental procedure - Instructions in CS, participant training, priming tasks
- One step forward: Reporting clearly in the literature on these issues
- Ultimate goal: Having discipline-wide standards