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Learning Two Languages Under Conditions of Impairment

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Overview

- What is SLI? What causes it?
- Dual language development and SLI: The issues
- **Study 1:** Can French-English bilinguals with SLI acquire tense morphology like monolinguals with SLI in each language?
- **Study 2:** Do French-English bilinguals show difficulties with object pronouns in French but not in English, like monolinguals with SLI?
- **Study 3:** Can English-speaking children with SLI learn object pronouns in French as an L2?
- Dual language development and SLI: What we know

Specific Language Impairment

- What is SLI?
- What causes SLI?
 - Cognitive/perceptual processing accounts:
 - Generalized Slowing Hypothesis
 - Surface Hypothesis

(Ellis Weismer et al., 1999; Leonard et al., 1997; Miller et al., 2001)

- Linguistic representational accounts:
 - Disruption-within-Delay

(Rice, 2003,2004)

Dual Language Development and SLI

- Applied issues:
 - Bilingualism may exacerbate SLI
 - Children with SLI do not have the capacity to learn more than one language
 - Dual language & SLI : slower development; deviant patterns
- Theoretical issues:
 - Cognitive/perceptual processing accounts predict delay in bilinguals with SLI w.r.t. monolinguals with SLI
 - Linguistic representational accounts predict similarities in linguistic profiles between bilinguals and monolinguals with SLI

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Study 1: Tense-marking morphemes in French-English bilinguals and monolinguals with SLI

Paradis, Crago, Genesee & Rice (2003)

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EOI: Selective Deficit on Tense in SLI

- Children with TLD: Optional Infinitive
 - Tense-marking morphemes later-acquired than non-tense-marking morphemes
- Children with SLI: *Extended* Optional Infinitive
 - *Very* protracted acquisition of tense morphemes
 - SLI < language-matched TD and age-matched TD

(Rice & Wexler, 1996; Rice et al, 1998)
- French SLI as Extended Optional Infinitive/Default

(Paradis & Crago, 2001; 2004)

Predictions

- Processing:
 - Bilingual SLI < monolingual SLI
 - SLI \leq LAN (language-matched), < CA (age-matched)
 - Tense \leq non-tense, depending on phonetic salience
 - 3Ss [-s] vs. PL [-s]
- Representational:
 - Bilingual SLI = monolingual SLI
 - SLI < LAN (language-matched) and CA (age-matched)
 - For SLI: tense < non-tense

Participants

	ECA	ELAN	ESLI	BSLI (E)	BSLI (F)	FSLI	FLAN	FCA
Age	7;1	5;2	7;1	6;11		7;7	3;3	7;4
N	21	19	21	8		10	10	10
MLU	N/A	4.19	4.31	3.80	3.61	3.98	3.67	5.70

Participants: Age Matching

	ECA	ELAN	ESLI	BSLI (E)	BSLI (F)	FSLI	FLAN	FCA
Age	7;1	5;2	7;1	6;11		7;7	3;3	7;4
N	21	19	21	8		10	10	10
MLU	N/A	4.19	4.31	3.80	3.61	3.98	3.67	5.70

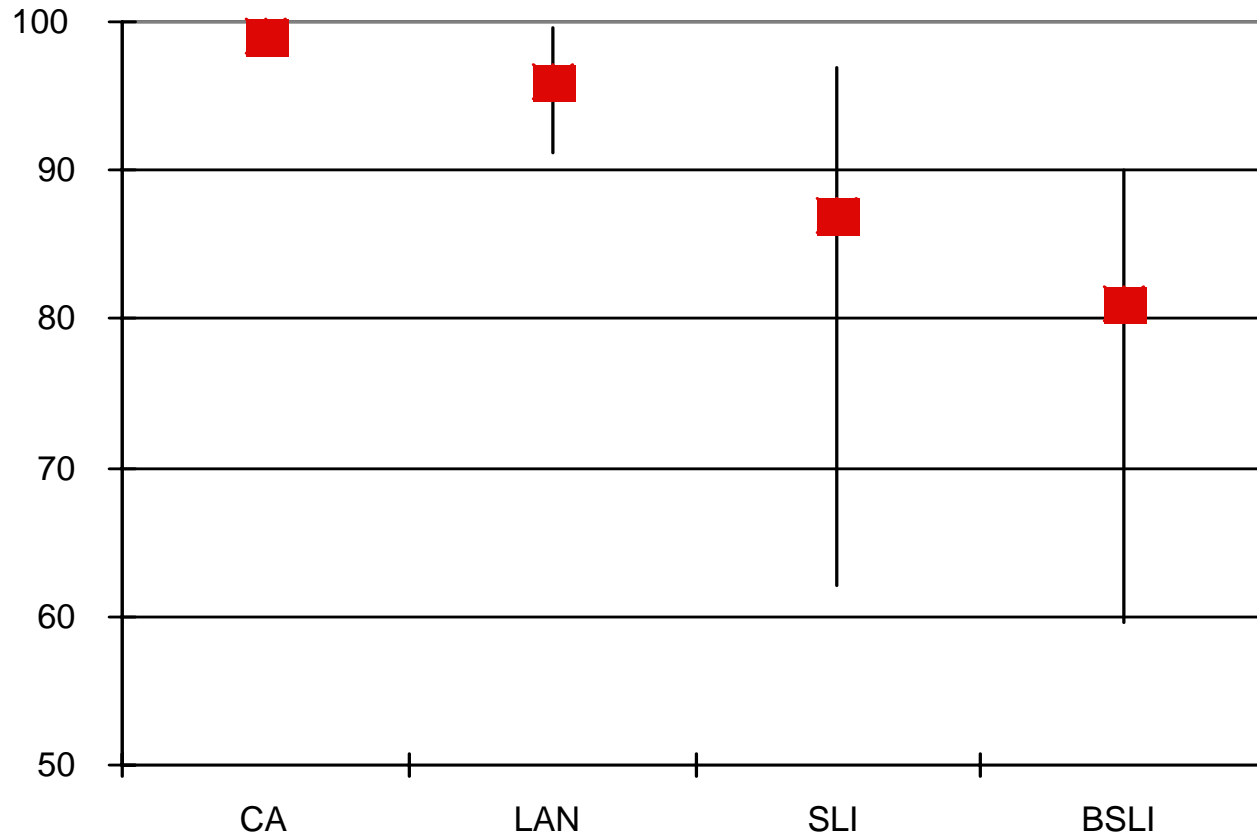
Participants: Language Matching

	ECA	ELAN	ESLI	BSLI (E)	BSLI (F)	FSLI	FLAN	FCA
Age	7;1	5;2	7;1	6;11		7;7	3;3	7;4
N	21	19	21	8		10	10	10
MLU	N/A	4.19	4.31	3.80	3.61	3.98	3.67	5.70

Methods

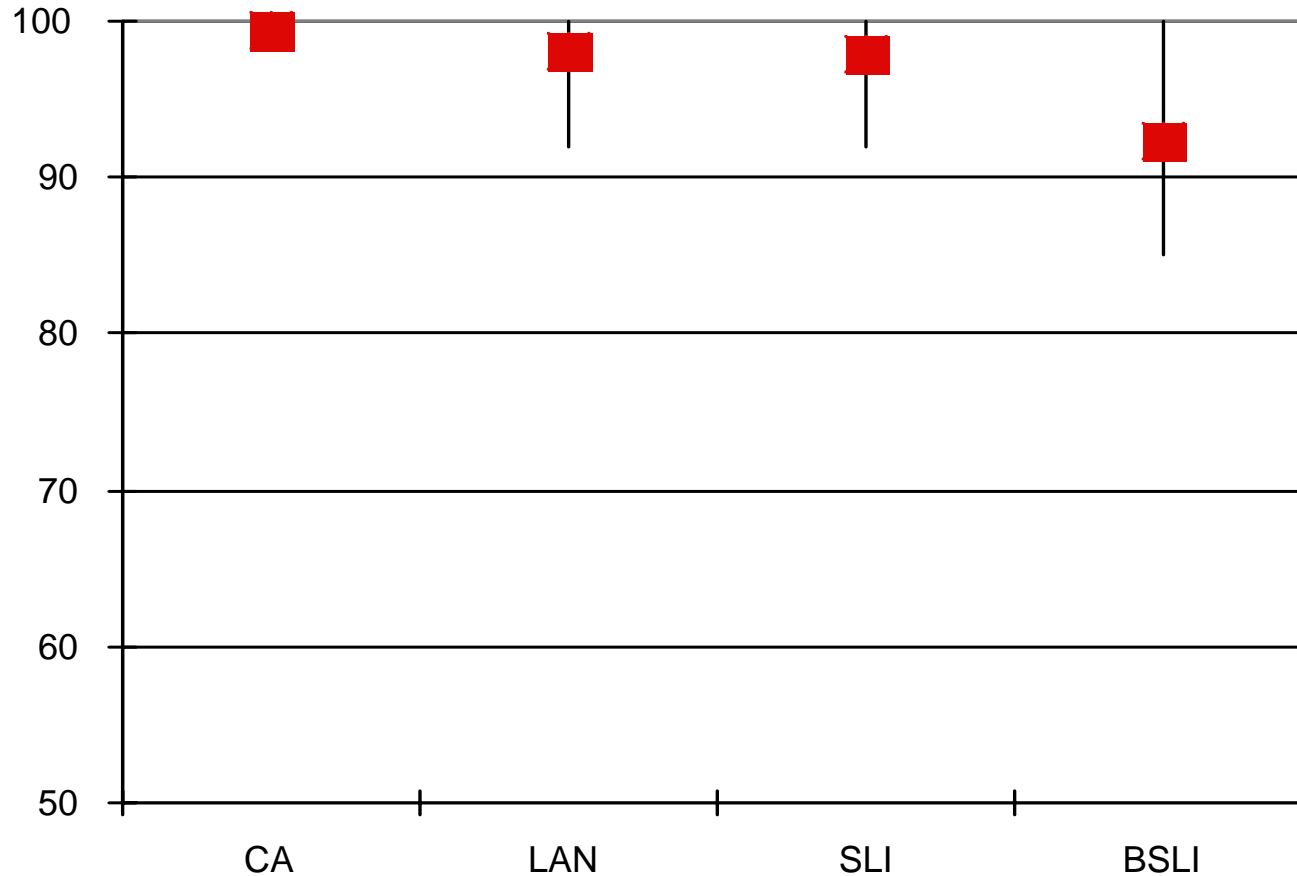
- Transcribed and coded spontaneous language samples
- Target morphemes:
 - English tense: 3S[-s], past [-ed], past-irreg, BE (cop) & (aux)
 - French tense: past-aux, fut-aux, v-stem/pres, copula
 - English non-tense: prog [-ing], PL [-s], prep [in/on]
 - French non-tense: prep [à/de], det (articles, possessives)
- Analyses: composite means of percent correct in obligatory context for tense and non-tense morphemes

Percent Correct English Tense Morphemes

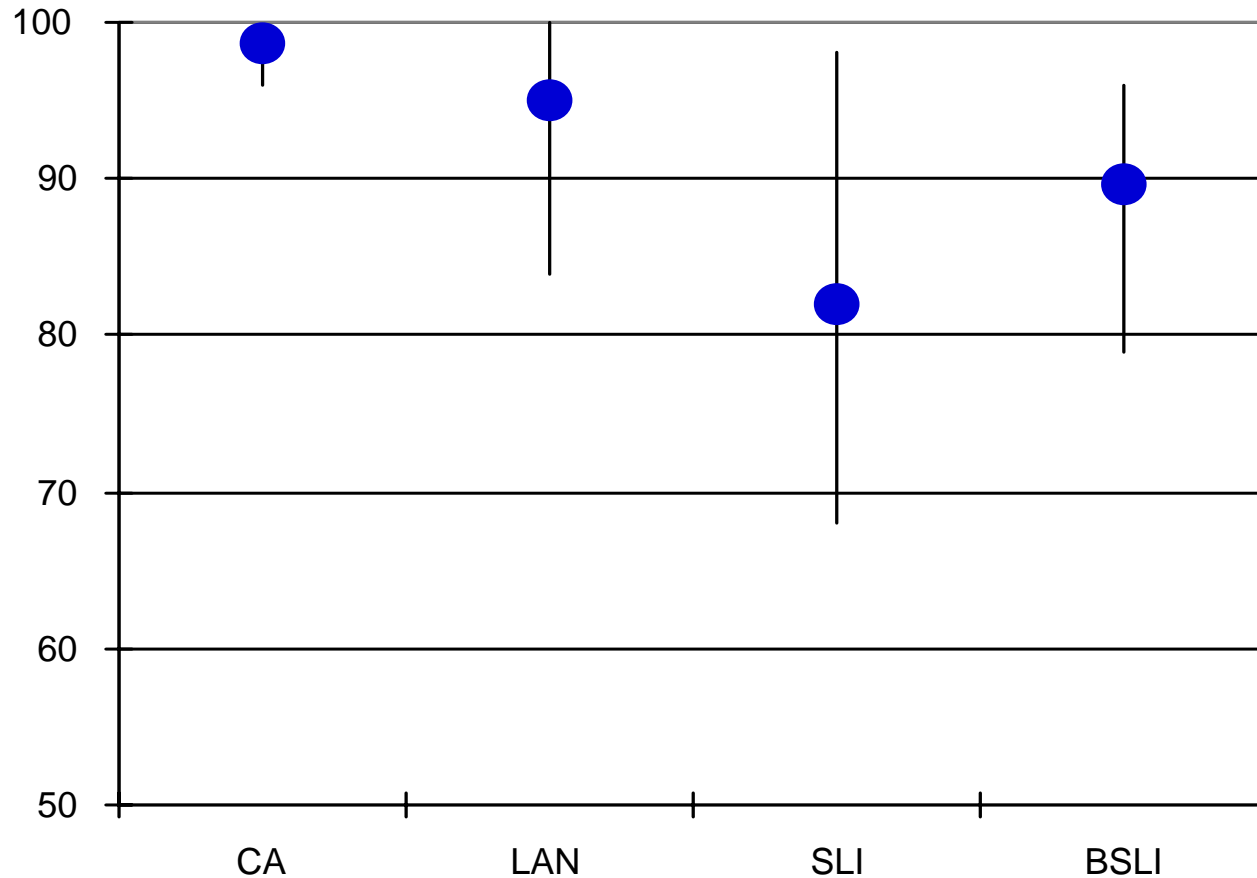


NB: Bars = Ranges

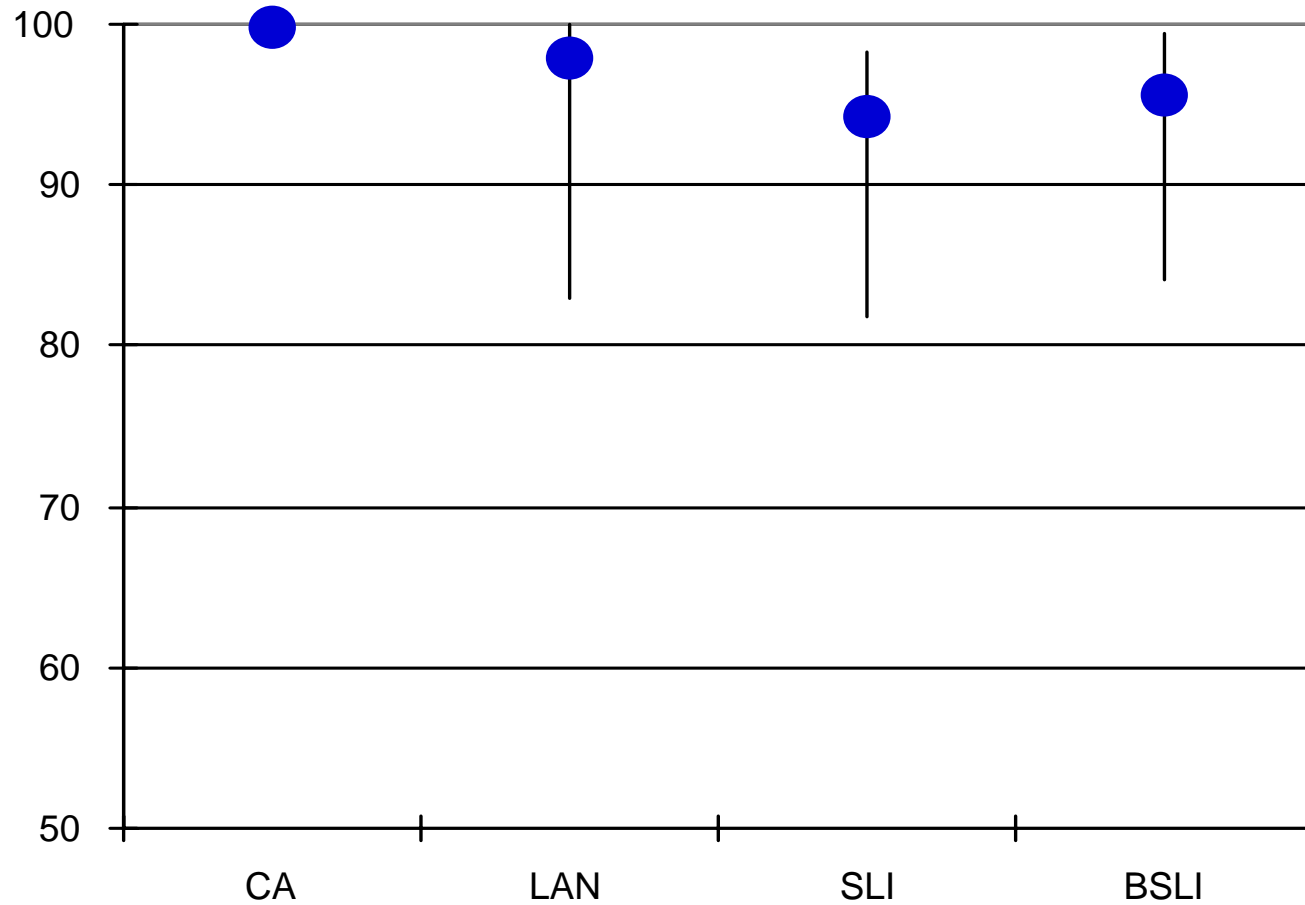
Percent Correct English Non-tense Morphemes



Percent Correct French Tense Morphemes



Percent Correct French Non-tense Morphemes



Comparison of Homophonous Morphemes

	3SG [-s]	PL [-s]
ESLI-MONO	86.5%	96.6%
ESLI-BIL	72.7%	92.5%

Results Summary

- Bilingual SLI = monolingual SLI
- Tense < non-tense
 - For composite and for homophonous [-s]
- SLI < LAN, AGE
- ☰ EOI pattern in bilinguals and monolinguals;
French and English

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Study 2: Object pronouns and articles in French-English bilinguals and monolinguals with SLI

Paradis, Crago & Genesee (2005/2006)

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Issues Motivating Study 2

- Tense problematic in both French and English SLI: Would bilinguals = monolingual profile for a structure if problematic in only one language?
 - Clitic direct object pronouns in French
- Bilingual language matches as comparison group for bilinguals with SLI: Any crosslinguistic patterns unique to bilinguals?

Object Pronouns in French and English

1. (a) Brigitte mange la banane. (lexical object)
(b) Brigitte is eating the banana.
 2. (a) Brigitte mange ça. (demonstrative pro)
(b) Brigitte is eating that.
 3. (a) Brigitte la mange. (pro object = preverbal clitic)
(b) Brigitte is eating it. (pro object = postverbal pro)
(c) *Brigitte mange la. (pro object = postverbal clitic)
-
- Clitics difficult to acquire in French, with TLD and SLI
(Granfeldt & Schlyter, 2004; Hamann, 2004; Jakubowicz et al., 1998; Paradis, 2004)

Articles and Object Clitics in French

- Direct object clitics: le, la, les
- Definite articles: le, la, les
- Morphophonological properties: unstressed position & *elision*
 - a) je le vois 'I see it/him'
 - b) je l'aime / *je le aime 'I love it/him'
 - c) le professeur de mon fils 'my son's teacher'
 - d) l'ami de mon fils / *le ami de mon fils 'my son's friend'
- Definite articles not difficult to acquire in French
(Jakubowicz et al., 1998; le Normand et al., 1993; Paradis & Crago, 2004)

Predictions

- Processing:
 - Bilinguals < monolinguals
 - No difference between articles and clitics
- Representational:
 - Bilinguals = monolinguals
 - Clitics < articles
 - Clitics = tense in French in Extended Unique Checking Constraint (Wexler, 1998; 2003)

Participants

	FCA	FLAN	FSLI	BLAN (F)	BLAN (E)	BSLI (F)	BSLI (E)
Age	7;4	3;3	7;7	3;3		7;3 ^a	
N	10	10	10	9		7 ^a	
MLU	5.70	3.67	3.98	3.71	3.49	3.56 ^a	3.86

^aSmaller group for BSLI than study 1

Participants: Age Matching

	FCA	FLAN	FSLI	BLAN (F)	BLAN (E)	BSLI (F)	BSLI (E)
Age	7;4	3;3	7;7	3;3		7;3 ^a	
N	10	10	10	9		7 ^a	
MLU	5.70	3.67	3.98	3.71	3.49	3.56 ^a	3.86

^aSmaller group for BSLI than study 1

Participants: Language Matching

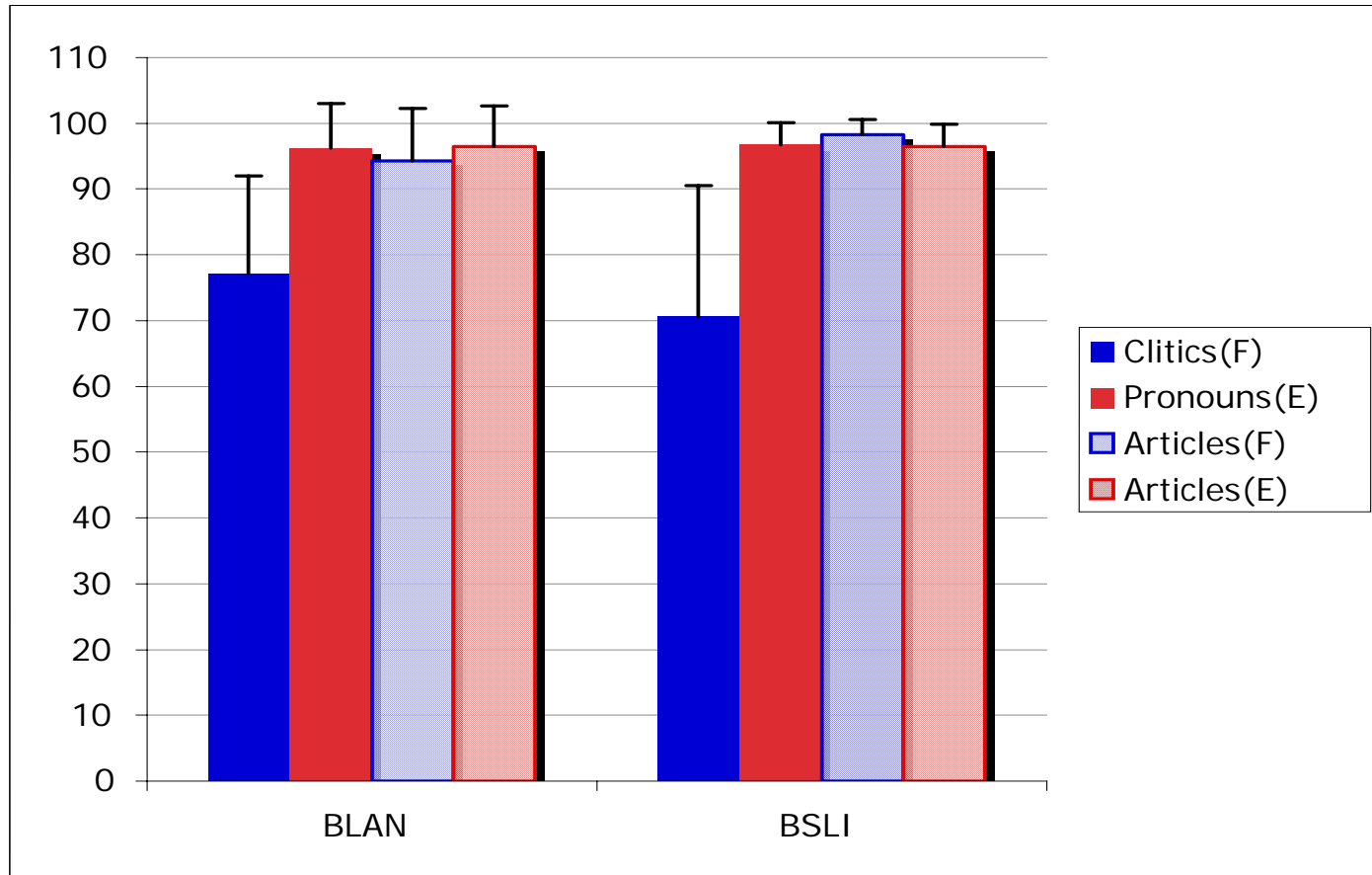
	FCA	FLAN	FSLI	BLAN (F)	BLAN (E)	BSLI (F)	BSLI (E)
Age	7;4	3;3	7;7	3;3		7;3 ^a	
N	10	10	10	9		7 ^a	
MLU	5.70	3.67	3.98	3.71	3.49	3.56 ^a	3.86

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Methods

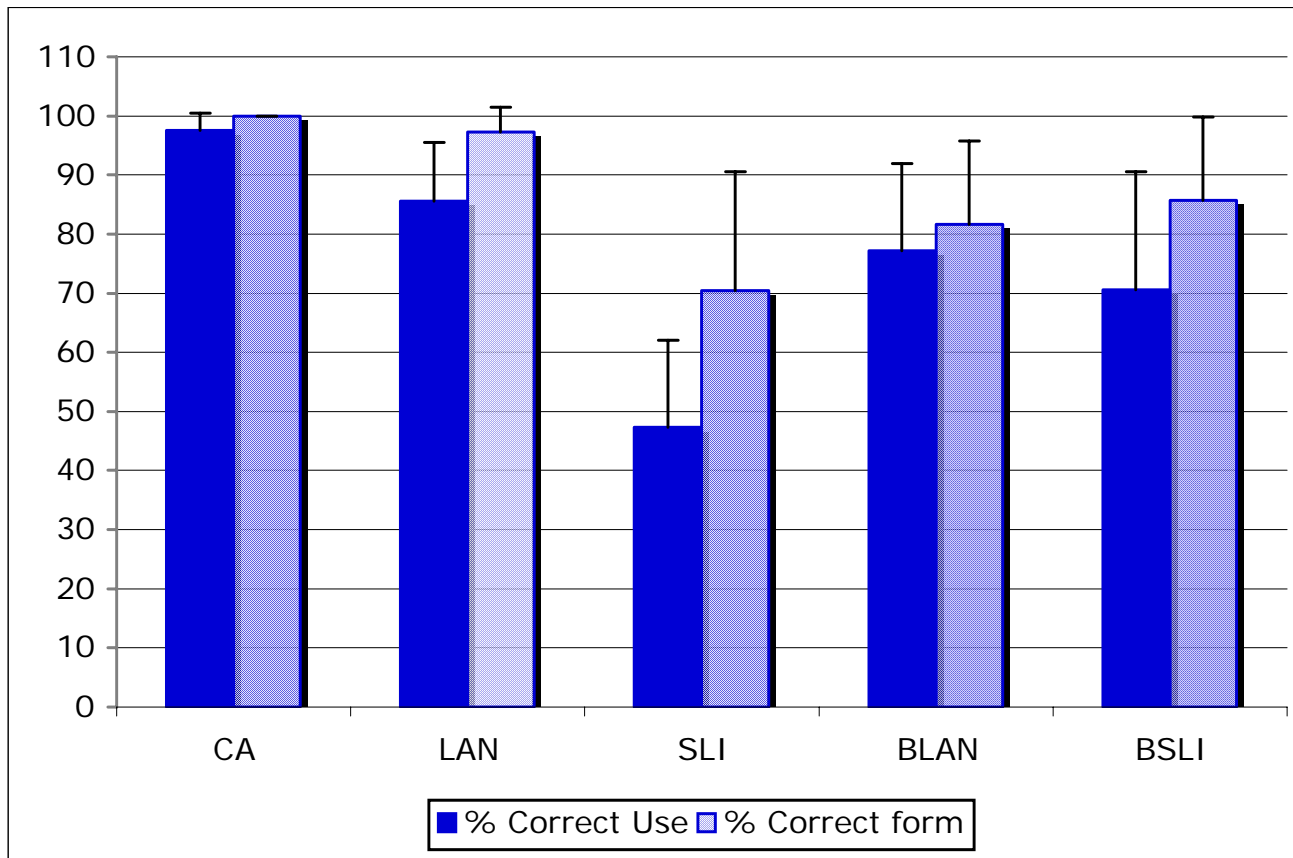
- Transcribed and coded spontaneous language samples
- Target Morphemes
 - French: direct object clitics; definite articles [le, la, les]
 - English: direct object pronouns (personal & demonstrative); definite article [the]
- Analyses:
 - Clitics/pronouns: Percent use in “permissible” context for pronominalization
 - Articles: Percent use in obligatory context for definite article

Percent Use in French and English by Bilinguals




NB: Bars = SDs

Percent Use of Clitics in French



Results Summary

- Crosslinguistic pattern for object pronouns manifest in bilinguals, with and without SLI
 - Bilingual SLI \geq monolingual SLI
 - Bilingual SLI = Bilingual LAN (*)
 - Clitics < articles in French
-  More consistent support for representational than processing account

General Discussion

- Bilinguals with SLI and with TLD not delayed compared to monolinguals
 - Critical mass or threshold effects?
 - Dominance?
- Profile for bilingual SLI = monolingual SLI for a range of morphemes
- Bilingual data unique evidence for representational account of SLI morphological acquisition

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Study 3: Object Pronouns over Time in English L1-French L2 children, with and without SLI

Crago, Bélanger & Paradis (in preparation)

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Question Motivating Study 3

- How well do English-speaking children with SLI learn French as second language?
 - In particular, how do they acquire object clitics in comparison to English-speaking children with typical language development who are learning French as a second language?

Participants – L2 French (Learning in French Immersion programs)

	10 mos exposure	20 mos exposure	30 mos exposure
TLD	6;1yrs (N=8)	6;9yrs (N=15)	7;6yrs (N=9)
SLI	6;2 (N=2)	7;0yrs (N=3)	8;1yrs (N=2)

Participants –Controls

Child L1 French	Adult L1 French
5;9 yrs (N=10)	>18 years (N=11)

Procedures –Two Experimental Tasks

- Object Clitic Elicitation Task
- Object Clitic Grammaticality Judgment Task
- Both were administered to experimental groups tested at 10, 20, 30 mos. of exposure to French

Elicitation Task

Picture story

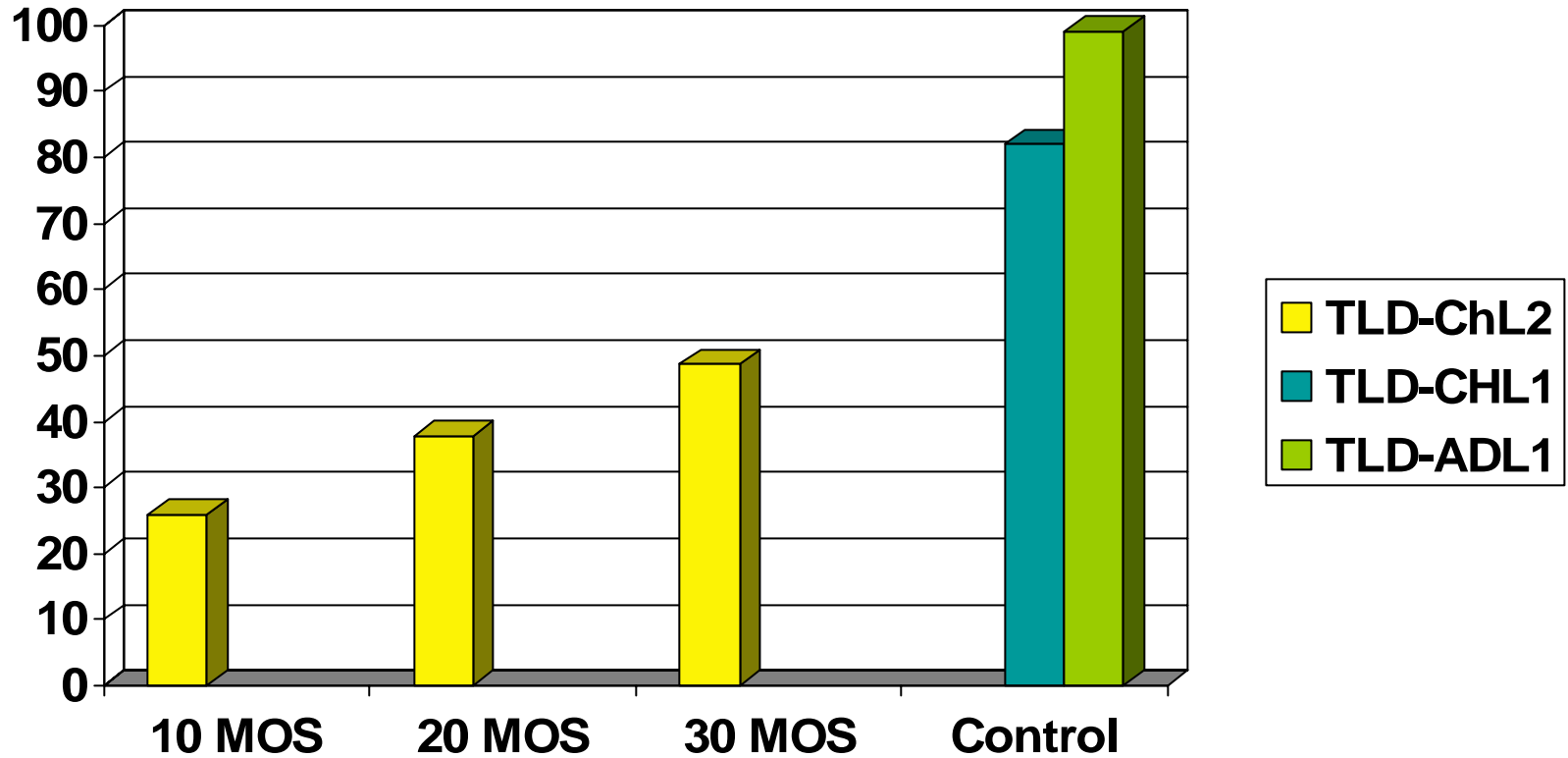
PROBE: Sur cette image

Que fait Brittany avec la
nourriture?

Target response: *Elle la
met dans son sac à dos.*



TLD: Elicitation Task Results



SLI: Elicitation Task Results

- 10 Mos: no children with SLI produced an object clitic
- 20 Mos: no children with SLI produced an object clitic
- 30 Mos: 1 child produced 50% clitics
1 child produced no clitics

Grammaticality Judgment Task

- Detection of ungrammatical determiner(article) omission
- Detection of ungrammatical object clitic omission

Grammaticality Judgment Script

Exam : Hum! Je vais cacher le
brocoli. Est-ce que l'ours va le trouver?
Oh! Qu'est-ce qui arrive?

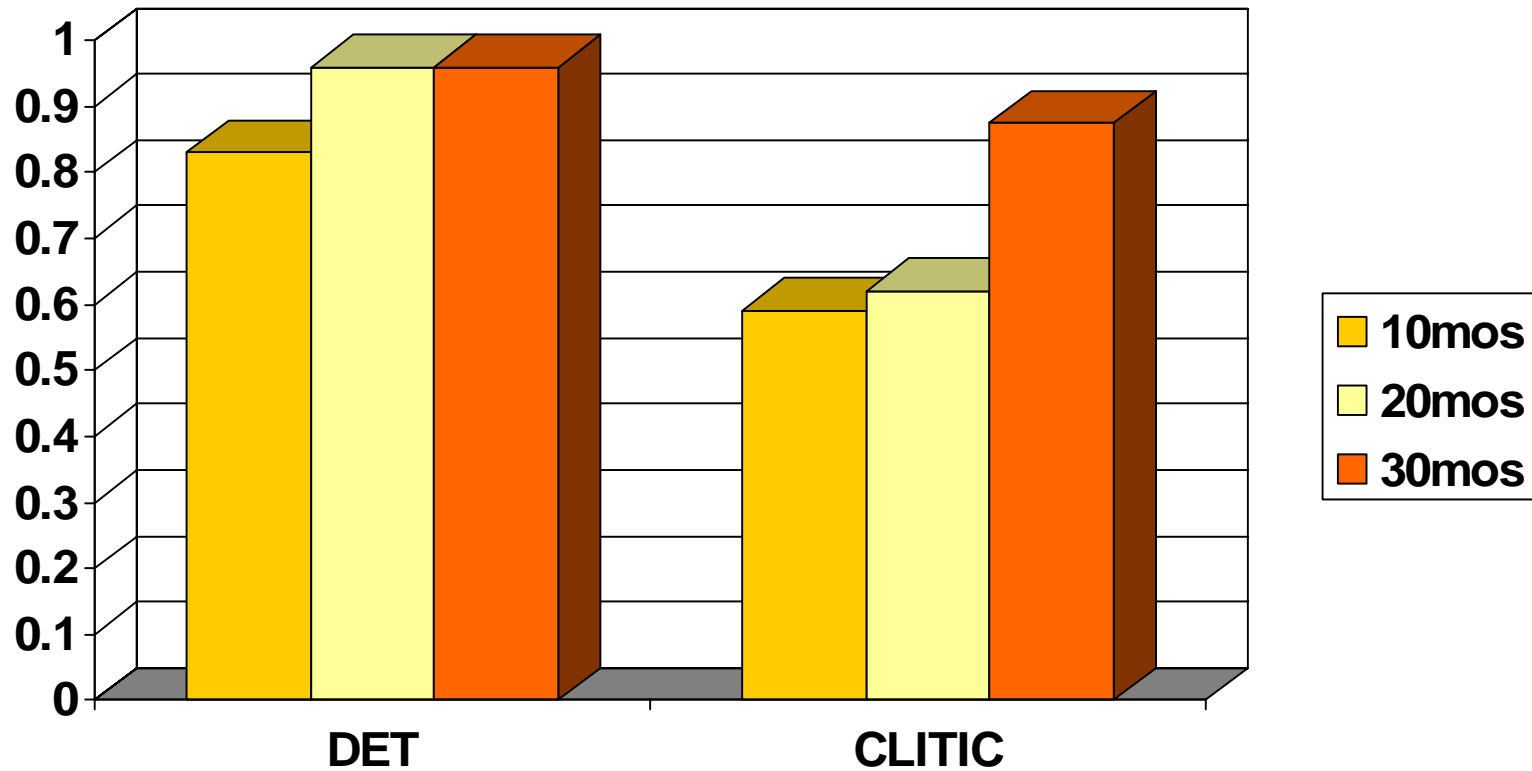
Bibi (video) : « l'ours trouve. » [incorrect]

Exam : Bibi, que fait le chien au
brocoli.

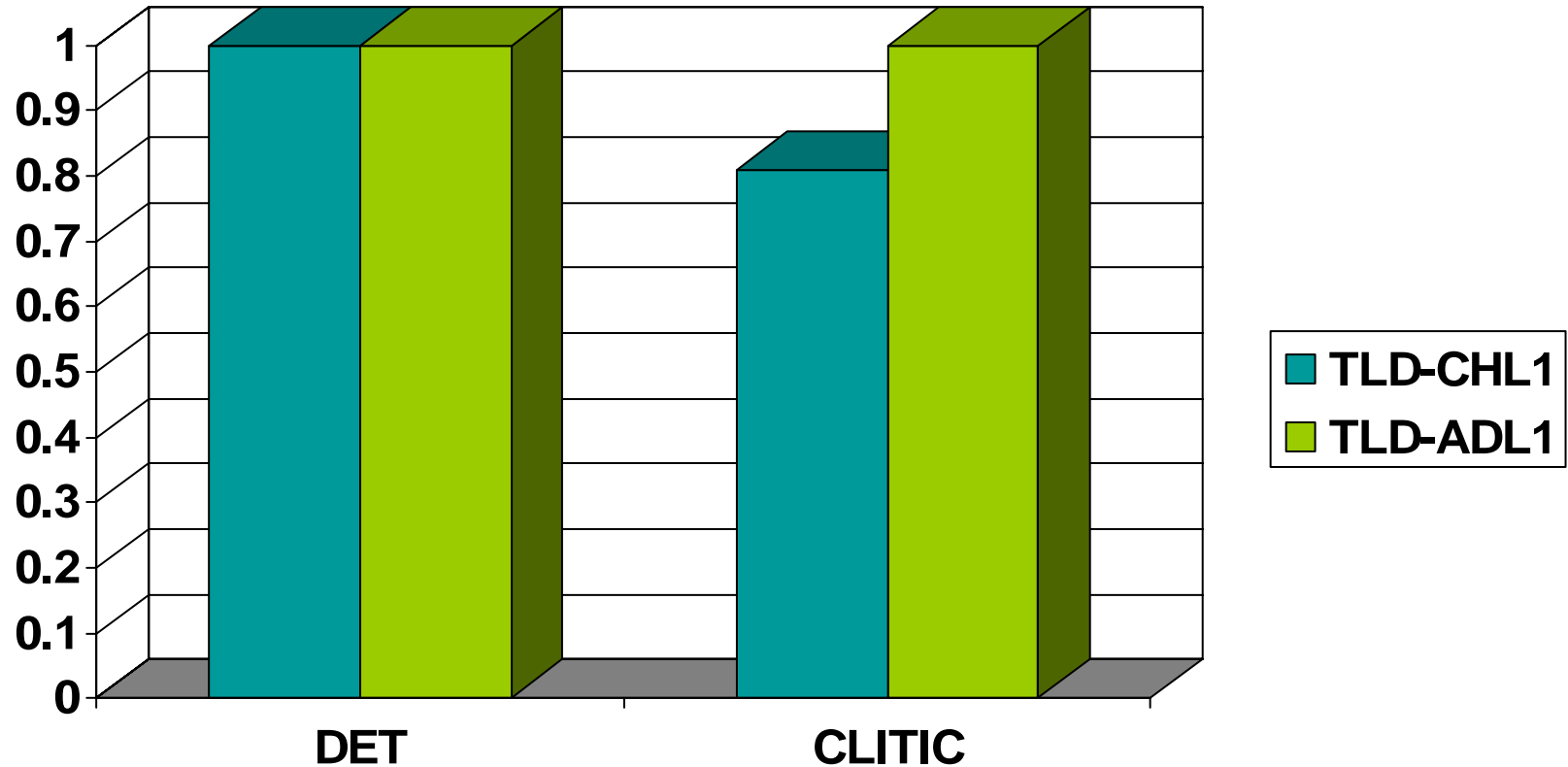
Bibi (video): « Il le lèche. » [correct]

Grammaticality Judgment Task

Results: TLD Child L2



Grammaticality Judgment task Results: Controls



Grammaticality Judgment Results: SLI Child L2

	DET	CLITICS
10 mos exposure	.50	.55
	.50	.60
	DNT	DNT
20 mos exposure	.90	.44
	1.00	.60
	DNT	DNT
	.38	.38
30 mos exposure	.75	.56
	1.00	.50
	DNT	DNT
	withdrew	withdrew

Conclusions from Study 3

- TLD-L2 children are able to both produce and make GJ concerning object clitics earlier and better than SLI-L2 children.
- Performance on homophonous determiners(articles) is better than performance on object clitics.

Final Conclusions Across Three Studies

1. Preliminary evidence shows children with SLI are particularly slow in acquiring object clitics in a second language.
2. Simultaneously bilingual children with SLI have a similar pattern and degree of impairment in the acquisition of tense morphemes and clitics as monolingual children with SLI.

Further Conclusions

3. The faculty of the mind for simultaneous bilingualism is sufficiently strong that more than one language can be acquired even under conditions of impairment.
4. The difficulties that children with SLI who are monolingual, bilingual and second language learners have with the acquisition of tense and object clitics support the representational deficit hypothesis.

Clinical and Educational Conclusions

5. Simultaneously bilingual children with SLI should be educated and should receive therapy in both of their languages.
6. Children with SLI can learn a second language albeit slowly. They should have the choice to remain in second language educational programs with support from a bilingual speech-language pathologist.

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Jeanne Poitras

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<http://www.ualberta.ca/~jparadis>

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