

A. 23 (00)

D. 0.07.07.000

L a a a a

b a a a :

P a ab a

a a

L A A

A. 7 & 77, 7), A & L
 & L 7, 7).
 ()
 0). L & W 7,
 & 000, W
 &
 0), &
 & 7).
 L
 L) L A A,
 L L L
 L L L L
 A A Y H L L
 H K Y -K
 & L, 000) (&
) (& L, 000)
 (K &) L
 L, H L L L
 A A 0
 K L
 Y -K L () L
 L, V L)
 A L)
 L A A
 A A
 L L L L L W
 L L L A A

A... L... L

I V e - e e (&
& 00 D 000).

L L

A A e e

A

L L L L A A

W

A A L

L L L L A A

L L L L

L L L L

L L L L

L L L L

L L L L

L L L L

L L L L

. L
. L
. L
. (. & & 00)
. 7 K
. A
. L

METHOD

Participants

Bilinguals. (. 0)
. (.)
. (=) (=) (= 7)
K (=) (=) (=) (=)
(=) (=) (=) (=)
(=) A A
. (M = 0.7 =
. SD = .0) (M = =
. SD = (M = =
7 SD =)
Y (Y) A
. L
.
.
.

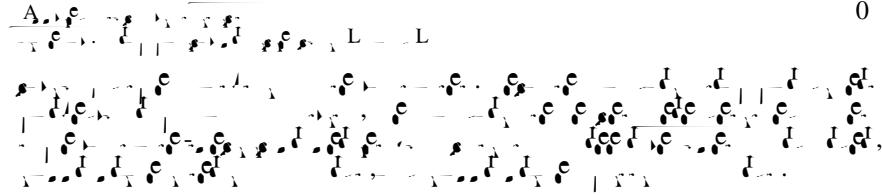
Adult monolinguals. A
. 0 Y
. (.)

A...

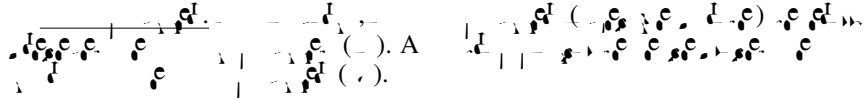
Child monolinguals. (N = ...), 0 (=), (=), (=), (=), (=)

Measures

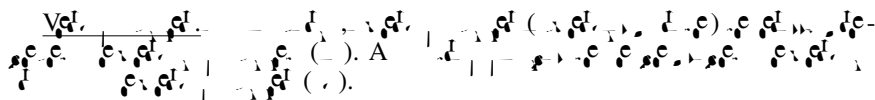
English Grammaticality Judgment Tasks. L ...

A. 

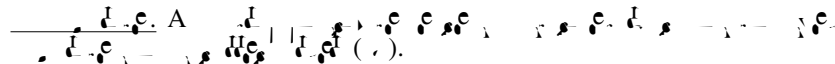
WORD ORDER.



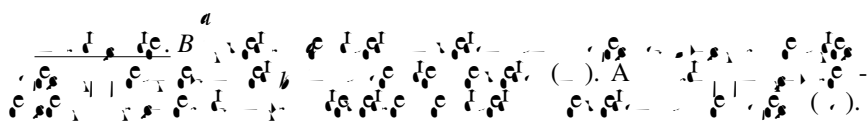
- ... T 1^a 1[♯] 4 1[♯] 3^a 4[♯] 3
- * ... T 1^a 1[♯] 4 1[♯] 3^a 4[♯] 3

V. 

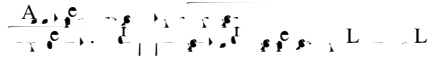
- ... T 1^a 4 B 3 1 2- 2^a 4- 3.
- * ... T 1^a 2- 2^a 4- 3 4 B 3 1.

A. 

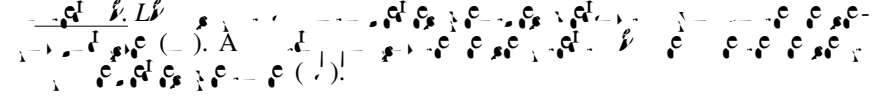
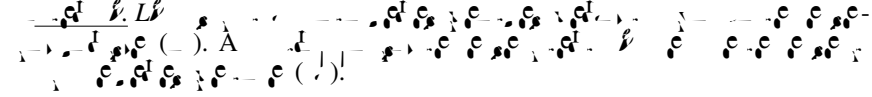
- ... T 1^a 4- 2 1- 1[♯] 4- 4- 1[♯].
- * ... T 1^a 1- 1[♯] 4- 4- 2[♯] 4- 1[♯].

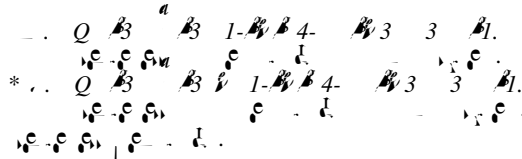
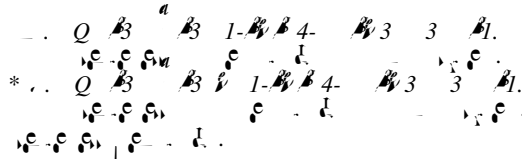
B. 

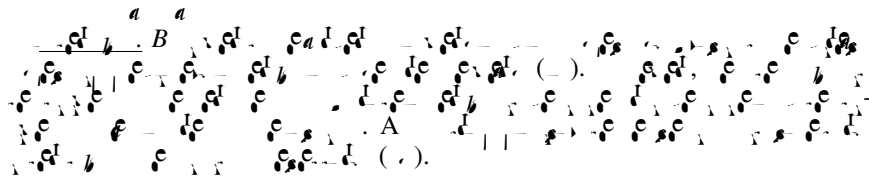
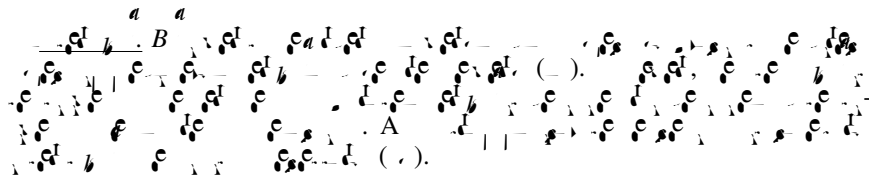
- ... T 1^a 3 1[♯] 4- 1[♯] 1- 3^a 4 1[♯].
- * ... T 1^a 3- 4 1[♯] 3 1[♯] 4- 1[♯] 1-.

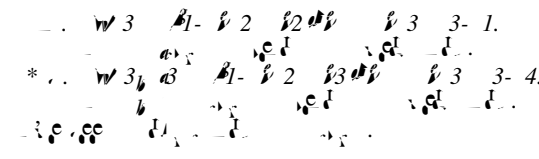
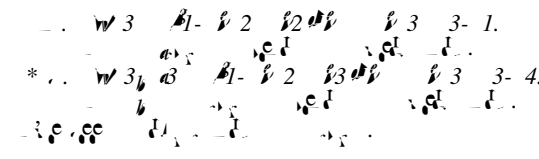
A.  L - L

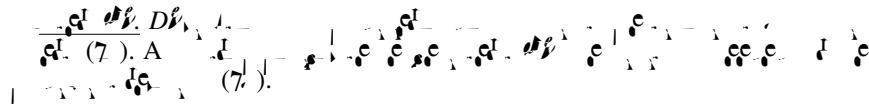
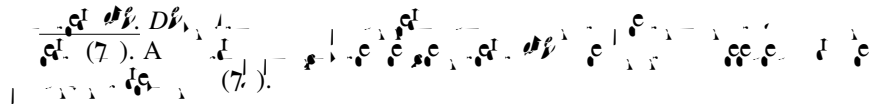
INAPPROPRIATE INSERTION.

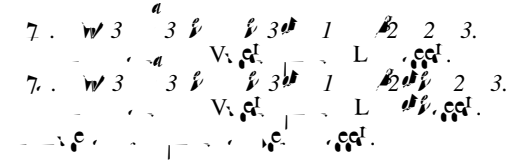
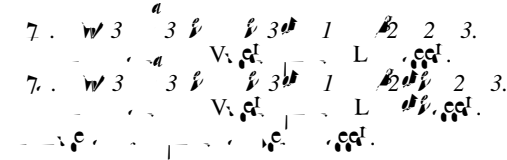
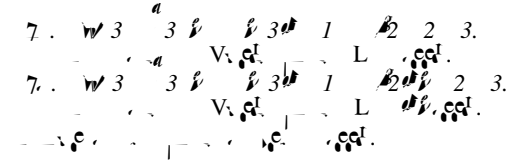
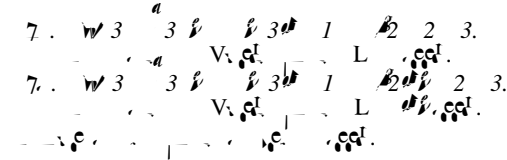
 A.  ().

Q  1-4 3 3 1.
*  1-4 3 3 1.

B.  ().
A.  ().

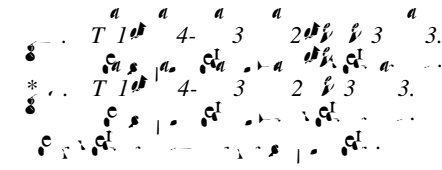
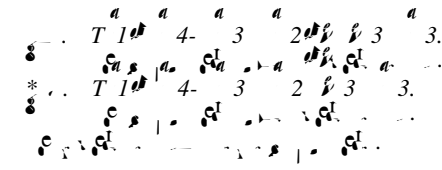
W 3  2 3 3-1.
*  2 3 3-4.

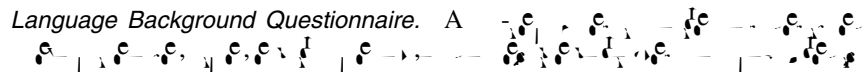
D.  (7).
A.  (7).

T 3  1 2 3.
V.  L.
*  1 2 3.
V.  L.

OMISSION OF REQUIRED WORDS.

 A.  ().

T 1  4 3 2 3 3.
*  1 4 3 2 3 3.

Language Background Questionnaire. A 

$$\frac{A}{L} = \frac{L}{L}$$

$$\frac{A}{L} = 1$$

AGE/TIME VARIABLES.

$$\frac{A}{L} = \frac{L}{L}$$

$$\frac{A}{L} = 1$$

ENVIRONMENTAL VARIABLES.

$$\frac{A}{L} = \frac{L}{L}$$

$$\frac{A}{L} = 1$$

AFFECTIVE VARIABLES.

$$\frac{A}{L} = \frac{L}{L}$$

$$\frac{A}{L} = 1$$

A... L... L

Procedures

A... A... A... Y... L... ()... A...

RESULTS

Relation between long-term L1 and L2 attainment

A A... (M = .7, SD = 0.0, <.00) ... (M = .7, SD = .0, <.00) ... (M = .7, SD = .) ... (M = .7, SD = .) ... A A ... () ... (M = .7, SD = 7.0, <.00) ... A A ... () ... (M = .7, SD = 7.0, <.00) ...

$$\frac{A_{\mu\nu} \epsilon^{\mu\nu} \dots}{\dots} \dots L = \dots L$$

0

A

DV.

Simple bivariate correlations by set and backward elimination analyses

AGE/TIME VARIABLES. A

A A

ENVIRONMENTAL VARIABLES. A

L

AFFECTIVE VARIABLES. A

$\frac{A_{11} \sigma_{11} - \sigma_{12} \sigma_{21}}{\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21}}$
 $\frac{\sigma_{12} \sigma_{21} - \sigma_{11} \sigma_{22}}{\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21}}$
 $\frac{\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21}}{\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21}}$

	$L_{11} \sigma_{11}$	$\sigma_{12} \sigma_{21}$	$L_{22} \sigma_{22}$
$A_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	-. ***	-. ***	. ***
$A_{22} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	-. ***	-. ***	. ***
$L_{11} \sigma_{11}$	.0	-.0	-.0
$L_{22} \sigma_{22}$. ***	. ***	-. ***
$L_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.0*	.	-.7*
$L_{22} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.7**	.0	-. *
$L_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.0	.0	-.0
$W_{11} \sigma_{11}$	.0	.	. **
$W_{22} \sigma_{22}$	.0	. *	-.
$W_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	. **	.0**	-.
$W_{22} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.7*	.0	-.0
$A_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	-. ***	-. **	.0
$A_{22} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.0	.7	.0
$A_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	-. ***	-. *	.0
$A_{22} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	-.	-.07	.00
$A_{11} \sigma_{11} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.	.0	-.
$A_{22} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	.0	.0	-.0
$K_{11} \sigma_{11}$	-.7	.0	.
$K_{22} \sigma_{22}$	-.0	-.0	.07
$L_{11} \sigma_{11}$	-.0	-.0	-.0
$L_{22} \sigma_{22}$	-.	-.07	.0
$\sigma_{11} \sigma_{22} / (\sigma_{11} \sigma_{22} - \sigma_{12} \sigma_{21})$	-.0	-.	-.0 /

$D(0) / \sigma_{11} \sigma_{22} = 0.000$
 $F(0) / \sigma_{11} \sigma_{22} = 0.000$

	L			S		
	β	β	β	β	β	β
A	-.00	***	-.7	.0	-.0	***
L	.00			-.77		***
L	.7	*		.7		
L	.70	***	.77		***	
S	-7.7	***	-.0		-.0	**

Wald test: $\chi^2(1) = 10.0$, $p < .01$

* $p < .05$ ** $p < .01$ *** $p < .001$

L1	L2		
	β	β	β
A	-.7***	-.7*	.0***
L	.7***	.7***	-.70*
L	.0	.07	

* < .05 *** < .001

	N	M (% of N)	SD
0	77	77	7.7
		7	7.0
		7	7.00
		7	7.00

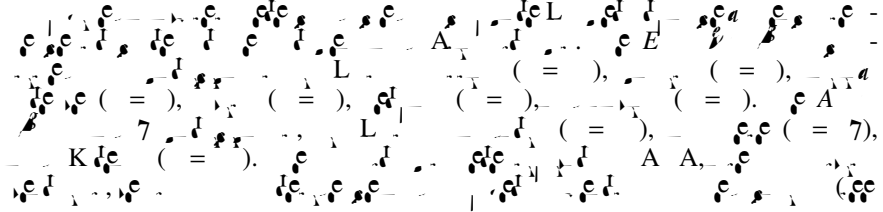
Mandarin monolinguals

... (A VA) ... F(, 0) = ... < .001 ... L D () = .0 ... 0 ... L ... L ... A A.

	M	SD
A_1	7.7	
A_2	7	
L_1	0	
A_3	0	

$N = 10$

Language groups and L2 sentence structures



$\frac{A_{1,t} - A_{1,t-1}}{A_{1,t-1}} = \alpha + \beta \frac{L_{1,t} - L_{1,t-1}}{L_{1,t-1}} + \gamma \frac{AOA_{1,t} - AOA_{1,t-1}}{AOA_{1,t-1}} + \epsilon_{1,t}$

Variable	Lagged				Contemporaneous			
	A _{1,t}		L _{1,t}		A _{1,t}		L _{1,t}	
	%	W.	%	W.	%	W.	%	W.
ΔA _{1,t}	-.7	**	-.7	*	-.7	**	-.7	**
ΔL _{1,t}	-.7	**	-.7	*	-.7	**	-.7	**
ΔAOA _{1,t}	-.7	**	-.7	*	-.7	**	-.7	**
ΔL _{1,t-1}	.00	*	.00	*	.00	*	.00	*
ΔL _{1,t-2}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-3}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-4}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-5}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-6}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-7}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-8}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-9}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-10}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-11}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-12}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-13}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-14}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-15}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-16}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-17}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-18}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-19}	.0	*	.0	*	.0	*	.0	*
ΔL _{1,t-20}	.0	*	.0	*	.0	*	.0	*

$\frac{A}{L} = \frac{A}{L} - \frac{A}{L}$
 $(< .00)$, $(< .00)$
 7 $A A$ 0 A
 $A A$ $A A$ $(&)$ $(, 000)$
 $A A$ $A A$ L
 $A A$ H $A A$ $A A$

DISCUSSION

$(A A) - (A A) = 0 (A A)$

A. L. L.

(& A.)

A. L. L.

L. A. A.

()

A. L. L.

(L.)

(We. & De.)

()

L. L. L.

(&)

A. L. L.

L. A. A.

(V.)

(&)

(00 D 000)

L. L. L.

A. A. A.

(7)

A L L



A DX

SAMPLE ENGLISH SENTENCES

P a
 -
 *
 P *bb* *bb* *bb*

-
 *
 T *bb* *bb* *bb*

-
 * a
 P *bb* *bb*

-
 *
 A *bb*

-
 *
 P

-
 * a
 P *bb* *bb* *bb*

7
 *7
 P *bb* *bb* *bb*

- V.
 * a V.
 A

-
 *
 K

0
 * 0
 W

-
 *
 W

-
 *

A K WL D

We

A, & L

... () ... L

A, & L () ... M L ... D. ... A ...

D, & K ... A ... W ... Y ...

K, & D A ... A ... W ... C ...

K, & A ... L ... S ...

$\frac{A}{L} = \frac{c}{L} \rightarrow \frac{A}{L} = \frac{c}{L}$

$L_1 = \frac{A}{c} = \frac{W}{c} = \frac{J}{P} = \frac{72}{77} = 0.922$

$L_2 = \frac{A}{c} = \frac{W}{c} = \frac{J}{P} = \frac{72}{77} = 0.922$

