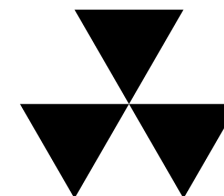# The patterns of honorific prefixation in child speech: Implications for lexical stratification in Japanese

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Outline

1. Background

2. Adult experiment

3. Child experiments

4. Discussion

Intro: Japanese lexicon

- Words of different origins coexist
  - ▸ **Yamato-Japanese** words (**YJ**)
    - –Native words
  - ▸ **Sino-Japanese** words (**SJ**)
    - –Old loans from Chinese
  - ▸ Onomatopoeia
  - ▸ Recent loans from English, etc.
- Different behaviors (morphologically/phonologically)

Today's foci

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SJ & YJ words: examples

• Doublets:

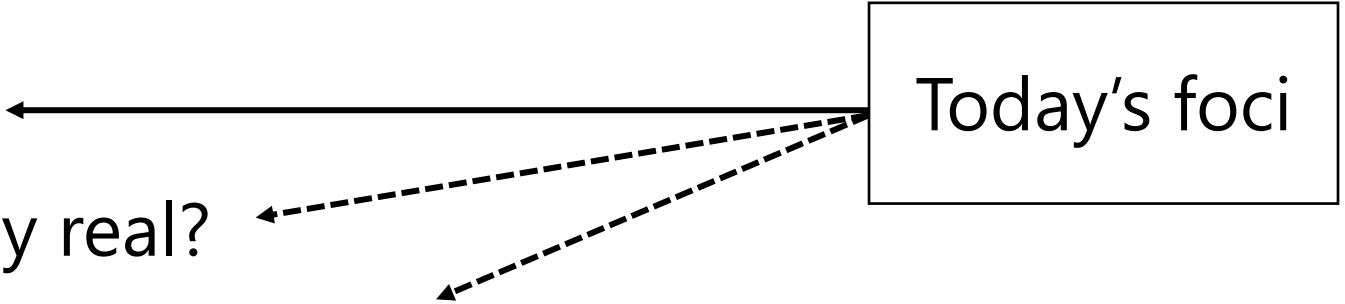| **YJ** (native)		**SJ**		Gloss
kuni	国	kokka	国家	'country' / 'nation'
kawa	川	kaseɴ	河川	'river' / 'river(s)'
oto	音	ɴseː	音声	'sound'
kokonotsu	9つ	kʲuːko	9個	'nine-CLASSIFIER'
itʃiba	市場	ʃiʒoː	市場	'(physical / financial) market'

▶ cf. Latinate-Germanic words in English! (child / infant)

▶ cf. Native words-Eng. loans in Italian! (spese / shopping)

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Phonological characteristics

- Yamato-J. words

  ▸ Segmental: No ini. /ɾ/; few ini. D (voiced obs.: /b, d, g .../); etc.

  ▸ Supraseg.: Simple **CVCV**; often **unaccented**

    ka.wa. 'river'   ka.ɾa.da. 'body'

- Sino-J. words[1]

  ▸ Segmental: Ini. **/ɾ/**; ini. **D**; **Pal**atalized cons. (/kʲ, ɾʲ, ʃ .../); etc.

  ▸ Supraseg.: /ɴ/; long V; geminates; **-t/-k** endings; accented

    r̲éːki 'cold air'   d̲aiga̲ku 'university'   k̲ʲúːr̲ʲoː 'salary'

[1] Tateishi (1990); Ito & Mester (1996, 2015); Morita & O'Donnel (2022); etc.   5

Theory and issues

- **Lexical stratification** (Ito & Mester 1995ab)
    - ▸ Etymology-based strata ("Yamato-J.", "Sino-J.", "Foreign" …)
    - ▸ Different phono. effects in each stratum

- Issues[2]
    - ▸ **Learnable?**
    - ▸ Psychologically real?
    - ▸ What features function as cues?

Today's foci

[2] Rice (1997); Moreton & Amano (1999); Fukazawa et al. (2002); Ota (2004, 2010)
Gelbart & Kawahara (2007); Rosen (2021ab); Morita & O'Donnell (2022); etc.

An experiment with adults

- Aim: to examine experimentally ...
  - ▸ The psychological reality of the SJ-YJ distinction
  - ▸ Cues to "Sino-Japaneseness"

- Methods
  - ▸ On-line judgment experiment[3]
  - ▸ Task: **honorific prefixation** (selection of *o*- or *go*-)

[3] Experigen (Becker & Levine 2013)   7

Honorific prefixes: *o-* & *go-*

- Patterns of honorific prefixation

  ‣ If **Yamato-J**. word, ***o-***   *o-kangae*   お考え   'thought'

  ‣ If **Sino-J.** word, ***go-***   *go-iken*   ご意見   'opinion'

  ‣ Also variation   *o-~go-henji*   お・ご返事   'reply'

- (Probabilistically) **stratum-sensitive allomorph** selection? [4]

  ‣ Same honorific meaning (politeness, respect, etc.)

  ‣ Orthographically same if using *kanji*   ... 御 (*o-* & *go-*)

[4] cf. English negative prefix: *in-* vs. *un-*;
cf. Italian articles & poss. pronouns: *il mio* gatto vs. *la mia* gatta

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Task & predictions

- Basic task
  - ▶ Presented with YJ-/SJ-like nonce words
    - – *rekiha*, *somoka*, *mosane*, *ryakuha*, …
  - ▶ Select *o-* or *go-* in honorific contexts
    - – I humbly do/receive …   ***o-****rekiha*?   ***go-****rekiha*?
- Predictions
  - ▶ If **YJ-like** sounding, ***o-*** selected
  - ▶ If **SJ-like** sounding, ***go-*** selected

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Stimuli: 96 YJ-/SJ-like nonce words

YJ-like				SJ-like			
CV				C-kt	D-kt	R-kt	Pal-kt (C,D,R)
nimaya	kotame	kimanu	somasi	kekisa	bakuyo	rakuto	kyakuha
wasoya	tonumi	hitanu	mokesi	sekiyo	bekihu	rakuhu	syakuto
toneyo	nesami	tokera	haniso	tekiso	botuwa	ratui	syutuwa
nesoyo	tonemo	yumora	hamosu	hekiho	dakuti	rikuso	tyakuho
kemayu	hisemo	misare	nakota	ketuyo	datuya	rikuyo	gyakuyo
somoka	henamu	semuri	menota	satuwa	dekiho	rituyu	gyokuha
nisoke	yotena	hekori	herate	totuwa	gakusa	rituwa	zyakuto
sayoki	mosane	komiro	somoti	hituya	gekihi	rekiso	zyokuwa
kewako	kasoni	hamoro	sanato	sokuto	getuwa	rekiha	ryakuha
menaku	waseni	wakosa	tonotu	takuha	zikuho	retuya	ryakuyu
kutoma	nisano	somose	hasowa	hokuya	zituyo	retuwa	ryokuhu
yanama	hotono	monise	meriwa	yakuhu	zetuya	rokuto	ryokuyo

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Procedure: Task image

"**ryakuha**"
is a word in Japanese.

Proceed

Please attach "御" to this word,
and say "I humbly receive 御…"
in an honorific manner.

Of 1 and 2,
which do you think
would sound more natural?

1. I receive **o-ryakuha**   2. I receive **go-ryakuha**

1   2

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Procedure: Task image

"**mosane**"
is a word in Japanese.

Proceed

Please attach "御" to this word,
and say "I humbly do 御..."
in an honorific manner.

Of 1 and 2,
which do you think
would sound more natural?

1. I do **go-mosane**   2. I do **o-mosane**

1   2

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Other info.

- Participants:

  ▸ 250 (adult) Japanese speakers (13 excluded)

  – **118 for segmental** / 119 for suprasegmental condition [5]

  ▸ Recruited on CrowdWorks for 300 JPY (reward)

- Stats: Mixed-effects logistic regression

  ▸ Response var.: o-/**go-**response (0, **1**)

  ▸ Predictors: segm. type (CV, -kt, D, R, Pal * C/D/K)

  ▸ Random: item & participant intercepts

[5] Only segmental cond. results reported today   13

Results: Average *go*-rates (item-based)

Segment
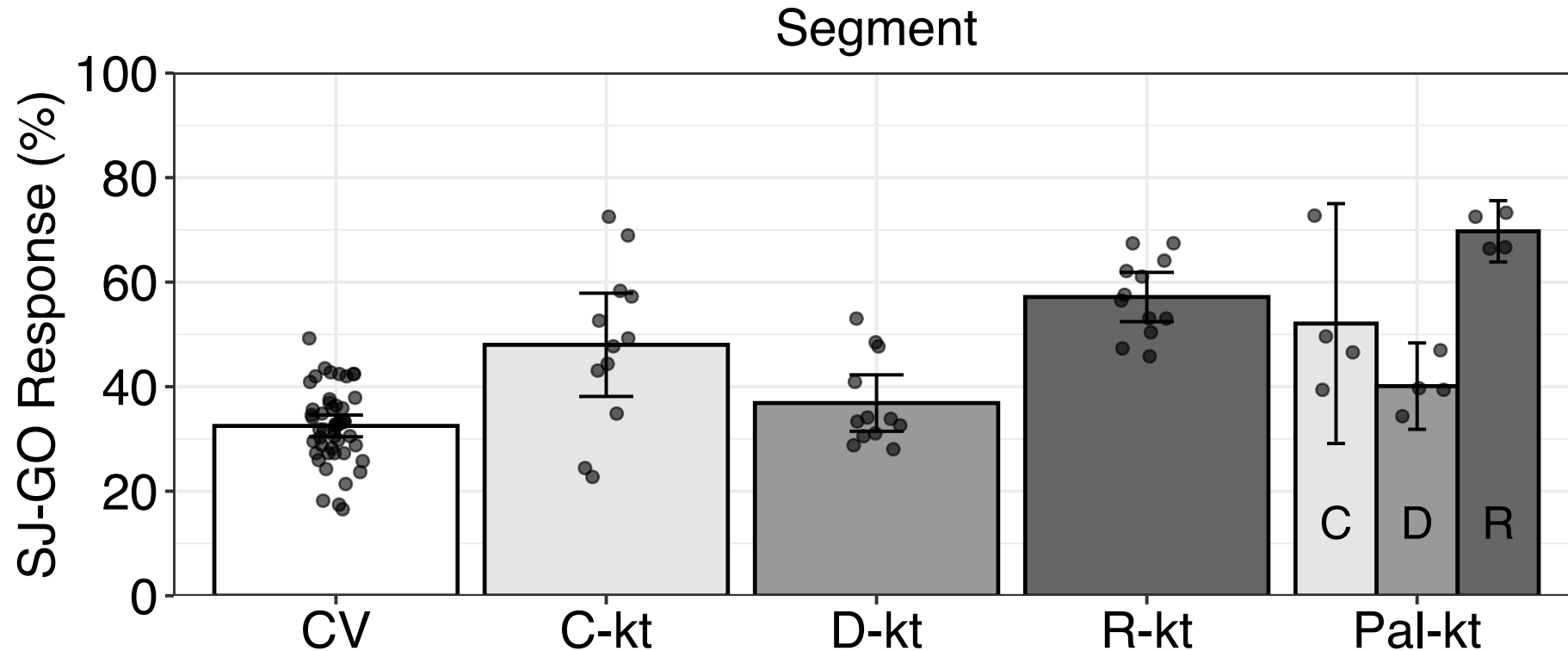
▸ SJ-like features relatively high *go*-rates; especially R

▸ D relatively low: *DD (OCP) effect (e.g. go-gakusa)?

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Results: Log. regression

Fixed predictors	β	SE	z	p	
Intercept (C-kt)	0.049	0.255	0.191	0.849	
CV	-0.236	0.092	-2.556	0.011	*
D	0.228	0.117	1.954	0.051	.
R	0.225	0.117	2.185	0.029	*
Pal	0.085	0.164	0.519	0.604	
Pal * D	0.090	0.233	0.386	0.699	
Pal * R	0.394	0.235	1.676	0.094	.

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Interim summary

- Expt. results

  ▸ **SJ-like features** generally promote **SJ go-response**

  ▸ /ɾ/ especially SJ-like?   (Some complications w/ D ...)

  ⇛ The YJ-SJ distinction psychologically real!

  ⇛ Some features serve as stronger cues

- ... What about kids?

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Child corpus (MiiPro corpus - 4 children (1;2-5;0), Miyata 2012)

- Do children hear and use o-/go-prefixed words?

Note: "Total" includes # by other speakers

Words	Child	Mother	Total
o-hana 'flower/nose'	76	424	506
o-sakana 'fish'	179	272	459
o-tete 'hand'	78	247	343
o-kuchi 'mouth'	51	258	309
o-meme 'eye'	63	157	221
o-mizu 'water'	55	138	196

Words	Child	Mother	Total
hana	120	412	549
sakana	44	66	112
te	276	739	1055
kuchi	48	167	217
me	103	296	430
mizu	52	100	157

Words	Child	Mother	Total
go-hon 'book'	48	166	214
go-aisatsu 'greeting'	6	14	20
go-chuui 'attention'	5	14	19
go-issho 'together	6	3	9

Words	Child	Mother	Total
hon	131	503	634
aisatsu	2	8	10
chuui	6	6	12
issho	615	1348	1963

Child corpus (MiiPro corpus - 4 children (1;2-5;0), Miyata 2012)

- **Summary:**
  - ▸ *o-/go*-prefixes are used in child-directed speech and in child speech.
  - ▸ *o*-prefix words appear relatively frequently
  - ▸ *go*-prefix words appear less frequently
- **Predictions for experiment:**
  - ▸ Children may show their sensitivity to the SJ-YJ differences w.r.t.
    - – Segmental properties (e.g. /r/, D, etc.)
    - – Accentuation (accented or unaccented)
    - – Lexical frequency
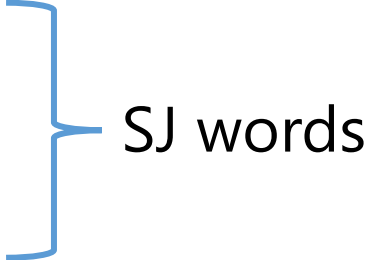   - … in the selection of *o-/go-*.

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Experimental design

- Design
  - ▸ **Method:** Elicitation (as much as possible) or point between two
    - – Ask participants to append *o-* or *go-* to nonce words
  - ▸ **Context:** Mr. Dragon is the king of the puppet country. When you talk to him, you should use polite words. You should convert the words into polite ones!
    - – **Experimenter:** Here, I give you 'somoka.' Will you tell Mr. Dragon you got somoka politely? Which do you think sounds better, o-somoka or go-somoka?
    - – **Child:** {o-somoka/go-somoka}-o   morai- masita.
                            -ACC receive   polite

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Certain concrete items are given names in the experiment. E.g. "Look, this looks like a gorilla in our world, but it is called *somoka* in the puppet country! Can you repeat it?"

Experimental design

- **Two experiments:** All accented (Exp1) and Only YJ unaccented (Exp2)

- **Conditions**

  - ▸ 3 YJ words (e.g. *somoka*)

  - ▸ 3 voiced words (e.g. *botuwa*)

  - ▸ 3 r-starting words (e.g. *rakufu*)   SJ words

  - ▸ 3 palatalized words (e.g. *kyakuha*)

  - ▸ + Several filler items (existing word typically collocating with *o-* (e.g. o-mizu), *go-* (e.g. go-hon), and existing word with no conventional association (e.g. o-/go-tomato).

- Object-name association was randomized.

- The items were pseudo-randomized. Two different orders alternated.

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Participants

- Experiment 1 (all accented)
  - ▸ N=16 (3;1-6;10, M=4;9)
- Experiment 2 (CV unaccented)
  - ▸ N=21 (3;10-6;8, M=5;7)

Subset group (age-matching):
N=11, 3;10-6;10, M=5;5
... the same trend found

- 12-15 minutes /session
- Several children (not included in the above #) could not complete the (pilot) experiment.
  - ▸ Regardless of age (3;4-6;2)
  - ▸ Probably due to their personality (cannot decide between unknowns)

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Results: Response rates
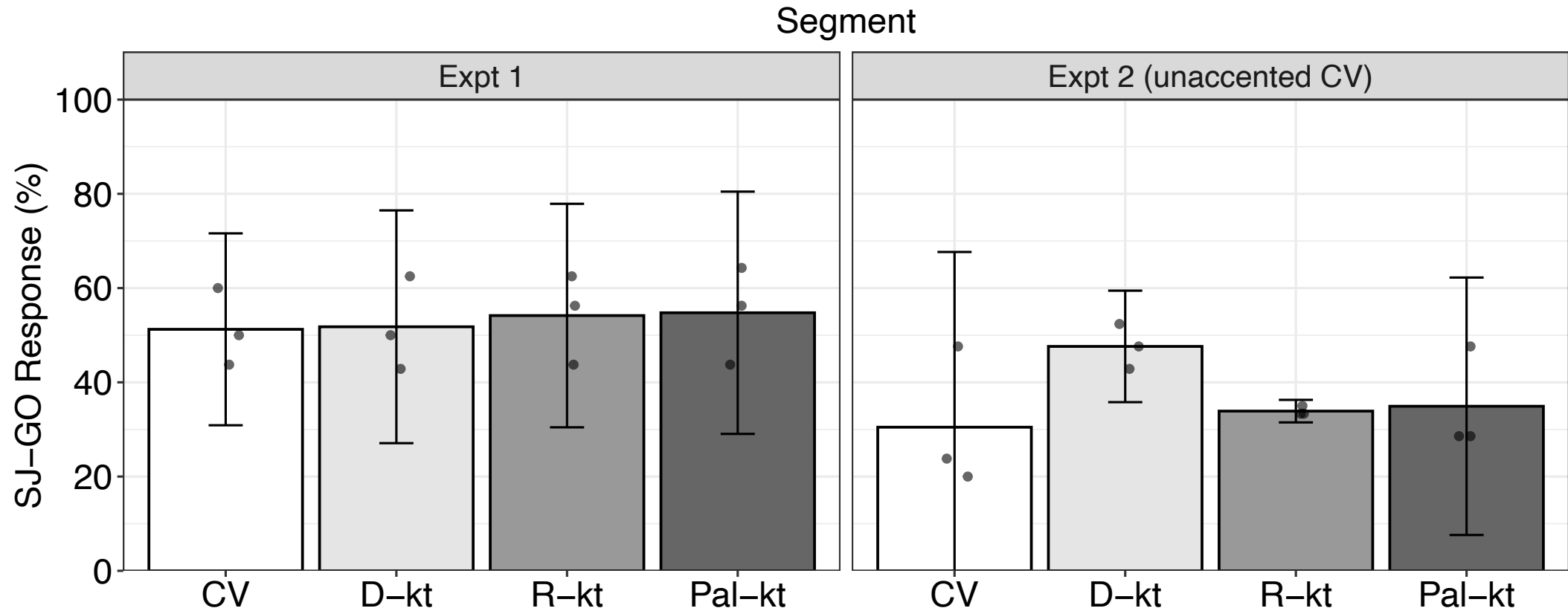
- No clear patterns; Expt 1 & Expt 2 different?

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Logistic regression

- Expt 1:

fixed	β	SE	z	p	
Intercept (CV)	0.051	0.378	0.14	0.892	
D-kt	0.435	0.446	0.10	0.922	
R-kt	0.156	0.441	0.35	0.725	
Pal-kt	0.145	0.446	0.32	0.746	

- Expt 2:

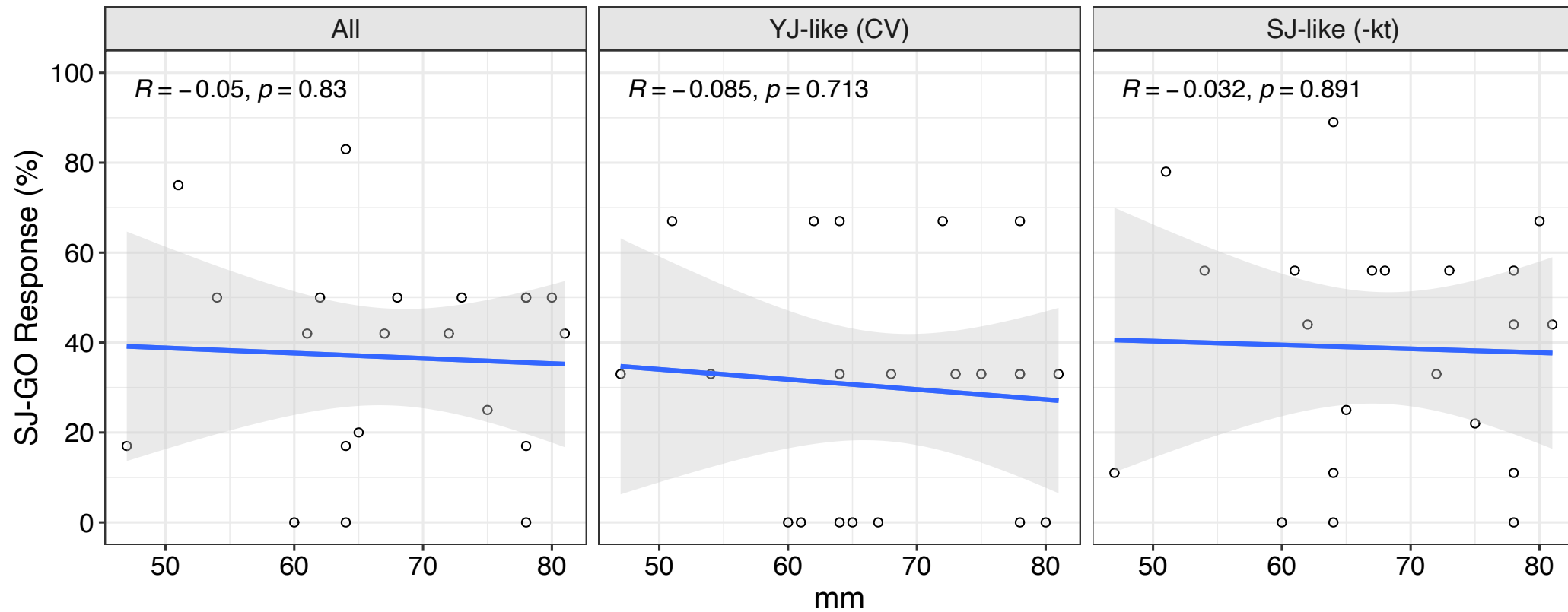| fixed	β	SE	z	p	
Intercept (CV)	-1.008	0.376	-2.68	0.007	**
D-kt	0.874	0.409	2.14	0.033	*
R-kt	0.174	0.415	0.42	0.674	
Pal-kt	0.240	0.412	0.58	0.561	

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Correlation w/ mm: Expt 1

- No correlations found

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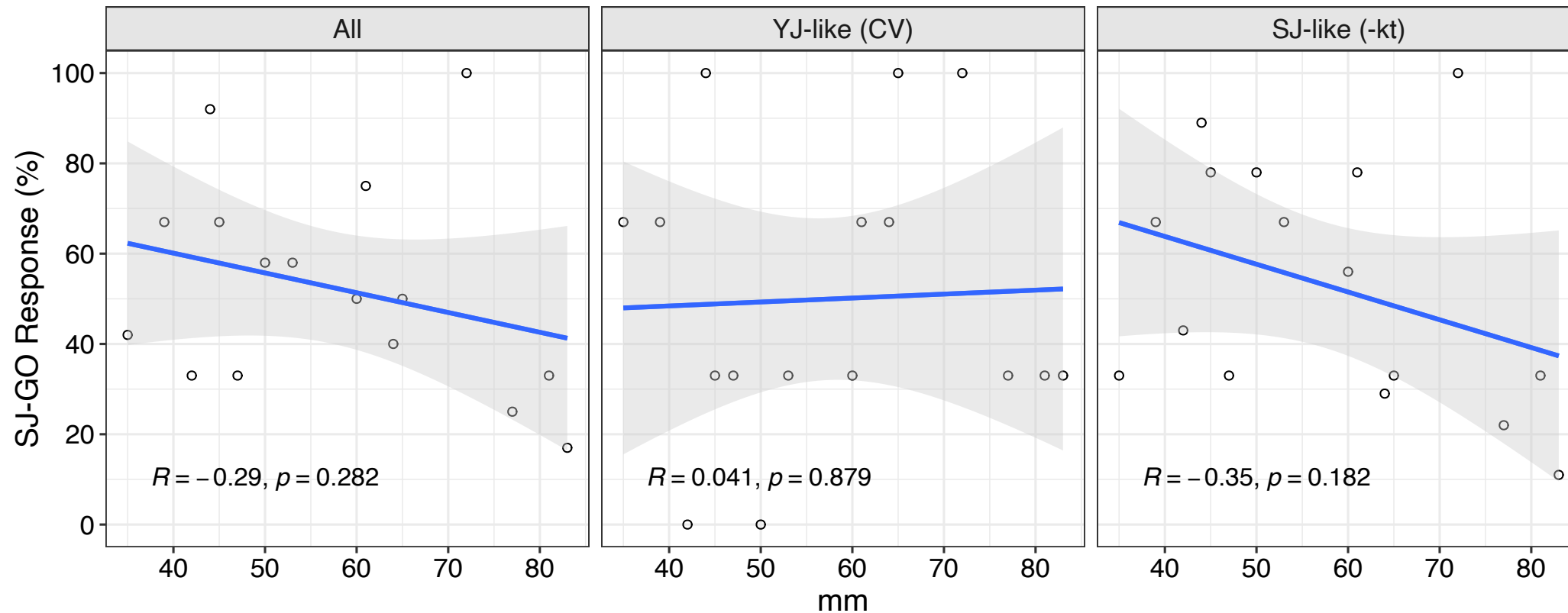
Correlation w/ mm: Expt 2

- No correlations found

Discussion

- Both *o-* and *go-* prefixes were uttered
  - ▸ Most children alternated between *o-* and *go-* within session
    - – (except: N=1 all *go-* in Exp1, N=3 all *o-* in Exp2)
    - – Not frequency-based strategy
- Different patterns between adults and children
  - ▸ Possibilities
    - – Children (up to 6y.o.) haven't acquired the difference
    - – Experimental flaw?

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Discussion ctnd.

- Different tendency for D (within SJ)
  - ▸ Adults: Avoid DD
    - –*DD strong in Japanese phonology (esp. in YJ)
  - ▸ Children: Toward DD
    - –Rather enjoying DD? Deliberate violations?
- Difference b/w Expt 1 & Expt 2
  - ▸ Unaccented YJ prompted YJ-responses for CV?
  - ▸ The effects carried over to R & Pal?

Future directions

- Pre-school children do not receive enough input of SJ yet?
  - ▸ 7 y.o. (or older)

- The notion of "being polite" too difficult?

- Another set of YJ/SJ alternation: *oo-/dai-* 'big', *ko-/shoo-* 'small'
  - ▸ MiiPro Corpus (3 children so far, CHI+adults)
    - – *oo-* (N=84), *dai-* (N=189) vs. *ko-* (N=85), *shoo-* (N=0)
    - – e.g. *oo-isogi* 'big hurry', *dai-shippai* 'big failure'
  - ▸ Possibily, a follow-up experiment with *oo-* and *dai-*

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Thank you, research assistants!

Thanks!
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Danke!
ありがとう！