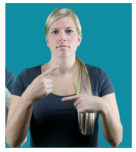
It's not all ME, ME, ME: Revisiting the Acquisition of ASL Pronouns

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ASL Sign images from aslsignbank.haskins.yale.edu

Introduction

Pointing: Ubiquitous, early, common
Or is it?

- Pointing is known to be ubiquitous, early to develop, and common across signers and non-signers
- But: does this characterization hold for pointing to self and addressee?
- If pointing is an early, gestural phenomenon, does it allow for the expression of reference to self in signers before linguistic reference to self develops in spoken languages?
- What does the development of pointing to self and addressee reveal about the nature of pointing in sign languages?

Research Questions

- What linguistic means do children use to refer to self and addressee, and when is each acquired?

  Emergence of formal reference to self and other persons

- How different are the points used in signing when compared to the points used by non-signers?

  Gestural vs. Linguistic points

Background – Pointing in Sign Languages

Pointing in Sign Languages

- Pointing carries pronominal and other linguistic functions in sign languages.

I/me

(speaker)

you

(addressee)

she

(third person)

(Friedman 1975; Sandler and Lillo-Martin 2006; Meier & Lillo-Martin 2010, 2013)

Theories of SL Pronouns

- Pointing signs are not pronouns; they overlap considerably with co-speech gestural pointing (Johnston 2013)
- Pointing signs have some properties of pronouns (e.g., syntactic distribution), and other properties shared with pointing gestures (e.g., lack of grammatical participant roles), so must be analyzed using both concepts (Cormier, Schembri & Woll 2013)
- Different proposals regarding person distinctions in sign language pronouns (no person marking, e.g., Lillo-Martin & Klima 1990; 1st vs. non-1st, e.g., Meier 1990; full range of persons, e.g., Wilbur 2006)

Background – Previous acquisition studies

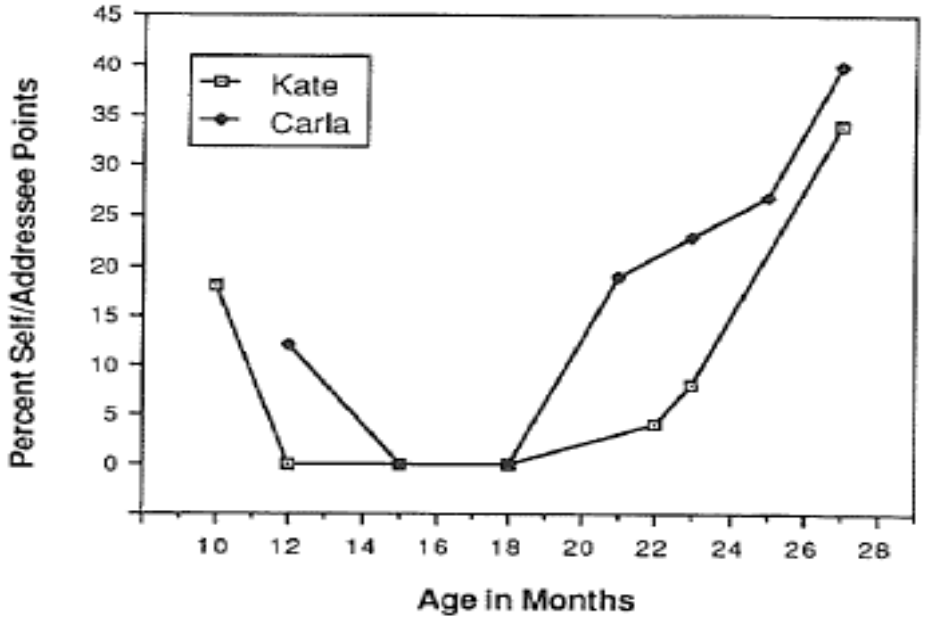
Development of pointing in SLs – American SL

Petitto (1987):

- All infants point from an early age
- Two Deaf signing children acquiring ASL
  - Both avoided pointing to self and addressee between 12 and 18 months
  - One child resumed such points at 21 months (1;09); the other at 26 months (2;02)
  - Pronoun reversal errors were observed
- Lexical learning of pronouns is required despite apparent iconicity
- Avoidance period represents mental reorganization from pre-linguistic gesture to linguistic pointing

Development of pointing in SLs – ASL

Percent of Kate and Carla's total number of pointing forms directed to self and addressee.



Petitto (1987)

Development of pointing in SLs – Greek SL

Hatzopoulou (2008, 2011):

- One Deaf signing child acquiring Greek SL
  - Notable decrease in points to self/persons at 16-20 months (1% of all points)
  - Rate of points to persons increases to 10% at 20-27 months

Months	Stage	Minutes	No. of Pointing Gestures/ Signs	Mean No. of Pointing /Minute	INDEX-person (incl self)	Percentage of INDEX-person
12 - 13	1st	141	60	0.42	0	0%
14 - 15	2nd	103	115	1.10	13	11.30%
16 - 20	3rd	354	391	1.10	4	1.02%
20 - 27	4th	964	1,256	1.30	127	10.11 %

Development of pointing in SLs – French SL

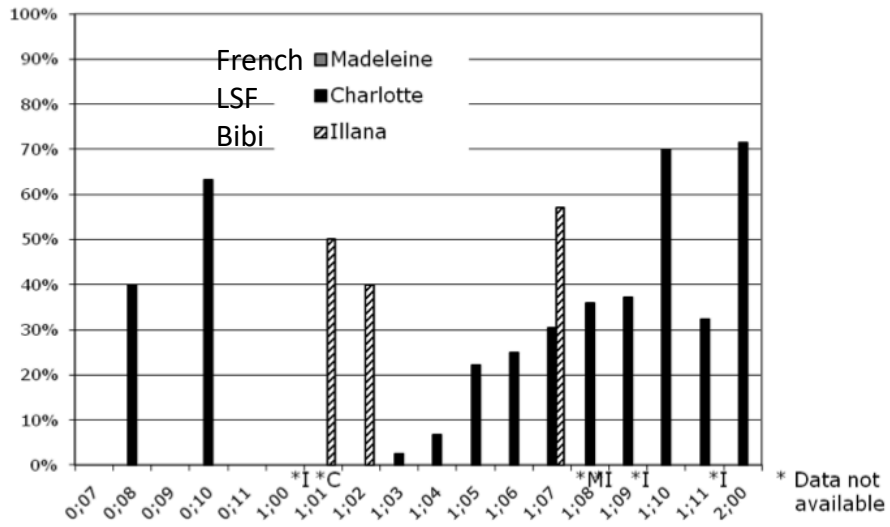
Morgenstern, Caët, Collombel-Leroy, Limousin & Blondel (2010); Morgenstern, Caët & Limousin (2016)

- One LSF signing child (C),

1 LSF/French bilingual child (I),

1 French speaking child (M)

- Points to self 1;00-2;00:
  - C [LSF] often
  - I [Bibi] infrequent
  - M [Fr] never



Points to self/all points to persons

Background – Pronouns and pointing in non-signing hearing children

Spoken language pronouns

- First-person pronouns in speech fairly early (18 mos+),
- 2nd person pronouns 2-3 mos later,
- 3rd persons last;
- whole system in place by 30+ months (2;06)

    - Before pronouns, children use names to refer to self, addressee, others

Clark 1978 et seq.

Development of pointing

- Pointing in non-signing hearing children starts as early as 9-12 months (e.g., Lock et al. 1994)
- A great deal of research has studied how children's pointing relates to their overall language development
  - e.g., onset of gesture+word combinations is strongly predictive of onset of two-word combinations (Özçalışkan & Goldin-Meadow 2005)

What about points to self, other people?

- Few studies have reported the use of pointing to self, addressee, or non-addressed persons (versus objects/locations)

- Discussion of hearing children's early points almost exclusively concerns points to objects/locations – *not* points to people

Points to self and addressee

- Caselli et al. (1983) – emergence of pointing to self at 20-24 months [cited by Hatzopoulou (2008)]

- Pizzuto & Capobianco (2008) – study of 7 hearing children learning Italian, ages 12-24 months
  - 3 produced points to self/addressee, 4%-6% of all points
  - As early as 16 months, with continued use, but v low percent
  - For 5/7 participants, earlier use of spoken 1st/2nd pronouns & agreement than gestures

- Additional data needed!

Study 1:
Development of points to people in hearing non-signers

Corpus Study:
4 Hearing, English-speaking children

Child	Age Range	# Sessions	Tot. time	# Utts	Total # Pt	Pt thing/loc	Pt person	Pt person*	Pt self*
Alex	2;00-3;00	5	4:46:41	3392	263	261	2	0	NYO
Lily	2;00-3;00	5	4:45:46	2364	211	211	0	0	NYO
Naima	2;00-3;00	5	5:19:43	2274	68	65	3	1	NYO
Violet	2;00-3;00	5	3:33:00	1995	155	153	2	0	NYO

*outside of “where’s X” games

CHILDES, Providence corpus; Katherine Demuth et al. (2006, 2009)

Violet, 2;00

M: Which one's Zoe?
V: (pointing to book) that one
M: Which one Rolie?
V: (pointing to book) there
M: Which one Spot?
V: (pointing to book)
M: Which one Violet?
V: (pointing to self) right there
M: Which one Mama?
V: (pointing to book) Mama
M: Which one Violet's Mama?
M: Where's Violet's Mama?
V: (pointing to her Mother) right there

Summary – Non-signers 2;00-3;00

- Produce many points to objects and locations
- Only produce points to self/other persons in “where’s X” games
- One possible non-game point to person in the whole data set (Naima, 3;00, IX addressee)
- All already used personal pronouns in the first session

Time to consider additional data from the acquisition of pointing in sign languages

- Even though hearing children point at an early age, they do not point productively to self or other persons
- Potential effects of iconicity in acquisition now being reconsidered
- Evidence that pointing combines linguistic and gestural in the adult sign languages

➢Is there any other evidence to suggest that pointing in signing children is acquired as part of a linguistic system?

- New studies: Deaf children/Deaf parents; (Kodas)

Study 2:
Deaf children with Deaf, signing parents

Participants, primary data set

- Four children recorded longitudinally ages 1;04-4;01
- Spontaneous production during naturalistic play
- Interlocutors: Deaf parents; Deaf or hearing, signing experimenters

Child	# sessions	age begin	age end	time observed (hrs:mins)	est. # gloss tokens	est. # child utts.
ABY	79	1;04.22	3;04.07	73:43	130,000	16,600
JIL	83	1;07.03	3;07.09	79:16	119,000	17,800
NED	44	1;05.28	4;01.28	40:00	60,000	9,000
SAL	18	1;07.18	2;10.01	17:11	23,000	3,900
Total	224			210:10	332,000	47,300

Lillo-Martin & Chen Pichler (2008); SLAAASh project
https://slla.lab.uconn.edu/slaaash/

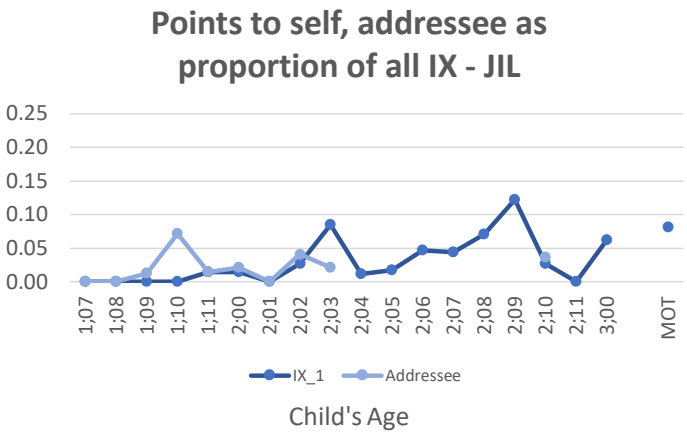
Coding

- All transcribed sessions up to age 3;00 included
- All instances of IX_1, IX produced by child and MOT tabulated
- FRU of IX, IX_1, IX(addr) for each child determined (FRU= First of Repeated Uses – first month in which a form is used and also used in the next month)
- Statistical comparisons using binomial test with Bonferroni correction
- For children, further investigation of
  - POSS_1
  - SELF_1
  - Own namesign

Data overview

Participant	Age Range	# of Sessions	Total # IX
ABY	1;05-3;00	30	2295
ABY's MOT	1;05-3;00	22	1992
JIL	1;07-3;00	33	2239
JIL's MOT	1;08-3;00	19	1335
NED	1;06-3;00	25	1620
NED's MOT	1;06-3;00	25	4022
SAL	1;07-2;10	18	2769
SAL's MOT	1;07-2;08	14	1905

Results: JIL

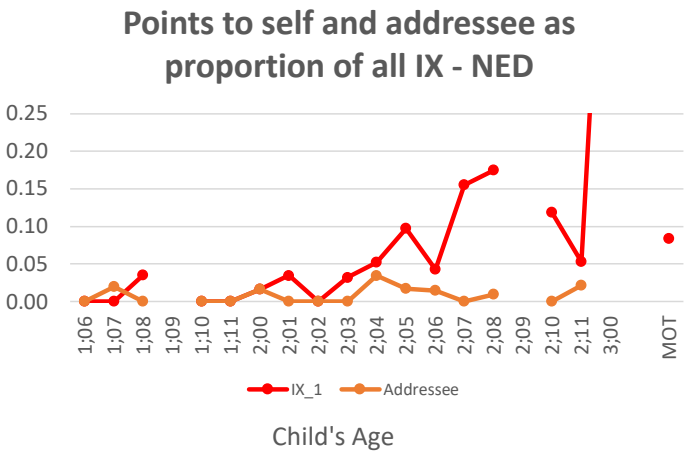


Several months with IX, then IX(addr); IX_1 comes in statistically later

FRU IX	(1;07)
FRU IX_1	1;11*
FRU IX(addr)	1;09
*p < .05	

FRU POSS_1	2;02
SELF_1 appears	2;09
NS appears	2;02

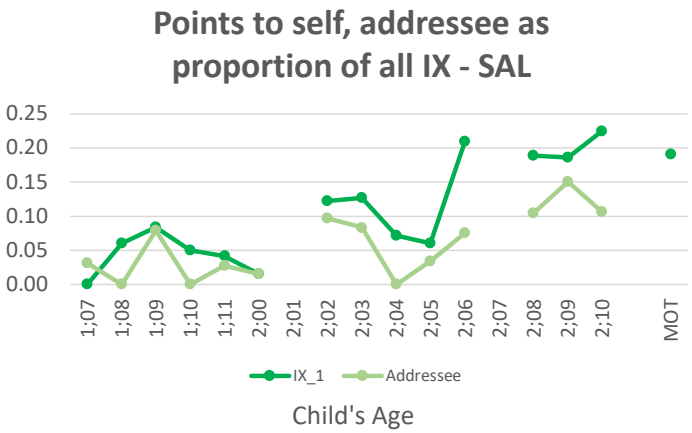
Results: NED



Several months with IX only; IX_1 and IX(addr) come in statistically later

FRU IX	(1;06)
FRU IX_1	2;00*
FRU IX(addr)	2;04*
*$p < .001$	
FRU POSS_1	2;00
SELF_1 appears	2;08
NS appears	2;02

Results: SAL

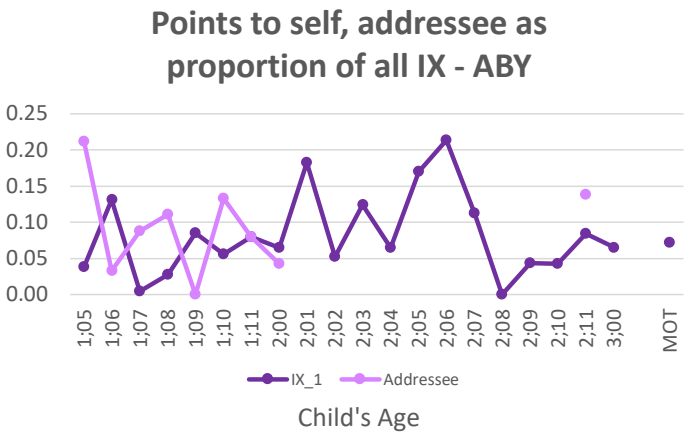


One month with IX only; IX_1 comes in statistically later; IX(addr) statistically still later

FRU IX	(1;07)
FRU IX_1	1;08*
FRU IX(addr)	1;11**
*$p < .01$	**$p < .001$

FRU POSS_1	2;02
SELF_1 appears	2;06
NS appears	1;08

Results: ABY



FRU IX	(1;05)
FRU IX_1	(1;05)
FRU IX(addr)	(1;05)

FRU POSS_1	1;10
SELF_1 appears	2;10
NS appears	2;01

Pronoun reversals?

- We have not searched for them, but found a few possibilities
- Does not appear to be systematic

- Example from SAL 2;02

S: PUT-ON-SHIRT CAN IX(book) CAN
M: CAN IX(SAL)?
S: (nod) CAN IX(MOT)
S: PUT-ON-SHIRT CAN IX(MOT) CAN
M: IX(SAL)?
S: (nod)

Intermediate Summary – Deaf native signers

- All have IX(obj/loc) from first observation
- All acquire IX_1 by the age of 2;00, but *not* all have it very early
- The children differ in the order of acquisition of IX_1 and IX(addr)
- Possible alternative forms of self reference not used before IX_1
  - POSS_1
  - SELF_1
  - NS(self)
- Self-reference is primarily achieved indirectly, through interpretation of null arguments in context

General Discussion

Overall summary

- Although non-signing hearing children do point extensively at an early age, they do not point to self or other persons
- Deaf native signers point to self by the age of 2, but not as early as their points to objects/locations
- Points to addressee emerge after IX_1 in 2/4 Deaf native signers, but for all, significantly later than points to objects/locations
- Take-home point: Pointing to self, addressee are *not* early and ubiquitous, but develop between 18 and 28 months (within the same age range for spoken language pronominal systems, and similar to the ages reported in previous studies of sign language acquisition)

Asymmetries

- All pointing is not the same! In this and related work, we have observed asymmetries between:
  - Deaf, Koda, and Hearing children in pointing to self/persons
  - Pointing to self, addressee, and non-addressed persons by Deaf children
  - Children and adults in use of points to self and others

Answers to the Research Questions

Emergence of reference to self and other persons

➢What linguistic means do children use to refer to self and addressee, and when is each acquired?

✓Native signers use points to self by age 2; NS(self) and POSS_1 are observed no earlier than IX_1, but within a few months, and SELF_1 comes in rather later. Earliest reference to self is indirect, through null forms understood in the discourse context.

✓Native signers use points to addressee within a few months of their development of points to self (for 1 child /4, before)

✓Pointing does not allow for an earlier linguistic reference to self or others in signing than in speech

Answers to the Research Questions

Gestural vs. Linguistic status of points

➢How different are the points used in signing when compared to the points used by non-signers?

✓Both signers and non-signers frequently point to objects and locations, but

✓Only (Deaf) signers point to themselves and other people at an early age

✓(At least the latter) points are part of a linguistic system for signers

✓Different timing of acquiring points to self, addressee, and non-addressed persons by the signers suggests that these different pointing functions are not acquired together – casting doubt on analyses that collapse the types

Conclusions

- Despite surface similarities, different functions of points are acquired differentially
- Deaf children exposed to a sign language learn how pointing works as part of the linguistic system
- Though many factors contribute to explaining acquisitional patterns, acquisition data can shed new light on long-standing theoretical issues

Thank you!