Appendices

Appendix A

*Study 1: Other exclusions*

*Clitic copying*

Cases where 3p DO clitics appear occupying both positions at the same time, as in example (1).

(1) *no* ***lo*** *estés agarrá-ndo=****lo****.*

neg **it.acc.m3sg** be.prs.sbjv.2sg hold-ger=**it.acc.m3sg**

‘Don’t keep holding it’

(*AAH\_2;11d*, line 1276 - caregiver)

*Intervening material*

We excluded cases with intervening material, as in the case of (2), where the adverbial *otra vez* ‘another time’ occurs between the finite verb and the infinitive in the construction.

(2) *quería otra vez, este+… ++ve-r=****la****.*

want.ipfv.3sg another time see-inf=**it.acc.f3sg**

‘Wanted to see her another time’

(JGAV\_2;11, line 1483 – caregiver)

*Unclear*

Cases where the utterance was not clear to the transcribers and was thus transcribed between square brackets. In example (3), for instance, not only were the finite and non-finite verbs incomplete in the child’s utterance, but the clitic used (*le*) differs in number (and probably case, if we consider this a case of leísmo—the use of *le* instead of *lo*) from the target form identified by the transcriber. Cases like this one were excluded.

(3) *que [: quiero] ve=****le*** *[: ve-r=los]?*

xx [: want.prs.1sg] xx=**it.acc.m3sg** [see-inf=them]

‘I want to see them’

(FAM\_2;5,9, line 1099 – child)

*Truncated, coordinated, or juxtaposed*

Cases where the variable context was not complete (truncated), as in example (4) as well as those where the clitic was attached to a non-finite verb that was connected to a finite verb via coordination or juxtaposition, as in example (5), were also excluded.

(4) *no la tengo que xxx +/.*

neg **it.acc.f3sg** have.prs.1sg to

‘I don’t have to…’

(OMJ\_5;2,4, line 311 – caregiver)

(5) *sí puedes trabaja-r, atende-r=****las****,*

yes can.prs.2sg work-inf look.after-inf=**them.acc.f3pl**

‘Yes, you can work, look after them.’

(JGAV\_2;11, line 1875 – caregiver)

*Constructions with categorical placement*

Cases with the impersonal *haber que* ‘must’ + infinitive, as in (6), were excluded because they are only grammatical with enclisis. Cases with causative *hacer* ‘make’ + infinitive were excluded because they only allow proclisis, as shown in (7). We also excluded constructions that were used categorically in the corpus. This included constructions that appeared categorically in enclisis (e.g., *necesitar* ‘need to’/*salir a* ‘go out to’/*tratar de* ‘try’ + infinitive) or categorically in proclisis (*acabar de* ‘finish’ + infinitive, *andar* ‘go’ + gerund) in the present corpus.

(6) *hay que pone-r=****los***  *juntos,*

must.prs.3sg put-inf=**them.acc.m3pl** together

‘They must be put together.’

(APA\_5;2b, line 1655 – child)

(7) *yo* ***lo*** *hago funciona-r.*

I **it.acc.m3sg** make.prs.1sg work-inf

‘I make it work.’

(YGSZ\_2;11, line 1387 – child)

*Double object clitics*

Cases where the dative and accusative clitics were both used were excluded, even if they allowed for variable placement of the clitic cluster, as in (8). The reason for this is the different behavior of these clitic clusters compared to single clitics (see Davies, 1995).

(8) *tú* ***me******la*** *vas a canta-r?*

you **me.dat.1sg** **it.acc.f3sg** go.prs.3sg to sing-inf

‘Are you going to sing it to me?’

Appendix B

*Study 1: Individual analyses of seven children who only produced between one and five VCP contexts, which were excluded from the dyad analyses*

As Table (B1) shows, most of these children belonged to the youngest group. The relevant tokens are provided below. The use of proclisis was limited to Marcos (*n* = 4), Andy (*n* = 3), and Rocio (*n* = 1). With the exception of a hortative *ir* use by Marcos, all these proclitic uses corresponded to verbs that favor proclisis (*ir*-Future, *poder*, *estar*). With two exceptions (*ir*-Future by Andy and Rocío), enclitic uses corresponded to verbs that favor enclisis in child-directed speech (*ir*-Hortative, *querer*, *deber*, *tener que*).

Table B1. *Production of clitics in variable contexts by participant*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Child | Age | Enclisis/Instances of VCP in child speech | Enclisis/Instances of VCP in caregiver speech |
| 3 | Mario | 2;2 | 1/1 | 18/55 |
| 6 | Sergio | 2;8 | 1/1 | 10/36 |
| 7 | Carla | 2;8 | 3/3 | 27/78 |
| 8 | Marcos | 2;11 | 0/4 | 0/14 |
| 14 | Andy | 2;11 | 2/5 | 0/7 |
| 16 | Santiago | 3;8 | 1/1 | 2/13 |
| 22 | Rocío | 5;0 | 1/2 | 1/16 |
| TOTAL | | | 9/17 | 58/203 |

*ir*-Hortative:

* Mario: (*no pero esos, esos, va(m)os a dibuja(r)los.*)
* Sergio:(*vamos a hacerlo mejo(r).*)
* Carla: (*que malas vamos a matala(s) [: matárlas] mamá.*)
* Marcos: (*déjame lo mamos [: vamos] a abril [: abrir].*)

*querer*:

* Carla: (*quero [: quiero] vela [: verla]. / quielo [: quiero] hacerla?*)

*ir*-Future

* Marcos: (*la voy a tirar a la basura.* / *ya la voy a tapar. / la voy a tida [: tirar] a la basuda [: basura].*)
* Andy: (*a ver xx que voy a hacerlo hasta acá!/ y yo la voy a recoger./ sí lo voy a echar.*)
* Rocío: (*voy a hacerla más grande.*)

*deber*:

* Andy: (*es que debo de ponerlo más adelante (.)*)

*ir*-Future *poder*

* Andy: (*y después la pudieron mover*)

*tener que*

* Santiago: (*(e)(n)tonces t(i)enes poner(l)o así.*)

*estar*

* Rocío: (*lo está saboreando.*)

Appendix C

*Study 1: GLMM Estimates*

Table C1. *Estimates for multi-level Logit Mixed Model of Selection of clitic placement, with Verb Class as a between-participants factor (*n *= 1118, AIC = 5378, BIC = 5383, Log Likelihood = 5376)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effect | Odds Ratio | SE | *t* | *p* | CI | |
| Lower | Upper |
| Intercept | .14 | .18 | -10.91 | .000 | .098 | .19 |
| Enclisis-favoring verbs | 8.87 | .19 | 11.27 | .000 | 6.06 | 12.97 |
|  |  |  |  |  |  |  |
| Random effect covariance | Estimate | SE | *Z* | *p* | CI | |
| Lower | Upper |
| Participant (Intercept) | .62 | .22 | 2.81 | .005 | .31 | 1.25 |

Appendix D

Table D1. *Stimuli used in Study 2: Elicited production*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Card** | **Characters / Verb depicted** | **Referent** | **Preamble** | **Critical Question** |
| 1 | Chilindrina  (*bañar* ‘bathe’) | *perrito*  ‘puppy’ | *La Chilindrina y el Chavo van a tener un perrito. Contame qué van a hacer con el perrito.*  ‘Chilindrina and Chavo are going to have a puppy. Tell me what they are going to do with the puppy.’ | *¿Qué* ***va a hacer*** *la Chilindrina con el perrito?*  ‘What is Chilindrina going to do with the puppy?’ |
| Chavo  (*secar* ‘rinse’) | *¿Qué* ***va a hacer*** *el Chavo con el perrito?*  ‘What is Chavo going to do with the puppy?’ |
| 2 | Chilindrina  (*abrir* ‘open’) | *frasco*  ‘jar’ | *La Chilindrina y el Chavo ven un frasco. Contame qué van a hacer con el frasco.*  ‘Chilindrina and Chavo see a jar. Tell me what they are going to do with the jar.’ | *¿Qué* ***va a hacer*** *la Chilindrina con el frasco?*  ‘What is Chilindrina going to do with the jar?’ |
| Chavo  (*romper* ‘break’) | *¿Qué* ***va a hacer*** *el Chavo con el frasco?*  ‘What is Chavo going to do with the jar?’ |
| 3 | Mickey  (*pegar* ‘glue’) | *papel*  ‘piece of paper’ | *Mickey y Minnie tienen un papel. Contame qué quieren hacer con el papel.*  ‘Mickey and Minnie have a piece of paper. Tell me what they are going to do with the piece of paper.’ | *¿Qué* ***quiere hacer*** *Mickey con el papel?*  ‘What does Mickey want to do with the piece of paper?’ |
| Minnie  (*cortar* ‘cut’) | *¿Qué* ***quiere hacer*** *Minnie con el papel?*  ‘What does Minnie want to do with the piece of paper?’ |
| 4 | Mickey  (*abrir* ‘open’) | *tesoro*  ‘treasure’ | *Mickey y Minnie tienen un tesoro que está un poquito abierto. A Mickey le da curiosidad, pero a Minnie le da miedo encontrar una araña. Contame qué quieren hacer con el tesoro.*  ‘Mickey and Minnie have a treasure that is a little bit open. Mickey is curious, but Minnie is afraid there might be spiders inside. Tell me what they want to do with the treasure.’ | *¿Qué* ***quiere hacer*** *Mickey con el tesoro?*  ‘What does Mickey want to do with the treasure?’ |
| Minnie  (*cerrar* ‘close’) | *¿Qué* ***quiere hacer*** *Minnie con el tesoro?* ‘What does Minnie want to do with the treasure?’ |
| 5 | Donald  (*arreglar* ‘fix’) | *auto roto y sucio* ‘broken and dirty car’ | *Donald y Daisy tienen un auto que está roto y sucio. Contame qué tienen que hacer con el auto.*  ‘Donald and Daisy have a broken and dirty car. Tell me what they have to do with the car.’ | *¿Qué* ***tiene que hacer*** *Donald con el auto?*  ‘What does Donald have to do with the car?’ |
| Daisy  (*lavar* ‘wash’) | *¿Qué* ***tiene que hacer*** *Daisy con el auto?*  ‘What does Daisy have to do with the car?’ |
| 6 | Donald  (*abrir* ‘open’) | *libro*  ‘book’ | *Donald y Daisy tienen un libro. La mamá deja que Donald lea el libro, pero no deja que Daisy lea el libro. Contame qué tienen que hacer con el libro.*  ‘Donald and Daisy have a book. Mom lets Donald read the book, but she does not let Daisy read the book. Tell me what they have to do with the book.’ | *¿Qué* ***tiene que hacer*** *Donald con el libro?*  ‘What does Donald have to do with the book?’ |
| Daisy  (*cerrar* ‘close’) | *¿Qué* ***tiene que hacer*** *Daisy con el libro?*  ‘What does Daisy have to do with the book?’ |

Appendix E

*Study 2: Data cleaning (responses excluded from analysis)*

Out of 720 opportunities for clitic use across participants in the whole experiment, I excluded 311 responses with verbs in invariable contexts, as in (1), and four *Other* cases, shown in (2).

(1) *Lo seca.*

‘it.acc.msg rinse.prs.3sg’

‘[He] rinses it’

(Participant J6)

(2) *Minnie quiere hacer cortar=lo.*

Minnie want.prs.3sg do cut=it.acc.msg

‘Minnie wants to do cut it’

(Participant 25)

The remaining 405 were tokens that contained variable contexts, but even within these I excluded nine cases turned into dat constructions, as in (3), 62 cases of Full NP DOs, shown in (4), and 18 cases of tokens with no DO at all, observed in (5).

(3) *Mickey quiere pegar=le plasticola*

Mickey want.prs.3sg paste=it.dat.3sg glue

‘Mickey wants to put glue to it’

(Participant 5)

(4) *El Chavo va a romper el frasco.*

The Chavo go.prs.3sg to break the jar

‘Chavo is going to break the jar’

(Participant 9)

(5) *Donald tiene que leer*

Donald have.prs.3sg to read

‘Donald has to read’

(Participant J21)

The remaining 316 cases were tokens of variable contexts that contained a pronominal DO. Within these cases, I excluded two cases in which the gender of the clitic was changed to the feminine in order to maintain consistency in the data set since all other tokens consisted of masculine *lo* (6), one case of a clitic cluster (7), and three cases of clitic copying, where the clitic appears in both positions at the same time (8).

(6) *va a bañar=la*

go.prs.3sg to bathe=it.acc.fsg

‘[She] is going to bathe her’

(Participant P15)

(7) *se lo va a comer*

it.dat.3sg it.acc.3sg go.prs.3sg to eat

‘[He] is going to eat it himself’

(Participant P16)

(8) *La Chilindrina lo va a cerrar=lo*

the Chilindrina it.acc.3sg go.prs.3sg to close=it.acc.3sg

‘Chilindrina [it] is going to close it.’

(Participant 4)

The remaining 310 cases were variable contexts with the clitic *lo* ‘it. From these, six tokens were excluded because the periphrases were not frequent in the data (two cases with *deber* ‘must’ + infinitive, one case with *estar* ‘be’ + gerund, two cases with *pensar* ‘think about’ + infinitive, and finally one case of *tratar de* ‘try to’ + infinitive. After exclusions, 304 tokens were entered into the statistical analysis. This data cleaning resulted in nine participants being excluded, so data from 51 participants was included in the analysis. The nine participants who did not produce any variable contexts were Participants 8 (6;11), 27 (7;0), J5 (5;5), J6 (5;1), J9 (5;11), P18 (4;8), P26 (4;11), P27 (4;6), P30 (4;5).

Appendix F

*Study 2: GLMM Estimates*

Table F1. *Estimates for multi-level Logit Mixed Model of Selection of clitic placement, with Finite Verb as a between-participants factor (*n *= 304, AIC = 1498, BIC = 1501, Log Likelihood = 1496)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effect | Odds Ratio | SE | *t* | *p* | CI | |
| Lower | Upper |
| Intercept | 1.71 | .53 | 1.00 | .317 | .59 | 4.87 |
| Finite Verb (*ir*) | .21 | .55 | -2.85 | .005 | .07 | .61 |
| Finite Verb (*querer*) | .93 | .51 | -.15 | .880 | .34 | 2.52 |
|  |  |  |  |  |  |  |
| Random effect covariance | Estimate | SE | *Z* | *p* | CI | |
| Lower | Upper |
| Participant (Intercept) | 4.14 | 1.32 | 3.35 | <.001 | 2.48 | 7.99 |

Appendix G

*Study 2: Individual participant results*

Table G1. *Distribution of proclisis and enclisis in adult responses (*n *= 10; shaded cells correspond to participants who categorically used only one clitic position)*

|  |  |  |  |
| --- | --- | --- | --- |
| Adult participant | Proclitic responses | Enclitic responses | Total responses included  (out of 12 trials) |
| Participant 121 | 3 | 7 | 10 |
| Participant 122 | 7 | - | 7 |
| Participant 123 | 5 | 3 | 8 |
| Participant 124 | 12 | - | 12 |
| Participant 126 | 6 | 3 | 9 |
| Participant 127 | 3 | 3 | 6 |
| Participant 128 | 4 | 1 | 5 |
| Participant 129 | 1 | 3 | 4 |
| Participant 130 | 8 | 3 | 11 |
| Participant 131 | 1 | 8 | 9 |

Table G2. *Distribution of proclisis and enclisis in child responses (*n *= 51; shaded cells correspond to participants who categorically used only one clitic position)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Child participant | Age | Proclitic responses | Enclitic responses | Total responses included  (out of 12 trials) |
| Participant 1 | 6;6 | 1 | 8 | 9 |
| Participant 2 | 6;10 | 7 | 2 | 9 |
| Participant 4 | 6;9 | 1 | 8 | 9 |
| Participant 5 | 6;9 | - | 10 | 10 |
| Participant 6 | 6;5 | 3 | - | 3 |
| Participant 9 | 6;6 | 9 | - | 9 |
| Participant 10 | 6;12 | 6 | 3 | 9 |
| Participant 13 | 6;10 | - | 5 | 5 |
| Participant 14 | 6;2 | 11 | - | 11 |
| Participant 16 | 6;10 | 1 | - | 1 |
| Participant 17 | 6;6 | 7 | 3 | 10 |
| Participant 18 | 6;5 | 1 | 5 | 6 |
| Participant 21 | 6;4 | - | 1 | 1 |
| Participant 22 | 6;6 | 3 | - | 3 |
| Participant 23 | 6;3 | 8 | - | 8 |
| Participant 24 | 6;8 | 9 | - | 9 |
| Participant 25 | 6;11 | 9 | 1 | 10 |
| Participant 28 | 6;9 | - | 4 | 4 |
| Participant J1 | 5;9 | - | 5 | 5 |
| Participant J10 | 5;6 | 1 | 3 | 4 |
| Participant J11 | 5;2 | 5 | 1 | 6 |
| Participant J13 | 5;3 | 1 | 2 | 3 |
| Participant J15 | 5;3 | 5 | - | 5 |
| Participant J16 | 5;8 | 8 | - | 8 |
| Participant J17 | 5;8 | - | 9 | 9 |
| Participant J18 | 5;5 | - | 1 | 1 |
| Participant J19 | 5;6 | - | 4 | 4 |
| Participant J2 | 5;10 | 7 | 1 | 8 |
| Participant J20 | 5;2 | 3 | 6 | 9 |
| Participant J21 | 5;1 | - | 5 | 5 |
| Participant J22 | 5;10 | - | 6 | 6 |
| Participant J23 | 6;0 | - | 2 | 2 |
| Participant J24 | 5;9 | 1 | 9 | 10 |
| Participant J4 | 5;10 | 2 | - | 2 |
| Participant J7 | 5;7 | 10 | 1 | 11 |
| Participant P1 | 4;9 | 1 | 3 | 4 |
| Participant P10 | 4;4 | - | 1 | 1 |
| Participant P12 | 4;8 | 1 | 3 | 4 |
| Participant P14 | 4;4 | 1 | 10 | 11 |
| Participant P15 | 4;8 | 1 | - | 1 |
| Participant P16 | 4;3 | 5 | 3 | 8 |
| Participant P2 | 4;1 | - | 1 | 1 |
| Participant P21 | 4;5 | - | 3 | 3 |
| Participant P22 | 4;10 | 4 | - | 4 |
| Participant P25 | 4;11 | 2 | - | 2 |
| Participant P3 | 4;10 | 7 | - | 7 |
| Participant P5 | 5;0 | - | 3 | 3 |
| Participant P6 | 4;2 | 8 | - | 8 |
| Participant P7 | 4;4 | 3 | 6 | 9 |
| Participant P8 | 4;9 | 5 | 5 | 10 |
| Participant P9 | 4;4 | 3 | 1 | 4 |