

On the comprehension of (reflexive) *si* in preschool Italian-speaking children

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Abstract. The study presented here investigates the comprehension of reflexive sentences on the part of Italian-speaking preschoolers. The aim is to verify what we refer to here as the “reflexive passive hypothesis” (Belletti 2020), according to which, at the earliest stages of development, children entertain the hypothesis that Italian can express passive through the reflexive morphology. This is a cross-linguistically attested option which is present in adult Italian in a partly different and more limited way, and which becomes plausible by assuming that children do not treat reflexive *si* as a reflexive, but as a middle/passive voice morpheme.

The experiment consists of a sentence-picture matching task as 2AFC task that targets comprehension of reflexive structures by means of drawings displaying reflexive-transitive pairs of actions. The interpretation of the reflexive prompt used to describe the pictures is thus assessed in a situation that is ambiguous between a true reflexive and a middle/passive reading of *si*. In this way, it is possible to verify whether this specific condition hinders application of Principle A of the binding theory (Chomsky 1981).

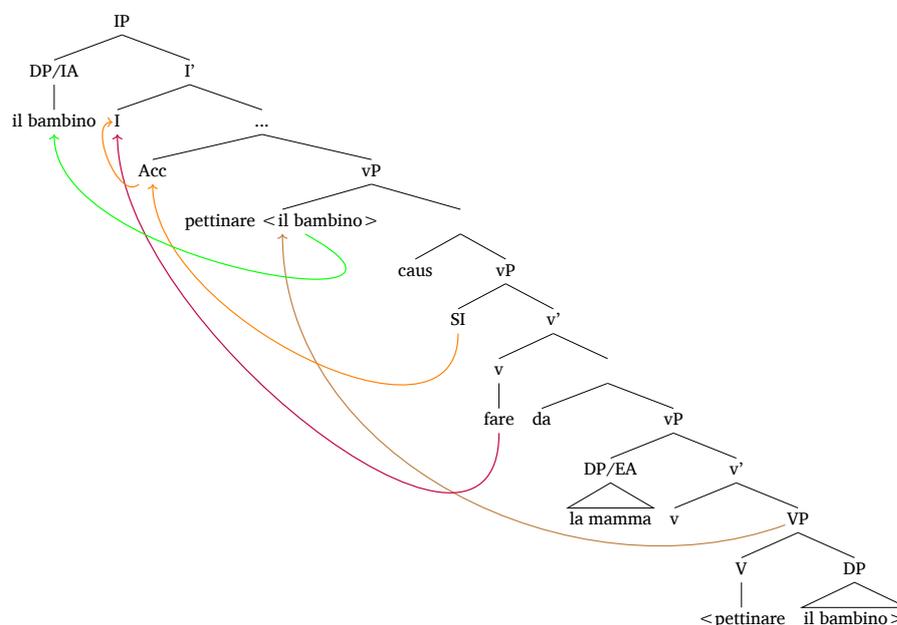
Our results confirm the nontarget-like performance with the reflexive (a fact also observed in independent works by Smith 2021 for comprehension; Manetti 2013; Belletti & Manetti 2019 for production). Interestingly, all children oscillated between the reflexive and the middle/passive reading of *si* – a behaviour that can be explained as a result of the competition between Principle A and the “reflexive passive hypothesis”. Hence, as predicted in light of Belletti (2020), Italian 3-4-year-olds consider *si* to be interpretable both as a true reflexive and as a middle/passive voice morpheme.

1 Introductory background

The derivation of passive structures is traditionally considered to be complex. Indeed, a full and productive mastery of passives appears cross-linguistically late in development, around age 5-6 (Maratsos 1985; Borer & Wexler 1987; Fox & Grodzinsky 1998; Hirsch & Wexler 2006; Volpato, Verin & Cardinaletti 2012; Manetti 2012; 2013; Gavarró, Parramon & Rallo 2013; Snyder & Hyams 2015). The complexity of the construction can be due to several factors. Among these, assuming a derivation involving *smuggling* à la (Collins 2005) (Belletti & Collins 2021), the detection of the morphosyntactic properties of the voice head *by*, the individuation of the relevant vP-chunk to *smuggle* (Collins 2005) – an operation also triggered by labelling requirements (Chomsky 2013; 2015; Rizzi 2015a;b; Belletti 2017) and allowing to overcome a situation of intervention (Rizzi 1990; 2004) – and the subsequent promotion of the IA into subject position (Belletti & Guasti 2015). However, even though a full mastery of passives is delayed, evidence shows that children can to some extent access and use the syntax of verbal passives by age 4 or even earlier (O’Brien, Grolla & Lillo-Martin 2006; Bencini & Valian 2008; Crain, Thornton & Murasugi 2009; Messenger 2009; Manetti 2012; Volpato, Verin & Cardinaletti 2016, cited in Guasti 2016b; Snyder & Hyams 2015; Belletti & Guasti 2015 for overview). This is further confirmed by priming experiments, which indicate that children already possess abstract knowledge of types of passive at age 3 (Huttenlocher, Vasilyeva & Shimpi 2004; Savage et al. 2006; Shimpi et al. 2007; Bencini & Valian 2008; Messenger 2009; Messenger, Branigan & McLean 2011; Manetti 2012, cited in Guasti 2016b).

Interestingly, production and priming experiments conducted on Italian showed that children around age 5 produce *si*-causative constructions rather than periphrastic copular (or *venire*) passives in answering patient-oriented questions, a condition in which adults systematically opt for full copular/*venire* passives (Manetti & Belletti 2015; Belletti 2017; Belletti & Manetti 2019; Belletti 2020). *Si*-causatives originate from the combination of reflexive *si* and the causative construction, and their derivation shares some elements with that of passives. In *si*-causatives, a vP-chunk is first smuggled into the specifier of a causative voice, thus satisfying labelling requirements (Chomsky 2013; 2015; Rizzi 2015a;b; Belletti 2017). From there, the DP/IA is further promoted into subject position. Therefore, a sentence like (1a) is derived as in (1b) (adapted from Belletti 2020):

- (1) a. Il bambino *si* fa pettinare dalla mamma
 b.



Even though *si*-causative passive might intuitively look complex because involving various steps and different constructions, i.e., the causative construction and the reflexive, they rather seem to be relatively easy to master, since they are favoured in early child production, as noted. Hence, the mechanisms involved in the derivation of causatives – among which *smuggling* moving a chunk of the verb phrase – must be very basic at the appropriate level of analysis and, as such, must be available relatively early to the child (Belletti 2017: 41). Furthermore, if compared to full periphrastic passives, the presence of reflexive *si*, possibly combined with the overtness/saliency of the causative morpheme *fare* and its causative value, might not only facilitate the computation, but also provide some key interpretative features preparatory to passive (Manetti & Belletti 2015; Belletti & Manetti 2019).

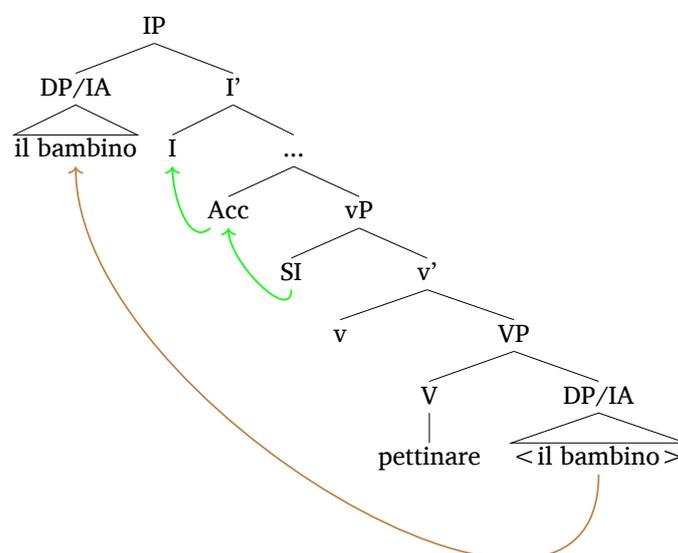
Even more interestingly, studies by Manetti (2013), Belletti & Manetti (2019), and Smith (2021) disclosed an unexpected uncanonical behaviour with reflexive *si* both in production and in comprehension. Specifically, Manetti (2013) and Belletti & Manetti (2019) found non negligible usage of reflexive *si* in answering patient-oriented questions – an experimental condition typically exploited to elicit production of passive-like structures. In comprehension, Smith (2021) observed that the most selected nontarget-like interpretation associated to reflexive *si* is that of

a transitive action affecting the sentential subject. In this case, the subject of the reflexive thus appears to be interpreted as the object patient of an action (which is held to be initiated by the EA *si*).

This uncanonical usage and interpretation of the reflexive *si* seems to contradict the well-known conclusion that, by age 3–4, children master anaphor binding and, therefore, do not usually misinterpret sentences with reflexives (Hamann 2011; Guasti 2016a). Reflexive structures are indeed known to be mastered very early on. The derivation assumed here for structures involving reflexive *si* is exemplified in (2) (adapted from Belletti 2020, inspired by proposals by Richard Kayne):

(2) a. Il bambino si pettina

b.



In accordance also with D'Alessandro's (2008) proposal, *si* is merged as the EA of the lexical verb and, as such, it is assigned the external θ -role by *v*. Then, it undergoes movement towards I, and in so doing, it takes the accusative Case, thus blocking its availability for the DP/IA, a property shared with passive. The latter thus moves towards Spec-IP with a view to receiving nominative – also an operation shared with passives. Finally, what yields the reflexive interpretation is coindexation between the moved DP/IA and *si*. As it can be noticed, in reflexive structures, movement of the DP/IA takes place without resorting to *smuggling*. That is because, following Holmberg & Roberts (2013), *si* can be assumed to be reduced in its internal structure and feature composition (Belletti

2020), and as such it does not act as an intervener for the featural Relativized Minimality principle (Rizzi 1990; 2004).

In order to try to account for the unexpected nontarget-like behaviour with reflexive *si* attested in Belletti & Manetti (2019) (and in Smith 2021), Belletti (2020) formulated what we refer to here as the “reflexive passive hypothesis”. According to this hypothesis, the occasional uncanonical behaviour with Principle A could be due to a concurrent middle/passive interpretation of the morpheme *si*, which becomes plausible under specific experimental conditions. The apparently reflexive constructions attested in this early stage of development might thus in fact be instances of an (impersonal/)middle/passive *si*¹. If so, they could be considered as first attempts at producing passive – whence the label “reflexive passive”. In this way, the nonadult-like behaviour with reflexive *si* would be justifiable not in terms of a delay in the mastery of binding, but as a result of the competition between Principle A and the “reflexive passive hypothesis”.

The derivation of “reflexive passive” is held to be similar to that of reflexive *si* illustrated in 2b, the only difference between the two being the lack of final coindexation between the (derived) subject, the moved DP/IA, and *si* in “reflexive passives”. When treated as a middle/passive voice morpheme, *si* serves uniquely to eliminate the EA of the verb (which may be taken by *si* itself, as indicated) and the availability of the accusative Case for the object. This allows for promotion of the IA into subject position (without resorting to *smuggling*). Movement of the DP/IA towards spec-IP – an operation shared with the passive morphosyntax and with structures containing ergative *si* (Burzio 1986) and middle *si* (Belletti 1982; Cinque 1988) – may thus be overall less costly or anyway more readily accessible in “reflexive passive”. Therefore, it is not that surprising that children use this (impersonal/)middle/passive *si* as a first route to access the overall more complex computation of copular/periphrastic passives (Belletti 2020). Moreover, in so doing children adopt a derivational option which is cross-linguistically relatively widely attested, whereby the passive voice and reflexive morphology coincide.

All in all, data from Manetti (2012; 2013); Manetti & Belletti (2015); Belletti (2017); Belletti & Manetti (2019); Smith (2016; 2021) indicate that, when their system is not ready to access the copular/periphrastic passive computation yet fully and productively, children resort to structures whose common feature is the presence of the morpheme *si*. Hence, *si* can be seen as a first way to access passive – initially in the form of

1. We will sometimes use the term ‘(impersonal/)middle/passive’ and sometimes, more generally, just ‘middle/passive’. The latter is the focus of our discussion here; the former suggests a possible relation with the impersonal/generic interpretation of *si* as well, not developed here.

“reflexive passive” and, subsequently, of *si*-causative passive.

2 The current study

The aim of the present study is to further verify the “reflexive passive hypothesis” (Belletti 2020). This hypothesis was formulated mainly following observations from priming and production studies (Manetti 2013; Belletti & Manetti 2019). Some additional data were subsequently found in comprehension (Smith 2021), which highlighted the necessity to systematically assess comprehension of reflexive structures under a condition that could be ambiguous between a passive-like and a true reflexive interpretation of the morpheme *si*. If the employment of the reflexive in contexts suitable for passives results from the parallel entertainment of Principle A and of the “reflexive passive hypothesis”, the expectation is to observe that young children find it difficult to select the adult-like reading of *si* – i.e., the reflexive one – in ambiguous contexts. In other words, the expectation is to find that comprehension mirrors production.

42 Italian-speaking children aged 3;4-4;3 were thus tested via a sentence-picture matching task, in which pairs of pictures involving the same characters and the same verbal action are presented on a screen. In one case, the action is depicted as transitive; in the other, it is represented as reflexive. Children are told to look at the pictures and to indicate the image corresponding to what the experimenter says.

The research hypothesis guiding the study is the following:

*When hearing a reflexive sentence, children **can** select the transitive action instead of the reflexive.*

Based on this hypothesis, the expectation is not to observe general troubles with comprehension of reflexive structures. Rather, it is to observe an oscillation between two interpretations of the reflexive morpheme *si* – likely resulting from the competition between Principle A of binding (Chomsky 1981) and the “reflexive passive hypothesis” (Belletti 2020).

2.1 Method

Participants

46 Italian-speaking children aged 3;4-4;3 took part in this study. They were all recruited from the two nursery schools at Istituto Comprensivo Rapallo, in Rapallo (Genoa). However, data from 4 children had to be excluded because of attested language/developmental delays. The responses of 9 additional participants were then discarded because they

provided less than 7 out of 9 correct answers in the control condition – which had initially been established as an exclusion criterion (see “Materials” for details). Consequently, the analyses were calculated based on the performance of 33 children (mean age = 3;8), of which 26 monolinguals and 7 bilinguals.

Materials

A sentence-picture matching task in the form of a two-alternative forced choice task was ideated following a Latin Square Design and implemented via PowerPoint.

All the variables were manipulated within-subjects, so to avoid individual biases towards the visual/lexical materials. They were the following. First, given that the aim was to assess comprehension of reflexive structures, the type of predicate employed by the experimenter to describe the pictures was always *reflexive*. Second, the order of presentation of the pictures could either be *reflexive-transitive* or *transitive-reflexive*. In other words, the image depicting the action as reflexive could be located either to the left-hand side or to the right-hand side of the screen. Third, the characters involved in the action were sometimes introduced as *agent-patient*, sometimes as *patient-agent*. In this way, it was possible to make sure that neither the disposition of the pictures on the screen, nor the order of presentation of the characters would impact the experimental answers.

The answers collected from participants thus concerned the type of action, which could be *reflexive* or *transitive*.

All in all, the experimental materials were presented under 4 possible conditions:

- a. *Reflexive-transitive; agent-patient*
- b. *Reflexive-transitive; patient-agent*
- c. *Transitive-reflexive; agent-patient*
- d. *Transitive-reflexive; patient-agent*

Accordingly, 4 lists were created. Children were divided so that each list was distributed to an equal number of children.

Each participant provided 8 experimental answers overall, that is, 2 experimental answers per condition.

With a view to preventing children from realising what they were tested on, filler items were inserted in a pseudo-randomized way on a 2:1 ratio. Therefore, 16 filler items were created to be shown during the experimental session, as alternating with the experimental items. Two additional fillers were used during the familiarization session.

Consequently, each participant was presented with a total amount of 26 slides – inclusive of fillers and experimental items – in a pseudo-

- (4) Exp: Chi c'è qua? Un passerotto e una volpe: la volpe
 Who is in there? A nightingale and a fox: the fox
 suona la tromba.
 plays the trumpet.



Figure 2: Filler DO

Procedure

Children were tested individually in a quiet room of the respective nursery schools. Each session lasted 15 to 25 minutes. When presenting the experiment, children were instructed as follows. They were told that they would have to play a game with the experimenter and her little puppet, a penguin named Kinder. Their task would be to indicate the picture corresponding to what the experimenter said in order to help Kinder understand what was going on. The session started with a familiarization phase consisting of two filler items, which children practiced with to become confident with the task. The answers were registered on an ad-hoc spreadsheet.

Coding

Children's responses were coded as *target* or *non-target*, where *target* corresponds to the adult-like interpretation of the morpheme *si* – i.e., the true reflexive reading – and *non-target* indicates the middle/passive interpretation resulting from the entertainment of the “reflexive passive hypothesis”.

2.2 Results

Overall

Binomial logistic regression analyses in an intercept-only model with only “Item” as random intercept (for convergence reasons) were conducted using function “glmer” in package “lme4” (Bates 2015) in RStudio Team (2021).

The model returned a non-significant intercept in the experimental condition ($\beta = 0.2910$; $SE = 0.1565$; $z\text{-value} = 1.859$; $p = .063$). This indicates that, overall, no type of answer – neither *transitive* nor *reflexive* – was chosen significantly more than the other.

In order to facilitate the interpretation of these estimates, the overall results for the experimental condition are shown in figure 3, divided by experimental item.

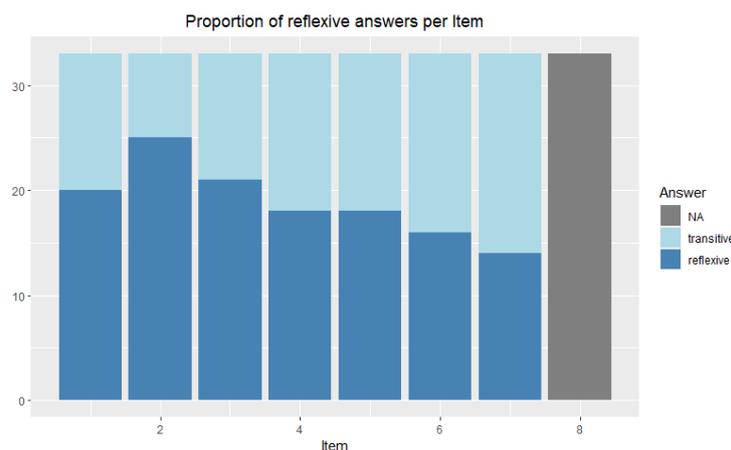


Figure 3: Overall proportion of target answers – Experimental condition

As it can be seen, each item received a relatively balanced proportion of *reflexive* and *transitive* responses. Figure 3 also displays missing values for item 8. That is because the answers collected with this item were subsequently excluded from the analysis due to a possibly interfering element².

With the aim of making sure that the roughly equal proportion of *transitive* and *reflexive* answers observed in the experimental condition was not mirrored in the amount of *target* and *non-target* responses provided with filler items, the same model was run for control items (i.e., for simple SVO sentences)³.

2. Item 8 was the only one causing significantly more transitive responses, contrary to all others. This could be due to two factors. Either the drawings were not clear enough, or the nature of the verb employed – that is, “abbracciare” (lit. *to hug*) – was misleading. This verb indeed expresses a reciprocal action. Therefore, *si* can be attributed not only the reflexive and middle/passive, but also the reciprocal interpretation in this case, which is likely to have caused an increase in transitive responses. If this intuition is correct, it then becomes impossible to distinguish the cases in which transitive was selected as a result of the middle/passive interpretation of *si* from those in which it was chosen because of the reciprocal reading of the verb. That is the reason why the results from this item were discarded.

3. Fillers on Principle B and on Sg/Pl S-V agreement were not considered because some of these items appear to have caused troubles for independent reasons – such as the lack

The situation observed in the control condition is different from that of the experimental. Here, the intercept is extremely significant ($\beta = 2.8141$; $SE = 0.4823$, $z\text{-value} = 5.835$, $p < .001$), which indicates that, overall, one type of answer – namely, *target* – was chosen significantly more than the other. As it is clearly visible from figure 4, more *target* responses were indeed registered in all control items. The examination of the overall performance with control items therefore revealed that, in general, children did not face any problem with the task, nor did they have trouble processing simple SVO sentences – which was expected at the age tested.

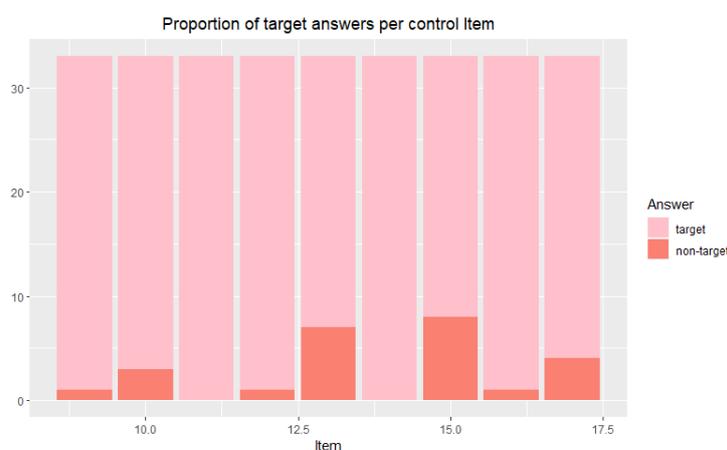


Figure 4: Overall proportion of target answers – Control condition

However, the mere examination of the overall results in the experimental and the control condition does not allow us to exclude the possibility that the apparent oscillation in the interpretation of the sentences containing *si* is in fact due to a bimodal distribution of the children. In other words, the data reported above could be the result of roughly half of the participants behaving adult-like, and the other half behaving nonadult-like. Hence, to exclude this eventuality, we proceeded with the examination of individual results.

Individual results

Figure 5 and 6 report the performance of individual participants with experimental and control items, respectively.

First, figure 5 clearly shows that all children except one oscillated between the reflexive and the transitive reading of the sentences containing *si*. The population tested was thus not divided into two groups, one performing adult-like and the other nonadult-like. Rather, even though

of a clear division between the two images on the screen – which will not be discussed here in any further detail.

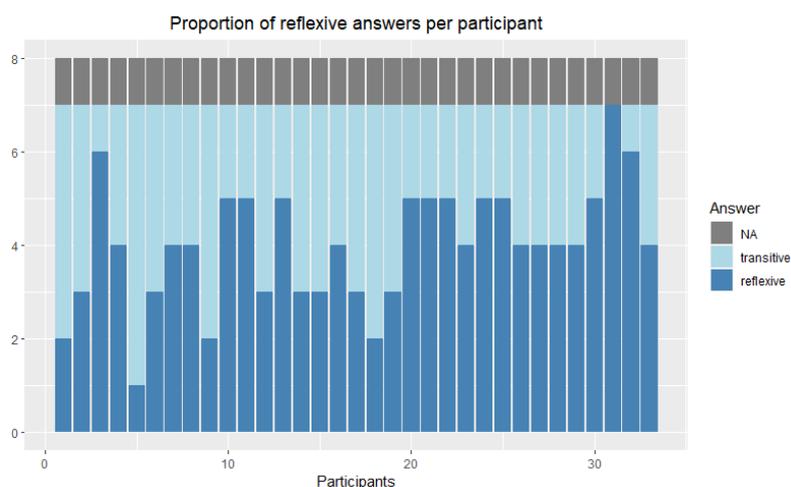


Figure 5: Individual proportion of target answers – Experimental condition

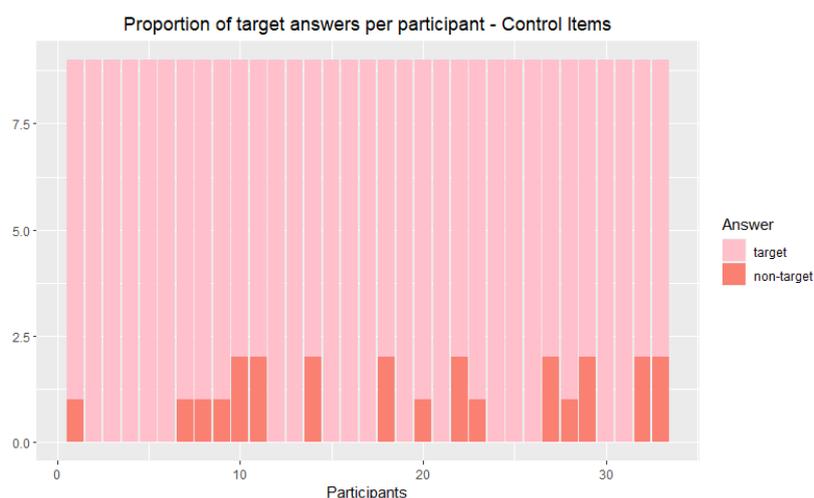


Figure 6: Individual proportion of target answers – Control condition

to different extents, all participants but one showcased an oscillatory behaviour. This allows us to interpret the non-significant intercept reported in figure 3 as an indication that, at least under the experimental condition provided and at the age tested, children generally appear not to properly understand the reflexive structure they are presented with.

Then, the scrutiny of figure 6 reveals that the same children who oscillated in the experimental condition did not do so in the control one. With fillers on DO selection, every child indeed provided significantly more *target* than *non-target* responses. On the one hand, the accurate performance with control items thus indicates that children generally did not encounter difficulties in the completion of the task, nor in the processing of simple SVO sentences. On the other, it pinpoints that there

must be some specific characteristic of the experimental condition responsible for the oscillatory behaviour observed. This, in turn, supports the view of an ongoing competition between Principle A and the “reflexive passive hypothesis”, as proposed by Belletti (2020).

3 Summary and Discussion

This experiment investigated comprehension of sentences containing *si* under a condition in which it can be treated either as a true reflexive or as an (impersonal/)middle/passive morpheme.

The results collected confirmed the expectation that Italian preschoolers can give *si* a further, nonadult-like reading in the attempt to supply for the lack of a full and productive mastery of the passive morphosyntax – which is yet to be acquired at the age tested. Indeed, being shown reflexive-transitive pairs of drawings while hearing reflexive prompts, participants sometimes opted for the *reflexive*, sometimes for the *transitive* interpretation of the action at issue.

Interestingly, all children except one alternated between the two readings of *si*. It is true that oscillation manifested itself to different extents across individuals. Still, independently of whether performance was completely at chance or pending towards one specific interpretation, children generally did not seem to fully understand the structure they were presented with.

The examination of the responses registered for each experimental item revealed that the item receiving more *reflexive* answers overall was Item 2. However, this could be due to children’s familiarity with the action in question – i.e., that of combing one’s own/someone else’s hair. This appears to be confirmed by certain comments occasionally made by participants. For instance, a child told the experimenter that she usually combs her hair “da sola” (lit. “on my own”), as indicated in (5). Another child specified that the girl in the picture was combing her hair “da sola” (lit. “on her own”) (6). These remarks can be interpreted as children showing awareness that the act of combing one’s hair can be carried out – and is, perhaps, usually carried out – reflexively.

(5) Exp: La bambina *si* pettina.

The girl *si*.Cl combs.

CHI: Io *mi* pettino da sola.

I *mi*.Cl comb on my.own.

(Greta, 3;11)

(6) Exp: La bambina si pettina.
The girl si.Cl combs.

CHI: Da sola!

On her.own!

(Ricardo, 4;1)

The examination of individual results, then, showed that most subjects pended towards either the *reflexive* or the *transitive* option, but never significantly. Consequently, children aged 3;4-4;3 can be said to have troubles with the application of Principle A when the experimental condition can induce a concurrent middle/passive reading of *si*. In this case, a correct, adult-like interpretation of reflexives is hindered, and an oscillation between the true reflexive and the middle/passive meaning is observed. Hence, it can be concluded that, at least at the age range tested and under the specific experimental condition supplied, children do not fully understand the reflexive clitic *si*.

It should be clarified that this last remark does not contradict previous findings on Principle A, which prove that children have mastered reflexives by age 3–4. What can be argued is that Principle A is in place and is correctly computed by 3–4-year-olds. However, when a competing interpretational option is also possible in the presence of clitic *si*, children’s behaviour becomes at chance because of the difficulty in deciding which of the two equally plausible readings should be selected.⁴

In that respect, two more related observations from the comments produced by children are worth mentioning. First, 3 participants explicitly stated that they judged the reflexive auditory stimulus to be compatible with both pictures. This happened with item n. 1, 5 and 6, as illustrated in (7)–(9):

4. The target interpretation of reflexives under Principle A is generally tested by proposing the choice between a reflexive action on the part of the subject (e.g., in Italian: *La scimmia si lava* / the monkey washes itself) and a transitive action in which the same subject performs the same action on a different character (e.g. in Italian: *La scimmia lava il cane*/ the monkey washes the dog). In our material, the proposed choice is between a reflexive action on the part of the subject (e.g., *La scimmia si lava* / the monkey washes itself), and a transitive action in which the same character is the object (e.g., *Il cane lava la scimmia*/the dog washes the monkey); see the material section. It is in the latter situation that apparent non-comprehension is documented, as in our results, leading to the “reflexive passive hypothesis”. A further test, yet to be run and currently under construction, considers a three-way comparison also including the typical test for the reflexive interpretation indicated above – with the same group of children, with the same methodology adopted here. The expectation is that it should be mostly in the situation of the design presented here that ‘comprehension’ is poor, oscillating according to the passive interpretation as proposed. See Smith (2021), for a first comparison along the lines suggested with results going in exactly this direction (with partly different design).

- (7) Exp: Il girasole si trucca.
The sunflower si-Cl puts on make up.
 CHI: Ma tutti e due si truccano!
But both of them si-Cl put on make up! (Cecilia, 3;5; Andrea, 4;1)
- (8) Exp: Il topo si nasconde.
The mouse si-Cl hides.
 CHI: Tutti e due si nascondono!
Both of them si-Cl hide! (Cecilia, 3;5; Andrea, 4;1)
- (9) Exp: La forbice si lava.
The scissors si-Cl wash.
 CHI: Tutte e due!
Both of them! (Gabriele, 3;10)

Second, children occasionally provided a description of what they were seeing, which allowed us to verify that the visual stimuli were being interpreted correctly (see 10–11).

- (10) Questo è un maiale che taglia la pecora.
 This is a pig that cuts the sheep. (Stefano, 3;9; item n. 7)
- (11) Io voglio scegliere la nonna che pettina.
 I want to choose the granny that combs. (Noemi, 3;8; item n. 2)

It was sometimes the case that the transitive picture illustrated as above was then judged to be compatible with the reflexive prompt. This behaviour is explainable in two ways. Either children's attention was especially captured by the transitive picture, so that selection of *non-target* resulted from somewhat of an incapability to shift the attentional focus from the stimulus that had initially attracted them most. Alternatively, it could simply be that participants did not perceive any incongruity between the experimenter's reflexive structure and the one they had employed earlier to describe the pictures. Based on the discussion up to this point, the second explanation appears to be more plausible. Children recognize that one of the actions they are presented with is transitive. However, given that they might also understand *si* as to vehiculate a middle/passive meaning, they could consider the reflexive prompt to be perfectly coherent with the transitive description they had previously provided.

In other cases, though, children employed an active sentence to describe the transitive drawing and then correctly associated the experimenter's stimulus to the reflexive picture. These cases are relevant because they indicate that reflexive *si* is sometimes computed as a true

reflexive even in those circumstances that can induce a middle/passive reading. This proves that Principle A is in place by age 3–4, in accordance with previous findings. At the same time, it confirms that the oscillation between *reflexive* and *transitive* can reasonably be attributed to the competition between Principle A and the “reflexive passive hypothesis”.

Another interesting observation is that 4 children inserted a *by*-phrase expressing the agent as they tried to either follow up from the experimenter’s utterance or as they asked for clarification, as exemplified in (12).

- (12) Exp: La pecora si raso.
 The sheep si-Cl shaves.
 CHI: Ma *da* questo porcellino qui?
 But by this pig here? (Ginevra, 3;11)

Similar findings had also emerged from Manetti’s (2012, 2013) priming studies. These productions are particularly telling because no *by*-phrase is admitted with reflexive structures in the grammar of Italian. Similarly, *by*-phrases are generally not allowed for in the middle passive. However, it is not always the case that *by*-phrases are demoted in case of passive constructions with *si*. A sentence as the one in (13) might sound odd, but native speakers show different levels of acceptance (Lepschy 1986):

- (13) (?) Queste cose si dicono *da* chi sa la verità.
 These things si-Cl say by who knows the truth.

The acceptance rate increases as soon as the simple *by*-phrase is turned into the more complex constituent “*da parte di*” (lit. “on the part of”), though, as in (14):

- (14) Queste cose si dicono *da parte di* chi sa la verità.
 These things si-Cl say on the part of who knows the truth.

Consequently, it can be concluded that children add a *by*-phrase to the reflexive structure because they do not treat *si* as a reflexive. Rather, given that they hold it to be an middle/passive morpheme, they consider it to be at least sometimes and to some extent compatible with *by*-phrases.⁵

5. This suggests that children, in these cases, do not necessarily associate *si* with the EA Th-role of the verb, but rather treat it as a pure passive voice, more akin to what Burzio (1986) referred to as ‘ergative’ *si*, mentioned in section 1. It is an open issue, currently under new investigation, whether this is in fact always the case in this developmental stage.

All in all, the related qualitative observations from children's comments reported in this section confirm what had already emerged from the quantitative data, namely, that uncanonical behaviour with reflexives can be observed in Italian-speaking preschoolers despite mastery of anaphor binding whenever the morpheme *si* can also be given an (impersonal/middle/passive reading. Indeed, at an age in which the passive morphosyntax is not in place yet fully, reflexives can be used instead of other more complex passive-like constructions. That is the reason why they can be considered to be preparatory to passives.

Finally, our results indicate that the entertainment of the “reflexive passive hypothesis” might qualify as a possible developmental stage within the path towards mastery of passive structures in *Italian*. Up to this point, all the observations collected about the uncanonical behaviour with reflexive *si* were based on the performance of children living in Tuscany, a region whose dialectal variety makes large use of the impersonal *si*-construction (also in the active, e.g., 1st person plural). In principle, one could thus have objected that the oscillation between the reflexive and the middle/passive interpretation of *si* was generated by the pervasive presence of the impersonal construction in the linguistic input received by participants. However, this rationale is not applicable to the population recruited for this experiment. All of the children tested indeed live in the province of Genoa, in Liguria, a region in which the impersonal *si*-construction is clearly not as productively used as in Tuscany. Still, the oscillation between the true reflexive and the middle/passive interpretation of *si* has been amply attested in our results. Consequently, it appears that the competition between Principle A and the “reflexive passive hypothesis” holds independently of the variety of Italian that children are mainly exposed to, thus qualifying as a developmental stage within the acquisitional path of passives in Italian.⁶

4 Conclusions

The aim of this research was to investigate comprehension of reflexive sentences containing *si* on the part of Italian-speaking children aged 3–4, with a view to verifying the “reflexive passive hypothesis” (Belletti 2020). What is predicted under this hypothesis – namely, that the occasional uncanonical interpretation and use of reflexives can result from the attribution of a middle/passive reading to the morpheme *si* – was confirmed by our results coupled with a series of observations from children's comments collected while the experiment was unfolding. Hence,

6. An insight worth confirming by further assessing the behaviour of speakers of other varieties of Italian.

it can be concluded that the apparent nontarget-like treatment of *si* is not attributable to a delay in the mastery of binding. Rather, it is due to the competition between two interpretational options – i.e., Principle A and the “reflexive passive hypothesis” – which are held to be roughly equally plausible in the child’s system at least in the early age investigated (until age 4;3).

More work still needs to be done with a view to better frame this stage and understand how it fits and integrates into the path towards a full and productive mastery of passive structures in Italian. First, it would be interesting to systematically assess production and comprehension in exactly the same age range. Second, it would be relevant to test comprehension and production in older children to obtain a more precise indication of the timeframe in which the “reflexive passive hypothesis” is entertained. The parallel administration of production and comprehension tasks to a wider pool of participants would reveal around what age children cease to consider “reflexive passives” as a grammatical option in Italian and abandon it in favour of other target passive constructions.

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