

# The Acquisition of Negation

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Contributor: Marta Tagliani , Maria Vender , Chiara Melloni

Although negation in natural languages is a complex and heterogeneous phenomenon, the first instances of linguistic negation appear in children's speech quite early, by 18 and 24 months of life. Nevertheless, its acquisition is a gradual and challenging process, as it takes time for children to fully grasp the semantic meanings of the different negative words to be able to use them correctly across different sentential contexts. Moreover, in order to understand how to negate a sentence, children must also learn how negation can have scope over different parts of the sentences, leaving the others unaffected. The picture becomes even more complicated for children when multiple negative structures come into play, in which the negative meaning is conveyed by the combination of two (or more) negative elements. The interpretation of these complex syntactic constructions is indeed not always straightforward since a different arrangement of the same negative elements may yield different semantic interpretations of the same sentence.

language acquisition

negation

## 1. Emergence of the Semantic Meanings of Negation

The acquisition of negation has been extensively investigated in a number of Child languages (e.g., [Jordens \(1987\)](#) for Dutch; [Choi \(1988\)](#) for English, French and Korean; [Hummer et al. \(1993\)](#) for German; [Weissenborn et al. \(1989\)](#) for German, French and Hebrew; [McNeill and McNeill \(1973\)](#) for Japanese; [Felix \(1987\)](#) for German and English; [Klima and Bellugi \(1966\)](#) for English; [Drozd \(1995\)](#) for English; [Tagliani, Vender and Melloni \(2022\)](#) for a recent work on Italian; see [Dimroth \(2010\)](#) for a comprehensive overview). These studies highlighted interesting commonalities across child languages with regard to the form–function development of negation.

As soon as they begin to speak at about one year of age, children start using negative words apparently without significant problems. However, these earliest negation forms do not cover the entire range of negative meanings used in adult languages, as the lexical differentiation of negative words and their inclusion into fully developed utterances require time and increasingly high processing/cognitive resources. At the beginning of its development in language use, negation has essentially affective and volitional functions: children use it to express their emotions and intentions about a situation in the immediate extralinguistic context. Instead, children seem to acquire truth-functional negation only several months later. [Stern \(1964\)](#) argued that English-speaking children use the earliest form *no* to reject a previous statement (i.e., *No, I do not want that*) rather than to express a logical and truth-functional judgement (i.e., *No, this is not the case*). This intuition was later supported by [Pea \(1980\)](#), who maintained that children predominantly use negation to indicate prohibition during their first year of life. This

semantic meaning would be directly inferred from the parents' behaviour: in fact, when children are doing anything wrong or dangerous, parents typically address them saying *no* and by shaking their head.

During the single-word utterance period (and thus before being able to produce complete sentences), children use basic forms of syntactic negation to cover different negative functions, which gradually develop and appear later in their multiword speech production. At this earliest stage of language acquisition, children do not make formal distinctions between the negative expressions used, making it difficult to identify the semantic categories of negation ([Cameron-Faulkner et al. 2007](#)). [Pea \(1980\)](#) proposed a categorization of the different semantic meanings of negation based on the similarities between the child's linguistic behaviour and the different situational contexts in which negation is used. Based on longitudinal data from six English-speaking children, he identified three main broad semantic categories that are widely used to classify the possible negative meanings emerging during the single-word utterance period: rejection, non-existence and truth-functional/denial. Data collected cross-linguistically (e.g., [Drozd 1995](#); [Guidetti 2005](#); [Hummer et al. 1993](#); [Pea 1980](#)) showed that the first semantic category of negation that children express is rejection. Later on, they begin to use negation to make comments on the disappearance and non-existence of familiar objects and persons in the surrounding environment. Finally, at around two years of age, they begin to negate the truth of a statement within a specific situational context. This common acquisitional order has been interpreted as evidence that the emergence of new semantic meanings is intrinsically related to children's general cognitive development. In fact, these three types of semantic negation involve an increasing development of abstract forms and cognitive representations, and, consequently, their use demands different levels of processing capacities. Rejection does not involve abstract representations as it is used by children to express an attitude towards an event, object or person that is directly present in the situational context. Instead, in the case of non-existence/absence, the relevant object is no longer present in the context and must be denoted abstractly. The truth-functional meaning of negation requires an even higher level of cognitive representation: children must in fact simultaneously deal with two different situations, one corresponding to the actual state of the world, and one representing its false counterpart ([Hummer et al. 1993](#)).

Interestingly, some researchers have put forward the hypothesis that the earliest occurrences of denial in children's speech production are not proper instances of truth-functional negation (which would be too demanding in terms of processing costs for children that young), but rather an expression of metalinguistic negation ([Drozd 1995](#); [Hummer et al. 1993](#)). According to [Drozd \(1995\)](#), children initially use denial to express semantic functions already acquired, that is, rejecting another person's use of language that they consider improper and expressing unfulfilled expectations towards this linguistic behaviour. Instead, [Gopnik and Meltzoff \(1985\)](#) considered the expression of inability to carry out a given action and the failure of plans as a bridging function between the earliest context-related meanings of negation and truth-functional denial.

## 2. Emergence of Negators and Negative Constructions

Numerous studies have focused on the acquisition of formal expressions of negation in children's early multiword production, distinguishing between anaphoric negation, which relates to the previous utterance, and sentential negation, in which the negative meaning applies to the sentence itself.

(1)	ADULT:	This is red
	CHILD:	No, orange (anaphoric)
	CHILD:	This is not red (sentential)

Almost all languages examined have distinct negators (i.e., lexical items) for anaphoric and sentential negation: moreover, the former can occur either in isolation or in sentence initial position, while the latter usually occupies a sentence internal position ([Bellugi 1967](#); [Cameron-Faulkner et al. 2007](#); [Choi 1988](#); [Déprez and Pierce 1993](#); [Klima and Bellugi 1966](#); [Weissenborn et al. 1989](#); [Wode 1977](#)). Cross-linguistic studies have shown that anaphoric forms of negation are the first to appear in a child's multiword utterances. This anaphoric priority is attributed to its higher frequency in the adult input, which allows children to master this form of negation very quickly. However, it remains unclear whether children use these anaphoric forms, typical of the adult language, only to express anaphoric negation or also as instances of sentential negation. In this respect, the data collected among different languages are quite heterogeneous. In French, children seem to never use the anaphoric form *non* to express sentential negation, which is normally expressed by *pas*: this is arguably due to the fact that these negators have fixed positions within the sentence, which might help children discriminate between them ([Weissenborn et al. 1989](#)). Although German also has fixed syntactic positions for anaphoric (i.e., *nein*) and sentential (i.e., *nicht*) negation, there is evidence for an acquisitional phase in which German-speaking children consistently use the anaphoric negator to express sentential negation (e.g., *Ich nein schlafen*, lit. 'I no sleep'): this behaviour has been attributed not to a simple overgeneralization of the first negator acquired, but rather to a preference displayed by children for the phonetically less complex form ([Déprez and Pierce 1993](#)).

As for English, [Klima and Bellugi \(1966\)](#) reported evidence for an acquisition stage in which children have not yet realized how to use the different expressions of negation within specific syntactic contexts: children would initially use interchangeably the anaphoric *no* and the sentential *not* in contexts in which only the latter is adequate, by mastering the two forms only after the acquisition of *n't* negative words (i.e., *can't*, *don't*). [Wode \(1977\)](#) attributed this initial confusion in the use of the two negative forms to their phonological resemblance. This hypothesis has been discarded by more recent experimental evidence, showing that the anaphoric *no* and the sentential *not* do not occur randomly in sentence internal position ([Cameron-Faulkner et al. 2007](#)). If on the one hand English-speaking children initially use the anaphoric form to express sentential negation (e.g., *no move*, *no go*), on the other hand, this tendency decreases at around two and a half years of age. At the same time, the correct use of the sentential form in the appropriate contexts starts to increase, and by the age of three, *not* is finally the dominant form used by children to express sentential negation. The researchers suggested that the temporary overlapping between the two different forms of negation would be the result of a conservative learning strategy: during the acquisition process, children would simply tend to express new linguistic functions using lexical items already acquired such as the more familiar negator *no* to also express sentential negation in multiword productions (see also [Choi 1988](#)). A similar pattern has also been attested in Italian, providing further evidence of a progressive form-function

development of negation, with intermediate stages characterized by incorrect forms (see [Tagliani, Vender and Melloni 2022](#)).

As a matter of fact, children not only have to acquire the specific lexical items for the different forms of negation, but they also have to learn how to combine these negators within the sentences. Based on a longitudinal data collection, [Felix \(1987\)](#) proposed the following developmental sequence for the position of sentential negation in English and German. During Stage 1, children express negation by means of the negator *no* placed in sentence external position (*no+S*, e.g., *No daddy hungry*). A possible explanation for this phenomenon is that children initially collocate negation outside of its scope domain because they arguably have a holistic representation of the syntactic clause itself ([Slobin \(1985\)](#); [Van Valin \(1991\)](#); but see also [Drozd \(1995\)](#) and [Klima and Bellugi \(1966\)](#)). At a certain point in their development, they begin to conceive the sentence as being composed of different functional parts. This view has been challenged by [Bloom \(1991\)](#), who argued that instances of external negation are rather the consequence of missing subjects, which are often omitted at this stage of language development (see [Déprez and Pierce \(1993\)](#) for an opposite view). During Stage 2, negation moves to a sentence internal position in close proximity to the VP; however, this stage is mainly characterized by the incorrect use of *no* to express sentential negation (*no+VP*, e.g., *I no sleep*). Only later on, at Stage 3, do the different negators begin to be used appropriately by children, who now consistently use the correct marker of sentential negation (*not+VP*, e.g., *I do not sleep*). As pointed out above, the transition between the last two acquisitional stages is not clear-cut but is characterized by a temporary overlap in the use of the two syntactic constructions.

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