

THE CASE OF THE MISSING *TO* IN THE ACQUISITION OF VERB COMPLEMENTATION

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The purpose of this study is to examine a seemingly atypical aspect of verb complementation in a child's language system that is otherwise typically developing

Statement of the Problem

F, my own daughter, currently 8 years old, has an apparent 'gap' in her grammar regarding infinitival complements. She frequently omits *to* between the inflected matrix verb *going* and a variety of verbal complements

- F I'm going do that right now
- F You're going get nervous
- F When's Daddy going be home?

I have noticed this peculiarity since the time F was about four years old. I thought it quaint that she substituted *going* for the catenative *gonna*, which does not require *to* following it. I noticed, moreover, that F did not produce *gonna*, unlike other catenatives such as *wanna* and *hafta*, which I heard her produce frequently. I documented F's use and non-use of *to* for eight months, beginning at age 7;5 and continuing through age 8;0. The database consists of diary entries, five spontaneous language samples, two grammaticality judgment tasks, and a sentence retelling task.

The frequent omission of *to* between *going* and a verbal complement contrasts with F's consistent use of it in other contexts. In final position in an elliptic utterance, *to* is invariably present

- M Are you doing your homework?
- F I'm going to!

Used as a preposition, *to* is always present and correct in F's speech

- F Are we going to school today?

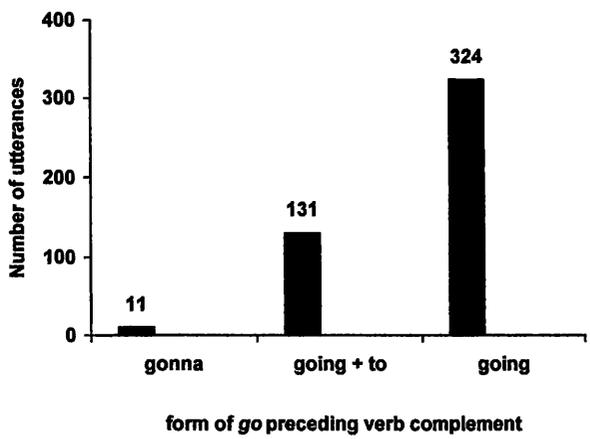
The omission of *to* appears limited to the matrix verb *go* in the present progressive. F never omits *to* when the matrix verb *go* is inflected for past tense, (e.g., *He went to play tennis*). Infinitival complements are invariably correct with other matrix verbs and structures (e.g., try, be hard/easy/ready, want, need, have)

The diary data

Over the course of eight months, I collected 466 of F's spontaneous utterances containing the matrix verb *go* with a verbal complement. Of these utterances, 324 (78%) were identified as *going* + *VERB* constructions, 131 (28%) were identified as *going to* + *VERB* constructions, and 11 (2%) were

identified as *gonna* or 'borderline *gonna*' (e.g., [gɒn]) constructions. Figure 1 illustrates the distribution of the three sentence types in the diary record of F's spontaneous speech during this eight-month period.

Figure 1
Distribution of verbal complement structures following the verb *go* in the diary record



To control for listener bias, I also examined the use of these three constructions in the five language samples I audiotaped from F at ages 7;4 through 8;0. Four of the five samples are play-based and of at least 30 minutes' duration, one sample was an interview (asking F about recent events at school) and lasted approximately 10 minutes. This language sample yielded four *going + VERB* constructions, in contrast to the others, which yielded both *going + VERB* and *going to + VERB* constructions. Of the three types of constructions, 19/30 (63%) were of the *going + VERB* type, 10/30 (33%) were of the *going to + VERB* type, and 1/30 (3%) was a 'borderline *gonna*' type. Figure 2 illustrates the distribution of these three sentence types in the language sample data. Figure 3 shows that there were no developmental trends in the use of these verb constructions over the eight months of observation.

Figure 2

Overall distribution of verbal complement structures following the verb *go* in the language samples

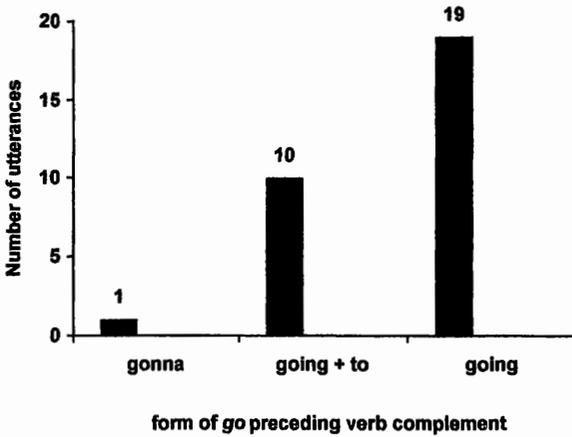
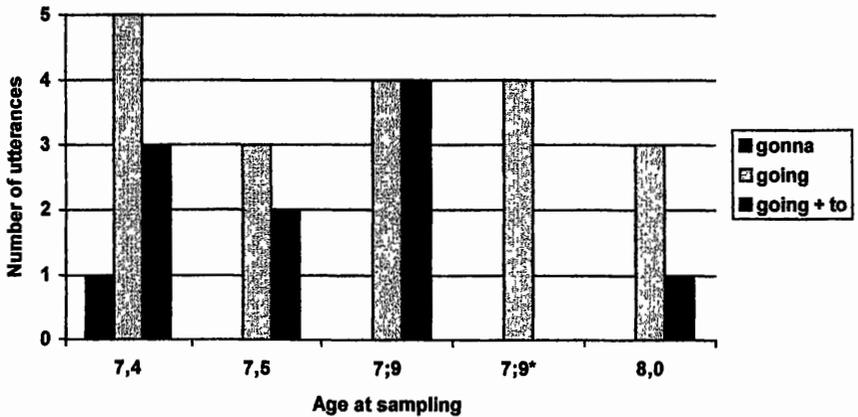


Figure 3

Distribution of verbal complement structures following *go* in each language sample



Note Sample 7,9* was shorter in duration than the other samples and was not play-based

Questions

These data motivated the following questions

- 1) Why does F produce sentences of the *gong* + *VERB* type and not *gonna* + *VERB*? Despite much positive evidence for *gonna* from the input, *gonna* is barely productive in F's speech
- 2) Why is this pattern *only* seen in the present progressive of the verb *go*?
- 3) Why is this pattern *not* seen with other verbs?

Pertinent literature

Bloom, Tackeff, and Lahey (1984) studied the emergence and mastery of *to* in verbal complement constructions in four typically-developing children between 18 and 36 months of age. Bloom and her colleagues found that infinitival *to* appeared and was mastered between MLU 2.5-3.5. Modal verbs (*want*, *go*, *got*, and *have*) were the most frequent matrix verbs used by the children. These matrix verbs were first used primarily without *to* or with [ə] (e.g., *wanna*, *gonna*, *gotta*, and *hafta*). The use of *to* increased with modal verbs only after frequent use with later-occurring, non-modal matrix forms (e.g., *try*, *ready*). The use of *to* increased developmentally in these children. *To* was always more likely to occur with new than with old matrix forms, and [ə] was more frequent with old matrix forms. No developmental patterns were observed among the 100 or more different verbs serving as infinitive complements in these utterances. Thus, early-appearing and frequent modal verbs such as *go* first appeared as a catenative (*gonna*) or without *to*, although later-occurring matrix verb constructions appeared more frequently with *to*.

This information points out a small but striking difference between F's language and that of other children developing typically. The catenative *gonna* is early-appearing and frequent in the speech of children between the ages of two and three years. F, at age seven, almost never produces *gonna* in her spontaneous speech, although she uses other catenatives such as *wanna*, *gotta*, and *hafta* frequently.

First hypothesis: *gonna* is not processed from the input

Because *gonna* is an early appearing form, and because children mastered the use of *to* following matrix verb forms such as *gong*, the virtual absence of *gonna* in F's speech seemed unusual. My first hypothesis posited that F does not process *gonna* properly from the input. This hypothesis was refuted by F's spontaneous statement, spoken at 7;11.

F: Daddy, how come some people say 'gonna' when they mean 'gong to'?

This statement is interesting for two reasons. First, it shows clearly that F hears, understands, and can produce *gonna*. Second, this statement shows that F finds the construction *gonna* troublesome, unusual, and not part of her grammar.

Second hypothesis *To* is unstable

My second hypothesis posited that *to* is an unstable element in F's speech. However, I observed no omission of *to* when used as a preposition or following other matrix verbs in F's spontaneous speech or in any of F's language samples

Do you have to go to school or what?
You get to chew candy
Ashley, you want to?
My teacher's going teach us to do sums (7,4)

Observation *Go* is an atypical verb

I reasoned that if F treats the verb *go* differently from other verbs, there must be something unusual about the behavior of this verb. When I examined the verb *go* in its modal sense with a complement verb (indicating intentionality or future action, and not necessarily physical displacement or directional movement), I noticed differences in the use of *to*. It was present whenever the matrix verb bore an overt inflectional marker. The following paradigm illustrates these differences

Imperative	Go eat your oatmeal *Go to eat your oatmeal
With modal (e.g., <i>will</i>)	I will/I'll go eat my oatmeal I will/I'll go to eat my oatmeal
Simple present	*She goes eat her oatmeal She goes to eat her oatmeal I go eat my oatmeal I go to eat my oatmeal
Simple past	*She went eat her oatmeal She went to eat her oatmeal
Present progressive	* <u>She's going eat her oatmeal</u> She's going to eat her oatmeal

The grammaticality of *to* following the matrix verb *go* varies in these different verb forms. In the progressive form, where *go* bears the *-ing* marker, the use of *to* is mandatory. *To* is also mandatory when *go* carries a past tense or 3rd person singular inflectional marker. It is not mandatory when *go* is in the simple present without an overt inflectional marker. When *go* is in the imperative, however, *to* is ungrammatical. In summary, the use of *to* is required whenever *go* has an overt inflection. In the imperative, *to* may not appear between the matrix verb *go* and a complement verb. The varying use of *to* following *go* in different verb forms contrasts with other modal-like verbs, such as *try*. In all forms of *try* (simple present, past, progressive, and imperative), *to* must be included before the verbal complement.

It is important to note that some speakers of English avoid using *go* + complement verb in an imperative construction. Instead, they conjoin the verbs, as in *go and eat your oatmeal* (This is true even if the act does not involve any physical displacement or travel to wherever the oatmeal may be, in contrast to *go (someplace) and get your oatmeal*). This prohibition against a matrix and complement verb in the imperative also extends to such verbs as *try*, as in *try and eat your oatmeal*. Such speakers would accept *she tries to eat her oatmeal*, however, in contrast to the ungrammatical **she tries and eats her oatmeal*.

My own grammar (the one with which F's developing grammar has interacted the most) accepts the use of *to* following *go* (and *try*) in imperative statements. I commonly use the *go* + *VERB* imperative construction with my children. *Go* in these imperatives does not necessarily imply physical displacement (e.g., *Go look up that word now, the dictionary's right in front of you*). Instead, *go* functions as an intensifier, placing focus on initiating a new action. In the present progressive, *go* is grammaticalized to mean 'immediate future' (e.g., *I'm going to eat my carrots*), and also does not necessarily imply physical displacement (as in *I'm going into the kitchen in order to eat my carrots*). Physical displacement could be abstracted to mean displacement into the future (e.g., *I'm going to be very happy if you buy me that toy*).

Third hypothesis *To* is optional following *go*

The main point is that F's developing grammar was frequently exposed to input that differed in the use of *to* following *go* in imperative and progressive sentences. This led me to my third hypothesis, that F considers *to* an optional element following the verb *go*. Because the use of *to* varies between the verb *go* and a verbal complement in the input, it makes sense that F's variable use of *to* in the progressive is restricted to the verb *go*, and does not extend to other verbs.

Fourth hypothesis *going* + *VERB* substitutes for *gonna* + *VERB*

Another plausible hypothesis is that F's variable use of *to* following *go* is not optional, but systematic. Because *gonna* is not part of her productive grammar, the *going* + *VERB* construction may be F's equivalent of the *gonna* + *VERB* construction. F does not vary in her use of *to* following *go* in any other verb form but the progressive, the very form in which *gonna* appears. Furthermore, the constructions *going to* + *VERB* and *gonna* + *VERB* differ in register only, there appears to be no semantic difference between them. The two constructions are used in free variation in all but the most formal of discourse contexts. This hypothesis, that F's *going* + *VERB* is equivalent to *gonna* + *VERB*, more narrowly focuses on the progressive form of the verb *go* than the hypothesis that *to* is an optional element following *go*. If *to* were truly optional in F's grammar following the verb *go*, then I should observe instances of *to* omission in forms other than the progressive. I have no recorded utterances of *to* omission except following the progressive form of the verb *go*, and thus turned to other evidence to determine which of these last two hypotheses best fits F's grammar.

Hypothesis testing: grammaticality judgment tasks

I administered grammaticality judgment tasks to F at ages 7,5 and 7,9 to probe her grammar on the use of *to* following *go* in the progressive form. I read sentences to F, and asked her to judge whether the sentences were 'okay' (i.e., grammatical) or 'not okay' (ungrammatical). Like all other methods, the

grammaticality judgment task does not tap competence directly, it too, is a measure of performance, and it is prone to error. There was always the possibility that she did not fully attend to the target, and thus judged the ‘wrong’ target utterance. This happened to her friend S, to whom I administered the same task. On one occasion, S responded to an item, and then repeated what she thought she had heard, which was not the target utterance I read aloud to her. My son, A, to whom I also administered the task at age 10,5, responded quickly and incorrectly (according to adult standards) to an item. His other responses to five similar items agreed with adult judgments. After I administered the task to him, I read a few items aloud again, and asked him to judge their grammaticality. The second time, he judged the same utterance differently.

There is some evidence that F regards the *going + VERB* construction as faulty. When asked at age 7,5 whether the sentence *We’re going to New York* was ‘okay’ or not, by saying ‘yes’ to ‘okay’ (grammatical) sentences and ‘no’ to sentences that were ‘not okay’ (ungrammatical), F responded, ‘Half’. That prompted the following exchange:

Mom: So that’s not okay?
F: It’s sorta and sorta
Mom: Okay
F: I like it and it’s not
Mom: Okay
F: I like it

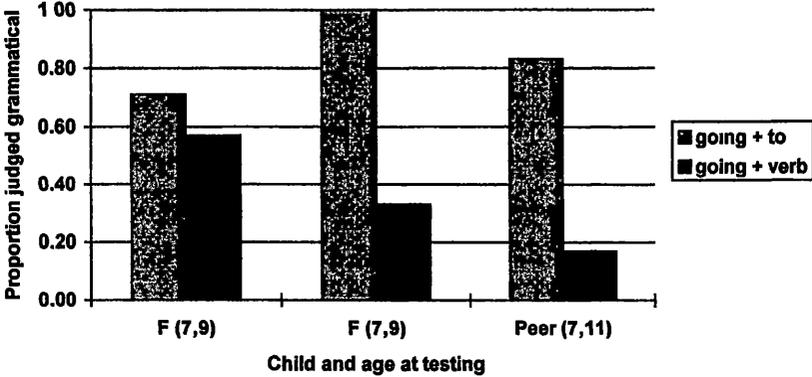
Later in the task, I presented F with the sentence *We’re going to go to New York*. She responded ‘No’ to this one, and added, ‘I did that one already’. Perhaps she was listening to the overall meaning of the sentence, perhaps she was inattentive to the presence or absence of the *to* following the matrix verb, especially when *to* as a preposition appeared in the same sentence. F also waffled on *He’s going to play the piano* (‘Yes—no’) and *I’m going to play the piano* (‘No—yeah’). From the results from age 7,5 alone, I could not conclude whether F considered *going + VERB* acceptable or not. It may be that F’s grammar was in a state of transition, although her rate of production of *going + VERB* compared to *going to + VERB* sentences remained stable throughout the eight months of observation.

On a second grammaticality judgment task administered at age 7,9, F judged four out of seven (57) new *going + VERB* sentences as grammatical, and five out of seven (71) new *going to + VERB* sentences as grammatical. I repeated the task one week later, with slightly different sentences. This time, F judged all the *going to + VERB* sentences as grammatical, and only two of the six (33) *going + VERB* sentences as grammatical. Her age peer, S, judged five of the six (83) *going to + VERB* sentences as grammatical, and one of the six (17) of the *going + VERB* sentences as grammatical. S immediately changed her answer on the one *going + VERB* sentence she judged as grammatical, thus ultimately judging all the *going + VERB* sentences as ungrammatical.

F’s brother, A, aged 10,5, judged all the *going to + VERB* sentences as grammatical, and 2 of the 6 (33) *going + VERB* sentences as grammatical. Interestingly, both F and A judged the same two *going + VERB* sentences as grammatical. They judged *That lady’s going to buy a new TV* as grammatical, and *If we fight, my mom’s going to get mad* as grammatical. The ‘truth value’ or desirability of the propositions in these sentences may have influenced the children’s grammaticality judgments. A does not use the *going + VERB* construction in his spontaneous speech. In contrast, two adults who were administered the task judged all the *going to + VERB* sentences as grammatical, and all the *going + VERB* sentences as ungrammatical. In general, F judged more of the *going + VERB* sentences as grammatical than an

adult or age peer did Figure 4 shows F's and a peer's grammaticality judgments of *going to + VERB* and *going + VERB* stimulus sentences

Figure 4
Proportion of sentences judged grammatical by F and a peer



Note. One week elapsed between F's first and second testing

Sentence retelling task and predictions

The data from the grammaticality judgment tasks do not conclusively support the hypothesis that *to* is optional element following *going* in F's grammar. If that were so, then F would have judged both the *going + VERB* and the *going to + VERB* sentences as correct at equally high rates. The grammaticality judgment task also does not reflect F's typical behavior in at least half her sentences of this type, *to* is missing between the progressive form of the verb *go* and its complement verb. The grammaticality judgment task did not address the question of whether or not *going + VERB* is F's version of *gonna + VERB*. To test this hypothesis required a production task. It also required that sentences with *gonna* be in obligatory contexts. Because *going to + VERB* and *gonna + VERB* are in free variation in most discourse contexts, I devised a sentence retelling task with *gonna + VERB* and *going to + VERB* as stimulus sentence items for F to repeat verbatim. If *going + VERB* is F's equivalent of *gonna + VERB*, F should repeat all *gonna + VERB* sentences with *going + VERB*, and she should repeat all *going to + VERB* sentences correctly, without any changes. Alternatively, if *to* is optional in F's grammar between *going* and a complement verb, she should repeat some *going to + VERB* sentences correctly, and some *going to + VERB* sentences without *to*. The 'optional *to*' hypothesis does not make a prediction for F's performance on *gonna + VERB* stimulus sentences. In fact, it fails to explain why *gonna* is virtually absent from F's speech, in contrast to the 'going-for-gonna' hypothesis.

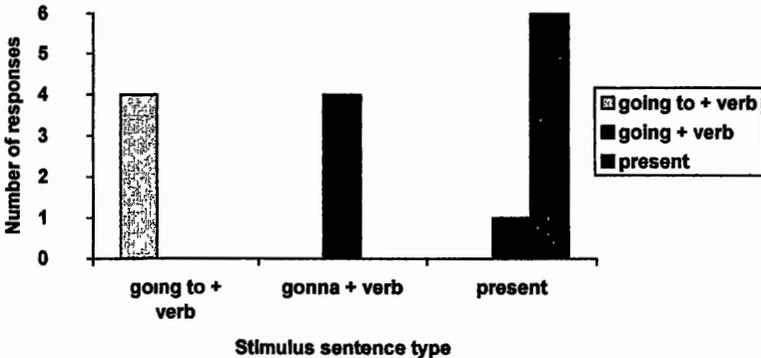
The sentence retelling task

I devised a game called 'Tell Barbie' for F to play with me. I instructed F to 'tell' her Barbie dolls a message using my exact words. For example, if I said, *Tell Barbie to turn down the radio because it's too loud*, F had to say directly to the doll, *'Barbie, turn down the radio because it's too loud'*. The game had three types of sentences

- Tell Barbie to take an umbrella because it's going to rain (*going to*-condition)
- Tell Barbie to bring some water because it's gonna be hot (*gonna*-condition)
- Tell Barbie to buy the dress because it's on sale (control condition)

There were four sentences in the *going to*-condition, four sentences in the *gonna*-condition, and seven sentences in the control condition. Figure 5 depicts the results of the sentence retelling task. For 4/4 (100%) of the *going to*-condition stimuli, F produced a *going to* + *VERB* sentence. For 4/4 (100%) of the *gonna*-condition stimuli, F produced a *going* + *VERB* sentence. F repeated 6/7 (86%) of the control sentences correctly, without any changes. She produced 1/7 (14%) control sentence with *going* + *BE* instead of the contracted copula.

Figure 5
Results of the sentence retelling task by response type



In the one case of F's *going* + *VERB* response to a present tense (control) stimulus, there was an interruption between my delivery and F's response. F corrected me on the dolls' names, which were not all Barbie.

- Mom: Tell Barbie to put on a sweater because it's cold outside.
- F: These two are Kelly (whispered)
- F (Um): Barbie, put on a sweater because it's going to be cold outside.

It is likely that F's deviance on this item is due to a distraction between the stimulus and the response and not to any grammar deficits. In no case did F produce a sentence with *gonna*. Although results on this task do not rule out the 'optional *to*' hypothesis completely (F could still regard the *to* as optional, but happened to produce it in each of the four opportunities in the *going to*-condition), the results are fully compatible with the 'going-for-gonna' hypothesis. Not only were the *going to* + *VERB* sentences produced correctly, but all the *gonna* + *VERB* sentences were produced as predicted, as well as most of the control sentences. Furthermore, only the 'going-for-gonna' hypothesis correctly predicts the absence of *gonna* from all of F's responses.

The complexity of *gonna*

If the *going-for-gonna* hypothesis is correct, something about the lexical item *gonna* must pose a problem for F's grammar. Other catenatives such as *hafta*, *gotta*, and *wanna* are common in F's speech. *Gonna* contrasts with these other catenatives on several grounds. First, *gonna* contrasts with the others in that it is always preceded by the tensed auxiliary verb *be*. Secondly, the other catenatives maintain a disyllabic syllable structure: *have to/hafta*, *got to/gotta*, and *want to/wanna*. *Gonna*, in contrast, contains information from three syllabic morphemes within two syllables: *go* + nasal (progressive) + *ə* (*to*). This analysis views *gonna* as a contracted form of *going to*. It is possible, then, that F resists contracting across three syllabic morphemes, in accordance with similar constraints on contractions in English. For example, we can contract *he is not* into the forms *he isn't* or *he's not*, but not **he'sn't*. Although this reasoning can explain why *gonna* is troublesome for F, it ignores the fact that the emergence of the catenative *gonna* precedes that of *going to* in early child language. Catenatives are considered unanalyzed wholes in the grammars of young children. Only when a form of *be* precedes *gonna* is there evidence that the child analyzes an implicit progressive marker (*-ing*) on *gonna*. Therefore, *gonna* is best viewed as a separate lexical item, semantically related to *going + to*, but syntactically distinct. Unlike *going + to*, *gonna* is not a fully inflected form, and remains a 'frozen form' in the mature grammar.

Resolving the case of the missing *to*

The evidence suggests not only that *going* is F's version of the catenative *gonna*, but that *going* used as a catenative is separate from the progressive *go + ing* used in F's *go + ing to + VERB* constructions. The underlying form of F's *going + VERB* sentences is the early-appearing, monomorphemic catenative *going*. This *going* is a homophone of the bi-morphemic, later-appearing *go + ing*. *Gonna* is not present in F's speech now because it was not present in earlier stages of F's developing grammar. The search for the missing *to* is over. *To* is not 'missing' in F's *going + VERB* constructions because *to* was never there to begin with. Rather, it is *gonna*, not *to*, that is missing from F's grammar. F's early avoidance of *gonna* has a subtle, but protracted effect on her grammar. It remains an open question why F has never admitted *gonna* into her grammar. She nevertheless created a viable substitute, her own catenative *going*, which persists to this day.

REFERENCE

Bloom, Lois, Jo Tackeff, and Margaret Lahey. 1984. Learning *to* in complement constructions. *Journal of Child Language* 11: 391-406.