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Acquisition of verb representations: *Get*'s gotta get us somewhere*

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Kim, Jungsoo. 2018. Acquisition of verb representations: *Get*'s gotta get us somewhere. *Linguistic Research* 35(Special Edition), 207-232. Generative approaches and constructional approaches differ with respect to the view of how young children acquire verb representation. In this study, on the basis of four children's longitudinal corpus data of *Get* across the year between ages of 2 and 3, I show that they acquired different forms of *Get* in different stages of this period and that they acquired the different forms of *Get* in a variety of structures gradually and at different rates in a case-by-case fashion. I also demonstrate that the children's acquisition of the different forms of *Get* is tightly related to the frequencies of the forms in the mothers' input. However, I further show that in some cases aside from the frequencies in the mothers' input other factors such as the complexity of the structure/meaning came into play in their acquisition of the different forms of *Get*. The data, therefore, overall favor constructional approaches over generative approaches to children's acquisition of verb representation. **(Kyung Hee University)**

Keywords Manchester corpus, *Get*, first language acquisition, generative vs. constructional approaches

1. Introduction

In order for children to produce adult-like well-formed sentences, they must acquire verb uses, because verbs determine the number and the type of syntactic arguments that can or must appear in certain positions and this knowledge is fundamental in constructing adult-like grammatical sentences. As for English-speaking children, their mastering appropriate uses of verbs involves some important issues in language acquisition. First, they should be able to figure out how verbs undergo morphological changes. For instance, they should find out that *-(e)s* is appended to the verb to indicate that it is a third person

* I would like to thank the anonymous reviewers of *Linguistic Research* for their insightful comments and suggestions. All remaining errors are, of course, mine.

singular present tense form, while *-ing* is attached to the verb to mark that it is a progressive form. These morphological suffixes are productive and regular in the sense that as long as a word is a verb, these suffixes can be attached to it with no exception. On the other hand, although most of the English verbs have the regular past tense and past-participle/perfect/passive forms such as *study-studied-studied* and *love-loved-loved*, there are also many irregular verbs such as *read-read-read* and *write-wrote-written*. This indicates that children must acquire the appropriate grammatical marking systems for tense and agreement to use verbs correctly. In addition, they must form the proper verb representation so that they are able to use the different forms of a particular verb in a variety of structures/constructions. Then, a question that immediately arises is, "How do they do such things?"

Extreme generative approaches assume that children's speech reflects an abstract, adult-like grammar from the beginning or very early on, say, from two-word stages (Wexler 1994; Atkinson 1996). From the very early stages, children are equipped with the linguistic knowledge required to produce all the different forms of a verb in any syntactic structures, namely, a complete system of verb representation. Somewhat milder generative approaches, on the other hand, assume that children's acquisition of verb representation proceeds more gradually (Pinker 1984). However, they still claim that although children may initially produce different forms of a given verb without recognizing the relation among them, once they produce two different forms of the verb in the same structure/construction, their recognition of the semantic and phonological similarity between them rapidly enables them to use different forms of the verb in any structures/constructions. Therefore, in generative approaches, regardless of whether they are in extreme or milder positions, the frequency in the input is not so important, as the minimal overlap of the different forms of a verb in a structure/construction is all that children need in order to successfully attain the holistic knowledge of a verb paradigm and children's acquisition of verb representation should not be a long-term process.

On the other hand, constructional approaches assume that children accumulate grammatical knowledge on the basis of the frequency of the constructions in the input; a high frequency of a form of a verb in a particular structure in the input leads them to acquire its appropriate use in the structure.

This means that they learn the syntactic and morphological properties of verbs case by case (Tomasello 1992, 2000; Pine, Lieven, and Rowland 1998; Theakston, Lieven, Pine, and Rowland 2002). Thus, in constructional approaches, the frequency in the input plays a crucial role, as children are expected to acquire the knowledge of a verb paradigm depending on it, and children's acquisition of verb representation may be a lengthier process than generative approaches argue.

Given these two different approaches to children's acquisition of verb representation, the goals of this paper are to empirically investigate to what extent children use the different forms of *Get* syntactically, they generalize structures/constructions across the different forms of *Get*, and mothers' input plays a role in their production of the different forms of *Get*.[1]

2. Why *Get*?

In English, *Get* is one of the most frequent verbs in both adult and child speech (Tomasello 1992; Buttery and Korhonen 2005). According to Buttery and Korhonen (2005), it is the most frequent verb in the BNC (British National Corpus) and the 6th most frequent verb in CHILDES (Child Language Data Exchange System). It has also been reported that *Get* is one of the early verbs that children produce (Clark 1996). Thus, exploring the uses of this highly frequent verb in adult-child interaction corpora enables us to better understand to what extent children use different forms of a given verb and how important a role mothers' input plays in their doing so.

In addition, *Get* can be realized as several forms such as *get, got, gotten, getting, gets,* and *gotta*. Of course, *gets* and *getting* may not be so problematic when children learn them, because they are just generated based on the regular third person singular present tense formation rule and the regular present participle/progressive/gerundive formation rule, respectively. In other words, *-(e)s* and *-ing* are attached to all verbs to indicate that they are in the third person singular present tense form and the present participle/progressive/gerundive form, respectively. However, children must find

1 In this paper, *Get* (upper case 'G') is used to refer to the get verbs as a whole. On the other hand, *get* is used to refer to the non-inflected form of the verb.

out that the past tense form of *Get* is realized as *got*, the past participle/perfect/passive form as *gotten* or *got*, and *got to* as *gotta* in colloquial speech sometimes.

Furthermore, *Get* is highly versatile in that it can take diverse types of syntactic complements and each complement type is associated with a particular meaning. First, consider the simple structure examples in (1) (Quirk et al. 1985; Huddleston and Pullum 2002):

(1) a. John got angry.
b. John got into the car.
c. John got up.
d. John got arrested.
e. John got to leave the party.
f. John got some tea.

In these examples, *Get* takes only one XP complement. In (1a) the verb takes an AdjP as its complement and the AdjP denotes the result state of the subject, whereas in (1b) it selects a PP and the PP marks the movement/location of the subject. In (1c) it subcategorizes for a particle and the particle denotes the movement/location or result state of the subject. In (1d) it takes a passive VP and the structure means that the subject undergoes the action denoted by the passive VP, while in (1e) it combines with an infinitival VP and the structure means that the subject achieves the event denoted by the infinitival VP. Finally, in (1f) it selects an NP object and it denotes the subject's possession of the entity referred to by the NP object.

However, *Get* also involves more complex causative structures as in (2):

(2) a. John got Mary angry.
b. John got Mary into the car.
c. John got Mary up.
d. John got Mary arrested.
e. John got Mary to leave the party.
f. John got Mary some tea.

In each of these examples, an additional object argument is added as compared to (1) and here the subject semantically plays a causer role and the relation between the subject and the complement in (1) now applies to the object NP and the second complement.

As we have seen thus far, *Get* occurs frequently in children's production from early stages of language development. We have also observed that it can be realized as different forms as an irregular verb and that it takes various complement patterns, each of which has its own basic semantic meaning. Therefore, a longitudinal corpus-based study of *Get* is expected to tell us something about how children develop/acquire the knowledge of verb representation.

3. Previous literature

Previous studies have looked at children's acquisition of verb representation from a variety of perspectives. For instance, some studies such as Wexler (1994, 1996), Clark (1996), and Theakston, Lieven, and Tomasello (2003) have focused on acquisition of verb morphology, whereas others like Pinker (1989), Valian (1991), and Theakston, Lieven, Pine, and Rowland (2001) have mainly discussed acquisition of verb-argument structure. Meanwhile, still some others such as Clark (1978), Pinker (1989), Naigles and Hoff-Ginsberg (1998), and Theakston, Lieven, Pine, and Rowland (2004) have investigated the acquisition order of different types of verbs.

Some previous studies have used longitudinal data from corpora and they have shown that input plays a certain, if not central, role in children's acquisition of verb representation (Naigles and Hoff-Ginsberg 1998; Theakston et al. 2001, 2002, 2004). Among these, the most relevant one to the present study is Theakston et al. (2002). Using the Manchester corpus, Theakston et al. (2002) showed that children's knowledge of different forms of *Go* varied depending on the structure and meaning and that the frequency of different structures and meanings with particular forms in the input was a good predictor for the children's use of different structures and meanings with particular forms. In what follows, I discuss the findings on acquisition of verb representation on the

basis of authentic *Get* data, touching on issues mentioned above.

4. Corpus analysis

4.1 Data extraction

The data were extracted from a subset of the Manchester corpus on the CHILDES database. More specifically, the longitudinal corpus data (from 2;0 to 3;0 years) of four children were collected (Anne, Becky, Gail, and Liz).[2] These children were all first born, English monolingual and were cared for primarily by their mothers. The corpus mainly consists of dialogues between mothers (sometimes investigators as well) and children in normal daily play activities. In order to collect the relevant data, I first searched for all the examples containing different forms of *Get* (i.e., *get, got, gotten, getting, gets,* and *gotta*) produced by the children and the mothers, using the CLAN program (MacWhinney 2000). Then, incomplete and unintelligible examples were manually filtered out and were excluded from the analysis.

4.2 Different forms of *Get*

The table below shows the overall instance number of each form of *Get* each of the children produced between 2 and 3 years old.[3]

Table 1. The instance number of each form of *Get* produced by each of the children between 2 and 3 years old

	Total	*get*	*getting*	*got*	*gets*	*gotta*
Anne	659	319 (48.4%)	24 (3.6%)	289 (43.9%)	3 (0.5%)	24 (3.6%)
Becky	628	199 (31.7%)	34 (5.4%)	359 (57.2%)	2 (0.3%)	34 (5.4%)
Gail	535	221 (41.3%)	18 (3.4%)	282 (52.7%)	4 (0.7%)	10 (1.9%)
Liz	704	332 (47.2%)	52 (7.4%)	320 (45.4%)	0 (0.0%)	0 (0.0%)
Total	2526	1071 (42.4%)	128 (5.0%)	1250 (49.5%)	9 (0.4%)	68 (2.7%)

2 The Manchester corpus is composed of the data from 12 different children. However, for the present study, data were collected only from randomly chosen 4 children.

3 In the children's data, the form *gotten* was not found, and thus it was not included here.

As illustrated here, the different forms of *Get* display different proportional frequencies. For all the children, either *got* or *get* accounts for the highest proportion of the entire data, followed by the other. On the other hand, in general the forms *getting* and *gotta* are relatively infrequent, and the form *gets* is extremely rare. The asymmetry in the frequencies of the different forms of *Get* produced by the children during this time period can be due to the asymmetry in the input in the sense that in the mothers' input the forms *got* and *get* occurred frequently, while the rest forms *getting, gotta,* and *gets* occurred relatively infrequently. Now consider the following table, which shows the instance numbers of the different forms of *Get* produced by the children's mothers during the same period of time.

Table 2. The instance number of each form of *Get* produced by each of the children's mothers while the child was between 2 and 3 years old

	Total	***get***	***getting***	***got***	***gets***	***gotta***
Anne	1080	399 (36.9%)	63 (5.8%)	606 (43.9%)	10 (0.9%)	2 (0.2%)
Becky	968	392 (40.5%)	33 (3.4%)	533 (57.2%)	6 (0.6%)	5 (0.5%)
Gail	960	320 (33.3%)	31 (3.2%)	596 (52.7%)	12 (1.3%)	1 (0.1%)
Liz	878	325 (37.0%)	88 (10.0%)	456 (45.4%)	9 (1.0%)	0 (0.0%)
Total	3886	1436 (37.0%)	215 (5.5%)	2191 (56.4%)	37 (1.0%)	8 (0.2%)

From a quick superficial comparison between Table 1 and Table 2, it can be assumed that as the forms *get* and *got* display higher frequencies but the forms *getting, gets,* and *gotta* exhibit lower frequencies in the mothers' speech, the same pattern in the children's speech is not surprising. Nevertheless, some observations should be noted, regarding the different forms of *Get* produced by the children. First, although most of the children (except for Liz) successfully produced the form *gets* (i.e., the third person singular present tense form) during this period of time, they did not acquire its appropriate use until later stages. The examples which involve the earliest appropriate use of *gets* in the children's data are given in (3):[4]

4 Although a couple of *gets* examples were produced earlier, the form *gets* in these examples was not appropriately used. For instance, Ann produced *gets those out* at 2;1.12; however, as indicated by the transcription, it is a grammatical error in that it should have been *get* in the imperative clause context. In addition, Gail uttered *Gail gets head stuck* at 2;3.10 to describe a past event. These examples indicate that children did not master the appropriate use of *gets* around these stages of

(3) a. Curly gets stuck. (Anne, 2;8.26)
b. gets wet waters. (Becky, 2;11.15)
c. When he gets the big boy we can do it. (Gail, 2;10.8)

The fact that the form *gets* was uttered appropriately in later stages indicates that the children did not acquire the different forms of *Get* simultaneously. Additional evidence for this idea comes from inflection-lacking examples as in (4):

(4) a. He try and get away. (Anne, 2;5.2)
b. Sand get in little boy's mouth. (Gail, 2;8.6)
c. He get warm today. (Liz, 2;6.5)

In these examples, the main verb *get* does not agree with a third person singular subject in the present tense context. Given the developmental stages at which these examples were produced, this suggests that the children did not fully form the third person singular present tense inflection system until quite late stages of this period.

In a similar vein, the children began to use the form *gotta* in relatively late stages of this period as compared to *get* and *got*. The first *gotta* examples that the children produced are presented in (5):

(5) a. You gotta hide. (Anne, 2;4.12)
b. You have gotta hold this. (Becky, 2;4.19)
c. gotta have this one first. (Gail, 2;4.14)

The first occurrences of *gotta* at these points of time thus lend further credence to the idea that the children did not acquire the different forms of *Get* at the same time. In addition, a noticeable fact about the form *gotta* is that it was produced more frequently by the children than by their mothers during this period of time. Interestingly, for Anne and Gail, the occurrences of their earliest *gotta* production were found earlier than those of their mothers' earliest production of that form (e.g., *gotta give me some money* (Anne's mother, 2;8.26),

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language development.

you've gotta put everything back, sweetheart (Gail's mother, 2;10.8)). There is no clear account for the higher frequency and earlier production of this form in the children's data than in the mothers' data. It might be the case that they heard others produce this form quite frequently and learned it in the same way as they learned other forms. An alternative, but not so likely, scenario is that the mothers used this form frequently enough when the speech was not recorded, and on the basis of this input from the mothers, the children naturally acquired this form. In these environments, it is assumed that the children received a sufficient amount of language input in which *gotta* was used. However, it could be also possible that despite the fewer instances of this form in the input, the children were able to learn it and liked to produce it for some reason. If this is the case, it indicates that a high frequency of a form in the input is not necessarily required in order for young children to acquire the form.[5]

Another thing to note regarding the forms of *Get* is that *got* can be classified into three different subtypes: 1) the true past tense form as in *I got the ball*; 2) a subpart of the idiom *have got* as in *I've got two children* or *she has got to swim each day*; and 3) the past participle form as in *she has got arrested* or *she has got him a tie* (cf. Fodor and Smith 1978; Huddleston and Pullum 2002). The *got* examples that the children produced thus can be further subclassified as follows:

Table 3. The instance number of each subtype of *got* produced by the children between 2 and 3 years old

	Total	**past tense *got***	**idiom *got***	**past participle *got***
Anne	289	143 (49.5%)	142 (49.1%)	4 (1.4%)
Becky	359	165 (46.0%)	188 (52.3%)	6 (1.7%)
Gail	282	167 (59.2%)	104 (36.6%)	11 (3.9%)
Liz	320	108 (33.8%)	208 (65.0%)	4 (1.2%)
Total	1250	583 (46.6%)	642 (51.4%)	25 (2.0%)

As shown in this table, for all the children the simple past tense *got* and the idiom *got* were produced far more frequently than the past participle *got*.

One might assume that the frequency differences among the subtypes of *got*

5 It has been reported that English-speaking children begin to use infinitive complement constructions such as *wanna V, hafta V, gotta V, needta V*, and *gonna V* between 2 and 3 years of age to indicate their attitudes (e.g., intention, volition, or compulsion) (Gerhardt 1991; Tomasello 2006). The findings here support this view.

in the children's production data reflect those in the mothers' input data. Consider now the following table, which demonstrates the instance number of each subtype of *got* produced by the mothers:

Table 4. The instance number of each subtype of *got* produced by the children's mothers while the children were between 2 and 3 years old

	Total	**past tense *got***	**idiom *got***	**past participle *got***
Anne	606	86 (14.2%)	492 (81.2%)	28 (4.6%)
Becky	533	59 (11.1%)	439 (82.3%)	35 (6.6%)
Gail	596	142 (23.8%)	420 (70.5%)	34 (5.7%)
Liz	456	69 (15.1%)	352 (77.2%)	35 (7.7%)
Total	2191	356 (16.3%)	1703 (77.7%)	132 (6.0%)

As seen here, in the mothers' data, the idiom *got* was uttered far more frequently than the rest two subtypes of *got*. A comparison between Table 3 and Table 4 then reveals that although the frequency patterns in the different forms of *got* still exhibit similar behavior, they are not identical and maybe the complexity of the structure and/or meaning played some role.

Related to the above, one interesting fact about the subtypes of *got* is that overall in the data the past tense *got* appeared earliest and the past participle *got* appeared latest, with the idiom *got* in between. The earliest examples of the subtypes of *got* produced by the children are shown in (6):

(6) a. oh, got some. (Anne, 2;0.15)
b. Anne's got some more food in that one. (Anne, 2;1.8)
c. but I haven't got a kiss. (Anne, 2;7.2)
d. I got it here. (Becky, 2;1.11)
e. Daddy has got a spoon. (Becky, 2;3.6)
f. Have you got some pencil from it? (Becky, 2;6.29)
g. Daddy got him. (Gail, 2;1.8)
h. He's got him. (Gail, 2;2.26)
i. I have got it here. (Gail, 2;3.17)
j. got ripped. (Liz, 2;0.14)
k. I have got one. (Liz, 2;1.4)
l. He's got in the bed. (Liz, 2;3.13)

These examples suggest that although the children generally acquired a form with a higher frequency earlier than another form with a lower frequency, it was not only the factor that determined the order of the forms they acquired; others such as the complexity of the structure and/or the meaning might come into play.

In this subsection, from the children's production data and the mothers' input data, we have observed that overall the frequencies of the different forms of *Get* in the children's production pattern with those in the mothers' input. In addition, we have seen that the children began to produce the different forms of *Get* and different subtypes of the same surface form at different stages of this period. Furthermore, we have also noted that some other factors other than the frequency in the mothers' input could play a certain role in the children's acquisition of the different forms of *Get* and different subtypes of the same form.

4.3 Classification of *Get* by complement types

We have seen above that overall the different forms of *Get* were acquired by the children at different stages. Let us now examine how the children acquired the different forms of *Get* in particular syntactic structures/constructions. In the following tables, the children's data are classified in terms of complement types that each form of *Get* takes.

Table 5. The use of syntactic structures produced by the children with each form of *Get* (simple)

	NP	PP	AdjP	Particle	Passive	VP
get	452 (45.2%)	63 (5.9%)	39 (3.6%)	219 (20.4%)	32 (3.0%)	1 (0.1%)
gets	3 (33.3%)	0 (0.0%)	3 (33.3%)	0 (0.0%)	1 (11.1%)	0 (0.0%)
getting	43 (33.6%)	11 (8.6%)	28 (21.9%)	22 (17.2%)	4 (3.1%)	0 (0.0%)
past *got*	441 (75.6%)	12 (2.1%))	9 (1.5%)	14 (2.4%)	10 (1.7%)	19 (3.3%)
idiom *got*	566 (88.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	18 (2.8%)
p.p. *got*	4 (16.0%)	3 (12.0%)	3 (12.0%)	5 (20.0%)	2 (8.0%)	0 (0.0%)
gotta	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	31 (100%)
have gotta	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	37 (100%)

Table 6. The use of syntactic structures produced by the children with each form of *Get* (causative)

	Double obj	NP + PP	NP + AdjP	NP + Particle	NP + Passive	NP + VP
get	13 (1.2%)	63 (5.9%)	39 (3.6%)	219 (20.4%)	32 (3.0%)	1 (0.1%)
gets	0 (0.0%)	0 (0.0%)	3 (33.3%)	0 (0.0%)	1 (11.1%)	0 (0.0%)
getting	0 (0.0%)	11 (8.6%)	28 (21.9%)	22 (17.2%)	4 (3.1%)	0 (0.0%)
past *got*	1 (0.2%)	12 (2.1%))	9 (1.5%)	14 (2.4%)	10 (1.7%)	19 (3.3%)
idiom *got*	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	18 (2.8%)
p.p. *got*	2 (8.0%)	3 (12.0%)	3 (12.0%)	5 (20.0%)	2 (8.0%)	0 (0.0%)

A couple of notes should be made about the classification above. First, Table 5 and Table 6 are mainly distinguished in terms of the presence/absence of the object NP of *Get*. As discussed earlier, the main difference between the simple structures and the causative structures is that in the former the predicate relation holds between the surface subject and the complement, while in the latter it holds between the surface object and the other complement, Next, in the VP position of the VP and NP + VP complement contexts, the base form VP is included for *gotta* and *have gotta*, whereas the infinitival VP is included for the rest forms of *Get*.[6] Note here that the forms *gotta* and *have gotta* can only take a base form VP as their complement. This explains why these two forms only appear in the VP complement context in Table 5. Similarly, as the idiom *got*, co-occurring with the preceding *have*, functions the same as *have*, its occurrences are rather restricted in the sense that it cannot combine with a PP, AdjP, particle, double objects, NP + PP, and NP + AdjP. This then accounts for why the form does not have any instances in these complement contexts.

From the data in these tables, we can observe that overall the children produced *Get* more frequently in the simple structures than the corresponding causative structures. The data also suggest that there are differences between the forms of *Get* with regard to their pure/proportional frequencies in the particular structures/constructions. For example, although we put aside the idiom *got* on the basis of the fact that its occurrences are structurally more limited than *get* and the past tense *got*, the frequency of the past tense *got* is proportionally much

6 In fact, the present participle VP (i.e., *-ing* form) can appear in this position (e.g., *you'd better get talking* and *I finally got the clock working*). However, such examples were not found in the children's data.

higher than that of *get*, when they combine with an NP complement. Additionally, the forms *getting* and *gets* are more proportionally frequent than others, when they take an AdjP as their complement. The past tense *got* is also peculiar in that its frequency is proportionally lower than other forms, when they combine with a particle complement and NP + particle complements.

Although the data in the tables show that the pure/proportional frequencies of the different forms of *Get* vary in diverse syntactic structures/constructions, they may show the same tendency as the input they received from their mothers. Now compare the data in Table 5 and Table 6 to those in Table 7 and Table 8 below:

Table 7. The use of syntactic structures produced by the mothers with each form of *Get* (simple)

	NP	PP	AdjP	Particle	Passive	VP
get	585 (40.7%)	107 (7.5%)	58 (4.0%)	140 (9.7%)	51 (3.6%)	4 (0.3%)
gets	6 (16.2%)	7 (18.9%)	12 (32.4%)	4 (10.8%)	4 (10.8%)	1 (2.7%)
getting	45 (20.9%)	18 (8.4%)	64 (29.7%)	25 (11.6%)	15 (7.0%)	3 (1.4%)
past *got*	200 (56.2%)	18 (5.1%))	11 (3.1%)	9 (2.5%)	20 (5.6%)	60 (16.9%)
idiom *got*	1490 (87.5%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	55 (3.2%)
p.p. *got*	2 (1.5%)	18 (13.6%)	12 (9.1%)	10 (7.6%)	18 (13.6%)	0 (0.0%)
gotta	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (100%)
have gotta	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	5 (100%)

Table 8. The use of syntactic structures produced by the mothers with each form of *Get* (causative)

	Double obj	NP + PP	NP + AdjP	NP + Particle	NP + Passive	NP + VP
get	77 (5.4%)	45 (3.1%)	23 (1.6%)	307 (21.4%)	30 (2.1%)	9 (0.6%)
gets	0 (0.0%)	1 (2.7%)	0 (1.4%)	1 (2.7%)	1 (2.7%)	0 (0.0%)
getting	5 (2.3%)	0 (0.0%)	28 (21.9%)	33 (15.3%)	3 (1.4%)	1 (0.5%)
past *got*	3 (0.8%)	4 (1.1%))	9 (2.5%)	19 (5.3%)	3 (0.8%)	0 (0.0%)
idiom *got*	0 (0.0%)	0 (0.0%)	0 (0.0%)	145 (8.5%)	13 (0.7%)	0 (0.0%)
p.p. *got*	4 (3.0%)	0 (0.0%)	6 (4.5%)	30 (22.7%)	27 (20.4%)	5 (3.8%)

Notice here that the observations made above in the children's data are also seen in the mother's input. For instance, in the mothers' input, *Get* is less frequent in the causative structures than in the corresponding simple structures across the different verb forms. In addition, the proportional frequency of the past *got* is

higher than that of *get* in the NP complement environment, although in terms of the raw frequency the opposite is the case. Further, in the mothers' input, the pure/proportional frequency of the past *got* is lower than other forms, when they take a particle complement and NP + particle complements. This indicates that there is a strong (causal) relationship between the mothers' input and the children's uses of the different forms of *Get* in particular structures/constructions in that the frequencies of the different forms of *Get* in particular structures in the mothers' input pattern with/affect those in the children's production.

4.4 Order of acquisition of argument structures of *Get*

As was seen above, in general the children's production of the different forms of *Get* in different syntactic structures/constructions closely resembled the mothers' input in terms of frequencies. However, it is still unclear whether the children around this age (2-3 year olds) had the adult-like grammatical knowledge across the year and thus they could use this knowledge about the different forms of *Get* in forming a variety of structures/constructions throughout the year, or whether their grammatical knowledge was rather restricted and thus they just related individual forms of *Get* to each structure/construction during this period of time. In this respect, I examined when the children first acquired each of the structures with the different forms of *Get* and this is shown in the tables below:

Table 9. The mean time of acquisition of the syntactic structures produced by the children with each form of *Get* (simple)

	NP	PP	AdjP	Particle	Passive	VP
get	6	8	15.5	1.7	11.5	24
gets	43	-	41	-	35	-
getting	8	14	17	7	13	-
past *got*	4	32	30	11	11	13
idiom *got*	7.5	-	-	-	-	20
p.p. *got*	42	14	41	36.5	44	-
gotta	-	-	-	-	-	18
have gotta	-	-	-	-	-	20

Table 10. The mean time of acquisition of the syntactic structures produced by the children with each form of *Get* (causative)

	Double obj	NP + PP	NP + AdjP	NP + Particle	NP + Passive	NP + VP
get	35.5	27	34	10.5	28	44
gets	-	-	-	5	13	-
getting	-	-	21	14	-	-
past *got*	24	9	14	15	28	-
idiom *got*	-	-	-	17.5	36	35
p.p. *got*	33.5	-	44	28	34	-

Some notes should be made about the data in the tables here. First, each of the numbers in the tables indicates the mean of the appropriate time periods in week after two years of age when the particular verb form was first produced by the children in the particular structure/construction. For instance, Anne first produced the form *get* in the NP complement context at 2;0.14, Becky at 2;3.6, Gail at 2;1.18, and Liz at 2;0.21. These numbers were transformed into 2, 13, 6, and 3, respectively, and resulted in the mean 6, as can be seen above. Second, '-' means that no children produced the form in the structure/construction. Another thing to note is that although not all the children produced a form in a particular structure, it still has a mean number in these tables. For example, Becky first produced the form *gets* in the NP complement context at 2;11.1 and Gail at 2;10.8; however, no such instances were found in the other two children's corpus data. In cases like these, the available production data were often found in later stages of this period, as illustrated by this *gets* case. Nonetheless, there are also some cases in which a particular verb form was produced by not all the children in a particular structure, and yet their production was quite early. For instance, Anne first produced *getting* in the particle complement context at 2;0.14, Becky at 2;2.9, and Liz at 2;0.15; however, no such instances were found in Gail's corpus data. Although this can be problematic, in the tables above the mean numbers are presented for both these cases. That is, although a form was produced in a particular structure/construction by not all the children, the mean number was calculated on just the available data.

The data in the tables first show that there is a strong correlation between the production frequencies of the forms and the acquisition order of the forms in a particular structure. For example, in the NP complement context, *get*, the idiom

got, and the past tense *got*, were more frequently produced than *getting*, the past participle *got*, and *gets*, and the former were acquired earlier than the latter in this structure. Similarly, in the AdjP complement context, *get* and *getting* were more frequently produced than *gets*, the past tense *got*, and the past participle *got*, and the former were produced earlier than the latter. Given that the frequencies of the different forms of *Get* in particular structures in the mothers' input pattern with those in the children's production, as discussed in the previous section, the data here suggest that the frequencies in the mothers' input played a significant role in the children's acquisition order of the different forms of *Get*.

The data in these tables also illustrate that it took time for the children to acquire each of the structures with all the possible forms of *Get* and the time ranges during which they acquired the structures with all the available verb forms vary case by case. For instance, in the participle complement structure, *get* was produced earliest, *getting* and the past tense *got* were produced 5 and 9 weeks later, while the past participle *got* was produced approximately 35 weeks later than *get*, and *gets* was never produced during this period of time. In the NP complement structure, the past tense *got* was produced earliest, and *get*, the idiom *got* and *getting* were produced 2 to 4 weeks later, whereas the past participle *got* and *gets* were produced 38 and 39 weeks later than the past tense *got*. It took comparatively long for the children to acquire these two structures with all the possible forms of *Get*. That is, there was a quite long delay between the earliest use of each of these structures with one form of *Get* and its use with all the other verb forms. Notice also that although in both NP + particle and the NP + passive structures, *gets* was produced earliest, each of the structures had only one example and they were all incorrectly used, as discussed in footnote 4. If we ignore these occurrences of *gets*, then we can see that the delay between the earliest use of each of these structures with *get* and its use with all the other verb forms was comparatively short, although it was still far from a simultaneous process.

These findings then support the idea that the mothers' input played a crucial role when the children acquired the different forms of *Get* and the structures were acquired with possible verb forms in a case-by-case manner.

4.5 Classification of *Get* examples by clause types

The *Get* examples produced by the children can also be classified with respect to clause types; declarative, question, imperative, and propositive.[7] Some representative examples are shown in (7) and based on this classification the data of the children can be summed up as in Table 11:

(7) a. I have got an itchy back. (Declarative, Liz, 2;5.15)
b. Has he got a cat? (Question, Becky, 2;5.29)
c. Get out, Mum. (Imperative, Anne, 2;7.13)
d. Let's get the tunnel. (Propositive, Gail, 2;11.5)

Table 11. The classification of *Get* examples produced by the children in terms of clause types

	Total	Declarative	Question	Imperative	Propositive
Anne	659	439 (66.6%)	47 (7.1%)	171 (25.9%)	2 (0.3%)
Becky	628	476 (75.8%)	96 (15.3%)	55 (8.7%)	1 (0.2%)
Gail	535	400 (74.8%)	40 (7.5%)	91 (17.0%)	4 (0.7%)
Liz	704	539 (76.6%)	64 (9.1%)	93 (13.2%)	8 (1.1%)
Total	2526	1854 (73.4%)	247 (9.8%)	410 (16.2%)	15 (0.6%)

As shown here, *Get* was most frequently produced in the declarative clause type by all the children. For Anne, Gail, and Liz, *Get* was produced next frequently in the imperative clause type, followed by the question clause type, whereas for Becky the opposite was the case. *Get* was very rarely produced in the propositive clause type by all the children. These frequency differences can be accounted for in part by the verb forms that can appear in the clause types. For instance, all the forms of *Get* can occur in the declarative clause type and most of the forms of *Get* can occur in the question clause type; however, only the bare form *get* can appear in the imperative and propositive clause types. Observe at this juncture that the question clause type can be further subclassified as illustrated in (8):

7 In theory, 'exclamative' can also be included here. However, in the children's data, no exclamative examples were found and thus were excluded from the analysis.

(8) a. You got tissue? (Declarative Question, Liz, 2;2.9)
b. She's got some other sheeps, hasn't she? (Tag Question, Becky, 2;11.15)
c. What has he got on? (*Wh*-Question, Anne, 2;7.17)
d. Did you get eggs for Easter? (*Yes-No* Question, Gail, 2;9.25)

In (8a) the subject-auxiliary inversion (SAI) does not occur and this subtype is just marked by intonation. In (8b) an interrogative fragment (i.e., tag) is added at the end of the clause. In both (8c) and (8d) SAI does occur, but the main difference between them is in the presence/absence of a *wh*-phrase at the beginning of the clause.[8] Based on this subclassification, therefore, the question clause data of the children can be divided as follows:

Table 12. The subclassification of *Get* question clause type examples produced by the children

	Total	Decl Q	Tag Q	*Wh*-Q	*Yes-no* Q
Anne	47	15 (32.0%)	0 (0.0%)	3 (6.4%)	29 (61.7%)
Becky	96	2 (2.1%)	5 (5.2%)	30 (31.2%)	59 (61.5%)
Gail	40	15 (37.5%)	0 (0.0%)	11 (27.5%)	14 (35.0%)
Liz	64	8 (12.5%)	4 (6.2%)	9 (14.1%)	43 (67.2%)
Total	247	40 (16.2%)	9 (3.6%)	53 (21.5%)	145 (58.7%)

Although there is individual variation among the children, in general *Get* was produced most frequently in the *yes-no* question clause subtype, less frequently in the declarative question and *wh*-question clause subtypes, and least frequently in the tag question clause subtype.

One might want to see whether the frequency differences of *Get* between the clause types in the children's production data would exhibit the same pattern as the mothers' input of *Get*. First, consider the table below, which shows the numbers of the mothers' *Get* data classified with respect to clause types:

8 In the children's data, some *wh*-question examples were found, in which SAI does not occur. This indicates that they did not fully acquire the appropriate *wh*-question formation at the stages at which those examples were produced. Nevertheless, such examples were also categorized into the *wh*-question subtype.

Table 13. The classification of *Get* examples produced by the mothers in terms of clause types

	Total	Declarative	Question	Imperative	Propositive	Exclamative
Anne	1080	476 (44.1%)	536 (49.6%)	56 (5.2%)	10 (0.9%)	2 (0.2%)
Becky	968	452 (46.7%)	432 (44.6%)	73 (7.5%)	11 (1.1%)	0 (0.0%)
Gail	960	434 (45.2%)	469 (48.9%)	53 (5.5%)	4 (0.4%)	0 (0.0%)
Liz	878	495 (56.4%)	344 (39.2%)	30 (3.4%)	9 (1.0%)	0 (0.0%)
Total	3886	1857 (47.8%)	1781 (45.8%)	212 (5.4%)	34 (0.9%)	2 (0.1%)

A comparison between Table 11 and Table 13 reveals that the proportion of *Get* in the question clause type is far higher in the mothers' input than in the children's production data. In contrast, the proportion of *Get* in the declarative class type and the imperative clause type is lower in the mothers' input than in children's production data. A possible scenario that may account for this asymmetry is that in the activities in which they were involved the mothers often initiated questions and the children answered them. Accordingly, the mothers produced *Get* comparatively frequently in the question clause type, whereas the children produced *Get* comparatively frequently in the declarative clause type.[9]

Now observe Table 14, in which the frequencies of the finer-grained *Get* question clause examples produced by the mothers are presented:

Table 14. The subclassification of *Get* question clause type examples produced by the mothers

	Total	Decl Q	Tag Q	*Wh*-Q	*Yes-no* Q
Anne	536	116 (21.6%)	126 (23.5%)	118 (22.0%)	176 (32.8%)
Becky	432	64 (14.8%)	91 (21.1%)	90 (20.8%)	187 (43.3%)
Gail	469	45 (9.6%)	181 (38.6%)	122 (26.0%)	121 (25.8%)
Liz	344	18 (5.2%)	128 (37.2%)	49 (14.2%)	149 (43.3%)
Total	1781	243 (13.6%)	526 (29.5%)	379 (21.3%)	633 (35.5%)

This table shows that overall the mothers produced *Get* in the *yes-no* question clause subtype most frequently, less frequently in the tag question and *wh*-question clause subtypes, and least frequently in the declarative question

9 Of course, the opposite is also plausible during mother-child activities. In addition, this question-answer pattern could be a general pattern, not limited to *Get*. Therefore, one should look into the entire corpus data to see whether either is right. I leave it to future research.

subtype. The most salient difference between Table 12 and Table 14 is seen in the relative frequencies of *Get* in the tag question and *yes-no* question clause subtypes. Although the tag question clause subtype examples of *Get* were produced comparatively frequently by the mothers, such examples were produced quite rarely by the children. Conversely, the *yes-no* question clause subtype examples of *Get* were produced more proportionally prominently by the children than by the mothers. This indicates that the relative hight frequency of *Get* in the mothers' input in a particular structure did not always guarantee the children's frequent production of *Get* in the same structure.

As discussed above, the imperative and propositive clause types only involve the bare form of *Get* (i.e., *get)*. However, the declarative and question clause types can involve different forms of *Get*. In this regard, in particular, I investigated how the children acquired the different forms of *Get* in the question clause type. First, consider the following tables, in which the instance numbers of the different forms of *Get* produced by the children and the mothers in the question clauses are shown:

Table 15. The instance number of each form of *Get* produced by the children in the question clause types

	Decl Q	Tag Q	*Wh*-Q	*Yes-no* Q
get	13 (32.5%)	5 (55.6%)	12 (22.6%)	94 (64.8%)
gets	0 (0.0%)	2 (22.2%)	0 (0.0%)	0 (0.0%)
getting	2 (5.0%)	0 (0.0%)	1 (1.9%)	4 (2.7%)
past *got*	22 (55.0%)	0 (0.0%)	7 (13.2%)	0 (0.0%)
idiom *got*	3 (7.5%)	2 (22.2%)	31 (58.5%)	42 (29.0%)
p.p. *got*	0 (0.0%)	0 (0.0%)	1 (1.9%)	3 (2.1%)
gotta	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
have gotta	0 (0.0%)	0 (0.0%)	1 (1.9%)	2 (1.4%)
Total	40	9	53	45

Table 16. The instance number of each form of *Get* produced by the mothers in the question clause types

	Decl Q	Tag Q	*Wh*-Q	*Yes-no* Q
get	91 (37.4%)	105 (20.0%)	104 (27.4%)	284 (44.9%)
gets	4 (1.6%)	8 (1.5%)	2 (0.5%)	1 (0.2%)
getting	20 (8.2%)	39 (7.4%)	10 (2.6%)	34 (5.4%)
past *got*	47 (19.3%)	75 (14.2%)	8 (2.1%)	16 (2.5%)

idiom *got*	76 (31.2%)	283 (53.8%)	248 (65.4%)	284 (44.9%)
p.p. *got*	5 (2.0%)	16 (3.0%)	7 (1.8%)	14 (2.2%)
Total	243	526	379	633

A comparison between Table 15 and Table 16 again reveals that overall the proportional frequencies of the different forms of *Get* in the children's production in a particular structure correspond to those in the mothers' input. In all the question clause subtypes, in the mothers' input, either the idiom *got* or *get* was produced most frequently, followed by the other, and these two forms were produced much more frequently than the rest forms. In the children's data, the similar patterns are observed in the tag question, *wh*-question, and *yes-no* question clause subtypes; however, in the declarative question clause subtype, the past tense *got* was produced most frequently. Therefore, this further suggests that the relative high frequency of *Get* in the mothers' input in a particular structure did not always lead to the children's frequent production of *Get* in the same structure.

Let us then see when the children first acquired the four subtypes of question clause with the different forms of *Get*. Consider the following table:

Table 17. The mean time of acquisition of the question clause subtypes produced by the children with each form of *Get*

	Decl Q	Tag Q	*Wh*-Q	*Yes-no* Q
get	18	44	24	18.5
gets	-	-	-	-
getting	25.5	34	36	23
past *got*	10	-	25	-
idiom *got*	20	34	17	17
p.p. *got*	-	-	20	24
gotta	-	-	-	-
have gotta	-	-	32	28

The same principles about the coding applies here. '-' indicates that no children produced the form in the question clause subtype. Also, although a form was not produced in a particular question clause subtype by all the children, the mean number was calculated just with the available data.

The data in this table tell us that the children did not produce all the

available forms of *Get* in each of the different question clause subtypes simultaneously. For instance, in the declarative question clause subtype, the past tense *got* was produced earliest, and *get* and the idiom *got* were produced 8 and 10 weeks later, while *getting* was produced almost 16 weeks later than the past tense *got*. In the *wh*-question clause subtype, more diverse verbs were produced and the idiom *got* was produced earliest, and the past participle *got*, *get*, and the past tense *got* were produced 3 to 8 weeks later, while *have gotta* and *getting* were produced 15 and 19 weeks later than the idiom *got*.

Furthermore, the data here demonstrate that depending on the question clause subtype each of the forms was first produced in different stages of this period. For example, *get* was produced 18 and 18.5 weeks after 2 years of age in the declarative question clause and *yes-no* question clause subtypes, whereas the form was produced approximately 6 and 26 later in the *wh*-question clause and tag question clause subtypes, respectively. On the other hand, the idiom *got* was produced 17 weeks after 2 years of age in the *wh*-question clause and *yes-no* question clause subtypes; however, the form was produced 3 and 17 weeks later in the declarative question clause and tag question clause subtypes, respectively.

Also, the time ranges during which the children acquired the different question clause subtypes with all the possible verb forms of *Get* differ case by case. For example, although in both the *yes-no* question clause and *wh*-question clause subtypes the idiom *got* was produced earliest at 17 weeks after 2 years of age, it took longer for the children to acquire the former structure with all the possible verb forms than the latter structure. Therefore, the data here suggest that the children acquired the question clause subtypes with all the possible verb forms of *Get* both gradually and individually.

5. Conclusion

The present study examined how four children in the Manchester corpus used and generalized the different forms of *Get* in various syntactic structures throughout the year between the ages of 2 and 3. In doing so, comparisons were made between the children's production data and the mothers' input data. These suggest that although children's use of *Get* were generally very similar to the

mothers' use of it, the children did not form an adult-like verb representation of *Get*.

We have first seen that the different forms of *Get* were acquired by the children in different stages of this time period. The forms *gets* and *gotta* were produced relatively later than the other forms and some erroneous uses of *gets* were found until quite late stages of the time period. This is against the view of generative approaches, because they assume that children are able to successfully acquire the holistic knowledge of a verb paradigm in a short time, only provided the minimal overlap of the different forms of a verb in a structure. On the other hand, it can be accounted for by constructional approaches, because they assume that the acquisition of a verb paradigm takes place case by case, depending on the frequency in the input and it may take long.

We have also observed that across the different structures (e.g., complement taking contexts and question clause types), each form of *Get* had different pure/relative frequency patterns and in particular structures the different forms of *Get* had different pure/relative frequency patterns. In addition, the orders in which the children acquired the structures with all the available forms of *Get* differed case by case and the ranges during which they acquired the structures with all the possible forms of *Get* varied case by case. This observation favors constructional approaches over generative approaches again, since this case-by-case acquisition of a verb paradigm is only predicted by the former, not by the latter. Furthermore, a comparison of the children's production and the mothers' input revealed that generally across the structures each form of *Get* in the children's production showed very similar frequency tendencies as the mothers' input and that in particular structures the frequency patterns of the different forms of *Get* in the children's production resemble those in the mothers' input. The frequency differences in turn had a close correlation with their acquisition of the order of the different forms of *Get* in the structures. This correlation of frequency and acquisition order is also more consistent with constructional approaches than generative approaches, as frequency's significance in acquisition of a verb paradigm is predicted only by the former, but not by the latter.

However, we have noted that in some cases, the structures or the forms in a particular structure with higher frequencies in the mothers' input did not lead

the children to produce them more frequently and/or earlier than those with lower frequencies (e.g., the past tense *got*/the idiom *got* in general, the clause types in general, and the declarative question clause subtype). This suggests that aside from frequency, some other factors play some role in the children's acquisition of verb representation.

Overall, the present study based on corpus data further supports the constructional view on children's acquisition of verb representation, putting great emphasis on the input frequency (De Villiers 1985; Naigles and Hoff-Ginsberg 1998; Theakston et al. 2001, 2002, 2003, 2004); however, at the same time, it also sheds some light on the importance of some other factors such as complexity in children's acquisition of verb representation (Theakston et al. 2004).

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