

# Children Are Sensitive to the Default Verb Order in German Subordinate Clauses: Evidence from ‘because’ Clauses in Spontaneous Speech

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## 1. Introduction

As one of the languages with generalized verb-second movement, German places the verb in verb-second position (referred to as V2) in declarative main clauses. In subordinate clauses the verb is placed in final position, i.e., in the right sentence bracket, referred to as V-final (den Besten, 1989). Crucially, the V-final order is assumed to be the default, as it is allowed in all contexts. Some types of subordinate clauses allow V2 placement in addition to the V-final order. V2 is assumed to be the marked verb order: first, it is not possible for all types of subordinate clauses. Second, in clause types that allow variation between V-final and V2, V2 is licensed only in specific contexts. Among the types that allow V2 as well as V-final are certain types of complement clauses (*verba dicendi*, doxastic predicates, preference predicates, evidential verbs of perception), relative clauses, *obwohl* ‘although’ clauses, and *weil* ‘because’ clauses (Reis, 1997, 2013; Gärtner, 2001; Antomo, 2012; Sanfelici, Schulz & Trabant, 2017). Notably, in all these cases V2 is allowed only if specific licensing conditions are met, *i.a.* prosodic integration, sentence-final position of the embedded clause (e.g., Antomo & Steinbach, 2010; Antomo, 2012; Reis, 1997). Focusing on *weil* ‘because’ clauses, the present study investigated children’s sensitivity to the default verb order in subordinate clauses that allow variation between V2 and V-final in the target system, as illustrated in (1).

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- (1) Der Igel trinkt Wasser,  
 the hedgehog drinks water  
 a. weil er wirklich sehr viel Durst **hat** V-final  
 because he really very much thirst has  
 b. weil er **hat** wirklich sehr viel Durst V2  
 because he has really very much thirst  
 ‘The hedgehog drinks water, because it is really thirsty.’

The specific licensing conditions for *weil* clauses pertain to aspects of the main clause, including the presence of C-command and the scope properties of negation or a modal in the main clause, as well as to aspects of the subordinate clause, in particular the position of the *weil* clause, its prosody, and its semantics (see Uhmann, 1998; Antomo, 2012; Antomo & Steinbach, 2010; Reis, 2013). The properties are summarized in Table 1.

**Table 1. Licensing conditions for embedded V2 *weil* clauses**

Clause	Factor	Property
Main clause	C-command	No c-command inside V2 clause
	Negation/Modal	No scope over V2 <i>weil</i> clause
Subordinate clause	Position	Sentence-final
	Prosody	Comma intonation
	Semantics	Causal (propositional, epistemic, speech act modification)

Note that there is a consensus regarding the structural and prosodic properties of *weil* V2 clauses, whereas the exact semantic properties are still a matter of debate (Antomo, 2012; Antomo & Steinbach, 2010; Reis, 2013). In general, it is assumed that the functional head  $C^0$  in subordinate clauses has different properties in V-final and embedded V2 clauses. In V-final *weil* clauses, it is underspecified for assertive force, and in embedded V2 it is specified for assertive force (Reis, 1997; Antomo, 2012).

In the current study, we investigate children’s spontaneous productions of *weil* clauses regarding their verb placement and ask whether German-speaking children are sensitive to the default verb order (i.e. V-final) in *weil* subordinate clauses, given that *weil* clauses allow variation between V2 and V-final in the target system in specific contexts. Consequently, our analysis is based on the syntactic properties (V2 vs. V-final) and the position (sentence final) of the *weil* clauses. Their prosodic and semantic properties (see Table 1) will not be considered further.

The paper is structured as follows: In Section 2, we summarize studies that investigated how adults and children deal with the variation in the target system between V-final and V2 *weil* clauses. Section 3 presents our study: the analysis of the spontaneous speech of eight children. Section 4 discusses the results in light

of their implications for linguistic theory and language acquisition. The paper ends with our conclusions in Section 5.

## 2. Previous findings on the distribution of *weil* V2 and *weil* V-final clauses

### 2.1. Adult studies

The status of *weil* clauses with V2 and V-final orders in German grammar has been a matter of pronounced debate. Prescriptive grammars claim that in *weil* clauses only one verb placement is correct, i.e. V-final, whereas V2 is “incorrect” (Duden, 1998: 406). Frequently, the occurrence of V2 *weil* clauses has been argued to be a dialectal feature, especially present in low-educated speakers (Watzinger-Tharp, 2006). However, in recent decades various linguistic and socio-linguistic studies have demonstrated that V2 *weil* clauses exist alongside V-final variants in German speakers, thereby challenging the dialectal and colloquial status of the V2 variant (Günthner, 1993, 1996; Uhmman, 1998; Scheutz, 2001). Günthner (1996), for instance, reports V2 *weil* clauses in various written texts from the 1980s and further notes that the use of this sentence type has increased during the 1990s. Similarly, Uhmman (1998) finds that *weil* clauses with V2 appear very frequently and are in fact increasing its range of use, in written and, in particular, in spoken German.

This increase in the use of *weil* V2 clauses is reflected in the results of detailed corpora analyses of adults’ spontaneous speech. Whereas corpora with data recorded up to the mid-1970s mainly contain *weil* clauses with V-final placement and few instances of *weil* clauses with V2 (Freywald, 2010), the most recently collected corpora show a very similar distribution of both word orders in *weil* clauses (Dittmar & Bressemer, 2012; Kempen & Harbusch, 2016). Freywald (2010) analyzes the data of adults’ spontaneous speech available in the IDS-corpora, recorded between 1955 and 1974 (see Datenbank Gesprochenes Deutsch). Extracting all *weil* clauses independent of their position with respect to the matrix clause, Freywald found that only 168 sentences (8,3%) of the *weil* clauses in her corpus exhibited V2, whereas 1859 sentences (91,7%) showed V-final order. Her findings clearly differ from the results by Dittmar and Bressemer (2005), which are based on data that is more recent. The authors investigated 56 conversations between adults recorded in Berlin between 1993 and 1996, available in the so-called Wendekorpus, and extracted all *weil* clauses, independent of their position with respect to the matrix clause. Their analysis shows that 69% of the *weil* clauses (n=490) exhibit V-final and 31% (n=219) exhibit V2 placement. Importantly, when evaluating these proportions, the specific licensing conditions for V2 (see Table 1) should be taken into account. Assuming that the speakers respected these licensing conditions for V2, the opportunity to produce *weil* V2 clauses is in general much more restricted than the one to produce *weil* V-final clauses. With this in mind, the proportion of *weil* V2 clauses in spontaneous speech was rather high already by the mid-1990s.

In recent years, the rate of *weil* V2 clauses in adults’ spontaneous speech has increased even more, reaching the rate of use of V-final *weil* clauses, as shown in the study by Kempen and Harbusch (2016). The Verbmobil corpus, which served

as the basis of their analysis, consists of conversations between two speakers recorded between 1993 and 2000.<sup>1</sup> Unlike previous studies, Kempen and Harbusch (2016) limited their search to *weil* clauses that follow a matrix clause to allow for a close comparison between the V-final and the V2 variants.<sup>2</sup> All turns were extracted that contained one or more tokens of an adverbial clause preceded by a main clause and were introduced by the lexical item *weil*, arriving at 721 analyzable *weil* clauses. Of these, 385 clauses exhibit V-final word order (53.4%), and 336 exhibit V2 (46.6%). (2a) illustrates a *weil* clause with V-final order, and (2b) a *weil* V2 clause (taken from Kempen & Harbusch, 2016: 6).

- (2) a. oh, das ist schlecht, **weil** die Wochenenden bei mir so ziemlich  
 oh, that is bad because the weekends for me so rather  
**ausgebucht sind.**  
 booked-up are  
 ‘Oh, that’s bad, because my weekends are pretty much booked up.’
- b. das ist schlecht, **weil** da **hab’** ich einiges vor.  
 that is bad because then have I something ahead  
 ‘That’s bad, because there I have already planned a few things.’

In summary, the corpus analyses suggest that the distribution of V2 and V-final placement in *weil* clauses has changed quite recently and quite dramatically. Up to the mid-1970s adults used *weil* clauses mainly with V-final placement and only rarely with V2, and since the mid-1990s adults in their spontaneous speech have used *weil* clauses both with V-final and with V2 at a similar rate. These findings suggest that the default word order from a grammatical perspective (i.e. V-final) is not necessarily the most frequent order in the target language.

## 2.2. Child studies

Acquisition studies on German to date have focused on the questions of when children acquire target-like verb placement and of whether children are aware of the distinction regarding the verb placement in finite main clauses (V2) and in subordinate clauses (V-final). From the vast body of research two robust findings have emerged. First, and not surprisingly, children acquire the main clause word order earlier than the word order in subordinate clauses (Clahsen, 1990; Tracy, 1991; Rothweiler, 1993, among others). Moreover, children master the different verb placement in matrix and subordinate clauses quite early and show an almost error-free production of the target verb placement in the two syntactic contexts (Clahsen, 1990; Rothweiler, 1993, among many others). Target verb placement in matrix sentences, i.e. V2, emerges between 2;0 and 2;6, and V-final in

<sup>1</sup> The corpus contains a large collection of spoken German dialogues, including more than 1000 adult native speakers of German recruited from various regions (Wahlster, 2000).

<sup>2</sup> Recall that V2 *weil* clauses are licensed only in this sentence-final position.

embedded sentences appears between 2;6 and 3;6 (see Clahsen, 1990; Fritzenschaft, Gawlitzek-Maiwald, Tracy & Winkler, 1990; Tracy, 1991).

Few studies have systematically examined the alternation between V-final and V2 in children's production for those subordinate clauses that allow for both word orders. Evidence regarding the frequency of verb-second placement in children's embedded sentences is mixed (Rothweiler, 1993; Brandt, 2004; Brandt, Diessel & Tomasello, 2008). Rothweiler (1993) analyzed about 800 embedded clauses of different types (complement, adverbial, and relative clauses), which were produced by seven monolingual German children between the ages of 3 and 6. The author reports that the finite verb is placed systematically in V-final position as soon as the children start producing subordinate clauses. Specifically, of the 78 subordinate *weil* clauses only 9 exhibit verb-second order.<sup>3</sup>

Relative clauses are a further case in point for the argument that children systematically place the finite verb in V-final position in subordinate clauses: Rothweiler (1993) found in her corpus of 81 relative clauses only 1 relative clause with V2. This result from children's spontaneous production of relative clauses has been confirmed in a recent experimental study (Sanfelici et al., 2017, 2020): employing a picture-supported delayed-imitation task, 23 three-year-old children were asked to repeat V-final and V2 relative clauses. Sanfelici et al. (2017, 2020) found that while the great majority of children produced both word orders, the children showed a significant preference for V-final relative clauses over the V2 variant. That is, children changed V2 variants into V-final relative clauses more frequently than V-final relative clauses into their V2 variants. Moreover, six children exclusively produced V-final word order. These findings from spontaneous speech and elicited imitation across several types of subordinated clauses seem to indicate that children in general first acquire the V-final word order of subordinate clauses and only later master the V2 variants.

However, Brandt (2004), Brandt, Diessel and Tomasello (2008), and Brandt Lieven and Tomasello (2010) have proposed a different acquisition path towards mastery of subordinate clauses, arguing that verb-second is the initial word order in children's early subordinate clauses. Investigating the relative clauses produced by Leo (CHILDES), Brandt et al. (2008) conclude that Leo regularly produces V2 relative clauses and that verb-second precedes V-final placement in his acquisition of relative clauses. That is, V2 structures are especially frequent in Leo's early speech production and V-final becomes predominant only around age 5. More specifically, up to the age of 2;5, 70% of Leo's relative clauses exhibit the finite verb in second position, 22% show an ambiguous word order, and only 8% of the relative clauses occur with the finite verb in final position. At the age of 5;0, 68% of Leo's relative clauses exhibit verb final, 27% show verb-second, and 5% show an ambiguous verb order. Based on an analysis of the Simone corpus (CHILDES), Brandt (2004) likewise finds that V2 is the first verb order that Simone acquires for relative clauses: clauses with verb-second order

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<sup>3</sup> Notably, Fritzenschaft et al. (1990: 93) also found rare instances of deviant word order in *weil* clauses, with the verb occurring in first position after *weil*.

are predominant over verb final relative clauses until the age of 4;0, the age at which the recordings of Simone ended.<sup>4</sup>

Moreover, Brandt and colleagues' (2010) analysis of the spontaneous production of complement clauses points in the same direction of V2 as the prevalent verb order in subordinate clauses. The authors found that after their second birthday, the four German-speaking children who were the subjects of the analysis (Leo; Rigol-corpus: Pauline, Sebastian, Cosima) produced both V-final and V2 complements, but verb placement in the complement clauses depended on the matrix predicate selecting the complement clause. Most importantly, up to age 5;0 children produced only V2 complements with matrix verbs such as *glauben* 'believe' and *sagen* 'say', which in the adult grammar license complement clauses with both V2 and V-final order. Not surprisingly, children always produced V-final complement clauses with matrix verbs such as *wissen* 'to know', which only select for V-final complements in the adult grammar.

In summary, children have been reported to produce V2 variants earlier and more often than their V-final counterpart (e.g., Brandt et al., 2008, Brandt et al., 2010) as well as V-final before V2 clauses (e.g., Rothweiler, 1993; Sanfelici et al., 2017). Thus, it is still unclear how children deal with those types of subordinate clauses that allow for both V2 and V-final placement. Specifically, it is a matter of debate whether children treat V-final or V2 as the default word order in subordinate clauses. Our study contributes to this line of research by investigating the extent to which children show sensitivity to the default verb order in *weil* clauses, which is V-final – and which is independent of its frequency in current adult speech, i.e. in the ambient language for the language learner.

### 3. The spontaneous speech study

The present study investigates whether children are sensitive to the default word order in subordinate clauses that allow variation between V2 and V-final in the target system. We addressed two research questions: (Q1) Do children use V-final or V2 *weil* clauses more frequently? (Q2) Do children first produce V-final or V2 *weil* clauses? Note that in light of these research questions and due to the nature of spontaneous speech data we focus on the structural properties (verb placement in the *weil* clause, position of the *weil* clause) and refrain from characterizing children's *weil* clauses with respect to their – notoriously difficult – semantic properties.

#### 3.1. Participants

The data was drawn from the spontaneous speech corpora of eight monolingual German-speaking children in the CHILDES database

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<sup>4</sup> It should be noted that spontaneous speech data, which are *per se* underdetermined, often allow for multiple analyses. As a case in point, see Sanfelici et al. (2020) for arguments against the authors' analyses of the V2 structures as V2 relative clauses.

(<https://chilides.talkbank.org/access/German>): Simone (Miller corpus), Caroline (Caroline corpus), Leo (Leo corpus), Cosima, Sebastian, and Pauline (all three from the Rigol corpus), and Carsten and Gabi (both from the Wagner corpus). The period in which children's production was recorded covers the ages between 0;0 and 7;11. The specific age ranges, which vary from child to child, are as follows: Simone (age range 1;9-4;0), Caroline (1;0-4;3), Leo (1;1-4;11), Cosima (0;0-7;2), Sebastian (0;0-7;5), Pauline (0;0-7;11), Carsten (3;6), and Gabi (5;4).

### 3.2. Data sample and analysis

Children's *weil* utterances were extracted by searching the relevant corpora files, using the command combo +t\*CHI +s"weil" \*.cha. Accordingly, 2608 hits containing *weil* were obtained. Each utterance was then coded manually with respect to two criteria: (a) presence of at least one word in addition to *weil*; (b) verb position. The criterion in (a) allowed us to distinguish productions with *weil* as a single word from those that contained other words in addition to *weil*. We disregarded the productions with *weil* as a single word (n=73) and analyzed the remaining utterances (n=2535) further with respect to the verb placement. A further 513 utterances had to be excluded, either because they did not contain a verb, or because it was not possible to determine the verb position unambiguously because the utterance is so short (e.g., *weil die Eisenbahn fäh(r)t* 'because the train goes.'; Sebastian, sb030226.cha, line 183).

It should be stressed that we included in our analysis *weil* clauses that preceded or followed another clause as well as isolated *weil* clauses, as illustrated in (3). Isolated *weil* clauses typically served as an answer to the adult's previous question, - a use that is often found in adult speech as well. Overall, 1199 *weil* clauses were produced without another clause in the same turn, and 823 *weil* clauses were produced in combination with another clause, typically the matrix clause. Thus, the final analysis was based on a total 2022 *weil* clauses, each of which was coded as V-final, exemplified in (3a), or as V2, as shown in (3b). Table 2 provides an overview of the resulting number of *weil* clauses by each child that were analyzed for the current study.

- (3) a. **weil** ich Lust **habe**  
 because I will have  
 'because I want to.' (Caroline, 020722.cha, line 37)
- b. **weil** alles **ist** meine Freunde  
 because everything is my friend  
 'because everything is my friend.' (Caroline, 020800.cha, line 136)

**Table 2. Number of *weil* clauses per child according to verb placement**

Corpus	Child	Total of <i>weil</i> clauses analyzed	V-final	V2
Caroline	Caroline	66	38	28
Leo	Leo	1226	1130	96
Miller	Simone	305	267	38
Rigol	Cosima	71	61	10
	Sebastian	136	105	31
	Pauline	202	108	94
Wagner	Carsten	8	7	1
	Gabi	8	8	

### 3.3. Results

Out of the 2022 *weil* clauses produced by the eight children, 1724 (85%) clauses are V-final and 298 clauses (15%) are V2. That is, overall *weil* clauses with V-final order are more frequent than those with V2 order. This pattern holds both for isolated *weil* clauses and for *weil* clauses that appeared with another clause. 1199 utterances contained isolated *weil* clauses: in 1009 (84%) clauses the verb was in final position, as exemplified in (3a), compared to 190 (16%) clauses with V2, exemplified in (3b). A further 799 utterances contained *weil* clauses in sentence-final position, i.e., they were preceded by their matrix clause: 696 (87%) clauses showed V-final order, illustrated in (4a), compared to 103 (13%) clauses with V2 order, illustrated in (4b).

- (4) a. nur ich hätte das geschafft, **weil** ich mit den kleineren Händen  
 only I had it done because I with the smaller hands  
**bin.** (Leo, le041006.cha, line 464)  
 am  
 ‘only I could have done it, because I’m the one with smaller hands.’
- b. jedenfalls dann trink ich viel Wasser, **weil** da **gibt** (e)s  
 ‘in any case then drink I much water, because there is it  
 Zitronen dran. (Sebastian, sb070309.cha, line 126)  
 lemons inside.  
 ‘In any case then I drink a lot of water, because there are lemons in it.’

A further 24 utterances contained the *weil* clauses in sentence-initial position. This order includes cases in which the *weil* clause precedes its matrix clause, as shown in (5a), and cases in which the *weil* clause is followed by a second subordinate clause, as illustrated in (5b). In the latter case, there is no proper matrix clause, and the *weil* clause pragmatically fulfills a similar function as an isolated *weil* clause (see (3)), i.e. to react to a previously asked question.

- (5) a. **weil weil** er so **gemeckert hat** und nich(t) **aufgepaßt hat**,  
 because because he so complained has and not watched\_out has  
 is(t) der in (da)s Wasser gefa [//] (Simone, si040006.cha, line 1194)  
 is he in the water fallen  
 ‘because he complained so much and did not watch out, he fell into the water.’
- b. **weil** ich mich **gedacht habe**, du solltest sie nicht mitnehmen  
 because I myself thought have, you should them not take  
 (Leo le030024.cha, line 1593)  
 ‘because I thought by myself you should not take them.’

Of the 24 sentence-initial *weil* clauses, only 3 (12.5%) clauses exhibit V2, compared to 21 clauses (87.5%) with V-final. Notably, these few *weil* clauses in sentence-first position were produced by only three of the eight children.

In a next step, we investigated the distribution of both word orders across age. Since the first production of *weil* clauses in our data sample occurred at the age of 2;2, the data were analyzed for the age groups 2 to 7. Figure 1 summarizes our findings. Visual inspection shows that between ages 2 and 5, *weil* clauses are predominantly V-final, ranging between 94% at age 4 and 73% at age 5, whereas at age 6 and 7, V-final and V2 are produced at about the same rate, with V-final varying between 52% and 40%.

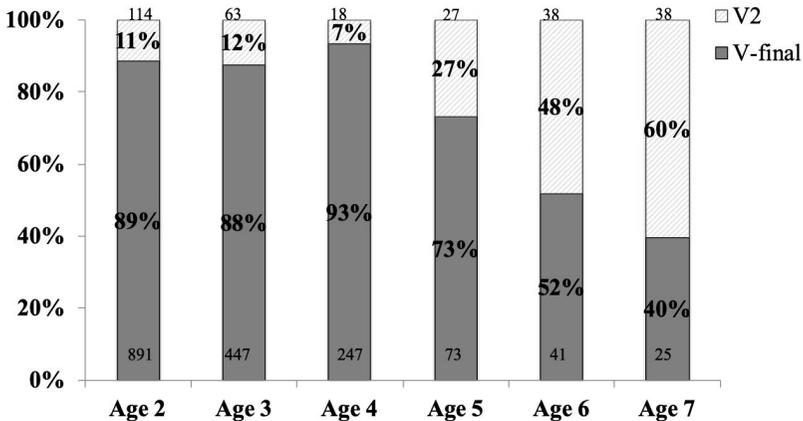
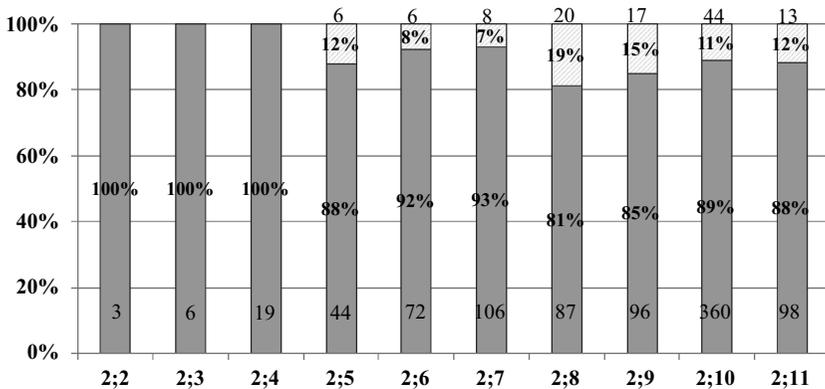


Figure 1. Children’s production of V-final and V2 across age

Given that our data do not follow a normal distribution, we performed a chi-square test to calculate the frequency of V-final and V2 *weil* clauses against chance within each age group. The statistical analyses confirms that the distribution of V-final and V2 differs significantly at age 2, 3, 4, and 5, with V-final *weil* clauses being more frequent than the V2 variants, Age 2:  $\chi(1)=600$ ,  $p=.000$ ; Age 3:  $\chi(1)=289$ ,  $p=.000$ ; Age 4:  $\chi(1)=198$ ,  $p=.000$ ; Age 5:  $\chi(1)=21$ ,

$p=.000$ ). At age 6 and 7, in contrast, the distribution of V-final and V2 does not differ significantly, Age 6:  $\chi(1)=.114$ ,  $p=.736$ ; Age 7:  $\chi(1)=2.68$ ,  $p=.101$ . Notably, the pattern in the 6- and 7-year-olds resembles the pattern reported for adults recently.

In order to examine whether the very first *weil* clauses were produced with V-final or V2, in an additional analysis we zoomed in at the age group 2, calculating the number of *weil* clauses produced by month. The analysis starts at 2;2, the age at which the first production of *weil* clauses was found, and ends at age 2;11. Figure 2 depicts these results.



**Figure 2. Production of V-final and V2 between age 2;0 and 2,11**

The first productions of *weil* clauses exhibit V-final order only. In fact, between the ages of 2;2 and 2;4, V2 *weil* clauses are altogether absent from children's productions. This result suggests that V-final in *weil* clauses is the most frequently produced word order, and it is the first one to appear.

In a final step, we investigated whether the group data is mirrored in children's individual behavior. That is, for each of the eight children we asked whether the word order they initially used in their *weil* clauses is V-final or V2. Table 3 summarizes the results. Note that one child, Gabi, was excluded from this analysis, since all her 8 *weil* clauses were V-final and no V2 *weil* clauses were produced. Notably, 5 out of 7 children produced V-final *weil* clauses earlier than V2 *weil* clauses, with a time lag of between 1 and 6 months, and only two children produced V-final and V2 *weil* clauses at the same time. Hence, the results from the individual analysis allow us to conclude that V2 is not the first verb order that these children use in *weil* clauses; they rather suggest that V-final is—at least for the majority of the children—the first word order in *weil* clauses they produce.

**Table 3. Age of first production of V-final and V2 *weil* clauses in the children's spontaneous speech by child in years; months**

Child	First V-final <i>weil</i> clause at	First V2 <i>weil</i> clause at
Caroline	2;6	2;6
Carsten	3;6	3;6
Cosima	3;1	3;11
Leo	2;2	2;5
Pauline	2;2	2;5
Sebastian	2;9	3;1
Simone	2;4	2;5

#### 4. Discussion

The current study asked whether children use V-final or V2 *weil* clauses more often (Q1) and whether they first produce V-final or V2 *weil* clauses (Q2). Addressing (Q1), the statistical analyses reveal that between the ages of 2 and 5, V-final is the most frequent order for *weil* clauses, whereas at age 6 and 7, V2 and V-final order are used with the same frequency, resembling the pattern found in current adult spontaneous speech. Addressing (Q2), during the initial phase of producing *weil* clauses (2;2-2;4) only V-final clauses are produced. Moreover, no child produced her first *weil* clauses with V2 order: the majority of children produced their first *weil* clauses with V-final order and only later the V2 variant.

Our findings on *weil* clauses are in line with previous studies on verb placement in relative clauses by Sanfelici et al. (2017) and in subordinate clauses in general by Rothweiler (1993): both found a preference for V-final over V2, suggesting that V-final is the initial word order and in fact the default word order for children's subordinate clauses. In contrast, our findings are difficult to reconcile with the studies on relative clauses and complement clauses by Brandt and colleagues (2004, 2008, 2010), who argued that verb-second is the initial word order in children's early subordinate clauses. Possibly, *weil* clauses just behave differently from other types of subordinate clauses. Alternatively, different ways of analyzing the child utterances may have led to different classifications (see Fn. 4). More research is certainly needed here. For the time being, we may conclude that German-speaking children show a strong initial preference for V-final word order in *weil* clauses.

Why do language learners use the default verb order in *weil* clauses, which is V-final, although in adult spontaneous speech V2 and V-final *weil* clauses appear equally often? To put it differently, why is children's sensitivity to the grammatical default V-final remarkably independent of its frequency of occurrence in the ambient language that constitutes the input to the language learner? We suggest that children's sensitivity to the default verb order results from an economy-based learning strategy: in case of variation in the primary linguistic data, here between V2 and V-final, the grammatical default value, V-final, is favored, because its licensing conditions are more general than those of

the other variant, i.e. V2 (see Table 1). Loosely expressed, the V-final word order comes without the cost of evoking and evaluating its specific licensing conditions. A prerequisite for this learning strategy to work is that children can distinguish between the two word orders. Previous acquisition research provides strong evidence that by age 2;0 children are sensitive to the differences between V2 and V-final: in declarative main clauses the finite verb almost exclusively appears in V2, whereas in earlier acquisition stages the nonfinite verb remains in V-final position (see Section 2.2). Let us further assume that during their third year of life children also discover that assertive force is expressed in main clauses, i.e. via V2. Children may take V2 to signal assertive force and hence assume that given the lack of assertive force in subordinate clauses, their word order must be different, i.e., V-final. What children now need to learn are the specific conditions that license the V2 variant. This proposal predicts that in the initial acquisition stage there is no need to consider the frequency patterns observed in the input and that in later acquisition stages, upon discovering the licensing conditions for V2, there will be an increase of V2 *weil* clauses. Why this increase is most sharply visible at the age of 6 and 7 we leave to further research.

Our results from child spontaneous speech analyses also bear on the syntactic analysis of *weil* clauses. If embedded V2 structures were in fact conjoined main clauses, as proposed by Antomo (2012)<sup>5</sup>, it is difficult to explain why children do not opt for the V2 main clause variant that they have already mastered. If, however, embedded *weil* V2 is analyzed as syntactically integrated into the main clause (as has been suggested for relative clauses, Sanfelici et al., 2017), our data can be accounted for. Children regard *weil* V2 clauses as marked and therefore refrain from using them initially and instead opt for the grammatical default word order, V-final, which clearly marks subordination. That is, our data strongly suggests that the V2 licensed in main clauses is different from the embedded V2 in *weil* clauses and that children treat them differently.

Future studies could use repetition tasks to examine children's choice of V-final or V2 in *weil* clauses (see Sanfelici et al., 2017, for relative clauses), because only in this experimental setting can the licensing conditions for *weil* V2 properly be controlled for. Furthermore, future studies could include the whole range of subordinate clauses that allow variation between V-final and V2 in order to evaluate our hypothesis that V-final is the default in all types of subordinate clauses.

## 5. Conclusion

In German subordinate clauses, the verb is usually placed in V-final position, which has been argued to be the default verb order in subordination. However, in specific clause types (e.g., complement, relative, *weil* 'because' clauses), in addition to verb-final, embedded verb second (V2) is licensed if specific conditions are met. Focusing on *weil* clauses, the present study explored

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<sup>5</sup> See Gärtner (2001) for a similar analysis for relative clauses.

children's sensitivity to the default verb order in subordinate clauses that allow variation between V2 and V-final in the target system. The longitudinal analysis of eight German-speaking children's spontaneous speech (CHILDES) revealed that overall children produced more V-final than V2 *weil* clauses. Children started at around 2;2 with the V-final variant of *weil*-clauses and up to age 5 had a strong preference for V-final over V2 *weil* clauses; by age 6 and 7, V2 and V-final were equally frequent, resembling the adult pattern. These results cannot be explained straightforwardly by analyses of embedded V2 structures as conjoined main clauses, but can be accounted for by analyses of embedded V2 as syntactically integrated into the main clause.

We conclude that early on children are sensitive to the default word order V-final in *weil* clauses, which allow variation between V2 and V-final in the target system. Crucially, children's preference for V-final *weil* clauses is independent of the frequency of this word order in the input. It results from an economy-based strategy: in case of variation in the primary linguistic data the default value, i.e., V-final, is favored, because its licensing conditions are more general than the licensing conditions of the other variant, i.e., V2. Our study on *weil* clauses fits well into a recent line of research aiming at understanding how children acquire certain structures or variants so quickly and effortlessly, although the input offers only rare or even contradictory instances (e.g., Yang, 2016).

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