Nordic Journal of Language Teaching and Learning

Acquisition of L3 French: The impact of (non-)correspondence of word order in previously acquired languages

Sunniva Briså Strætkvern
Norwegian University of Science and Technology
sunniva.b.stratkvern@ntnu.no

Kjersti Faldet Listhaug
Norwegian University of Science and Technology
kjersti.listhaug@ntnu.no

Abstract

The current study investigates the acquisition of finite verb placement in L3 French in L1 Norwegian L2 English speakers at university level. We investigate how the (non-)correspondence in surface structure in speakers' previously acquired languages affects the acquisition of verb placement in specific structures in the L3. Previous research has found that learners performed better with non-subject-initial main clauses (where their L2 English had a corresponding structure) than with subject-initial main clauses with adverbs (where their L1 Norwegian displayed corresponding surface structure) (Listhaug et al., 2021). In the current study, we investigate these same structures in addition to relative clauses with adverbs, where neither Norwegian nor English surface structure corresponds to French. We expected learners to perform worse on this structure due to two factors: 1) non-correspondence in surface structure in both previously acquired languages, and 2) costliness of verb movement. Participants completed an acceptability judgment task in English and French. Our results show that learners performed better with non-subject-initial main clauses than with the other two structures, where they accepted target and non-target word orders to the same degree. No preference for non-movement of the verb in relative clauses emerged. Our results indicate that English acts as the main transfer source in this particular language combination. We propose that this is likely due to the linguistic similarity between English and French, rather than L2 Status. Another explanation is a potential interaction with cognitive economy in terms of verb movement, along the lines of Busterud et al. (2023).

Keywords: *L3 acquisition, verb placement, adverbs, acceptability judgment tasks, cognitive economy*

1 Introduction

The acquisition of word order is known to pose a challenge for learners of a second (L2) or third language (L3). In the present study, we investigate the acquisition of finite verb placement in L1 Norwegian L2 English learners of L3 French. In generative accounts, properties of verb movement vary systematically between these three languages, English, French, and Norwegian, leading to differences in surface word order. We targeted three

 Nordic Journal of Language Teaching and Learning, Vol. 12, No. 1, 2024. ISSN: 2703-8629. https://doi.10.46364/njltl.v12i1.1203

structure types displaying word order differences, and ask how (non-) correspondence in surface structure in speakers' previously acquired languages impacts the acquisition of said structure in the L3. Previous research has found that L3 French learners at high school level were able to distinguish between target and non-target word order in non-subject-initial clauses, where French surface word order corresponds to English, while they were insecure about verb placement in subject-initial main clauses with adverbs, where Norwegian and French display the same surface word order. Busterud et al. (2023), who compared data from L3 French and L3 German, propose that cognitive economy is a decisive factor, i.e., that learners will favor the option that involves less verb movement. In the current study, we investigate the same structures as Listhaug et al. (2021), namely non-subject-initial main clauses without sentence-medial adverbs (Non-SU-I) and subject-initial main clauses with a sentence-medial adverb (SU-I-MC) in L3 French learners at university level. Additionally, we further investigate the hypothesis that economy plays a role in transfer[1] by looking at verb placement relative to adverbs in subject-initial relative clauses (SU-I-RC), where neither Norwegian nor English verbs move, but French verbs do, meaning neither Norwegian nor English has similar surface word order to French. As such, two factors suggest that this structure should be difficult for learners to master: 1) non-correspondence with the L3 surface structure in both the L1 and the L2, and 2) costliness in terms of verb movement. In order to tap into learners' knowledge of the different structures, we employed Acceptability Judgment Tasks (AJTs), which are experimental tests where participants evaluate the acceptability of different sentences. AJTs have been employed in several L3 studies (e.g., Dahl et al., 2022; Listhaug et al., 2021; Stadt et al., 2016) as they allow investigation of speakers' ability to discriminate between well-formed and non-well-formed sentences in the target language, and they allow researchers to study structures which would otherwise be difficult to elicit. Even though AJTs cannot be assumed to provide a complete picture of speakers' grammatical competence (see e.g., Sorace, 1996), they provide insight into the status of specific structures, which in turn allows for inferences about learners' developing grammar, as well as about potential transfer from the speakers' background languages. Participants in the current study were tested in both L3 French and L2 English, and their judgments were compared to those of native French and English speaker controls.

The paper is structured as follows: Section 2 outlines the differences in verb placement in the three languages. Section 3 introduces models of transfer in L3 acquisition, while Section 4 details previous research on verb placement in L2 and L3. In Section 5, we introduce the current study. Results are presented in Section 6 and discussed in Section 7, before we draw conclusions in Section 8.

2 Verb placement in Norwegian, English, and French

According to generative analyses, Norwegian, English, and French vary systematically with respect to movement of lexical verbs, i.e., how far left in the CP-TP-VP structure the verb moves. In English, lexical verbs do not move, but rather remain *in situ* in VP in both main and embedded clauses. French verbs, on the other hand, undergo short verb movement to T in both main and embedded clauses (Pollock, 1989). In main clauses, Norwegian has long verb movement to C, resulting in V2 word order. It is standard to assume a symmetric analysis of V2, i.e., that the verb

[1] In this paper, we do not distinguish between the terms 'transfer' and 'crosslinguistic influence' (CLI), and we use them interchangeably to refer to systematic influence of a previously acquired language (see e.g., Westergaard, 2021).

moves to C in all main clauses.[2] In embedded clauses in Norwegian, the verb is generally assumed not to move out of the VP (Holmberg & Platzack, 1995; Lohndal et al., 2020). As a result, the default word order in embedded clauses is one where the finite verb appears after a sentence-medial adverb. Embedded complement clauses display some optionality in verb placement, such that the verb may move across an adverb in certain contexts (Bentzen, 2005; Lohndal et al., 2020). This optionality does not apply to relative clauses, where the finite verb never moves and thus appears in the third position, i.e., after the adverb (Franco, 2010; Faarlund et al., 1997). There seems to be a general consensus that adverb ordering is consistent across languages (Ernst, 2014, p. 108). For all three languages in the present study, it has been proposed that sentence-medial adverbs like *ofte/often/souvent* and *alltid/always/toujours* are adjoined to the maximal projection of VP; for Norwegian, see Bobaljik and Thráinsson (1998, p. 62), for English, see Ernst (2014, p. 120), and for French see Pollock (1989, p. 384). Following these analyses, we assume the same place of adjunction for sentence-medial adverbs in all three languages, and we also assume that adverbs do not move (Ernst, 2001). The resulting differences in word order in the three languages are shown in Table 1.

Table 1: Word order in Norwegian, English, and French

Structure	Language	Pattern	Example
Non-subject initial main clauses (Non-SU-I) (No ≠ Eng/Fr)	Norwegian	XVSO	*På mandager tar Per bussen til skolen.* On Mondays takes Per bus-DEF to school-DEF.
	English	XSVO	*On Mondays, Peter takes the bus to school.*
	French	XSVO	*Le lundi, Pierre prend le bus pour aller à l'école.* The Monday, Pierre takes the bus for go-INF to the school.
Main clauses with adverb (SU-I-MC) (Eng ≠ No/Fr)	Norwegian	SVAO	*Per tar ofte bussen.* Per takes often bus-DEF.
	English	SAVO	*Peter often takes the bus.*
	French	SVAO	*Pierre prend souvent le bus.* Pierre takes often the bus.
Relative clauses with adverb (SU-I-RC) (Fr ≠ No/Eng)	Norwegian	SAVO	*Gutten som ofte tar bussen.* Boy-DEF who often takes bus-DEF.
	English	SAVO	*The boy who often takes the bus.*
	French	SVAO	*Le garçon qui prend souvent le bus.* The boy who takes often the bus.

These differences in verb movement lead to a pattern where, in subject-initial main clauses with an adverb, French and Norwegian display similar surface word order with the verb in the second position, while in English, the finite verb appears in the third position (FR=NO≠ENG). In non-subject initial main clauses without adverbs, English and French pattern together with the verb in the third position, while it is in the second position in Norwegian (FR=ENG≠NO). Finally, in relative clauses with an adverb, Norwegian and English display similar surface word order with the finite verb in the third position, whereas it appears in the second position in French (NO=ENG≠FR).

3 Models of transfer in L3

In L3 research, two of the central questions are whether one of the learners' prior languages, the L1 or the L2, is

[2] Alternatively, according to an asymmetric analysis, verbs move to C in non-subject initial main clauses, but only to T in subject initial main clauses (Westergaard et al., 2019). For the purposes of this introduction, we present the standard symmetric analysis, but we briefly discuss the asymmetric analysis in the discussion.

preferred over the other as transfer source, and whether transfer occurs wholesale or property-by- property. Some studies have found transfer to come mainly from the L1 (Hermas, 2010; Jin, 2009), whereas others have argued for a privileged role of the L2 due to the cognitive similarities between languages learned in a formal setting (the *L2 Status Factor*, L2SF) (Bardel & Falk, 2007, 2012). Other models disregard the order and mode of acquisition: the *Typological Primacy Model* (TPM) (Rothman, 2011, 2015) argues for full transfer of one of the previously acquired languages in the very beginning of L3 learning, where the language which is typologically more similar to the L3 serves as the transfer source. In contrast, the *Linguistic Proximity Model* (LPM) (Westergaard et al., 2017) and the *Scalpel Model* (SM) (Slabakova, 2017) argue that both the L1 and the L2 can be sources for transfer into the L3. The LPM assumes that both the L1 and the L2 grammar remain available for parsing incoming L3 input property-by-property, and that the L3 grammar is built incrementally from this parsing. In the LPM, cross-linguistic influence can be both facilitative and non-facilitative. Furthermore, the LPM builds on Westergaard's Micro-Cue Model (Westergaard, 2009, 2014), which maintains that learners can make more fine-grained syntactic distinctions early in the acquisition process, so that smaller grammatical rules may transfer separately, i.e., property- by-property. In the same vein, the SM maintains that transfer happens property-by-property from either the L1 or the L2. However, the model takes into account that transfer is not only determined by structural similarity, but also by other cognitive and experiential factors such as structural complexity and the nature of the evidence provided by input – which can vary in terms of frequency or how unambiguous it is, or it can be misleading or lacking for particular structures (Slabakova, 2017).

In the current study, our aim is not to test these models; rather we consider our findings in light of them. We investigate transfer patterns in more experienced L3 learners across a set of structure types where the same phenomenon – verb movement – leads to systematic pairings of surface word order across the three languages involved. Participants in the study are successive language learners with high L2 proficiency, studying L3 French at university level. They have learned the L3 in an instructed setting, whereas the L2 has been learned both in an instructed setting and naturalistically through abundant extramural input from an early age (Language Council, 2017, 2021).

4 Previous research on the acquisition of verb movement in L3

One of the properties that have been extensively researched in additional language acquisition, is the acquisition of verb placement. In L2 acquisition, learners, at least in the beginning, have been found to struggle when verb placement in the L2 differs from that of the L1, and this is holds for different instantiations of verb placement in source and target language. Learning target verb placement in an L2 that does not have verb movement (e.g., English) has been found difficult for speakers of an L1 with verb movement, whether the L1 displays short movement such as French (Hawkins et al., 1993; White, 1990/91) or long movement such as Norwegian (Westergaard, 2002). If the L2 displays verb movement, the learning task depends on the length of verb movement relative to the L1 system. For learners whose L1 does not have verb movement (e.g., English), acquisition of verb placement in an L2 with short verb movement (e.g., French) has been found difficult (Ayoun, 1999). Similarly, learners whose L1 displays long movement (e.g., Dutch) have been found to struggle to acquire target verb placement in an L2 with short verb movement (e.g., French) (Hulk, 1991). It is clear that the learning task in L2

acquisition depends on the specific instantiation of verb placement in the L1 and in the L2.

In L3 acquisition, the situation becomes more complex; the learner has experience with two previous systems which may or may not differ from each other, and from the L3. In a series of studies investigating the acquisition of verb placement in L3 French by L1 Dutch L2 English adolescents, considerable transfer from the L1 was found in the beginning of the learning process (Stadt et al., 2020a), however, this initial tendency to rely on L1 word order was found to decrease, whereas influence from L2 English remained stable over time (Stadt et al., 2018a). Furthermore, there was an effect of proficiency and exposure to the L2, as students with more L2 English exposure, either through immersion education or more years of L2 instruction, were found to rely more on L2 word order than students in regular education or with fewer years of L2 instruction (Stadt et al., 2016, 2018b). Finally, comparing this population to a similar group of L1 Dutch-L2 English L3 German learners, Stadt et al. (2020b) found more evidence of transfer from L2 English in the L3 French learners compared to the L3 German learners, indicating that the role of L2 English is not the same in the two L3 learning processes. The authors argue that this difference is due to the typological and structural similarity between L1 Dutch and L3 German.

Investigating the acquisition of verb placement in L1 Norwegian-L2 English learners of L3 French and German, respectively, Listhaug et al. (2021) and Dahl et al. (2022) found that beginner learners of both L3s were unsure about verb placement both in subject-initial sentences with an adverb and non-subject-initial sentences. With more years of L3 instruction, however, the L3 German learners' judgments of subject- initial sentences became more target-like, whereas judgments for non-subject-initial sentences remained variable (Dahl et al., 2022). The inverse pattern was found for the L3 French learners, whose judgments for non-subject-initial sentences became more target-like and judgments for subject-initial-sentences remained variable. University level students of L3 French, however, clearly discriminated between target and non- target word orders for both sentence types (Listhaug et al., 2021). Interestingly, and contrary to Stadt et al.'s findings, better performance in the L3 correlated with better performance in the L2, in both L3 French (Listhaug et al., 2021) and L3 German (Dahl et al., 2022). Comparing the performance of the L3 French and L3 German learners in these studies, Busterud et al. (2023) argue that the results can be explained by the specific instantiations of verb movement in the languages involved (L1, L2, and L3). Following the assumption that verb movement is a costly process (Chomsky, 1995), they maintain that, like in L1 acquisition, economy may be a factor also in L2 and L3 acquisition, in addition to factors such as typology. Specifically, they maintain that a preference for non-movement over movement and short movement over long movement may explain why the L3 French learners first become more target-like in judgments of non- subject initial sentences, where correct surface word order is compatible both with no verb movement (*in situ* in V, like in English) and short verb movement (to T, the target movement for French), whereas this is the more difficult structure for L3 German learners, since target surface word order is only compatible with long movement (to C).

5 The present study

The present study investigated transfer patterns in verb placement in L1 Norwegian L2 English learners of L3 French at university level. We looked at preferences for verb placement in three different structures: a) non-subject-initial main clauses (Non-SU-I), b) subject-initial main clauses with a short sentence-medial adverb (SU-I-MC),

and c) relative clauses with a short sentence-medial adverb (SU-I-RC). We investigate where transfer comes from in L3 acquisition; the L1 or the L2, and what determines this in terms of how verb movement is instantiated in the three languages. We ask the following research questions (RQs):

1) Which facilitates the acquisition of a specific structure in the L3 the most: a similar surface structure in the L1, or in the L2?

2) Is a structure harder to acquire in the L3 if neither the L1 nor the L2 has the same surface structure as the L3?

We hypothesize that transfer patterns from previous studies will be replicated in the current study. Specifically, we expect that participants will discriminate between target and non-target word orders for the structures investigated, and we expect them to be better at discriminating between target and non-target word orders in Non-SU-I than in SU-I-MC (Listhaug et al., 2021; Stadt et al., 2016). Furthermore, we hypothesize that SU-I-RC should constitute the most difficult structure for our learners, given that French has verb movement to T in these structures, whereas the verb stays in V in both English and Norwegian. Thus, neither the L2 nor the L1 are possible sources for facilitative transfer. Additionally, if we assume that economy plays a role, this should reinforce a tendency towards non-movement of the verb.

5.1 Participants

The participants (n = 30, age 18-26, mean age 21) in this study were native speakers of Norwegian with L2 English learning French as their L3. They were all enrolled in the French study program at a major university in Norway; 22 in their first, two in their second, five in their third and one in their fourth semester. Participants' proficiency level in L3 French and L2 English was measured by a self-reported proficiency on a scale from 1 to 6 loosely corresponding to the CEFR levels (Council of Europe, 2001), and the LexTALE vocabulary test (Lemhöfer & Broersma, 2012) in both French and English. Participants' score on the LexTALE test indicates their accuracy, where 1 is the maximum and 0 the minimum score. Table 2 shows and mean scores, standard deviations and range on the LexTALE and self-ratings for L3 and L2. Participants in their third and fourth semester of French scored within the range of the other students on both L3 measures. There was a significant correlation between LexTALE scores in L2 and L3 (r = .70, p <.01), but not for self-rating, probably due to a ceiling effect in L2 self-ratings.

Table 2 Mean scores, standard deviation, and range on LexTALE and self-rating in L3 French and L2 English.

LexTALE								**Self-Rating**							
L3 French				L2 English				L3 French				L2 English			
Mean	SD	min	max	mean	SD	min	max	mean	SD	min	max	mean	SD	min	max
0.53	0.07	0.42	0.68	0.81	0.11	0.53	0.98	3.2	0.59	2	4	5.3	0.81	3	6

In addition, two control groups of L1 English (n = 21, age 23-72, mean age 36) and L1 French (n = 31, age 20-45, mean age 24,5) speakers participated in the study. All L1 controls were tested in Norway. Participants reporting having more than one L1 were excluded from the study. In the L1 French group, all but one participant reported knowing English, generally rating their proficiency as either advanced or intermediate. More than half also reported having either intermediate or advanced proficiency in Norwegian. In the L1 English group, all but six participants reported knowing Norwegian at either advanced or intermediate proficiency.

5.2 Materials and procedure

Three different structures were tested in the experiment: 1) non-subject-initial main clauses with a fronted adverbial (Non-SU-I), and 2) subject-initial main (SU-I-MC) and 3) relative (SU-I-RC) clauses containing a sentence-medial adverb (*souvent/often* or *toujours/always*). Experimental items were manipulated to contain the verb in either second (Verb-2) or third position (Verb-3). Items were matched for length and complexity; all item types were comprised of two clauses (coordinated for Non-SU-I and SU-I-MC[3], subordinated for SU-I-RC), the structural manipulation always occurring in the second clause. In the Non- SU-I items, the second clause was introduced by a fronted adverbial (a DP or a PP) such as *yesterday/hier* or *on Mondays/le lundi*, followed by either Verb-Subject (Verb-2) or Subject-Verb (Verb-3). In order to avoid possible simple inversion with pronouns in French (e.g., *Le samedi fait-elle des sushis*), the first clause in these items was introduced by a cataphoric pronoun, while a co-referential proper noun was used in the clause with the structural manipulation. The SU-I-MC and SU-I-RC items were structurally manipulated to contain either Verb-Adverb (Verb-2) or Adverb-Verb (Verb-3). Items varied only by content words and in some cases function words that did not affect the structural manipulation. As fronted elements require a comma in French and English, but not in Norwegian, all commas were omitted to ensure that punctuation did not influence judgments. Participants were instructed not to take punctuation into account.

Items were distributed across four separate lists to which participants were randomly assigned in even distribution. Each list consisted of 30 target items: 10 of each sentence type, with equal distribution of each word order (Verb-2/Verb-3). In addition, there were 36 fillers, half of which were ungrammatical. Fillers were identical in all four lists. Each list was pseudorandomized so that items of the same type did not immediately follow each other. Items were presented in sets of six per page, and participants could move back and forth between pages. Examples of experimental items are shown in Table 3.

[3] An anonymous reviewer pointed out that the coordinating conjunction *tandis que* ('while'), which was used in some of our coordinated items (see Table 3), translates into *mens* in Norwegian, with which V2 word order is somewhat marked. We cannot dismiss the possibility of an effect of this in our data. However, our items also contained other coordinating conjunctions.

Table 3: Example items in English and French

		Verb Position	
		Verb-2	**Verb-3**
Sentence Type	**Non-SU-I**	He wants to save money for college but yesterday **bought Evan** a new Playstation and some games.	He wants to save money for college but yesterday **Evan bought** a new Playstation and some games.
		Elle aime faire des lasagnes mais le samedi **fait Hélène** des sushis et des boulettes.	Elle aime faire des lasagnes mais le samedi **Hélène fait** des sushis et des boulettes.
	SU-I-MC	Harry tried to hide the mail but his uncle **burned always** the letters from Hogwarts.	Harry tried to hide the mail but his uncle **always burned** the letters from Hogwarts.
		George aime faire les crêpes suzette tandis que sa femme **fait souvent** des crêpes au Nutella.	George aime faire les crêpes suzette tandis que sa femme **souvent fait** des crêpes au Nutella.
	SU-I-RC	Harry was planning to outsmart his uncle who **burned always** the letters from Hogwarts.	Harry was planning to outsmart his uncle who **always burned** the letters from Hogwarts.
		George a acheté de la farine pour sa femme qui **fait souvent** des crêpes au Nutella.	George a acheté de la farine pour sa femme qui **souvent fait** des crêpes au Nutella.

Participants first completed the French AJT, then the English version approximately a week later. The experiment was conducted on campus using Nettskjema[4]. All participant groups were given written instructions in their native language. Items were judged on a scale from 1 ("bad") to 6 ("good"). Before the experiment began, there was a short practice phase. Practice items were not included in the analysis. The study was registered with Sikt.

6 Results

To establish whether our participants have acquired the structures in the L2, we first present the results from the English AJT, and compare the L2 judgments to those of the L1 English control group. Then, we present the results from the French AJT, focusing on L3 judgments for the three different sentence types in comparison to L1 French judgments. Table 4 shows mean scores and standard deviations for each item type across all participant groups, 1 being the lowest and 6 the highest acceptability.

[4] URL: *https://nettskjema.no/*

Table 4 Mean scores and standard deviation per sentence type per participant group.

	SU-I-MC				**SU-I-RC**				**Non-SU-I**			
	Verb-2		Verb-3		Verb-2		Verb-3		Verb-2		Verb-3	
Group	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD	mean	SD
L3 French	4.68	1.26	4.34	1.51	4.61	1.36	4.20	1.47	3.35	1.58	4.79	1.32
L1 French	5.52	0.97	3.88	1.29	5.41	1.07	4.19	1.25	2.96	1.41	5.48	0.81
L2 English	2.65	1.47	4.95	1.12	2.51	1.30	4.90	1.22	2.30	1.32	5.04	1.14
L1 English	2.83	1.70	5.44	1.06	2.90	1.65	5.09	1.20	2.19	1.33	5.32	1.09

Statistical analyses were performed on standardized data (*z*-scores) and conducted in Tibco Statistica. Tests are significant at the .05 level.

6.1 L2 English

Results from the English AJT were analyzed using a 3 (sentence type: SU-I-MC, SU-I-RC, Non-SU-I) x 2 (verb placement: Verb-2, Verb-3) repeated measures ANOVA with participant group as the grouping variable. The analysis yielded a main effect of group ($F(1,49)=17.29$, $p < .001$, $\eta_p^2 = .26$), where L1 speaker judgments were generally higher than L2 speaker judgments across all conditions (see mean scores in Table 4). There were no other interactions with group, indicating that L2 speaker judgments did not differ from L1 speaker judgments on the sentence types and word orders tested. The analysis yielded a main effect of sentence type ($F(2,98)= 4.30$, $p < .05$, $\eta_p^2 = .08$), and of verb placement ($F(1,49)= 578.21$, $p < .001$, $\eta_p^2 = .92$). There was an interaction effect of sentence type and verb placement ($F(2,98)= 9.31$, $p < .001$, $\eta_p^2 = .16$). Tukey HSD post hocs revealed that, unsurprisingly, judgments for Verb-3 were significantly higher than for Verb-2. However, on Verb-2, judgments were significantly lower for Non-SU-I compared to SU- I-MC and SU-I-RC, whereas there were no differences in judgments for the three sentence types on Verb- 3.

Overall, the results from the English AJT indicate that our participants have acquired verb placement in all three sentence types in L2 English, and it is therefore reasonable to believe that they do not move lexical verbs in English.

6.2 L3 French

In order to assess L3 French learners' judgments of verb placement, a 3 (sentence type: SU-I-MC, SU-I- RC, Non-SU-I) x 2 (verb placement: Verb-2, Verb-3) repeated measures ANOVA with participant group (L3, L1) as the grouping variable was performed. The analysis yielded a main effect of participant group ($F(1,59)= 6.59$, $p = .01$, $\eta_p^2 = .01$), where L1 judgments were overall higher than L3 judgments, and a main effect of sentence type ($F(2,118)= 22.38$, $p < .001$, $\eta_p^2 = .27$). Furthermore, there was an interaction effect of verb placement and group ($F(1,59)=7.77$, $p < .01$, $\eta_p^2 = .12$), and – unsurprisingly – an interaction effect of sentence type and verb placement ($F(2,118)=223.98$, $p < .001$, $\eta_p^2 = .79$), where Verb-2 got higher ratings than Verb-3 in SU-I-MC and SU-I-RC, and Verb-3 higher ratings than Verb-2 in Non-SU-I. Importantly, this effect was modulated by group ($F(2,118)=27.89$. $p < .001$, $\eta_p^2 = .32$), see Figure 1.

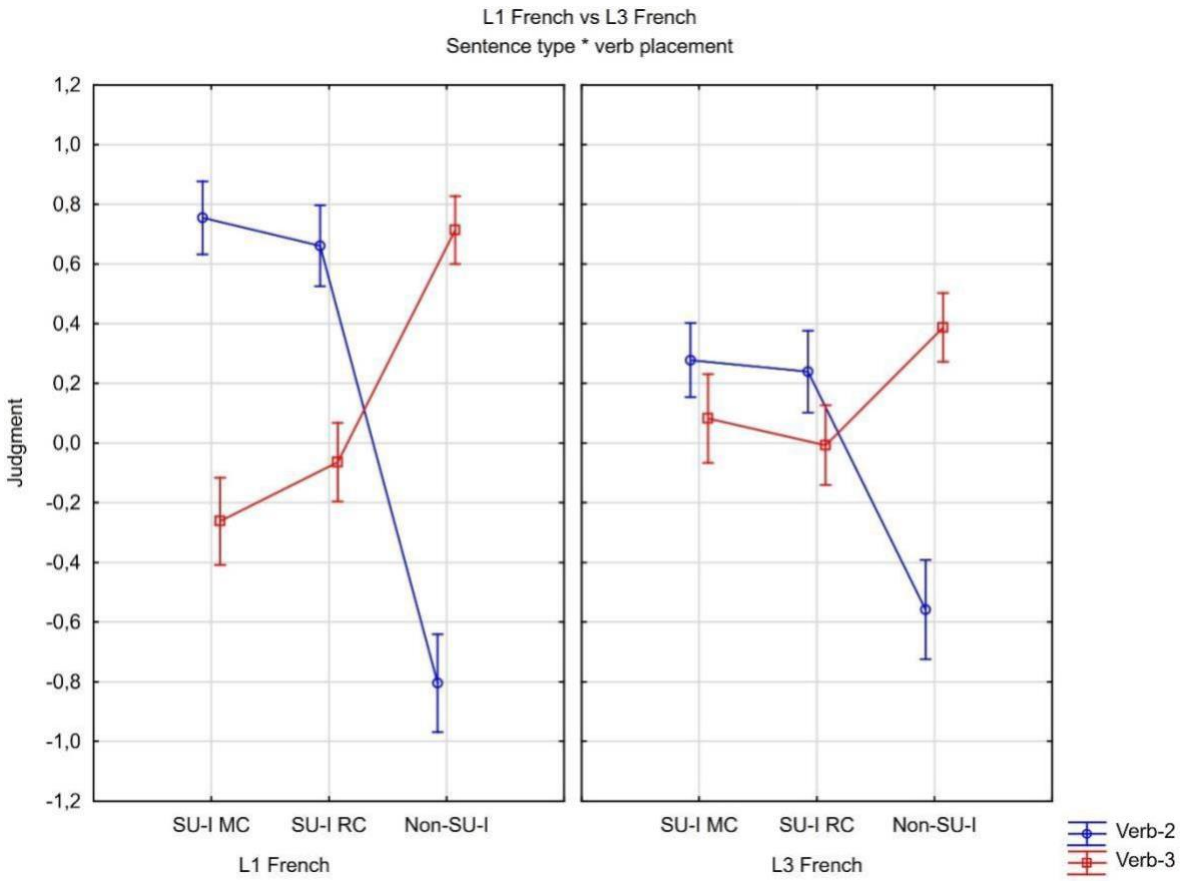

Figure 1 Three-way interaction of sentence type, verb placement, and participant group. Bars denote 95% confidence intervals.

To break down the interaction between sentence type, verb placement and group, Tukey HSD post-hocs were conducted. They revealed that L3 judgments were significantly lower than L1 judgments across all the target word orders, both when this order was Verb-2 (SU-I-MC, p <.0001, and SU-I-RC, p <.001) and when it was Verb-3 (Non-SU-I, p =.03).[5] For the non-target word orders, L3 judgments differed from L1 judgments only on SU-I-MC, where their judgments were significantly higher than those of the L1 speakers (p =.02). For SU-I-RC and Non-SU-I), L3 judgments did not differ significantly from L1 judgments. Finally, while L1 judgments differed significantly on target vs non-target word orders for all sentence types (SU-I-MC: p <.001, SU-I-RC: p <.001, Non-SU-I: p <.001), this was only the case with Non-SU-I in L3(p <.001). For SU-I-MC and SU-I-RC, L3 judgments did not differ significantly on target and non-target word orders. The results indicate that the L3 speakers in this study preferred Verb-3 over Verb-2 in Non-SU-I, whereas they did not display clear preferences for one word order over the other with SU-I-MC and SU-I- RC. Interestingly, L3 judgments differ from L1 judgments on target word order for all sentence types, but only for SU-I-MC on non-target word order.[6]

7 Discussion

This study investigated the acquisition of verb placement in L1 Norwegian L2 English learners of L3 French at university level in three sentence types: non-subject-initial main clauses without adverbs (Non-SU-I), subject-

[5] All means and SDs can be found in Table 4.

[6] We did not find correlations between proficiency measures in L2/L3 and performance on the sentence types. For L2, this is most likely due to ceiling effects in L2 proficiency measures (particularly in self-rating).

initial clauses with adverbs (SU-I-MC), and subject-initial relative clauses with adverbs (SU-I-RC). The results showed that learners were able to discriminate between target and non-target word orders for Non-SU-I, but were unable to do so for SU-I-MC. As such, participants in the current study performed similarly to high school students in Listhaug et al. (2021), but their performance was below that of university students. A likely explanation for this is a difference in testing time: While university students in Listhaug et al. (2021) were tested in their second semester of studying French, the majority of participants in our study were tested in their first semester, thus having had less exposure to French input. For SU-I- RC, learners did not discriminate between target and non-target word order.

Our first RQ asked which facilitates L3 acquisition the most: a corresponding surface structure in the L1 or in the L2. In our data, L3 performance was consistently better on Non-SU-I, where surface structure is the same in French and English, compared to performance on SU-I-MC, where surface structure is the same in French and Norwegian. Thus, our results seem to imply that a structure with a corresponding surface word order in L2 is more easily acquired than one where L1 has a corresponding surface word order. There are several possible explanations for this, to which we return below.

Our second RQ asked whether the absence of a corresponding structure in speakers' previously acquired languages would hamper its acquisition. We had expected learners to prefer non-target word order with SU-I-RC more than with the other two structures for two reasons: 1) neither Norwegian nor English could provide facilitative transfer, and 2) as neither Norwegian nor English have verb movement in this structure, learners did not have evidence from any of their previously acquired languages that verbs move in relative clauses. However, our data revealed that learners did not uniformly prefer Verb-3 with SU-I-RC, nor that they had a higher preference for Verb-3 with SU-I-RC compared to SU-I-MC (where they had evidence for verb movement from their L1). Thus, our predictions for this sentence type were not borne out.

Our findings suggest that main transfer in L3 French comes from L2 English in this population, as learners performed better on Non-SU-I. Additionally, their performance on SU-I-MC, where their L1 Norwegian would have provided facilitation, was no better than their performance on SU-I-RC, where neither prior language could facilitate acquisition of the structure. As we see it, these findings can potentially be accounted for in three different ways: 1) the L2SF (Bardel & Falk, 2007, 2012), 2) structural/linguistic similarity between English and French, or 3) cognitive economy with respect to verb movement. Due to the status of English in Norway and the high L2 proficiency of our participants, we do not consider the L2SF a likely explanation for our results. The L2SF applies primarily when the L2 has been learned in a formal setting. If the L2 has been acquired in a more naturalistic setting or learners' proficiency is so high the L2 is automated, cognitive similarities between the L2 and L3 diminish, and the L2 loses its prominence as a transfer source (Bardel & Falk, 2012).

Rather, we see the perceived linguistic similarity between English and French causing learners to transfer from English rather than from Norwegian as a more likely explanation. This scenario could manifest in either wholesale or property-by-property transfer, but it is not possible to distinguish between these in our data. Full transfer from English at the initial stages as predicted by the TPM (Rothman, 2011, 2015) would result in target-like performance on Non-SU-I, and non-target-like performance on the other two structures. As participants in our study were beyond the initial stages, they could be restructuring their L3 grammar according to target-language input, which may

explain their acceptance of both verb positions in SU-I-MC and SU-I-RC. However, their performance on the structures is also compatible with accounts that propose property-by-property transfer such as the LPM (Westergaard et al., 2017). It is possible that the lack of discrimination between target and non-target word order on SU-I-MC and SU-I-RC stems from a dual availability of both previously acquired languages, thereby resulting in indeterminacy (Westergaard, 2021). Our findings for Non-SU-I and SU-I-MC can in principle be accounted for by an interaction with cognitive economy, where learners prefer the less costly options for verb movement (Busterud et al., 2023). For Non- SU-I, where participants are the most target-like, both non-movement and short movement to T would lead to the target surface structure. Thus, the least costly option in terms of verb movement (non-movement) leads to target word order.[7] In SU-I-MC and SU-I-RC, where participants are the least target-like, non-movement leads to non-target surface structure. However, our results for SU-I-RC do not directly support cognitive economy: we hypothesized that we would find a preference for non-movement, as participants had no evidence for movement in this structure in either of their previously acquired languages in addition to non-movement being the least costly option for finite verb placement. This prediction was not borne out; instead, learners accepted Verb-2 and Verb-3 in these structures to the same degree. Of course, for this structure, it would be difficult to decide whether a preference for non-movement would be the result of transfer of non-movement from L1/L2 or of cognitive economy. It is only in comparison to the other structures a hypothesis about the importance of cognitive economy can be entertained. For instance, the majority of our participants were tested early in their first semester of university level French studies. In Listhaug et al. (2021), university level students who were tested in their second semester clearly distinguished between target and non-target word orders for SU-I-MC but faired even better with Non-SU- I. It is possible that with more input, judgments for SU-I-MC would develop towards being more target- like before those for SU-I-RC. We were unable to test this, as it would have required larger groups of more advanced learners.

An alternative explanation for our findings is that learners uniformly struggle more with verb placement relative to adverbs as compared to verb placement relative to the subject. Such an account would be compatible with an asymmetric analysis of V2 (e.g., Travis, 1991) which postulates that the verb moves to T in subject-initial declaratives, whereas it moves to C in non-subject-initial declaratives. Westergaard et al. (2019) view V2 as a set of separate rules rather than one principal grammatical rule, as it seems to transfer differently in subject-initial and non-subject-initial clauses. Westergaard (2003) found that L1 Norwegian learners of L2 English were significantly more accurate in producing the target verb placement in non-subject-initial declaratives than in subject-initial declaratives with adverbs. The Micro-Cue Model handles such variation by postulating that the cues for subject-initial and non-subject-initial declaratives are different, and the latter may be more salient in the input (Westergaard et al., 2019, p. 721). However, findings by Dahl et al. (2022), who investigated verb placement in the same structures in L3 German, suggest it is not overall more difficult for learners to master verb placement in subject-initial sentences compared to non-subject-initial sentences, as their participants were more target-like on the former. Rather, the interaction of syntactic properties for each structure in the previously acquired languages and the target

[7] As one anonymous reviewer pointed out, in Non-SU-I sentences containing a sentence-medial adverbial the different verb placement in French and English appears. By including such structures, we could potentially have established whether learners opt for non-movement or short movement to T in Non-SU-I.

language likely contribute to the outcome.

A question that arises is whether non-target verb/adverb word order in L3 is caused by wrong placement of the verb, or wrong placement of the adverb. If transfer means that the speaker employs knowledge from one of their languages in another, we may infer that it is impossible to *transfer* non-target adverb placement if adverb placement is uniform across the three languages. If we, like Ernst (2001), assume that adverbs do not move, it logically follows that a non-target verb/adverb order in the L3 results from (non-target) verb movement. This conclusion hinges on the assumption that these adverbs *are* in fact adjoined in the same place in all three languages. We maintain that, as the present study investigated the relative order of verb/adverb, and included only two frequency adverbs (*always*/*often)*, it is likely verb placement and not adverb placement underlie judgments.

A surprising finding in our data is that the L1 French control group did not reject non-target structures to the extent expected. This is similar to observations in Ayoun (2005), where L1 controls accepted non-target word order to a higher degree than L2 learners. Such observations call for caution in describing lack of rejection of non-target structures as non-nativelike behavior. Our L3 French group's judgments only differed from those of the L1 speakers on non-target word order with one of the three sentence types, namely SU-I-MC. However, our L1 French controls lived in Norway, meaning that their L1 grammar may be influenced by other languages, including English. Alternatively, the relatively high acceptance of non- target word order by L1 controls may stem from item design: as items consisted of two clauses where only the last one contained non-target word order, the saliency of the structural manipulation may have been low. This is not uniform across sentence types, however, as L1 speakers rejected non-target word order with Non-SU-I.

8 Conclusion

The findings in the present study imply that for L1 Norwegian L2 English learners of L3 French, a corresponding surface structure in the L2 facilitates acquisition in L3 the most. Our results do not offer conclusive evidence that a structure that lacks correspondence in previously acquired languages is more difficult for learners to acquire in the L3, as our learners perform similarly on subject-initial main and relative clauses with adverbs. We argue that our findings are not best explained by the L2 status of English per se. Instead, we propose that surface structural similarity between L2 and L3 is a more likely explanation. We speculate that structural similarity interacts with economy of movement, i.e., that learners prefer the least costly option in terms of verb movement. However, the fact that learners did not exhibit a preference for non-movement in relative clauses does not directly lend support to a hypothesis of economy, particularly, as we were unable to systematically test the structure in participants with different levels of proficiency. Moreover, it is possible that a preference for non-movement could emerge using different test methods allowing less access to metalinguistic knowledge, seeing as methodology has often been found to impact the outcome of studies, especially with respect to on-line vs. off-line measures, and comprehension vs. production tasks (Puig-Mayenco et al., 2020).

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