Acquisition of L3 English Past Perfect, Present Progressive, and Present Perfect Tenses by L1 Kirundi-L2 French Bilinguals

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Abstract

This study employed the Linguistic Proximity Model (LPM) to investigate the effect of cross-linguistic influence (CLI), target language proficiency as well as their interaction in the acquisition of L3 English past perfect, present progressive, and present perfect tenses by L1 Kirundi-L2 French bilinguals. In that perspective, 90 learners including 30 L1 Kirundi-L2 English bilinguals, 30 L1 French-L2 English bilinguals, and 30 L1 Kirundi-L2 French-L3 English trilinguals completed an Oxford Quick Placement Test, a Background Information Questionnaire, and a Grammaticality Judgment Task. Data were analyzed using descriptive statistics, multivariate analysis of variance, post hoc comparisons, and independent sample tests. Results revealed that neither Kirundi nor French exerted an exclusive influence in the L3 past perfect and present progressive tenses. However, concerning the L3 present perfect, the results indicated a significantly facilitative effect from L2 French. The results showed also a significant effect of target language proficiency: while lower-proficiency learners experienced a relatively negative influence from previous languages, higher-proficiency learners utilized their complex multicompetence to overcome difficulties linked to structural differences. Besides structural similarity reported in the already existing L3A studies, the findings herein point to L3 learners' complex multicompetence as a new factor capable of driving CLI in the LPM framework.

Keywords: Psychological Multilingualism; Third Language Acquisition; Linguistic Proximity Model; Temporal Category; EFL Learners

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1. Introduction

In the last two decades, research in the field of multilingualism has increasingly put its focus on the investigation of the effect of previous linguistic knowledge in the acquisition of a third language (L3). Consequently, cross-linguistic influence (CLI) has become one of the most investigated subfields of the third language acquisition (L3A) research domain with the result being, among other things, the birth of several L3A theoretical models. Among the competing L3A models is the most recently introduced Linguistic Proximity Model (LPM, Mykhaylyk et al., 2015; Westergaard et al., 2017; Westergaard, 2021) which is unique, for it provides a comprehensive approach to CLI at both the initial and subsequent stages of the L3 development.

The LPM proposes an L3A research design, namely the subtractive language groups design (see Westergaard et al., 2017; Westergaard et al., 2022) whereby two bilingual control groups are compared with a trilingual experimental group to determine the influence, or lack therein, of previously acquired languages in the L3A process. Though that design has been employed in a few empirical studies, namely Westergaard et al. (2017), Jensen et al. (2021), and Kolb et al. (2022), criticisms persist due to, among other things, the use of simultaneous (case of Westergaard et al., 2017, and Jensen et al., 2021) and heritage (case of Kolb et al., 2022) bilinguals who can rather be argued to be L2, not L3, learners (Bardel & Falk, 2021). In other words, of all L3A studies which have employed the LPM to investigate CLI so far, none, to the best of our knowledge, has used sequential bilingual learners of the L3 as participants in their research design. Given that observation and based on the point by Westergaard (2021) that order of acquisition (sequential vs. simultaneous) is a factor which can potentially condition CLI, there is a need to explore research designs that employ sequential bilingual learners of an L3 to measure CLI in the LPM framework. Furthermore, the language combination used in studies which have checked the LPM so far is limited to a number of languages, namely Norwegian-Russian-English (used in Westergaard et al., 2017 and Jensen et al., 2021) and Russian-German-English (used in Kolb et al., 2022). Thus, it is worth considering L3A contexts with new language combinations, especially those including the least-investigated languages. The present research comes in that perspective: using the LPM framework, it investigates CLI in the acquisition of the L3 English tense aspect categories by sequential L1 Kirundi-L2 French bilinguals with the rarely, if ever, investigated structure combination, namely the past perfect (L1=L2=L), present progressive (L1≠L2≠L3), and present perfect (L3=L2≠L1) tensese Furthermore, it explores the effect of target language proficiency and its interaction with language groups (the L1 Kirundi-L2 English group, the L1 French-L2 English group, and the L1 Kirundi-L2 French-L3 English group) on the development of the target tense and aspect structures.

2. Literature review

2.1. A quick review of L3 transfer models

The effect of previously acquired languages has drawn the attention of researchers investigating CLI in L3A in the last two decades. Different L3A theories have been proposed to account for the factors driving CLI in L3 development. The most commonly known L3A models include the following:

(i) The L1 factor hypothesis (see, for example, Hermas, 2014; Mollaie et al., 2016) which argues for the U-G-driven exclusive role of L1 in the L3 development;

(ii) The L2 Status Factor Hypothesis (L2SFH, Bardel & Falk, 2007; Falk & Bardel, 2011; Bardel & Sanchez, 2017) which supports the L2 as being the default source of influence in L3A at both the initial and later developmental stages;

(iii) The Cumulative Enhancement Model (CEM, Berkes & Flynn, 2012; Flynn et al., 2004) which, against any prediction of a default source language in the L3, argues for an only-positive property-by-property influence throughout the L3 development;

(iv) The Typological Primacy Model (TPM, Rothman, 2010, 2011, 2015) which argues that the whole linguistic system that the parser finds the most typologically similar to L3 is selected to influence (negatively and/or positively) the initial stages of the L3 development;

(v) The Linguistic Proximity Model (LPM, Mykhaylyk et al., 2015; Westergaard et al., 2017; Westergaard, 2021), contends that facilitative and/or non-facilitative CLI takes place in a property-by-property fashion at both the initial and later developmental stages of the L3 with all the previously acquired languages being available to the learner.

Of all the L3A theoretical models briefly reviewed above, only the LPM has proposed both a theoretical account and an empirical research design capable of comprehensively accounting for the L3A process, i.e. taking into account the transferability potential of all the previously acquired languages, the whole developmental process of L3, and the structural complexity of the L3 input.

2.2. Review of relevant L3A studies

Many studies have been carried out to investigate the role of previously acquired languages (L1 and/or L2), i.e. CLI, in the L3 development. This section reviews

L3A studies which checked the LPM framework, and they include Westergaard et al. (2017), Jensen et al. (2021), and Kolb et al. (2022). Westergaard et al. (2017) provided evidence for the LPM in their study on two groups of bilinguals (2L1 Norwegian-Russian) who were taking English as their L3. Structures investigated were adverb placement in declarative sentences and subject-auxiliary inversion. Results from the grammaticality judgment task showed that CLI happened property-by-property from L1 or L2 or both irrespective of the order of acquisition or linguistic typology considerations. Jensen et al. (2021) investigated participants with the same linguistic configuration as Westergard et al. (2017) given that they were, in both studies, Norwegian-Russian simultaneous bilinguals taking English as their L3 at a mean age of 11.5. Unlike in Westergaard et al. (2017) where the linguistic properties were not varied, 7 linguistic properties varying from syntax to morphology to syntax-semantics interfaces were investigated by Jensen et al. (2021). As previously acquired languages presented conflicting scenarios concerning the target structures, simultaneous facilitative and non-facilitative CLI was predicted to take place within the L3 group and across all the seven investigated structures. The results showed the predominance of the LPM with the predictions being partly met: both Norwegian and Russian were observed to be sources of CLI with both facilitative (from four out of seven properties) and non-facilitative influence taking place. It is worth noting that both studies did not consider the effect of target language proficiency while it is well-known in the L3 research that proficiency may be one of the factors influencing CLI in the L3A process (Sikogukira, 1993; Sharifi & Lotfi, 2019; Cal & Sypiańska, 2020). Finally, Kolb et al. (2022) employed the LPM to investigate CLI in the acquisition of L3 English by Russian-German heritage bilinguals aged between 10 and 12. Of the four structures elicited using the grammaticality judgment task, two (subject-auxiliary inversion and determiner use) were similar in English and German while the other two (adverb placement and non-subject-initial declarative categories) overlapped in English and Russian. Findings suggested that structural similarity was the main factor driving CLI with both facilitative and non-facilitative influence resulting from previously acquired languages.

Among all the studies reviewed herein, none to the best of our knowledge used sequential bilinguals learning an L3. Therefore, based on the point by Westergaard (2021) that order of acquisition (sequential vs simultaneous) is also a factor that can potentially condition CLI, there is a need to explore L3A research designs that employ sequential bilingual learners of an L3 to measure CLI in the LPM framework. Moreover, the language combination used in studies that checked the LPM so far is limited to Norwegian-Russian-English (Westergaard et al., 2017 & Jensen et al., 2021) and Russian-German-English (Kolb et al., 2022). Thus, it is worth considering L3 learning contexts with language combinations that also include the least investigated languages in the L3A literature. The present research comes in that perspective: through the LPM

framework, it investigates CLI in the acquisition of the L3 English tense-aspect by sequential L1 Kirundi-L2 French bilinguals with the concerned tense-aspect structures being the past perfect, present progressive, and present perfect tenses. Furthermore, it explores the effect of target language proficiency and its interaction with language groups on the development of the L3 tense and aspect.

3. Description of the Past Perfect, Present Progressive, and Present Perfect Tenses In English, French, and Kirundi

While English and French are Indo-European languages of Germanic and Romance origins respectively, Kirundi belongs to the Bantu family and is essentially used in Burundi. Below is a description of the target structures across the three languages which sheds light on the cross-linguistic similarities and differences.

3.1. The past perfect, present progressive, and present perfect tenses in English

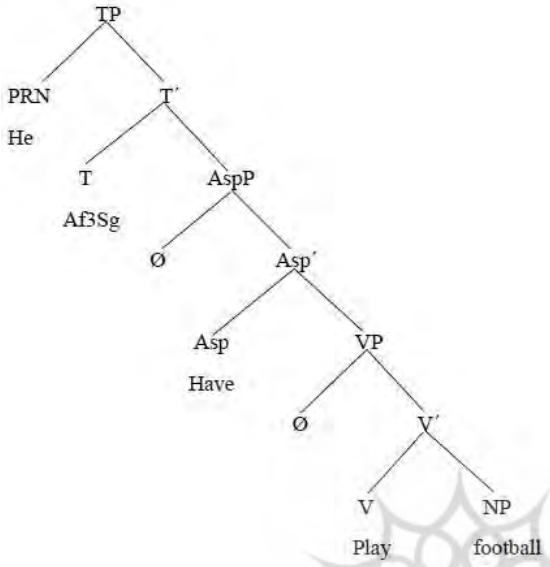
Radford's (2009) Extended Projection Principle (EPP) proposes a generalization of merge operations in a constituent according to which the complement (Comp) merges with the head H to form the intermediate projection H-bar (H´), while the specifier (Spec) merges with H´ to project into the maximal projection HP (see *Figure 1*).

Figure 1
Generalization of Merge Operations in A Constituent (Radford, 2009, p. 51)

Both tense and aspect refer to the notion of temporality. Tense refers to a situation at a point in time in relation to some other time such as the time of speech or utterance, a category that signifies temporal deixis; while grammatical aspect is the way the speaker looks at the event or situation as a whole (i.e. complete or perfective) or looks at part of the situation (i.e. incomplete or imperfective) (Smith, 1991). Following the generalization in *Figure 1*, the English tense and grammatical aspect are represented as illustrated in *Figure 2*.

Figure 2

Syntactic Representation of A Tense Phrase in English

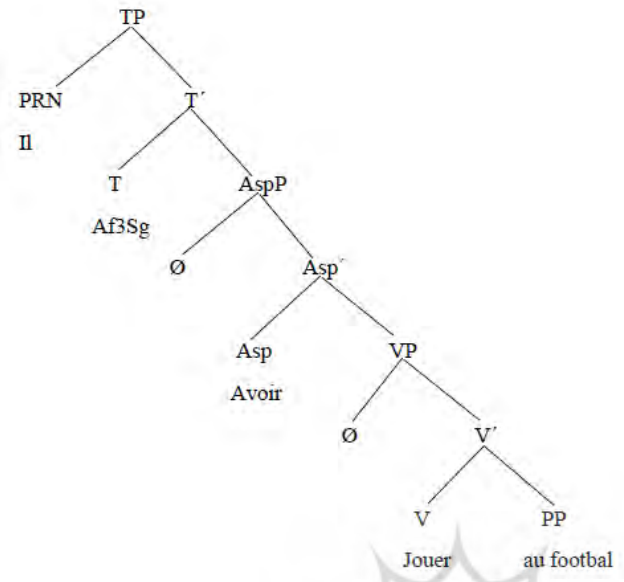


In the present study, the impact of the cross-linguistic interaction of tense and grammatical aspect in the acquisition of L3 English is investigated. In English, the tense affix *T* needs to attach to a verbal host, and *Play* is the appropriate one. Since inflections in English are suffixes, the tense affix will be lowered onto the end of the verb *Play.* Concerning the past perfect tense, the tense affix is third person singular past. Therefore, the aspect *Have* changes into *had* to derive the structure *had played*. About the present progressive tense, the tense affix is the third person singular present. Thus, the aspect *Be* changes into *is* to derive the structure *is playing*. As far as the present perfect is concerned, since the tense affix is third person singular present, the aspect *Have* changes into *has* to derive the structure *has played*.

3.2. The past perfect, present progressive, and present perfect tenses in French

The past perfect tense in French is structurally similar to that in English as in the example *Il avait joué au football* 'He had played footbal'.

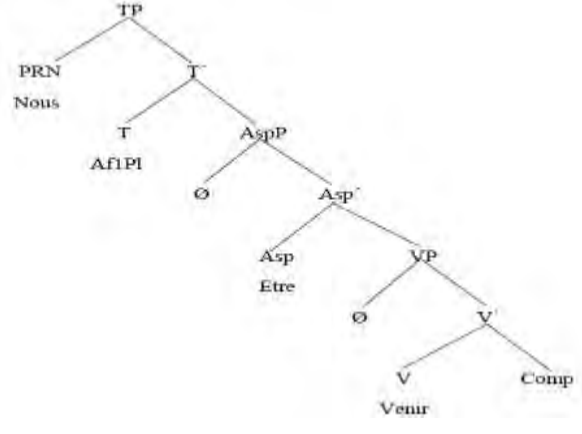
Figure 3
Syntactic Representation of A Tense Phrase in French with Avoir as An Aspect



For the French past perfect, the tense affix is third person singular past which turns the aspect *avoir* into *avait* to finally derive the structure *avait joué* 'had played'. For the present perfect, the tense affix which is third person singular present changes the aspect *avoir* into *a* to derive the structure *a joué.* While English aspectually marks the present perfect and past perfect with the auxiliary *Have* in its variants *have/has* (present perfect) and *had (*past perfect*)*, French distinguishes between verbs that go with *Avoir* 'have' (see example in *Figure 3*) and those that go with *être* 'be' (see example in *Figure 4*) in both the past and present perfect tenses.

Figure 4

Syntactic Representation of A Tense Phrase in French with Être as An Aspect

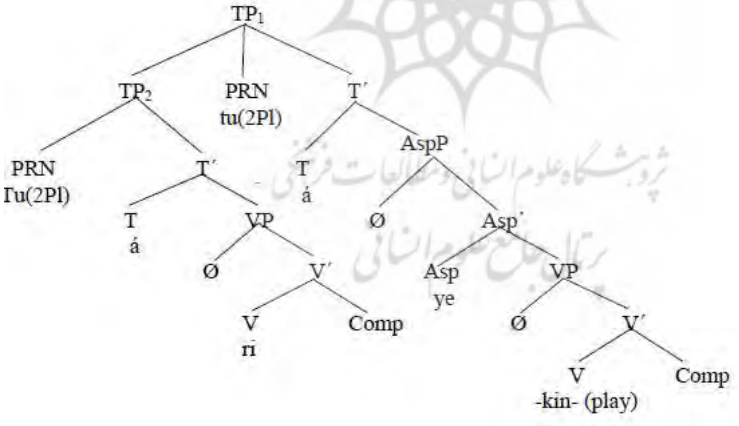


Considering the sentence in *Figure 4* that takes the aspect *être,* for the past perfect, the tense affix is first person plural past which changes the aspect *être* into *étions* to derive the structure *étions venus* 'had come (1Pl)'. For the present perfect, the tense affix is first person plural present, and it turns the aspect *être* into *sommes* to derive the structure *sommes venus* 'have come (1Pl)'. With regard to the present progressive, that tense does not have a specific structure in French. Speakers express an idea in this tense through the periphrastic expression *être en train de* 'to be in the middle of'6(Ayoun & Salaberry, 2008).

3.3. The past perfect, present progressive, and present perfect tenses in Kirundi

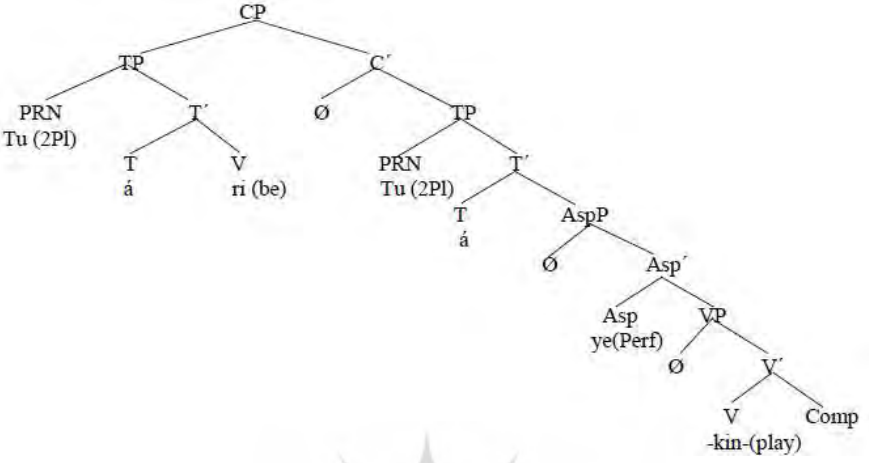
While in the English past perfect tense, the auxiliary *Have* is the head of the aspect phrase *AspP*, the auxiliary verb *ri* in Kirundi is part of the tense phrase TP_2 which is contained in the overall tense phrase TP_1 *Twári twakinye* 'We had played' (see *Figure 5*). Aspect in Kirundi is a suffix that is lowered and attached to the ending of the main verb. In *Figure 5*, the perfective aspect *ye* will be lowered to the end of the verb *-kin-* 'play', thus making it realized as *-kinye*.

Figure 5
Syntactic Structure of the Kirundi Past Perfect Tense



As a consequence, the past perfect structure in Kirundi as represented in Figure 5 is ternary branching in the topmost TP (TP_1) and, therefore, violates the U-G Binarity Principle that "every nonterminal node in a syntactic structure is binary branching" (Radford, 2009, p. 42). To counter the violation of that principle, we can consider the higher constituent in the hierarchy, namely the complementizer phrase (CP) whereby the topmost tense phrase *twári* (literally, 'we were') becomes a specifier to the intermediate complementizer phrase C-bar (C´) *twakinye* (roughly 'we played') as illustrated in *Figure 6*.

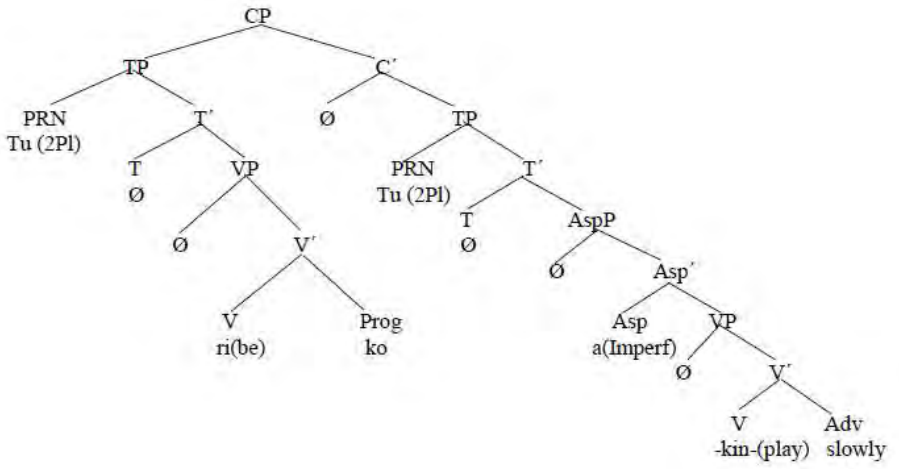
Figure 6
Syntactic Structure of Kirundi Past Perfect Tense



The topmost TP in Figure 6 acts as a specifier to the C-bar and contains the verb *ri* 'be' which plays the role of an auxiliary verb. The auxiliary *ri* conditions the aspectual suffix at the end of the main verb to be necessarily perfective. The subject pronoun and the past tense marker *á* have to be identical in both the topmost TP and the C-bar. Given that the aspect in Kirundi is marked in the suffix position of the verb, the perfective aspect *ye* is lowered to the ending of the verb *-kin-* 'play'. Thus, it is legitimate to argue that the past perfect structure in Kirundi is similar to that in both English and French since it roughly follows the structure Subject+Auxiliary+Past participle.

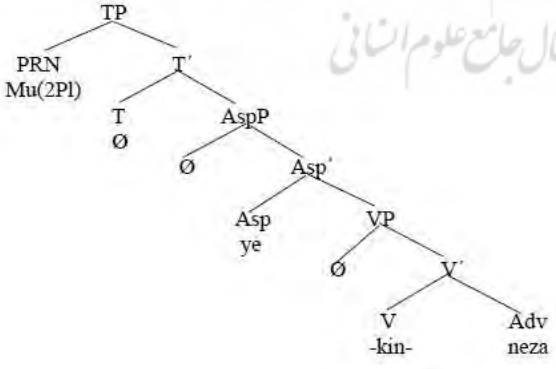
However, concerning the Kirundi present progressive, it is different from that of English: the present tense marker is phonologically null while the progressive marker *-ko* comes in the topmost TP which acts as a specifier to the C-bar and contains the auxiliary *ri* 'be'. The idea of progressivity encoded in *-ko* does not apply until the final vowel *-a* which marks the imperfective aspect in the C-bar is added at the end of the main verb. Thus, the idea that progressivity is a subcategory of imperfectivity (Comrie, 1976) is even more supported through grammatical means in Kirundi. *Figure 7* illustrates the Kirundi present progressive tense through the sentence *Turiko dukina bukebuke* 'We are playing slowly'.

Figure 7
Syntactic Representation of the Kirundi Present Progressive Tense



With regard to the Kirundi present perfect as illustrated in the sentence *Mukinye neza* 'You have played well' (see *Figure 8*), the present tense marker is phonologically null, thus the empty category symbol Ø in its slot. Given that the Kirundi aspect is a suffix that attaches to the verb ending, the perfective aspect *ye* is lowered to the end of the verb *kin* 'dance' to derive the structure *kinye* 'have danced'. While the present perfect tense structure utilizes an auxiliary verb in both English and French, it is not the case in Kirundi where only the main verb applies.

Figure 8
Syntactic Representation of the Kirundi Present Perfect Tense



All in all, given what precedes, it can be concluded that the past perfect tense structure overlaps in L1 Kirundi, L2 French, and L3 English (L1=L2=L3), that the present progressive structure is different across L1 Kirundi, L2 French and L3 English (L1≠L2≠L3), and that the present perfect structure overlaps in L2 French

and L3 English while different in L1 Kirundi (L2=L3≠L1).

Table 1

Structural Synthesis for the Past Perfect, Present Progressive, and Present Perfect Constructions in L1 Kirundi, L2 French, and L3 English.

Languages	Past perfect	Present progressive	Present perfect
L1 Kirundi	Yari yakinye	Ariko akina	Akinye
L2 French	Il avait joué	Il est en train de jouer	Il a joué
L3 English	He had played	He is playing	He has played
	L1=L2=L3 (1)	L1≠L3≠L2 (2)	L2=L3≠L1 (3)

Based on the above observations and considering scenarios (1), (2), and (3) in *Table 1*, the following predictions were made:

Prediction 1: Concerning the past perfect tense (L1=L2=L3), learners of L3 English with background knowledge in L1 Kirundi and L2 French are likely to have no difficulty in the acquisition of that tense in English regardless of their English proficiency level; i.e. even lower proficiency learners will perform well on that tense. However, higher proficiency learners may make the most correct use of this tense.

Prediction 2: About the present progressive tense (L1≠L3≠L2), we can predict that all three language groups, i.e. L1 Kirundi, L1 French, and L3 groups, will face difficulties in their performance on this tense. In other words, none of the previously acquired languages (neither L1 Kirundi nor L2 French) is expected to significantly affect the performance of L3ers in that tense. Lower proficiency learners are predicted to face the most difficulty on the tense.

*Prediction 3***:** With regard to the present perfect tense (L3=L2≠L1), we can predict that the L3 group will perform similarly to the L1 French group, while the two groups are likely to outperform the L1 Kirundi group. This implies that facilitative CLI is expected from L2 French in the L3 group.

Prediction 4: Considering the present research scenarios for the past perfect (L1=L2=L3), present perfect (L1=L3≠L2), and present progressive (L1≠L2≠L3) tenses, we predict CLI where L3 learners are expected to acquire the past perfect earlier than the present perfect, and the present perfect earlier than the present progressive. In other words, their performance on the past perfect tense should be significantly higher than that on the present perfect while their score on the

present perfect is expected to be significantly higher than that on the present progressive.

4. Research questions

This study seeks to answer the following research questions:

Q1. Is there any significant effect of CLI on the acquisition of L3 English past perfect, present progressive, and present perfect tenses by learners with background knowledge in L1 Kirundi and L2 French?

Q2. With regard to the past perfect, present progressive, and present perfect tenses, does CLI come from French or Kirundi or both?

Q3. Does proficiency level in the target language significantly affect the acquisition of L3 English past perfect, present progressive, and present perfect tenses by L1 Kirundi-L2 French bilinguals?

Q4. Will L3 learners acquire the past perfect earlier than the present perfect, and the present perfect earlier than the present progressive? In other words, will their performance on the past perfect be significantly higher than that on the present perfect, and their performance on the present perfect be significantly higher than that on the present progressive?

5. Participants

Participants in this study were 90 learners selected from two private secondary schools in the economic capital city of Bujumbura, in Burundi, namely the Kings' School and the Discovery School. They included 47 males and 33 females with their ages varying between 15 and 23 (M =17.7, SD =1.7). The 90 participants were assigned to three groups of 30 learners each according to their language background and considering the purpose of the investigation: the trilingual group, namely L1 Kirundi-L2 French-L3 English learners, and the two bilingual groups made of L1 Kirundi-L2 English and L1 French-L2 English learners.

The trilingual participants were Burundians who, before moving to their current school, were studying in schools run by the Burundian government where French was the language of instruction. Therefore, in addition to their L1 Kirundi and L3 English, they also had background knowledge of L2 French. The L1 Kirundi-L2 English participants were Burundians as well who, unlike the trilingual group, did not previously undergo any formal instruction in French. As for the L1 French-L2 English learners, they were native speakers of French whose parents came from French-speaking countries to work in Burundi either as diplomats or businessmen, or officials in various locally-established international

organizations.

6. Instruments

6.1. The Background Information Questionnaire (BIQ)

The BIQ as used for this study comprised 14 items eliciting data on participants' demographics including age and gender as well as their language-related information such as their language education background, and their dominant language of communication, among other things. To prevent any negative impact of proficiency on filling the questionnaire out, the latter was designed in the participants' native language.

6.2. The Oxford Quick Placement Test (OQPT)

The OQPT is an English proficiency measure that was designed by the Oxford University Press and the University of Cambridge Local Examination Syndicate and was used in the present research to determine homogeneous English proficiency groups. The test consisted of 60 multiple-choice items assessing the test takers' knowledge of the vocabulary and grammar of English as well as their reading comprehension skills in the language. The OQPT has two parts: Part One made of 40 items is presented to all participants, while Part Two (20 items) is designed for only those who finish Part One without any difficulty, i.e. those who score 35 or more on Part One. The test generally takes 30 to 45 minutes to complete, and participants in the present study were asked to write their answers directly on the answer sheet prepared for that end.

6.3. The Grammaticality Judgment Task (GJT)

The GJT is one of the most largely used instruments in language acquisition research as it presents stimulus sentences that participants rate as either grammatically acceptable or unacceptable (Schmid, 2011). This instrument has been used in previous L3A studies investigating CLI such as in Jabbari and Salimi (2015), Westergaard et al. (2017), and Jensen et al. (2021), among others. The GJT was used in the present study to assess learners' competence with regard to the target structures, namely the past perfect, present progressive, and present perfect tenses. The items were selected based on the aim of testing the three scenarios reflected by the structures cross-linguistically: L1=L2=L3 (past perfect), L1≠L2≠L3 (present progressive), and L2=L3≠L1 (present perfect). The task comprised 36 items including 30 target items and 6 distractor items. The distractor items were used to prevent participants from discovering the aim of the task so it could not affect their judgments. The 30 target items were distributed among the 3 tense-aspect structures, i.e. 10 items (5 grammatical and 5

ungrammatical) for each of the three structures. The GJT sample tokens were presented as follows:

For the past perfect:
Grammatical item: When my father came home, I had finished my homework.
Ungrammatical item: When you came to my school, I have left.
For the present progressive:
Grammatical item: My sister is preparing for her English examination.
Ungrammatical item: I revise my history lessons now.
For the present perfect:
Grammatical item: His father has worked in this school for ten years.
Ungrammatical item: He taught at the university for ten years.

The items were presented in a written format, and participants were instructed to say whether the presented sentence was grammatical or not. In case of an ungrammatical option, they were further asked to provide its grammatically correct version. The task took 35 minutes to complete. The participant's correct judgment scored 1 while the incorrect one scored 0. The distractor items were ignored in the evaluation. Therefore, the maximum score for this task was 30, while the maximum score as per tense-aspect structure was 10. To check the internal consistency reliability of the instrument, the scores were entered into the SPSS software, and Cronbach's alpha for the 30 items was .583, which was considered acceptable for the present research.

7. Data collection procedures

Before administering the research instruments, the first researcher went, during the first week, to book appointments in the two target schools (see *Section 6*) where data were to be collected. In both schools, he was given the approval to collect data and assigned an experienced teacher who assisted him in the whole data collection process.

The BIQ was administered during the second week. It allowed us to gather information from participants on their demographics as well as their language background. The information gathered through the 14-question BIQ allowed us to categorize participants into three language groups, namely the L1 Kirundi-L2 English group, the L1 French-L2 English group, and the L1 Kirundi-L2 French-L3 English group.

The three language groups completed the OQPT during the third week. The 60-item test was completed in a paper-and-pencil format and, to prevent the test pressure effect on their performance, participants were encouraged to feel at ease when completing the task and informed that their performance on the task would not have any impact on their academic records. Further instructions as to how to

complete the test were orally provided to participants. Any correct answer by participants scored 1 while the incorrect answer received a score of 0. Therefore, the maximum OQPT score was 60. Given that the number of participants in the L1 French was only 30, and that there was a need for homogeneity in language groups with regard to the number of participants, the L1 French group was taken as a reference for determining the number of participants to be selected from the remaining two language groups. On the basis of their OQPT scores, the 30 L1 French participants were found to be distributed in the 4 proficiency groups: 6 were pre-intermediate, 7 were lower-intermediate, 11 were upper-intermediate, and 6 were advanced. Therefore, the same number of participants was considered across proficiency groups within the three language groups (see *Table 2*).

Table 2
Distribution of Participants across Language and Proficiency Groups

Proficiency group / Language group	Pre-Intermediate	Lower-Intermediate	Upper-Intermediate	Advanced	Total
L1 Kirundi group	6	7	11	6	30
L1 French group	6	7	11	6	30
L3 group	6	7	11	6	30
Total	18	21	33	18	90

As far as the GJT is concerned, it was presented to participants in the fourth week, and the first researcher carefully supervised the task with the help of the school's assigned experienced teacher. Like in the other tasks administration sessions, participants were let to know that their performance on the task was not going to impact their academic records. The items in the task were selected using vocabulary items that were considered familiar to participants and the latter were encouraged to feel free to ask for clarifications regarding any vocabulary items which they would find difficult.

8. Results

After data collection, participants' raw scores from the GJT were recorded in the SPSS software. To compare independent groups' mean scores on the three target structures, independent samples, multivariate analysis of variance (MANOVA), and post-hoc comparison tests were performed. As a requirement for the above-mentioned parametric tests, the normality assumption for the overall GJT scores was checked. The Shapiro-Wilk tests' results revealed that the GJT data were normally distributed: the *p*-value was .088.

8.1. Multivariate GJT results

To investigate the effect of language group or CLI and proficiency level as well as that of their interaction on participants' GJT scores, MANOVA tests were conducted and the results are displayed in *Table 3*. But, before that MANOVA, the assumption of homogeneity of covariance across groups was to be met. Therefore, Box's M test was run to check the homogeneity of covariance matrices of the dependent variables across the independent variables. The *p*-value was found to be .063, which allowed us to retain the null hypothesis that the covariance matrices of the dependent variables across groups were homogeneous. Given that the equality of covariance assumption was met, the data analysis through the MANOVA test could proceed and its results are displayed in *Table 3*.

Table 3

Multivariate Tests: GJT Scores by Language Groups and Proficiency Levels

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.992	3120.556	3.000	76.000	.000	.992
	Wilks' Lambda	.008	3120.556	3.000	76.000	.000	.992
	Hotelling's Trace	123.180	3120.556	3.000	76.000	.000	.992
	Roy's Largest Root	123.180	3120.556	3.000	76.000	.000	.992
Language Group	Pillai's Trace	.392	6.264	6.000	154.000	.000	.196
	Wilks' Lambda	.609	7.134	6.000	152.000	.000	.220
	Hotelling's Trace	.641	8.008	6.000	150.000	.000	.243
	Roy's Largest Root	.638	16.367	3.000	77.000	.000	.389
Proficiency	Pillai's Trace	.739	8.499	9.000	234.000	.000	.246
	Wilks' Lambda	.287	13.775	9.000	185.115	.000	.340
	Hotelling's Trace	2.392	19.842	9.000	224.000	.000	.444
	Roy's Largest Root	2.354	61.196	3.000	78.000	.000	.702
Language Group * Proficiency	Pillai's Trace	.151	.687	18.000	234.000	.823	.050
	Wilks' Lambda	.854	.686	18.000	215.446	.824	.051
	Hotelling's Trace	.165	.685	18.000	224.000	.825	.052
	Roy's Largest Root	.123	1.601	6.000	78.000	.158	.110

The multivariate results (*Table 3*) showed that there was a highly significant difference between the overall mean scores of the L1 Kirundi, L1 French, and L3 groups on the past perfect, present progressive, and present perfect tenses ($F(6,154)=6.26$, $p<.001$, Partial eta squared=.196 representing a large effect size). Based on this result, the null hypothesis that language group or previous linguistic background could not affect participants' performance on the past perfect, present progressive, and present perfect tenses, was rejected. Furthermore, the GJT results in *Table 3* indicated that there was a large significant difference between the overall mean scores of the pre-intermediate, lower-intermediate, upper-

intermediate, and advanced proficiency groups on the past perfect, present progressive, and present perfect tenses (F (9,234)=8.49, p <.001, Partial eta squared=.246 which represents a highly large effect size). This finding allowed us to reject the null hypothesis that proficiency level could not have a significant effect on participants' acquisition of the target tense-aspect structures.

Despite the significant effect of language group and proficiency level on participants' performance on the past perfect, present progressive, and present perfect, the multivariate results (*Table 3*) showed no significant interaction between the effects of language group and proficiency level on the participants' scores on target structures (F (18, 234)=.68, p =.823). Therefore, the null hypothesis that language group and proficiency level could not have a significant interaction effect on the participants' scores on the past perfect, present progressive, and present perfect tenses was supported.

The findings reported in this section are concerned with the overall effect of the independent variables on the dependent variables. The sections that follow report on the effect of the independent variables on each of the dependent variables separately. The next section is concerned with the effect of language groups on the dependent variables.

8.2. Effect of language group on the GJT scores

The independent variable *language group* had three levels or categories, namely the L1 Kirundi group, the L1 French group, and the L3 group. The results on the effect of language group on the participants' performance on the three target structures are presented in *Table 4* and *Table 5*.

Table 4

Descriptive Statistics: GJT Scores on the Past Perfect, Present Progressive, and Present Perfect by Language Groups

						95% Confidence Interval	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Past Perfect	L1 Kirundi	30	7.9667	1.24522	.22735	7.5017	8.4316
	L1 French	30	8.2000	1.54026	.28121	7.6249	8.7751
	L3 Group	30	8.3000	1.23596	.22565	7.8385	8.7615
	Total	90	8.1556	1.34006	.14125	7.8749	8.4362
Present Progressive	L1 Kirundi	30	6.3667	1.90251	.34735	5.6563	7.0771
	L1 French	30	6.0333	1.60781	.29354	5.4330	6.6337
	L3 Group	30	6.2333	2.04574	.37350	5.4694	6.9972
	Total	90	6.2111	1.84509	.19449	5.8247	6.5976
Present	L1 Kirundi	30	5.6000	2.14315	.39128	4.7997	6.4003

Perfect	L1 French	30	7.6000	1.45270	.26523	7.0576	8.1424
	L3 Group	30	7.9000	1.34805	.24612	7.3966	8.4034
	Total	90	7.0333	1.95712	.20630	6.6234	7.4432

Given the results in *Table 4* and *Table 5*, it can be concluded that there was no significant difference between the mean scores of L1 Kirundi (*M* =7.96, *SD* =1.24), L1 French (*M* =8.20, *SD* =1.54), and L3 (*M* =8.30, *SD* =1.23) groups on the past perfect tense (*F* (2,78)=.488, *p* =.616, Partial eta squared=.012 representing a weak effect size).

Table 5

Tests of Between-Subjects Effects on the GJT Scores

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Past Perfect	45.039	11	4.094	2.782	.004	.282
	Present Progressive	159.749	11	14.523	7.908	.000	.527
	Present Perfect	187.950	11	17.086	8.714	.000	.551
Intercept	Past Perfect	5582.930	1	5582.930	3793.824	.000	.980
	Present Progressive	3108.027	1	3108.027	1692.444	.000	.956
	Present Perfect	4110.525	1	4110.525	2096.244	.000	.964
Language Group	Past Perfect	1.435	2	.717	.488	.616	.012
	Present Progressive	.770	2	.385	.210	.811	.005
	Present Perfect	92.275	2	46.137	23.529	.000	.376
Proficiency	Past Perfect	41.625	3	13.875	9.429	.000	.266
	Present Progressive	151.897	3	50.632	27.571	.000	.515
	Present Perfect	79.202	3	26.401	13.464	.000	.341
Language Group * Proficiency	Past Perfect	1.659	6	.276	.188	.979	.014
	Present Progressive	6.162	6	1.027	.559	.761	.041
	Present Perfect	14.947	6	2.491	1.270	.281	.089
Error	Past Perfect	114.784	78	1.472			
	Present Progressive	143.240	78	1.836			
	Present Perfect	152.950	78	1.961			
Total	Past Perfect	6146.000	90				

Present Progressive	3775.000	90
Present Perfect	4793.000	90

Likewise, results in *Table 4* and *Table 5* indicated the lack of significant difference between the mean scores of L1 Kirundi (*M* =6.36, *SD* =1.90), L1 French (*M* =6.03, *SD* =1.60), and L3 (*M* =6.23, *SD* =2.04) groups on the present progressive tense (*F* (2,78)=.21, *p* =.811, Partial eta squared=.005 representing a very weak effect size. However, the same results (*Table 4* and *Table 5*) revealed a significant difference between the mean scores of L1 Kirundi (*M* =5.60, *SD*=2.14), L1 French (*M*=7.60, *SD*=1.60), and L3 (*M* =7.90, *SD* =1.34) groups on the present perfect (*F* (2,78)=23.52, *p* <.001, Partial eta squared=.376 which represents a highly large effect size). Turkey's post hoc tests were conducted to determine the location of the revealed significant difference.

Table 6

Multiple Comparisons of the GJT Scores by Language Groups

Tukey HSD

Dependent Variable	(I) Language Group	(J) Language Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Past Perfect	L1_Kirundi	L1_French	-.2333	.31322	.738	-.9817	.5150
		L3_Group	-.3333	.31322	.539	-1.0817	.4150
	L1_French	L1_Kirundi	.2333	.31322	.738	-.5150	.9817
		L3_Group	-.1000	.31322	.945	-.8484	.6484
	L3_Group	L1_Kirundi	.3333	.31322	.539	-.4150	1.0817
		L1_French	.1000	.31322	.945	-.6484	.8484
Present Progressive	L1_Kirundi	L1_French	.3333	.34990	.609	-.5027	1.1693
		L3_Group	.1333	.34990	.923	-.7027	.9693
	L1_French	L1_Kirundi	-.3333	.34990	.609	-1.1693	.5027
		L3_Group	-.2000	.34990	.836	-1.0360	.6360
	L3_Group	L1_Kirundi	-.1333	.34990	.923	-.9693	.7027
		L1_French	.2000	.34990	.836	-.6360	1.0360
Present Perfect	L1_Kirundi	L1_French	-2.0000	.36156	.000	-2.8639	-1.1361
		L3_Group	-2.3000	.36156	.000	-3.1639	-1.4361
	L1_French	L1_Kirundi	2.0000	.36156	.000	1.1361	2.8639
		L3_Group	-.3000	.36156	.686	-1.1639	.5639
	L3_Group	L1_Kirundi	2.3000	.36156	.000	1.4361	3.1639
		L1_French	.3000	.36156	.686	-.5639	1.1639

Considering Turkey's post hoc results in *Table 6* and the descriptive statistics in *Table 4*, it can be realized that the L3 group performed similarly as both the L1

Kirundi (*MD* =.33, *p* =.539) and L1 French (*MD* =.100, *p* =.945) on the past perfect tense. In other words, there was no significant difference between the L1 Kirundi (*M* =7.96), L1 French (*M* =8.20), and L3 (*M* =8.30) mean scores on the past perfect tense. Likewise, the results in *Table 6* and *Table 4* indicated that the L3 group performed similarly as both L1 Kirundi (*MD* =.13, *p* =.923) and L1 French (*MD* =.20, *p* =.836) groups on the present progressive tense. Concerning the present perfect, the post hoc results (*Table 6*) and descriptive statistics (*Table 4)* revealed that the L3 group (*M* =7.90) performed significantly highly than the L1 Kirundi group (*M* =5.60) on the present perfect tense (*MD* =2.30, *p* <.001), while it performed similarly as the L1 French group (*M* =7.60) on the same tense (MD =.30, *p* =.686).

8.3. Effect of proficiency level on the GJT scores

The categorical variable of *proficiency level* as an independent variable had four levels, namely the pre-intermediate, the lower-intermediate, the upper-intermediate, and the advanced proficiency groups.

Table 7

Descriptive Statistics: GJT Scores by Proficiency Groups

						95% Confidence Interval for Mean	
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
Past Perfect	Pre-Intermediate	18	7.3889	1.78684	.42116	6.5003	8.2775
	Lower-Intermediate	21	7.4762	.87287	.19048	7.0789	7.8735
	Upper-Intermediate	33	8.4545	1.12057	.19507	8.0572	8.8519
	Advanced	18	9.1667	.70711	.16667	8.8150	9.5183
	Total	90	8.1556	1.34006	.14125	7.8749	8.4362
Present Progressive	Pre-Intermediate	18	4.3333	1.41421	.33333	3.6301	5.0366
	Lower-Intermediate	21	5.1429	1.38873	.30305	4.5107	5.7750
	Upper-Intermediate	33	7.1515	1.17583	.20469	6.7346	7.5684
	Advanced	18	7.6111	1.41998	.33469	6.9050	8.3172
	Total	90	6.2111	1.84509	.19449	5.8247	6.5976
Present Perfect	Pre-Intermediate	18	5.6111	2.65992	.62695	4.2884	6.9339
	Lower-Intermediate	21	6.4762	1.53685	.33537	5.7766	7.1758
	Upper-Intermediate	33	7.4545	1.41622	.24653	6.9524	7.9567
	Advanced	18	8.3333	1.32842	.31311	7.6727	8.9939
	Total	90	7.0333	1.95712	.20630	6.6234	7.4432

The results from the tests of between-subjects effects (*Table 5*) and those from the descriptive statistics (*Table 7*) showed that there was a highly significant difference between the mean scores of the pre-intermediate (*M* =7.38, *SD* =1.78),

lower-intermediate (*M* =7.47, *SD* =.87), upper-intermediate (*M* =8.45, *SD* =1.12), and advanced (*M* =9.16, *SD* =.70) proficiency groups on the past perfect tense (*F* (3,78)=9.429, *p* <.001, Partial eta squared=.266 representing a highly large effect size). The findings in *Tables 5* and *Table 7* also indicated a highly significant difference between the mean scores of the pre-intermediate (*M* =4.33, *SD* =1.41), lower-intermediate (*M* =5.14, *SD* =1.38), upper-intermediate (*M* =7.15, *SD* =1.17), and advanced (*M* =7.61, *SD* =1.41) proficiency groups on the present progressive tense (*F* (3,78)=27.57, p<.001, Partial eta squared=.515 which represents a highly large effect size). Furthermore, the same results (*Table 5* and *Table 7*) demonstrated that there was a significant difference between the mean scores of the pre-intermediate (*M* =5.61, *SD* =2.65), lower-intermediate (*M* =6.47, *SD* =1.53), upper-intermediate (*M* =7.45, *SD* =1.41), and advanced (*M* =8.33, *SD* =1.32) proficiency groups on the present perfect tense (*F* (3,78)=13.46, *p* <.001, Partial eta squared=.341 representing a highly large effect size). To specifically locate the significance of the difference between proficiency groups, Turkey's post hoc tests were performed (see *Table 8*).

Table 10

Multiple Comparisons of GJT Scores by Proficiency Groups

Tukey HSD

Dependent Variable	(I) Proficiency	(J) Proficiency	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Past Perfect	Pre-Intermediate	Lower-Intermediate	-.0873	.38965	.996	-1.1103	.9357
		Upper-Intermediate	-1.0657	.35545	.019	-1.9988	-.1325
		Advanced	-1.7778	.40436	.000	-2.8393	-.7162
	Lower-Intermediate	Pre-Intermediate	.0873	.38965	.996	-.9357	1.1103
		Upper-Intermediate	-.9784	.33863	.025	-1.8674	-.0894
		Advanced	-1.6905	.38965	.000	-2.7134	-.6675
	Upper-Intermediate	Pre-Intermediate	1.0657	.35545	.019	.1325	1.9988
		Lower-Intermediate	.9784	.33863	.025	.0894	1.8674
		Advanced	-.7121	.35545	.196	-1.6453	.2211
	Advanced	Pre-Intermediate	1.7778	.40436	.000	.7162	2.8393
		Lower-Intermediate	1.6905	.38965	.000	.6675	2.7134
		Upper-Intermediate	.7121	.35545	.196	-.2211	1.6453
Present Progressive	Pre-Intermediate	Lower-Intermediate	-.8095	.43528	.254	-1.9523	.3332
		Upper-Intermediate	-2.8182	.39708	.000	-3.8606	-1.7757
		Advanced	-3.2778	.45171	.000	-4.4637	-2.0919
	Lower-Intermediate	Pre-Intermediate	.8095	.43528	.254	-.3332	1.9523
		Upper-Intermediate	-2.0087	.37828	.000	-3.0018	-1.0156

		Advanced	-2.4683	.43528	.000	-3.6110	-1.3255
	Upper-Intermediate	Pre-Intermediate	2.8182	.39708	.000	1.7757	3.8606
		Lower-Intermediate	2.0087	.37828	.000	1.0156	3.0018
		Advanced	-.4596	.39708	.655	-1.5020	.5829
	Advanced	Pre-Intermediate	3.2778	.45171	.000	2.0919	4.4637
		Lower-Intermediate	2.4683	.43528	.000	1.3255	3.6110
		Upper-Intermediate	.4596	.39708	.655	-.5829	1.5020
Present Perfect	Pre-Intermediate	Lower-Intermediate	-.8651	.44979	.227	-2.0459	.3158
		Upper-Intermediate	-1.8434	.41032	.000	-2.9206	-.7662
		Advanced	-2.7222	.46677	.000	-3.9476	-1.4968
	Lower-Intermediate	Pre-Intermediate	.8651	.44979	.227	-.3158	2.0459
		Upper-Intermediate	-.9784	.39089	.067	-2.0046	.0479
		Advanced	-1.8571	.44979	.001	-3.0380	-.6763
	Upper-Intermediate	Pre-Intermediate	1.8434	.41032	.000	.7662	2.9206
		Lower-Intermediate	.9784	.39089	.067	-.0479	2.0046
		Advanced	-.8788	.41032	.149	-1.9560	.1984
	Advanced	Pre-Intermediate	2.7222	.46677	.000	1.4968	3.9476
		Lower-Intermediate	1.8571	.44979	.001	.6763	3.0380
		Upper-Intermediate	.8788	.41032	.149	-.1984	1.9560

About the past perfect, results from Turkey's post hoc tests (*Table 8*) and descriptive statistics (*Table 7*) showed that the pre-intermediate (M =7.38) and lower-intermediate (*M* =7.47) groups performed similarly (*MD* =.087, *p* =.996); the upper-intermediate group (*M* =8.45) performed significantly highly than both the pre-intermediate (*MD* =1.06, *p* =.019) and the lower-intermediate (*MD* =.97, *p* =.025) groups; the advanced proficiency group (*M* =9.16) was significantly higher than both the pre-intermediate (*MD* =1.77, *p* <.001) and the lower-intermediate (*MD* =1.69, *p* <.001) groups while it performed similarly as the upper-intermediate group (*MD* =.71, *p* =.196). These findings allowed us to conclude that higher-proficiency learners (upper-intermediate and advanced) performed significantly highly than lower-proficiency learners (pre-intermediate and lower-intermediate groups) on the past perfect tense.

As far as the present progressive is concerned, results (*Table 7* and *Table 8*) revealed that the pre-intermediate (*M* =4.33) and lower-intermediate (*M* =5.14) groups' mean scores were not significantly different from each other (*MD* =.809, *p* =.254). The upper-intermediate group (*M* =7.15), however, performed significantly highly than both the pre-intermediate (*MD* =2.81, *p* <.001) and lower-intermediate (*MD* =2.008, *p* <.001) groups while it did not show any significant difference from the advanced group (*M* =7.61) on the said tense (*MD* =.45, *p* =.655). Still, concerning the present progressive tense, the advanced proficiency group (*M* =9.16) was significantly higher than both the pre-

intermediate (*MD* =3.27, *p* <.001) and lower-intermediate (*MD* =2.46, p <.001) groups while it performed similarly as the upper-intermediate group (*MD* =.45, *p* =.655).

For the present perfect tense, the post hoc results (*Table 8*) together with the descriptive statistics (*Table 7*) showed that the pre-intermediate (*M* =5.61) and lower-intermediate (*M* =6.47) groups performed similarly (*MD* =.86, p =.227); the upper-intermediate group (*M* =7.45) was significantly higher than the pre-intermediate group (*M* =5.61) on that tense (*MD* =1.84, *p* <.001), but performed similarly as the lower-intermediate group (*MD* =.97, *p* =.067). The advanced proficiency group (*M* =8.33) scored significantly more highly than both the pre-intermediate (*MD* =2.72, *p* <.001) and lower-intermediate (*MD* =1.85, *p* =.001) groups while it performed similarly to the upper-intermediate group (*MD* =.87, *p* =.149).

8.4. GJT Results on the cumulative CLI in the L3 group

Considering the L3 English scenarios investigated in the present study, namely L1=L2=L3, L1≠L2≠L3, and L2=L3≠L1 reflected respectively by past perfect, present progressive, and present perfect structures, it was hypothesized that there would be cumulative CLI: the structure reflecting the scenario L1=L2=L3 (past perfect) should be acquired earlier than that represented by L2=L3≠L1 (present perfect), and the latter earlier than L1≠L2≠L3 (present progressive). In other words, if the hypothesis proves true, the L3 group's mean score in the past perfect (L1=L2=L3) will be significantly higher than that in the present perfect (L2=L3≠L1), and the mean score in the latter significantly higher than that in the present progressive (L1≠L2≠L3). Mathematically speaking, the hypothesis goes as follows: (L1=L2=L3) > (L2=L3≠L1) > (L1≠L2≠L3). To test that hypothesis, two independent-samples t-tests were run: one to compare the L3 group's mean scores on the past perfect and present perfect tenses, and the other to compare the group's mean scores on the present perfect and present progressive tenses.

The independent-sample t-test conducted to compare the L3 group's mean scores on the past perfect and present perfect tenses indicated that there was no significant difference between the mean score of the past perfect (*M* =8.30) and that of the present perfect (*M* =7.90) conditions, *t* (58)=1.198, *p* =.236. Thus the null hypothesis that the L3 group's mean score on the past perfect would not be significantly higher than that on the present perfect was supported.

The other independent-sample t-test run to compare the L3 group's mean scores on the present perfect and present progressive tenses revealed that the L3 group's mean score of the present perfect (*M* =7.90) was significantly higher than that on the present progressive (*M* =6.23); *t* (58) =3.726, *p* <.001. Based on this result, the null hypothesis that the L3 group's mean score on the present perfect

would not be significantly higher than that on the present progressive was rejected.

Given the results from the above two independent-sample t-tests, it can be concluded that the hypothesized cumulative CLI in the L3 group was partially supported: Instead of the predicted L3 group's performance in the formula (L1=L2=L3) > (L2=L3≠L1) > (L1≠L2≠L3), the reality from the GJT results was rather (L1=L2=L3) = (L2=L3≠L1) > (L1≠L2≠L3).

8.5. Groups' accuracy on grammatical vs. ungrammatical GJT items

The 30 GJT items comprised 15 grammatical items and another 15 ungrammatical items. Therefore, the maximum score was 15 for either the grammatical or ungrammatical condition. To check whether the independent groups behaved similarly or not on grammatical and ungrammatical conditions, ANOVA tests were performed to compare the performance of language and proficiency groups on grammatical and ungrammatical conditions.

8.5.1. Language groups' accuracy on grammatical and ungrammatical conditions

Before conducting the ANOVA test to compare the mean accuracy of language groups on grammatical and ungrammatical conditions, Levene's test of homogeneity of variances was run to ensure that the assumption of the equality of variances across L1 Kirundi, L1 French, and L3 groups on grammatical and ungrammatical conditions was met. Levene's test results showed that the variances for the grammatical items across language groups were equal, $F(2,87)=.440$, $p=.645$. Levene's test results indicated also that language groups' variances for the ungrammatical condition were homogeneous as well, $F(2,87)=.574$, $p=.565$. As the assumption of homogeneity of variances across language groups for the grammatical and ungrammatical conditions needed for the ANOVA test was met, the one-way ANOVA test was then conducted to compare the mean scores of the language groups on the grammatical and ungrammatical conditions.

Table 11

Descriptives: GJT Scores on Grammatical and Ungrammatical Conditions by Language Groups

						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Grammatical	L1_Kirundi	30	10.40	2.541	.464	9.45	11.35	4	14
	L1_French	30	10.87	2.240	.409	10.03	11.70	6	15

	L3_Group	30	11.47	2.013	.367	10.72	12.22	8	15
	Total	90	10.91	2.291	.242	10.43	11.39	4	15
Ungrammatical	L1_Kirundi	30	9.53	2.417	.441	8.63	10.44	3	13
	L1_French	30	10.97	1.938	.354	10.24	11.69	8	15
	L3_Group	30	10.97	2.220	.405	10.14	11.80	7	14
	Total	90	10.49	2.280	.240	10.01	10.97	3	15

The ANOVA results (*Table 12*) as well as the descriptive statistics (*Table 11*) indicated that there was no statistically significant difference between the mean scores of the L1 Kirundi (*M*=10.40, *SD*=2.54), L1 French (*M*=10.87, *SD*=2.24), and L3 (*M*=11.47, *SD*=2.01) groups on the grammatical condition (*F*(2,87)=1.65, *p*=197). However, results in Tables 11 and 12 revealed a statistically significant difference between the mean scores of L1 Kirundi (*M*=9.53, *SD*=2.41), L1 French (*M*=10.97, *SD*=1.93), and L3 (*M*=10.97, *SD*=2.22) groups on the ungrammatical condition (*F*(2,87)=4.241, *p*=.017).

Table 12
ANOVA Results: GJT Scores on Grammatical and Ungrammatical Conditions by Language Groups

		Sum of Squares	df	Mean Square	F	Sig.
Grammatical	Between Groups	17.156	2	8.578	1.658	.197
	Within Groups	450.133	87	5.174		
	Total	467.289	89			
Ungrammatical	Between Groups	41.089	2	20.544	4.241	.017
	Within Groups	421.400	87	4.844		
	Total	462.489	89			

Turkey post hoc results (*Table 13*) demonstrated that the L3 group (*M*=10.97) was significantly more accurate than the L1 Kirundi group (M=9.53) on the ungrammatical condition (*MD*=1.43, *p*=.036), while it was as accurate as the L1 French group (*M*=10.97) on the same ungrammatical condition (*MD*=.000, p=1.000). The L1 French group (*M*=10.97) was also significantly more accurate than the L1 Kirundi group on the ungrammatical condition (*MD*=1.43, *p*=.036).

Table 13
Multiple Comparisons: GJT Scores on Grammatical and Ungrammatical Conditions by Language Groups
Tukey HSD

Dependent Variable	(I) Language Group	(J) Language Group	Mean Differen	Std. Error	Sig.	95% Confidence Interval

			ce (I-J)			Lower Bound	Upper Bound
Grammatical	L1_Kirundi	L1_French	-.467	.587	.707	-1.87	.93
		L3_Group	-1.067	.587	.170	-2.47	.33
	L1_French	L1_Kirundi	.467	.587	.707	-.93	1.87
		L3_Group	-.600	.587	.565	-2.00	.80
	L3_Group	L1_Kirundi	1.067	.587	.170	-.33	2.47
		L1_French	.600	.587	.565	-.80	2.00
Ungrammatical	L1_Kirundi	L1_French	-1.433	.568	.036	-2.79	-.08
		L3_Group	-1.433	.568	.036	-2.79	-.08
	L1_French	L1_Kirundi	1.433	.568	.036	.08	2.79
		L3_Group	.000	.568	1.000	-1.35	1.35
	L3_Group	L1_Kirundi	1.433	.568	.036	.08	2.79
		L1_French	.000	.568	1.000	-1.35	1.35

The above-reported results concerning the accuracy of language groups on grammatical and ungrammatical conditions allowed us to conclude that, while all language groups performed similarly on grammatical items, the L1 Kirundi group was less accurate on ungrammatical items. This suggests that L1 Kirundi learners were less sensitive to the ungrammaticality of items across the three target structures compared to the remaining two language groups (L1 French and L3 groups).

8.5.2. Proficiency groups' accuracy on grammatical and ungrammatical conditions

To check whether proficiency groups behaved similarly or not on grammatical and ungrammatical conditions, one-way ANOVA was performed to compare the proficiency groups' mean scores on the two conditions. Before that test, it was a question of verifying the assumption of the equality of variances across proficiency groups. Levene's test of homogeneity of variances was performed to check the equality of variances across the pre-intermediate, lower-intermediate, upper-intermediate, and advanced proficiency groups on the grammatical and ungrammatical conditions. Levene's test results indicated that the variances across proficiency groups on the grammatical items were equal, F (3, 86) =2.12, p=102. Likewise, the results revealed the existence of homogeneity of variances across pre-intermediate, lower-intermediate, upper-intermediate, and advanced proficiency groups on the ungrammatical condition, F (3,86)=1.22, p=307. The homogeneity of variances results allowed us to run the one-way ANOVA test to compare proficiency groups' mean scores on the two grammaticality conditions.

Table 14
Descriptives: GJT Scores on Grammatical and Ungrammatical Conditions by Proficiency Groups

						95% Confidence Interval for Mean			
		N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Grammatical	Pre-Intermediate	18	8.94	1.830	.431	8.03	9.85	4	11
	Lower-Intermediate	21	9.57	2.293	.500	8.53	10.62	6	14
	Upper-Intermediate	33	11.76	1.393	.242	11.26	12.25	9	14
	Advanced	18	12.89	1.568	.369	12.11	13.67	10	15
	Total	90	10.91	2.291	.242	10.43	11.39	4	15
Ungrammatical	Pre-Intermediate	18	8.39	2.253	.531	7.27	9.51	3	11
	Lower-Intermediate	21	9.52	1.940	.423	8.64	10.41	6	13
	Upper-Intermediate	33	11.30	1.489	.259	10.77	11.83	8	14
	Advanced	18	12.22	1.801	.424	11.33	13.12	9	15
	Total	90	10.49	2.280	.240	10.01	10.97	3	15

The one-way ANOVA results (*Table 15*) indicated that there was a statistically significant difference between the mean scores of the pre-intermediate, lower-intermediate, upper-intermediate, and advanced proficiency groups on both grammatical ($F(3, 86)=21.70$, $p<.001$) and ungrammatical ($F(3,86)=17.43$, $p<.001$) conditions.

Table 15
ANOVA: GJT Scores on Grammatical and Ungrammatical Conditions by Proficiency Groups

		Sum of Squares	df	Mean Square	F	Sig.
Grammatical	Between Groups	201.363	3	67.121	21.707	.000
	Within Groups	265.926	86	3.092		
	Total	467.289	89			
Ungrammatical	Between Groups	174.892	3	58.297	17.433	.000
	Within Groups	287.597	86	3.344		
	Total	462.489	89			

Turkey's post hoc test results (*Table 16*) demonstrated that the pre-intermediate and lower-intermediate groups were not significantly different on both grammatical (*MD*=.62, *p*=.684) and ungrammatical (*MD*=1.13, p=.222) conditions. Likewise, the results in *Table 16* showed that the upper-intermediate and advanced proficiency groups performed statistically similarly on both grammatical (*MD*=1.13, p=.133) and ungrammatical (*MD*=.91, *p*=.322)

conditions. However, as is still shown through the post hoc results (*Table 16*), the upper-intermediate group performed significantly more highly than both the pre-intermediate (*MD*=2.81, *p*<.001) and lower-intermediate (*MD*=2.18, *p*<.001) groups on the grammatical condition on the one hand, and was also significantly higher than both pre-intermediate (*MD*=2.91, *p*<.001) and lower-intermediate (*MD*=1.77, *p*=.004) groups on the ungrammatical condition on the other hand.

Table 16

Multiple Comparisons: GJT Scores on Grammatical and Ungrammatical Conditions by Proficiency Groups

Tukey HSD

Dependent Variable	(I) Proficiency	(J) Proficiency	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Grammatical	Pre-Intermediate	Lower-Intermediate	-.627	.565	.684	-2.11	.85
		Upper-Intermediate	-2.813	.515	.000	-4.16	-1.46
		Advanced	-3.944	.586	.000	-5.48	-2.41
	Lower-Intermediate	Pre-Intermediate	.627	.565	.684	-.85	2.11
		Upper-Intermediate	-2.186	.491	.000	-3.47	-.90
		Advanced	-3.317	.565	.000	-4.80	-1.84
	Upper-Intermediate	Pre-Intermediate	2.813	.515	.000	1.46	4.16
		Lower-Intermediate	2.186	.491	.000	.90	3.47
		Advanced	-1.131	.515	.133	-2.48	.22
	Advanced	Pre-Intermediate	3.944	.586	.000	2.41	5.48
		Lower-Intermediate	3.317	.565	.000	1.84	4.80
		Upper-Intermediate	1.131	.515	.133	-.22	2.48
Ungrammatical	Pre-Intermediate	Lower-Intermediate	-1.135	.587	.222	-2.67	.40
		Upper-Intermediate	-2.914	.536	.000	-4.32	-1.51
		Advanced	-3.833	.610	.000	-5.43	-2.24
	Lower-Intermediate	Pre-Intermediate	1.135	.587	.222	-.40	2.67
		Upper-Intermediate	-1.779	.510	.004	-3.12	-.44
		Advanced	-2.698	.587	.000	-4.24	-1.16
	Upper-Intermediate	Pre-Intermediate	2.914	.536	.000	1.51	4.32
		Lower-Intermediate	1.779	.510	.004	.44	3.12
		Advanced	-.919	.536	.322	-2.32	.48
	Advanced	Pre-Intermediate	3.833	.610	.000	2.24	5.43
		Lower-Intermediate	2.698	.587	.000	1.16	4.24
		Upper-Intermediate	.919	.536	.322	-.48	2.32

Furthermore, Turkey's post hoc results (*Table 16*) revealed that the advanced group was significantly more accurate than both pre-intermediate (*MD*=3.94, *p*<.001) and lower-intermediate (*MD*=3.31, *p*<.001) groups on the grammatical condition. The advanced group also performed more accurately than both pre-

intermediate (*MD*=3.83, *p*<.001) and lower-intermediate (*MD*=2.69, *p*<.001) groups on the ungrammatical condition.

The above-reported results allowed us to conclude that lower-proficiency learners (pre-intermediate and lower-intermediate groups) were significantly less accurate than higher-proficiency learners (upper-intermediate and advanced groups) on both grammatical and ungrammatical conditions.

9. Discussion

The present study aimed to seek answers to the research questions as to (1) whether there was a significant effect of CLI in the acquisition of the L3 English past perfect, present progressive, and present perfect tenses by L1 Kirundi-L2 French bilinguals; (2) whether L2 French or L1 Kirundi or both constituted the source of transfer; (3) whether proficiency level in the target language produced a significant effect in the acquisition process; and (4) whether the L3 learners would learn the past perfect before the present perfect, and the present perfect before the present progressive (past perfect>present perfect>present progressive). Two bilingual control groups, namely the L1 Kirundi-L2 English and L1 French-L2 English learners, and a trilingual experimental group (L1 Kirundi-L2 French-L3 English learners) were investigated, with each of the three groups having four proficiency groups, namely the pre-intermediate, lower-intermediate, upper-intermediate, and advanced groups. The groups completed a Grammaticality Judgment Task (GJT) aimed to elicit the similarities and/or differences in their performance across the three target tense and aspect structures.

Concerning the first research question, the results from the GJT revealed the existence of CLI in the acquisition of the L3 English past perfect, present progressive, and present perfect tenses by L1 Kirundi-L2 French bilinguals. This finding was arrived at after noticing that the overall mean scores of the L1 Kirundi, L1 French, and L3 groups were significantly different (see *Section 9.1*), which suggested the influence of properties from at least one of the previously acquired languages. At this point determining the exact location of the significance; i.e. determining the source of the influence, involved testing three options: (1) the influence could come from L1 Kirundi, (2) or L2 French, or (3) from both Kirundi and French. Deciding which option was operational meant at the same time attempting an answer to the second research question.

As part of the answer to the second research question and considering cross-linguistic structural similarities and differences, it was predicted that both L1 Kirundi and L2 French would be facilitative in the acquisition of the L3 English past perfect (L1=L2=L3), that neither Kirundi nor French would be facilitative in the acquisition of the English present progressive (L1≠L2≠L3), and that French

would play a facilitative role in the acquisition of the English present perfect (L2=L3≠L1).

About the past perfect tense, the results from the GJT (see *Section 8.2*) confirmed the prediction that the two bilingual control groups and the trilingual experimental group would all perform similarly in the tense. This finding conforms to the LPM's argument that structural similarity is the most important predictor of CLI (Westergaard et al., 2017; Westergaard et al., 2022) as Kirundi, French, and English share roughly the same past perfect tense structure (see *Section 3*). The finding locates the source of CLI in both Kirundi and French.

The GJT results concerning the present progressive tense were, however, surprisingly contrary to the prediction. Given that the structure for the L3 English present progressive tense differs from that of L1 Kirundi as well as that of L2 French (L1≠L2≠L3), the prediction ruled out any facilitative influence of Kirundi and/or French into L3 English. In other words, none of the investigated language groups (L1 Kirundi, L1 French, and L3 groups) was expected to reach significance concerning that tense. Against any expectations, all the language groups performed significantly similarly, which rather indicates a facilitative role of both Kirundi and French in the acquisition process. However, the fact that lower-proficiency learners (pre-intermediate and lower-intermediate groups) had a significantly lower score than higher-proficiency learners (upper-intermediate and advanced groups) on the present progressive tense (see *Section 8.3*) denotes that there were also instances of non-facilitative influence from previous linguistic knowledge among lower-proficiency L3 learners, and this finding matches the researchers' predicted outcome in view of the LPM framework that non-facilitative property-by-property CLI is also possible in the L3A process. This unexpected finding seems to also conform to the *Focus on Multilingualism* approach (Cenoz & Gorter, 2011) which proposes that multilinguals have a holistic profile with an integrated multicompetence rather than a sum of monolingual competences. While the subtractive language groups design proposed by the LPM framework to investigate CLI aims to detect the source of CLI by comparing the performance of the trilingual group with that of the subtracted bilingual groups with the target language kept constant (Westergaard et al., 2022), the *Focus on Multilingualism* view would support that the multicompetence of present study's trilinguals is a unique form of language competence that is not necessarily comparable to that of the subtracted bilinguals. Needless to state, the L3 learners in the present research appear to have used their complex multicompetence to turn the predictable non-facilitative Kirundi and French into rather a helping factor in parsing for the L3 English present progressive tense. Consequently, though structural similarity is viewed as the main driver of CLI from the LPM perspective, the findings in the present research point to L3 learners' complex multicompetence as an additional predictor of CLI in the L3A process. The effect of multilingual competence in CLI was also

detected in the research done by Jabbari and Salimi (2015) though the latter did not specifically check the LPM: they found that L3 learners were relying on "their own interlanguage system" (p. 5) rather than on cross-linguistic structural differences or similarities in their L3A process. Again, this property-by-property parsing for the L3 input which is put forward by the LPM adds interlanguage system (Jabbari & Salimi, 2015) or multicompetence (Cenoz & Gorter, 2011) to the growing list of factors driving CLI in the L3A in addition to the already known factor of structural similarity.

It is also worth noting that, when the language groups' mean scores on grammatical and ungrammatical conditions were compared (see *Section 8.5.1*), the L3 group behaved like the L1 French group, on the ungrammatical condition. Moreover, the L1 French group and the L3 group behaved also similarly in their performance on the present perfect tense where a significant difference between the language groups' scores was also observed. It is important to recall that those are the only two situations where language groups showed significant differences in their mean scores in the GJT. Thus, it is legitimate to argue that, wherever a significant difference was observed between language groups' mean scores, the L3 group were leaning on their L2 French, rather than on their L1 Kirundi, in their performance on the L3 properties despite the observable equal contribution of both previous languages in non-significant difference conditions. This may suggest that, in addition to structural similarity, L3 learners' psychotypology might have led them to perceive English as closer to French than to Kirundi as the two former languages belong to the same Indo-European language family while Kirundi is a Bantu language. The level of psychotypology which was possibly operational in this situation is what Wrembel (2015, p. 54), reporting Ringbom (2002), refers to as the overall level, i.e. "the overall perception of similarity between the language systems of a multilingual user" which is said to have "a facilitative effect on learning".

As far as the acquisition of the present perfect tense (L2=L3≠L1) is concerned, the subtractive language group design advanced in the LPM framework (Westergaard, 2021; Westergaard et al., 2022) as the most efficient methodological design to investigate CLI predicts that the L3 group would have a significantly similar performance as the L1 French group, while both groups are expected to perform significantly more highly than the L1 Kirundi group on that tense. The GJT results (see *Section 8.2*) supported the prediction: L2 French was found to be the source of positive transfer into L3 English as the two languages share the same present perfect tense structure (see *Section 3*). A similar finding was also observed in the study conducted by Eibensteiner (2019) on the acquisition of L3 Spanish perfective and imperfective aspects by German-English bilinguals. Despite not specifically testing the LPM whose framework is followed in the present study to investigate CLI, Eibensteiner found out that L2 English was the source of positive transfer into L3 Spanish thanks to the structural

similarity between both languages with regard to the target linguistic property.

Concerning the third research question as to whether target language proficiency could have a significant influence on the acquisition of L3 English past perfect, present progressive, and present perfect tenses, the results (see *Section 8.3*) led to the rejection of the null hypothesis that there was no such a significant influence. Across all three target structures, higher-proficiency learners were found to have a significantly higher performance than lower-proficiency learners. Even by considering the proficiency groups' mean accuracy on grammatical and ungrammatical conditions (see *Section 8.5.2*), higher-proficiency learners were found to be significantly more sensitive to both grammatical and ungrammatical conditions compared to lower-proficiency learners. This is another indication of the significant effect of target language proficiency on learners' acquisition of the target structures. This finding seems to imply that the more L3 learners gain experience in the target language, the more sensitive to target language properties they become; and this point conforms with the LPM argument that:

> …at later developmental stages when learners have accumulated substantial experience with the L3 and learned to inhibit representations from other languages, the effects of CLI may be diminished. Additional factors such as absolute and relative proficiency in different languages…may also help account for the dynamic changes that a multilingual mind is undergoing (Westergaard et al., 2022, p. 14).

As is suggested in the above quotation, L3 learners' reliance on structural similarity diminishes as they get more familiar with the target language, and this might be the explanation for the significantly increased scores of higher-proficiency groups across the target structures. This finding was also supported in the research done by Ghezlou et al. (2019) who found that "participants were progressively more accurate as proficiency in the L3 increased" (p. 1312). Despite the observed significant effect of proficiency level on learners' scores, its interaction with previous linguistic background showed no significant effect on learners' performance (see *Section 8.1*).

Finally, concerning the cumulative CLI with regard to the acquisition of past perfect, present progressive, and present perfect, the prediction was that L3 learners' mean score on the past perfect would be higher than that on the present perfect, and their score on the present perfect higher than that on the present progressive. The prediction was partly met: the GJT results (See *Section 8.4*) revealed no significant difference between the L3 learners' score on the past

perfect and that on present perfect, while their performance on the latter was significantly higher than that on the present progressive as predicted. Considering the hierarchical order in the difficulty of the structures, the L3 learners were expected to acquire the past perfect tense (L1=L2=L3) earlier than the present perfect (L3=L2≠L1). The results showed rather that learners put the two tenses at the same level of structural complexity despite their actual structural dissimilarity. Here, again, L3 learners' multicompetence appears to have been operational in their assessment of the two tenses. In other words, they used their multilingual competence to overcome what would have been the negative transfer from their L1 Kirundi and to finally perceive the two tenses at the same level of structural complexity, and this fits the point by Kellerman (1983) that multilinguals may perceive structural similarity even in linguistic situations where it is not real.

11. Conclusion

This research aimed to investigate, through the LPM framework, the effect of CLI in the acquisition of L3 English past perfect, present progressive, and present perfect tenses by participants with previous knowledge in L1 Kirundi and L2 French. It also explored the effect of target language proficiency as well as that of its interaction with learners' previous linguistic knowledge in the development of the said target tense-aspect structures. The findings indicated a dominating influence of learners' L2 French in the acquisition of present perfect, while none of the two previous languages showed an exclusive role with regard to the past perfect and present progressive tenses. The significant positive role of French in the acquisition of the English present perfect did not come as a surprise since the two languages enjoy structural similarity with regard to that tense. Furthermore, the equal influence of Kirundi and French in the acquisition of the English past perfect tense was as well not surprising since the three languages are structurally similar in that tense. The results on the present progressive tense were, however, surprising since they were in contradiction with the reality instantiated through cross-linguistic structural variation, and this contradiction was seen to possibly find the explanation in the learners' multicompetence which is also likely to influence their psychotypology when parsing for the L3 input. The findings in this study constitute further evidence for the LPM as a theoretical account of CLI in L3A.

Previous studies which checked the LPM investigated L3A contexts with mainly simultaneous bilinguals acquiring an L3 and used research designs where target language proficiency was not controlled for. This study can help bridge the gap as it provides evidence that proficiency level and order of acquisition are important factors in accounting for CLI in the LPM framework. Furthermore, this study revealed that, in addition to structural similarity as a main factor of CLI in the L3A, L3 learner's multicompetence can also act as a determining factor as L3ers may rely on it to overcome the predictable acquisition burden resulting

from structural differences.

The findings in the present research are hoped to contribute to the existing body of L3A literature, especially that which reports on studies checking the LPM framework. Researchers may also find it interesting to go further by checking the framework in other acquisition contexts with language combinations different than the one herein. Finally, the findings in this study could serve pedagogical purposes for language teachers and material developers who would find them helpful in planning for multilingual acquisition contexts.

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Data availability statement

The data that support the findings of this study are openly available in *Mendeley Data* at https://data.mendeley.com/datasets/xfxnssythy/2 [DOI:10.17632/xfxnssythy.2].

References

Ayoun, D., & Salaberry, M. R. (2008). Acquisition of English tense aspect morphology by advanced French-instructed learners. *Language Learning, 58*(3), 555-595.

Bardel, C. and Falk, Y. (2007). The role of the second language in third language acquisition:the case of Germanic syntax. *Second Language Research* 23(4), 459–484. DOI: 10.1177/0267658307077080557.

Bardel, C., & Falk, Y. (2021). L1, L2 and L3: Same or different?. *Second Language Research, 37*(3), 459-464.

Bardel, C. and Sánchez, L. (2017). The L2 status factor hypothesis revisited: The role of metalinguistic knowledge, working memory, attention and noticing in third language learning. Angelovska T. & Hahn A. (eds.) *L3 Syntactic Transfer: Models, new developments and implications. Amsterdam, NL: John Benjamins, 85–102.*

Berkes, É. & Flynn, S. (2012). Multilingualism: New Perspectives on Syntactic Development. *The Handbook of Bilingualism and Multilingualism, Second*

Edition. Chichester, UK: John Wiley and Sons, Ltd.

Cal, Z., & Sypiańska, J. (2020). The interaction of L2 and L3 levels of proficiency in third language acquisition. *Poznan Studies in Contemporary Linguistics*, *56*(4), 577-603.

Cenoz, J., & Gorter, D. (2011). Focus on multilingualism: A study of trilingual writing. *The Modern Language Journal, 95(3), 356-369.*

Comrie, B. (1976). *Aspect: An introduction to the study of verbal aspect and related problems (Vol. 2). Cambridge university press.*

Eibensteiner, L. (2019). Transfer in L3 acquisition: How does L2 aspectual knowledge in English influence the acquisition of perfective and imperfective aspect in L3 Spanish among German-speaking learners?. *Dutch Journal of Applied Linguistics*, *8*(1), 67-83.

Falk, Y., & Bardel, C. (2011). Object pronouns in German L3 syntax: Evidence for the L2 status factor. *Second Language Research*, *27*(1), 59-82.

Flynn, S.; Foley, C. and Vinnitskaya, I. (2004). The cumulative-enhancement model for language acquisition: Comparing adults' and children's patterns of development in first, second and third language acquisition. *International Journal of Multilingualism 1*(1), 3–16.

Ghezlou, M., Koosha, M., & Lotfi, A. R. (2019). Cross-Linguistic Influence in the L3 Acquisition of English Adjective Properties by Azeri-Persian Bilinguals. *International Journal of Instruction, 12(1), 1299-1318.*

Hermas, A. (2014). Multilingual transfer: L1 morphosyntax in L3 English. *International Journal of Language Studies, 8*(2), 1-24.

Jabbari, A. A., & Salimi, H. (2015). L3 acquisition of simple and present progressive tenses by Iranian EFL learners. *SAGE open*, *5*(4), 2158244015615163.

Jensen, I. N., Mitrofanova, N., Anderssen, M., Rodina, Y., Slabakova, R., & Westergaard, M. (2021). Crosslinguistic influence in L3 acquisition across linguistic modules. *International Journal of Multilingualism*, 1-18.

Kellerman, E. (1983). Now you see it, now you don't. *Language transfer in language learning, 54(12), 112-134.*

Kolb, N., Mitrofanova, N., & Westergaard, M. (2022). Crosslinguistic influence

in child L3 English: An empirical study on Russian-German heritage bilinguals. *International Journal of Bilingualism*, *26*(4), 476-501.

Mollaie, A., Jabbari, A., & Javad Rezaie, M. (2016). The acquisition of French (L3) wh-question by Persian (L1) learners of English (L2) as a foreign language: Optionality theory. *International Journal of English Linguistics*, *6*(7), 36-47.

Mykhaylyk, R., Mitrofanova, N., Rodina, Y., & Westergaard, M. (2015). The Linguistic Proximity Model: The case of verb-second revisited. In *Proceedings of BUCLD* (Vol. 39, pp. 337-349).

Radford, A. (2009). *Analysing English sentences: A minimalist approach*. Cambridge University Press.

Rothman, J. (2010). On the typological economy of syntactic transfer: Word order and relative clause high/low attachment preference in L3 Brazilian Portuguese. *IRAL-International Review of Applied Linguistics in Language Teaching*, *48*(2-3), 245-273.

Rothman, J. (2011). L3 syntactic transfer selectivity and typological determinacy: The typological primacy model. *Second Language Research*, *27*(1), 107-127. DOI: 10.1177/0267658310386439.

Rothman, J. (2015). Linguistic and cognitive motivations for the Typological Primacy Model (TPM) of third language (L3) transfer: Timing of acquisition and proficiency considered. *Bilingualism: language and cognition*, *18*(2), 179-190. DOI: 10.1017/S136672891300059X.

Schmid, M. S. (2011). *Language attrition*. Cambridge University Press.

Sharifi, M. M., & Lotfi, A. (2019). Relationship between Iranian EFL High School Students' Knowledge of Universal Grammar and their Performance on Standardized General English Proficiency Tests. *International Journal of Foreign Language Teaching and Research*, *7*(28), 57-73.

Sikogukira, M. (1993). Influence of Languages Other than the L1 on a Foreign Language: A Case of Transfer from L2 to L3. *Edinburgh working papers in Applied Linguistics*, *4*, 110-132.

Smith, C. (1991). *The parameter of Aspect*. Dordrecht: Kluwer Slabakova, R. (2017). The scalpel model of third language acquisition. *International Journal of Bilingualism, 21(6), 651-665. DOI: 10.1177/1367006916655413*

Westergaard, M., Mitrofanova, N. , Mykhaylyk, R. , et al. (2017). Cross-linguistic influence in the acquisition of a third language: The Linguistic Proximity Model. *International Journal of Bilingualism* 21(6), 666–682. DOI: 10.1177/1367006916648859.

Westergaard, M. (2021). Microvariation in multilingual situations: The importance of property-by-property acquisition. *Second Language Research, 37*(3), 379-407.

Westergaard, M., Mitrofanova, N., Rodina, Y., & Slabakova, R. (2022). Full Transfer Potential in L3/Ln acquisition: Crosslinguistic influence as a property-by-property process. *The Cambridge handbook of third language acquisition and processing*.

Appendix: Grammaticality Judgment Task

React on the grammaticality of the sentences below by ticking the correct option. For the ungrammatical sentence, provide its grammatically correct version as in the example below.

Example:

If she meet you, she will be happy.
a. grammatical b. ungrammatical ✓ c. I don't know

Correct sentence: If she meets you, she will be happy.

1. When my father got home, I had finished my homework.
a. grammatical b. ungrammatical c. I don't know

2. It is difficult to pass an exam which you didn't prepare.
a. grammatical b. ungrammatical c. I don't know

3. When you came home, I have left.
a. grammatical b. ungrammatical c. I don't know

4. My sister is preparing her English examination.
a. grammatical b. ungrammatical c. I don't know

5. His father has worked in this school for ten years.
a. grammatical b. ungrammatical c. I don't know

6. I felt anxious when I entered the examination room because I had not revised the lessons.

a. grammatical b. ungrammatical c. I don't know

7. They are talking about your success.
a. grammatical b. ungrammatical c. I don't know

8. The internet is one of the most important inventions in the universe.
a. grammatical b. ungrammatical c. I don't know

9. I read the book written by Mark Twain now.
a. grammatical b. ungrammatical c. I don't know

10. He taught at university for ten years.
a. grammatical b. ungrammatical c. I don't know

11. If I have got money, I would have bought the house.
a. grammatical b. ungrammatical c. I don't know

12. They correct the exercises now.
a. grammatical b. ungrammatical c. I don't know

13. We have not cleaned the sitting room yet.
a. grammatical b. ungrammatical c. I don't know

14. When my classmate came home for a visit, I had already prepared a room for him..
a. grammatical b. ungrammatical c. I don't know

15. He already sent me my copybook.
a. grammatical b. ungrammatical c. I don't know

16. The exam day came when I have revised all my lessons.
a. grammatical b. ungrammatical c. I don't know

17. Jim is chatting with his friend in the school playground.
a. grammatical b. ungrammatical c. I don't know

18. Humans' motivations for war will always be a complex subject.
a. grammatical b. ungrammatical c. I don't know

19. Which course you revise at this moment?
a. grammatical b. ungrammatical c. I don't know

20. Daniel and John have studied at that university since 2018.
a. grammatical b. ungrammatical c. I don't know

21. They have worked in this school for only two weeks before they resigned.
a. grammatical b. ungrammatical c. I don't know

22. My best friend failed the national exam two times now.
a. grammatical b. ungrammatical c. I don't know

23. When I joined high school, my big brother has graduated from university.
a. grammatical b. ungrammatical c. I don't know

24. They are reading an interesting book on education.
a. grammatical b. ungrammatical c. I don't know

25. Most of my siblings enjoy reading about philosophy.
a. grammatical b. ungrammatical c. I don't know

26. I revise History lessons now.
a. grammatical b. ungrammatical c. I don't know

27. My high school friend and I haven't seen each other since 2015.
a. grammatical b. ungrammatical c. I don't know

28. He had done the homework before the teacher came to class.
a. grammatical b. ungrammatical c. I don't know

29. I owned this book since I was a small boy.
a. grammatical b. ungrammatical c. I don't know

30. I have seen this teacher before he joined this school.

a. grammatical b. ungrammatical c. I don't know

31. The world may face many challenges in the future.
a. grammatical b. ungrammatical c. I don't know

32. I am studying the most difficult subject this school year.
a. grammatical b. ungrammatical c. I don't know

33. I have never repeated a class in my entire education.
a. grammatical b. ungrammatical c. I don't know

34. He prepares the final examination now.
a. grammatical b. ungrammatical c. I don't know

35. My brother watched this movie since he was in primary school.
a. grammatical b. ungrammatical c. I don't know

36. Countries can learn from their differences and avoid turning the latter into sources of conflict.
a. grammatical b. ungrammatical c. I don't know