IMMIGRANT HERITAGE LEARNERS' ACQUISITION OF L3 EFL: A SYSTEMATIC

REVIEW OF INDIVIDUAL AND CONTEXTUAL VARIABLES

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ABSTRACT. Heritage speakers (HS) with an immigrant background are bilinguals whose L1 is a minority language that lacks social status in the host country. A bilingual advantage has been extensively reported in research in third language acquisition (TLA) mainly in the context of bilingual education. However, mixed results are obtained when TLA takes place in immigration contexts. In an attempt to understand this variability, this systematic review examines the individual and contextual variables reported in the literature that could be mediating the relationship between immigrant HS' bilingualism and their EFL L3 learning in educational settings across Europe. Following the PRISMA guidelines, we have examined 20 peer-reviewed studies (2013-2023). The findings highlight socioeconomic status, cognitive abilities, and manner of acquisition of the L1 as affecting L3 learning. This systematic review emphasizes the need to tailor instruction to the specific characteristics and needs of these learners, promoting a more individualized approach to L3 teaching.

Keywords: immigrant heritage speakers, third language acquisition, bilingualism, EFL, individual variables, contextual variables.

ADQUISICIÓN DE L3 ILE POR HABLANTES DE HERENCIA INMIGRANTES: REVISIÓN SISTEMÁTICA DE VARIABLES INDIVIDUALES Y CONTEXTUALES

RESUMEN. Los hablantes de herencia de origen inmigrante son bilingües cuya L1 es una lengua minoritaria que carece de estatus social en el país de acogida. Según la investigación sobre la adquisición de terceras lenguas, existe una ventaja bilingüe, principalmente en el contexto de la educación bilingüe. Sin embargo, cuando la adquisición de la tercera lengua ocurre en un contexto de inmigración, se obtienen resultados dispares. Para intentar comprender estas inconsistencias, esta revisión sistemática examina variables individuales y contextuales reportadas en la literatura que podrían estar mediando la relación entre el bilingüismo de los hablantes de herencia inmigrantes y su aprendizaje de L3 de ILE en contextos educativos de toda Europa. Siguiendo las directrices PRISMA, hemos examinado 20 estudios revisados por pares (2013-2023). Los resultados muestran que el estatus socioeconómico, las habilidades cognitivas y la forma en que se aprende la L1 afectan el aprendizaje de la L3. Esta revisión enfatiza la importancia de adaptar la instrucción a las características y necesidades únicas de estos alumnos, promoviendo una enseñanza de L3 más individualizada.

Palabras clave: hablantes de herencia inmigrantes, adquisición de terceras lenguas, bilingüismo, ILE, variables individuales, variables contextuales.

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1. INTRODUCTION

Despite the widespread notion of bilingual speakers as a homogeneous group, they actually represent a very diverse population with varying linguistic backgrounds, ages of language acquisition, and proficiency levels in their two languages (Lorenz et al. 186). Far from restrictive views of bilingualism "as native-like control of two languages" (e.g., Bloomfield 56), a more flexible trend nowadays understands bilingualism as "the use of more than one language (dialect) in everyday life" (Grosjean 5). We will adhere to this definition in the present study.

Within the bilingual group, heritage speakers (HSs) are individuals who speak a heritage language. A heritage language can be defined as a minority language which is spoken by ethnolinguistic minority groups, and which may or may not have the social status and social recognition that a majority language has (Montrul 14). Heritage languages can be divided into three categories, namely national minority languages (e.g., Basque in Spain), aboriginal languages (e.g., Quechua in Peru), and immigrant languages (e.g., Urdu in Spain) (Montrul 14). In the present study, we will focus on HSs with an immigrant background (hereinafter referred to as *Immigrant HSs* or *IHSs*).

Immigrant HSs have been exposed to two languages: a minority and a majority language (Hopp et al., "Pedagogical translanguaging" 3). While they have the

opportunity to learn their majority language both formally and informally, their heritage language is typically limited to the home environment and lacks formal instruction because of its lack of status and social recognition in the host country (Lorenz et al. 204). Consequently, many IHSs are illiterate in their minority language, resulting in a proficiency mainly confined to oral communication (Bonifacci et al. 184). Over time, they tend to become dominant in the majority language, largely due to exposure to it through schooling or interactions with other members of society (Montrul 18). Hence, they are generally identified as unbalanced bilinguals. Furthermore, their bilingualism is often characterized as subtractive, as the predominant language in their environment may gradually replace the role of the individual's minority language (Hopp et al., "Bilingual advantages" 99).

Bilinguals' prior experience with multiple languages has been associated with enhanced executive functions (Bialystok 210; Poarch and Bialystok 115; Yang et al. 412). Over the past two decades, research has addressed the potential effect of this bilingual advantage on the acquisition of third and additional languages. Third language acquisition (TLA) is defined as "the acquisition of a language that is different from the first and the second and is acquired after them (...) It can refer to the language chronologically acquired after the second language or to any language acquired after the second language" (Cenoz, "Third language acquisition" 1089). An overall positive impact of bilingualism on TLA has been reported regarding L3 proficiency (Sanz 23), development of learning strategies (Moore 23), and metalinguistic awareness (Thomas 236). This advantage is not so clear with respect to specific aspects of language proficiency, such as vocabulary (e.g., Agustín-Llach; Fernández-Fontecha et al.). These findings are mainly restricted to bilingual or multilingual settings in which two or more languages are used and a foreign language is taught in school (Cenoz, "Focus on multilingualism" 74). More mixed results are identified in the case of immigrant learners.

Rising rates of immigration have resulted in an increase of this type of bilingual worldwide, which has clear consequences for TLA. In contrast to TLA research in bilingual education contexts, research regarding migrant learners has yielded mixed results (e.g., Grenfell and Harris; Jiménez-Catalán and Fernández-Fontecha; Maluch and Kempert)

Potential disadvantages in socioeconomic and sociocultural status are frequently used to explain these findings regarding migrant learners. However, this inconclusive evidence underscores the need for further research, starting with systematic reviews of existing research on this topic. In the present study, we are interested in identifying contextual variables as well as main individual difference factors, such as cognitive, affective or sociocultural differences (see, for example, Li et al. for a list of them), that could help explain findings of TLA in the case of IHSs. Aware of the existence of reviews focused on other types of bilinguals and TLA (e.g., Puig-Mayenco et al.), this review targets exclusively IHSs learning English as an L3 in European school settings. We seek to address the following research question:

What individual and contextual variables are considered in research on EFL L3 immigrant HSs, and to what extent do these variables influence their performance?

2. METHODOLOGY

The present systematic review adheres to the PRISMA (Preferred Reporting Items for Systemic Review and Meta-Analysis) reporting guidelines (Page et al.).

2.1. Eligibility criteria

Studies had to meet specific criteria to be considered for inclusion in this review. The participants had to be HSs with an immigrant background learning English as an L3 in educational contexts across Europe. The studies were published between 2013 and 2023 and employed either experimental or quasi-experimental study designs. The methodology could be quantitative or a combination of both quantitative and qualitative. Only online peer-reviewed articles were considered. Any studies failing to meet all these criteria were excluded from consideration. In addition, all the studies focusing on cross-linguistic influence were also omitted, as a recent publication (Lorenz) specifically addresses cross-linguistic influence on L3 acquisition by HSs, already covering all existing literature on this specific issue.

2.2. Search strategy

We collected data from Scopus, the Educational Resources Information Center, and Google Scholar. In order to find articles related to the topic of research we used the following key terms: "heritage speakers" AND "immigrant/migrant" AND ("L3" OR "TLA"), "heritage speakers" AND "bilingual advantage" AND ("additional language learning/acquisition" OR "L3"), "heritage speakers" AND (FL / "Foreign Language"), "immigrant learners" AND ("L3" OR "TLA).

2.3. Selection process

After introducing the key words in all three databases and carrying out a process of data deduplication, we proceeded to screen the titles and abstracts of all the retrieved records. In the case that the screening of the title and the abstract was not sufficient to determine whether or not one of the papers followed the inclusion criteria, that study was retained for full-text examination. We fully screened all those that were potentially eligible and analyzed them in more depth to select those that considered individual and contextual variables.

2.4 Data extraction and data items

Following, we extracted the relevant information from each study for a final sample. To do so, we created a table in Microsoft Excel to organize the information from each of these studies and facilitate the analysis. We included the following categories: author and year, focus, objective(s), research questions, hypotheses, participants, procedure, results, conclusions, and limitations.

3. RESULTS

As illustrated in the PRISMA flow diagram shown in Figure 1, the initial search across various databases yielded a total of 3567 studies that included the specified research terms. Subsequently, we removed 2568 duplicates, leaving 1657 for screening. We eliminated the majority as they did not meet the established criteria. Only 30 studies were potentially eligible, which we fully screened and examined. Considering the specific topic chosen, ultimately, we selected 20 studies, the majority of them from Germany, for this literature review as they met all the eligibility criteria and considered individual and contextual variables.

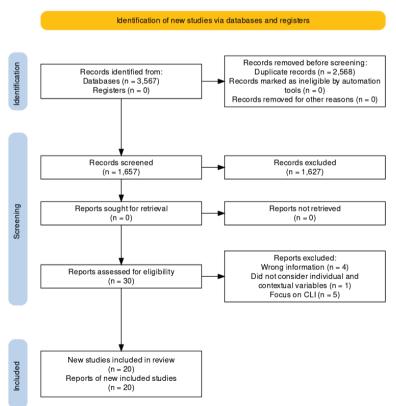


Figure 1. PRISMA flow diagram. Based on Page et al.

Table 1 (Annex) displays the main characteristics of the studies identified in our review. The sixth row includes the variables considered across the studies.

As can be seen in Table 1 (Annex), the studies address a variety of variables. The most frequently discussed ones are cognitive abilities (CA), socioeconomic status (SES), age, type of school, language teaching methodology, manner of acquisition of the L1 and language dominance. Next, we will provide further information regarding how these variables impact EFL L3 performance of IHS.

3.1. Cognitive abilities

Ten studies have CA (e.g., non-verbal intelligence, visual spatial ability, phonological awareness, and working memory) as an independent variable. Eight of them controlled for this variable (Edele et al.; Hopp et al., "Bilingual advantages"; Lorenz et al.; Maluch et al., "Speaking a minority language"; Maluch et al., "Bilingualism"; Siemund et al.; Siemund and Lechner; Steinlen) and only one (Siemund et al.) examined the significance of cognitive ability in EFL acquisition.

The studies that control for CA assess the effect of the independent variable IHS bilingualism on a linguistic aspect of English. According to these studies, this strategy was chosen due to the belief that IHS could have less cognitive development than their monolingual counterparts. It was widely acknowledged that CA had a significant impact on both academic performance and language proficiency (Siemund et al. 2). However, the CA tests conducted in the analyzed studies (e.g., Steinlen and Piske 228; Steinlen 430) generally produced results indicative of age-appropriate cognitive development of the participants and showed little differences between IHSs and monolinguals.

In Hopp et al. ("Bilingual advantages") and Maluch et al. ("Speaking a minority language"; "Bilingualism"), only when these variables were controlled for did bilingualism's positive effect on IHSs' acquisition of an L3 surface. For instance, in Hopp et al. ("Bilingual advantages" 106), while the linguistic repertoire of the IHS did not appear to confer them any discernible advantages in EFL learning, subsequent considerations of non-verbal intelligence quotient (IQ) and working memory unveiled notable benefits for IHSs in English productive vocabulary and receptive grammatical skills. Nevertheless, CA did not appear as a strong predictor of FL performance in the studies conducted by Bonifacci and Tobia (24), Bonifacci et al. (192), and Hopp and Thoma. Interestingly, a discernible trend emerges in these studies (Hopp and Thoma; Bonifacci and Tobia; Bonifacci et al.): the lack of control of other significant variables such as SES.

Siemund et al.'s study is the only one which considered the variable CA on its own and investigated its impact on the associative strength of EFL L3 development and IHSs' bilingualism, as well as the extent of this influence. The findings of this study indicated that both prior learning experiences and overall CA exert a noteworthy influence and may potentially mutually reinforce each other. Language interdependence between the majority or the minority language and the L3 was

stronger with high CA. Notably, more pronounced effects were discernible within the IHS cohort, a phenomenon that the authors suggested could potentially be attributed to the prior exposure of these participants to multiple languages.

3.2. Socioeconomic status

One of the independent variables that is frequently considered in the literature is SES. Approximately 14 studies (e.g., Hopp et al., "Plurilingual teaching"; Lechner and Siemund, "Bi- and multilingual contexts"; Maluch et al., "Speaking a minority language"; Maluch and Kempert) controlled for this variable to make sure it did not obscure the potential positive impacts of IHS bilingualism. The Highest International Socio-Economic Index of Occupational Status (HISEI), mostly derived from parental questionnaires, was the main instrument used in the literature to indicate the socioeconomic position of the participants. The scores showed that IHS generally had a worse socioeconomic position than their monolingual peers (Lorenz et al. 194). According to the research done by Maluch et al. ("Speaking a minority language 77), this holds significant implications for IHS because lower levels of language proficiency are commonly associated with a low SES, and much of IHS' supposedly bilingual advantage in L3 learning is due to their larger linguistic repertoires.

Interestingly, all the studies in our review that obtained positive effects of IHS bilingualism in EFL performance (Hopp et al., "Bilingual advantages"; Maluch et al., "Speaking a minority language"; Maluch et al., "Bilingualism"; Siemund and Lechner) controlled for this variable. Additionally, it was evident in the research by Hopp et al. ("Bilingual advantages" 108) and Maluch et al. ("Bilingualism" 115), who showed the results before and after factoring in the SES, that IHS outperformed their monolingual peers in the English proficiency tests when these variables were controlled for and not otherwise. In contrast, there were two studies (Lechner and Siemund, "Language external factors"; Lorenz et al.), that contradicted those identifying SES as a significant predictor of EFL learning. Lechner and Siemund's ("Language external factors" 10-11) study did not show any differences between the monolingual and IHS group in the results even when considering the SES. Meanwhile, in Lorenz et al.'s (202), the SES of the participants did not appear to account for the variance in English C-test scores, while the variable school type demonstrated notable significance.

3.3. Age

The age of the participants is always indicated, nevertheless, only six studies (Hopp et al., "Bilingual advantages"; Hopp et al., "Pedagogical translanguaging"; Lorenz et al.; Maluch et al., "Bilingualism"; Siemund and Lechner; Steinlen) in the literature regarded it as a variable on its own. Three of these studies were longitudinal (Hopp et al., "Bilingual advantages"; Hopp et al., "Pedagogical translanguaging"; Steinlen), which means that they worked with the same cohort of

individuals throughout the years to see whether, and how, their performance in the FL changed. Meanwhile, the studies conducted by Lorenz et al., Maluch et al. ("Bilingualism") and Siemund and Lechner were not longitudinal, but they did compare learners from different ages with the same purpose.

These studies yielded two analogous results. In all of the studies, the IHSs' performance in English improved with the increase of age. However, the progression was greater in the group of monolinguals. This can be seen more clearly in the studies conducted by Hopp et al. ("Bilingual advantages"), Maluch et al. ("Bilingualism") and Siemund and Lechner. In these studies, the significant advantage of the IHSs on L3 performance at the early stages was reduced over the years, leading to similar levels of English proficiency of both groups. Hopp et al. ("Bilingual advantages" 99) compared the receptive and productive vocabulary knowledge and the receptive grammatical knowledge in English of IHSs and monolingual learners at the end of grades three and four. The results showed that bilinguals' benefits in the learning of an L3 decreased from grade three to grade four (Hopp et al., "Bilingual advantages" 107). Furthermore, the minority language speakers benefitted from positive crosslinguistic influence on grade three, but this tendency was not corroborated in grade four. The rest of the studies (Maluch et al., "Bilingualism"; Siemund and Lechner) further support these findings.

Two explanations have been proposed to account for the observed proficiency levelling in the foreign language among IHSs and monolingual learners, including the monolinguals' enhancement of their metalinguistic awareness due to the increase in exposure to a foreign language (Maluch et al., "Bilingualism" 116) and the attrition of the minority language of the IHSs due to the lack of formal instruction in these languages, which would make the positive effects disappear (Hopp et al., "Bilingual advantages" 107).

3.4. Type of school

The type of school where the IHSs receive their formal education is also identified as a variable influencing FL performance in six of the studies included in the literature (Lechner and Siemund, "Language external factors"; Lechner and Siemund, "Bi- and multilingual contexts"; Lorenz et al.; Maluch et al., "Bilingualism"; Steinlen; Steinlen and Piske). Steinlen (421) and Steinlen and Piske (220) focused on schools with a German-English immersion programme, wherein a maximum of 70-80% of the teaching was conducted in English. The aim of these studies was to ascertain whether schools with these programmes were beneficial or disadvantageous for IHSs. In Steinlen and Piske (234), as well as in the rest of studies examining this variable, both IHSs and monolinguals benefitted from this immersion program. The main reason was the substantial level of English exposure in bilingual schools, along with the variety and abundance of input.

The rest of the studies (Lechner and Siemund, "Language external factors"; Lechner and Siemund, "Bi- and multilingual contexts"; Lorenz et al.; Maluch et al.,

"Bilingualism"), compared IHSs attending a *Gymnasium*, i.e., university-bound school track, with IHSs attending any other types of secondary schools. The reason behind this comparison was that attending one or another of these school types is believed to determine the overall English performance of the students because of underlying differences between the learners: SES and cognitive factors. In Lechner and Siemund ("Language external factors" 11), IHSs attendees of the *Gymnasium* high schools presented, in general, higher socioeconomic and educational background, and scored better than their peers from other high schools in the English written task in which they were tested. Interestingly, the monolinguals attending a *Gymnasium* also presented better performance than the IHSs and monolinguals attending other types of secondary schools, meaning that this variable seemed to affect both groups equally.

3.5. Teaching methodology of the FL

Four of the studies in the literature (Busse et al.; Hopp et al., "Pedagogical translanguaging"; Hopp et al., "Plurilingual teaching"; Hopp and Thoma) focused on the teaching methodology variable and conducted quasi-experimental intervention to see if plurilingual FL teaching may have a positive effect on the FL performance of both IHSs and their monolingual peers. The intervention consisted in incorporating the entirety of the learners' linguistic repertoire into the FL classes through class activities, rather than solely focusing on specific target language elements.

Three out of the four studies (Busse et al.; Hopp et al., "Plurilingual teaching"; Hopp and Thoma) showed positive effects of the plurilingual FL teaching methodology in different aspects of the FL. Busse et al. (10-11) conducted a quasi-experimental intervention study with primary school students, half of them with a minority language. The results of the studies showed that the intervention group achieved greater progress in vocabulary learning than the control group. Hopp and Thoma (1) analyzed the effects of pedagogical translanguaging in two studies, in the learning of object *wb*-questions and passive sentences in English. In the first study, the pre-test showed similar performance between the intervention and control group. However, in the post-test, the intervention group showed larger learning gains. In the second study, differences between the groups were less pronounced. This was attributed to the learners in the control group independently discerning the similarities in the utilization of passive voice between English and German, thus benefiting from it without needing external intervention.

Interestingly, the positive learning gains were comparable in both minority and majority language groups (Busse et al. 29-30; Hopp et al., "Plurilingual teaching" 11; Hopp and Thoma 17). While the IHSs in the intervention group performed significantly higher than the IHSs from the control group in the post-test, no differences in performance were found between IHSs and monolinguals from the intervention group (Hopp et al., "Plurilingual teaching" 11). Busse et al. (4) pointed out that the different activities were targeted to facilitate language learning by

fostering, among other things, metalinguistic awareness, while also cultivating positive attitudes towards all languages in both groups. In fact, as could be seen in this study, apart from the learning gains, the whole intervention group, without taking into consideration their linguistic background, demonstrated elevated aspirations toward their plurilingual ideal selves.

3.6. Manner of acquisition and language dominance

Two other predominant variables are addressed in this review that are somewhat related: manner of acquisition of the minority language (Hopp et al., "Bilingual advantages"; Maluch and Kempert; Lorenz et al.) and language dominance (Edele et al.; Hopp et al., "Bilingual advantages"; Lechner and Siemund, "Language external factors"; Maluch et al., "Speaking a minority language"; Maluch et al., "Bilingualism"; Maluch and Kempert). As pointed out by Thomas (240), the manner of acquisition of a language determines the quantity and quality of language exposure and language use. There are three different ways of acquiring a language: either through formal instruction, naturally in the home context or both ways. IHSs generally acquire their minority language in the home context (Montrul 44). At the same time, they receive input from the majority language through formal instruction or when interacting with members of the majority society. Three studies in the literature (Hopp et al., "Bilingual advantages"; Maluch and Kempert; Lorenz et al.) examined the manner of acquisition of the minority language of IHSs and found some correlations with their L3 performance and metalinguistic development. Maluch and Kempert (6) controlled for this variable by comparing IHSs who acquired their minority language at home and those who developed it both formally and in the home context. The results revealed that once controlling for background characteristics, IHSs who reported receiving formal instruction beyond the school curriculum in their minority language, had better results in the reading and listening English tests than those IHSs who only practiced their minority language in the home context. Hopp et al. ("Bilingual advantages") and Lorenz et al.'s studies also aligned with these findings.

Concerning language dominance, most of the studies in the literature indicated that IHSs were unbalanced bilinguals due to the lack of formal instruction in the minority language (e.g., Lechner and Siemund, "Language external factors" 12). However, solely the studies by Edele et al., Hopp et al. ("Bilingual advantages"), Maluch et al. ("Bilingualism") and Maluch and Kempert, examined the effects of this variable in the L3 performance of IHSs. Edele et al. (235) compared different profiles of balanced bilinguals (i.e., high level and low-level balanced bilinguals) and L1 or L2 dominant IHSs. In the results, balanced bilinguals at a high level outperformed all the other groups, including low-level balanced bilinguals, L1 or L2 dominant IHSs and monolinguals. Another interesting outcome of this study was that, although not in the same level as high balanced bilinguals, IHSs who were dominant in the L2 also had high scores in the English tests, outperforming the low balanced bilinguals, the L1-dominant bilinguals and the monolinguals. This goes in line with the studies

conducted by Maluch et al. ("Speaking a minority language" 82) and Maluch et al. ("Bilingualism" 116) in which proficiency in the majority language was also a predictor of L3 achievement. However, no conclusions can be drawn from this since there are two other studies (Hopp et al., "Bilingual advantages" 106; Maluch and Kempert 10) in which the proficiency in the minority language exerted a more profound influence on L3 performance of IHSs compared to the majority language.

4. CONCLUSIONS

The purpose of this systematic review was to identify and examine the individual and external variables studied in research focused on immigrant HSs and their L3 EFL learning in educational settings across European countries. The analysis indicated that a wide array of individual and contextual variables was considered in such research and explained the mixed results in the findings of studies targeting IHSs. This strengthens the assumption that simply being bilingual does not inherently lead to bilingual advantages in TLA. Instead, as discussed by Maluch and Kempert (3), it is the presence of other factors, such as the ones shown in this review of studies, that facilitate the mechanisms leading to these advantages.

The most frequently occurring variable in these studies was SES, which is not surprising given that results involving migrant learners are typically explained by a potential disadvantage in socioeconomic status (Cenoz, "Focus on multilingualism" 75). All the studies that showed positive effects controlled for the SES variable, which suggests that SES may contribute more clearly than other variables in explaining the L3 performance of this group of bilinguals. This is likely due to the fact that the SES of the individuals determines to some extent the type of school the individual attends, the variety of exposure to extracurricular activities that may support the FL being learned (Muñoz 589) or the motivation (Kormos and Kiddle 400-401) towards language learning, among other things. This merits further research.

A significant observation from our systematic analysis is that the variables do not function on their own and are mostly intertwined. This became evident when lack of control of certain variables (e.g., SES) seemed to mask the positive effects of IHSs' bilingualism despite the control of other significant factors (e.g., CA). This reinforces Takeuchi et al. (94)'s idea that the individuals' performance is impacted by a constellation of variables and not only one. Likewise, in some cases, it appeared that certain variables were intertwined. For example, when analyzing the variable SES, we noted that in one study (Lorenz et al. 202), the socio-economic status of participants did not seem to explain the variance in English C-test scores. However, the variable of school type demonstrated notable significance in this particular study. These two variables could be linked, since it is common that children with higher socioeconomic background attend more prestigious schools.

Our review also identified a variable that is less commonly explored in research involving other types of bilingual individuals: manner of acquisition of the L1. As Montrul (92) emphasizes, this variable holds relevance in studies focusing on IHSs

because of the absence of social recognition of the heritage language in the host country. In this regard, the analysis of the studies showed that IHSs who received formal instruction in the minority as well as the majority language generally exhibited a linguistic advantage which had a positive effect on their L3 performance. This finding is consistent with the perspective of numerous scholars, including Cenoz ("Additive effect of bilingualism" 76; "Focus on multilingualism" 80) or Wei and García (314), who have highlighted the importance of translanguaging as a means to offer IHSs language support in the minority language in order to empower them and help them succeed not only in their FL performance, but also in their integration into the host country without losing their linguistic and cultural hybridity.

5. IMPLICATIONS AND LIMITATIONS

Taken together, the results in this review of studies have implications both at policy and pedagogical level in the context of Europe. Given the growing interest in promoting linguistic diversity, the findings call for governments of the European host countries to develop further policies to assist immigrant HSs in developing all their languages in an additive instead of a subtractive environment. As has been implied in the studies analyzed, supporting their minority language, and offering these learners formal instruction, would probably help them become more aware of the full range of linguistic resources available to them and trigger their bilingual advantage. At the pedagogical level, the results of the studies raise awareness of the need to tailor instruction to the specific needs of these learners. Given the heterogeneity among IHSs and the many variables that influence their L3 EFL achievement, teachers should take a more individualized approach to FL teaching, designing curricula that address the specific challenges faced by each IHS.

This study presents several limitations that could be addressed in future research. The review's time frame (2013-2023) and the focus on English as the designated FL within educational settings across European countries may have restricted insights. Nevertheless, despite these limitations, the findings of the present review demonstrate that this area of research is still emerging and that many factors play a role in the L3 EFL learning of IHSs, while indirectly shedding light onto the resources that can be used to make up for the achievement gaps that have arisen.

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IMMIGRANT HERITAGE LEARNERS' ACQUISITION OF L3 EFL: A SYSTEMATIC REVIEW OF INDIVIDUAL AND CONTEXTUAL VARIABLES

ANNEX

Table 1. Summary of reviewed studies.

STUDY	Context	PARTICIPANTS	AGE OF THE PARTICIPANTS	VARIABLES
Steinlen and Piske	Germany	N=91 1st grade (n= 24; 42% IHSs) 2nd grade (n= 25; 48% IHSs) 3rd grade (n= 18; 61% IHSs) 4th grade (n= 24; 58% IHSs)	1st grade (mage = 87 months old) 2nd grade (mage = 98.9 months old) 3rd grade (mage = 113.4 months old) 4th grade (mage = 124.3 months old)	Type of school, family variables, cognitive abilities
Lechner and Siemund ("Language external factors")	Germany	N=20 Monolinguals (n= 5) Russian-German (n= 5) Turkish- German (n= 5) Vietnamese German (n= 5)	16 years old	Age of onset of German, gender, type of school, SES
Lechner and Siemund ("Bi- and multilingual contexts")	Germany	N=52 Russian-German (n=20) Vietnamese-German (n=11) Turkish-German (n=5) German monolinguals (n=16)	12 years old 16 years old	Type of school, gender, age, age of onset of German, SES
Maluch et al. ("Speaking a minority language")	Germany	N=2946 German monolinguals (n= 1896) Arabic-German (n=105) Chinese-German (n=110) Polish- German (n=57) Turkish-German (n=383) Heterogeneous IHSs (n= 284)	6 th grade (m <i>age</i> = 12 years old)	CA, age, gender, SES, parental education, cultural capital
Siemund and Lechner		N= 80 German monolinguals (n= 20) Russian-German (n= 20) Vietnamese-German (n= 20) Turkish-German (n= 20)	12 years old and 16 years old	Age, socioeconomic and educational background, self-perceived proficiency in English

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STUDY	Context	PARTICIPANTS	AGE OF THE PARTICIPANTS	VARIABLES
Bonifacci and Tobia	Italy	N= 600 Monolinguals with specific learning disorders (n= 30) PC monolinguals (n= 129) Control group (n= 300) Early IHSs (n= 103) Late IHSs (n=38)	1 st , 2 nd , 3 rd , 4 th , 5 th grade (m <i>age</i> = 12.50 years old)	Different cognitive or language profiles
Maluch et al. ("Bilingualism")	Germany	N= 2,104 German (n= 820) Mixed dominant German (n= 119) Mixed dominant non- German (n=63), Non-German only (n= 30)	6 th grade (12 years old) 8th grade (14 years old)	CA, age, gender, SES, parental education, and number of books.
Trapman et al.	The Netherlands	N= 50 Dutch monolinguals (n= 24) IHSs (n= 26)	7 th grade-9 th grade	Linguistic knowledge and metacognitive knowledge
Bonifacci et al.	Italy	N= 114 DYS group (n= 19) IHSs (n= 19) TYP (n= 76)	4 th and 5 th grade (m <i>age</i> =10.24 years old)	CA
Maluch and Kempert	Germany	N= 1295 German monolinguals (n= 839) Bilingual (n= 456), Formal instruction (n= 230) At home (n= 217) Simultaneous (n= 210) Sequential (n= 195) Non-switchers (n= 23) Seldom switchers (n= 103) Often switchers (n= 183) Continuous switchers (n= 114)	8 th and 9 th grade (m <i>age</i> = 16 years old)	Manner and sequence of bilingual acquisition and learning; language use practices in L1, SES, cultural capital and gender
Steinlen	Germany	<i>N</i> = 99 Monolinguals (<i>n</i> = 47) IHS (<i>n</i> = 52)	T1: 3rd grade (mage = 9.2) T2: 4th grade (mage = 10.2)	CA, family variables, family activities

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STUDY	Context	PARTICIPANTS	AGE OF THE PARTICIPANTS	VARIABLES
Edele et al.	Germany	N= 8752 German monolinguals (n= 352), Russian-German (n= 352), Turkish German (n=436)	10 th grade (m <i>age</i> = 16.03 years old)	SES, number of books, academic track, CA (non-verbal reasoning ability)
Hopp et al. ("Bilingual advantages")	Germany	$N=200$ 3^{rd} grade- German ($n=88$) Multilinguals ($n=112$) 4^{th} grade – German ($n=81$) Multilinguals ($n=103$)	3 rd grade and 4 th grade (m <i>age</i> = 95 to 135 months)	L1 and L2 proficiency, CA (phonological awareness, working memory and executive function) and social background
Busse et al.	Germany	N= 42 IHSs (n= 19) Monolinguals (n= 13)	m <i>age</i> =8.7 years old	FL teaching methodology, gender
Lorenz et al.	Germany	N= 1,718 German monolinguals (n= 914) Turkish-German IHSs (n= 485) Russian-German IHSs (n= 319)	7 th grade (12-13 years old) 9 th grade (14-15 years old)	Reading fluency and comprehension in L1 and L2, school type, school year, SES, CA
Efeoglu and Schroeder	Germany	<i>N</i> = 167 IHSs (<i>n</i> = 167)	5 th grade 7 th grade 10 th grade 12 th grade	L1 and L2 proficiency
Hopp et al. ("Pedagogical translanguaging")	Germany	N= 122 Intervention group: German monolinguals (n=32); IHSs (n= 35) Comparison group: German monolinguals (n=30); IHSs (n= 25)	4 th grade (m <i>age</i> = 9.7 years old)	FLL teaching methodology, CA, SES
Hopp and Thoma	Germany	N= 258 n1= 125 PTL1 = 62; IHSs = 33, monolinguals = 29 CG1 = 53; IHSs = 26, monolinguals = 27 n2 = 139 PTL2= 69; IHSs = 30, Monolinguals = 39 CG2 =62; IHSs = 26, Monolinguals = 36	4 th grade (9-10 years old)	FL teaching methodology, CA, language proficiency in the L1

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STUDY	CONTEXT	PARTICIPANTS	AGE OF THE PARTICIPANTS	VARIABLES
Hopp et al. ("Plurilingual teaching")	Germany	N= 258 Intervention group (n= 134) Comparison group (n= 124) Monolinguals (n= 145) IHSs (n= 113)	4 th grade	FL teaching methodology, SES, cultural capital, education of parents
Siemund et al.	Germany	N= 1409 German monolinguals (n= 852) Russian-German IHSs (n= 237) Turkish-German IHSs (n= 320)	8 th grade (m <i>age</i> =12- 13 years old) 9 th grade (m <i>age</i> = 14- 15 years old	CA

Note of abbreviations: CA: cognitive abilities; SES: socioeconomic status; SLD: Specific learning disorder; TYP: Typically developing monolingual children