Gender differences in EFL oral and written comprehension in 6th-grade students from Spain and Croatia

Comprensión del inglés en 6º de Educación Primaria: diferencias de género en España y Croacia

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Abstract

Contrary to the case of L1, gender differences in the field of L2 oral and written comprehension have been scantily studied. To address this issue, the current study aimed to investigate proficiency

disparities between 6th-grade boys and girls in reading and listening comprehension of English as a foreign language in Spain and Croatia. In line with the literature of L1 comprehension and the few L2 studies that have tackled this matter, it was expected that girls would outperform boys in both skills and countries. To test this hypothesis, this piece of research adopted a cross-sectional design that involved 304 students evenly distributed in terms of country of origin and gender. The participants completed a reading test consisting of a 276-word text and ten questions within 20 minutes. After that, they listened to a one-and-a-half-minute audio clip twice and answered the eleven questions for the listening test. The results revealed that, while the outcomes tilted on the side of girls in Spain in both skills —being statistically significant in the case of oral comprehension—, the exact opposite phenomenon was detected in Croatia. The varying international status of each first language coupled with diverse foreign language exposure habits between genders are suggested as potential explanatory factors of these results. Learners and educators aiming at developing EFL comprehension are encouraged to consider this information; however, further research is needed to clarify it.

Resumen

Las diferencias de género en la comprensión oral y escrita de la L2, al contrario que en la L1, apenas han sido estudiadas. Para abordar este problema, el presente estudio analiza la disparidad de rendimiento entre chicos y chicas de 6º curso de educación primaria en la comprensión lectora y auditiva del inglés como lengua extranjera en España y Croacia. En consonancia con la literatura de la comprensión de la L1 y de los pocos estudios de L2 enfocados en este asunto, se esperaba que las chicas sobrepasaran a los chicos en ambas habilidades y países. Para comprobar esta hipótesis, este

estudio adoptó un diseño transversal en el que participaron 304 estudiantes distribuidos uniformemente según país de origen y género. Los participantes completaron en 20 minutos una prueba de comprensión lectora compuesta por un texto de 276 palabras y diez preguntas. Tras esto, escucharon dos veces un audio de un minuto y medio y respondieron las once preguntas que componían la prueba de comprensión oral. Los resultados revelaron que, mientras en España las chicas superaron a los chicos en ambas habilidades —en comprensión oral de manera estadísticamente significativa—, en Croacia se encontró el fenómeno opuesto. La confluencia de la divergencia en el estatus internacional de cada L1 y en los hábitos de exposición a la L2 por género emerge como posible responsable de este hecho. Se recomienda a aprendientes y educadores considerar esta información en el desarrollo de la comprensión del inglés, aunque se precisa mayor indagación para clarificarla.

Palabras clave: inglés como lengua extranjera, comprensión oral, comprensión escrita, diferencias por género, educación primaria.

1. Introduction

International institutions over the world, such as the United Nations, accentuate the importance of learning languages (Marconi et al., 2020). The European Union, to which the two countries involved in this paper —Spain and Croatia— are ascribed, also emphasizes this issue in different documents. The turning point in this direction is the Barcelona European Council meeting of 15-16 March 2002, which, in the frame of implementing an education program based on "improved quality, facilitation of universal access, and opening-up to the wider world", establishes as a key goal "to improve the mastery of basic skills, in particular by teaching at least two foreign languages from a very early age" (CE, 2002, pp. 18–19). In this context, the *Key data on teaching languages at school in Europe Report* reveal that, out of these 39 education systems, in 22 there is at least a

specific compulsory foreign language to be studied, and only in one of them —Finland— English as a Foreign Language (EFL) is not included. Nonetheless, in practice, the other countries are not generally different. For example, in the two countries involved in this investigation, Spain and Croatia, English is the most learnt foreign language in primary education for 99.6% of Spanish pupils and for 93.3% of Croatian pupils (European Commission/EACEA/ Eurydice, 2023).

In the mastery of foreign languages, the receptive modes of communication play an indispensable role from the very beginning. In fact, the use of a code —language— to create and understand messages requires the knowledge of the elements and rules —words and grammar relationships, among others— of that code, and that necessarily comes from the exterior. The acquisition of linguistic items depends upon the correct connection between the oral and/or written forms received and their meanings. These form-meaning connections are called mapping, and need to be internalized for further use (Barcroft & Wong, 2013). If this incorporation is successful, comprehension initially precedes acquisition, but later it is also benefited from it. The more connections stored in the mind, the higher the possibilities of identification of meaning in communicative exchanges (VanPatten & Benati, 2015). If these messages are encoded in oral form, the access to such information is called listening comprehension, and if they are in written form, reading comprehension.

All the benefits derived from the command of foreign languages rely heavily on the ability to understand and internalize oral and written items and structures. Indeed, research has shown that foreign language learning and bilingualism, mostly represented across countries in the form of EFL, have positive effects on cognitive abilities, motivation, academic achievement, creativity, communicative and intercultural competence, cognitive conditions throughout aging, and earnings, among others (Fox et al., 2019). To ensure that everyone is able to reach these advantages, it is mandatory

to acknowledge whether there are differences in EFL reading and listening comprehension depending on individual, educational, contextual, and social factors. It is precisely in the context in which a specific difficulty is clearly identified in a concrete group where it is possible to dive into the nature of that variability and, therefore, propose and assess the suitability of means to address that issue. With this in mind, the present piece of research is set out to analyze the role gender plays on EFL oral and written comprehension by comparing two 6th-grade groups from two different countries.

2. Literature review

2.1. Differences in L1 comprehension by gender

L1 reading comprehension in kindergarten significantly correlates with later academic achievement (Davies et al., 2016) and, in middle-childhood, it is a statistically significant predictor of completed schooling (Magnuson et al., 2016). In this domain, it is very well documented that boys and girls show a strong divergence in favor of the latter in different education stages across countries and cultures (Wigfield et al., 2016). This was reflected in the three main international reading comprehension tests for children and teenagers conducted over the last years: the International Early Learning and Child Well-being Study (IELS), which included almost 7,000 5-year-old children from England, Estonia, and the United States (OECD, 2020); the Progress in International Reading Literacy Study (PIRLS), which assessed nearly 400,000 fourth-grade pupils of about 10 years old from 57 countries (Mullis et al., 2023); and the Programme for International Student Assessment (PISA) report, which encompassed the participation of almost 700,000 15-year-old students from 81 countries and economies (OECD, 2023).

These three tests weighed the results so that they fitted normal distributions and set the scale centerpoint at 500. The IELS reported

that girls' mean score (508.06) in emergent literacy considerably excelled boys' (492.19) at age 5 with a Cohen's *d* effect size of 0.16 points (OECD, 2020). In this line, statistically significant differences on the part of girls were also spotted in almost every country that took part in the PIRLS test; on average, they surpassed boys by 18 points (Mullis et al., 2023). Finally, the last PISA report evinced that in all 81 participating entities but two, girls significantly outperformed boys in L1 reading comprehension. On average across OECD countries, they surpassed boys by 24.21 points with an effect size of 0.24 points (OECD, 2023). These differences between genders increase by ten points in the 10th percentile and decrease by ten points in the 90th percentile; in this framework, boys show greater standard deviations than girls.

Thus, in light of the results of these qualified international tests, gender can be interpreted as having a small, albeit not at all negligible, effect on this area across ages, countries, and cultures. Nonetheless, it has not been possible to check, through this means, whether that is the case in L1 oral comprehension as well because, to the best of the authors' knowledge, there are not any comparable international tests addressing this matter. However, there is evidence that girls, as for the case of L1 written comprehension, perform better than boys in L1 oral comprehension from very early ages (Lange & Zaretsky, 2021; Zambrana et al., 2012). Actually, these differences in favor of females have also been found in other fields of language and there is consensus that this factor influences early language development; what is not so clear is whether this variance is due to biological, psychological, and/or socio-contextual reasons (Rinaldi et al., 2023).

2.2. *Differences in L2 comprehension by gender*

Albeit there is not the same strong research basis as for the L1, it is generally assumed that girls outperform boys in L2 skills as well. A

matter of interest and motivation might underlie this variability between genders, given that, in general, girls have more positive attitudes towards language learning than boys, and thus, have more preference for this subject than them (Sunderland, 2013). Furthermore, female students not only tend to show more motivation towards learning languages than males, but they also are more inclined to exhibit internally regulated motives against the externally controlled motives that dominate the male student population in this activity (Oga-Baldwin & Fryer, 2020).

This stark attitudinal gap between genders in L2 learning does not necessarily entail an equivalent proficiency difference. In fact, although that is the common tendency, research has not yielded conclusive evidence in every area. For example, Van Der Slik et al. (2015) engaged 27,119 adult learners of Dutch as L2 from 88 countries with 49 different L1 and found that female participants significantly outperformed males in speaking and writing, but not in listening and reading (controlling relevant variables such as age, level of education, length of residence, and time spent studying the language). Sok et al. (2021) did not find gender differences in EFL reading and listening comprehension tests either among 6th-grade learners, and that has also been the case for Aryadoust et al. (2022) in the study of EFL listening comprehension with university students in particular.

In the same line, Araújo and Dinis da Costa (2013) spotted that, in the comparison between basic and independent EFL users from 14 European countries, young women scored remarkably higher than young men in writing in almost every country but presented similar results to their male counterparts in reading and listening—and even less than them in reading in the Netherlands, Sweden, and Greece. Concerning the contrast between pre-A1 and basic users, fewer statistical differences were found between genders, with just a remarkable exception identified in Croatia, where females significantly outperformed males in EFL listening and reading. Similarly, Jaekel et al. (2017) did find divergences in the proficiency

of EFL receptive skills in favor of females as well. In a longitudinal study involving more than 5,000 early and late German EFL learners, they obtained higher scores than males in both listening and reading. Finally, other studies support this same gender variability for the case of EFL listening comprehension (Chen et al., 2023; Fakhri Alamdari & Bozorgian, 2022).

From what has been stated, it can be inferred that the effect of gender on L2 reading and listening comprehension is still an unresolved issue (Aryadoust et al., 2022). Some pieces of research have not detected any variance between males and females, whereas others have reported higher proficiency levels in favor of the latter; finally, very marginal cases have manifested the opposite phenomenon. There is, however, a danger when analyzing this kind of information that must not be underestimated. Sok et al. (2021) affirm that sometimes these "differences may be an artifact of underlying factors associated with gender, such as differentiated social, recreational, and academic habits" (p. 384) but not necessarily created by it. For example, erroneous associations have been made between gender and vocabulary scores pointing out that males outperform females due to this reason when, actually, these disparities are many times mediated by other factors more related to male habits that do have an impact on FL vocabulary learning, such as gaming or online activities (Jensen, 2017; Lindgren & Muñoz, 2013; Peters et al., 2019).

2.3. *L2 comprehension factors in relation to gender*

The task of determining and measuring every factor involved in EFL comprehension is impossible to undertake; thus, in this part of the document just the most relevant aspects related to the present piece of research will be briefly discussed. The general framework of Rubio and Martínez-Lirola (2010) divides these agents into four categories: individual, linguistic, educational, and societal. Individual

factors vary from person to person in every context, and include, among others, age, gender, as well as affective and cognitively agents. In this vein, as already affirmed, girls show higher predispositions to learn languages (Sunderland, 2013) and to be mobilized by intrinsic purposes to do so (Oga-Baldwin & Fryer, 2020). This might be due to the fact that they tend to be more field-dependent thinkers, which is a feature associated with holistic viewpoints and social skills (Dong & Liu, 2023). At cognitive level, their higher estrogen levels, associated with greater declarative memory employed in fact processing and knowledge recalling (Ullman, 2015) might also be benefitting them in language skills. Furthermore, in the field of EFL in particular, they seem to make a more sophisticated use of reading comprehension strategies (Rianto, 2021).

The second set of factors —linguistic— taken into account by Rubio and Martínez-Lirola (2010) is not pertinent for this study because the two countries were considered separately, and the object of investigation was how genders varied in proficiency in each place. However, although both boys and girls in each country were exposed to the same educational system, in this field there is one factor that may be affecting genders unequally. As a matter of fact, males tend to have lower success rates than females academically, manifested in higher drop-out and repeating grades rates and lower marks, among others; whereas females obtain higher marks, behave better in class, and spend more time doing their homework (OECD, 2023). This is likely to affect every area, including foreign language learning. Actually, although they observed that males and females were not statistically significantly different in terms of foreign language oral and written comprehension at the beginning of a longitudinal study, Van Der Slik et al. (2015) did detect that females obtained higher benefits derived from an educational training plan in these skills as well as in speaking and writing.

Although many other instructional factors might be thought of as playing an important role in foreign language development

(such as the teaching onset, years and hours of learning, and professional profile of the teacher), they do not seem to account for much of the divergences. This might be due to the limitations of quantity and quality language target input in educational contexts (Muñoz, 2014). In this vein, other features related to the reality of each society may prove more determinant in the amount, quality, and effectiveness of EFL exposure (Djigunović, 2017; Lindgren & Muñoz, 2013; Peters et al., 2019). Some of these agents, such as the historical ties between the country of origin and the country or countries where the target language is spoken, affect males and females in the same manner. Nevertheless, others that derive from the influence of the target language on specific fields might affect genders differently if there are use variances between boys and girls. This may the case of the general form of film broadcasting (subtitling/captioning or dubbing), as well as media, the Internet, social networks or gaming consumption, which are massively dominated by the English language (Katsarova, 2014; Spicer, 2021; W3Techs, 2024; Yang, 2021).

Indeed, gaming is a relevant activity in which many people —and even more so during and after the COVID-19 pandemic (Pallavicini et al., 2022)— engage in immersive language use. Both in individual and in multiplayer modes, gamers all over the world are increasingly using this entertainment media in English (Muñoz, 2020). Male students overwhelmingly spend more time than their female counterparts performing this activity in their L1; in fact, USA male children and adolescents from 8 to 18 years old spend an average of 2 hours and 20 minutes of daily video gaming, while females of that age range spend just 54 minutes (Rideout et al., 2022). Beyond L1 variance, this difference has also been documented in gaming —as well as in accessing the Internet— in EFL (Peters et al., 2019). In a study with 144 Danish children of 8 and 10 years old, boys declared playing video games in EFL significantly more than girls, particularly in the kinds of games that required oral and written input (in fact, 7 times more), but also in those that involved just oral

reception (Jensen, 2017). Engaging in these types of activities places children in a set of special conditions that foster "figuring out the meaning of unknown words by asking peers" and "having a strong desire to understand and participate in dialogues with other players" (Butler, 2019, pp. 312–313).

The consumption of foreign language video media through online platforms is also a key factor considering how differently languages are represented in this domain (Spicer, 2021; Yang, 2021). Nowadays, more than 70% of American children from 8 to 18 years old watch online videos on daily basis. There is a statistically significant difference between genders, given that, on average, boys watch 1 hour and 16 minutes of daily online videos and girls 1 hour and 5 minutes (Rideout et al., 2022). In general, they also differ importantly in terms of daily screen media time, with 8-to-12-year-old boys spending 1 hour and 16 minutes more than girls. In EFL, Jensen (2017) detected that boys ($\bar{X}$ = 120.9, SD = 150.82) showed higher weekly minutes of engagement watching TV, YouTube, and doing similar activities than girls ($\bar{X}$ = 69.8, SD = 96.98), and this exposure affects language acquisition positively (Lindgren & Muñoz, 2013; Peters et al., 2019).

As a matter of fact, Araújo and Dinis da Costa (2013) performed a secondary analysis of the European Survey on Language Competences considering just those participants who had English as their first target language (23,358 young teenagers from 16 education systems) and found differences between pre-A1 and basic learners derived from time spent watching movies in English with subtitles in their L1. Differences in frequency of watching movies in English without subtitles were spotted between lower and higher CEFR levels as well. Lindgren and Muñoz (2013) also detected watching movies in English beneficial for EFL listening and reading in a study that involved 865 students from seven European countries. They also found that watching movies with target language subtitles correlates more (.266) with EFL grades than watching them without subtitles (.195) or with subtitles in the L1 (.118).

In this case related to the film industry along with the other instances previously discussed of media consumption, it is more probable for people from Croatia to be exposed to EFL because Croatian is not very economically, culturally, and socially widespread, unlike Spanish (Rubio & Martínez-Lirola, 2010). In fact, the Eurobarometer 386 revealed that Spanish citizens generally access those types of resources in their L1 (European Commission, 2012). This discussion is pertinent because, in contrast with intentional learning, characteristic of educational contexts, the use of media for its own sake in another language boosts the development of L2 incidental learning, which takes place when knowledge is incorporated without being explicitly and consciously sought (Leow & Zamora, 2017). Nonetheless, in order to clarify the involvement of individual, educational, linguistic, social, and contextual factors related to boys and girls in EFL oral and written comprehension, it is imperative first to investigate under more varied conditions and in different contexts, whether there is indeed gender variability in terms of proficiency in these skills. For this reason, the present investigation has addressed the following two research questions:

RQ1: What are the differences, if any, between 6th-grade boys and girls from Spain and Croatia in terms of EFL reading comprehension?

RQ2: What are the differences, if any, between 6th-grade boys and girls from Spain and Croatia in terms of EFL listening comprehension?

3. Methodology

3.1. Research design

The research questions were addressed following a correlational-causal, cross-sectional design (L. Cohen et al., 2018; Hernández Sampieri et al., 2014), given the fact that the investigators accessed

the elementary schools and applied an EFL oral and written comprehension instrument at a single point in time to further analyze all the data collected in both countries.

3.2. Participants

The sample included 304 participants from two different groups of 6th-grade pupils: one from Albacete (a city in Spain of 174,336 inhabitants in 2020; Instituto Nacional de Estadística, 2022) and the other from Zagreb (a city in Croatia, with 809,268 inhabitants in 2020; Šiško & Polančec, 2022). In general terms, the average socioeconomic level of the families whose children participated in the investigations was comparable across schools and countries, although due to practical and ethical reasons, individual information about this issue was not collected. Nonetheless, the gross domestic product per capita in both cities is similar. In 2018, it was of 22,631.05€ in Zagreb (Šiško & Polančec, 2022) and of 21,631 € in Albacete (Expansión, 2022).

There were three Spanish elementary schools with two groups per grade—a total of six groups of more than 20 pupils on average ($\bar{X}$= 22.67, SD = 2.42)—, and two schools in Croatia with four groups each—a total of eight groups ($\bar{X}$= 21.13, SD = 3.04)—. As can be seen in Table 1, the sample consisted of 304 participants evenly distributed in terms of country of origin and gender. In both countries, the age of the participants ranged from 11 to 12 except for a Croatian pupil who was 13 years old. The average age of Spanish pupils was 11.34 (SD = 0.475), whereas the Croatian one was 11.58 (SD = 0.509).

Table 1. Sample of Study 1 by Country and Gender

Country	Boys	Girls	Total
Spain	78	75	153
Croatia	74	77	151
Total	152	152	304

3.3. Instruments

Two instruments were required in order to conduct this piece of research according to the two EFL receptive skills to be measured. The written source to assess EFL reading comprehension was obtained from the *British Council*'s website designed to teach English to 5-to-12-year-old children (https://learnenglishkids. britishcouncil.org/reading-practice). The chosen text is entitled *The UK*, and it can be accessed through the site in Level 3, which is the most complex level within the website and encompasses resources aimed at the oldest pupils of that age range—the ones involved in this investigation. The text discusses the concepts of the UK and Great Britain. It is made up of 276 words, and includes, next to the main text, a picture of a UK map and a short fragment with two *fun facts*. It is presented on the site alongside a downloadable PDF document of comprehension activities. However, as these activities were not relevant to the study objectives, they were dismissed. Instead, a set of 10 short questions involving general information, specific information, inferring, and avoiding information matching was formulated (they can be consulted in Appendix I).

The British Council website contains resources to practice and assess oral comprehension in these education stages as well; nonetheless, in these cases the audio appears in association with a video. As it was the aim of this piece of research to evaluate exclusively oral comprehension with no visual aid, it was preferred to use the *ESL Cyber Listening Lab* platform (https://www.esl-lab. com/) for this purpose. An audio titled *Dating game* (1 minute and 28 seconds long), ranked as *easy* according to the site, was selected. Again, albeit having the possibility of benefiting from the activities proposed on the website, 11 questions, were conceived to fit the inquiry purposes. These questions, available in Appendix II, required writing short answers or the selection of an option out of three different possible answers. The two instruments were validated by two experts in the field of EFL teaching, and, after that, assembled

into one paper-based test that contained three elements: (1) the reading comprehension text, (2) the reading comprehension questions, and (3) the oral comprehension questions.

3.4. Procedure

The nature of the investigation was judiciously considered, and a careful plan was devised to ensure that pupils freely consented on their involvement, that the data handling complied with the personal data protection laws, and that parents and/or legal tutors were thoroughly informed of every detail of the process. The plan was validated by The Social Research Ethics Committee from the University of Castilla-La Mancha (UCLM) under the name *Métodos, enfoques y técnicas para la enseñanza de las habilidades de recepción del inglés como lengua extranjera* (Methods, approaches, and techniques for the teaching of EFL receptive skills), and the data collection was scheduled for every country and school. All this information was compiled in a document that the parents and/or legal guardians read; those who agreed on the characteristics of the procedure signed it and allowed the incorporation of the children in their care to take part in the investigation.

The process followed in every classroom was identical: after being introduced to the class, the researcher explained to the pupils the purpose and procedure of the investigation. Once their doubts were cleared, the pupils were arranged individually, and the tests were distributed. The participants were granted twenty minutes to read the text and answer the reading comprehension questions. Later on, three minutes were accorded so that they could read the listening comprehension questions. Then, the audio file was played while they tried to respond to the questions simultaneously. After two minutes for answers review, the audio was played again. Before collecting the tests, they had two more minutes to complete it.

3.5. Data analysis

The information of the paper-and-pencil tests was inputted into IBM® SPSS® Statistics, version 28.0.0.0 (190), which was the software used to analyze all the data. The only statistical task that was not carried out with this program was the computation of the effect sizes, whose values were calculated through the online tools provided by Lenhard and Lenhard (2016).

The values of the quantitative variables were weighted so that they ranged from 0 to 1, and missing data were labeled with a 999 value. The alpha level of significance of the SPSS was set at $p < .05$, and every remarkable difference below that value was flagged, as the American Psychological Association (2020) proposes, with one star (*). Cohen's r measure of the effect size was reported as well. It is established that this standardized measure ranges from .1 to .3 if the effect size is small, from .3 to .5 if it is intermediate, and from .5 upward when it is strong (J. Cohen, 1988).

Shapiro-Wilk normality tests were initially run following the recommendation of L. Cohen et al. (2018) for educational contexts. The data deviated from a normal distribution in both countries and, thus, it was advisable to use non-parametric tests. However, given that the sample was considerably large, along with the median, in many cases the mean and the standard deviation are also reported in order to clarify the results of the tests.

4. Results

The results are presented in two different sections according to each research question. As they clearly state, the purpose of this investigation was to analyze gender variances distinguishing these by country. This decision was made in order to avoid missing valuable information from each nation in isolation by considering

all the data globally. Nonetheless, it is worth mentioning that a preliminary analysis without separating the participants by country was indeed conducted and did not yield statistically significant differences between genders. For the sake of reflecting this fact, information about the global relationship between them regardless of the country of origin will be included as well in the following paragraphs.

4.1. *EFL reading comprehension (RQ1)*

The outcomes in the reading skill differed considerably by country in terms of gender differences. As shown in Figure 1, the boxplots that sum up the reading comprehension scores in Spain indicate that, overall, girls outperformed boys in this domain. Conversely, this Figure also reveals that the opposite phenomenon occurred in Croatia, in which boys surpassed girls.

Figure 1. EFL Reading Comprehension by Gender and Country
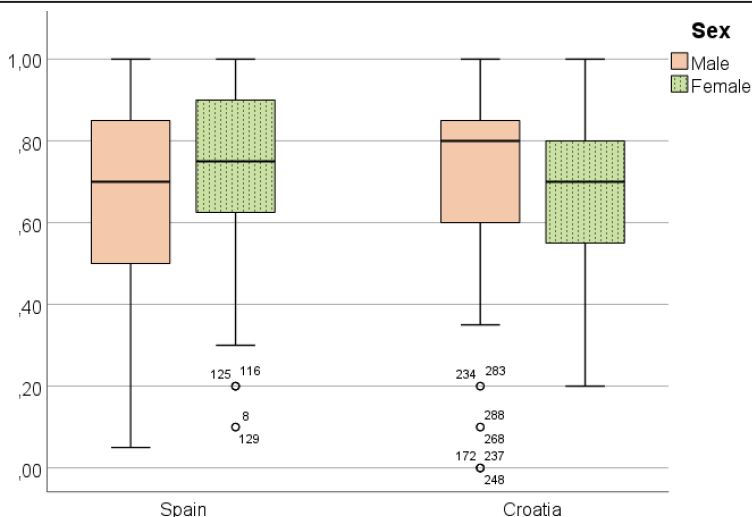
Mann-Whitney tests were run to compare the scores of these two independent groups—female and male pupils—in each country. Table 2 summarizes them and evidences the variance hinted at by Figure 1, but, although not by a very large margin, statistically significant differences in EFL reading comprehension were not found between genders in either country.
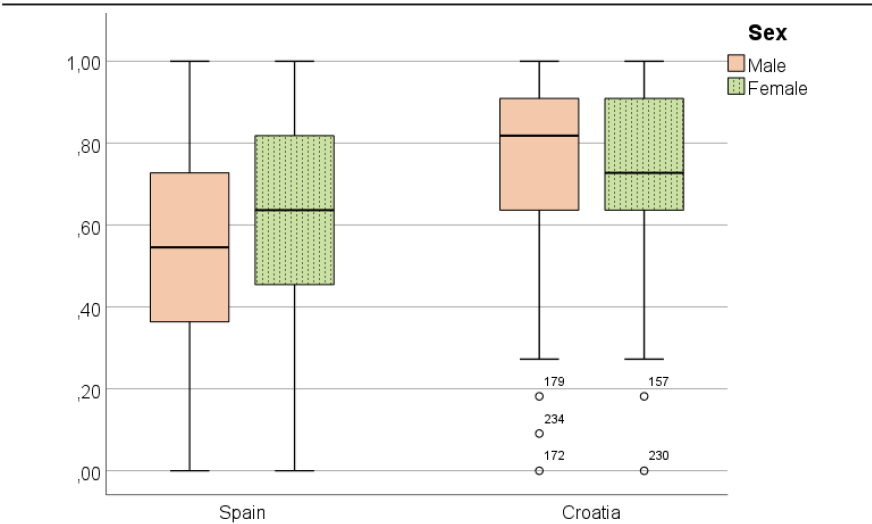
Table 2. *Mann-Whitney Test Results on Gender Differences in EFL Reading Comprehension*

Country	Boys			Girls			U	z	p	r
	Mdn	$\bar{X}$	SD	Mdn	$\bar{X}$	SD				
Spain	.70	.64	.26	.75	.71	.23	3383	1.68	.093	.14
Croatia	.80	.69	.25	.70	.68	.20	2492.5	−1.33	.182	.11
Global	.75	.67	.25	.75	.69	.21	11206	.45	.65	.03

4.2. EFL listening comprehension (RQ2)

EFL listening comprehension presented a noticeable variance in terms of gender by country as well. In view of what the performance boxplots from Figure 2 disclose, there was a disparity in oral comprehension between genders with girls outperforming boys in Spain and the opposite taking place in Croatia, although in the case of the latter of lesser importance. In this country, boys and girls manifested an almost identical interquartile range, but the median of male scores was higher than the median of female scores. Furthermore, contrarily to reading comprehension, in EFL listening comprehension there is an evident contrast between countries regardless of the gender in favor of Croatia.

Figure 2. EFL Listening Comprehension by Gender and Country

As a matter of fact, the inter-group comparison Mann-Whitney tests detailed in Table 3 revealed that the superiority of female pupils over male ones was statistically significant in Spain, albeit of small effect size. Both Figure 2 and Table 3 indicate that a tendency in the reverse direction was present in the population from Croatia, but statistically significant divergences were not found in this case.

Table 3. Mann-Whitney Test Results on Gender Differences in EFL Listening Comprehension

Country	Boys			Girls			U	z	p	r
	Mdn	$\bar{X}$	SD	Mdn	$\bar{X}$	SD				
Spain	.55	.51	.25	.64	.61	.24	3587	2.42	.015[*]	.2
Croatia	.82	.76	.24	.73	.72	.24	2491.5	−1.34	.179	.11
Global	.66	.63	.27	.73	.67	.24	10925.5	.82	.412	.05

5. Discussion and conclusions

If the sample is considered as a whole, regardless of the country of origin, the results in EFL reading and listening comprehension were not aligned with previous international investigations involving L1 in terms of gender differences with the exception of the standard deviations, which have also been proven larger in boys than in girls (Mullis et al., 2023; OECD, 2020, 2023). Indeed, taken globally, girls and boys present almost identical scores in EFL oral and written comprehension in this piece of research. However, when considered by country, the data evidence that such apparent evenness emerges as a compensation phenomenon due to the neutralization of two effects in opposite directions. Actually, it is significant that when the two countries were examined separately, the outcomes tilted on the side of female pupils in Spain and on the side of male pupils in Croatia in both skills. Albeit statistically significant just in the case of EFL listening comprehension in Spain, all the other standardized effect sizes point out to that same pattern as well, and this must not be overlooked. As stated, these differences reduce the variance when the two genders are considered globally but raise the question of what could be the reason behind this matter.

From what was discussed in the theoretical framework about gender differences in languages, it was expected that girls either outperformed boys in EFL reading and listening comprehension in both countries (Chen et al., 2023; Fakhri Alamdari & Bozorgian, 2022; Jaekel et al., 2017) or obtained similar scores to them (Aryadoust et al., 2022; Sok et al., 2021; Van Der Slik et al., 2015). In Spain, that was in fact the trend, with girls scoring notably higher than boys in both receptive skills with statistically significant divergences in EFL listening comprehension. Nonetheless, to the best of the authors' knowledge, the tendency spotted in Croatia with boys slightly surpassing girls had only been found in one study (Araújo & Dinis da Costa, 2013), in EFL reading comprehension —and not in listening— in just the Netherlands, Sweden, and Greece —and not in the other

eleven countries involved in the investigation—, and in just the contrast between basic and independent target language users.

As a matter of fact, it was just precisely in the comparison between pre-A1 and basic EFL users that differences in line with the more prominent common trend across contexts—females outscoring males—emerged in Croatia (Araújo & Dinis da Costa, 2013), in direct opposition with the results obtained in the present piece of research. This variance suggests that social and environmental factors might be playing a role in L2 comprehension proficiency possibly overriding others that tend to favor females (Dong & Liu, 2023; Oga-Baldwin & Fryer, 2020; Rianto, 2021; Sunderland, 2013; Ullman, 2015). Certainly, watching videos on YouTube and playing video games are activities more prevalent in the male than in the female population (Jensen, 2017; Peters et al., 2019; Rideout et al., 2022), and this might be affecting positively the performance of boys in EFL in Croatia if these activities are carried out in English (Araújo & Dinis da Costa, 2013; Lindgren & Muñoz, 2013).

It is unsurprising that, as boys consume this kind of media more than girls in their L1, they would use them more in EFL as well, considering that most of the YouTube channels and the Internet contents are in English and there is not a wide range of material in Croatian (Spicer, 2021; W3Techs, 2024; Yang, 2021). Thus, it could be argued that the Croatian male participants were probably more exposed to EFL through this means than their female counterparts. This may explain why, after 10 years of revolutionary entertaining changes, particularly after the COVID-19 pandemic (Pallavicini et al., 2022), the results of this study do not coincide with Araújo and Dinis da Costa's (2013) in terms of gender variance in this country. On the other hand, given that the offer of media through these networks in Spanish is broad (Spicer, 2021; Yang, 2021), the children from Spain tend to approach them in their L1 and not predominantly in English (European Commission, 2012).

Therefore, the Croatian male sample might have benefited more from incidental L2 learning (Leow & Zamora, 2017) than the

Croatian female sample but also than the Spanish sample as a whole, whose proficiency differences between genders would have been marked more heavily by other factors favoring female students (Sunderland, 2013). This may explain why, leaving aside the gender distinction, Croatia outperformed Spain in EFL listening but not in reading comprehension. If this phenomenon was eventually measured and confirmed by other pieces of research like the ones proposed in the following paragraph, instructors and learners should be encouraged to promote L2 acquisition strategies through the exposure to the real use of the target language not only in its oral but also in its written form. This procedure would boost the development of EFL listening and reading comprehension and, moreover, would help to reduce the gender gap in the academic performance within this educational stage.

Nonetheless, it was not the purpose of this piece of research to elucidate the specific influence of L2 exposure on L2 proficiency, but rather, first, to determine whether there were differences in terms of EFL oral and written comprehension between genders or not. It is now a promising line of research to analyze children's use of EFL in different activities on daily basis—as the Eurobarometer 386 did a few years ago with older students (European Commission, 2012)—, but in light of oral and written comprehension tests that allowed for an insightful cross-sectional analysis. This information could be even enlarged and enriched with a bigger sample from more countries —and within each country, from more schools and more varied contexts— to increase its external validity. Finally, this data could be further complemented with L1 reading and listening comprehension proficiency scores in order to grow in understanding of the L1 and L2 interdependence hypothesis.

6. Funding

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Appendix

Appendix I. Reading comprehension questions

1. Which places make up the United Kingdom?

2. What is the biggest part of the UK?

3. How many people live in the United Kingdom?

4. Where is Wales?

5. Why is England named that way?

6. Which part of the UK has a special flag and why?

7. Which city is most populated in Scotland?

8. What is the capital city of Northern Ireland?

9. What is "Ben Nevis"?

10. Are Great Britain and the UK the same?

Appendix II. Listening comprehension questions

1. In the show…

    a) Men and women talk about their dreams.

    b) Men and women ask questions.

    c) Men and women meet their ideal partner.

2. Ryan is _____ years old.

3. What does Ryan do for a living?

    a) He works as a doctor.

    b) He's a hospital manager.

    c) He is a nurse.

4. What kind of food does Ryan like?

5. Ryan likes…

    a) Women who like to talk about politics.

    b) Women who want to be politicians.

    c) Women who dislike to talk about politics.

6. What's the name of the second contestant?

    a) Gabe

    b) Nate

    c) Mike

7. The second contestant is _____ years old.

8. Which instrument does the second contestant play?

9. The second contestant enjoys…

10. The second contestant likes women who…

    a) Like quiet music.

    b) Listen to classical music.

    c) Eat cheeseburgers.

11. Who would not like to marry a vegetarian woman?