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# The Longitudinal Impact of the COVID-19 Pandemic in Italy: Literacy Acquisition in Low-SES/High-SES Monolingual Children and Low-SES Bilingual Children

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## ABSTRACT

In the present study, we applied a two-year longitudinal design to examine the reading and spelling acquisition of primary school students during the COVID-19 pandemic crisis among three groups with different linguistic conditions and socioeconomic status (SES): low-SES and high-SES monolinguals, and low-SES bilingual children (minority language). Reading speed and spelling errors were examined at the beginning of second grade in fall 2019 (pre-pandemic phase) and tested again, with standardised tests, two years later in fall 2021 (post-pandemic phase) when children attended fourth grade. The results showed that, on average, all the children increased both their reading speed and spelling skills. With respect to the role of the COVID-19 pandemic on basic literacy, we cannot broadly conclude that it hampered literacy, given that all groups (regardless of their linguistic condition) showed development in reading and spelling. However, it is worth mentioning that, in light of the qualitative comparison to the norm, spelling accuracy is noticeably lower in low-SES bilinguals than in monolinguals, whereas reading speed is comparable to the standardised value and does not differ significantly between monolinguals and bilinguals. The results contribute to the debate on the interaction between SES and language literacy acquisition in minority languages, particularly under unique conditions such as the COVID-19 pandemic.

**Keywords:** Reading; Spelling; Minority Language Bilingualism; Pandemic; Longitudinal Study

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## 1. Introduction

In the present study, using a longitudinal design (lasting two years), we examined the effects of the COVID-19 pandemic on the reading speed and spelling skills of primary school children in standardised tasks. First, we provide an overview of literacy acquisition. Next, we report the main findings on monolingual and minority bilingual children's literacy acquisition, highlighting the greater difficulties in writing/spelling and comprehension. Finally, we discuss the findings from literacy acquisition during the COVID-19 pandemic.

### 1.1. Literacy Acquisition: An Overview

A developmental model is useful for assessing how children move from complete illiteracy of the relationship between oral and written language to the complete acquisition of these processes. There are some antecedents that favour the development of the underlying cognitive, metacognitive, and motivational competences. For example, the exposition of passages or books contributes to the development of interest in written texts and awareness of the specificity and regularities of written texts. In addition, other precursors include phonological memory, lexicon development, and the ability to analyse graphical and linguistic signs<sup>[1, 2]</sup>.

According to the model developed by Frith<sup>[3]</sup>, children's literacy acquisition process involves four stages: logographic, alphabetical, orthographic, and lexical. The central and crucial step is the alphabetical one, when the child starts to recognise and apply the transformation rules between phonemes and their visual representations. These associations are boosted during the next step, i.e., the orthographic one, when associations with the parts of more complex words (such as syllables or morphemes) develop.

The acquisition of these two phases would accomplish the phonological reading route, which is useful for recognising new words or non-words. The most advanced route, the lexical route, allows words to be read directly without using grapheme-phoneme conversion rules. In transparent languages such as Italian, the fundamental parameter used to assess reading is reading speed, whereas in opaque languages, it is reading accuracy. Thus, typical readers in Italian, on average, increase their reading speed by half a syllable a year (see, e.g.,<sup>[4]</sup>). This progression happens spontaneously

through the mere experiences of reading and teaching, both at school and at home.

In the same vein, spelling is another important cognitive ability that requires similar mechanisms to those used in reading: the use and control of different visual and phonological information processes, as well as proper planning of motor sequences<sup>[5]</sup>. During spelling, the grapheme-phoneme conversion system is insufficient; indeed, a visual-lexical code that specifies the exact orthography (i.e., opaque or transparent) is also necessary. As is the case with reading, in regard to writing, it is also reasonable to hypothesise two systems: a phonological system used to convert phonemes into graphemes, which is useful for writing new words or non-words. In addition, another system, the visual-lexical system, is used to spell familiar words and accounts for especially opaque orthographies (such as English).

The Frith model<sup>[3]</sup> also concerns spelling, whose acquisition development involves four stages that characterise learning to read. In the logographic stage, the child recognises and writes familiar words. In the alphabetical stage, the child learns to apply phoneme-grapheme conversion rules. In the orthographic stage, s/he uses largely the conversion rules on parts of words. Finally, in the lexical stage, s/he is able to write words directly (see also<sup>[5]</sup>).

### 1.2. Literacy Development in Minority Language Bilingual Children

Bilingualism is a condition characterised by mastering two languages. The individual can use both linguistic codes and comprehend others' communications in both languages, as well as thinking in both languages. Experiencing two (or more, in the case of multilingualism) codes entails mastering different lexical, morphosyntactic, and semantic systems.

In recent decades, sociopolitical conditions have increased migration. Migrants face the challenge of learning a language other than the native (i.e., the one spoken at home), and all children attending school also develop literacy skills in the second language. These children may be defined as bilingual children within a functional conception of bilingualism that refers to the use and need of two or more languages in everyday life<sup>[6]</sup>. However, in Italy, most children of migrant families are exposed to the second language at school, after being exposed to the first language at home, and often, these families have a low SES (see, e.g.,<sup>[7, 8]</sup>).

Studies conducted in Italy with samples of language minority bilingual children (LMBC) have shown the specific difficulties they encounter in the acquisition of literacy in second languages (hereafter, Italian). In 2020, Bonifacci and colleagues<sup>[8]</sup> compared LMBC in the second grade with two groups of monolingual peers (low- or high-SES) in reading fluency, spelling, reading and oral comprehension, tested in the target school language, which was Italian (i.e., L1 for monolinguals, L2 for bilinguals). The study revealed that the LMBC group was comparable to both monolingual groups in terms of reading fluency. However, LMBC underperformed the monolingual groups in reading comprehension and spelling. These results, in addition to confirming previous evidence that reading fluency is a well-acquired literacy skill for bilinguals with low SES, highlight the difficulties encountered by LMBC in spelling tasks.

In a three-year longitudinal study, Bonifacci and colleagues<sup>[7]</sup> evaluated the literacy development of LMBC and monolingual peers of a different SES. To this end, they compared a group of LMBC with low-SES and monolingual peers with low- or high-SES peers and followed them from the second to the fifth grade, assessing decoding (of words, nonwords, and passages), reading and listening comprehension, and spelling skills. Bonifacci et al.<sup>[7]</sup> reported that over time, all groups achieved better performance in all measures, except in listening comprehension. However, they found that LMBC with low SES underperformed spelling tasks (compared with monolingual groups). In regard to reading comprehension, the authors reported similar effects in monolinguals and bilinguals with low SES. However, both groups underperformed compared to the monolingual group with high SES.

In a 2024 study, Bellocchi and Bonifacci<sup>[9]</sup> added support to the abovementioned literature. They showed that LMBC underperformed monolinguals in vocabulary knowledge and morphosyntactic comprehension. More specifically, they distinguished the effects of bilingualism from those of SES: bilingualism mainly affects the lexical component, whereas SES affects both language and cognitive skills.

### **1.3. Literacy in the COVID-19 Pandemic Context**

Few systematic reviews have been conducted to investigate the effects of the COVID-19 pandemic and related

school closures on children's learning and literacy acquisition. Spiteri and colleagues<sup>[10]</sup> reported that school closures due to the pandemic emergency crisis mainly affected students from a low SES background. These children seem to have fewer resources than those from medium- and high-SES families, such as less effective internet connections, lack of or inadequate technological devices to support online learning, and less parental support. The countries examined by Spiteri et al.<sup>[10]</sup> were Spain, Germany, the Netherlands, the United States, and China.

From 2020 to 2021, Italy implemented one of the most restrictive lockdowns that largely affected schools and families. There was a total school closure for four months in primary school (in 2020) and several shorter local closures to prevent contagion over the past two years. Several works, such as Uccella et al.<sup>[11]</sup>, have studied this issue, and found an increase in dysfunctional behaviours in Italian children associated with parental discomfort. Living conditions, such as domestic spaces and technological resources, may have contributed to the behavioural problems observed during the lockdown. These contextual conditions, which are also related to families' SES, may have contributed to increased psychological risk and generally poor learning environments at home.

These data overlap with the simulation by Azevedo et al.<sup>[12]</sup>, where data collected during previous critical conditions worldwide, due to various catastrophic events such as hurricanes, famines, or floods, were analysed to obtain possible post-pandemic scenarios. The simulations indicated that, for example, when schools remained closed for three months and remote learning measures were activated to a sufficient level, learning loss was expected due to both a decrease in learning opportunities and an increase in forgetting. Importantly, the current study predicts that school closures would affect the most marginalised children with the lowest SES. In Italian schools, there is an increase in bilingual children from bilingual families with a migratory background. LMBC are therefore at higher risk of greater learning loss than peers with a higher SES.

According to a recent systematic review on the impact of the COVID-19 pandemic on learning gains in primary school children, Trotta and colleagues<sup>[13]</sup> found delays in learning caused by the pandemic and school closures, and these studies focused mainly on the most fragile pupils, such

as LMBC (see also<sup>[14]</sup>). They also showed that distance learning has had an impact on parents' and teachers' remote work, leading to an increase in difficulties within the family. Above all, these impacts have deteriorated the quality of the learning environment, particularly for disadvantaged children, which has only increased inequalities.

The aim of the INVALSI assessment<sup>[14]</sup> is to measure Italian pupils' ability to read and understand text, and it is administered at different school grades. At the primary school level, the second and fifth grades are considered. The emerging findings, which are from a nationwide level of analysis that is independent of any particular region, city, or school, are quite important, as they provide an independent measure of pupils' learning acquisition. Since reading plays a crucial role in learning, it is therefore of primary importance to supervise its evolution, as early as possible, to individuate actions that support possible fragilities.

Overall, the last INVALSI report<sup>[14]</sup> revealed a significant decrease in learning skills (in both the second and fifth grades). More specifically, the comparison between 2019 and 2023 revealed a global decrease (from 2019 to 2023: 5.9 points lower) in the last two years considered. Notably, the test administered immediately after the beginning of the pandemic in 2021 did not show short-term learning-related negative effects (for example, those linked to the lockdown and online/distance learning). However, the comparison between the 2021 and 2022 test administrations revealed a significant decrease in learning, which remained stable in 2023. This is particularly interesting, as it could allow us to hypothesise a medium-to-long-term effect of the pandemic on learning.

In addition, a special issue of literacy during the COVID-19 pandemic highlighted the negative impact of the pandemic on reading performance in early grades<sup>[15]</sup>. For example, a study conducted in the United States by Kuhfeld et al.<sup>[16]</sup> demonstrated a significant disruption in students' academic development. In 2021, reading test scores in grades 3-8 were 0.09 standard deviations lower than those of same-grade peers in 2019. This condition was especially evident in students of African American countries and low-SES countries.

## 1.4. The Current Study

In the current study, we aimed to expand the knowledge of the development of literacy in monolinguals and

bilinguals and how linguistic conditions interact with SES. Considering the literature previously reviewed related to literacy development during the COVID-19 pandemic, and the specific characteristics of LMBC, we formulated the following predictions.

During the COVID-19 pandemic, reading could have been practised daily via online learning, such as registered lessons and digital books, which impacted reading in a highly motivating way. Alternatively, the pandemic could have negatively impacted spelling/writing skills, which are usually trained less systematically, and could be substituted with online exercises or online writing, also using orthographic proofreading. According to the findings previously described (e.g.,<sup>[12, 13]</sup>), we hypothesise that, looking at children's reading and writing performance through objective tests, we may observe significant decreases in literacy skills, such as reading speed, particularly in building new skills, such as spelling.

More specifically, in line with Bonifacci and colleagues' studies<sup>[7, 8]</sup>, which showed comparable performance in low-SES monolinguals and low-SES bilinguals studying Italian literacy as a second language, we anticipate bilinguals are comparable to monolinguals in reading speed, whereas in spelling, the bilingual group should underperform the monolingual group.

Notably, these findings were not collected during the pandemic. We had no specific studies to compare in the Italian context. Thus, in line with other findings, we could hypothesise overall improvement in both abilities notwithstanding the pandemic, although with specific fragilities of the LMBC group (see<sup>[13]</sup>).

## 2. Materials and Methods

### 2.1. Participants

The current study included four fourth-grade classes during the 2020–2021 school year (Phase 2) at a primary school in northern Italy. In addition, we used data collected from the 2018–2019 school year (Phase 1) when the same groups of pupils were in second grade. The initial sample was composed of 70 children; of these, 57 attended the test phases at both time phases, i.e., their second and fourth grades: 38 monolinguals and 19 bilinguals.

Bilinguals are characterised by simultaneous and sub-

tractive bilingualism with different second languages (L2) from minority languages (i.e., Pakistani, Indian, Moroccan, Senegalese, and Romanian). The bilingual pupils (LMBC) in the current study were also fluent in Italian, according to schoolteachers; children with low fluency in the Italian language were not included in the study.

The mean age of the children in Phase 1 was 8 years ( $SD$ : 1.12 years); in Phase 2, the mean age was 10 years ( $SD$ : 1.20 years). Among the monolinguals, 19 were classified as low-SES, 19 as high-SES, whereas all bilinguals were from low-SES families (see below for SES calculations). Children with a diagnosis of a learning disorder or any condition of atypical development were not included in the sample.

The second grade was chosen as Phase 1 because at that age (8 years old onward) it is possible to detect early difficulties and the risk of developing a specific learning disorder in reading and writing skills at this age<sup>[17]</sup>. Indeed, if data report that average readers increase their reading speed by approximately half a syllable a year, then we could determine whether, in comparison between Phase 1 and Phase 2, the readers show the expected development.

*Socioeconomic status (SES)*. Following previous studies conducted with Italian LMBC (see<sup>[7, 8]</sup>), we calculated the Hollingshead Four-Factor Index of Social Status<sup>[18]</sup>. The indices of educational level and occupation were used. Educational level (EL) was scored between 1 and 7, and occupation was scored between 1 and 9. To calculate the SES scores for mothers and fathers, the formula  $EL \times 3 + O \times 5$  was used. The compound SES score for children was the result of the mean of the two values. Final scores between 0 and 39 were classified as low-medium, and those above 40 were classified as medium-high. The means and standard deviations for the group are as follows: low-SES monolinguals  $M = 31.63$ ,  $SD = 8.82$ ; high-SES monolinguals  $M = 47.77$ ,  $SD = 4.28$ ; and low-SES bilinguals  $M = 30.40$ ,  $SD = 8.70$ .

The study was conducted in accordance with the ethical standards of the Declaration of Helsinki (1964)<sup>[19]</sup> and fulfilled the ethical standard procedures recommended by the Italian Association of Psychology (AIP). Both written informed parental consent and oral informed child assent were obtained and collected prior to participation, according to the ethical norms of our university.

## 2.2. Materials

All the following measures are standardised by age group.

**SPILLO**. Second graders were individually assessed in reading skills through the Test to Identify Slow Reading developed by Stella et al.<sup>[20]</sup>. The pupil was asked to read part of a passage, while the examiner checked through a computer screen and used a stopwatch to measure and record time (syllable per second). As a relevant measure, we considered reading speed, which can be assessed in a minute, for every pupil. The software then calculates the speed score.

**MT-2 reading test**. For fourth graders, we used the MT-2 reading test developed by Cornoldi and Colpo<sup>[21]</sup>. Each passage is administered individually, and the reading speed is collected to calculate the number of syllables read every second and the possible mistakes; these data are then compared to the standard parameters of the class.

**BVSCO-2**. To assess spelling skills, we used the battery developed by Tressoldi et al.<sup>[22]</sup>. The battery proposed the dictation of a passage and has been used to assess spelling correctness. In this case, there has been a collective test, administered by the teacher, previously instructed about the dictation and its assessment.

## 2.3. Procedure

In Phase 1, in 2019, second-grade children individually completed the reading speed assessment with SPILLO (mean administration time: 15 minutes) and the spelling accuracy assessment with the BVSCO battery (collective administration in the classroom: mean administration time 15 minutes). In addition, the SES data were collected.

In Phase 2, in 2021, the same children, in fourth grade, completed the same spelling assessment battery and reading speed assessment with the MT reading test (mean administration time: 15 minutes).

For reading speed, two different tests were used in the second and fourth grades. The test used in Grade 2 was administered following a school project of reading and writing screening in the first grade. In Grade 4, a different test was selected to obtain a measure with transparent statistical norms used for the psychological assessment of learning to read.

### 3. Results

#### 3.1. Data Analysis

We examined the joint role of linguistic conditions (monolinguals vs. LMBC) and SES before and after the COVID-19 pandemic in Italy. A first series of analyses was conducted on the whole sample of monolinguals and bilinguals for reading speed and spelling; then, a second series of analyses was run considering the linguistic condition of the participants and their SES.

#### 3.2. Analysis of the Whole Sample

A repeated measures analysis of variance was run on the mean scores of both reading speed and spelling errors, comparing Phase 1 (year 2019) to Phase 2 (year 2021). For reading speed, the comparison between years reached significance,  $F(1, 56) = 318.18, p < 0.001, \eta^2_p = 0.85$ . We observed an increase in the number of syllables/sec. Indeed, in Phase 2 ( $M = 3.27, SD = 0.11$ ) participants improved their reading speed compared to Phase 1 ( $M = 2.30, SD = 0.11$ ).

For spelling, we considered the number of errors as the dependent variable. In the same vein, the comparison between years reached significance,  $F(1, 56) = 4.14, p = 0.046, \eta^2_p = 0.07$ . In Phase 2, participants had a lower mean number of errors in spelling ( $M = 7.67, SD = 1.10$ ), compared to Phase 1 ( $M = 8.69, SD = 1.23$ ).

Overall, the analyses of the whole sample revealed good development of basic literacy achievements (reading/spelling) despite the COVID-19 pandemic.

#### 3.3. Role of Linguistic Condition and SES

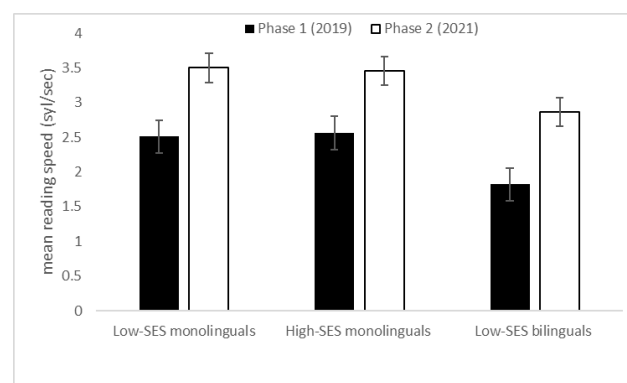
A repeated-measures ANOVA was run on the mean scores of both reading speed and the number of errors in spelling, comparing Phase 1 (year 2019) to Phase 2 (in 2021), with the group as the between-participants factor (low-SES monolinguals, high-SES monolinguals, low-SES bilinguals).

##### 3.3.1. Reading Speed

For reading speed, the main effect of the group reached significance,  $F(2, 54) = 5.05, p = 0.010, \eta^2_p = 0.16$ . Independent sample t tests were then conducted to better analyse the main effect better. In both phases, no significant differences emerged between low- and high-SES monolinguals,  $p$

$> 0.05$ .

Low-SES monolinguals outperformed low-SES bilinguals both at Phase 1, ( $t(36) = 2.67, p = 0.012$ ), and at Phase 2 ( $t(36) = 2.42, p = 0.021$ ). In the same vein, high-SES monolinguals outperformed low-SES bilinguals both in Phase 1 ( $t(36) = 2.80, p = 0.008$ ) and in Phase 2 ( $t(36) = 2.41, p = 0.021$ ). The mean reading speed (syllable/sec) is shown in **Figure 1**.



**Figure 1.** Mean reading speed (syll/sec) for the three groups ( $N = 19$  each) in Phase 1 and Phase 2. Bars represent the SEM.

The main effect of Phase was also significant,  $F(1, 54) = 312.13, p < 0.001, \eta^2_p = 0.85$ . In Phase 2 (3.27 syll/sec,  $SD = 0.10$ ), all participants significantly improved their reading speed compared to Phase 1 (2.30 syll/sec,  $SD = 0.10$ ).

The interaction effect between Phase and Group was not significant ( $p = 0.63$ ); therefore, the three groups attained similar improvements to their reading speed.

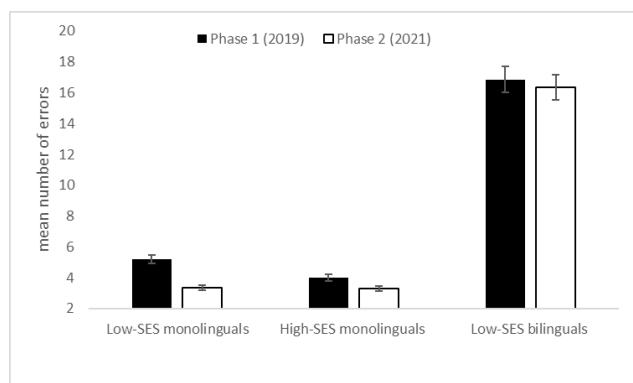
##### 3.3.2. Spelling

For spelling, the main effect of Group reached significance,  $F(2, 54) = 25.54, p < 0.001, \eta^2_p = 0.49$ . Independent sample t tests were then conducted. In both phases, no significant differences emerged between low-SES and high-SES monolinguals,  $p > 0.05$ .

Low-SES monolinguals outperformed low-SES bilinguals both in Phase 1 ( $t(36) = 4.15, p < 0.001$ ) and in Phase 2 ( $t(36) = 5.90, p < 0.001$ ), indicating a significantly lower number of errors (see **Figure 2**). In the same vein, high-SES monolinguals outperformed low-SES bilinguals in both Phase 1 ( $t(36) = 4.72, p < 0.001$ ) and Phase 2 ( $t(36) = 5.95, p < 0.001$ ).

The main effect of Phase reached significance,  $F(1, 54) = 4.19, p = 0.048, \eta^2_p = 0.07$ . In Phase 2 (7.67 mean number of errors,  $SD = 6.14$ ), all participants significantly improved

their spelling compared to Phase 1 (mean number of errors 8.69, *SD* 6.74).



**Figure 2.** Mean number of errors for the three groups ( $N = 19$  each) in Phase 1 and Phase 2. Bars represent the SEM.

The interaction effect between phase and group was not significant ( $p = 0.51$ ); therefore, the three groups made similar progress in their spelling.

## 4. Discussion

In the current study, we used a longitudinal design to examine the acquisition, reading and spelling of primary school pupils before and during the COVID-19 pandemic. Reading speed and spelling were examined at the beginning of second grade in the fall of 2019 and tested again two years later, when the children attended fourth grade.

The analyses conducted on the whole sample indicate that children increased both their reading speed and spelling skills. More specifically, a comparison between 2019 and 2023 revealed a global increase in reading speed and a decrease in spelling errors. Considering the INVALSI report<sup>[14]</sup> shows a significant decrease in the medium-term learning assessment (2019 versus 2023) compared with the short-term assessment, it is possible that we did not find a significant decrease in learning skills, as we examined the 2019–2021 timeframe, which could represent a too short box to study the pandemic effects. Further administration would help to sketch the learning profile of Italian children and compare it to the INVALSI findings.

The quantitative analyses conducted separating bilingual children from monolingual children indicated that the monolingual group outperformed the bilingual group, both in reading speed (**Figure 1**) and spelling (**Figure 2**), contrary to findings by Bonifacci et al.<sup>[8]</sup>, who reported comparable

performance in monolinguals and bilinguals only in reading speed but not in spelling.

It would be valuable to compare our data to the normative sample to obtain a more precise understanding of these basic skills under different linguistic conditions. However, it is worth noting that the normative samples of the tests we used (for both reading speed and spelling) do not include bilingual children but only monolingual ones. Therefore, we believe it would not be correct to report a quantitative comparison between the norms of the tests and our data, thus forcing the interpretation of the current data. However, it may be interesting to conduct a qualitative comparison to underline the differences among the three groups, focusing on Phase 2, to highlight the potential differences or peculiarities of each group that may deserve further investigation that suggests further interpretation of quantitative data.

With respect to reading speed, Italian norms<sup>[21, 23]</sup> show an average speed in the fourth grade of 3.69 syll/sec ( $SD = 1.23$ ). If we compare this value in each group, we observe that all three groups have average values, although the monolinguals display higher values (3.50 syll/sec and 3.46 syll/sec for low- and high-SES, respectively) than the bilinguals (2.86 syll/sec).

With respect to spelling, Italian norms<sup>[22]</sup> have an average value of 3.57 errors ( $SD = 3.49$ ). If we consider the current data, we notice that the two monolingual groups are on average (slightly below, with a lower number of errors: 3.37 for low-SES monolinguals and 3.32 for high-SES monolinguals). On the other hand, the bilinguals show a few errors that are more than double the standardised value (16.32 errors). However, as previously noted, we cannot perform a statistical comparison. Because of the composition of the sample of these tests, it is evident that the spelling accuracy in low-SES bilinguals is dramatically higher than in monolinguals.

As far as concerns the longitudinal contribution of the study and the role of the COVID-19 pandemic, we cannot conclude that it impeded literacy acquisition, given that all the groups (regardless of their linguistic condition) show good development in reading and spelling during the pandemic despite isolation and school closure<sup>[13]</sup>. However, it is worth mentioning that, in light of the qualitative comparison to norms, spelling accuracy is sensibly lower in low-SES bilinguals than in monolinguals, whereas reading speed is

comparable to the standardised value and does not differ dramatically between monolinguals and bilinguals (partly in agreement with<sup>[8]</sup>).

Therefore, regarding the question of how school closure impacted literacy acquisition in Italian primary school children, low-SES bilinguals appear to have been especially affected, as the number of errors they made in tests was greater than the other two groups.

A few limitations are worth noticing. First, in the first phase (pre-pandemic), we administered the test SPILLO to assess reading speed. This test is used in school/educational settings and has no published norms. We acknowledge that this measure differs from the one administered in the second phase.

Another crucial limitation is the absence of a high-SES bilingual group, which is difficult to obtain (e.g.,<sup>[7, 8]</sup>). Future follow-up should consider obtaining data from this group by comparing high-SES bilinguals and same-SES monolinguals and observing the possible bilingualism and/or SES advantages. In addition, the current study, though not fully timely with respect to the pandemic, offers useful insights for responding to future crises, such as paying extra attention to spelling abilities and considering socioeconomic inequalities.

Among future aims, developing training to increase spelling skills along with their metacognitive underpinnings is crucial (e.g.,<sup>[24]</sup>). In addition, it would be interesting to administer a reading comprehension test to children and investigate reading practices to measure not only basic/instrumental literacy skills, but also the ability to study how pandemics could impact high-level cognitive skills. Indeed, a recent study<sup>[25]</sup> revealed that children's independent reading practices during the COVID-19 pandemic were positively associated with their literacy growth during pandemic-related schooling disruptions. In line with this contribution, data collected from adults have shown that the role of cultural capital and reading aims (pleasure versus work/study) may have mitigated pandemic effects<sup>[26]</sup>. Indeed, adults were more committed to reading for pleasure during the pandemic, which may have represented a potential individual 'cultural capital' strategy to cope with worry/difficulties due to the exceptional conditions of the pandemic. This coping strategy could also work for children and should be tested in the future.

## 5. Conclusions

In summary, the current findings contribute to the debate on literacy skill acquisition in low-SES bilinguals (i.e., LMBC), adding support to their specific difficulties in the most active component of literacy (i.e., spelling, compared with reading/decoding), in agreement with the literature<sup>[7-9]</sup>. With respect to the role of the COVID-19 pandemic on basic literacy, we cannot generically conclude that it impeded literacy, given that both monolinguals and bilinguals (regardless of their SES) showed development in reading and spelling. It is worth mentioning that only spelling accuracy in light of the qualitative comparison to the norms, is appreciably lower in low-SES bilinguals than in monolinguals, whereas reading speed does not differ significantly between monolinguals and bilinguals. We believe it is worth highlighting that the contribution and novelty of the present study lies in its cross-linguistic value, longitudinal design, and pandemic circumstance.

## Author Contributions

Conceptualization, C.A. and P.P.; methodology, D.Z. and P.P.; formal analysis, C.A.; data curation, D.Z.; writing—original draft preparation, C.A.; supervision, P.P.; funding acquisition, P.P. All authors have read and agreed to the published version of the manuscript.

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## Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Ethics Committee of the University of Pavia (protocol code 34/19, date of approval October 2019).

## Informed Consent Statement

Informed consent was obtained from all participants involved in the study.

## Data Availability Statement

Data are available on request to the corresponding author.



## Conflicts of Interest

The authors declare no conflict of interest.

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