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Reading Habits of Deaf and Hard of Hearing Adults

Isabel R. Rodríguez-Ortiz, Ana Díaz-Acosta, and Ian C. Simpson

Rodríguez-Ortiz and Díaz-Acosta are both members of the Department of Developmental Psychology and Education, University of Seville, Seville, Spain. Rodríguez-Ortiz is an associate professor, and Díaz-Acosta is a sign language interpreter. Simpson is a postdoctoral research fellow, Department of Experimental Psychology, University of Granada, Granada, Spain.

Few studies exist on the reading habits of the deaf population, and most of those that do were published more than 20 years ago. Hence, changes in reading habits due to the availability to the deaf population of online reading material and portable electronic devices have likely occurred. Additionally, in the hearing population, confinement causes changes in reading habits. We used an online questionnaire to compare the reading habits of 102 deaf and hard of hearing adult residents of Spain both before and during COVID-19 confinement. In general, more reading occurred during confinement, although not all participants showed this pattern: Regular readers read more during lockdown. Motivations for reading were largely unaffected by confinement. Furthermore, the time spent reading was not related to the availability of books at home: More was read in digital format during confinement.

Keywords: reading habits, reading motivation, COVID-19, confinement, deaf, hard of hearing

The study of reading habits has attracted the attention of many researchers because of the association found between these habits and reading comprehension (Anderson et al., 1988; Cipielewski & Stanovich, 1992; Duncan et al., 2016; Guthrie et al., 1999; Locher & Pfost, 2020; Logan & Johnston, 2009; McGeown et al., 2015), as well as between reading habits and social-cognitive abilities, such as empathy and theory of mind (Mumper & Gerrig, 2017). Reading habits have also been linked to educational success (Owusu-Acheaw & Larson, 2014; Palani, 2012), and even to positive outcomes in life in general (Bennett et al., 2003; Roman, 2004). Therefore, the study of reading habits is of special relevance. However, unlike the hearing population, the deaf population has been the subject of little research focusing on reading habits; this is especially true in the case of deaf adults.

One of the first studies to examine the reading habits of deaf and hard of hearing (DHH) adults was done by McLaughlin and Andrews (1975). They interviewed a sample of 36 adult deaf signers about the extent and nature of the reading material they enjoyed. Not surprisingly, given the near complete absence of digital reading material in the 1970s, most of the interviewees reported reading newspapers and magazines, especially *TV Guide*. Specifically, 89% reported that they read at least one newspaper a day, and 86% said they read magazines regularly, but only 30.5% declared that they read books. A breakdown of the results by age revealed that

retired adults (ages 50–70 years), who had more time to read, were the cohort who read all kinds of material more frequently. Those ages 24–49 years read the least, and they reported preferring to socialize with friends rather than spend time reading.

Another classic early study was carried out by Andrews (1978) with a sample of 150 adults (50 hearing college students, 64 deaf college students, and 36 deaf adults who did not attend college). These adults were asked about their reading interests and habits regarding newspapers, magazines, and books. In each group, 92% of readers reported that they read a newspaper at least 10 minutes each day; no significant differences were found between the groups in terms of daily newspaper reading time. Most of the participants in each group also read magazines (98% of hearing college students, 92% of deaf college students, and 94% of noncollege deaf adults). Andrews stated that increased magazine reading time was associated with higher education and that the hearing participants read more magazines than the participants who were deaf, although it was not stated if these differences were significant. In contrast, a difference was found for book reading. On average, hearing college students read 2.6 books per year; deaf college students read 2.4 books a year; deaf noncollege adults read 0.5 books per year. It was therefore found that college students (regardless of hearing level) read more books than deaf noncollege adults. Nevertheless, book reading was not a frequent activity. Twenty-two percent of hearing college students reported reading 2–3 books a year, as did 31% of deaf college students but only 8% of noncollege deaf adults. Finally, the study also found that all participants' reading preferences centered on books that had been made into movies.

Braden (1986) studied the reading habits of 441 deaf students (212 males, 229 females) beginning postsecondary school programs. Most of the respondents (86%) stated that they read at least one book a year (*Mdn* = 10 books/year, *M* = 24), 81% reported reading at least one magazine a month (*Mdn* = 4.1 magazines/month, *M* = 6.4), and 92% said they read at least one newspaper a week (*Mdn* = 6.4 newspapers/week, *M* = 5.5). Braden concluded from these data that the students both read frequently and read a variety of material. In terms of obtaining books, 52.2% of the participants said they acquired them through purchases, 29.8% via library loans, and 18.0% through loans from friends. The corresponding percentages for magazines were 34.8%, 13.6%, and 10.1%, respectively. In terms of preferences, 82% of the interviewees indicated that they had read at least one book with the same title as a movie. Shorter books were preferred over long ones; however, neither the level of difficulty of the book texts nor the use of images in magazines was related to reading preferences. Gender exerted a significant influence in terms of topic preference and also in the frequency of reading newspapers (higher in the case of men). No significant differences were observed in reading frequency due to hearing loss or socioeconomic status.

Another set of studies examined reading habits as a factor associated with other variables of interest (literacy skill and academic achievement), rather than as the focus of the research. For example, Toscano et al. (2002) studied profoundly deaf postsecondary school students with strong literacy skills (15 males, 15 females) in an attempt to identify factors associated with their high level of competence. Although Toscano et al. did not specifically explore reading habits, some data about these habits were reported. For example, 97% of the sample reported that they enjoyed reading for pleasure, and the

adjectives they associated with reading included "informative" (97% of participants), "fun" (83%), "easy" (67%), and "helpful" (60%). Only 17% considered reading "difficult" and just 7% "a bore." However, when considering these results, one must remember that this sample consisted exclusively of participants with high literacy competence. Thus, the results are more representative of a highly successful academically oriented sample than of the DHH population in general.

Parault and Williams (2010) examined the relationship between reading motivation, reading amount, and text comprehension in 24 DHH adults and 30 hearing adults, most of who were undergraduate students. Despite the low reading comprehension levels shown by the DHH participants (sixth-grade level), they had higher scores than the hearing participants in five dimensions of the Motivations for Reading Questionnaire: challenge, curiosity, efficacy, involvement, and intrinsic motivation. However, these higher levels of motivation on the part of the DDH participants did not translate into an increased amount of time spent reading, as the two groups did not differ in amount of time spent reading, either for school or for pleasure. Six of the motivation dimensions (challenge, curiosity, involvement, importance, intrinsic motivation, and total motivation) were associated with reading in both groups. Competition was also associated with reading times in the DHH adult group, while the dimensions of efficacy, social, and avoidance were associated with reading in the hearing adult group. Although there were no significant differences between males and females on text comprehension or amount of reading, deaf females scored higher than deaf males on total reading motivation.

Marschark et al. (2012) conducted a study with 100 deaf college students and 100 hearing college students with the goal of exploring relations among print exposure, academic achievement, and reading habits. In terms of reading habits, the deaf participants spent more time reading than the hearing participants (*Mdns*: 24.0 hours/week vs. 17.5 hours/week), and this difference was seen across a range of materials (magazines, newspapers, email, fiction, and nonfiction). Nevertheless, hearing students recognized more book and more magazine titles than their deaf peers. This latter result led the authors to suggest that the difference between the two groups in terms of reading time was perhaps due either to (a) the fact that DHH students may require more time than hearing students to read the same material (rather than indicate that DHH students read more material), or (b) that DHH students have a greater need to obtain information through written means, given that their hearing counterparts can also obtain information via aural channels such as radio, television, and interpersonal communication. Marschark et al. found no differences on reading measures between DHH students with cochlear implants and DHH students without implants.

In summary, it is difficult to make general claims about the reading habits of the DHH population. There is some evidence that retired DDH adults read more than their younger counterparts, that higher education levels are correlated with more time spent reading, and that gender influences the content of what is read. However, apart from these broad statements, few clear conclusions can be drawn because so few the studies have analyzed the reading habits of the adult deaf population. Compounding this problem is the fact that the few studies that do exist are very old or focus on student or university populations. In recent decades, the use of the Internet, mobile phones,

tablets, and laptops has resulted in digital reading gaining ground on traditional reading of printed material. Yet little or nothing is known about digital reading among the DHH population. This is a particular cause for concern because it is necessary that this population have access to information primarily through written formats. Thus, the first goal of the present study was

> to assess the reading habits of the DHH population given that, on the one hand, the media and means for accessing reading materials have changed radically with the advent of the Internet and the ubiquity of portable devices such as tablets and mobile phones, and, on the other hand, that the increase in TV channels in recent decades could cause a change in reading habits.

Furthermore, we expected that the confinement suffered during the COVID-19 pandemic would have affected the usual reading habits of this population, just as happened among the general population.

Reading Habits During the COVID-19 Pandemic

The coronavirus disease 2019 (COVID-19), caused by the SARS-CoV-2 virus, began to spread in December 2019 in the city of Wuhan, China, and was declared a public health emergency of international concern on January, 30, 2020, by the World Health Organization. Subsequently, on March 11, 2020, it was declared a global pandemic (Cucinotta & Vanelli, 2020). Just 3 days later, the Spanish government declared a "state of alarm" (Ministry of the Presidency, 2020) mandating the suspension of all nonessential face-to-face activity, along with a strict confinement for 3 months in which people could only leave their homes to buy food and medical supplies, or to care for the elderly or sick. This harsh situation provoked a "natural experiment" that can help answer the question *What happens to reading when people have limited social activity and are unable to leave their homes?* One might think that the confinement situation would cause a greater availability of free time and, as a consequence, more time devoted to leisure pursuits, including reading. However, this additional free time did not materialize for those people with responsibility for the care of minor-age, elderly, or infirm people who lived in the same household, or for people whose workloads increased due to the confinement. What did seem to be common to all was the need to stay informed about the unfolding situation. This consequently may have caused changes in the amount of time spent reading or to the format in which reading was undertaken, among other variables.

The COVID-19 pandemic caused a change in life habits in general (Balluerka Lasa et al., 2020; Pérez-Rodrigo et al., 2020). Therefore, it was expected that these changes would also affect the reading habits of the general population (Salmerón et al., 2020). This would seem especially likely if one considered that the role of reading as a source of both information and entertainment became especially relevant in a period when it was necessary to stay informed and occupy free time (Adeyemi, 2021). For this reason, studies have been done in different countries to analyze the impact of the pandemic on reading habits in general.

For example, Vyas and Tandel (2020) examined the impact of the COVID-19 lockdown on the reading habits of academic staff in a public university in northwestern India (29 teaching members, 16 women, and 13 men, ages 21–50 years). The researchers found that 79% of participants enjoyed reading during the

lockdown, with 83% reporting that they read daily. Both digital and print formats were used by 76% for reading, while just 7% read only printed materials. Forty-six percent devoted 1–3 hours daily to reading books; 29% dedicated the same amount of time to reading journals, 20% to reading magazines, 10% to reading newspapers, and 39% to reading electronic media. In this latter category, the mobile phone was the favorite device for reading, followed by the laptop. Surprisingly, the percentage of academics who read newspapers every day or sometimes was higher before the lockdown (52% and 31%, respectively) than during the lockdown (45% and 28%, respectively).

Tyagi et al. (2020) conducted an online survey on reading among college students ($N = 565$) during the COVID-19 lockdown in a city in northern India. Approximately 84% of the participants were ages 18–23 years, and 90% were women. Tyagi et al. found that 38.4% of the participants spend time at home reading books, and 33.3% read material on the Internet. Only 4.3% of the participants did not read at all. No statistical association between reading habits and age or course of study was found.

Using a variety of sources, Parikh et al. (2020) analyzed the effect of confinement on book reading around the world. For example, these authors reported that 70% of the readers surveyed by Amazon-China read more books during the COVID-19 confinement than prior to confinement. Furthermore, in Canada, there was a 58% increase in book reading, according to @BookNet Canada. Similarly, according to Watson (2020), in the United States, adults were reading more books during the pandemic.

Parikh et al. (2020) also studied the reading habits of library users in India during the COVID-19 lockdown. Specifically, 86 college students (ages 18–26 years) and 19 faculty members (ages 25–50 years) participated in their study. Parikh et al. found that the percentage of faculty users who were interested in reading books increased after the lockdown, while that of students was unchanged. However, both groups increased the number of hours dedicated to daily reading during confinement. Many libraries offered remote access to their holdings (e-books, etc.) during COVID-19, and several publishers allowed free access to their digital resources, and this no doubt contributed to the increased use of materials in digital format. In fact, nearly 50% of faculty and student library users reported preferring to read an e-book over a printed book. The preferred reading material for both groups was books, followed by research papers in the case of faculty and newspapers in the case of students.

In the study by Adeyemi (2021), whose participants were 416 residents of Lagos State, Nigeria (63.5% male; more than half of the respondents were students), most of the participants read to obtain information about COVID-19 (86.5%) and to eliminate boredom (78.6%), with the third most common reason being for studies or exams (61.1%). Perhaps surprisingly, only 20.4% indicated that they read for entertainment. The most used reading medium was the mobile phone (97.8%). Regarding time devoted to daily reading, before the COVID-19 lockdown a large majority, 83.4%, said they read 1–2 hours a day. During confinement, that percentage dropped to 31.7%, but this was due to an overall increase in daily reading, as 39.2% reported reading 3-4 hours a day, 21.9% 5–7 hours, and 7.2% more than 7 hours daily. Among the factors that made reading difficult during confinement, the respondents most frequently indicated heavy use of social media (indicated by 77.2%),

nonavailability of resources (72.1%), cost of information resources (70.2%), and lack of motivation (58.1%).

It should be noted that the studies by Parikh et al. (2020) and Adeyemi (2021) were done in countries with large rural populations and high poverty rates.
A closer study to ours, in terms of context, is one by ERI-Lectura (2020), an interdisciplinary entity at the University of Valencia, that looked at reading by Spanish adults and was actually part of a larger multinational study (Salmerón et al., 2020). Of 4,013 adult participants residing in Spain, 40.7%, were between the ages of 18 and 24 years, and 70.2% were women. The results showed an increase in the time dedicated to reading in the first 4 weeks of confinement, from 4 hours 35 minutes per day prior to confinement to 5 hours 45 minutes during confinement. Among the reasons for reading, there were increases in the first 2 weeks of confinement in the categories of leisure, news, social reading (Instagram, Facebook, Whatsapp), and reading for work or study (Salmerón et al., 2020). However, although reading for leisure remained stable after a month, reading news and social reading decreased, while reading for work or study continued to increase. In general, women spent more time reading than men, and this difference increased throughout the confinement. An interaction between type of reading and gender revealed that women did more social reading (Salmerón et al., 2020), but that men did more reading because of work or study (ERI-Lectura, 2020). If age is taken into account, among the youngest participants leisure reading and reading for work or study increased. In this same group, reading news also increased, but this was maintained only at the beginning of confinement. Among the older participants, there was a greater increase in news reading in the third and fourth weeks of confinement. Although reading for work or study also increased, the increase was less than that for the youngest participants. In regard to reading format, an increase in the use of the digital format was observed, especially when it came to reading for work or study and reading the news.

De Sixte et al. (2021) analyzed the participants in the Salmerón et al. (2020) database who were between the ages of 18 and 65 years. For these 3,849 adults, intrinsic motivation to read (defined as the predisposition to read because the activity produces satisfaction in itself) was positively associated with more time spent reading; this relationship was particularly strong in the case of leisure reading.
De Sixte et al. also found that the effect of intrinsic motivation to read on time spent reading was stronger in woman than men. Finally, the relationship between intrinsic motivation and time spent reading was observed both before and at the beginning of confinement and after a month of confinement.

To summarize, from the studies carried out with the hearing adult population, there is no doubt that the confinement brought about by the COVID-19 pandemic caused changes in reading habits, especially in cases in which the population was subjected to many weeks of confinement. Thus, it seems likely that the reading habits of the DHH population would also have changed during confinement. However, a second possibility exists. Nonsigners within the DHH community might need to access written sources more than the general population to stay informed, and this would be true both during and outside confinement. Furthermore, despite the fact that recent digital developments have provided alternative methods for the DDH population to access information without the need to read, the availability of these

resources varies greatly by region. We note that a study by the European Broadcasting Union conducted in 2016 (Bosch-Baliarda et al., 2020) found that on average, public broadcasters delivered sign language in just 4% of programs, mostly made up of daily news. Thus, in regions of the world where these newer channels of communication that do not require the decoding of print are not widely available, even signers may have to read more to stay informed, compared to the hearing population. Consequently, it is possible that confinement would not have had the same impact on the DHH population if its members already relied more heavily than the general population on written information. Thus, the second goal of the present study was as follows:

> to determine what the impact of confinement was on the reading habits of DHH adults by comparing their motivations for reading and reading habits during the confinement period to their usual motivations for reading and reading habits

Aims of the Study

The first goal of the present study was to assess the reading habits of the DHH population, and the second goal was to determine the impact of confinement on these reading habits. Given the result reported for the hearing adult population, a change in the reading habits of the DHH population was foreseeable during confinement. Therefore, this study was undertaken with four specific objectives:

1. to analyze the time spent on reading before and during the confinement
2. to examine the materials and devices used for reading before and during the confinement
3. to investigate the motivation to read before and during the confinement
4. to determine factors associated with reading during the confinement

Method

Participants

The sample consisted of 102 DHH adults residing in Spain (34 who identified as male, 66 who identified as female, and two who identified as nonbinary), all of whom were at least 18 years old. The sample is described in Table 1. The only inclusion criterion for the study was that the participants should be DHH adults.

Instrument

An adaptation of a reading habits questionnaire devised by Micai and Delgado (2014) was used. The adaptation consisted of the inclusion of questions regarding the type and degree of hearing loss, age at identification, affected ears, habitual communication system, and use of technical aids (hearing aids or cochlear implant). Additionally, for the present study, questions regarding reading habits during home confinement were also included.

The adapted questionnaire, which can be found in the Appendix, consisted of three sections. The first section contained questions pertaining to demographic information (gender, age, occupation, etc.), along with questions regarding the type and severity of the hearing loss. The second section contained questions related to the habitual reading habits of the participants before the confinement period, while the third section contained questions related to the reading habits of the participants during home confinement.

Table 1. Characteristics of the Sample (*N* = 102)

Category	Characteristic		
		n	%
Gender	Male	34	33.3
	Female	66	64.7
	Nonbinary	2	2.0
Age range (years)	18–24	12	10.8
	25–34	24	23.5
	35–44	25	24.5
	45–54	25	24.5
	55–64	11	10.8
	65 or older	5	4.9
Occupational status	Student	12	11.8
	Employed	58	56.9
	Self-employed	6	5.9
	Unemployed	19	18.6
	Retired	7	6.9
Highest educational attainment	Primary school	6	5.9
	Secondary school	26	25.5
	Vocational training	21	20.6
	Undergraduate degree	37	36.3
	Master's degree	12	11.8
Degree of hearing loss	Mild	4	3.9
	Moderate	7	6.9
	Severe	31	30.4
	Profound	60	58.8
Onset of hearing loss	Prelingual	86	84.3
	Postlingual	16	15.7
Means of amplification	Hearing aid	41	40.2
	Cochlear implant	13	12.7
	Hearing aid + cochlear implant	3	2.9
	None	45	44.1
System of primary communication	Sign language	30	29.4
	Sign-supported speech	4	3.9
	Oral language	30	29.4
	Both sign and oral language	38	37.3

Note. Due to rounding, not all sets of percentages total 100.0.

The study followed the ethical principles of the Declaration of Helsinki and all ethical procedures as required by the regional legislation and local institutions. Before completing the questionnaire, participants were informed about the aims of the study and about the ethical considerations in the dissemination and treatment of data. Prior to participating in the study, participants provided their informed consent, and at the end of the questionnaire, the consent of the participant was requested to send the completed questionnaire data to the researchers.

Procedure

The questionnaire was designed in Google Forms, a free, web-based survey administration software package. Prior to the dissemination, the questionnaire was piloted by presenting it to a group of 10 deaf adults to ensure that the questions were not ambiguous and could be understood by the deaf community. These participants offered comments on item clarity, relevance, and questionnaire length.

After this phase was concluded, a link to the questionnaire was disseminated through social networks linked to the Spanish deaf community and via a program on one of the state-run television channels (*En lengua de signos* [In sign language], on Radiotelevisíon Española's channel 2). The questionnaire was completed individually and anonymously. Because the questionnaire was sent out shortly after 3 months of strict home confinement had ceased, but while social contact was nevertheless discouraged for all but important reasons, direct contact with the participants was difficult. Consequently, they were recruited via convenience (nonprobability) sampling.

Results

The goals of the present study were to (a) determine the usual reading habits and motivations to read of DHH adults in a situation of nonconfinement, and (b) determine how these habits and motivations changed as a result of confinement.

Reading Habits of DHH Adults Before and During COVID-19 Confinement

Tables 2 and 3 show the amount of time dedicated to reading on weekly and daily bases, respectively, both before and during confinement. This refers to reading of any type of material and in any medium (i.e., books, magazines, and newspapers, as well online resources).

Table 2. Weekly Reading Patterns Before and During Confinement ($N = 102$)

Days per week with some reading activity	Number (and percentage) of participants				Δ *n*
	Before confinement		During confinement		
1	9	8.8%	7	6.9%	–2
2	6	5.9%	6	5.9%	0
3	6	5.9%	9	8.8%	+3
4	2	2.0%	4	3.9%	–2
5	13	12.7%	4	3.9%	–9
6	2	2.0%	4	3.9%	+2
Every day	64	62.7%	68	66.7%	+4

Table 3. Daily Reading Patterns Before and During Confinement (*N* = 102)

Time spent reading each day (hours)	Before confinement			During confinement			Δ *n*
	n	Percentage		*n*	Percentage		
		All participants	Excluding "Do not know"		All participants	Excluding "Do not know"	
< 1	16	15.7%	17.0%	7	6.9%	8.0%	–9
1	24	23.5%	25.5%	18	17.6%	20.5%	–6
2	24	23.5%	25.5%	16	15.7%	18.2%	–8
3	14	13.7%	14.9%	24	23.5%	27.3%	+10
4	8	7.8%	8.5%	4	3.9%	4.5%	–4
≥ 5	8	7.8%	8.5%	19	18.6%	21.6%	+11
Do not know	8	7.8%	–	14	13.7%	–	+6

Note. Due to rounding, not all sets of percentages total 100.0.

In terms of weekly reading frequency, only small changes were found. In both conditions, approximately two thirds of participants undertook some form of reading on a daily basis (62.7% before confinement and 66.7% during confinement). However, given our broad definition of reading, it is perhaps unsurprising that such a high percentage of participants reported reading every day, and that there appears to have been little difference between reading before and during confinement, at least when compared to reading on a weekly scale. A chi-squared test confirmed that there was no significant association between the amount of time spent reading each week and confinement condition, $\chi^2(6) = 7.07$, p = .323, Cramér's V = .19.

In contrast, an initial inspection of daily reading times in Table 3 provides a more fine-grained view, and suggests that more hours were spent reading during, rather than before, confinement. For example, before confinement 29.4% of participants read 3 or more hours a day, but this figure rose to 46.1% of participants during confinement. Similarly, 62.7% of participants read 2 hours or less per day before confinement, but this percentage dropped to 40.2% during confinement. A chi-squared test, excluding the category "I do not know," confirmed a significant association between the amount of time spent reading each day and confinement condition, $\chi^2(5) = 14.2$, $p = .013$, Cramér's $V = .28$. Subsequent z tests indicated that there were significant differences between the proportion of participants in the categories *3 hours daily reading* (before confinement = 14.9%, during confinement = 27.3%) and *5 or more hours daily reading* (before confinement = 8.5%; during confinement = 21.6%), thus supporting the suggestion that confinement had led to an increase in daily reading.

In order to further explore the relationship between daily reading and confinement status, we converted the responses to this question to their equivalent numeric values, with responses of "less than 1 hour per day" given the value 0.5 hours and responses of "5 or more hours per day" set to 5.0. This latter decision is conservative, as setting these responses at a higher value would have inflated the mean of the "confinement reading" condition, thus increasing the chances of obtaining a significant

difference (due to the larger number of participants who indicated that they read 5 hours or more a day during confinement, compared to prior to confinement).

For the 83 participants who provided daily reading estimates for both conditions, there was a strong, significant correlation between daily reading times before confinement and during confinement ($r_{82} = .68$, $p < .0005$), a finding that suggests that the participants who habitually dedicated the most/least time to daily reading before confinement were the same participants who dedicated the most/least time to daily reading during confinement. Nevertheless, a dependent samples *t* test revealed that daily reading times significantly increased during confinement ($M = 2.6$ hours, $SE = 0.17$) compared to before confinement ($M = 2.0$ hours, $SE = .15$), $t_{82} = 4.50$, $p < .0005$, Cohen's $d = 0.99$.

Of course, this large effect size of approximately 36 additional minutes spent reading during confinement is based on the condition means. When looking at individual behavior, we found that seven participants indicated that they dedicated less time each day to reading during the confinement compared to before the confinement (1.6 [*SE* 0.50] vs. 2.7 [*SE* 0.52] hours, respectively), 40 participants indicated no change in their daily reading time (2.2 [*SE* 0.23] hours), while 36 participants indicated that they dedicated more time each day to reading during confinement than before (3.2 [*SE* 0.23] vs. 1.7 [*SE* 0.19] hours, respectively). In an attempt to determine if there was a specific profile associated with the pattern of change in daily reading habits during confinement, we ran a series of exploratory correlations (gender, age, degree of hearing loss, age at identification, number of books at home, number of books read in the last 6 months, motivation to read) and chi-squared analyses (occupation, education) looking for a relationship with the change in reading status (defined as "read more during confinement," "read the same amount," and "read less during confinement"). However, none of the analyses produced significant results. Thus, in our sample, neither gender, age, educational level, degree of hearing loss, motivation, or number of books at home was related to the change in daily reading habits.

Finally, a series of binomial logistic regressions (bootstrapped with 1,000 iterations) were performed to determine how likely participants were to have changed their daily reading habits between confinement conditions. Compared to the amount of daily reading undertaken prior to confinement, participants were (a) 5.14 times more likely (95% CI 2.50, 15.66) to have read more during confinement than to have read less ($p = .003$); and (b) 5.71 times more likely (95% CI 2.91, 17.03) to have read the same amount during confinement than to have read less ($p = .001$). Thus, it was unlikely that the daily reading levels of our participants were lower during confinement compared to preconfinement levels. Nevertheless, confinement did not induce our participants to read more on a daily basis. Compared to reading the same amount both before and during confinement, participants were only 1.11 times more likely (95% CI 0.70, 1.79, $p = .670$) to have read more during confinement.

Considering the results of the *t* test together with those of the binomial logistic regression, we can summarize the results as follows. First, although confinement was not likely to be associated with an increase in a participant's daily reading time, it was significantly unlikely to be responsible for a reduction of daily reading time by our participants. Consequently, although the average daily reading time was

significantly higher during confinement than before, this was not a general pattern affecting the majority of participants, and instead was driven by just under half of the sample. Nevertheless, for those participants who did dedicate more time to daily reading during confinement, this additional time represented approximately 1.5 hours per day.

Reading Material

When asked how many books they had at home, 9.8% of participants indicated 1–10 books, the same percentage said they had 11–20 books, 15.7% indicated 21–40; and 19.6% responded with 41–60 books; 7.8% said 61– 80, and 3.9% indicated 81–100, while a plurality of the sample (33.3%) reported that they had more than 100 books. However, the availability of books at home was not related to daily reading habits, either before ($r_{94} = .15$, $p = .160$) or during confinement ($r_{88} = .03$, $p = .977$).

With regard to book reading, 43.1% of participants said they read three or more books during confinement. Of this group, more than half read five or more books (22.5% of the total sample). With respect to how the books they read were acquired, books that were downloaded or purchased online (36.3%) or books that were kept at home or loaned by friends (34.3%) were the preferred options for the largest number of participants during confinement. However, before confinement, the most frequent way to acquire books was from bookstores (33.4%), followed by the Internet (see Table 4).

In the survey, participants were asked what their favorite reading material had been before and during confinement, and these data are summarized in Table 5. There appeared to be a slight reduction in the diversity of favorite materials during confinement, which may actually indicate a reduced availability of favorite materials during this period. Nevertheless, a

Table 4. Number (and Percentage) of Participants Who Answered the Question "Where Did You Get the Books You Read During Your Free Time?" ($N = 102$)

	Before confinement		During confinement	
Bookstore	33	32.4%	–	–
Free download on the Internet	23	22.5%	37[a]	36.3%
Buy on the Internet	16	15.7%		
Home or friends	4	3.9%	35	34.3%
Library	15	14.7%	21	20.6%
Library and bookstore	2	2.0%	–	–
Library and free download	3	2.9%	–	–
All the options	4	3.9%	–	–
None of the options	1	1.0%	0	–
I do not read books	1	1.0%	7	6.9%
I do not know	0	–	2	2.0%

Note. Libraries and bookstores were not available as sources of reading material because they were closed during the pandemic lockdown,

[a] This number includes both "free download on the Internet" and "buy on the Internet."

Table 5. Number (and Percentage) of Participants Who Answered the Question "What Is Your Favorite Reading Material?' (*N* = 102)

	Before confinement		During confinement	
Novels	46	45.1%	40	39.2%
Comics	16	15.7%	13	12.7%
Magazines	11	10.8%	4	3.9%
Webs / blogs	17	16.7%	13	12.7%
History or science books	26	25.5%	13	12.7%
Newspapers	16	15.7%	14	13.7%
Other	0	–	1	1.0%
None	0	–	1	1.0%

Note. Because respondents could choose more than one type of reading material, the sum of percentages exceeds 100.0.

chi-squared test (excluding the categories *other* and *none*) did not reveal a significant association between the proportion of participants who preferred each type of reading material and confinement condition, $\chi^2(5) = 3.73$, $p = .595$, Cramér's V = .13.

From Table 6 it appears that the transition to confinement seemed to affect the frequency with which paper-based material was read (from 45.1% who sometimes read on paper and from 26.5% who frequently read in this format, these percentages dropped to 37.3% and 21.6%, respectively, during confinement). Nevertheless, a chi-squared test did not reveal a significant association between the amount of time spent reading paper-based material and confinement condition, $\chi^2(4) = 5.56$, $p = .236$, Cramér's V = .17. Another finding of particular interest, as shown in Table 6, is that the number of participants who claimed that they always read in digital format doubled, from 10 to 20, during confinement. Although a chi-squared test did not reveal a significant association between the amount of time spent reading digital material and confinement condition, $\chi^2(4) = 4.91$, $p = .301$, Cramér's V = .16, a subsequent z test confirmed that the doubling of the number of participants represented a significant change.

Table 6. Number (and Percentage) of Participants Who Read in Paper or Digital Format Before and During Confinement (*N* = 102)

	Paper				Digital			
	Before confinement		During confinement		Before confinement		During confinement	
Never	7	6.9%	14	13.7%	9	8.8%	9	8.8%
Almost never	4	3.9%	9	8.8%	10	9.8%	7	6.9%
Sometimes	46	45.1%	38	37.3%	46	45.1%	46	45.1%
Usually	27	26.5%	22	21.6%	27	26.5%	20	19.6%
Always	18	17.6%	19	18.6%	10	9.8%	20	19.6%

DHH Adults' Motivation to Read Before and During COVID-19 Confinement

The motivations for reading, which are summarized in Table 7, were practically unaffected by the confinement. During confinement, the percentage of participants who read for information decreased (from 94.1% to 92.2%), as did the percentage that read for work or study reasons (from 58.8% to 53.9%), but in both periods respondents mostly indicated that their reading was driven by intrinsic motivations (enjoyment, learning, information). A chi-squared test confirmed that there was no association between types of motivation and confinement condition, $\chi^2(6) = 0.23$, $p > .999$, Cramér's V = .02.

Variables Associated With Reading Habits

In their sample of 36 DDH participants, McLaughlin and Andrews (1975) reported that participants in the oldest age range (50–70 years, $n = 12$), who were mostly retired, read all kinds of material more than other participants, while participants in the middle age range (24–49 years, $n = 12$) read the least. Although there were few retirees in our sample, we were interested in seeing if the same pattern was present. With respect to normal daily reading, the retirees in our sample read more than the other participants (3.5 hours vs. 2.0 hours), a difference that was significant and represented a very large effect size, $t(92) = 2.72$, $p = .008$, Cohen's $d = 1.2$. However, during confinement, the difference between the two groups was slightly reduced (3.8 hours vs. 2.6 hours), and just failed to reach significance, $t(86) = 1.93$, $p = .057$. Nevertheless, the effect size of the difference, although reduced, was still large (Cohen's $d = 0.83$), which leads us to conclude, for practical purposes, that the retirees in our sample also read more during confinement, compared to the other participants. Perhaps surprisingly, this additional daily reading done by the retirees was not reflected in the number of books read, either habitually or during confinement. In fact, on average, retirees read fewer books than the rest of the sample, although this finding was far from significant (habitually: 3.2 vs. 3.8 books, $t[93]$ 0.81, $p = .432$, Cohen's $d = .34$; confinement: 3.2 vs. 3.7 books, $t[88] = 0.59$, $p = .555$, Cohen's $d = 0.26$).

Table 7. Motivation to Read Before and During Confinement: Number (and Percentage) of Participants Who Stated They Somewhat or Strongly Agreed With the Motivation ($N = 102$)

I read…	Before confinement		During confinement	
Because I enjoy it	87	85.3%	83	81.4%
To learn	94	92.2%	92	90.2%
To inform myself	96	94.1%	94	92.2%
So as not to feel guilty	23	22.5%	21	20.6%
Because my friends read	15	14.7%	16	15.7%
Because my family wants me to	19	18.6%	18	17.6%
Due to work or study	60	58.8%	55	53.9%

Note. Because respondents could choose more than one type of motivation the sum of percentages exceeds 100.0.

Braden (1986) reported that gender exerted an influence on the frequency of reading newspapers (higher in the case of men) in a sample of 441 DHH students beginning postsecondary school programs. Given that more than 35 years have passed since that study, and that reading is now done in a variety of media, we were interested in determining if gender differences would be present in our sample. To this end, we analyzed the data in Table 6 by gender. Before confinement, a chi-squared test confirmed a significant association between the choice of reading medium and gender, $\chi^2(9) = 22.3$, $p = .004$, Cramér's V = .47. (The two participants who identified as nonbinary were removed from all analyses involving gender, as this was an insufficient number to allow meaningful conclusions to be drawn.) Subsequent *z* tests indicated that that result was largely driven by novels: 47.0% of females but just 11.8% of males reported reading novels. There was also a significant difference in newspaper consumption (17.6% of males but just 4.5% of females). When the analyses were repeated for the confinement condition, similar results were found. The overall chi-squared test was significant, $\chi^2(10) = 30.3$, $p = .001$, Cramér's $V = .55$, and the findings for the categories of novels (50.0% of females, 8.8% of males) and newspapers (26.5% of males, 7.6% of females) were, again, significant.

Andrews (1978) reported that increased magazine reading time was associated with higher education levels, and that education was also related to book reading. We analyzed the reading frequency and book-reading data on the basis of the educational categories shown in Table 1 to see if similar patterns were present in our data. Educational levels were positively correlated with the number of books in the household ($r_{102} = .35$, $p < .001$), along with the number of books read, although the relationship was weaker during confinement (normally, $r_{95} = .41$, $p < .001$; during confinement, $r_{90} = .24$, $p = .025$). However, education levels were not correlated with the amount of time spent reading each day, either normally ($r_{94} = .11$, $p = .292$) or during confinement ($r_{88} = .04$, $p = .717$).

The degree of hearing loss did not correlate with the number of books read, either normally ($r_{95} = –171$, $p = .098$) or during confinement ($r_{90} = .025$, $p = .816$); this finding agrees with those of Braden (1986), who also reported no significant differences in reading frequency due to hearing loss in a sample of deaf postsecondary students.

There was no relationship between the system of communication mostly used and the number of books read, either normally ($\chi^2[10] = 17.83$, $p = .058$, Cramér's V = .31) or in confinement ($\chi^2[10] = 9.33$, $p = .519$, Cramér's V = .23). (The four participants who mostly used "sign-supported speech" were removed from all analyses involving the system of communication, as this was an insufficient number to allow meaningful conclusions to be drawn.) Nor was there a relationship between the system of communication and the daily reading times, either normally ($\chi^2[10] = 9.67$, $p = .488$, Cramér's V = .23) or in confinement ($\chi^2[10] = 6.34$, $p = .811$, Cramér's V = .19).

Regarding cochlear implants, Marschark et al. (2012) did not find differences on reading measures between DHH students with cochlear implants and DHH students without implants. In our study, the use of the implant was not associated with any measure of reading habits.

Discussion

The main aims of the present study were to determine the reading habits of the DHH

adult population and to observe whether these habits had undergone any change during the COVID-19 pandemic lockdown. Although changes in reading habits attributable to confinement have been reported in the general population, it was unclear if similar changes would be observed in the DHH adult population due to its high reliance on written information in everyday life. The data in weekly reading patterns revealed that confinement led to a slight increase in the number of DHH people who read every day (66.7% vs. 62.7% prior to confinement), although this difference was not significant. Nevertheless, when the data were examined at a more fine-grained level, that is, the level of daily reading time, differences did emerge. First, at the group level, significantly more time was devoted to reading each day in confinement than before, and this effect was large. In particular, there was a significantly higher proportion of the sample that read 3 hours per day, or for more than 5 hours per day during confinement, compared to prior to confinement. Nevertheless, when we looked at individual differences, we found that this result was driven by just over 40% of the sample. Thus, it appears that confinement led to an increase in daily reading for four out of every 10 DDH adults, with the remainder highly likely to maintain their normal daily reading habits. The availability of books at home was not related to daily reading, either in normal conditions or during confinement.

Why might the confinement due to the pandemic have led to an increase in daily reading for a large part of our sample? For many people, one consequence of confinement was a greater availability of free time than they had ever known before. This could have been the underlying factor that led to an increase in daily reading during confinement. This possible conclusion is plausible given that people could not leave their homes during confinement, except for a very limited number of approved reasons, with reading being one activity that could still be undertaken. Another factor that could have contributed to increased reading during confinement for our participants could lie in the need to receive information about the situation generated by the COVID-19 pandemic. Nevertheless, in our analyses we found no significant difference in the motivations for reading before and during confinement. However, in Spain, as in many other countries, authorities tended to use televised live briefings to update the population about the evolving COVID-19 situation. Hence, there was a tendency to watch the live briefings on television rather than read about the changes at a later time.

If we compare changes in daily reading habits of our DHH sample with those found in the hearing population during the pandemic, we find that the percentage of DHH people who read daily during confinement (66.7%) is much less than that found among hearing people, 83%, in a study by Vyas and Tandel (2020). This difference may be due to the fact that the hearing sample in the study by Vyas and Tandel was composed of teaching staff (whom one would expect to read frequently because of their course demands). When we look at percentage of participants in our sample who reported never reading paper-based material (13.7%) or digital material (8.8%) during confinement, these percentages appear high compared to those reported in one study for a hearing sample: Tyagi et al. (2020) found that just 4.25% of their sample did not read at all. However, this sample was formed exclusively of college students. Regardless of these possible differences, the DHH adults in our study, like hearing adults in other studies (Adeyemi, 2021;

ERI-Lectura, 2020; Parikh et al., 2020), were found, in general, to increase their engagement in reading during confinement. Nevertheless, the findings of our study, specifically the increases in daily reading, were largely driven by only about 40% of the sample, raising the possibility that the general increases reported for hearing populations at the group level may be masking groups of readers who behaved differently during the pandemic.

In regard to the source from which reading material was acquired, we found that during confinement online downloads or purchases, books already present in the household, and books borrowed from friends were the most frequently cited options. This no doubt was motivated by the fact that movement outside the home was strictly limited, and that bookstores were closed (being deemed nonessential businesses) during the first months of confinement. In contrast, under normal conditions, the main source of books was bookstores—a finding that coincides with the results reported by Braden (1986). It is unsurprising that the second most popular method of acquiring books reported by our participants outside the period of confinement was purchasing or downloading material via the Internet, something that was not possible at the time of Braden's study. The increasingly popularity of online purchase or downloading of material could be the reason why libraries were not used much by respondents as a place to get books outside the period of confinement.

With respect to reading materials, previous studies, both with deaf adults (Andrews, 1978; McLaughlin & Andrews, 1975) and with deaf students (Braden, 1986), observed a preference for reading newspapers and magazines over reading books. In the present study, this preference was not observed to occur either habitually or during confinement—books, specifically novels, being the preferred reading material in both cases. This same preference during confinement was observed in the hearing population by Vyas and Tandel (2020), and Parikh et al. (2020), and seems to have been motivated by a current tendency to consume news through different channels (e.g., websites, blogs, and television).

The transition from normal conditions to confinement did not affect the preferences for reading materials. We noted that one source of reading material as equally popular as newspapers, regardless of confinement condition, was websites and blogs. Potentially, this indicates their use as an alternative or complementary source of written information to newspapers and magazines, a phenomenon that has been well documented in the general population, especially among younger people (Lee, 2021; Müller et al., 2016). In the study by Vyas and Tandel (2020) with hearing participants, the percentage of participants who read newspapers sometimes or every day decreased during the lockdown. The difference between the study by Vyas and Tandel and ours with respect to newspaper reading can perhaps be attributed to the fact that hearing population can acquire information through other channels, such as radio and television, which are generally not as useful to the DHH population. Hence, the dependence of the DHH population on written material as an information source could have contributed to newspapers retaining their popularity during confinement.

During confinement, the percentage of people who read in digital format lessened in the categories *almost never* (9.8% down to 6.9%) and *usually* (26.5% down to 19.6%), whereas those reporting reading in digital format on a daily basis increased dramatically (9.8% to 19.6%). At the same

time, reading in paper format generally decreased during confinement. Although these differences did not reach statistical significance for either reading format, this pattern of changes may be related to the fact that during confinement the main source of reading material was the Internet (digital reading), but before confinement the main source was bookstores, a finding that could reflect greater access to reading on paper. Alternatively, the greater use of the digital format during confinement could be associated with reading for work, study, or to learn the news, which is what was observed during confinement among hearing adults evaluated in the ERI-Lectura (2020) study.

Whether in confinement or not, the majority of the DHH adults interviewed for the present study expressed an intrinsic motivation for reading, given that most of them read to inform themselves, learn, or have fun. This finding coincides to a certain degree with that of Toscano et al. (2002), who found that 97% of the participants in their study enjoyed reading, and that the same proportion associated reading with obtaining information. The importance of this intrinsic motivation to read is highlighted in the study by Parault and Williams (2010), in which this type of motivation was associated with reading amount among DHH participants, and in the study by De Sixte et al. (2021), who observed this association among hearing adults before and during confinement.

Although the number of people in our sample who read during confinement for information and who read for work or study decreased, the differences did not reach statistical significance. The motivation to read for information was high in the DHH population, independently of the confinement state. Marschark et al. (2012), who found a similar result, suggested that such a finding is possibly due to the need of this population to obtain information through written media, unlike people with typical hearing who can obtain it through radio, television, or interpersonal communication. This is especially true in a country such as Spain with scarce hours devoted to captioning or interpreting on television.

An interest in being informed during the pandemic was also observed among hearing adults in the study by Adeyemi (2021). In that study, 86.5% of participants read to obtain information about COVID-19, although this was a lower percentage than the percentage of deaf adults in our study for the reasons mentioned in the previous paragraph. Among hearing adults of the same nationality as the participants in our study (Salmerón et al., 2020), news reading decreased after 1 month of confinement. The same tendency was observed among DHH adults in the present study: 94.1% claimed that they read to be informed before the confinement, and that percentage dropped to 92.2% during confinement, although this difference was not statistically significant.

Another reason given for reading by hearing adults in the study by Adeyemi (2021) was for studies or exams (61.1%), as more than half of the participants in their sample were students. In our study, only 11.8% were students, so this reason was reported by fewer participants (53.9% during the pandemic confinement). Unlike the hearing adults in the study by Salmerón et al. (2020), who increased their reading for work or study throughout confinement, the number of DHH participants in the present study who read for work or study during confinement decreased, although not significantly. Nevertheless, this may be an indication of the difficulties this population faced in doing their jobs or studies online.

Regarding the variables analyzed in relation to reading habits, gender differences were only observed for reading material preference. Women read more novels and men read more newspapers, and these differences were found both before and during confinement. This result coincides with that found by Braden (1986), who also evaluated the reading material of DHH adults. However, in a large sample of hearing adults, Salmerón et al. (2020) found that during confinement women spent more time reading than men, although men demonstrated a greater increase in reading for study or work reasons during confinement than women (ERI-Lectura, 2020). There are at least two possible explanations for why the ERI-Lectura (2020) study found gender effects when time dedicated to reading was examined while the present study did not. The first is the difference in the sample sizes of the two studies: The ERI-Lectura study had more statistical power to detect small changes. The second possibility is related to when the participants were evaluated—just 4 weeks into the confinement in the case of the ERI-Lectura study but after 3 months of confinement in the present study. Potentially, the changes in reading habits due to confinement were still evolving after just 1 month of living in these conditions. Had the ERI-Lectura study evaluated the participants after 3 months, the gender differences may no longer have been present.

Age differences were also observed in the reading habits of the DHH adults we surveyed. Specifically, retirees devoted more time daily to reading than younger participants; this was true both before and during confinement. This finding agrees with that of McLaughlin and Andrews (1975), who observed that retirees were the group among the deaf population who read the most, and thus assumed that having more time was related to a greater amount of reading. Parikh et al. (2020) also reported age effects during COVID-19 lockdown, finding differences between the reading habits of hearing college students (ages 18–26 years) and faculty (age 25–50 years). However, this difference may be attributable more to academic status than to age: Faculty increased book reading after confinement, but students did not.

No significant differences in the amount of time spent reading before or during confinement attributable to the educational level of the participants were observed; this is despite the fact that higher levels of education were associated with having more books at home and having read more books before confinement. We offer two tentative explanations for this result. First, as suggested by Marschark et al. (2012), if more books are read by highly educated DHH people, but the daily time devoted to reading is the same as among DHH people with lower levels of education, this potentially could mean that highly educated DHH people read more efficiently than DHH people with lower levels of education. A second possibility is that the two groups read different material, although we note that no differences were found regarding the favorite reading materials or the frequency of use of the digital format. In a nonpandemic situation, Andrews (1978) also found that college students, both hearing and DHH, read more books than DHH noncollege adults.

As for the variables related to deafness, we found that neither degree of hearing loss nor use of cochlear implants was related to reading habits. These findings are consistent with those of previous studies. In fact, neither Branden (1986) nor Marschark et al. (2012) found a

relationship between hearing loss or cochlear implants and reading habits.

Limitations and Future Directions

The present study had a number of limitations that must be taken into account in interpretation of its results. First, nonprobabilistic convenience sampling was used to recruit the sample. Consequently, subgroups that are present in the DHH population may have been underrepresented in our sample—a potential bias that cannot be measured. Therefore, the results of the study cannot be generalized to the wider population of all DHH adults.

Second, the sample ($N = 102$) was relatively small, although to our knowledge Braden (1986) is the only researcher to have used a larger sample than ours in looking at the reading habits of DDH adults. This perhaps reflects difficulty recruiting participants from the DHH population. Nevertheless, to gain meaningful insights into the reading habits of DHH adults, future studies should endeavor to recruit a larger sample than that of the present study.

Third, as with any online questionnaire, indeed, with many forms of questionnaires, there is always the issue of response veracity. Responses could be biased for a number of reasons, including social desirability and acquiescent responding. Similarly, personal experiences during the confinement period (both positive and negative) could have influenced whether a person chose to participate in the survey, and for those who did participate, may have biased the strength of their response. This is a further reason why the present results cannot be generalized to the entire DHH population. However, the use of online measures provided us access to individuals who would be difficult to reach through other channels in times of pandemic. Nevertheless, in future research, data collection via an online questionnaire should be complemented with other methods of data collection or with more objective methods, such as asking participants to list the titles of books, magazines, and newspapers they read.

Furthermore, most of our sample was between 18 and 60 years of age. This again means that interpretation of our findings regarding retirees must take the small sample size into account. On this point, it would be extremely interesting to undertake a similar study that focused only on participants over 60 years of age. This is because this age group suffered greater vulnerability and isolation during confinement compared to other age groups (Lebrasseur et al. 2021), and consequently this may have affected their reading habits to a greater extent. On the other hand, socioeconomic status could be a variable that exerted a specific influence on certain behaviors related to reading habits. However, data were not collected on enough measures to enable us to assess this status in the sample. Data related to other variables concerned with family and work responsibilities during confinement that could have explained the greater or lesser daily dedication to reading were also not collected.

Another limitation of the present study stems from the previous validation of the instrument in a small group of 10 deaf adults to ensure that the questions were not ambiguous and could be understood. However, validation was strengthened by an analysis of the legibility of the survey text (using the text readability analysis tool Legible, https://legible.es/) that yielded an INFLESZ index (Barrio-Cantalejo et al., 2008) of 68.78, representative of a fairly easy read— specifically, requiring just 4.9 years of schooling to be understood.

Despite the limitations noted above, this work contributes to understanding of the reading habits of DHH people and how they make adaptations in these habits during a period of confinement.

Notes

Correspondence should be sent to Isabel R. Rodríguez-Ortiz, Department of Developmental Psychology and Education, Faculty of Psychology, C/ Camilo José Cela, s/n. 41018. Seville, Spain. Tel: +34 955420541. Fax: +34 954559544. Email: ireyes@us.es

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Appendix

Online Questionnaire Administered to the Participants (in Spanish), With Each Item's English Translation

Screen	Spanish	English
1	**Cuestionario Sobre Hábitos Lectores en la Población con Sordera y Adaptaciones Durante el Confinamiento** Estimado/a participante: En primer lugar, permítame agradecerle su disponibilidad para participar en este estudio sobre los hábitos lectores en la población con sordera o hipoacusia, llevado a cabo en la Universidad de [ANONIMO]. Su colaboración es indispensable para conocer las prácticas y gustos lectores de las personas sordas antes y durante el confinamiento. Quisiera recordarle que toda la información que proporcione se tratará de forma anónima y los datos obtenidos solo serán empleados con fines académicos y en ningún momento serán utilizados de modo que usted pueda ser identificado/a. Además, no hay respuestas correctas e incorrectas, por lo que nos gustaría que respondiera con total sinceridad a las preguntas que le haremos en este cuestionario. ¡Muchas gracias por su participación! Si consiente participar, marque la siguiente casilla: ☐ Consiento participar en este estudio	**Questionnaire on Reading Habits of the Population With Deafness and Adaptations During Confinement** Dear participant: First of all, let me thank you for your availability to participate in this study on reading habits of the deaf and hard of hearing population, carried out at the University of [ANONYMOUS]. Your collaboration is essential to learn about the reading practices and preferences of deaf people before and during confinement. I would like to remind you that all the information you provide will be treated anonymously and that the data obtained will only be used for academic purposes. At no time will the data be used in such a way that you can be identified. Also, there are no right or wrong answers in the questionnaire, so we would like you to answer the questions as honestly as you can. Thank you for your participation! If you consent to participate, please check the following box: ☐ I consent to participate in this study
2	**Sección 1** **Datos de Identificación** Género: Masculino Femenino No binario Rango de edad: 18 a 24 años 25 a 34 años 35 a 44 años 45 a 54 años 55 a 64 años Más de 65 años	**Section 1** **Demographic Data** Gender: Male Feminine Nonbinary Age range: 18 to 24 years 25 to 34 years 35 to 44 years 45 to 54 years 55 to 64 years Over 65 years

Screen	Spanish	English
	Ocupación: Estudiante Trabajador/a por cuenta ajena Trabajador/a por cuenta propia Desempleado/a Jubilado/a Otro	Occupation: Student Employed Self-employed worker Unemployed Retired Other
	Nivel de estudios: Primarios Secundaria obligatoria Grado universitario Máster universitario Doctorado Otro	Educational level: Primary school Secondary school University degree Master's degree Doctorate Other
	Indique cuántos/as adultos/as conviven en su hogar familiar:	Indicate how many adults live in your family home:
	Indique cuántos/as jóvenes de 14 a 18 años conviven en su hogar familiar:	Indicate how many adolescents between the ages of 14 and 18 years live in your family home:
	Indique cuántos/as niños/as menores de 14 años conviven en su hogar familiar:	Indicate how many children under the age of 14 years live in your family home:
3	**Información sobre tu pérdida auditiva**	**Information regarding your hearing loss:**
	Grado de sordera: Hipoacusia leve Hipoacusia moderada Hipoacusia severa Sordera profunda	Degree of hearing loss: Mild hearing loss Moderate hearing loss Severe hearing loss Profound hearing loss
	Oídos con pérdida auditiva: Izquierdo Derecho Ambos	In which ear do you have your hearing loss: Left Right Both
	Edad a la que perdió la audición: Nacimiento Entre el nacimiento y los 2 años Entre los 2 y 5 años Entre los 5 y 18 años Después de los 18 años	Onset of hearing loss: Birth Between birth and 2 years Between 2 and 5 years Between 5 and 18 years After 18 years
	Uso de audífonos: Sí No	Do you use hearing aids: Yes No
	Uso de implante coclear: Sí No	Do you have a cochlear implant: Yes No
	Sistema de comunicación más utilizado: Lengua de signos Bimodal Palabra complementada Lengua oral Lengua oral y de signos	Which system of communication do you mostly use: Sign language Sign-supported speech Cued speech Oral language Oral and sign language

(*Continued.*)

(*Continued.*)

Screen	Spanish	English
4	**Sección 2**	**Section 2**
	Hábitos de lectura en general (Antes del Confinamiento)	**General reading habits (Before lockdown confinement)**
	¿Cuántos libros, aproximadamente, tiene en casa? 1–10 11–20 21–40 41–60 61–80 80–100 +100	Approximately how many books do you have at home? 1–10 11–20 21–40 41–60 61–80 80–100 +100
	¿Cuántos libros habías leído en los últimos 6 meses? Menos de uno Uno Dos Tres Cuatro Más de cinco No lo sé	How many books have you read in the last 6 months? Less than one One Two Three Four More than five I do not know
	¿Cuánto tiempo suele dedicar al día a la lectura de cualquier tipo de material y a través de cualquier medio (libros, revistas, periódicos, blogs y webs en internet, etc)? Menos de 1 h 1h 2h 3h 4h Más de 5h No lo sé	How much time do you usually spend each day reading any type of material and using any medium (books, magazines, newspapers, blogs, Internet websites, etc.)? Less than 1 hour 1 hour 2 hours 3 hours 4 hours More than 5 hours I do not know
	¿Cuántos días a la semana suele dedicar tiempo para leer cualquier tipo de material y a través de cualquier medio (libros, revistas, periódicos, blogs y webs en internet, etc.)? 1 día 2 días 3 días 4 días 5 días 6 días Todos los días	How many days a week do you usually spend time reading any type of material and using any medium (books, magazines, newspapers, blogs and Internet websites, etc.)? 1 day 2 days 3 days 4 days 5 days 6 days Every day
	¿Cuál es su lugar favorito para leer?	What is your favorite place to read?
	¿Dónde consigue los libros que lee durante su tiempo libre? (marque todos los relevantes) Biblioteca Librería Compra en internet Descarga gratuita en internet Otro	Where do you get the books you read during your free time? (check all that apply) Library Bookshop Buy online Free download online Other

Screen	Spanish	English
	¿Cuál es su material de lectura favorito?	What is your favorite reading material?
	Novelas	Novels
	Cómic	Comics
	Revista	Magazines
	Webs/Blogs	Websites/blogs
	Libros de historia/ciencia	History/science books
	Periódico	Newspapers
	Otro	Other
	¿En qué medida usa el formato papel para leer?	To what extent do you use the paper format to read?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	¿En qué medida usa medios digitales para leer?	To what extent do you use digital media to read?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	¿Cuánto tiempo dedica a ver la televisión?	How much time do you spend watching television?
	< 30 minutos al día	< 30 minutes a day
	Alrededor de 30 minutos al día	About 30 minutes a day
	Alrededor de 1 hora al día	About 1 hour a day
	Alrededor de 2 horas al día	About 2 hours a day
	Más de 2 horas al día	More than 2 hours a day
	¿Cree que tiene algún tipo de dificultad para comprender lo que lee?	Do you think you have any kind of difficulty understanding what you read?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	¿Tiene dificultades para mantener la atención en lo que lee?	Do you have difficulty paying attention to what you read?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	Motivación hacia la lectura: (Señale el grado de acuerdo en relación con las siguientes motivaciones: Muy de acuerdo, Algo de acuerdo, Ni de acuerdo ni en desacuerdo, Algo en desacuerdo, Muy en desacuerdo)	Motivation to read: (Rate your level of agreement in relation to the following motivations: Strongly agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Strongly disagree)
	Leo porque disfruto haciéndolo	I read because I enjoy doing it
	Leo para aprender	I read to learn
	Leo para informarme	I read to inform myself
	Leo para no sentirme culpable	I read so I don't feel guilty
	Leo porque mis amigos/as también lo hacen	I read because my friends do too
	Leo porque mi familia quiere que lo haga	I read because my family wants me to
	Leo debido al trabajo/estudio	I read for work/study

(*Continued.*)

(*Continued.*)

Screen	Spanish	English
5	**Sección 3**	**Section 3**
	Hábitos de Lectura durante el Confinamiento por COVID-19	**Reading Habits During the COVID-19 Confinement**
	¿Cuántos libros leyó durante los tres meses de confinamiento (de marzo a junio de 2020)? Menos de uno Uno Dos Tres Cuatro Más de cinco No lo sé	How many books did you read during the three months of confinement (March to June 2020)? Less than one One Two Three Four More than five I do not know
	¿Cuánto tiempo dedicó al día a la lectura de cualquier tipo de material y a través de cualquier medio (libros, revistas, periódicos, blogs y webs en internet, etc.) durante los tres meses de confinamiento (de marzo a junio de 2020)? Menos de 1 h 1h 2h 3h 4h Más de 5h No lo sé	How much time per day did you spend reading any type of material and using any medium (books, magazines, newspapers, blogs, Internet websites, etc.) during the three months of confinement (from March to June 2020)? Less than 1 hour 1 hour 2 hours 3 hours 4 hours More than 5 hours I do not know
	¿Cuántos días a la semana dedicó tiempo para leer cualquier tipo de material y a través de cualquier medio (libros, revistas, periódicos, blogs y webs en internet, etc.) durante los tres meses de confinamiento (de marzo a junio de 2020)? 1 día 2 días 3 días 4 días 5 días 6 días Todos los días	How many days a week did you spend time reading any type of material and using any medium (books, magazines, newspapers, blogs and Internet websites, etc.) during the three months of confinement (from March to June 2020)? 1 day 2 days 3 days 4 days 5 days 6 days Every day
	¿Cuál fue su lugar favorito para leer durante los tres meses de confinamiento (de marzo a junio de 2020)?	What was your favorite place to read during the three months of confinement (March to June 2020)?
	¿Dónde consiguió los libros para leer durante el confinamiento (marzo a junio de 2020)?	Where did you get the books to read during the lockdown (March to June 2020)?
	¿Cuál fue su material de lectura favorito durante los tres meses de confinamiento (de marzo a junio de 2020)? Novelas Cómic Revista Webs/Blogs Libros de historia/ciencia Periódico Otro	What was your favorite reading material during the three months of confinement (March to June 2020)? Novels Comics Magazines Websites/blogs History/science books Newspapers Other

Screen	Spanish	English
	¿En qué medida usó el formato papel para leer durante los tres meses de confinamiento (de marzo a junio de 2020)?	To what extent did you use the paper format to read during the three months of confinement (from March to June 2020)?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	¿En qué medida usó los medios digitales para leer durante los tres meses de confinamiento (de marzo a junio de 2020)?	To what extent did you use digital media to read during the three months of confinement (March to June 2020)?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	¿Cuánto ha dedicado a ver la televisión durante los tres meses de confinamiento (de marzo a junio de 2020)?	How much time did you spend watching television during the three months of confinement (from March to June 2020)?
	< 30 minutos al día	< 30 minutes a day
	Alrededor de 30 minutos al día	About 30 minutes a day
	Alrededor de 1 hora al día	About 1 hour a day
	Alrededor de 2 horas al día	About 2 hours a day
	Más de 2 horas al día	More than 2 hours a day
	¿Tuvo algún tipo de dificultad para comprender lo que leía durante los tres meses de confinamiento (de marzo a junio de 2020)?	Did you have any kind of difficulty understanding what you read during the three months of confinement (March to June 2020)?
	Nunca	Never
	Casi nunca	Rarely
	A veces	Sometimes
	Casi siempre	Usually
	Siempre	Always
	Motivación hacia la lectura durante los tres meses de confinamiento (de marzo a junio de 2020): (Señale el grado de acuerdo en relación con las siguientes motivaciones: Muy de acuerdo, Algo de acuerdo, Ni de acuerdo ni en desacuerdo, Algo en desacuerdo, Muy en desacuerdo)	Motivation to read during the three months of confinement (from March to June 2020): (Rate your level of agreement in relation to the following motivations: Strongly agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Strongly disagree)
	Leo porque disfruto haciéndolo	I read because I enjoy doing it
	Leo para aprender	I read to learn
	Leo para informarme	I read to inform myself
	Leo para no sentirme culpable	I read so I don't feel guilty
	Leo porque mis amigos/as también lo hacen	I read because my friends do too
	Leo porque mi familia quiere que lo haga	I read because my family wants me to
	Leo debido al trabajo/estudio	I read for work/study
	¡Muchas gracias por su participación!	Thank you for your participation!
	Marque la casilla "Enviar" si da su consentimiento para enviar sus respuestas.	Check the "Submit" box if you consent to submitting your responses.

Note. Adapted with permission of the authors, M. Micai and P. Delgado, from an unpublished manuscript, Cuestionario sobre hábitos de lectura [Reading habits questionnaire], developed in 2014 at the University of Seville, Seville, Spain.