

## Phonological Development in Children Overexposed to Screens

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### Abstract

The aim of this article is to examine the impact of overexposure to screens on children's phonological processes and to describe the resulting phonological profile. The descriptive research focused on five children overexposed to screens, aged five, who were assessed using three subtests from the N-EEL (ChevieMuller): picture naming, repetition of easy words, and repetition of difficult words. The results show significantly below-average performance in naming and repeating easy words, revealing weaknesses in lexical access, phonological working memory, and articulatory planning. On the other hand, repeating difficult words appears to be relatively preserved, suggesting that certain phonological sequencing skills are maintained when the child has a verbal model.

**Keywords:** Phonological development; Children; Screen overexposure; Phonological processes; Phonological profile

### Introduction

Screens have become an integral part of our daily lives, particularly since the rise of touchscreen technology and the widespread use of mobile devices such as smartphones and tablets. These devices, which are essentially electronic surfaces displaying a multitude of content, have become an integral part of children's daily lives.

There has been a worrying increase in the amount of time spent in front of screens worldwide, a trend that is growing year on year. On average, individuals spend nearly 6 hours and 40 minutes per day in front of a screen (Texting.io, 2024). In the United States, this figure reaches 7 hours per day, one of the highest in the world (WindowsReport, 2023). Canada has comparable figures, also around 6 hours and 40 minutes per day. In France, the average is slightly lower (5 hours and 26 minutes per day), but nearly 18% of children aged 7 to 12 spend more than 5 hours per day in front of screens outside of school hours (Statista, 2024). Algeria is no exception: according to Algerian Radio's Channel 3, children there are exposed to an average of at least 3 hours per day, exceeding the global standard of 2 hours, in a country that already had more than 16 million smartphones in 2015 (Radio Algeria, 2017).

The harmful effects of excessive screen exposure on child development have been known for several years. As early as 2011, the French Association of Ambulatory Pediatrics (AFPA) and, in 2016, the American Academy of Pediatrics warned of the risks associated with prolonged use. Pioneering work, such as that of Linda Pagani (1998), has revealed negative effects on attention, academic achievement, and social interactions. Similarly, Serge Tisseron and other specialists have issued numerous warnings. In various professional contexts, an increase in concerning behaviors among young children, particularly between 6- 8 months and 3-4 years of age, has also been observed (Marcelli, Bossière, & Ducanda, 2018).

Research converges on the harmful consequences of overexposure to screens on children's health, whether physical, cognitive, psychological, or social. Several studies report visual effects, sleep disorders, and an increased risk of overweight, as well as close links to obesity. Other studies highlight the emergence of attention disorders and emphasize the negative impact on language development, due in particular to the decrease in parent-child interactions, which are essential for language acquisition.

In this regard, Chonchaiya and Pruksananonda (2008) showed that children exposed to television before the age of 12 months for more than two hours a day are six times more likely to develop language delays. Similarly, in children aged

24 to 30 months, the risk of language deficits increases proportionally to the duration of exposure (Kostyrka-Allchorne, Cooper & Simpson, 2017). These findings suggest that early and chronic exposure to screens can disrupt the phonetic, phonological, and syntactic development of language.

Phonology, in particular, is a fundamental component of language development. Its development refers to the process by which children perceive, produce, and organize the sounds of their language to build a stable phonological system, which is essential for learning vocabulary, grammar, and, later, reading and spelling (Schelstraete et al., 2011).

However, overexposure to screens could hinder this acquisition process, leading to specific disturbances in phonological development. A detailed assessment is therefore necessary to analyze the phonemes acquired, how they are used (deafening, anteriorization, oralization), and the severity of the profiles observed.

This research therefore aims to examine whether children who are overexposed to screens exhibit specific phonological disorders. The following questions guide our investigation:

- Does overexposure to screens have a significant impact on children's phonological processes?
- What is the phonological profile of children overexposed to screens?

Our objective is therefore twofold: to explore the overall impact of overexposure on phonological development and to accurately describe the phonological profile specific to this population.

With this in mind, we formulate the following hypotheses:

- Hypothesis 1: Overexposure to screens has a significant negative impact on children's phonological development, resulting in below-average performance on the N-EEL phonology tests.

- Hypothesis 2: Children overexposed to screens have a phonological profile characterized by difficulties in phonological representations of words and increased use of simplifying phonological processes, resulting in frequent errors of substitution, omission, or phonemic simplification, particularly in tasks involving the naming and repetition of easy words.

## Phonology

Phonology is defined as the set of representations and rules that enable children to perceive, organize, and produce the sounds and syllabic structures of their language. Its development is assessed through standardized tests such as picture naming and repetition of easy and difficult words (Chevrie-Muller, NEEL). A phonological deficit results in performance below expected standards, manifested by reduced intelligibility and instability in production.

## Phonological development

Phonological development is the process by which children gradually organize and stabilize their sound system between the ages of 1.5 and 5. This key period is characterized by the near-completion of the phonemic repertoire, the refinement of articulatory abilities, and the emergence of early categorical perception skills. Phonological errors, which are frequent at the beginning (omissions, simplifications, substitutions), tend to decrease rapidly: they become rare by age 3 and disappear almost completely by age 5, at which point the child's phonological system resembles that of an adult (Schelstraete et al., 2011).

## Operational definition

- 1;6–3;6 years: key period for the organization of the phonological system; frequent but expected errors (omissions, simplifications of consonant clusters, substitutions).
- At age 3: speech generally intelligible, less than 30% errors.
- 3;6–5 years: gradual disappearance of errors; possible persistence of simplifications of consonant clusters or devoicing.
- At age 5: phonological system close to that of an adult, complete intelligibility, with only a few residual errors remaining in long or complex words.

Pathological development is characterized by the persistence of massive errors beyond age 3, insufficient intelligibility at age 4, and a lack of stabilization of the phonological system at age 5.

## Overexposure to screens

Overexposure to screens is defined as daily exposure exceeding international recommendations: exposure before 18 months of age, more than one hour per day between 2 and 5 years of age, or more than two hours per day for recreational purposes after 6 years of age. It results in observable effects on health (sleep disorders, sedentary lifestyle, overweight), psychological and social development (anxiety, isolation), and schooling (decreased attention, decreased performance). In the context of this research, it is considered a potential risk factor for children's phonological development, due to reduced verbal interaction and poorer language stimulation.<sup>2</sup> Previous studies

Several studies have examined the effects of screen exposure on language development, particularly phonological skills.

### Madigan et al. (2019).

In a longitudinal meta-analysis of 27 studies involving more than 17,000 children aged 0 to 5, the authors examined the impact of screen exposure on language development. The results show that high exposure (more than two hours per day) is associated with slower overall language development, particularly in phonology and oral production. Overexposed children make more phonemic errors (substitutions, omissions), particularly in picture naming tasks. The negative effect is amplified when exposure occurs without adult interaction.

### Duch et al. (2013).

This cross-sectional study involved 250 children aged 2 to 36 months. Using parental questionnaires and standardized language assessments, including phonological subtests, the authors found a link between screen exposure and delays in phonological production. Each additional hour of daily exposure was correlated with a significant phonological delay ( $p < .01$ ).

Children exposed for more than two hours per day scored below the N-EEL norms, particularly in easy word repetition and naming tasks. The most frequent errors involved final consonant omissions and complex phoneme substitutions.

**Sénéchal et al. (2020).**

In a longitudinal study of 120 children aged 2 to 4, researchers analyzed the impact of screen use habits (television, tablets) on metaphonological skills. The results show that children with high exposure have less stable phonological representations and rely more on simplifying processes (consonant cluster reduction, epenthesis). They score significantly lower on unfamiliar word repetition and rapid naming tasks, suggesting impaired phonological coding.

**Linebarger & Walker (2005).**

This study examined the impact of television content (educational vs. noneducational programs) on the language of children aged 12 to 36 months. Assessments, including phonological measures, indicate that while educational television has some benefits, high overall exposure is associated with less accurate phonological production, particularly in children under 24 months. Those who were overexposed showed more phonemic substitutions (e.g., /t/ for /k/) and syllable omissions in repetition tasks. The lack of social interaction while watching accentuated these difficulties.

**- Summary of previous studies**

Overall, these studies highlight that overexposure to screens is associated with impaired phonological development, resulting in unstable representations, increased use of simplification processes, and reduced intelligibility. These effects are particularly pronounced when exposure is early, prolonged, and devoid of adult interaction. However, few studies have sought to describe in detail the phonological profile of children overexposed to screens, which is what makes our work unique.

**Method:**

A descriptive study was conducted with five five-year-old children identified as overexposed to screens. Participants were assessed using three subtests from the N-EEL (Chevrie-Muller): picture naming, repetition of easy words, and repetition of difficult words. Data collection focused on phonological performance across these tasks, providing a detailed assessment of each child's phonological processing abilities.

Our objective is twofold:

1. To explore the overall impact of overexposure to screens on phonological development, in order to determine whether excessive and prolonged use of digital devices is associated with measurable disturbances.
2. To accurately describe the characteristic phonological profile of this population, identifying the nature and frequency of errors (omissions, substitutions, simplifications, distortions), as well as the most vulnerable phonetic contrasts.

This approach makes it possible to assess the extent of the difficulties encountered and to identify specific trends specific to children overexposed to screens.

**Participants**

The research group consisted of five children aged five years, all identified as overexposed to screens. The diagnosis of overexposure was established by a speech therapist in a private practice in Bejaia.

The table below presents the sociodemographic and clinical characteristics of the children studied:

**Table 1. Sociodemographic and clinical characteristics of participants**

Case	Chronological age	Onset of overexposure	Overexposure time/day	Total duration of overexposure
1	5;2	1 year	All day	3 years
2	5;2	2 years	4 hours	6 months
3	5	9 months	All day	3 years
4	5	11 months	7	2 years
5	5	10 months	5 hours	6 months

These data show early (between 9 months and 2 years) and intense (up to 7 hours daily, or even continuous exposure throughout the day) overexposure, far exceeding international recommendations.

**Assessment Instrument**

The assessment was conducted using the New Language Assessment Test (N-EEL), originally developed by Chevrie-Muller, Simon, and Decante (1975). The N-EEL evaluates a child's phonology, vocabulary, syntax, and memory and includes two age-appropriate forms:

Form P: 4 to 5 years

Form G: 5½ to 8 years

For this study, only the articulation and phonology subtests from Form P were used, as they are most relevant to the research questions. These subtests include:

Picture naming

Repetition of easy words

Repetition of difficult words

Procedure

Participants were individually assessed in a quiet environment by a qualified speech therapist. The tasks were administered according to standardized instructions provided by the N-EEL manual. Data were recorded to evaluate lexical access, phonological working memory, and articulatory planning, allowing a detailed characterization of the phonological profile of children overexposed to screens.

### Results:

#### Presentation of case no. 01

Case No. 01 concerns a 5-year-old girl, the eldest of three children. She has been exposed to screens since the age of one, almost continuously throughout the day. Early speech therapy has been implemented. Behaviorally and cognitively, the child has attention and concentration difficulties. In terms of relationships, she is both shy and stubborn.

#### Subsection 2: Results of the N-EEL tests for case no. 01

Table 2: Results of case no. 01 in phonology tests

Tests -Phonology	Score obtained	Standard deviations in +or -(a)
Image naming (DEX)	81.81 / 100	-1 $\sigma$
Repetition of easy words (REP)	73.91 / 100	-2 $\sigma$
Repetition of difficult words (N.ER)	9	5.3

#### Analysis of results for case no. 01

- **Image naming:** the child scored 81.81/100 (-1  $\sigma$ ), which is below average. Most items were named correctly, with the exception of a few errors involving words such as saucepan, sausage, ham, and wheelbarrow.
- **Repetition of easy words:** performance appears weaker, with a score of 73.91/100 (-2  $\sigma$ ). There are numerous errors, characterized by substitutions (e.g., farim for flour, grand pwano for grand piano) and omissions (e.g., voitu for car, cassole for saucepan, abr for tree).
- **Repetition of difficult words:** the child obtained a score of 8 (-1  $\sigma$ ), after making 9 errors. This result remains within the expected norm.

The phonological results for the first case, expressed in standard deviations, are shown in graph No.1

#### Graph 1. Results of case no. 1 in the various phonological tests

#### Interpretation of the results for case no. 01

Graph 1 illustrates the child's performance on the various phonology tests, expressed in standard deviations ( $\sigma$ ) from the expected average for his age. Scores below -1  $\sigma$  indicate significant phonological difficulties.

The analysis reveals a contrasting profile:

- Marked weaknesses in naming and repeating easy words, with frequent errors such as substitutions and omissions;
- Relative preservation in the repetition of difficult words, suggesting that certain phonological sequencing skills remain intact when the child has a verbal model.

These results indicate a selective phonological deficit, particularly affecting lexical access and articulatory planning, while the phonetic production of complex sequences remains largely intact.

#### results for case No. 02

Case No. 2 concerns a 5-year-old girl. She has been overexposed to screens since the age of 2, spending about 4 hours a day in front of the television. Currently enrolled in nursery school, she is shy but cheerful.

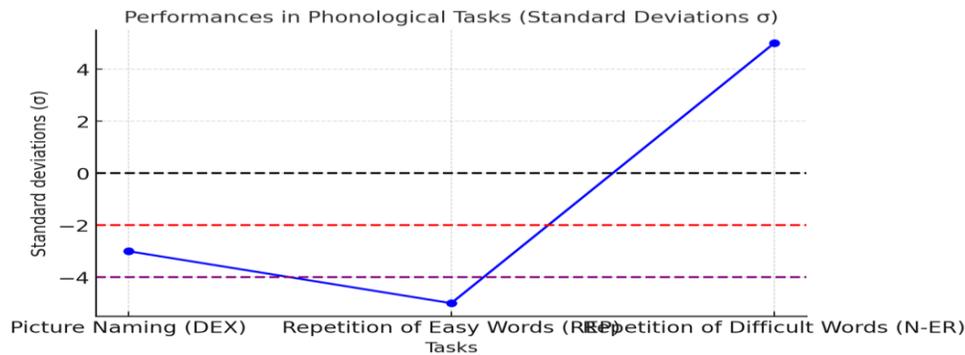
#### Results of the N-EEL tests for case No. 02

Table 3: Results of case no. 02 in the phonology tests

Tests -Phonology	Score obtained	Standard deviations in +or -(a)
Image naming (DEX)	70	-3 $\sigma$
Repetition of easy words (REP)	52.17 / 100	-5 $\sigma$
Repetition of difficult words (N.ER)	5	5.3

#### Analysis of results for case No. 02

- **Image naming:** the child scored 70/100 (-3  $\sigma$ ), which is well below average, revealing significant difficulties in lexical access and phonological representation mobilization.
- **Repetition of easy words:** performance is severely impaired, with a score of 52.17/100 (-5  $\sigma$ ). This major deficit is reflected in numerous substitutions and omissions of phonemes, indicating a marked impairment of phonological working memory and phonological planning.
- **Repetition of difficult words:** the child scored 6 (-1  $\sigma$ ), after making 5 errors. This result is within the norm, although slightly below the expected average.
- **C.RE:** score of 6 (-1  $\sigma$ ), indicating performance slightly below the norm.



The phonological results for the second case, expressed in standard deviations, are shown in graph No. 2.

**Graph 2. Results of case No. 2 in the various phonological tests**

**Interpretation of the results for Case No. 2**

Graph 2 illustrates the child's performance on the various phonology tests, expressed in standard deviations ( $\sigma$ ) from the expected average for his age. The results show significant difficulties in naming and repeating easy words, with scores well below the norm ( $-3 \sigma$  to  $-5 \sigma$ ).

The assessment thus highlights a severely deficient phonological profile, characterized by:

- A notable weakness in naming ( $-3 \sigma$ ),
- Very poor performance in repeating easy words ( $-5 \sigma$ ), marked by frequent substitutions and omissions,
- Relative preservation in difficult word repetition ( $-1 \sigma$ ), although slightly below average.

Overall, this profile reflects severely compromised phonological production, reflecting severe impairment in phonological planning and working memory, while some phonological sequencing abilities remain partially preserved.

**results for case No. 03**

**Presentation of case No. 03**

Case No. 03 concerns a 5-year-old girl currently attending nursery school. She was exposed to screens at a very early age, from 9 months old, and spends most of her days watching television alone in her room, except for the time she spends at nursery school. Behaviorally, she is shy but also displays signs of aggression, frequently screaming. In addition, she refuses to eat without her mother's phone in her hands.

**Results of the N-EEL tests for case No. 03**

**Table 4: Results of case No. 03 in the phonology tests**

Tests -Phonology	Score obtained	Standard deviations in +or - (a)
Image naming (DEX)	57.14 / 100	$-4 \sigma$
Repetition of easy words (REP)	45.65 / 100	$-6 \sigma$
Repetition of difficult words (N.ER)	4	$-2 \sigma$

**Analysis of results for case No. 03**

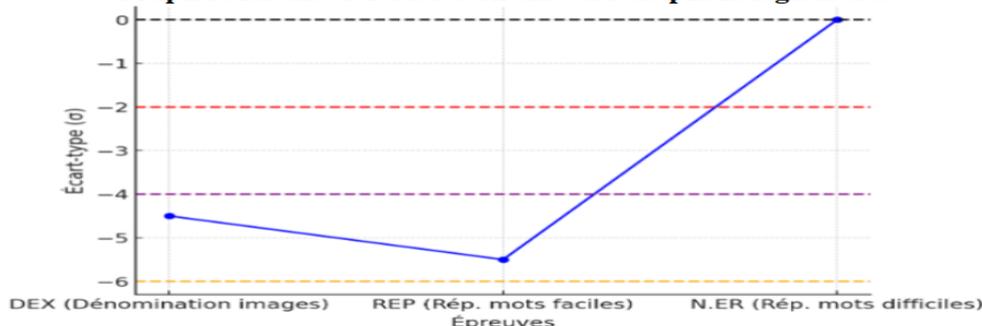
• **Image naming:** the child scored 57.14/100 ( $-4 \sigma$ ), well below average. Half of the items were not named correctly, indicating severe impairment in lexical access and phonological representations.

• **Repetition of easy words:** score of 45.65/100 ( $-6 \sigma$ ), very deficient. The child produces numerous substitutions (e.g., farim for farine, saise for chaise, bousson for bouchon) and omissions (e.g., para for parapluie, cassole for casserole, abr for arbre), revealing severe impairment of phonological working memory and phonological planning.

• **Repetition of difficult words:** score of 4 ( $-2 \sigma$ ), below average, indicating additional difficulties in the phonological production of complex sequences.

The phonological results for the third case, expressed in standard deviations, are shown in **graph no3**

**Graph 3. Results for case 3 on the various phonological tests**



**Interpretation of the results for case No. 03**

Graph 3 illustrates the child's performance on the various phonology tests, expressed in standard deviations ( $\sigma$ ) from the expected average for his age. The results highlight:

- Severe difficulties in naming tasks ( $-4 \sigma$ ),
- A major impairment in repeating easy words ( $-6 \sigma$ ),
- Equally poor performance in repeating difficult words and C.RE ( $-2 \sigma$ ).

Overall, this profile reveals a **global phonological impairment**, characterized by:

- A severe deficit in lexical access,
- A severely impaired phonological working memory,
- Compromised articulatory planning.

These results reflect significantly impaired phonological production, with standard deviations well below  $-1 \sigma$ , strongly impacting the intelligibility and stability of verbal production.

**results for case No. 04**

**Presentation of case No. 04**

Case No. 04 concerns a 5-year-old boy who attends a private nursery school. He was exposed to screens at an early age, starting at 11 months, and spends about 7 hours a day in front of them. Behaviorally, he has a marked attention deficit and is very restless in class.

**Results of the N-EEL tests for case No. 04**

**Table 5: Results of case No. 04 on the phonology tests**

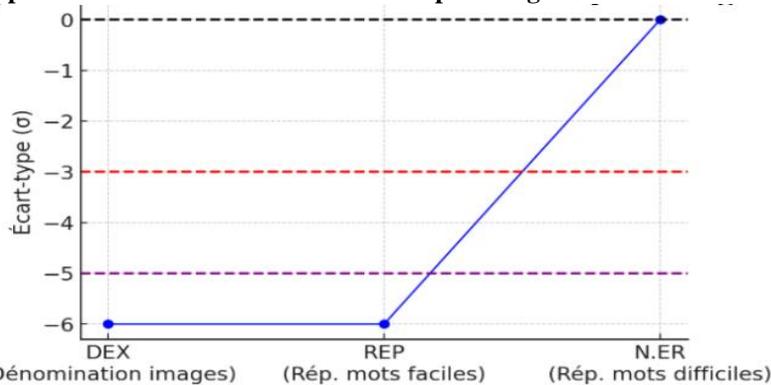
Tests -Phonology	Score obtained	Standard deviations in +or -(a)
Image naming (DEX)	4	$-6 \sigma$
Repetition of easy words (REP)	30.43 / 100	$-6 \sigma$
Repetition of difficult words (N.ER)	6	$-1 \sigma$

**Analysis of results for case No. 04**

- **Image naming:** very low score of 40/100 ( $-6 \sigma$ ), indicating severe difficulties. Many items were not correctly identified or named (*car, wheel, piano, ham, sausage, cigarette, saucepan, bouquet of flowers, train, etc.*).
- **Repetition of easy words:** very poor performance with a score of 30.43/100 ( $-6 \sigma$ ). The child made multiple errors, including:
  - substitutions (*latin for rabbit, toto for car*),
  - omissions (*oiture for car, lé for key, abl for table*).
- **Repetition of difficult words:** score of 6 ( $-1 \sigma$ ) after 9 errors. Result slightly below average, reflecting moderate difficulties in producing complex phonological sequences.

The phonological results for the fourth case, expressed in standard deviations, are shown in **graphno4**

**Graph 4. Results for case 4 in the various phonological tests**



**Interpretation of the results for case No. 04**

Graph 4 illustrates the child's results on the various phonology tests, expressed in standard deviations ( $\sigma$ ) from the expected average for his age.

The scores reveal:

- Severe difficulties in naming pictures and repeating easy words ( $-6 \sigma$ ),
- Slightly below-average performance in repeating difficult words and C.RE ( $-1 \sigma$ ).

Overall, case no. 04 reflects a **severely deficient phonological profile**, characterized by:

- Major difficulties in lexical access and phonological planning,
- A high incidence of substitutions and omissions,
- Relative preservation in difficult word repetition, reflecting partial maintenance of phonological sequencing skills.

**Presentation of the results for case No. 05**

### Presentation of case No. 05

Case No. 05 concerns a 5-year-old boy who attends a private nursery school. He was exposed to screens at an early age, starting at 11 months, and spends about 7 hours a day in front of them. Behaviorally, he has a marked attention deficit and is very restless in class.

### Results of the N-EEL tests for case No. 05

**Table 6: Results of case No. 05 on the phonology tests**

Tests -Phonology	Score obtained	Standard deviations in +or -(a)
Image naming (DEX)	63.63 / 100	-3 $\sigma$
Repetition of easy words (REP)	45.45 / 100	-6 $\sigma$
Repetition of difficult words (N.ER)	6	-1 $\sigma$

### Analysis of results for case No. 05

• **Image naming:** the child scored 63.63/100 (-3  $\sigma$ ), which is below the expected average. This reflects significant difficulties in lexical access and phonological representation mobilization.

• **Repetition of easy words:** very poor score of 45.45/100 (-6  $\sigma$ ). The errors are numerous and varied:

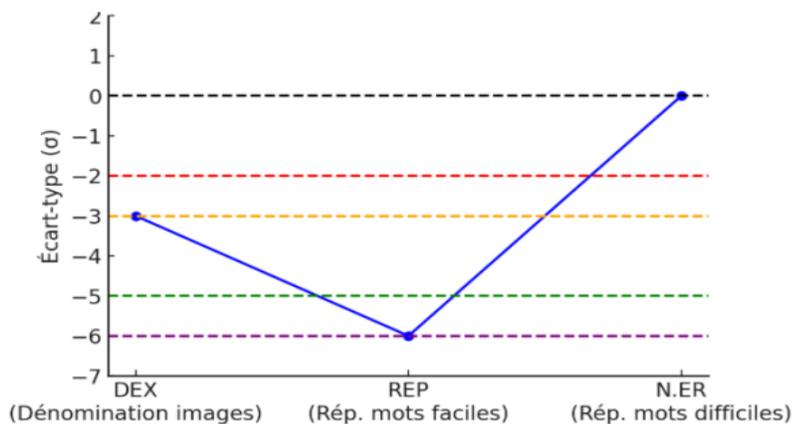
- substitutions (latin for rabbit, toto for car),
- omissions (oiture for car, lé for key, abl for table).

This result highlights a severe impairment of phonological working memory and phonological planning.

• **Repetition of difficult words:** score of 6 (-1  $\sigma$ ) after several errors. This result remains slightly below average, reflecting moderate difficulties in the phonological production of complex sequences.

The phonological results for the fifth case, expressed in standard deviations, are shown in **graph no.5**

**Graph 5. Results for case 5 in the various phonological tests**



### Interpretation of the results for case No. 05

Graph 5 illustrates the child's performance on the various phonology tests, expressed in standard deviations ( $\sigma$ ) from the expected average for his age.

The scores reveal:

- Severe difficulties in naming pictures (-3  $\sigma$ ) and repeating easy words (-6 $\sigma$ ),
- Slightly deficient performance in repeating difficult words (-1  $\sigma$ ) and in C.RE (-2  $\sigma$ ).

Overall, case no. 05 reflects a **severely deficient phonological profile**, characterized by:

- Major difficulties in lexical access and phonological planning,
- A high incidence of substitutions and omissions,
- Relative preservation in the repetition of difficult words, reflecting partial maintenance of phonological sequencing skills.

### Discussion:

**The cases studied in our research are characterized by a specific phonological profile:**

1. **Lexical naming appears to be deficient.** The child has marked difficulties in accessing the lexicon and in activating phonological representations. Lexical retrieval remains limited and is frequently accompanied by substitution or omission errors when naming images.
2. **Significant weaknesses appear in the repetition of easy words.** The child's oral productions are characterized by substitutions, omissions, or phonemic simplifications. These errors reflect an impairment of phonological working memory as well as limitations in phonological planning.
3. **Relative preservation is observed in the repetition of difficult words.**

Performance remains close to the norm when the task is based on constrained imitation. This relative success suggests that the child retains phonological sequencing skills, with difficulties appearing mainly in spontaneous (naming) or semi-spontaneous (repetition of easy words) production tasks.

**Thus, our results confirm the second research hypothesis:** Children overexposed to screens have a phonological profile characterized by difficulties in phonological representations of words and increased use of simplifying phonological processes, resulting in frequent errors of substitution, omission, or phonemic simplification, particularly in tasks involving naming and repetition of easy words.

Our second hypothesis assumed that children overexposed to screens would exhibit a particular phonological profile, with unstable representations and frequent use of simplification strategies. Our results clearly support this hypothesis and are consistent with those already described in the literature.

The errors identified—substitutions, omissions, simplifications of consonant structures—show systematic use of phonological simplification processes. This profile is particularly evident in the repetition of easy words: where normal performance would be expected, the children fail massively. Conversely, when repeating difficult words, their results are variable, sometimes even very good. This dissociation is surprising, but very telling.

Sénéchal and colleagues (2020), in a longitudinal study of 120 children aged 2 to 4, report exactly this type of profile. They show that children who are heavily exposed to screens develop less stable phonological representations and use more simplifications, such as reducing consonant clusters or adding syllables. Their performance in repeating unfamiliar words and rapid naming is also weaker, reflecting a fragility in phonological coding—a finding that we also see in our own data, particularly in naming and repeating easy words.

The most striking aspect of our results is therefore this dissociation:

- Weakness in autonomous production (naming, repetition of familiar words), which reveals difficulties in lexical access, phonological memory, and planning.
- Preservation, even excellence, in constrained imitation (difficult words), which demonstrates sequencing abilities that are still solid but highly dependent on a model.

In summary, overexposure to screens does not destroy phonological skills, but it does change how they are acquired and used. Children learn mainly to imitate rather than to produce autonomously. This bias toward passive imitation at the expense of active production is consistent with an environment saturated with images and sounds but poor in direct interactions.

### Conclusion

The objective of this research was to examine the impact of overexposure to screens on children's phonological processes and to characterize the resulting profile. Analysis of the N-EEL (Chevrie-Muller) phonology tests reveals consistent results: overexposed children perform significantly below the norm in picture naming and easy word repetition. These weaknesses reflect a fragility in lexical access, phonological working memory, and articulatory planning, manifested by numerous substitutions, omissions, and phonemic simplifications.

Conversely, repetition of difficult words remains relatively intact, suggesting that certain phonological sequencing abilities remain functional when a verbal model is available. This contrast highlights a specific profile: deficient lexical and phonological production in spontaneous or semi-spontaneous contexts, partially compensated for by constrained imitation.

These findings confirm that overexposure to screens has a significant negative effect on phonological development. They are consistent with previous work: Madigan et al. (2019), Duch et al. (2013), and Linebarger & Walker (2005) highlight the harmful impact of excessive exposure, particularly in the absence of interaction, while Sénéchal et al. (2020) describe the fragility of phonological representations, which explains the increased use of simplification processes.

The profile observed—deficit in spontaneous production, preservation in imitation, and massive use of simplification strategies—may thus constitute a clinical marker of overexposure to screens in young children. This is not a simple delay, but rather a functional re alignment of the phonological system, oriented toward passive imitation rather than active production.

From a clinical and educational perspective, these results highlight the importance of regulating screen exposure at an early age and implementing appropriate phonological stimulation strategies to support language development. Finally, they call for further research, on larger samples and from a longitudinal perspective, in order to better understand the underlying mechanisms and clarify the evolution of these phonological profiles over time.

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