

Research

Do our child users understand vertical scrolling? Do they know how to do it?

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Qualitative: Observations of children at the office

Manel, 3 years old	• He does not navigate. When they explore beyond the initial screen, his mother does it. • She scrolls horizontally and vertically. He does neither.
Nathan, 5 years old	• He knows how to scroll horizontally on his own, without additional explanations. • He does not scroll vertically.
Eithan, 5 years old	• His mother explains how to scroll at the beginning. • We do not know whether he would have understood it on his own. • He scrolls horizontally.
Héctor, 4 years old	• He knows how to scroll horizontally on his own, without outside help. • He navigates through folders and deliberately enters the Science folder. • He does not scroll vertically.

Lola, 5 years old	• Whenever there is vertical or horizontal scrolling, her father does it. • The girl is curious about the red Emotions folder, but her father scrolls.
Alicia, 3.5 years old	• Her mother scrolls horizontally the first time. • The girl scrolls vertically (7:16 in the video, but I am not sure whether she does so consciously). • She enters folders on her own, without scrolling, using what she sees on the initial screen. • The girl knows how to scroll horizontally and vertically. She has watched her mother do it and learned how.
Ramón, 7 years old	• He does not scroll horizontally until he sees his mother do it and she explains it to him. • He does not scroll vertically.
Lucía, 5.4 years old	• The girl tries to scroll horizontally without outside help. There is a bug and she struggles, but she tries (17:15). • The girl scrolls vertically. She has seen that her mother can do it and imitates her.
Valeria, 5.4 years old	• Her mother scrolls horizontally, and the girl imitates her later. • The girl scrolls vertically (I think she does so consciously, but I am not sure. She does it very tentatively and moves very little, but does it 2-3 times in the Game Area and it seems intentional). • She has not seen her mother do it; her mother has only scrolled from side to side.

The sessions show that vertical scrolling is much less obvious than horizontal scrolling.

- a. Most do not scroll vertically: Nathan, Héctor, Ramón, Manel.
- b. **When it occurs, it is usually by imitating the adult or in a tentative way.**
- c. There are almost no cases of children doing it on their own. Alicia and Valeria are the exceptions, but do so with little confidence.

Children find it difficult to understand vertical scrolling. If there is important content below, many are likely not to discover it.

Quantitative: App data

Do they scroll vertically?

- Period: From June 29 to July 30
- Children aged 3-5, unique users
- Timing starts once the GameArea has loaded
- Main GameArea only, excluding folders

Game Area session	Unique users	% scroll down	Mean time to scroll	Median time	% reaching the bottom
1st session	6408	75.3%	65.3s	22s	64.9%
2nd-3rd session	4633	78.1%	63.1s	26s	64.2%
4th-10th session	4705	79.9%	59.9s	24.3	67.9%
11+ sessions	5941	79%	55.9s	21.3s	67.8%

- **% scroll down:** Percentage of unique children within each session group who have made at least one significant vertical scroll in the Game Area.

Events below the minimum distance (distanceY $\geq$ 0.2, or 20% of the screen) are excluded to remove many accidental movements from the metric.

- **% reaching the bottom:** Percentage of unique children who reach the bottom of the GameArea.

Event reachedBottom = True

This means that, during the scroll event, the user reaches the lowest possible point, all the way to the bottom.

- The table shows that **most children scroll down.**

Between 75% and 80% make at least one significant scroll down in the GameArea.

Among those who do, the median time to the first scroll is between 21 and 27 seconds.

- This shows that most users navigate downwards and more than half reach the bottom, indicating intentionality. **However, we cannot know whether children do it on their own or whether an adult is with them.**

In the sessions with children at the office, we have seen that most children do not scroll down, and when they do, they imitate adults after watching them do it.

Some children using the app are also likely to be playing with help from adults.

By device

Mobile

	Unique users	% scroll down	% reaching the bottom
1st session	4207	71.9%	59.3%
2nd-3rd session	2904	76.6%	61.9
4th-10th session	2769	79%	66.1%
11+ sessions	3455	79.3%	66.9%

Tablet

	Unique users	% scroll down	% reaching the bottom
1st session	2233	81.6%	75.1%
2nd-3rd session	1749	80.3%	67.7%

4th-10th session	1968	80.9%	70.3%
11+ sessions	2614	77.4%	67.7%

- There is a difference between the two types of devices:
There is more downward scrolling on **tablets**, especially during the first sessions.

When might be a good time for the tutorial to appear?

Does the time children take to choose a game differ between the Game Area and a folder/category?

- Children aged 3-5
- Time period
Game Area: March 16, 2026 - July 30, 2026
Folders: May 6, 2026 - July 30, 2026
- These times exclude: game loading time after selection; the initial game wheel; activities such as Daily Mood, gifts, videos, payments and the chest.

	Unique users	Mean*	Median*
Game Area	32145	10.9 s	8.7 s
Inside folders	13065	17.3 s	14.5 s

- **Mean:** The mathematical average of the values. All results are added together and then divided.
- **Median:** The value in the middle when the data are sorted.

- When children are in the Game Area and the game carousel has loaded, **they take an average of 10.9 seconds to choose a game.**

Excluding intermediate activities, folder navigation and game loading time.

- **They take longer to choose a game in folders** than in the GameArea.
There is indeed a difference in the time they take to choose a game in folders versus the Game Area.

Are there significant differences between folders?

	Unique users	Mean*	Median*
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Logical-mathematical	4571	17.0 s	13.7 s
Science	1897	17.1 s	13.9 s
Communication	3653	17.0 s	13.3 s
Brain games	3519	15.9 s	12.9 s
Creativity	3095	15.5 s	11.8 s
Emotions	5763	15.0 s	11.9 s
Play together	2796	19.1 s	14.6 s

- The times are similar across all folders: means of 15s - 17s and medians of 11s - 13s.
Cooperative games take a couple of seconds longer: a mean of 19s and a median of 14.6s.

How long do children take before tapping a game?

	Unique users	Mean*	Median*
1st session	4,326	14.7s	5.8s
2nd-3rd session	3,181	12.7s	5.3s
4th-10th session	3,431	13.0s	5.0s
11+ sessions	3,205	13.2s	5.2s
Overall	10,668	13.8s	5.7s

By threshold, between 3 seconds and 20 seconds

	At least 3 seconds	At least 7 seconds	At least 10 seconds	At least 12 seconds	At least 20 seconds
1st session	79.4%	40.9%	25.8%	19.8%	10.0%
2nd-3rd sessions	77.3%	35.7%	22.2%	17.1%	9.2%

4th-10th sessions	75.3%	33.4%	20.8%	16.6%	10.3%
11+ sessions	76.3%	37.4%	24.9%	20.6%	13.5%
Overall	80.7%	39.6%	25.5%	20.0%	12.0%

- Only in the Game Area, until a game icon is tapped
Excluding the initial game wheel and activities such as Daily Mood, costumes or videos
- Children aged 3-5 and unique users
- Those who have scrolled vertically (more than distanceY 0.2) are excluded
- From June 29, 2026 - July 31, 2026

- The mean time children take to tap a game is around 13-14 seconds, with a median of 5-6 seconds.
- At 12 seconds, approximately 1 in 5 has still not tapped any game in the first sessions.