

Pilot Test Findings: October 6, 2026

Friction Paywall, Friction Calories, Brain Gym (Recall)

Sources: 3 Firestore sessions (Excel), 1 photo of a handwritten Friction Calories diary, 1 Brain Gym transcript.

Read with caution: There are effectively two participants (Chaelin took part in all three tests, Sarena only in Paywall), and the pilot was run among acquaintances. Most of the data relies on self report, and Brain Gym also includes some behavior observed during the session. Read the results as clues, not patterns. Hyejin's own Paywall session (question "What is friction?", reflection "nothing") was the maker checking that the app works, so it is excluded. The transcript has many speech recognition errors and unreliable speaker labels (Participant 1 to 4), so it is read as a conversation between the facilitator and one participant (Chaelin). Quotes from the transcript and the diary are translated from Korean.

1. At a glance

Test	Participant	What they did	What remained
Friction Paywall	Chaelin	Chose the most expensive level (100 FC) and did all four actions, 4 min 5 s	"hard to wait"
Friction Paywall	Sarena	Chose the 50 FC level but did all four actions (earned 100 FC), 1 min 38 s	Fun but frustrating; realized the world has become so frictionless that even a little waiting feels big
Friction Calories	Chaelin	Logged an unwanted song that suddenly played while working, 35 / 100 FC	Flow broke, focus and mood dropped. Wants this friction gone
Brain Gym (Recall)	Chaelin	Recalled yesterday in chronological order, about 1.5 min	"It was kind of a hassle"

2. Data

2.1 Friction Paywall

Participant	Time (NY)	Question	Level (price)	FC earned	Duration	Reflection
Chaelin	10:36 PM	Do ghosts really exist?	Complete the Task (100)	100	4:05	hard to wait
Sarena	10:52 PM	When we know we are progressing towards our own extinction and are aware, why don't we still stop?	Detailed Explanation (50)	100	1:38	Fun but I also felt a bit frustrated... lack of patience

- Both reflections were about waiting and patience. Neither mentioned the content of the AI answer they received.
- Duration runs from submitting the question until the answer appeared. It is not the total time spent on the page.
- The copy action matched the target sentence exactly for both participants.

2.2 Friction Calories (Chaelin Kim, October 6)

- **What she wrote:** An unwanted song suddenly played while she was working and put her in a bad mood. She usually controls her flow by playing the songs she wants in the order she wants, so an unexpected song felt not like a "bad song" but like her built flow being broken.
- **Score:** 35 / 100 FC (below the daily goal of 50 FC). She wrote that it was a small interruption but it affected her work flow.
- **Friction she would add:** Play the playlist on shuffle and leave the music unpredictable. Instead of controlling every song and its order, she wants to see whether she can get more comfortable with unexpected changes.
- **Friction she would remove:** The sudden song interruption from the same day. Her focus broke and it was hard to get back to her work flow.

2.3 Brain Gym, Recall session (about 9 min in the transcript)

Segment	Time	Content
Intro and explanation	0:03 to 1:47	Facilitator explained the English screen in Korean. Introduced it as "a head workout" and "a brain using workout"
Choice	1:50 to 3:26	Participant was about to pick Attempt, but the facilitator realized there was no question to give and suggested "Shall we do the second one then?". Participant agreed
Reason for choice	3:03 to 3:29	"Remembering is hard for me, so why not use this chance"
First prompt	3:29 to 4:39	The route from school to home. The participant said "That's easy" and "That's too easy", and the facilitator changed the prompt
Second prompt	4:39 on	What you did yesterday, in chronological order. Participant asked what the standard was (how far, how detailed)
Performance	about 5:24 to 6:56	Stopped at first because she could not remember breakfast. After explaining that she only remembers important things, she went on from waking up at 6 to getting home, about ten events with times. She corrected the times herself while speaking
Reflection	7:40 to 8:45	To the facilitator's long question: "My motto is to only remember what's important, so it was a hassle." The transcript ends here

3. Insights

3.1 What appeared first was "the cost of the process"

What appeared first across the three tests was the cost of the process. Waiting in Paywall, hassle in Brain Gym, and a broken work flow in Calories show that participants mainly perceived time, interruption, and effort as friction. Of these, only Sarena connected her reaction to her usual frictionless experience. So friction is first sensed as a cost, but whether it leads to a new interpretation can depend on the person and on how the question is asked.

3.2 Sarena almost completed the Track 2 chain

Looking at the Track 2 chain (Visibility → Awareness → Emotion → Interpretation → Possible Action), the waiting first became irritation ("a bit frustrated"), and then moved to an interpretation of her own expectations ("the world has become so frictionless that a little bit effort or waiting time can feel so much"). She reached the Interpretation stage. Possible Action (what she would change as a result) did not appear. This reflection connects directly to the core claim

of the thesis (smoothness becomes the default, so even small friction feels large), so it is worth hearing more from her in a follow up.

3.3 Choice and control may change what friction means

On the same day Chaelin said two things in Calories. She wanted to remove the interruption of an unexpected song, and she wanted to try the same unpredictability by bringing in shuffle herself ("to see if I can become more comfortable with unexpected changes"). Within one person, friction outside her control and friction she brings in herself were judged in opposite ways. In Brain Gym she also said she chose Recall "to use this chance" because it was a weak spot, but that choice was not free (see 3.6, item 1). The Calories form also says first that "a healthy mind needs some friction each day" and then asks about "friction you would add", so the form's framing may have shaped that answer. These cases suggest that, beyond the physical form of friction, whether users can choose and control it may affect how the experience is interpreted. This test did not compare the two directly, so it has to be checked in the next experiment.

3.4 In Calories, a different friction appeared: loss of flow and control

What Chaelin named as friction in Calories was not effort or waiting but the moment her own flow was broken. The Forms of Friction already defined (Labor, Time, Complexity, Risk) cannot fully explain this experience on their own. It is one case, so it is a hypothesis, but it is worth considering a separate category in the user side definition of friction, such as "losing control, broken flow". This does not mean the existing classification is wrong. It means a category at the level of user experience may be needed in addition.

3.5 Recall friction was concentrated at the start, and the first prompt was too easy

The participant got stuck once on the most trivial event (breakfast). Then, when she began with what she considered important, she spoke fluently about ten or so events with times. One memory visibly pulled up the next. The first prompt (the route from school to home) was not hard enough to create friction, but with the revised prompt the participant paused and reconstructed her memory. This suggests that Recall may work as cognitive friction at a level where the answer is not immediate but still within reach, rather than when the task is too easy or too hard. It is a single test, so it is read only as a possibility. Since she only said it was "a hassle", what this friction actually did cannot be known from this session alone.

3.6 What to fix in the Brain Gym facilitation

1. **The choice was not free.** No Attempt question had been prepared, so the facilitator suggested Recall and the participant agreed. The reason for choosing ("remembering is hard for me") came afterward. Prepare Attempt task cards in advance.
2. **The intro framing presupposed a benefit.** It was introduced as "a head workout", "a brain using workout", and "thinking training". This conflicts with the Facilitator Principle (do not say in advance that it is beneficial) and may have connected to her reason "to use this chance".
3. **The scope of the prompt was vague.** The participant asked "What counts as yesterday's things?". Give the scope in one line, such as "big or small, as much as you remember".
4. **The reflection question was long and leading.** It asked about the effect and whether "only the feeling that remembering is hard" remained in one sentence, and the participant answered the latter part. Ask the fixed sentences (such as "What happened while you were doing it?") one at a time, as written. The transcript has no third question (would you choose it again, and would it differ if someone else had chosen).
5. **Recording consent came late.** "I'm recording" was said during the task, and the participant checked "only you will listen, right?". Get consent before starting.
6. **Translating the English screen into Korean on the spot took about 1 min 45 s of the intro.** A Korean screen or script is needed for Korean speaking participants.

3.7 To check in Paywall

- **Possibility of parallel timers.** Sarena's total of 98 s is short for a full run that includes a 30 s load and a 60 s wait. She may have run the two timers at the same time, but the current data cannot confirm it. Check with a follow up question or a screen recording. If parallel running did happen, it would be an important finding: the user tried to get around friction efficiently rather than face it.
- **Earned more FC than needed.** Sarena chose the 50 FC level but earned 100 FC. Ask why she kept going after she had enough (did not know the rule, or wanted to finish).
- **Price was not tied to need.** Chaelin chose the most expensive "Complete the Task" for a one line question (do ghosts exist), and the answer she got was several paragraphs. She may have picked it because the name sounded good, or because she had nothing to lose. In this state, "how much will they pay" is hard to treat as meaningful data.

4. What this revealed overall

In this test, friction was first sensed as a cost of the process: waiting, hassle, and interruption. Whether that cost led to a new awareness differed by participant. Friction that people could choose or adjust themselves had a chance of being reinterpreted as training or an experiment, while friction whose purpose and result were unclear stayed a simple interruption.

So this pilot does not support the hypothesis that friction automatically produces reflection. It shows another possibility instead.

Friction interrupts an automatic flow, but whether it produces reflection depends on choice, control, context, and interpretation.

In the next experiment, it matters more to compare under which conditions friction goes beyond a simple cost and brings usual expectations and habits to the foreground than to increase the amount of friction.

5. Next steps

1. Ask Sarena and Chaelin a few short questions. For Sarena: whether she ran the timers at the same time, and why she kept going after 50 FC. For Chaelin: why she chose the highest price in Paywall, and how it relates to the "control" she described in Calories.
2. Run Brain Gym with one more person: prepare Attempt task cards, a neutral intro, one added line for scope, three fixed reflection sentences, and recording consent before starting.
3. For Paywall, decide whether to allow parallel actions, and adjust the instructions so level names match question types.
4. For the thesis, note 3.2 (Sarena's chain) and 3.4 (the loss of control definition of friction) as preliminary evidence for Track 2.