

Family Experiences in a Clinical Brain Computer Interface Program

We interviewed 15 caregivers whose children and teens participated in Holland Bloorview's clinical brain computer interface (BCI) program, and asked them about their family's experiences. **When we looked at their responses, we found three strong themes:**

1. Transformative Experiences

Families shared that using a BCI empowered their child and allowed others to see what they can do.

“We show a lot of people who work with [BCI user] videos of him doing BCI. It's unfortunate, but ... most people think he can do very little ... then I show them a BCI video, they're like, “That's amazing! I had no idea he could do that.”

Every time she's able to do something by herself [with a BCI], she looks at us with that happiness in her eyes.

“[BCI user's] confidence level rose ... Confidence [affects] his communication with me, with strangers, with caregivers. He would never tell his caregiver what to do before. ... Now, he's very vocal, definitely life-changing.

2. Personalization for Success

Families said that headset comfort and keeping activities engaging were challenges with BCI use.

Rather than demonstrating what the technology can do, turn it around. What are the needs of the people using this and how could we make that happen?

3. Future Hopes

Families hoped BCIs would be designed around children's needs and become more accessible in schools, communities, and everyday life.

“If every school with a child with special needs gets training to use [BCIs], I think their outlook changes.... If they have access to a program like this, we're able to see what they can actually do.

Read the study, [“Family Experiences in a Pediatric Clinical Brain-Computer Interface Program: A Qualitative Study”](#) by Van Damme and colleagues, 2026, to learn more.

Holland Bloorview
Kids Rehabilitation Hospital

