Participate in Research

Using neuromarkers and saliva biomarkers to recognize the states of hunger and thirst in children and youth with disability.

Do you want to help us to develop an interface to communicate the needs of children and youth with disability to eat and drink? Consider participating in this research study.

Principal Investigator:
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Centre for Leadership:
Applied Innovation

TO ASK QUESTIONS OR TO SIGN UP, CONTACT:

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Holland Bloorview Kids Rehabilitation Hospital continues to monitor the COVID-19 pandemic and taking precautions to ensure the safety for all clients, families, staff, volunteers, and students.

What is this study about?

This study is about developing an interface that detects huger/satiety, thirst, and desire to eat/drink from brain activity changes using a brain imaging technology called functional near infrared light Spectroscopy (fNIRS), and from saliva biomarkers. In the future, we hope that such a study could be used to develop a device to help children and youth with severe disability to communicate their needs to eat or drink.

Who can participate?

We are looking to recruit 12 children and youth with disabilities with the following profile:

- Are 5-24 years of age,
- Are able to understand English,
- Have normal or corrected to normal vision,
- Are able to normally sense and communicate hunger/satiety and thirst,
- Have no disease related to the salivary glands, oral mucosa, dry mouth, oral lesions or other contact sensitivity.
- Do not require daily or several times a day hormone treatment.
- Do not receive a chemotherapy session in the last two weeks before the data collection.

What's involved?

- You will attend two sessions at Holland Bloorview Kids Rehabilitation Hospital; the first is about 90 minutes long while the second is about 70-minutes long.
- You will be asked to fast for at least 4 hours before the first session, but you will be asked to have a meal and water an hour before the second session.
- You will wear headcaps with probes that will measure your brain activity.
- You will provide saliva samples.
- Food and water images will be displayed to you while recording your brain activity.

Potential benefits?

There are no direct benefits to you for participating in this research study. We hope that the information learned from this study can be used in the future to develop technology that helps children and youth who have severe disability to communicate their needs to eat and drink.

Potential risks?

The main concern with non-ionizing light used in fNIRS technology is that it may heat the skin. However, the level of heating is very low and well below safety limits. You may also become tired or frustrated during these sessions.

Participants will receive a small token of appreciation to thank them for their time.

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Bloorview RESEARCH INSTITUTE
Canada's Only Hospital-Based Childhood Disability Research Institute
Holland Bloorview Kids Rehabilitation Hospital