

# Changes in eating behaviours following a family-centered lifestyle intervention aimed at children with obesity 9-12 y old: Results from a 1-year RCT

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# Learning Objectives

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- Identify the different types of eating behaviours
- Describe the Children's Eating Behavior Questionnaire
- Understand the importance of including eating behaviour assessments during childhood obesity interventions

# CEBQ<sup>1</sup>

- 35 questions using a 5-point Likert scale
- Validated and associated with BMI <sup>1-6</sup>

## Food Approach

Food responsiveness (n=5)

Enjoyment of food (n=4)

Emotional over-eating (n= 4)

Desire to drink (n=3)

## Food Avoidance

Slowness in eating (n=4)

Satiety responsiveness (n=5)

Emotional under-eating (n=4)

Food fussiness (n=6)

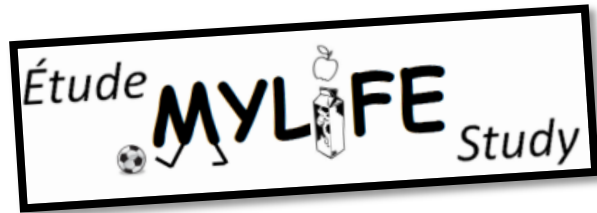
## Child Eating Behaviour Questionnaire (CEBQ)

Please read the following statements and tick the boxes most appropriate to your child's eating behaviour.

	Never	Rarely	Some-times	Often	Always
My child loves food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child eats more when worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child has a big appetite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child finishes his/her meal quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child is interested in food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child is always asking for a drink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child refuses new foods at first	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child eats slowly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child eats less when angry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child enjoys tasting new foods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child eats less when s/he is tired	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child is always asking for food	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child eats more when annoyed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If allowed to, my child would eat too much	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child eats more when anxious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My child enjoys a wide variety of foods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Objectives

To assess changes in eating behaviours using the CEBQ in 9- 12 y old children with obesity who participated in a 1-year family-centered lifestyle intervention.



McGill Youth Lifestyle Intervention with Food and Exercise Study: *The MY LIFE Study*<sup>7</sup>

Registered on Clinical Trial.gov (NCT01290016)

## Inclusion Criteria

Healthy 9-12 y old children classified with BMI > 85%tile for age (WHO guidelines for overweight/ obese)<sup>8</sup>



# Methods

Assessment	Details	Analyses
Anthropometry		
Weight (kg)	Digital scale	Z-scores (WHO) 2007 reference data <sup>8</sup>
Height (cm)	Portable stadiometer	
Eating Behavior		
Eating behavior	Caregiver reported; Bilingual CEBQ	Mean scores and changes over time (mixed models)

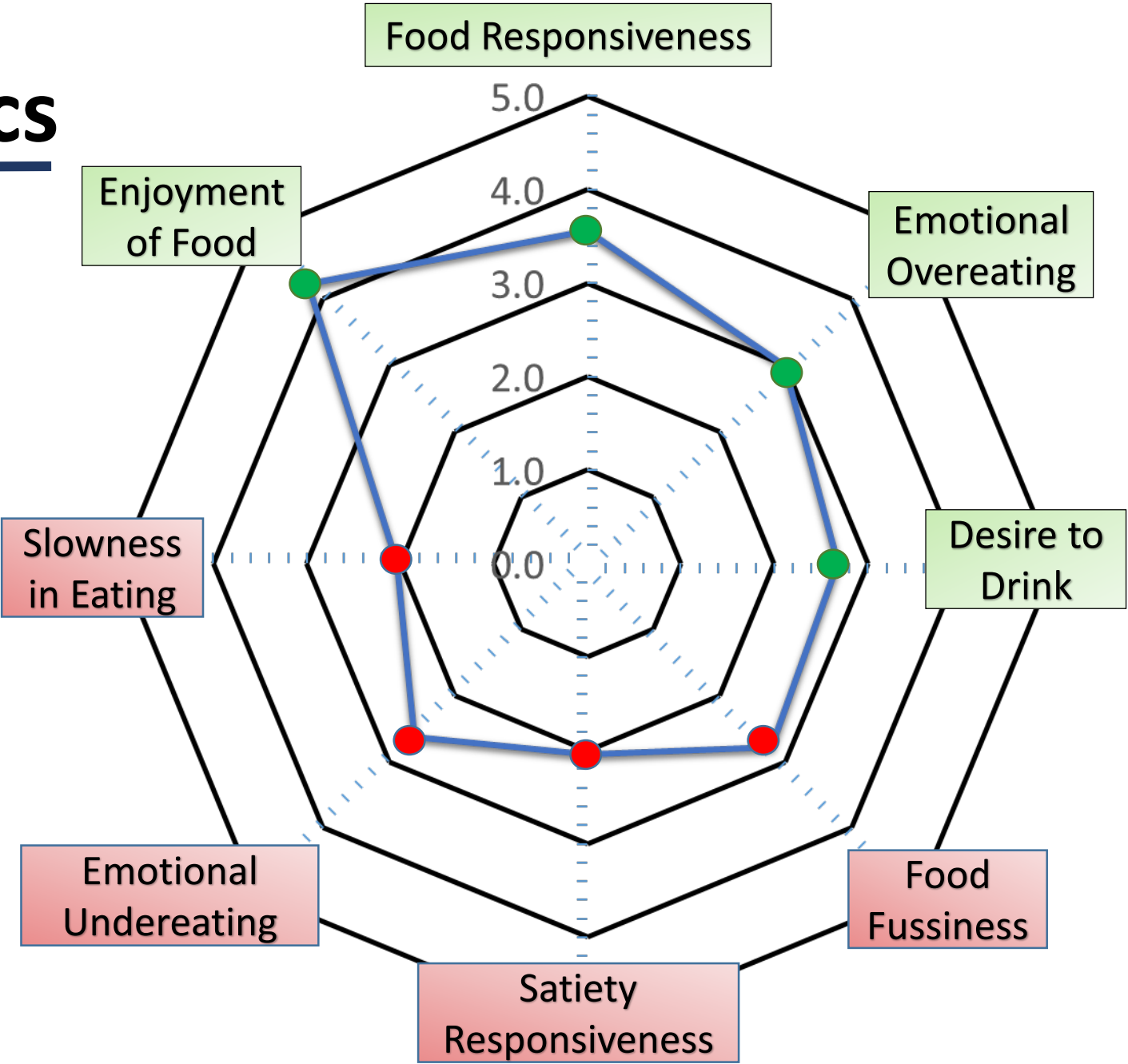


*Images used with permission*

- Children randomized to control or family-centered lifestyle intervention (FCLI) by sex and BMI
- All visits and measures: Mary Emily Clinical Nutrition Research Unit (Ste-Anne de Bellevue, QC)

# Baseline characteristics

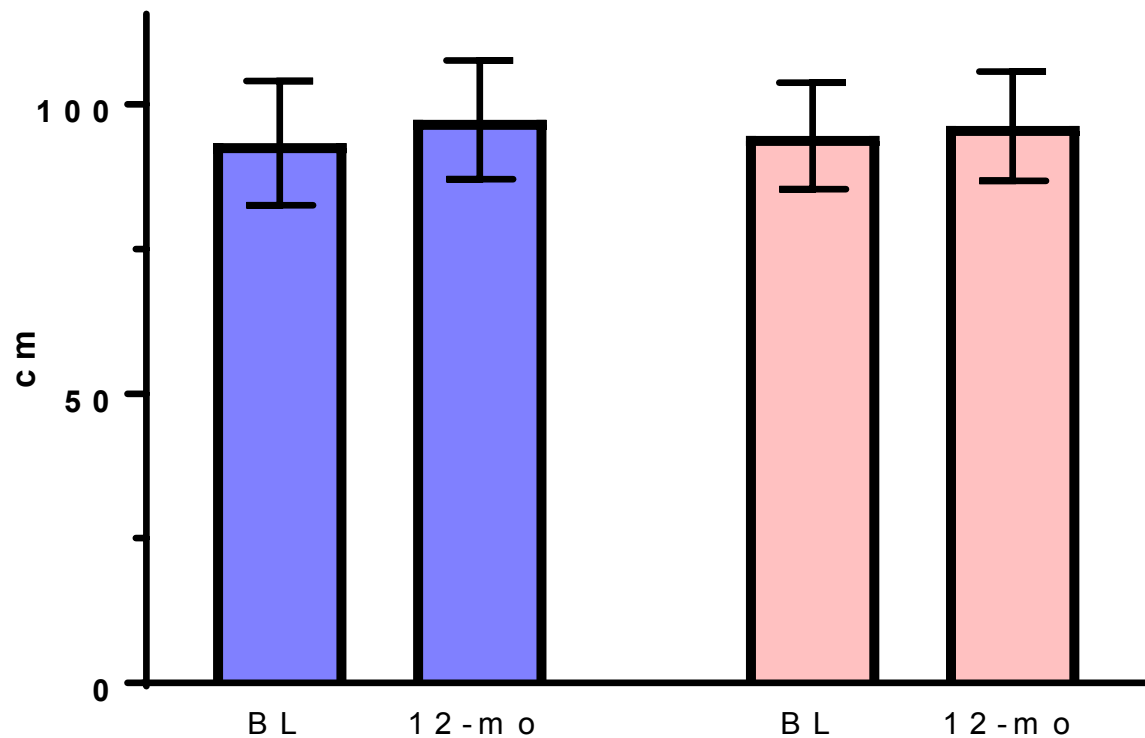
	Total (n=60)
Age (years)	11.1 ± 1.1
Ethnicity, White (%)	81%
Gender, Female (%)	53%
Family Income >\$75,000.00/y (%)	58%
BMI z-score (WHO)	2.8±0.6



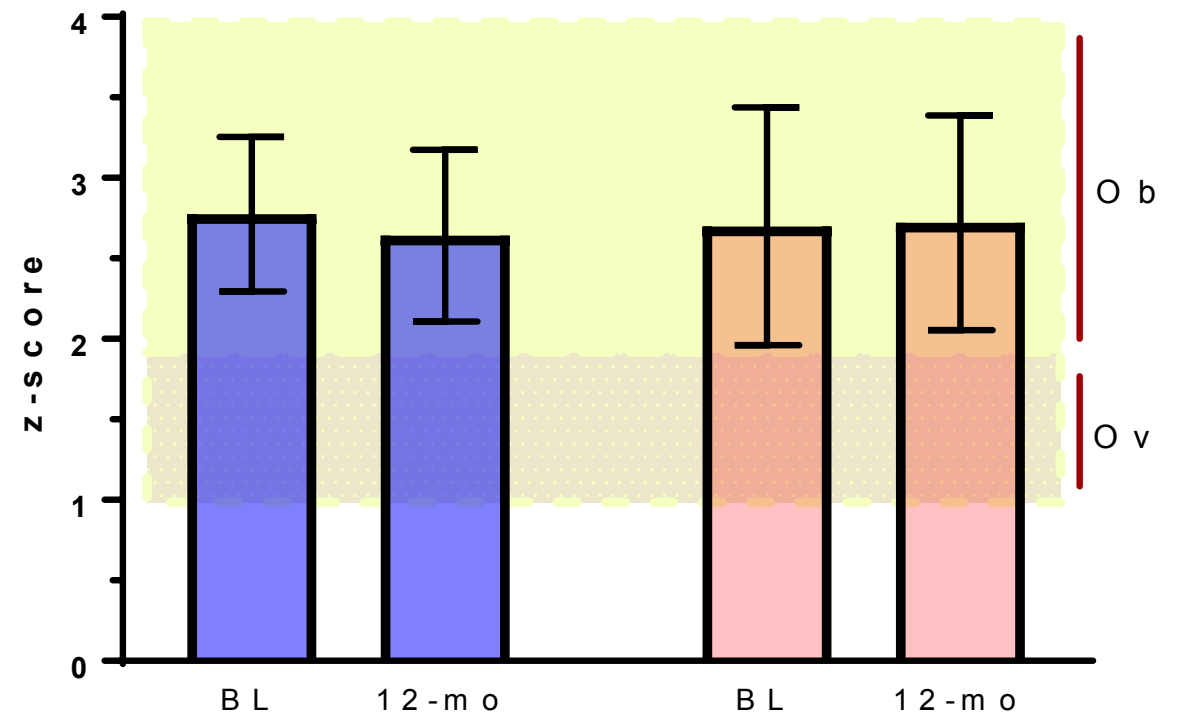
# Changes in body composition

FCLI  
Control

## Waist Circumference



## BMI z-score

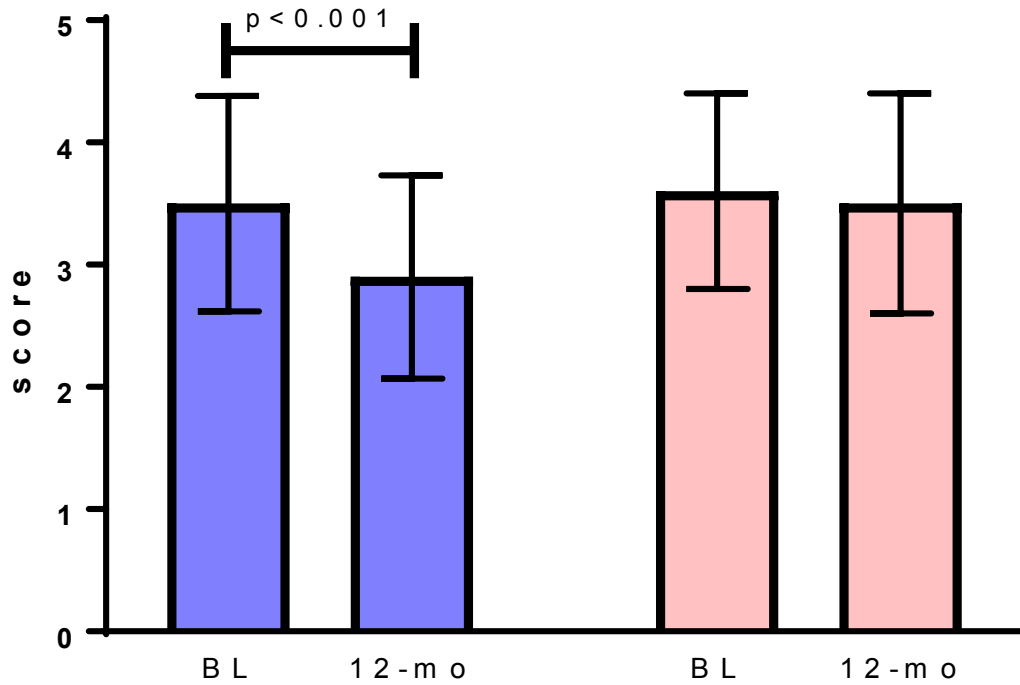


FCLI: Family-centered lifestyle intervention; Ob: Obese; Ov: Overweight

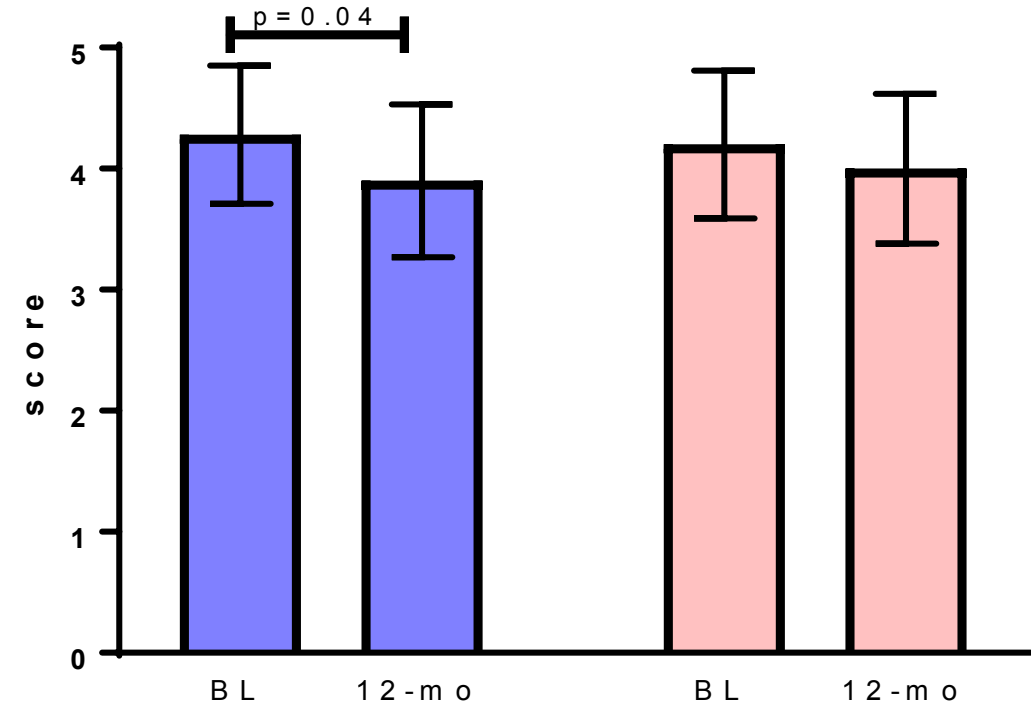
# FCLI decreased Food Approach scores



## Food Responsiveness



## Enjoyment of Food

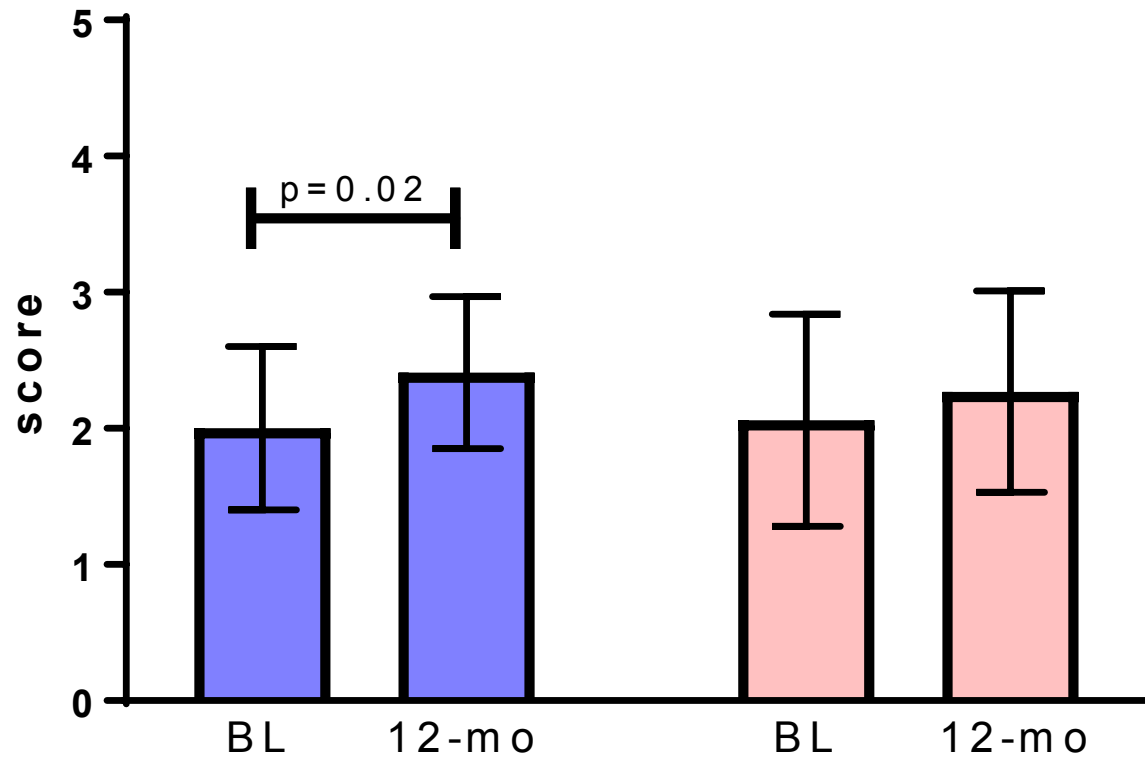


FCLI: Family-centered lifestyle intervention

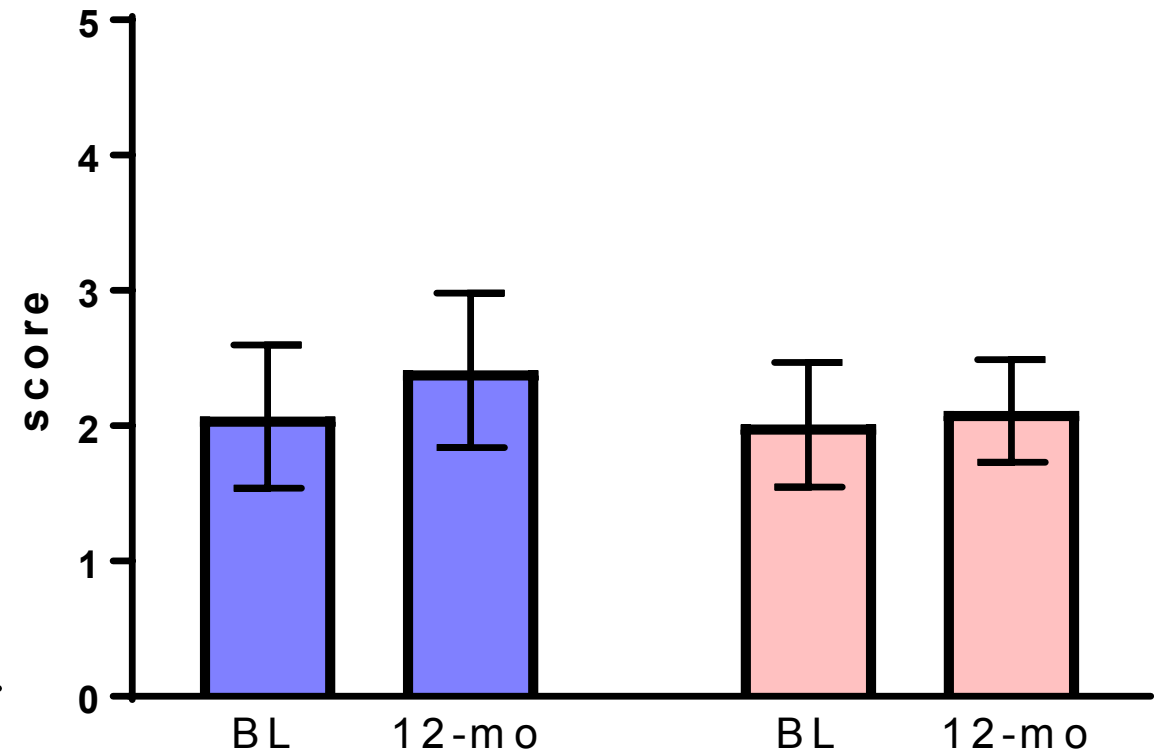
# FCLI increased **Food Avoidance** scores



## Slowness in Eating



## Satiety Responsiveness



FCLI: Family-centered lifestyle intervention



# Take home message

- Children with obesity (9-12 y) display “food approach” eating behaviors
- Studies should consider eating behaviors in interventions

## How will this impact patients?

- CEBQ is a user friendly tool that parents can easily complete over the course of an intervention
- Help guide discussions during interventions



Photo: D. MacInnes on Unsplash.

# Acknowledgements

## Investigators:

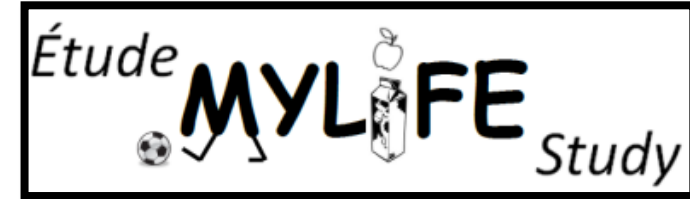
Dr. Hope Weiler (PI)

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## MYLIFE Team:

- Dr. Tom Hazell, PhD
- Catherine Vanstone, RN, MSc
- Sarah-Eve Loiselle, RD, MSc
- Popi Kasvis, RD, MSc
- Caitlin Ellery, RD, MSc
- Sandra Dell'Elce, RN
- Nicolas Kim, MSc
- Jenny Huang, MSc
- Lesley Seto, RD, MSc
- Sherry Agellon

...and many student volunteers



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# References

*(as they appear in the presentation)*

<sup>1</sup> Wardle et al. *J Child Psychol Psychiatry* (2001)

<sup>2</sup> Cohen et al. *Appetite* (2016)

<sup>3</sup> Spence et al. *Int J Pediatr Obes* (2011)

<sup>4</sup> Santos et al. *Nutr J* (2011) 10:108

<sup>5</sup> Sleddens et al. *Int J Behav Nutr Phys Act* (2008)

<sup>6</sup> Webber et al. *Int J Obes (Lond)* (2009) 33

<sup>7</sup> Cohen et al. *BMC Public Health* (2013) (STUDY PROTOCOL)

<sup>8</sup> World Health Organization. Child Growth Standards: WHO Anthro (version 3.2.2, January 2011).