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## Child eating behaviours are associated with weight status at two years of age

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The Children's Eating Behaviour Questionnaire (CEBQ) has been validated as a measure of eating behaviours in children<sup>(1)</sup>. Associations between eating behaviours and weight status have been identified in older children<sup>(2, 3)</sup>, however limited research has been carried out in young children. The aim of this analysis was to explore the relationship between eating behaviours and weight status in two year old children.

The CEBQ was completed by the parents of participants of the Cork BASELINE Birth Cohort Study at each child's 24-month assessment (median [IQR] age of 2.1 [2.1, 2.2] years). The CEBQ encompasses eight eating behaviour subscales (four food approach, four food avoidant) and each subscale has three-five questions. Questions are assessed based on a five-point scale and scored appropriately. Anthropometric measures were also taken and participants were categorised into three weight categories (underweight, normal weight, overweight/obese) based on the International Obesity Task Force BMI cut-offs for children<sup>(4)</sup>. Only participants with complete anthropometric and eating behaviour data were included in the analysis, with 1189 participants (50% male) included.

There were no significant differences in subscale scores between males and females, except that females scored higher in "slowness in eating" while males scored higher in "food fussiness" ( $P < 0.05$ ). There were significant differences in subscale scores between the three weight categories, see table. Participants in the overweight/obese category scored highest in food approach behaviours ("enjoyment of food", "food responsiveness"), while those in the underweight category scored highest in food avoidant behaviours ("satiety responsiveness", "slowness in eating", "food fussiness").

	Underweight 77	Normal weight 947	Overweight/Obese 165	P-value
	Median [25th, 75th]	Median [25th, 75th]	Median [25th, 75th]	
<b>Food Approach Subscales</b>				
Enjoyment of Food	3.8 [3.0, 4.1] <sup>a</sup>	4.0 [3.5, 4.5] <sup>b</sup>	4.3 [3.8, 4.8] <sup>c</sup>	<b>0.000</b>
Emotional Overeating	1.5 [1.0, 1.8]	1.5 [1.0, 1.8]	1.5 [1.0, 2.0]	0.153
Desire to Drink	2.7 [1.8, 3.5]	2.7 [2.0, 3.3]	2.7 [2.3, 3.7]	0.128
Food Responsiveness	1.0 [1.0, 2.0] <sup>a</sup>	1.1 [1.0, 2.0] <sup>b</sup>	2.0 [1.0, 3.0] <sup>c</sup>	<b>0.000</b>
Grouped Food Approach Score	2.3 [2.0, 2.6] <sup>a</sup>	2.5 [2.1, 2.8] <sup>b</sup>	2.7 [2.4, 3.0] <sup>c</sup>	<b>0.000</b>
<b>Food Avoidant Subscales</b>				
Satiety Responsiveness	3.0 [2.7, 3.7] <sup>a</sup>	2.7 [2.3, 3.0] <sup>b</sup>	2.3 [2.0, 3.0] <sup>c</sup>	<b>0.000</b>
Slowness in Eating	3.0 [2.7, 3.7] <sup>a</sup>	2.7 [2.3, 3.3] <sup>b</sup>	2.6 [2.3, 3.0] <sup>c</sup>	<b>0.000</b>
Food Fussiness	2.7 [2.2, 3.8] <sup>a</sup>	2.5 [2.0, 3.0] <sup>b</sup>	2.3 [1.8, 2.9] <sup>c</sup>	<b>0.001</b>
Emotional Undereating	2.8 [2.0, 3.8]	3.0 [2.3, 3.5]	3.0 [2.3, 3.5]	0.812
Grouped Food Avoidant Score	3.0 [2.7, 3.7] <sup>a</sup>	2.8 [2.4, 3.1] <sup>b</sup>	2.6 [2.3, 2.9] <sup>c</sup>	<b>0.000</b>

a,b,c Different superscript letters denote statistically differences between groups ( $P < 0.05$ ).

Child eating behaviours as assessed by the CEBQ were associated with weight status at two years of age. Food approach eating behaviours including "enjoyment of food" and "food responsiveness" appear to be associated with overweight and obesity. The identification of relationships between eating behaviours and food and nutrient intake patterns may provide means of an intervention strategy against later overweight and obesity.

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