

# Questions documentation

## Body and Health – Young

(MoBa 2<sup>nd</sup> generation – Spring 2025)

The Norwegian Mother, Father and Child Cohort Study  
(MoBa)

*Pilot: 22 April (Sample: 2,000)*

*Main distribution: 2 June (Sample: 2nd generation >17  
years who did not participate in the pilot)*

Version	Date	Performed by	Description
1.0	24.02.2025	Helga Ask (NIPH)	Original version

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## Instrument

### **1. Name of original instrument/question:**

Original name of scale (*no name* if only single question)

List wording of questions included in the section (with number from questionnaire in front) and write response categories (with values used in the dataset)

### **2. Description of original scale or selection of items used:**

Description of analytical approaches for selecting just a sample of items from a scale

If single question. NOT RELEVANT

If selection of established short version, make referral to literature and/or use

Where does the Q/scale come from, what is it meant to measure. Description of number of items, subscales. Where the Q/scale has been used and any information that give insight into what instrument this is.

Primary references of the instrument as well as important secondary publications if relevant.

### **3. Rationale for choosing the instrument:**

What is it meant to measure and IF RELEVANT: Why this measure was chosen (if relevant).

### **4. Modifications:**

Describe modifications during the study from one version to another.

Write if omitted or added from one version to another

If you have any comments that may improve this document, please contact [morbarndata@fhi.no](mailto:morbarndata@fhi.no).

## Appetite

Q		Response options	Variable name
	Please read the statements and check the option that best describes you <i>[Matrix with radio buttons]</i>		
<b>1</b>	I love food	<ol style="list-style-type: none"> <li>1. Strongly disagree</li> <li>2. Disagree</li> <li>3. Neither agree nor disagree</li> <li>4. Agree</li> <li>5. Strongly agree</li> </ol>	KHU11
	I enjoy eating		KHU12
	I look forward to mealtimes		KHU13
	If I miss a meal I get irritable		KHU14
	I eat more when I am upset		KHU15
	I often leave food on my plate at the end of the meal		KHU16
	I enjoy tasting new food		KHU17
	I often feel hungry when I am with someone who is eating		KHU18
<b>2</b>	I eat more when I'm anxious	<ol style="list-style-type: none"> <li>1. Strongly disagree</li> <li>2. Disagree</li> <li>3. Neither agree nor disagree</li> <li>4. Agree</li> <li>5. Strongly agree</li> </ol>	KHU19
	Given the choice, I would eat most of the time		KHU20
	I eat less when I'm angry		KHU21
	I am interested in tasting new food I haven't tasted before		KHU22
	I eat less when I'm upset		KHU23
	I eat more when I'm angry		KHU24
	I am always thinking about food		KHU25
	I often get full before my meal is finished		KHU26
<b>3</b>	I enjoy a wide variety of foods	<ol style="list-style-type: none"> <li>1. Strongly disagree</li> <li>2. Disagree</li> <li>3. Neither agree nor disagree</li> <li>4. Agree</li> <li>5. Strongly agree</li> </ol>	KHU27
	I am often last at finishing a meal		KHU28
	I eat more and more slowly during the course of a meal		KHU29

I often feel so hungry that I have to eat something right away	KHU30
I eat slowly	KHU31
I get full up easily	KHU32
I often feel hungry	KHU33
I eat less when I'm anxious	KHU34

**1. Name of original instrument/question:**

The Adult Eating Behavior Questionnaire (AEBQ)

**2. Description of original scale or selection of items used:**

The AEBQ<sup>1</sup> was developed in the UK and is an adaption of the Childhood Eating Behaviour Questionnaire (CEBQ) to enable comparisons between child and adult eating behavior. The original AEBQ contains 35 items capturing the following eight subscales: Hunger (5 items involving the physical experience of hunger), Food responsiveness (4 items - eating in response to external food cues), Emotional overeating (5 items, eating more in response to negative emotions), Enjoyment of food (3 items, being interested in and enjoying meals), Satiety responsiveness (4 items, being sensitive to internal signals of hunger and fullness), Emotional undereating (5 items, eating less in response to negative emotions), Food fussiness (5 items, being highly selective about which foods are accepted) and Slowness in eating (4 items, eating speed). All AEBQ items are rated along a 5-point Likert scale (1 = “strongly disagree”; 5 = “strongly agree”). The factor structure and reliability has been evaluated among adolescents<sup>2</sup>. A study by Bjørklund and colleagues highlights the comparability and validity of the CEBQ and the AEBQ in a Norwegian sample of 14-year-old children<sup>3</sup>

24 items were selected for this data collection. The selection was done by the Early-Growth research team at the University of Bergen (PI: Stefan Johansson) and was based on the Bjørklund et al.<sup>3</sup> large-scale validation of the AEBQ in the *Trondheim Early Secure Study* among 636 individuals age 14 years. Items were selected based on 1) standardized factor loadings, prioritizing items with the best internal factor score for each domain and 2) consistency and direct comparability with the CEBQ items used in the 8-year questionnaire in MoBa. The domains Enjoyment of Food and Hunger were not present in the CEBQ version in MoBa (8 year) and therefore, factor loadings with highest factor loadings were selected for these domains. The domain Emotional Overeating showed weak, and the domain Emotional Undereating showed no significant correlation between CEBQ and AEBQ in Bjørklund et al. Hence, the emotions captured by the three items were reorganized to match the highest standardized factor loading. This shifts the captured emotions from CEBQ (worried, annoyed

and anxious) to AEBQ (upset, angry, anxious). The same emotions were selected for Under- and Overeating.

The selected instrument includes 3 items for each domain: **Food Responsiveness** (I am always thinking about food; Given the choice I would eat most of the time; I often feel hungry when I am with someone who is eating), **Emotional Overeating** (I eat more when I am upset; I eat more when I am anxious; I eat more when I am angry), **Emotional Undereating** (I eat less when I am upset; I eat less when I am anxious; I eat less when I am angry), **Enjoyment of Food** (I enjoy eating; I love food; I look forward to meal times), **Hunger** (I often feel so hungry that I have to eat right away; I often feel hungry; If I miss a meal I get irritable), **Satiety Responsiveness** (I get full up easily; I often leave food on my plate at the end of the meal; I often get full before my meal is finished), **Slowness in Eating** (I eat slowly; I am often last at finishing a meal; I eat more and more slowly during the course of the meal), **Food Fussiness** (I am interested in tasting new food I haven't tasted before; I enjoy tasting new food; I enjoy a wide variety of food)

1. Hunot C, Fildes A, Croker H, Llewellyn CH, Wardle J, Beeken RJ. Appetitive traits and relationships with BMI in adults: Development of the Adult Eating Behaviour Questionnaire. *Appetite*. 2016;105:356-363. doi:10.1016/j.appet.2016.05.024
2. Hunot-Alexander C, Beeken RJ, Goodman W, et al. Confirmation of the Factor Structure and Reliability of the “Adult Eating Behavior Questionnaire” in an Adolescent Sample. *Front Psychol*. 2019;10:1991. doi:10.3389/fpsyg.2019.01991
3. Bjørklund O, Wichstrøm L, Llewellyn C, Steinsbekk S. Validation of the adult eating behavior questionnaire in a Norwegian sample of adolescents. *Appetite*. 2024;192:107116. doi:10.1016/j.appet.2023.107116

### 3. Rationale for choosing the instrument:

The Adult Eating Behaviour Questionnaire is a widely used and validated tool developed to enable comparisons with the CEBQ (that was used at age 8 MoBa) and shows good validity both in adolescents and adults.

### 4. Modifications:

Apart from the selection of a subset of the questions due to space restrictions, no modifications to the original question structure and/or phrasing were done.

## Diet

Q		Response options	Variable name
<b>When answering the following questions, think about the past 12 months and try to estimate which response options fit best</b>			
4	<p>Do any of the following apply to you or your diet?</p> <p><i>Multiple answers are possible.</i></p> <p><i>[Multiple choice]</i></p>	<ul style="list-style-type: none"> <li>Vegetarian diet</li> <li>Vegan diet (plant-based only)</li> <li>Pescatarian diet (plant-based foods, fish, dairy, eggs, but no meat)</li> <li>"Flexitarian" diet (eat more plant-based, including dinner)</li> <li>Fasting/intermittent fasting (e.g., 5 – 2 diet)</li> <li>Calorie-reduced diet (e.g., Grete Roede)</li> <li>Low-carb diet</li> <li>Keto-diet</li> <li>Carnivore diet</li> <li>Paleo diet/Stone age diet</li> <li>Blood type diet</li> <li>Raw food diet</li> <li>Mediterranean diet</li> <li>Macrobiotic diet</li> <li>FODMAP-diet (and possibly other allergy/intolerance-related diets)</li> <li>Pregnant</li> <li>Breastfeeding</li> <li>Other</li> <li>None of these</li> </ul>	<ul style="list-style-type: none"> <li>KHU35</li> <li>KHU36</li> <li>KHU37</li> <li>KHU38</li> <li>KHU39</li> <li>KHU40</li> <li>KHU41</li> <li>KHU42</li> <li>KHU43</li> <li>KHU44</li> <li>KHU45</li> <li>KHU46</li> <li>KHU47</li> <li>KHU48</li> <li>KHU49</li> <li>KHU51</li> <li>KHU52</li> <li>KHU53</li> <li>KHU54</li> </ul>
5	<p>How often do you eat together with others?</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never or rarely</li> <li>2. 1-2 times per week</li> <li>3. 3-4 times per week</li> <li>4. 5-6 times per week</li> <li>5. Every day</li> </ol>	KHU58
6	<p>How often do you eat vegetables?</p> <p><i>Answer in terms of portions, where one portion is equivalent to, for example, a medium-sized carrot or a small bowl of salad. Vegetables do not include potatoes.</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. Once a week</li> <li>4. 2–3 times a week</li> <li>5. 4–6 times a week</li> <li>6. Every day</li> <li>7. Several times a day</li> </ol>	KHU59
7	<p>How often do you eat fruit and berries?</p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. Once a week</li> <li>4. 2–3 times a week</li> </ol>	KHU60

	<p><i>Answer in terms of portions, where one portion is equivalent to one fruit or a large handful of berries (approximately 1 dl).</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>5. 4–6 times a week</li> <li>6. Every day</li> <li>7. Several times a day</li> </ol>	
8	<p>How often do you drink juice/fruit smoothies?</p> <p><i>Answer in terms of kitchen glasses (1 glass = approximately 200 ml).</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. 0 glasses monthly</li> <li>2. 1–3 glasses monthly</li> <li>3. 1 glass per week</li> <li>4. 2-6 glasses weekly</li> <li>5. 1 glass daily</li> <li>6. 2-3 glasses daily</li> <li>7. More than 3 glasses daily</li> </ol>	KHU61
9	<p>How often do you eat whole grain products (e.g. wholegrain bread*, muesli, porridge, and wholegrain pasta)?</p> <p><i>*Here, we mean bread that is coarser than regular white bread (equivalent to at least 3/4 coloured circle on the "Bread Scale").</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. Once a week</li> <li>4. 2–3 times a week</li> <li>5. 4–6 times a week</li> <li>6. Every day</li> <li>7. Several times a day</li> </ol>	KHU62
10	<p>How often do you drink sugar-containing soft drinks/cordials (including iced tea, iced coffee, and nectar, but not energy drinks)?</p> <p><i>Answer in the number of kitchen glasses (1 glass = approximately 200 ml).</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. 0 glasses monthly</li> <li>2. 1-3 glasses monthly</li> <li>3. 1 glass weekly</li> <li>4. 2-6 glasses weekly</li> <li>5. 1 glass daily</li> <li>6. 2-3 glasses daily</li> <li>7. More than 3 glasses daily</li> </ol>	KHU63
11	<p>How often do you drink artificially sweetened soft drinks/cordials (including iced tea, iced coffee, and nectar, but not energy drinks)?</p> <p><i>Answer in the number of kitchen glasses (1 glass = approximately 200 ml).</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. 0 glasses monthly</li> <li>2. 1-3 glasses monthly</li> <li>3. 1 glass weekly</li> <li>4. 2-6 glasses weekly</li> <li>5. 1 glass daily</li> <li>6. 2-3 glasses daily</li> <li>7. More than 3 glasses daily</li> </ol>	KHU64
12	<p>How often do you drink water?</p> <p><i>With or without carbonation. Answer in the number of kitchen glasses (1 glass = approximately 200 ml).</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. 0 glasses monthly</li> <li>2. 1-3 glasses monthly</li> <li>3. 1 glass weekly</li> <li>4. 2-6 glasses weekly</li> <li>5. 1 glass daily</li> <li>6. 2-3 glasses daily</li> <li>7. More than 3 glasses daily</li> </ol>	KHU65
13	<p>How often do you eat fish as a main course for dinner or lunch?</p> <p><i>Do not count fish as a sandwich topping.</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. 1 time a week</li> <li>4. 2-3 times a week</li> <li>5. 4-6 times a week</li> </ol>	KHU66

	<i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>6. Every day</li> <li>7. Several times daily</li> </ol>	
<b>14</b>	<p>How often do you eat red meat as a main course for dinner or lunch (e.g. steak, minced meat, sausages or similar)?</p> <p><i>Red meat is meat from pigs, cattle (cow/ox/calf), sheep, and goats. Meat from chicken or turkey is not red meat.</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. 1 time a week</li> <li>4. 2-3 times a week</li> <li>5. 4-6 times a week</li> <li>6. Every day</li> <li>7. Several times daily</li> </ol>	KHU67
<b>15</b>	<p>How much cow's milk do you drink?</p> <p><i>This includes regular milk, cultured milk, and flavoured milk. Answer in the number of kitchen glasses (1 glass = approximately 200 ml).</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. 0 glasses monthly</li> <li>2. 1-3 glasses monthly</li> <li>3. 1 glass weekly</li> <li>4. 2-6 glasses weekly</li> <li>5. 1 glass daily</li> <li>6. 2-3 glasses daily</li> <li>7. More than 3 glasses daily</li> </ol>	KHU68
<b>15.1</b>	<p>What type of cow's milk do you drink the most?</p> <p><i>This item is only displayed if the option "1-3 glasses monthly," "1 glass weekly," "2-6 glasses weekly," "1 glass daily," "2-3 glasses daily," or "More than 3 glasses daily" is selected in question 15. "How much cow's milk do you drink?"</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Whole milk (at least 3.5% fat)</li> <li>2. Semi-skimmed milk, including vitamin D enriched semi-skimmed milk or medium milk (0.5-2.0% fat)</li> <li>3. Skimmed milk (less than 0.5% fat)</li> <li>4. Don't know</li> </ol>	KHU69
<b>16</b>	<p>How often do you eat yoghurt?</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. 1 time a week</li> <li>4. 2-3 times a week</li> <li>5. 4-6 times a week</li> <li>6. Every day</li> <li>7. Several times daily</li> </ol>	KHU70
<b>17</b>	<p>How often do you eat cakes/buns/sweet biscuits?</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. 1 time a week</li> <li>4. 2-3 times a week</li> <li>5. 4-6 times a week</li> <li>6. Every day</li> <li>7. Several times daily</li> </ol>	KHU71
<b>18</b>	<p>How often do you eat crisps and salty snacks?</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. 1 time a week</li> <li>4. 2-3 times a week</li> <li>5. 4-6 times a week</li> </ol>	KHU72

		6. Every day 7. Several times daily	
<b>19</b>	How often do you eat fast food from kiosks, petrol stations, or burger/pizza chains (e.g. hot food such as hot dogs, hamburgers, chips, pizza, kebabs, or similar)?  <i>[Radio buttons]</i>	1. Never 2. Less than once a week 3. 1 time a week 4. 2-3 times a week 5. 4-6 times a week 6. Every day 7. Several times daily	KHU73
<b>20</b>	How often do you drink a 0.5-litre can of energy drink like Red Bull, Monster, Burn, etc.?  <i>[Radio buttons]</i>	1. Never 2. 1-3 times per month 3. 1 time per week 4. 2-6 times per week 5. 1 time per day 6. 2-3 times per day 7. More than three times per day	KHU74
<b>20.1</b>	Energy drinks are either sweetened with sugar or artificial sweeteners. What proportion of the energy drinks you consume contain regular sugar?  <i>This item is only displayed if the option "1-3 times per month," "1 time per week," "2-6 times per week," "1 time per day," "2-3 times per day," or "More than 3 times per day" is selected in question 20. "How often do you drink a 0.5-litre can of energy drink like Red Bull, Monster, Burn, etc.?"</i>  <i>[Radio buttons]</i>	1. None 2. <25% 3. 25-49% 4. 50-74% 5. 75-99% 6. All	KHU75
<b>Version B</b>			
<b>4.16</b>	Do any of the following apply to you or your diet?  <i>Multiple answers are possible.</i>  <i>[Multiple choice]</i>	Is currently using weight-loss medication	KHU50
<b>4.2.1</b>	Which of the following weight-loss medications are you presently on?  <i>This item is only displayed if "currently taking weight-loss medication" is selected in question 4.16 "Do any of the following apply to you or your diet? "</i>  <i>[Radio buttons]</i>	1. Wegovy 2. Saxenda 3. Mysimba 4. Mounjaro 5. Ozempic 6. Victoza 7. Annet	KHU55

4.2.2	<p>For how long have you been on weight-loss medication?</p> <p><i>This item is only displayed if “currently taking weight-loss medication” is selected in question 4.16 “Do any of the following apply to you or your diet?”</i></p> <p>[Radio buttons]</p>	<ol style="list-style-type: none"> <li>1. Less than 1 month</li> <li>2. 1 month</li> <li>3. 2 months</li> <li>.....</li> <li>12. 11 months</li> <li>13. 12 months</li> <li>14. More than one year</li> <li>15. Do not recall / prefer not to answer</li> </ol>	KHU56
4.2.3	<p>How has your weight developed since you began weight-loss medication?</p> <p><i>This item is only displayed if “currently taking weight-loss medication” is selected in question 4.16 “Do any of the following apply to you or your diet?”</i></p> <p>[Radio buttons]</p>	<ol style="list-style-type: none"> <li>1. Has decreased</li> <li>2. Has increased</li> <li>3. Has remained unchanged</li> <li>4. Don’t know / prefer not to answer</li> </ol>	KHU57

**1. Name of original instrument/question:**

The original instrument was developed for use in the National Public Health Survey in Norway in 2020 (1). The aim was to capture information about dietary patterns and to capture components covered by the Norwegian food-based dietary guidelines.

**2. Description of original scale or selection of items used:**

The original questions included around 35 questions asking about the intake of food, beverages and dietary supplements. Of these, 19 questions were used to develop and evaluate a diet index reflecting adherence to the Norwegian Dietary Guidelines, denoted “the Norwegian Dietary Guideline Index” (NGDI) (2).

**3. Rationale for choosing the instrument:**

The rationale for choosing the instrument is that it is short and the selected items capture sufficient information about participants’ diet to rank individuals according to their dietary quality.

**4. Modifications:**

The diet questions in this questionnaire include the most important question for calculating the NDGI. In addition, it includes questions about use of fast-food (3) and use of energy drinks (4). These are questions that have been shown to reflect poor diet quality and may be used as indicators of poor diet quality independent of the NDGI (3;4). The answer alternatives in questions about food and drinks in this questionnaire were reduced to fewer categories than in the National Public Health Survey.

## References:

1. Abel MH, Totland TH. Kartlegging av kostholdsvaner og kroppsvekt hos voksne i Norge basert på selvrapporing – Resultater fra Den nasjonale folkehelseundersøkelsen 2020 [Rapport 2021]. Oslo: Folkehelseinstituttet; 2021.
2. Totland TH, Øvrebø B, Brantsæter AL, Holvik K, Bere ET, Torheim LE, et al. Development and evaluation of an index assessing adherence to the Norwegian food-based dietary guidelines: the Norwegian Dietary Guideline Index (NDGI). *BMC Nutr* 2024;10(1):94. DOI: 10.1186/s40795-024-00900-7
3. Smith KJ, McNaughton SA, Gall SL, Blizzard L, Dwyer T, Venn AJ. Takeaway food consumption and its associations with diet quality and abdominal obesity: a cross-sectional study of young adults. *Int J Behav Nutr Phys Act* 2009;6:29. DOI: 10.1186/1479-5868-6-29
4. Markon AO, Ding M, Chavarro JE, Wolpert BJ. Demographic and behavioural correlates of energy drink consumption. *Public Health Nutr* 2023;26(7):1424-35. DOI: 10.1017/s1368980022001902

## Eating disorder symptoms

Q		Response options	Variable name
21	When you think about the past 4 weeks, how often have you been deliberately trying to limit the amount of food you eat to influence your shape or weight?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU76
22	Over the past 4 weeks, how often have you tried to follow definite rules regarding what you can eat, in order to influence your shape or weight (for example a limited amount of calories)?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU77
23	Over the past 4 weeks, how often have you had a definite fear of losing control over eating?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU78
24	Over the past 4 weeks, has thinking about food, eating or calories made it very difficult to concentrate on things you are interested in (for example, working, following a conversation, or reading)?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU79
25	Over the past 4 weeks, have you eaten secretly?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU80
26	Over the past 4 weeks, have you vomited on purpose to lose weight or avoid gaining weight?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU81
27	Over the past 4 weeks, have you used laxatives or other medicine to lose weight or avoid gaining weight?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Never/rarely</li> <li>2. Sometimes</li> <li>3. Often</li> <li>4. Very often</li> </ol>	KHU82
28	How dissatisfied have you been with your shape (what you see in the mirror)?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Not at all</li> <li>2. A little</li> <li>3. A lot</li> <li>4. Very much</li> </ol>	KHU83
29	How uncomfortable have you felt seeing your own body for example seeing your shape in	<ol style="list-style-type: none"> <li>1. Not at all</li> <li>2. A little</li> </ol>	KHU84

	the mirror, while undressing, taking a bath or shower?  <i>[Radio buttons]</i>	3. A lot 4. Very much	
30	How uncomfortable have you felt about others seeing your shape or figure (for example in communal changing rooms, when swimming or wearing tight clothes)?  <i>[Radio buttons]</i>	1. Not at all 2. A little 3. A lot 4. Very much	KHU85
31	How do you consider your own weight?  <i>[Radio buttons]</i>	1. Too thin 2. Little too thin 3. Okay 4. Little too heavy 5. Too heavy	KHU86

**Name of original instrument/question:**

Selected questions from the Eating Disorder Examination Questionnaire (EDE-Q)

**1. Description of original scale or selection of items used:**

The EDE-Q (Fairburn and Beglin, 1994; 2008) is a 22-item self-report version of the Eating Disorder Examination (EDE), the well-established investigator-based interview (Fairburn and Cooper, 1993). The EDE was designed to measure the broad range of the specific psychopathology of eating disorders. The 22 items of EDE-Q comprise 4 subscales assessing Restraint (5 items), Eating Concern (5 items), Shape Concern (8 items), and Weight Concern (5 items) over the previous 28 days.

Psychometric Information: According to Berg, et al. (2012), who systematically reviewed research on the psychometric properties of the EDE-Q, the test–retest correlations ranged from 0.66 to 0.94 for scores on the four subscales. The internal consistency coefficients ranged from 0.70 to 0.93. The EDE-Q has also been shown to demonstrate good criterion-oriented and construct validity.

Base Reference/Primary Citation: Berg KC, Peterson CB, Frazier P, Crow SJ: Psychometric evaluation of the eating disorder examination and eating disorder examination-questionnaire: a systematic review of the literature. *Int J Eat Disord* 2012, 45:428-438.

Fairburn C, Beglin S: Eating Disorder Examination. In *Cognitive Behavior Therapy and Eating Disorders*. Edited by Fairburn C. New York: Guilford Press; 2008:265-308.

Fairburn CG, Cooper Z. The eating disorder examination. In: Fairburn CG, Wilson GT, editors. *Binge Eating: Nature, Assessment, and Treatment*. 12. New York: Guilford Press; 1993. pp. 317-360.

Fairburn CG, Beglin SJ. Assessment of eating disorders: Interview or self-report questionnaire? *Int J Eat Disord.* 1994;16:363–370. Modifications The last three questions were in the original scale rated on a 7-point scale (from ‘no days’ to ‘every day’), instead of the 4-point scale used in MoBa.

**3. Rationale for choosing the instrument:**

The EDE-Q, together with the interview version (EDE), is widely considered the preeminent eating disorder assessment. This scale was also included in the 14-year data collection (10 of the items) and in the MoBa Young Q6 in MoBa. The subset of EDE-Q items included were selected from the following subscales: Restraint (2 items; Q21–Q22), Eating Concern (3 items; Q23–Q25), Shape Concern (3 items; Q28–Q30), and Weight Concern (1 item; Q31), all referring to the previous 28 days. Behavioral frequency items assessing compensatory behaviors (2 items; Q26–Q27) were also included but are not part of the subscale scores.

**4. Modifications:**

Modifications: The last three questions were in the original scale rated on a 7-point scale (from ‘no days’ to ‘every day’), instead of the 4-point scale used in MoBa. No revisions have been made.

## Binge eating

Q		Response options	Variable name
32	Some people binge eat, that is, eat a very large amount of food in a short period of time. How often have you binged during the past year? [Radio buttons]	1. Never 2. Less than once a month 3. 1-3 times per month 4. Once a week 5. Several times a week 6. Every day 7. Don't know	KHF87
<b>When you overate/binged:</b> <i>The question below are only displayed if the option "Every day", "Several times a week," "1-3 times per month," "Once a week," or "Less than once a month" is selected in question "32. How often have you overeaten in the past year?"</i>			
32.1	Did you feel like you couldn't stop eating even though you wanted to?		KHF88
	Did you eat until you had a stomachache or felt like you might vomit?	1. Never 2. Sometimes 3. Often 4. Always	KHF89
	Did you feel guilty after eating too much?		KHF90

- 1. Name of original instrument/question:** The Binge Eating Disorder Screener-7
- 2. Description of original scale or selection of items used:** The BEDS-7 is a screening questionnaire that is developed to identify individual with binge eating disorder. The 4 items used in MoBa questionnaire are a subscale from the BEDS-7
- 3. Rationale for choosing the instrument:** The items are aligned with diagnostic criteria for binge eating disorder from DSM-5. This instrument is also included in MoBa Young Q6.
- 4. Modifications:**

## Exercise

Q		Response options	Variable name
33	<p>How often do you exercise? (on average) By “exercise” we mean e.g., taking a walk, go skiing, bicycling, swimming, or sport activities.</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Never</li> <li>2. Less than once a week</li> <li>3. Once a week</li> <li>4. 2-3 times a week</li> <li>5. 4-6 times a week</li> <li>6. Every day</li> </ol>	KHU91
33.1	<p>How hard do you exercise? (rate on average)</p> <p><i>This item is only shown if options 2-6 is selected in question “16. How often do you exercise? (on average)”</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. I take it easy without getting sweaty or out of breath</li> <li>2. I train hard so that I get sweaty and out of breath</li> <li>3. I train until I’m completely exhausted</li> </ol>	KHU92
33.2	<p>For how long do you usually exercise? (rate on average)</p> <p><i>This item is only shown if options 2-6 is selected in question “16. How often do you exercise? (on average)”</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Less than 15 minutes</li> <li>2. 15-29 minutes</li> <li>3. 30 minutes – 1 hour</li> <li>4. More than 1 hour</li> </ol>	KHU93

### 1. Name of original instrument/question:

### 2. Description of original scale or selection of items used:

The questions were selected by a group of experts on physical activity and were based on items previously used in the YoungHUNT4 study (age 13-19 years). Similar questions were also included in the MoBa 14-year questionnaire and in MoBa Young.

<https://www.ntnu.no/hunt/unghunt>

Base Reference/Primary Citation: Sagatun A, Sjøgaard AJ, Bjertness, E, Selmer, R, Heyerdahl, S.

The association between weekly hours of physical activity and mental health: A three-year follow-up study of 15-16-year-old students in the city of Oslo, Norway. BMC Public Health 2007, 7:155.

### 3. Rationale for choosing the instrument: Used previously in MoBa

### 4. Modifications:

## Eye health

Q		Response options	Variable name
34	<p>Do you wear glasses or contact lenses to correct your vision?</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No, I have never worn glasses or contact lenses</li> <li>3. No, not now, but I used glasses or contact lenses when I was younger</li> </ol>	KHU94
34.1	<p>What age did you first start to wear glasses or contact lenses?</p> <p><i>The item appears only if the options «Yes» or «No, not now, but I used glasses or contact lenses when I was younger» are selected in question 33. «Do you wear glasses or contact lenses to correct your vision?»</i></p> <p><i>[Numeric field]</i></p>	<p>Numeric field: Min 1, Max 90, integers only</p>	KHU95
	<p><i>[Radio button]</i></p>	<p>Do not remember</p>	KHU96
34.2	<p>Why were you prescribed glasses or contact lenses?</p> <p><i>This item appears only if the options «Yes» or «No, not now, but I used glasses or contact lenses when I was younger» is selected in question 33. «Do you wear glasses or contact lenses to correct your vision?»</i></p> <p><i>[Multiple choices]</i></p>	<p>For short-sightedness (myopia), i.e. for distance viewing such as driving, watching TV/cinema etc.</p> <p>For long-sightedness (hyperopia), i.e. for distance and near, but particularly for near tasks like reading</p> <p>For astigmatism</p> <p>Have had a squint since I was a child (strabismus)</p> <p>Have had poor vision in one eye since I was a child (amblyopia)</p> <p>Other</p>	<p>KHU97</p> <p>KHU98</p> <p>KHU99</p> <p>KHU100</p> <p>KHU101</p> <p>KHU102</p>
34.2.1	<p>Did you wear a patch in front of one eye when you were younger?</p> <p><i>This item appears only if the option «Have had poor vision in one eye since I was a child (amblyopia)» is selected in question 33.2. «Why were you prescribed glasses or contact lenses?»</i></p>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Do not know / do not remember</li> </ol>	KHU103

	<i>[Radio buttons]</i>		
<b>34.2.2</b>	<p>Have you had one or more surgeries to correct your strabismus?</p> <p><i>This item appears only if the option «Have had a squint since I was a child (strabismus)» is selected in question 33.2. «Why were you prescribed glasses or contact lenses?»</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Do not know / do not remember</li> </ol>	KHU104
<b>34.3</b>	<p>How often do you wear glasses or contact lenses?</p> <p><i>This item appears only if the option «Yes» is selected in question 33. «Do you wear glasses or contact lenses to correct your vision?»</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> <li>1. Almost never</li> <li>2. Only when reading</li> <li>3. Only when my eyes are tired</li> <li>4. Only when looking at something far away</li> <li>5. All the time</li> </ol>	KHU105
<b>34.4</b>	<p>What was the reason you stopped wearing prescription glasses or contact lenses?</p> <p><i>Please tick one or more boxes.</i></p> <p><i>This item appears only if the option « No, not now, but I used glasses or contact lenses when I was younger» is selected in question 33. «Do you wear glasses or contact lenses to correct your vision?»</i></p> <p><i>[Multiple choices]</i></p>	My vision has changed	KHU106
		Sees equally well with or without glasses or contact lenses	KHU107
		Has undergone refractive surgery (e.g., laser surgery)	KHU108
		Do not want to or do not like using glasses or contact lenses	KHU109
		Cannot afford to buy glasses or contact lenses	KHU110
		Should use them but have postponed buying new ones	KHU111
		Other reason(s)	KHU112
<b>34.5</b>	<p>How old were you when you stopped wearing glasses or contact lenses?</p> <p><i>This item appears only if the option « No, not now, but I used glasses or contact lenses when I was younger» is selected in question 33. «Do you wear glasses or contact lenses to correct your vision?»</i></p>	Numeric field: Min 1, Max 90, integers only	KHU113

	<i>[Numeric field]</i>		
	<i>[Radio field]</i>	Do not remember	KHU114
<b>35</b>	Are you limited by vision problems in your daily life? That is, is there anything you cannot do in daily life because you have vision problems?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	KHU115

### 1. Name of original instrument/question:

MoBa specific questions

### 2. Description of original scale or selection of items used:

Three questions (33, 33.1, and 33.2) were adapted from the UK Biobank Questionnaire on Health and Medical History (Eyesight; <https://www.ukbiobank.ac.uk>), the Avon Longitudinal Study of Parents and Children and the Lifelines study. These items were selected because they align with the objectives of the current study. The wording was translated into Norwegian, and response options were modified to improve clarity for our population.

Additional information about the UK Biobank repository can be found at:

<https://biobank.ndph.ox.ac.uk/showcase/index.cgi> as well as in this paper

Asefa, N. G., Neustaeter, A., Vehof, J., Nolte, I. M., Snieder, H., & Jansonius, N. M. (2023).

Development and validation of a questionnaire-based myopia proxy in adults: the LifeLines Cohort Study. *The British journal of ophthalmology*, 107(7), 1035–1042.

<https://doi.org/10.1136/bjophthalmol-2021-319166>

The remaining questions in this section were developed specifically for this study to capture additional information not covered by the original instrument.

### 3. Rationale for choosing the instrument:

The questions 33, 33.1, and 33.2 were chosen to capture information about the use of prescription glasses or contact lenses, both currently and earlier in life. Specifically, these questions address whether the respondent uses or has used glasses or contact lenses, the age at which they first started wearing them, and the reason for their use. They were chosen because they align with questions from the UK Biobank Questionnaire on Health and Medical History.

The questions 33.2.1 and 33.2.2 were included to capture information about treatment of amblyopia and stereopsis, while questions 33.3, 33.4, 33.5 provide additional details regarding the use of glasses or contact lenses. Question 34 assess whether vision problems affect daily life.

#### 4. Modifications:

No revisions have been made.

### Cosmetic surgery

Q		Response options	Variable name
36	Have you ever had a cosmetic surgery (beauty operation)?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. No</li> <li>2. Yes, one cosmetic surgery</li> <li>3. Yes, two or more cosmetic surgeries</li> </ol>	KHU116
36.1.1	What type of cosmetic surgery have you had? Multiple answers possible.  <i>This item is only shown if the option “Yes, one cosmetic surgery” or “Yes, two or more cosmetic surgeries” is chosen in question 36 “Have you ever had a cosmetic surgery (beauty operation)?”</i>  <i>[Multiple choice]</i>	Breast augmentation	KHU117
		Breast reduction	KHU118
		Breast lift	KHU119
		Liposuction	KHU120
		Nose surgery	KHU121
		Eyelid surgery	KHU122
		Abdominoplasty (tummy tuck)	KHU123
		Facelift	KHU124
		Ear surgery	KHU125
		Hair transplant	KHU126
Other	KHU127		
36.2.1	If other, what:  <i>This item is only shown if the option “Other” is chosen in question 36.1.1 “What type of cosmetic surgery have you had?”</i>  <i>[Text field]</i>		KHU128
37	Have you ever had a non-surgical cosmetic treatment (for example Botox, collagen injection, medical/chemical peeling, teeth whitening)?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. No</li> <li>2. Yes, once</li> <li>3. Yes, two or more times</li> </ol>	KHU129
37.1.1	What type of cosmetic treatment have you had? Multiple answers possible.  <i>This item is only shown if the option “Yes, once” or “Yes, two or more times” is chosen in question 37 “Have you ever had a non-surgical cosmetic treatment (for example Botox, collagen injection, medical peeling, teeth whitening)?”</i>	Botox	KHU130
		Fillers (Restylane), collagen injection / lip augmentation	KHU131
		Chemical peeling of the skin	KHU132
		Laser- or light-based treatment (facial skin / removal of scars, tattoos or birthmarks for cosmetic reasons)	KHU133
		Teeth whitening	KHU134
		Other	KHU135

	<i>[Multiple choice]</i>		
<b>37.2.1</b>	<p>If Other, what:</p> <p><i>This item is only shown if the option “Other” is chosen in question 37.1.1 “What type of cosmetic treatment have you had?”</i></p> <p><i>[Text field]</i></p>		KHU136

**1. Name of original instrument/question: NA**

**2. Description of original scale or selection of items used:**

**Q 36:** Has previously been used in surveys on cosmetic surgery in Norway, see:

- von Soest, T., Kvalem, I. L., Roald, H. E., & Skolleborg, K. C. (2004). Kosmetisk kirurgi blant norske kvinner. Tidsskrift for Den Norske Legeforening, 124, 1776-1778.
- von Soest, T., Kvalem, I. L., Skolleborg, K. C., & Roald, H. E. (2006). Psychosocial factors predicting the motivation to undergo cosmetic surgery. Plastic and Reconstructive Surgery, 117(1), 51-62.
- von Soest, T., Kvalem, I. L., & Wichstrøm, L. (2012). Predictors of cosmetic surgery and its effects on psychological factors and mental health: a population-based follow-up study among Norwegian females. Psychological Medicine, 42(3), 617-626.  
<https://doi.org/10.1017/s0033291711001267>

A similar question was included in the Youth Questionnaire 14 for mothers. The response options have been adapted.

**Q37:** The questions were recently included in a survey of a random sample of Norwegian women led by project manager Ingela Lundin Kvalem. No publications from the project are available yet.

**3. Rationale for choosing the instrument:** The data collected will enable research on the relationship between cosmetic surgery and health.

**4. Modifications:**

## Quality of life

<b>38</b>	<p>Below you see a scale from 0 to 10, where 0 is the worst and 10 is the best life for you. Where do you feel you stand at the present time?</p> <p><i>[Drop down list]</i></p>	<ol style="list-style-type: none"> <li>1. 0 – worst</li> <li>2. 1</li> <li>3. 2</li> <li>4. 3</li> <li>5. 4</li> <li>6. 5</li> <li>7. 6</li> <li>8. 7</li> <li>9. 8</li> <li>10. 9</li> <li>11. 10 – best</li> </ol>	KHU137
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**1. Name of original instrument/question:**

The Cantril Self-Anchoring Striving Scale (Cantril ladder)

**2. Description of original scale or selection of items used:**

The Cantril Scale is a simple visual adaptable scale used to assess general life satisfaction (Cantril 1965). The original scale consists of the following: Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? (ladder-present). On which step do you think you will stand about five years from now? (ladder-future). An adapted version for use among adolescents in the Health Behaviour in School-aged Children (HBSC) surveys has been validated in adolescent populations (Levin & Currie, 2014). In MoBa the adapted version of the Cantril scale was used to measure life satisfaction in the present.

*Psychometric Information:* The Cantril Scale has shown good reliability in the Health Behaviour in School-aged Children (HBSC) surveys of adolescent samples, and showed good convergent validity with other emotional well-being measures, perceived health and subjective health (Levin & Currie, 2014). Data from the HBSC 2010 survey revealed that the mean Cantril Scale scores for all countries was 7.58 and that 28 of 31 countries had a mean value between 7 and 8 (Looze, Huijts, Stevens, Torsheim, & Vollebergh, 2018). Most HBSC studies have used a cut-off point of 0–5 versus 6–10 to categorise low vs. high score. Others applied scores of 9–10 as a distinct measure of high life satisfaction versus low and medium scores of 0–8 (Due et al. 2019).

*Base Reference/Primary Citation:*

Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.

Diener E, Emmons RA, Larsen RJ, et al. The Satisfaction With Life Scale. *J Pers Assess* 1985;49(1):715. doi: 10.1207/s15327752jpa4901\_13

Levin, K.A., & Currie, C. (2014). Reliability and validity of adapted version of the Cantril Ladder for use with adolescent sample. *Social Indicator Research*, 119, 1047–63.

Gallup (2009). *World Poll Methodology*. Technical Report. Washington, DC. Due, P., Eriksson,

C., Torsheim, T., Potrebny, T., Välimaa, R., Suominen, S., ... & Damgaard, M. T. (2019). Trends in high life satisfaction among adolescents in five Nordic countries 2002–2014. *Nordisk välfärdsvetenskap* | *Nordic Welfare Research*, 4(02), 54-66.

### 3. Rationale for choosing the instrument:

Life satisfaction is an important indicator when assessing positive mental health aspects in populations, including among adolescents. The Cantril scale is a widely used measure of life satisfaction. It is used in Gallup surveys across the globe as well as for adolescents in the Health Behaviour in School-aged Children (HBSC) survey in 42 countries/regions including in Norway. The measure was chosen in MoBa as an easy-to-use measure of life satisfaction for adolescents.

### 4. Modifications

Height, Weight and handedness			
39	What is your current height in centimetres (cm)?  <i>[Numeric field]</i>	Min: 50, max: 250. Heltall	KHU138
40	What is your current weight in kilograms (kg)?  <i>[Numeric field]</i>	Min: 20, max: 500. Heltall	KHU139
41	Think back to when you were 10 years old. Compared to the average, would you describe yourself as:  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Thinner</li> <li>2. Heavier</li> <li>3. About average</li> <li>4. Don't know</li> <li>5. Prefer not to answer</li> </ol>	KHU140
42	Which hand do you prefer to use in everyday life?  <i>[Radio buttons]</i>	<ol style="list-style-type: none"> <li>1. Right</li> <li>2. Left</li> <li>3. No preference</li> </ol>	KHU141