**The association between markers of diet quality and wellbeing in adolescents**

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**Background**

Positive wellbeing can ease the transition from adolescents to adulthood and may buffer against a variety of negative outcomes including psychological disorders. Subjective wellbeing (SWB) can be assessed by an evaluative element such as life satisfaction. Life-satisfaction is a positive dimension of mental health and a cognitive component of SWB. There is compelling evidence in adults that nutrition is a crucial factor in the high prevalence and incidence of mental disorders.

Fruit and vegetables are seen as markers of healthy diets whereas consumption of sugar sweetened beverages are seen as markers of poor diet quality. It is important to find modifiable determinants of wellbeing which may increase life-satisfaction and positive mental health.

**Objective**

To investigate whether markers of diet quality are associated with SWB in adolescents aged 12-18.

**Methods**

**Health behaviour in school-aged children (HBSC Study)**

- Random selection of classes within schools
- 13,611 pupils participated
- Self-completed questionnaire
- 8,995 aged 12-18

**Measures of wellbeing**

Wellbeing was assessed by a question on general health
1) would you say your health is ... and response options were: i) excellent, ii) good, iii) fair, or iv) poor, recorded as good (excellent/good) and poor health (fair/poor).
2) and by a measure of life-satisfaction; here is a picture of a ladder: the top of the ladder ‘10’ is the best and the bottom ‘0’ is the worst possible life for you. In general where on the ladder do you feel you stand? This variable was dichotomised at >7 as high life-satisfaction and <7 as low life-satisfaction.

**Diet quality**

Frequency of consumption of 1) Fruit 2) Vegetables and 3) Soft drinks that contain sugar.
Response options were i) never, ii) less than once a week, iii) once a week, iv) 2-4 days a week, v) 5-6 days a week, vi) once a day, vii) everyday more than once. Each of these groups were recoded as daily versus less than daily consumption

**Demographics**

- gender (boy/girl) and age-group (12-13, 14-15, 16-18) and parental occupation (highest parental occupation recoded as social-class 1-2, 3-4 and 5-6).

**Results**

Overall 26.9% of adolescents rated their life-satisfaction as low and 13.4% self-rated their health as fair/poor. Older adolescents report fair/poor health more frequently than younger adolescents 15.7% vs.10.3% (p<0.001). Girls report poor health more frequently than boys (15.3% vs. 10.6 %, p<0.001). Similar age and gender differences were found for life-satisfaction, 17.9% of 12-13 year olds vs. 34.8% of 16-18 year olds (p<0.001) and rating <7 on Cantril Ladder). Girls reporting low life-satisfaction more frequently than boys (and 30.7% vs. 21.4% p<0.001).

A lower proportion of adolescents report daily consumption of fruit and vegetables compared to less than daily (39.0 % for fruit and 44.7% vegetables). A lower proportion also consumed soft drinks daily compared to less than daily (12.8%).

**Figure 1** illustrates the prevalence of low life-satisfaction and poor health is higher in those reporting they do not consume of fruit or vegetables daily and higher in those reporting consumption of soft drinks daily.

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**Key findings**

Adolescents who do not consume fruit or vegetables daily and who drink soft drinks daily are at a higher odds of poor wellbeing

<table>
<thead>
<tr>
<th>Table 1: Unadjusted and adjusted models of wellbeing and diet quality</th>
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<tr>
<td>Model 1a</td>
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<tr>
<td>Poor General health</td>
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<tr>
<td>Fruit</td>
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<td>Daily consumption</td>
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<td>Daily soft drinks</td>
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- Model2a general health and diet quality unadjusted
- Model2b general health and diet quality fully adjusted
- Model2b life satisfaction and diet quality fully adjusted

**Discussion/conclusion:**

The results suggest that eating a good quality diet may protect from poor wellbeing.

As this study is cross-sectional the relationship between life-satisfaction or general health may plausibly be bidirectional. However longitudinal studies with similar population characteristics have found that the consumption of fruit or vegetables/healthy diets preceded the positive effect on SWB, therefore supporting our findings that eating a good quality diet is positively associated with good wellbeing.

Adolescence is a time of greater food independence and opening for more ultra-processed foods low in nutritional value. Suggesting the impact of poor diet quality on wellbeing should be emphasised

Creating environments that support healthier dietary choices is key to enable good general health and wellbeing.

**References**