A cross-sectional study of weight- and shape-related beliefs, behaviours and concerns of north Queensland adolescents

Madeleine Nowak, David Crawford and Petra Büttner

Abstract  The purpose of this study was to examine differences in weight- and shape-related beliefs, behaviours and concerns across a high school population. Data were collected by questionnaire from 902 high school students from private schools in Townsville. Concerns about weight and shape were more apparent in students from the higher school years. More girls in higher than lower school years were dissatisfied with their bodies, concerned that many parts of their bodies were too fat and more of them attempted weight loss. More boys in higher than lower school years were satisfied with their bodies but they wanted to ‘bulk up’. Societal expectations of weight and shape may adversely affect both males and females but in different ways. Thus, interventions aiming to promote the maintenance of a healthy body weight may need to account for the desire of the majority of young women to be thinner, while the majority of young men would like to be larger. (Aust J Nutr Diet 2001;58:174–180,185)

Key words: adolescents, weight, shape, behaviours, beliefs

Introduction

The problems of overweight and obesity are increasing among both adults and children in Australia (1,2) and other countries (3–5). Consequently, there has been pressure by health authorities to reduce the incidence of obesity and associated diseases. Simultaneously, there has been a drive by commercial interests (the food, fashion, dieting and exercise industries), to encourage weight loss for commercial gain (6). The impression given is that any female can attain the fashionable ‘slim look’ if she only tries hard enough and uses the correct products (7). Thus there has been an increase in the number of people, especially women, who are attempting weight loss when they are not overweight (6,8) against a background of actual weight gain in the community. This concern about body weight occurs not only among adult women, but is also common among adolescent girls (6).

While the long-term implications of obesity in adolescence are serious physically (9), psychologically, socially and economically (10), so too are the long-term effects of excessive and unnecessary attempts to lose weight (1,8). A number of studies have assessed dissatisfaction with weight and shape among adolescents (6,11–18) and the methods used in an attempt to reduce body weight (12–14,16,18–24). There have also been studies that examined adolescents’ beliefs about their own weight and shape (20,25), and their beliefs about more general weight loss attempts among those who are not overweight. There is also a paucity of data that simultaneously provide information about body image, general beliefs about weight, and weight-associated behaviour. This study was designed to examine the differences by age in weight-related beliefs, behaviours and concerns among adolescents.

Methods

Subjects

During the baseline data collection for a nutrition education program in 1993, information on beliefs, behaviours, and concerns about weight and shape were collected by questionnaire from 902 high school students (54.0% males). Four of the six private schools in Townsville (population 127 000), agreed to participate in the survey. The survey included all students from years 8, 10, 11 and 12 in the four schools who attended school on the day that their class was tested. Both coeducational and single sex schools, Catholic and non-Catholic schools were included, which provided a broad spectrum of students with different socioeconomic backgrounds.

There were no refusals from students who were in class on the day of testing. However, fewer year 12 students answered the questionnaire because two schools were unwilling to use valuable class time for their final year students. Students from year 9 were not included because some of them had responded to a similar questionnaire the previous year. Ethics approval was obtained from the James Cook University Ethics Committee and clearance was obtained from the Queensland Department of Education.

Questionnaire

The questionnaire, which was developed for a study of year 8 students, has been described previously (26). The questionnaire contained eight demographic questions and also sought information on weight behaviour (15 questions), perception of weight or body shape (15 questions)
and weight-related beliefs and attitudes (18 questions). Many of the questions about weight attitudes and beliefs were adapted from a 1986 survey of Adelaide women (27) and four questions about weight beliefs were from the Nutrition Education and Teenagers project (28). The questionnaires were answered anonymously and were administered by teachers during a single school period.

Demographic data included school, school year, sex, and date of birth. Information on the education level of parents or socioeconomic status was sought by asking the students about their parents’ occupation. Answers to questions about weight-related beliefs, attitudes and concerns and some of the body image questions were given using a five point Likert-scale with categories ranging from ‘strongly disagree’ to ‘strongly agree’. The students were also asked about methods they had used for weight loss. They were not weighed or measured, although, there was provision for self-reporting of height and weight.

Statistical analysis

Data were analysed using the statistical packages STATA, (Stata Corporation, College Station, Texas, STATA, version 3.1, 1993) and SPSS for Windows (SPSS Inc Chicago, USA, SPSS for Windows, release 6.1.3, 1995). A significance level of 0.05 was adopted a priori for this study.

The distributions of numerical variables were analysed and mean values with standard deviations (sd) were given if the distribution was not skewed, while median values and interquartile ranges were presented when the distribution was skewed. Differences across school years for weight-related behaviour, body image, beliefs and concerns about weight and shape were analysed using \( \chi^2 \) tests for trend. Comparisons between genders were made using \( \chi^2 \) tests. Changes in beliefs about weight and body satisfaction across school years were analysed by \( \chi^2 \) tests for trend after generating respective dichotomous variables (‘agree’ versus ‘disagree’ or ‘don’t know’) for the original five-point Likert scale variables (‘strongly agree’ to ‘strongly disagree’).

Results

Participant profile

The sample included 902 students with a mean age of 15 years (sd ± 1.6 years) and an age range between 12 and 20 years. There were 254 year 8 students (56.7% males) with a mean age of 12.9 years (sd ± 0.5), 254 year 10 students (48.4% males) with a mean age of 15.0 years (sd ± 0.7), 251 year 11 students (53.8% males) with a mean age of 15.9 years (sd ± 0.7), and 143 year 12 students (59.4% males) with a mean age of 17.1 years (sd ± 0.8). Data on self-reported height and weight were missing from 27% of the questionnaires and thus were excluded from analysis. The answers regarding parents’ occupation could not be used to discern socioeconomic status.

Weight-related beliefs, attitudes and concerns

The students’ opinions about the importance of weight for some social issues varied with school year, although there was a gender difference. For example, the proportion of males who felt that ‘being thin is more important for a woman than a man’ was 50% in year 8 but 65% in year 12 (\( P = 0.023 \)), while the proportion of females who held this view (58%) did not vary with year. In addition, males in year 12 were more likely to think that ‘overweight women are not attractive to men’ (46% in year 8, 65% in year 12; \( P = 0.023 \)), whereas the views of females remained constant at about 22%. The proportion of males who felt that ‘overweight people have only themselves to blame’ was 44% in year 8 but only 31% in year 12 (\( P = 0.044 \)), while an average of 20% of the females across the school years held this view. There was a significant difference in the way the females reacted to the statement ‘overweight people are not healthy’ with 25% of females in year 8 holding this view compared to 41% of year 12 females (\( P = 0.039 \)), whereas an average of 41% of males held this view with no significant trend across the years. A quarter of the students were unsure about this question.

For other issues, the students’ opinions were set by the time these adolescents entered high school, with similar views held across the school years for: ‘slim people have more friends’ (18% males, 10% females; \( P = 0.002 \)); ‘slim people are the most attractive’ (55% males, 36% females; \( P = 0.0005 \)); ‘to be fashionable and look nice a woman must be thin’ (44% males, 25% females; \( P = 0.0005 \)); ‘magazines make too much of having a slim body’ (71% males, 87% females; \( P = 0.0005 \)); and ‘most people who are fat are lazy’ (38% males, 17% females; \( P = 0.0005 \)).

The majority of year 12 students believed that: exercise is important for weight loss (93%); following magazine diets (60%) or skipping meals (84%) are not desirable weight loss methods; and that although fat loss may be appropriate during the growing years weight loss is not (49%, Table 1). Nevertheless, in year 12, 24% of the students were not sure whether a magazine diet was a good weight loss method or not, and 37% were not sure whether it is appropriate for growing children to lose weight. Of the year 12 students who were not sure about the appropriateness of magazine diets, 37% of the males and 87% of the females had attempted weight loss.

Body image

There were large differences across the years in perception of body weight. Although about 40% of both males and females were satisfied with their bodies in year 8, the percentage of males satisfied with their body increased with school year to 61% for year 12, whereas that of the females decreased with school year to 10% for year 12 (Table 2). Males increasingly thought they were underweight, whereas females increasingly thought they were overweight. In spite of these differences in their own perceptions, their beliefs about other people’s views of their weight did not vary (Table 2).

More males wanted to gain weight as the school year progressed (\( P = 0.000005 \); Figure 1a) whereas more females wanted to lose weight (\( P = 0.00007 \); Figure 1b). There was a significant trend for the number of both males and females who wanted to remain the same weight, decreasing from year 8 to year 12 (males \( P = 0.000005 \), females 0.00001).

Both males and females reported concerns about their body shape. The predominant concern for males was that particular body parts were too thin, whereas the majority
of females were concerned that their body parts were too fat. For many of the body parts, the concerns increased across high school years. Approximately a third of the males in year 12 thought their calves, thighs, chest and lower arms were too thin (Figure 2a), while more than half the females in year 12 thought their hips, stomachs, thighs and buttocks were too fat (Figure 2b). The majority of females thought that at least one body part was too fat, with the proportion increasing across school years so that almost all girls in year 12 held this belief (69% in year 8, 81% in year 10, 85% in year 11, 93% in year 12; \( P = 0.00004 \)). More boys in higher school years than lower years thought that at least one of their body parts was too thin (25% in year 8, 41% in year 10, 54% in year 11, 59% in year 12; \( P = 0.000005 \)).

**Weight-related behaviours**

Students’ weight-related behaviour varied across the school years. The proportion of students who regularly thought about their weight (quite often, most of the time, or all the time) was higher in the later school years. For males, the increase was from 17% in year 8 to 32% in year 12 (\( P = 0.00095 \)), whereas for females the increase was from 58% in year 8 to 76% in year 12 (\( P = 0.00626 \)). However, only 19% of the males and 29% of the females weighed themselves at least once a week.

There were gender differences among those who were attempting weight loss at the time of the survey, with the proportion of males attempting weight loss remaining relatively constant across the school years (15%), whereas the number of females attempting weight loss increased significantly (37% in year 8; 65% in year 12; \( P = 0.00032 \)).

For the 36 males and 122 females who wanted to lose weight and provided information about the amount of weight they wanted to lose and the time they expected this weight loss to take, the median expected rate of weight loss was 0.82 kg per week (interquartile range = 0.5–1.5; range 0.5–12). There were no significant differences for

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**Table 1. Proportion of students who agreed with statements about weight loss**

<table>
<thead>
<tr>
<th>Weight loss beliefs</th>
<th>Sex</th>
<th>( n^{(a)} )</th>
<th>Year 8 (%)</th>
<th>Year 10 (%)</th>
<th>Year 11 (%)</th>
<th>Year 12 (%)</th>
<th>( P )-value within gender(^{(b)(c)} )</th>
<th>Total (%)</th>
<th>( P )-value between gender(^{(d)} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise is important if you want to lose weight</td>
<td>M</td>
<td>486</td>
<td>88</td>
<td>90</td>
<td>91</td>
<td>96</td>
<td>0.057↑</td>
<td>91</td>
<td>0.124</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>413</td>
<td>89</td>
<td>92</td>
<td>97</td>
<td>98</td>
<td>0.004↑</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Skipping meals is a good way to lose weight</td>
<td>M</td>
<td>485</td>
<td>11</td>
<td>15</td>
<td>7</td>
<td>6</td>
<td>0.118</td>
<td>10</td>
<td>0.068</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>414</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>14</td>
<td>0.109</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Following a diet in a popular magazine is a good way to lose weight</td>
<td>M</td>
<td>484</td>
<td>17</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>&lt;0.001↓</td>
<td>9</td>
<td>0.941</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>413</td>
<td>14</td>
<td>12</td>
<td>4</td>
<td>5</td>
<td>0.013↓</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Growing kids may lose fat but should not lose weight</td>
<td>M</td>
<td>479</td>
<td>45</td>
<td>56</td>
<td>46</td>
<td>53</td>
<td>0.397</td>
<td>49</td>
<td>0.727</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>414</td>
<td>36</td>
<td>45</td>
<td>58</td>
<td>60</td>
<td>&lt;0.001↑</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>

\( (a) \) Number of students who answered the question.

\( (b) \) \( P \)-values within gender are results of chi-square tests for trend across the school years.

\( (c) \) Arrows indicate direction of trend.

\( (d) \) \( P \)-values between genders are results of \( \chi^2 \) tests.

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**Table 2. Proportion of students who agreed with the statements about body image**

<table>
<thead>
<tr>
<th>Body image</th>
<th>Sex</th>
<th>( n^{(a)} )</th>
<th>Year 8 (%)</th>
<th>Year 10 (%)</th>
<th>Year 11 (%)</th>
<th>Year 12 (%)</th>
<th>( P )-value within gender(^{(b)(c)} )</th>
<th>Total (%)</th>
<th>( P )-value between gender(^{(d)} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel happy with the way my body looks</td>
<td>M</td>
<td>478</td>
<td>42</td>
<td>57</td>
<td>59</td>
<td>61</td>
<td>0.001↑</td>
<td>54</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>411</td>
<td>44</td>
<td>30</td>
<td>17</td>
<td>10</td>
<td>&lt;0.001↓</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>I think I am overweight</td>
<td>M</td>
<td>480</td>
<td>25</td>
<td>21</td>
<td>24</td>
<td>24</td>
<td>0.752</td>
<td>23</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>409</td>
<td>39</td>
<td>54</td>
<td>58</td>
<td>59</td>
<td>0.002↑</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Other people think I am too fat</td>
<td>M</td>
<td>475</td>
<td>9</td>
<td>13</td>
<td>9</td>
<td>11</td>
<td>0.772</td>
<td>10</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>411</td>
<td>18</td>
<td>18</td>
<td>20</td>
<td>21</td>
<td>0.667</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>I think I am underweight</td>
<td>M</td>
<td>480</td>
<td>16</td>
<td>22</td>
<td>23</td>
<td>28</td>
<td>0.028↑</td>
<td>22</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>409</td>
<td>20</td>
<td>12</td>
<td>12</td>
<td>7</td>
<td>0.011↓</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Others think I am too thin</td>
<td>M</td>
<td>472</td>
<td>21</td>
<td>20</td>
<td>18</td>
<td>23</td>
<td>0.981</td>
<td>20</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>413</td>
<td>19</td>
<td>16</td>
<td>9</td>
<td>14</td>
<td>0.080</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>I often eat less than I want</td>
<td>M</td>
<td>478</td>
<td>25</td>
<td>21</td>
<td>22</td>
<td>24</td>
<td>0.663</td>
<td>23</td>
<td>0.455</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>413</td>
<td>22</td>
<td>22</td>
<td>31</td>
<td>24</td>
<td>0.321</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>I feel that others pressure me to eat less</td>
<td>M</td>
<td>475</td>
<td>15</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>0.108</td>
<td>11</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>413</td>
<td>17</td>
<td>18</td>
<td>13</td>
<td>16</td>
<td>0.491</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

\( (a) \) Number of students who answered the question.

\( (b) \) \( P \)-values within gender are results of chi-square tests for trend across the school years.

\( (c) \) Arrows indicate direction of trend.

\( (d) \) \( P \)-values between genders are results of \( \chi^2 \) tests.
expected rate of weight loss between either genders or school years.

More females in the higher school years than lower years had attempted weight loss during the year prior to the survey (42% in year 8; 72% in year 12: $P = 0.00064$), while an average of 15% of males had attempted weight loss during the previous year, with little change with school year. Among those who had attempted weight loss, there were no significant changes with school year in the number of times these students had tried to lose weight, although the females had made these attempts more often than the males (females 57% once or twice; 33% three to five times; 9% more than five times; males 79% once or twice; 17% three to five times; 4% more than five times).

When a combined weight loss variable was generated to account for all students who reported weight loss

Figure 1a. Preference of boys in year 8, 10, 11, and 12 for losing, maintaining or gaining weight

![Figure 1a](image1.png)

(a) The solid line depicts the proportion of boys in each year who had attempted to lose weight in the previous year. There were significant trends ($\chi^2$ for trend) in the preferences of maintaining (less) and gaining (more) weight over the years ($P < 0.0001$).

Figure 1b. Preference of girls in year 8, 10, 11, and 12 for losing, maintaining or gaining weight

![Figure 1b](image2.png)

(a) The solid line depicts the proportion of girls in each year who had attempted to lose weight in the previous year. There were significant trends ($\chi^2$ for trend) in maintaining (less) and losing (more) weight over the years ($P < 0.0001$).

Figure 2a. Percentages of boys who considered specific body parts were too thin stratified over year 8, 10, 11, and 12

![Figure 2a](image3.png)

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. Significance testing was by $\chi^2$ for trend.

(a) At least 122 boys in each of years 8 and 10, 128 in year 11 and 79 in year 12 answered these questions.

Figure 2b. Percentages of girls who considered specific body parts were too fat stratified over year 8, 10, 11, and 12

![Figure 2b](image4.png)

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$. Significance testing was by $\chi^2$ for trend.

(a) At least 108 girls in year 8, 128 in year 10, 114 in year 11 and 58 in year 12.
Table 3. Proportion of students using different methods of weight loss

<table>
<thead>
<tr>
<th>Method of weight loss</th>
<th>Sex</th>
<th>n(a)</th>
<th>Year 8 (%)</th>
<th>Year 10 (%)</th>
<th>Year 11 (%)</th>
<th>Year 12 (%)</th>
<th>P-value within gender(b)(c)</th>
<th>Total (%)</th>
<th>P-value between gender(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise</td>
<td>M</td>
<td>449</td>
<td>32</td>
<td>32</td>
<td>38</td>
<td>32</td>
<td>0.601</td>
<td>34</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>398</td>
<td>68</td>
<td>74</td>
<td>74</td>
<td>79</td>
<td>0.149</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Dieting</td>
<td>M</td>
<td>444</td>
<td>16</td>
<td>18</td>
<td>12</td>
<td>12</td>
<td>0.276</td>
<td>15</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>386</td>
<td>41</td>
<td>52</td>
<td>54</td>
<td>59</td>
<td>0.018†</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Regularly skipping meals</td>
<td>M</td>
<td>444</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>10</td>
<td>0.551</td>
<td>7</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>387</td>
<td>14</td>
<td>30</td>
<td>28</td>
<td>28</td>
<td>0.018†</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td>M</td>
<td>443</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0.089</td>
<td>2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>379</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>0.334</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Laxatives</td>
<td>M</td>
<td>443</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0.910</td>
<td>1</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>379</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>12</td>
<td>0.015†</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Diuretics</td>
<td>M</td>
<td>441</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0.530</td>
<td>2</td>
<td>0.976</td>
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<tr>
<td></td>
<td>F</td>
<td>380</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>0.030†</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Weight loss pills</td>
<td>M</td>
<td>442</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0.176</td>
<td>2</td>
<td>0.144</td>
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<tr>
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<td>1</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>0.077</td>
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<tr>
<td>Weight loss powders</td>
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<td>443</td>
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<td>1</td>
<td>2</td>
<td>1</td>
<td>0.911</td>
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<td>0.123</td>
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<td>3</td>
<td>4</td>
<td>4</td>
<td>0.209</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

(a) Number of students who answered the question.
(b) P-values within gender are results of \( \chi^2 \) tests for trend across the school years.
(c) Arrows indicate direction of trend.
(d) P-values between genders are results of \( \chi^2 \) tests.
tional study of school-aged children (11 to 15 years) reported that older girls were more likely than younger girls to be on a diet or feel that they should be on a diet (34). In contrast, Moore (37) found no significant effect of age on body image for girls, although his population was different because it was drawn from an adolescent clinic in a medical military clinic and the age range of the sample was greater (12 to 23 years). Wardle and Beales (38) in a study of 348 schoolchildren in London (aged 12 to 18 years) found no differences among age groups for either gender in regard to feeling too fat, and Serdula and colleagues (16), in a multi-racial representative sample of more that 11,000 American secondary school students (grades 9 to 12), found no correlation between attempts to lose weight and school grade level for either boys or girls.

Twice as many girls as boys had attempted weight loss. More of the girls who reported that others thought they were too fat, had tried to lose weight. Sixty-six percent of the girls who had attempted weight loss, while 19% reported that others considered they were ‘too fat’ which is closer to the percentage who might be expected to actually be overweight (39,40). It is of concern that the level of weight loss attempts in this population is so high and that many of the weight loss methods used by these adolescents are inappropriate. The females were very worried about their weight and were more likely than the males to believe that many body parts were too fat. More females than males had attempted weight loss but Australian statistics indicate more males than females are overweight in every age group (41). For example, in the 1995 National Nutrition Survey, 37.6% of 19- to 24-year-old males had a body mass index (BMI) of 25 or higher, compared to 26% of females. In the same population 20.4% of the females had a BMI of less than 20 compared to 7.4% of the males (41).

Females were more likely to attempt weight loss by exercise, manipulating food intake, vomiting and using laxatives than were males. Food manipulation and the use of laxatives and diuretics for weight loss were more common among older than younger females. These results confirm those of previous studies in which older adolescent girls were more likely to diet or think that they should be dieting than younger ones (34–37,42), but contrast with those in which no difference was observed in dieting to lose weight across age groups (38,43), or in weight loss attempts across school years (16). There was a steady increase with age in the use of laxatives for weight loss, with 12% of the females in year 12 having used them during the previous year. However, the quantity used was not assessed. In contrast, the American studies of Moore (37) and Serdula and colleagues (16), did not find an increase in laxative or diuretic use with age. The increase in these weight control measures is of particular concern as many Australian adolescent girls do not believe that extreme weight loss strategies are harmful (13).

School education programs should include information about: appropriate body weight and shape; sound methods of weight loss; and the inappropriateness of diuretics, laxatives and vomiting for weight manipulation, not only because they are potentially damaging to health, but also because they do not reduce body fat. However, it may be important to use education strategies that develop internalisation of information rather than just intellectual knowledge, as an increase in knowledge does not necessarily lead to behaviour change (44). For example, in this study, only 7% of the girls thought that regularly skipping meals was a good weight loss strategy, yet 25% reported using this weight loss method during the previous year. Furthermore, a decreasing proportion of both girls and boys reported believing that following a diet in a popular magazine was a good way to lose weight (5% in year 12).

Many reasons have been proposed for the drive for thinness, particularly among adolescent females. These include: culturally-determined concepts of beauty in recent times (6,30); the fashion industry (45); the media (46); commercial interests (6); and the movement of women into the work force (29). Health professionals have also been accused of adding to the problem when promoting messages aimed at reducing the level of overweight in the community (1). While these health messages are designed for the overweight, they also affect many young women who are already slim.

Many of these north Queensland adolescents obtained information about food, weight and weight loss from the media (unpublished data). As media images have also been shown to influence size, shape and weight expectations (8), it may be possible to use the media to reduce the expectations of extreme slenderness and to encourage an acceptance of genetic variability in human body shape while still emphasising the desirability of maintaining body weight within the ‘healthy weight range’ (2).

Despite the fact that large numbers of young women in this study were concerned about their own weight and shape, they were generally accepting of the overweight. In contrast, the males more often held negative views about overweight people. For example, males were more likely to describe overweight women as unattractive and to believe that overweight people had only themselves to blame. In the context of current obesity prevention efforts, it will be important to address beliefs and attitudes such as these. In relation to current prevention efforts, it is encouraging that a majority of these adolescents saw physical activity as important for weight control. Increasing the activity level of the population is an important component of the National Health and Medical Research Council obesity strategy (2), and these data suggest adolescents are aware of this issue.

This study of adolescents from northern regional Australia has a number of limitations including the age of the data (collected in 1993). A broad spectrum of students with different socioeconomic status was sought but as all students were from private schools, the lowest socioeconomic group may be under-represented. Furthermore, the weight status in this population is unknown as too few students answered the questions on height and weight for the data to be useful. However, from other rural Australian data, 22% of these students could be expected to be overweight if using Australian data, or 15% if using American data (40).

Sustaining weight loss is difficult, especially in communities where people are surrounded by an excess of high fat food and a culture of inactivity (47). The current high levels of overweight in most industrialised countries (4) have been described as ‘normal physiological responses to a pathological environment’ (47). Thus
weight control, not weight loss, may be the key message for healthier populations. Prevention of weight gain is now included with weight loss as part of the weight management strategy (48). This is particularly appropriate for growing children and adolescents. Such a major conceptual shift will require the development of sensible weight control strategies, sound knowledge of body development and realistic concepts of body size. Recent interventions to improve body image by raising self-esteem may prove particularly useful in reducing the risk of inappropriate and unnecessary attempts of adolescents to manipulate their weight and shape (49).

These cross-sectional data from a regional adolescent private school population provide an indication of changes with age in relation to weight- and shape-related issues. However, further studies are needed to obtain longitudinal data from a more representative population in order to better understand development with age and to be able to determine predictors of attempts to lose or gain weight. The instrument developed for this study would be a useful basis for such studies although some adaptation would be necessary to account for the current social situation, such as a more extensive investigation of methods of weight loss (e.g. cigarette smoking, fasting), inappropriate methods of weight gain (e.g. anabolic steroids) and to establish the hours spent watching television and video programs, playing computer games or using the Internet.

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References


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