

**CHILD
COHORT**
NOVEMBER
2016



**Growing Up
in Ireland**
National Longitudinal
Study of Children

GROWING UP IN IRELAND

KEY FINDINGS: CHILD COHORT AT 17/18 YEARS

NO. 2: HEALTH, WEIGHT, PHYSICAL ACTIVITY AND DIET

INTRODUCTION

This Key Finding reports on data from the third wave of interviews with *Growing Up in Ireland's (GUI)* older Child Cohort, when the young people were 17/18 years of age. It focuses on aspects of their health, weight, physical activity, diet and blood pressure.

As the young people in the study were interviewed at 9, 13 and 17/18 years, it is possible to trace their development and to identify the establishment of patterns which may affect lifetime health, some positive, some negative. The adverse health consequences associated with, for example, overweight and obesity (including increased risk for type 2 diabetes, cardiovascular disease, respiratory disorders and a wide spectrum of other chronic diseases) are well documented. There is a strong link between physical activity and weight, and several longitudinal studies have indicated that a substantial fall in levels of physical activity often occurs during adolescence. Poor health and unhealthy dietary behaviours in adolescence can also affect later life outcomes across a wide range of other aspects of the young person's life, including education and employment.



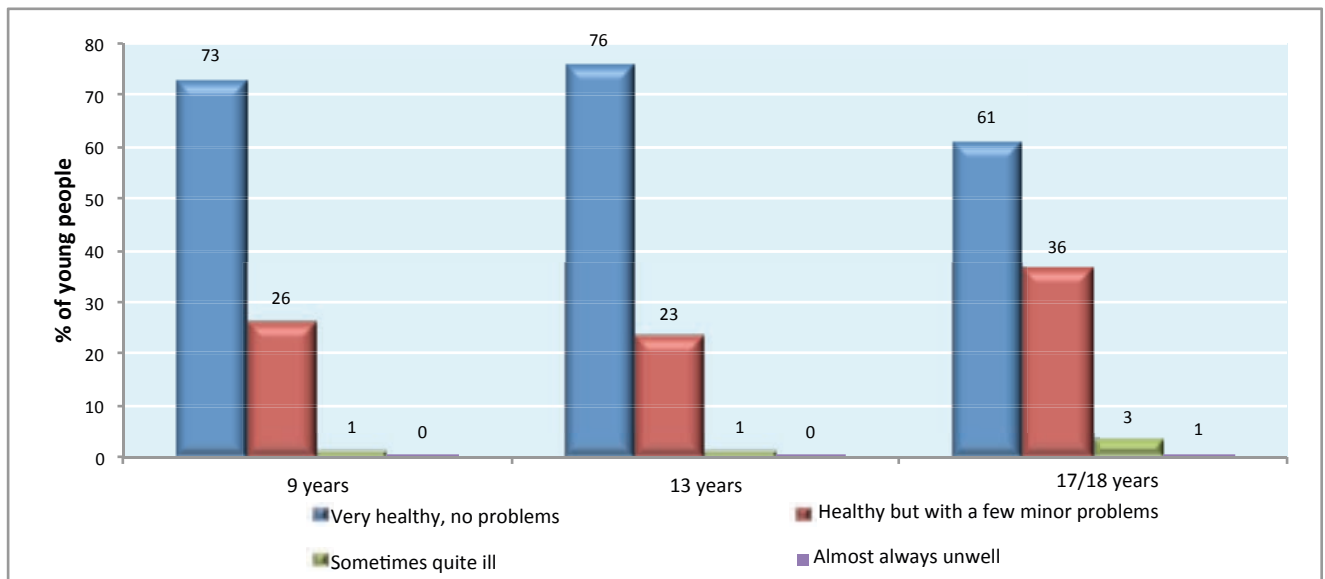
HEALTH STATUS OF 17/18-YEAR-OLDS

The vast majority of 17/18-year-olds were in good health

The general health of children and young people at 9, 13 and 17/18 years of age can be compared from information provided by parents in response to the question “In general, how would you describe the young person’s health in the past year?”

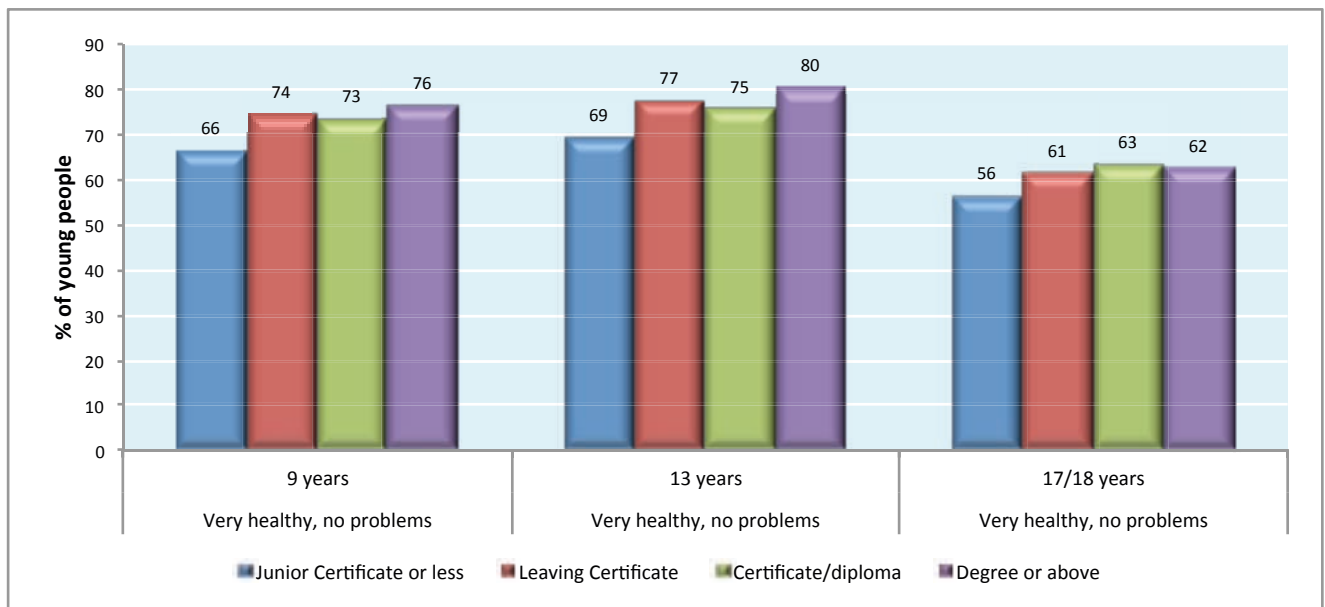
- While around three quarters of young people were described as being *very healthy, no problems* at ages 9 and 13, this figure dropped to 61% at age 17/18, although the majority of those who moved from this group were still described as *healthy but with a few minor problems* (Figure 1).
- The percentage recorded as being *sometimes quite ill* or *almost always unwell* increased from 1% at 9 and 13 years to 4% at 17/18 years.

Figure 1: Parent reports on general health status of young people at 9, 13 and 17/18 years of age



- Figure 2 shows that the percentage of young people who were described as *very healthy, no problems* was associated with level of mother’s education, with the percentage in this group being significantly lower at 9, 13 and 17/18 years of age for young people whose mothers had the lowest level of education.

Figure 2: Percentage of young people who were classified as ‘very healthy, no problems’ at 9, 13 and 17/18 years, classified by mother’s level of education

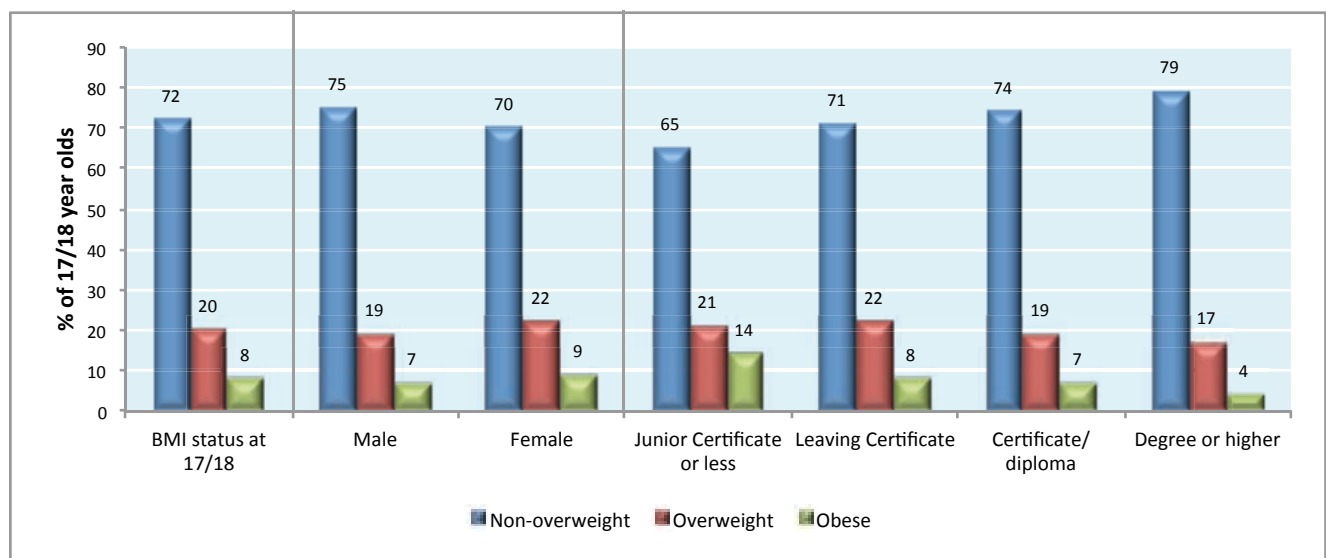


WEIGHT STATUS

Over one quarter of 17/18-year-olds were overweight or obese

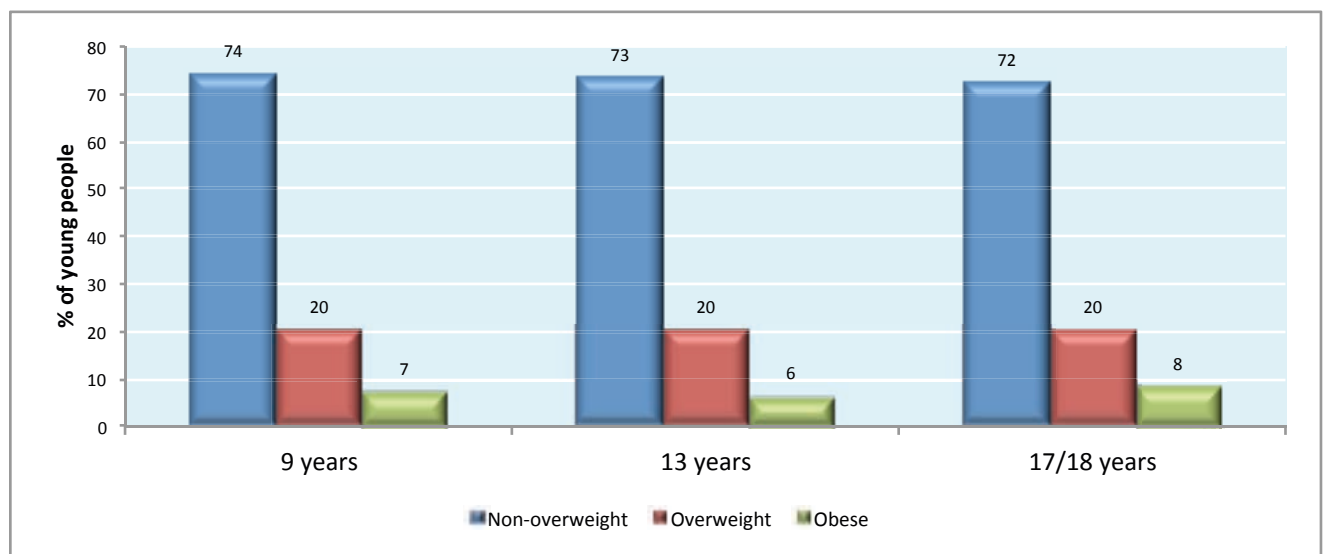
- Based on Body Mass Index (BMI)¹, almost three quarters (72%) of 17/18-year-olds were classified as *non-overweight*, 20% as *overweight* and 8% as *obese* (Figure 3).
- Males were significantly more likely than females to be in the *non-overweight* group at age 17/18 (75% compared to 70%) and females were more likely to be in the *overweight* and *obese* groups (31% compared to 26%).
- There was also a strong relationship between weight status and level of social advantage/disadvantage (as measured here by mother's education). Figure 3 indicates that a higher percentage of 17/18-year-olds whose mothers had lower levels of educational attainment tended to have weight problems. For example, 4% of young people whose mothers had a primary degree or higher were obese, compared with 14% of those whose mothers had left school at Junior Certificate or before.

Figure 3: Weight status of 17/18-year-olds, classified by gender and mother's level of education



- In broad terms, the overall levels of *overweight* and *obesity* among young people have remained stable through 9, 13 and 17/18 years of age – 20% *overweight* and 6-8% *obese* (Figure 4).

Figure 4: Weight status at ages 9, 13 and 17/18



¹ BMI is a weight-for-height index used to provide a classification of normal weight (including underweight), overweight, and obesity.

- Figure 5 illustrates changes in weight status between 13 and 17/18 years of age. It shows the percentage breakdown of 13-year-olds in each of the weight categories in terms of their weight status by 17/18 years of age.
- A relatively small proportion of those who were *non-overweight* at 13 had developed weight problems 4 years later. Overall, 88% of those who were *non-overweight* at 13 years of age were in the same weight category by 17/18 years. However, 12% of them had become *overweight* or *obese* in the intervening period (Figure 5).
- In contrast, there was much more fluctuation in the group who were *overweight* at 13 years of age. While 49% remained *overweight*, a substantial 35% became *non-overweight*, but 16% had become *obese* since age 13.
- Almost two thirds of those who were *obese* at 13 years still had problems with their weight 4 years later (65%), although a substantial proportion (26%) were classified as *overweight* rather than *obese* and a further 9% had become *non-overweight* in this time.

Figure 5: Percentage breakdown of young people in each weight status at 17/18 years of age, classified according to their weight status at 13 years

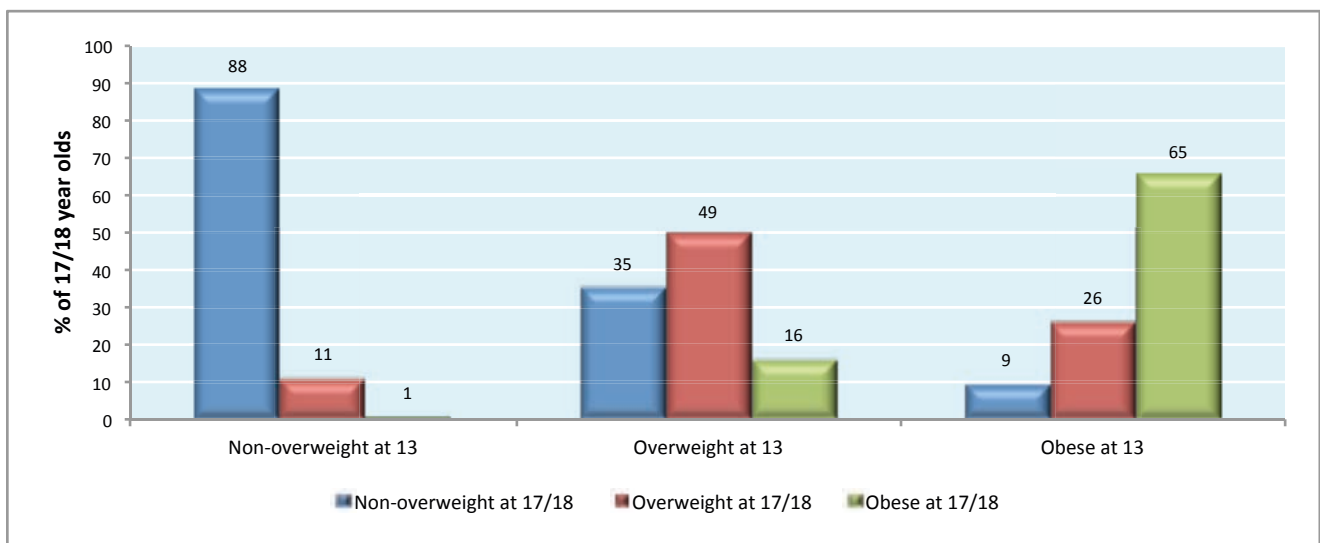


Table 1 further summarises changes in obesity status by showing the distribution of all young people in terms of their weight status at ages 13 and 17/18.

- 78.4% of young people were in the same weight category at 13 and 17/18 years of age (the blue diagonal in the table). 12.2% experienced an increase in weight status from age 13 (the red section in the table) and 9.4% experienced a reduction in weight status (the green section in the table).

Table 1: Breakdown of young people according to weight status at 13 years and 17/18 years of age showing patterns of weight gain and loss

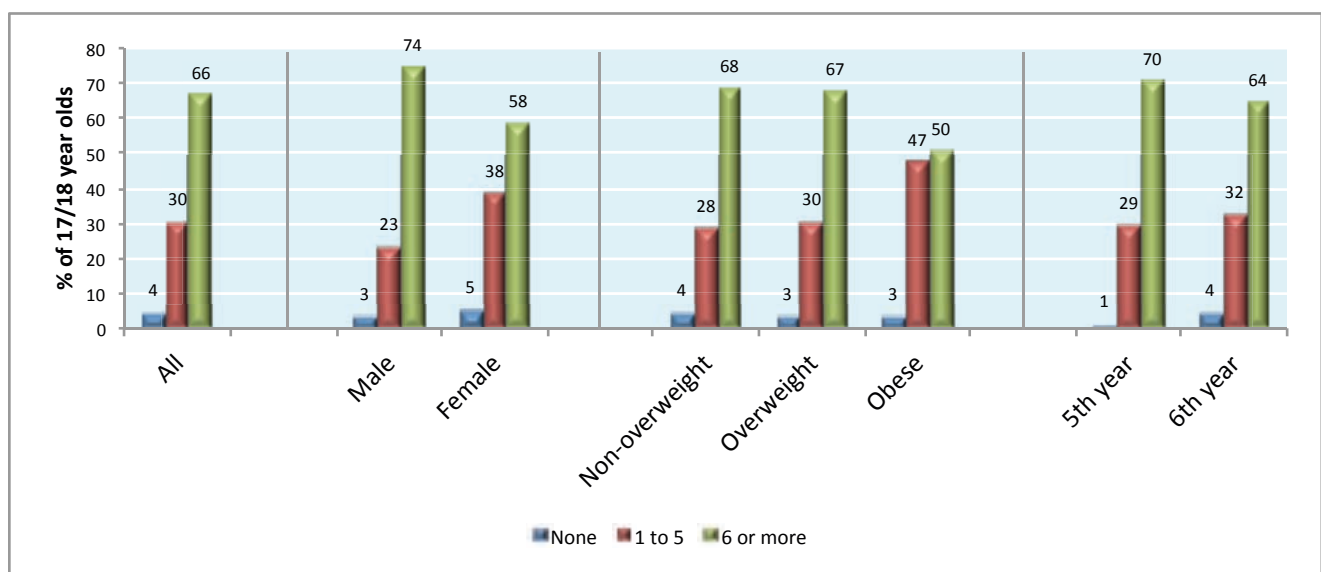
Weight status at 13	Weight status at 17/18			Total
	Non-overweight	Overweight	Obese	
Non-overweight	64.8	8.3	0.7	73.8
Overweight	7.2	9.7	3.2	20.1
Obese	0.6	1.6	3.9	6.1
Total	72.6	19.6	7.8	100.0

PHYSICAL EXERCISE

The majority of young people exercised regularly, but there were differences by gender and weight status

- Figure 6 shows that 66% of 17/18-year-olds took some form of exercise (hard or light) on 6 or more days in the past fortnight. 45% took exercise on 9 or more days (not shown in the figure). Frequent exercise (6 days or more) was significantly more prevalent among males than females (74% compared to 58% respectively).
- Figure 6 also shows that those in the *obese* group were significantly less likely than others to exercise frequently (on 6 days or more), and were more likely to exercise between 1 and 5 days per fortnight (47% compared to 28-30% for other 17/18-year-olds).
- The chart shows that more frequent exercise was also less common among 6th year students² (64%) compared to 5th year students (70%).

Figure 6: Number of days' exercise in the last 2 weeks by gender, weight status and school year



BLOOD PRESSURE AND WEIGHT STATUS

Higher blood pressure was associated with weight status

The 17/18-year-old's blood pressure was categorised into normal, intermediate and high³. Children who have high blood pressure are likely to continue to have high blood pressure as adults. If high blood pressure persists, individuals are at increased risk of multiple diseases, including stroke, heart attack, heart failure and kidney disease.

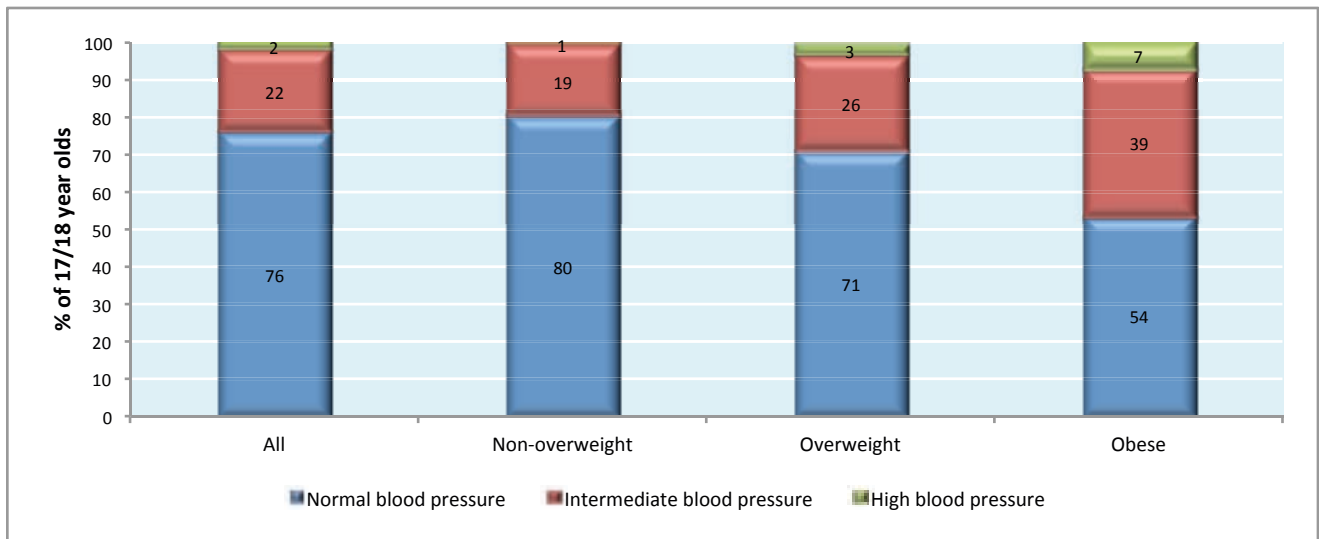
- While the vast majority of young people had *normal* blood pressure (76%), just over a fifth were in the *intermediate* category (22%), with a small proportion in the *high* category (2%).
- There was a strong link between the young person's blood pressure and weight status. Those who were *obese* were much more likely to have *intermediate* or *high* blood pressure (46%) compared to 29% of the *overweight* group and 20% of the *non-overweight* group (Figure 7).



² 6th year students are those doing their final school exams (the Leaving Certificate). 5th year students are in the first year of the two-year Leaving Certificate cycle but do not sit any State exams in that year.

³ Categories for systolic blood pressure were defined as: Normal 90-120; Intermediate 121-139; High 140 or over.

Figure 7: Categorised blood pressure readings for 17/18-year-olds by weight status



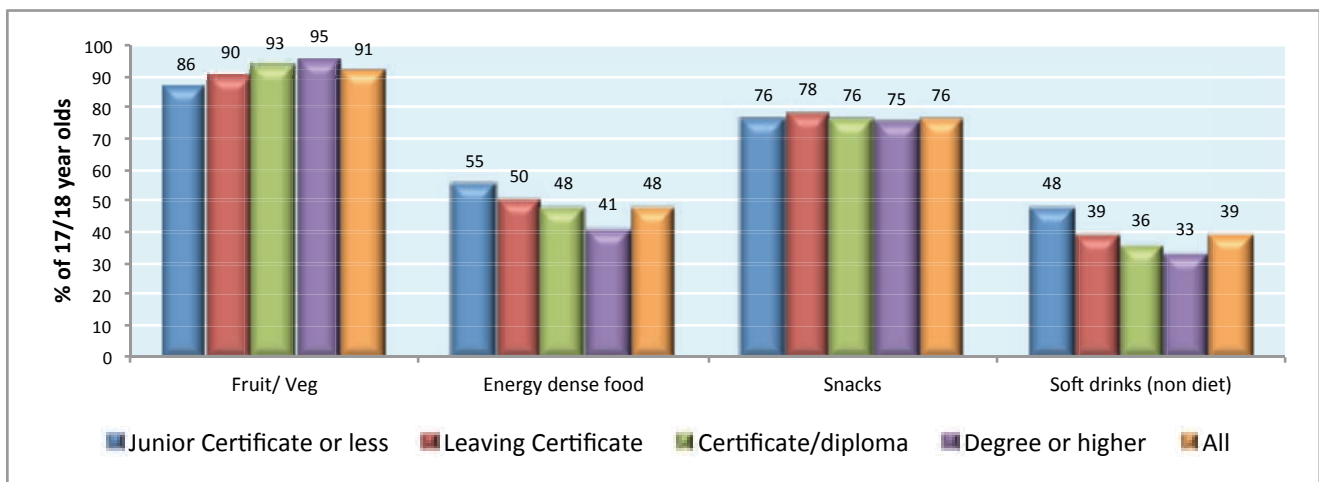
DIET AND DIETING

Young people’s diet varied according to mother’s level of education

Foods consumed by 17/18-year-olds in the day before their interview were grouped into 3 main categories: Fruit/vegetables; Energy dense food (e.g., pies, burgers, hotdogs, sausages, sausage rolls, chips); and Snack foods (e.g., crisps or savoury snacks; biscuits, doughnuts, cake, pie, chocolate). Consumption of non-diet soft drinks was also considered.

- Figure 8 shows that the majority (91%) had eaten fruit and vegetables in the last 24 hours; about half (48%) had eaten energy dense foods; 76% had eaten snacks; 39% had non-diet soft drinks.
- The percentage of 17/18-year-olds who had eaten fruit and vegetables in the 24 hours preceding their interview increased with level of their mother’s education – 86% among those whose mothers had left school at Junior Certificate or earlier compared with 95% among those whose mothers were graduates.
- In contrast, the percentage of young people eating energy dense foods and soft drinks fell as level of mother’s education increased.

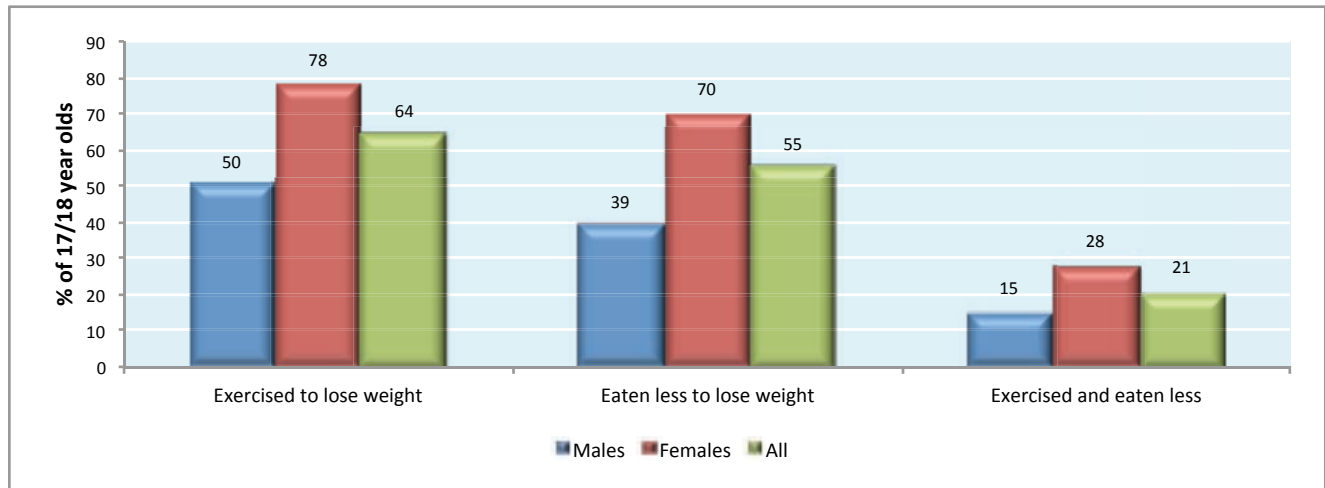
Figure 8: Consumption of different types of food by 17/18-year-olds in the 24 hours before their interview, classified by mother’s education



A high proportion of 17/18-year-olds had exercised or ate less food to lose weight

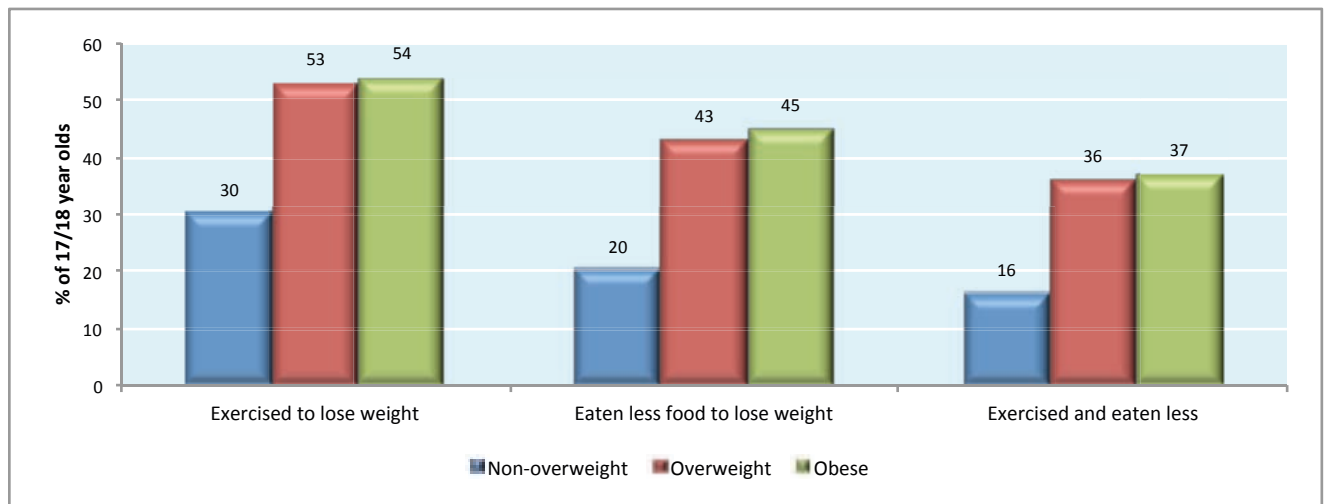
- 64% of young people used *exercise* or *eating less* (55%) to lose weight, while 21% reported using both (either currently or in the past) – Figure 9.
- Females were significantly more likely than males to *exercise*, *eat less*, or do both to lose weight.

Figure 9: Exercising/ eating less to lose weight by gender



- 17/18-year-olds who were *overweight* or *obese* were also considerably more likely to report *exercising* and *eating less* to lose weight than those who were *non-overweight* (Figure 10). However, it is also notable that a sizeable proportion of *non-overweight* young people were trying to lose weight (30% by *exercising* and 20% by *eating less*).

Figure 10: Percentage of 17/18-year-olds who currently exercised and ate less to lose weight, by current weight status

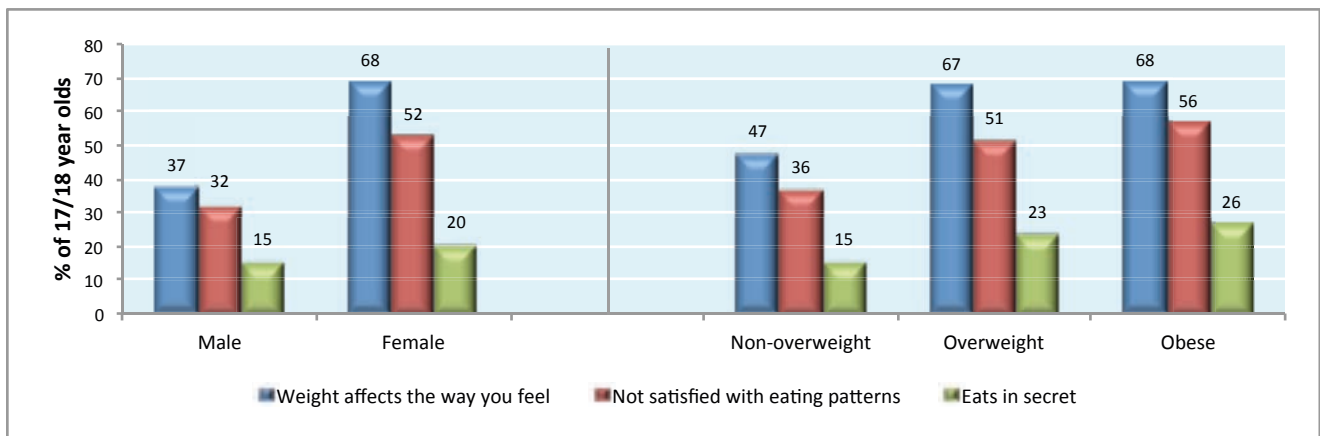


Females and young people who were overweight or obese were more likely to be dissatisfied with their eating patterns

17/18-year-olds were also asked about how their self-perception was affected by their weight and general eating patterns: "does your weight affect the way you feel about yourself?"; "are you satisfied with your eating patterns?"; "do you ever eat in secret?".

- Figure 11 shows that just over two thirds (68%) of females said their weight affected how they felt about themselves compared to 37% of males. Just over half said that they weren't satisfied with their eating patterns compared to just under a third (32%) of males. Females were also more likely to report eating in secret (20%) than males (15%).
- 67% of 17/18-year-olds who were *overweight* and 68% who were *obese* also said that their weight affected how they felt about themselves. Over half of both *overweight* and *obese* groups (51% and 56% respectively) indicated dissatisfaction with their eating patterns, with 23% and 26% reporting that they sometimes ate in secret. These figures were significantly lower for those who were *non-overweight*, although they were still substantial for this group.

Figure 11: 17/18-year-olds on satisfaction with their weight, their eating patterns and whether or not they ate in secret, classified by gender and BMI status



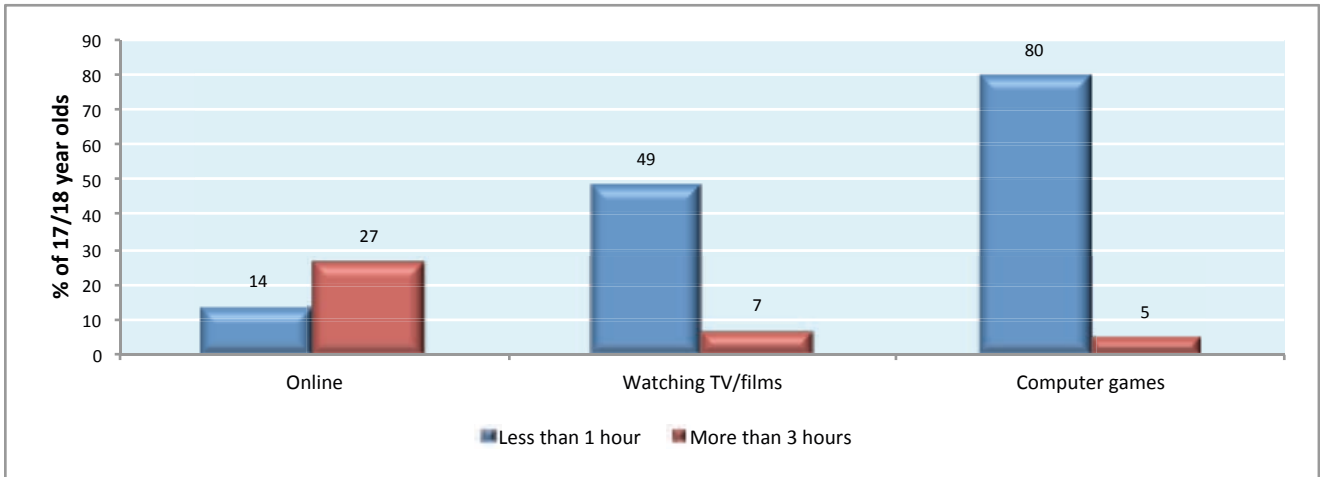
SCREEN TIME

Screen time differed widely by gender, mother’s education, and weight status

Young people were asked about the amount of screen time they spent *online*, *watching TV/films*, or *playing video/ computer games*, to get a measure of sedentary activity. Amount of weekday screen time is considered briefly below.

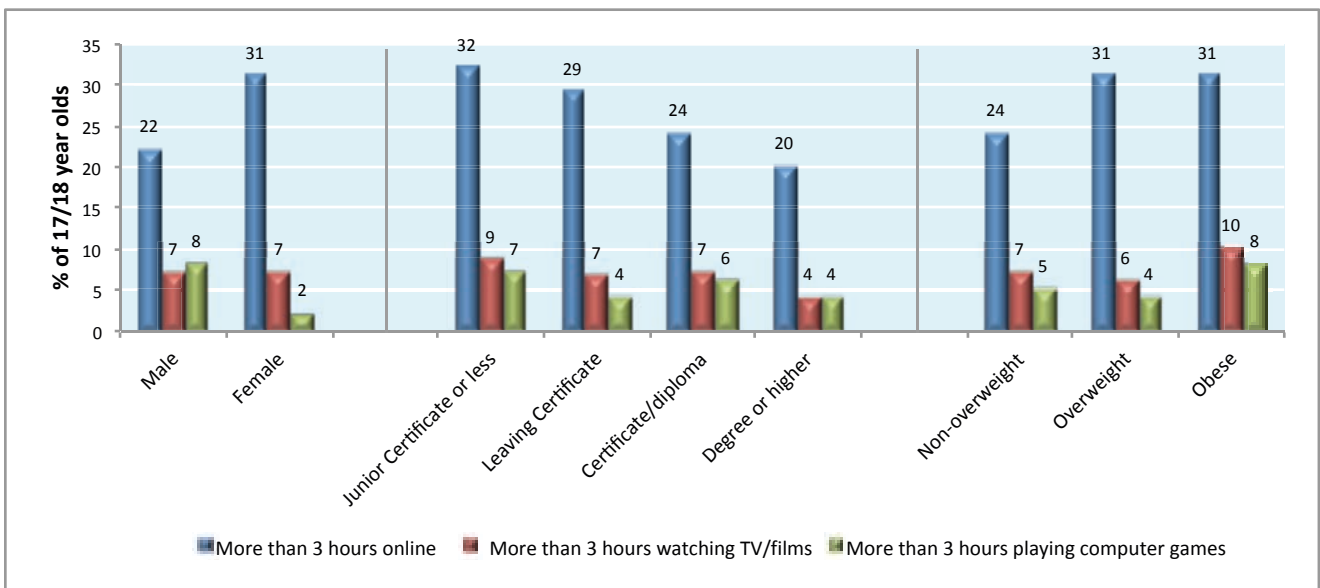
- Time spent *online* ranged from 14% of 17/18-year-olds who spent an average of an hour or less on a weekday to 27% who spent more than 3 hours. 49% of 17/18-year-olds spent less than an hour on weekdays *watching TV/films* while 7% spent 3 hours or more. This compared to 80% who spent an hour or less on *computer games*, with 5% spending 3 hours or more (Figure 12).

Figure 12: Young person’s weekday screen time



- Figure 13 shows that females were significantly more likely than males to spend 3 hours or more *online* (31% compared to 22%), though significantly less likely to spend large amounts of time playing *computer games* (2% for females compared to 8% for males).
- 17/18-year-olds from more educationally disadvantaged families were significantly more likely to have 3 or more hours of screen-time on average than those whose mother was a graduate.
- Online* time was significantly higher among 17/18-year-olds who were *overweight* or *obese*.

Figure 13: Young person’s weekday screen time by gender, mother’s level of education and weight status

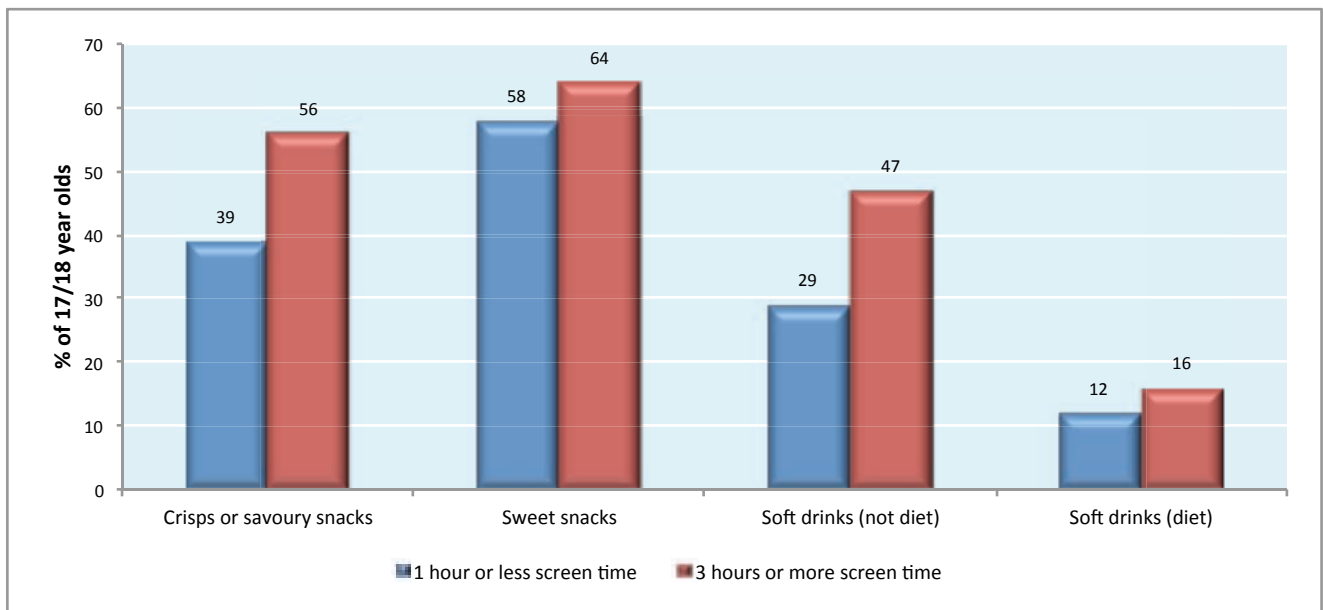


Increased screen time was linked to increased snacking behaviours

Because they are generally sedentary activities, and also provide opportunities for snacking, time spent *online*, *watching TV/films*, or *playing computer games* was explored for links with potentially unhealthy eating habits among young people. The foods (sweet and savoury) and drinks (diet and non-diet) most likely to be used when snacking were chosen from the food inventory completed by the young person (as described earlier).

- Figure 14 shows that longer screen time was related to consumption of crisps/savoury snacks and also to non-diet soft drinks. For example, 56% of those who had 3 or more hours screen time a day had also eaten savoury snacks at least once in the last 24 hours, compared to 39% of those with an hour or less screen time. Furthermore, this was true regardless of social disadvantage (as measured by mother's education – not shown here).

Figure 14: Amount of overall screen time and snacking behaviour among young people



SUMMARY

The *Growing Up in Ireland* data presented here show that the majority of 17/18-year-olds are healthy, exercise regularly and have normal blood pressure. However, they also highlight some important issues, some of which are patterned by social disadvantage.

The persistence of high levels of obesity since the first interview with the cohort at 9 years of age is of particular concern and while it is linked to social disadvantage, it may also reflect some life forming habits and behaviours of the young people themselves. One of these is physical activity which is not only linked to weight status, but has other important health implications too. The less time spent by obese young people on physical exercise, and longer time spent on sedentary behaviours than others, clearly puts them at extra risk. For example a clear relationship was already emerging between higher BMI and elevated blood pressure among 17/18-year-olds in *Growing Up in Ireland*.

Some aspects of diet were also differentiated by social advantage. Consumption of fruit and vegetables was highest among children from more advantaged families while energy dense foods, such as chips, pies, sausages etc., and soft drinks, were consumed more often by young people from more disadvantaged homes. Snacking behaviours were widespread among young people in *Growing Up in Ireland*, regardless of mother's education, although these were also related to increased screen-time.

Dieting behaviours were quite prevalent among young people and especially among young females. Further evidence with regard to feelings about weight, satisfaction with eating patterns and eating in secret indicates that females as well as those who were overweight or obese were much more likely than others to report negative attitudes towards their eating patterns.

The findings suggest that food intake, healthy diet and exercise need to be elements of early intervention, since these often persist into adulthood. But it should also be noted that it is not just obesity, but dieting behaviours as well that can have negative consequences for future health-related outcomes.





Growing Up in Ireland is the National Longitudinal Study of Children. It tracks the development of two nationally representative cohorts of children: an 'Infant Cohort', interviewed initially at 9 months and with subsequent data collection waves at 3, 5 and 7/8 years of age; and a 'Child Cohort', interviewed initially at 9 years of age, subsequently at 13 and, most recently, at 17/18 years. It is the 17/18-year-olds in the Child Cohort who are the subject of this Key Findings series.

The *Growing Up in Ireland* study is funded by the Department of Children and Youth Affairs (DCYA), with a contribution from The Atlantic Philanthropies for Phase 2. The project is overseen and managed by the DCYA in association with the Central Statistics Office (CSO) and an inter-departmental Project Team and Steering Group. The project is being implemented by a consortium of independent researchers led by the Economic and Social Research Institute (ESRI) and Trinity College Dublin (TCD).

The Child Cohort was recruited in 2007, when 8,568 9-year-olds, their families, teachers and school principals were interviewed. Just over 7,400 young people, their families (and school principals) were re-interviewed at 13 years of age (between August 2011 and February 2012) and just over 6,200 families from this cohort participated again at 17/18 years of age (between November 2015 and September 2016).

Methodology

The data were recorded using a range of administered and self-completed questionnaires. The figures discussed in these Key Findings were statistically adjusted (or 're-weighted') to account for design and inter-wave attrition using a number of standard socio-demographic controls such as family type, young person's gender, family income and social class. The data presented in this Key Finding were collected in home-based, face-to-face interviews with young people and their parents.

Access to Growing Up in Ireland data

An anonymised version of all quantitative and qualitative data collected in *Growing Up in Ireland* is being made available through the Irish Social Science Data Archive (ISSDA) (<http://www.ucd.ie/issda/data/growingupinirelandgui/>) and the Irish Qualitative Data Archive (IQDA) (<https://www.maynoothuniversity.ie/iqda/collections>).

Thank you to all participants. The success of *Growing Up in Ireland* is the result of contributions of time and effort from a large range of individuals, organisations and school staff. This landmark longitudinal research will benefit future generations of children. We are particularly grateful to the thousands of families from every part of the country who gave so generously of their time on three occasions to make this study possible. A very big 'thank you' to all these children, young people and their families.

(The figures presented in this Key Finding are purely descriptive. They do not control for potential interactions or confounding effects. All figures are preliminary and may be subject to change).



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