

**INFANT
COHORT**

AT 5 YEARS
NOV 2013



**Growing Up
in Ireland**

National Longitudinal
Study of Children

GROWING UP IN IRELAND

KEY FINDINGS: INFANT COHORT (at 5 years)

NO. 3 WELL-BEING, PLAY AND DIET AMONG FIVE-YEAR-OLDS

INTRODUCTION

This is the third in a series of *Key Findings* from the third wave of interviews with the Infant Cohort in *Growing Up in Ireland*, when the Study Child was five years of age. The families of around 11,100 children were initially interviewed in 2008/2009 when the Study Children were nine months old. They were re-interviewed between January and August 2011 when the children were three years of age, and between March and September 2013, when the children were five years old.

This Key Finding follows the physical health and development of the children from birth to the age of five, examining their well-being, play and diet. Measures of child height and weight were used to track normal physical development as well as obesity, which can have long-term physical, social, and emotional consequences for the child.



HEALTH OF FIVE-YEAR-OLDS

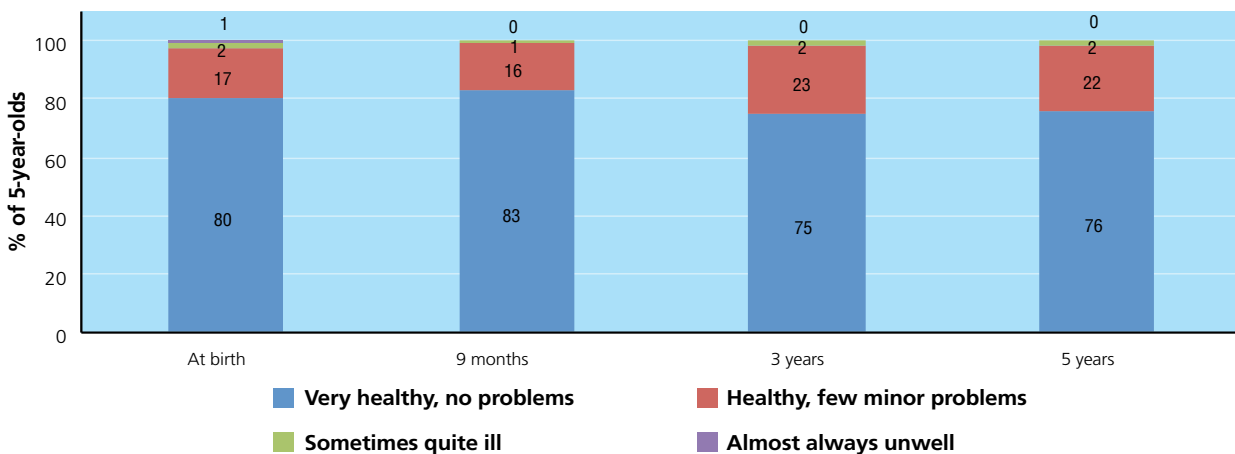
The majority of five-year-olds were in good health.

Mothers of five-year-olds were asked to rate their child's general health over the past 12 months, on a four point rating scale: *very healthy, no problems*; *healthy, but a few minor problems*; *sometimes quite ill*; *almost always unwell*.

- The majority of children were in good health (98%); 76% were described as *very healthy, no problems* and 22% as *healthy, but a few minor problems* (Figure 1). A very small proportion of children (2%) had more serious problems with their health, being described as *sometimes quite ill*, or *almost always unwell*.

- Girls were slightly more likely to be described as *very healthy, no problems* (78%) compared to boys (74%), who were more likely to be described as *healthy, but a few minor problems* (24%) compared to girls (20%).
- From birth to five years, the number of children described as *very healthy, no problems* or *healthy, but a few minor problems* remained relatively stable at around 98%. The composition of this group, however, changed somewhat over this period. The percentage described as *very healthy, no problems* fell from 80% at birth to 76% at five years, while the percentage described as *healthy, but a few minor problems* rose from 17% to 22%. Most of this change occurred between nine months and three years (Figure 1).

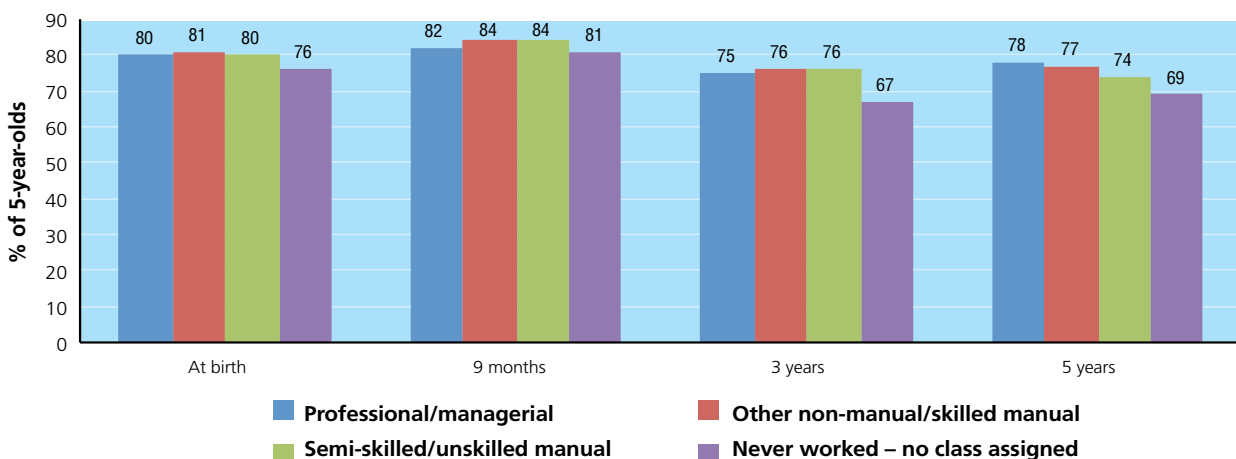
Figure 1: Health status from birth to five years



- At birth and nine months there was only a small gap between the highest and lowest social groups in terms of rating their child as *very healthy, no problems* (Figure 2). By age three this gap had increased to eight percentage points and a clear social gradient in health had begun to emerge –

75% for the Professional/managerial group compared to 67% among children in the lowest social class grouping. At age five this pattern remained largely stable, with a gap of nine percentage points separating the highest and lowest social class categories.

Figure 2: Children rated as very healthy, no problems by social class from birth to five years



PHYSICAL PLAY AMONG FIVE-YEAR-OLDS

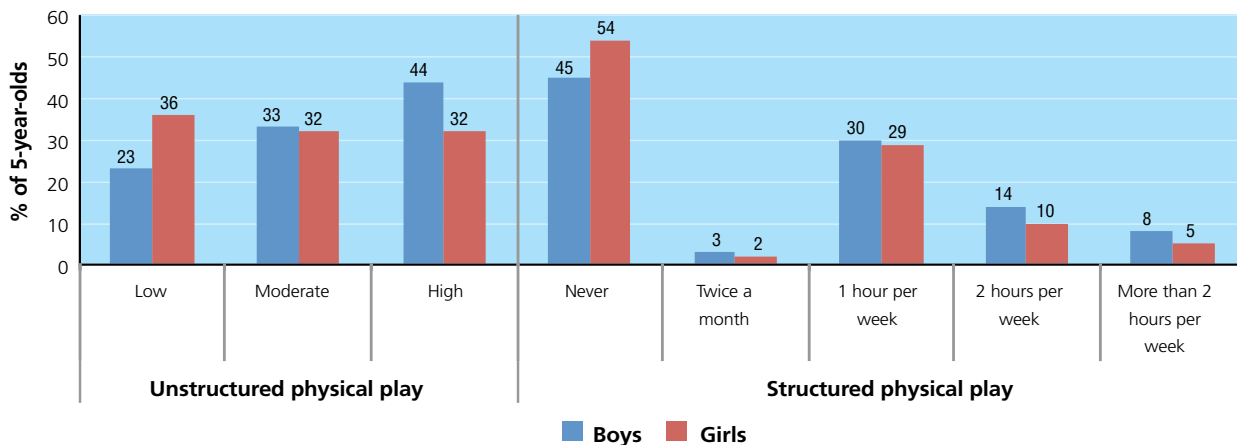
Boys were more likely than girls to attend a sports club or group.

Parents were asked how often their five-year-old participated in physical play such as climbing trees/frame, playing with a ball, chasing, riding a bicycle and roller-skating. This was summed to give a composite score and then divided into three equal groups (tertiles) representing low, moderate and high levels of *unstructured* physical play. A measure of *structured* physical play was based on the frequency

with which the child attended a sports club or sports group.

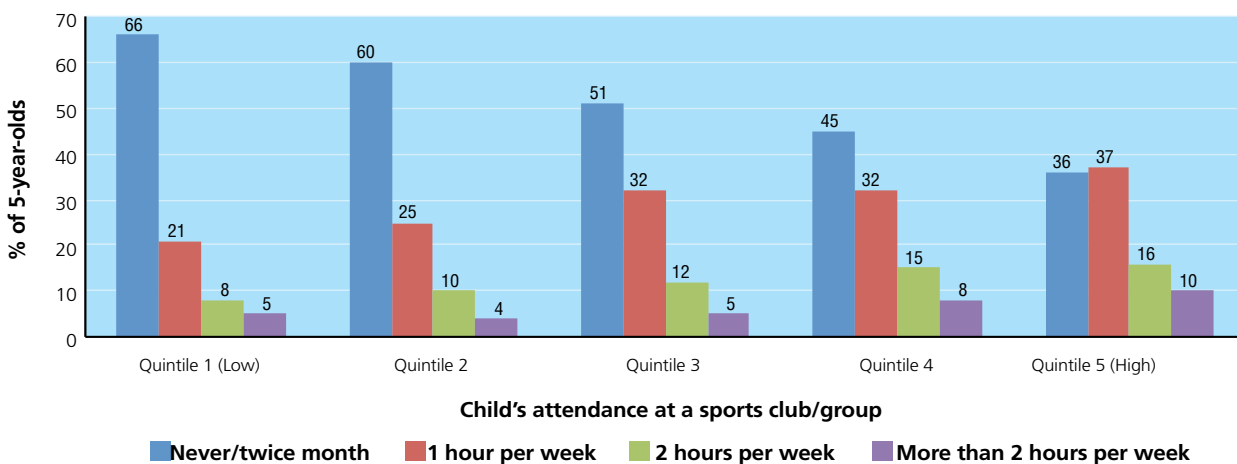
- Boys were more likely than girls to participate in higher levels of unstructured physical play (44% compared to 32%), while girls were more likely than boys to participate in low levels (36% compared to 23%) (Figure 3). Boys were also more likely than girls to attend a sports club or group at least twice a month (55% compared to 46%).

Figure 3: Child's gender and unstructured and structured physical play



- Maternal education and household income were both associated with the level of unstructured physical play. Children from less advantaged homes generally participated more in unstructured physical play than their more advantaged peers.
- In contrast, children from more highly educated or higher-income households were more likely to attend a sports club or sports group on a regular basis. A total of 63% of children in the highest income group attended a sports club/group for one hour or more per week compared to just 34% of those in the lowest income group (Figure 4).

Figure 4: Household income and child attendance at sports club/group



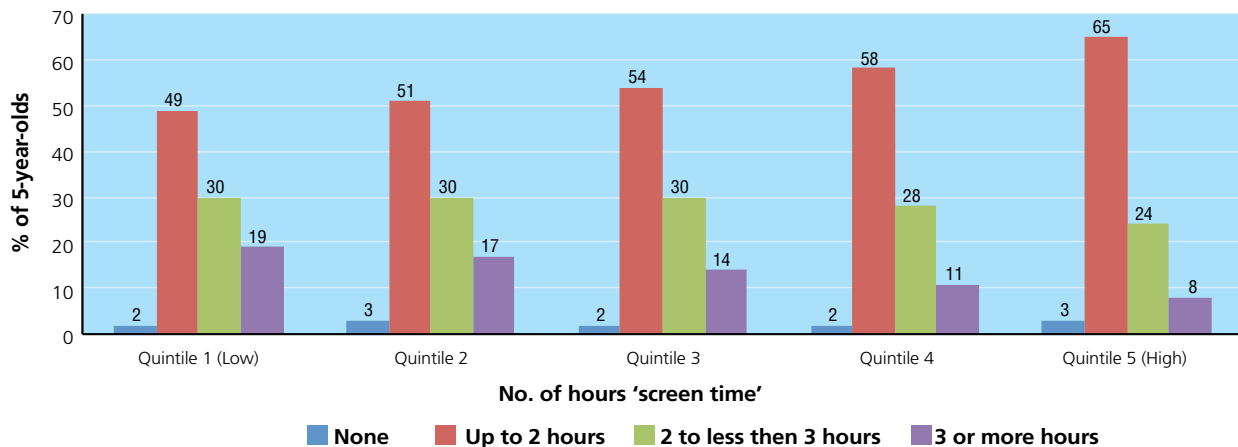
'SCREEN-TIME' AMONG FIVE-YEAR-OLDS

Household socio-economic status was associated with more 'screen-time'.

'Screen-time' was measured as the amount of time spent watching TV, or using video games, DVDs, computers, Ipads, smartphones, electronic games systems etc., on an average weekday – essentially the amount of time spent by the child in front of any electronic screen.

- Children whose mother had a degree were less likely to spend three or more hours in front of a screen on an average weekday (8% compared to 12% with a Certificate/Diploma, 17% with a Leaving Certificate, and 20% with Junior Certificate or less). Similarly, children from higher-income households were less likely to spend long periods of time in front of a screen than those in lower-income households (Figure 5).

Figure 5: Household income and 'screen-time' at five years



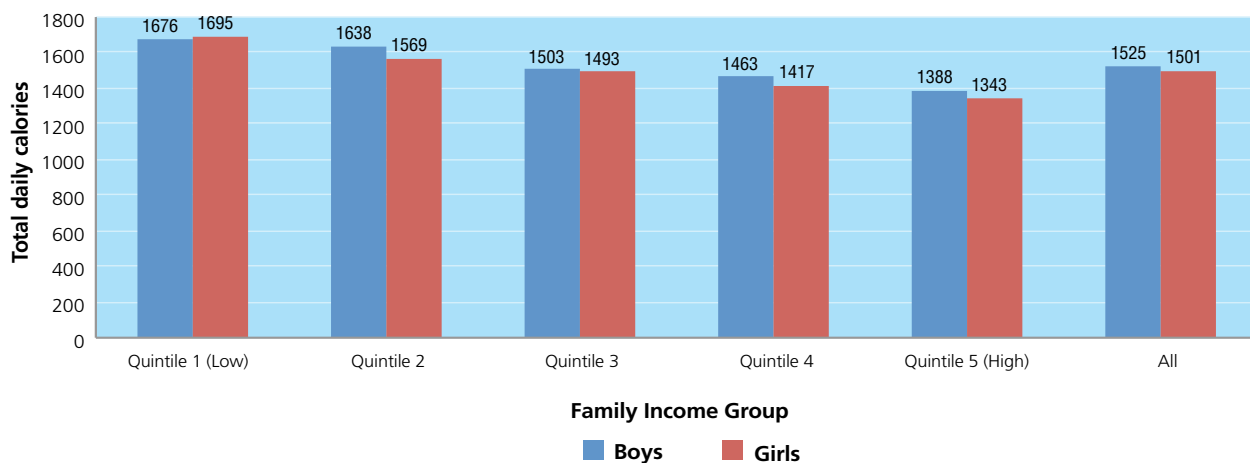
DIET, NUTRITION AND OBESITY AMONG FIVE-YEAR-OLDS

Five-year-olds from more disadvantaged families consume more calories.

In response to concerns over the high level of child obesity shown in previous waves of the *Growing Up in Ireland* study, the mother's interview at five years included a large number of questions on the

composition of the child's diet. These data allowed us to study the contribution which diet and nutrition made to the health and weight status of the child. Figure 6 shows the average number of calories consumed by the children at five years, broken down by family income group.

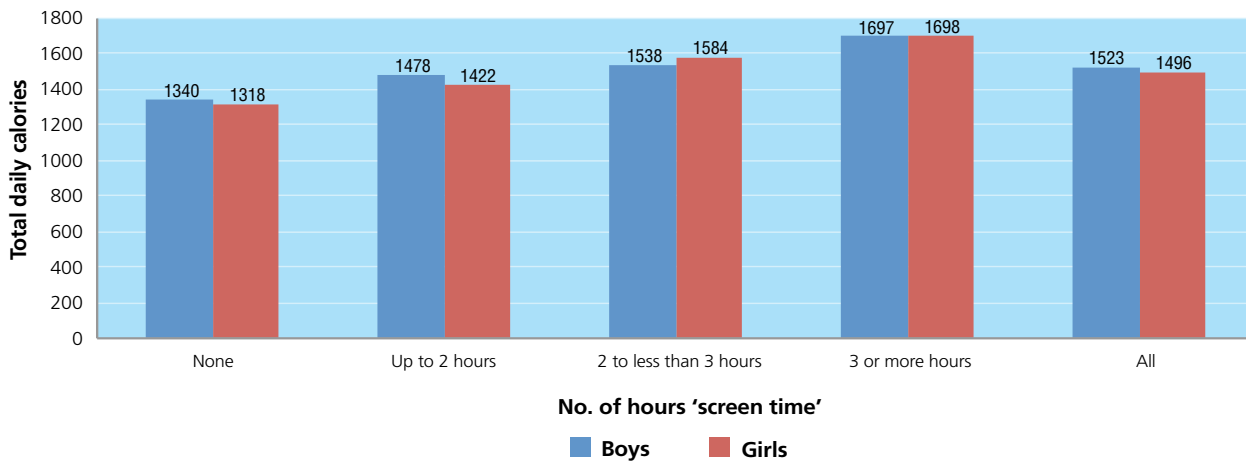
Figure 6: Calorie intake of boys and girls at age five



- The average five-year-old consumed just over 1,500 calories a day. Boys consumed marginally more calories than girls (Figure 6). There was a graduated relationship between calories consumed and household income.
- Children from lower-income groups consumed significantly more calories per day on average. On average, children in the lowest income group consumed 23% more calories per day than those in the highest income group.

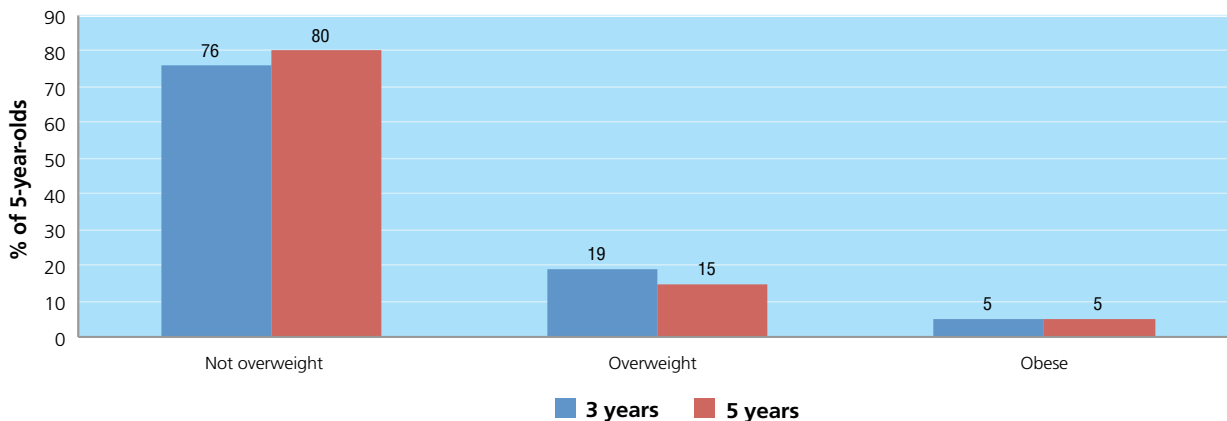
- Figure 7 illustrates a link between average daily 'screen-time' and calorie intake, where more time in front of a screen is clearly associated with higher calorie intake for five-year-olds.

Figure 7: Calorie intake and number of hours 'screen-time' for boys and girls at age five



Children's height and weight measurements were used to calculate their Body Mass Index (BMI). Thresholds recommended by the International Obesity Task Force were used to determine if children were *not overweight* (which includes underweight), *overweight* or *obese*.

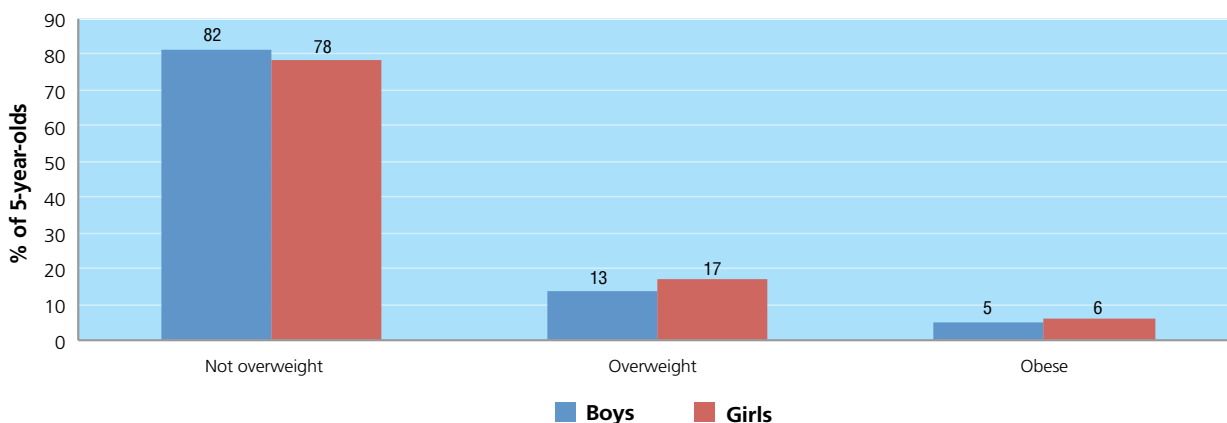
Figure 8: BMI status at three years and five years



One in five five-year-olds was overweight or obese.

- 24% of all *Growing Up in Ireland* children were *overweight* or *obese* at three years, while at five years this figure had dropped slightly to 20%, due to a drop among those who were *overweight*. Obesity remained at 5% at both ages.
- Girls were more likely to be *overweight* than boys (17% compared to 13%) and were just slightly more likely to be *obese* than boys (6% compared to 5%) (Figure 9).

Figure 9: Child gender and BMI at five years



As was the case at three years of age, the child’s risk of overweight and obesity at five years was higher among children living in households with lower levels of income and social class, and where the mother had a lower level of education (Figure 10). The difference between the highest and lowest categories of each of these three family characteristics was approximately seven percentage points. For example, 17% of children in the highest income quintile were *overweight* or *obese* compared to 24% of those in the lowest quintile.

Figure 10: Socio-economic factors and overweight and obesity at age five

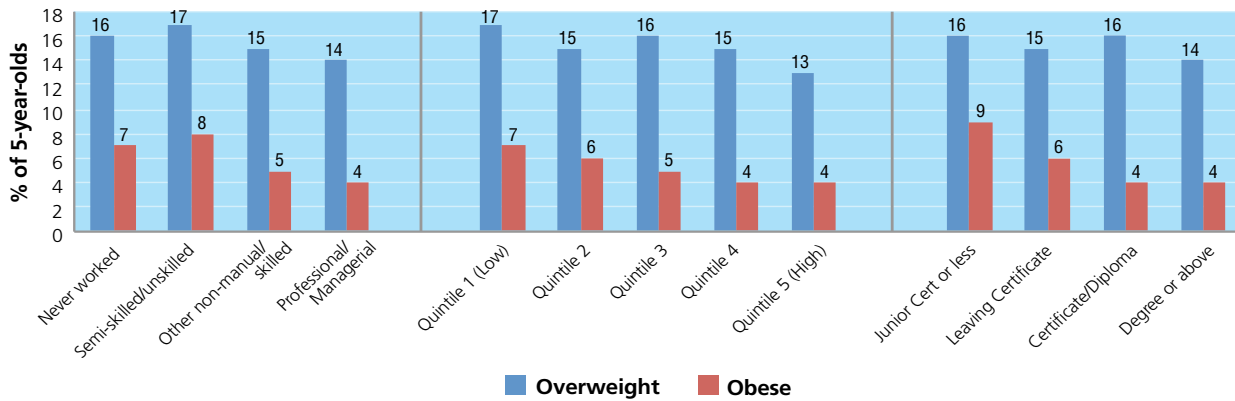


Figure 11 gives a longitudinal perspective on changes in weight between three and five years of age at the level of the individual child.

- Children who were *not overweight* at age three were very likely to remain so at age five (91%), while 7% became *overweight* and 1% *obese*. While 39% of *overweight* three-year-olds were still *overweight* at five, many had moved to the *not overweight* category (50%), although 11% of this group had become *obese*.
- Of those who were *obese* at three years of age, 38% were still *obese* at age five, although there was considerable movement within this group; 37% became *overweight* while 25% moved into the *not overweight* group.

Figure 11: Weight status at age five by weight status at age three

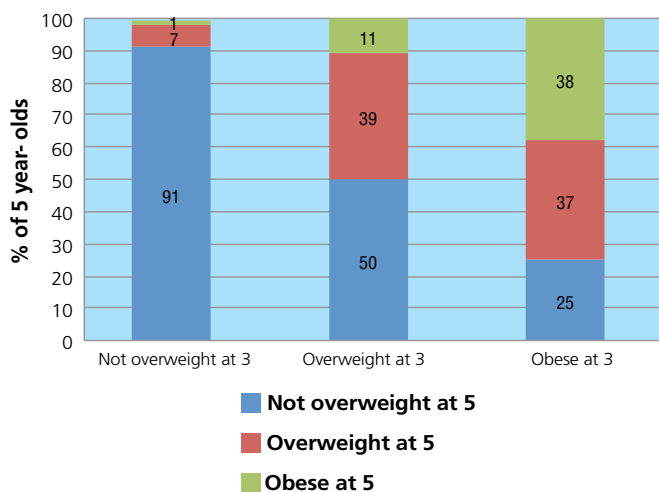


Table 1 summarises changes in obesity status by showing the breakdown of five-year-olds in terms of their BMI status at ages three and five.

- 69% of the children were *not overweight* at both three and five years of age; 6% were *not overweight* at three years but were *overweight* at five years, and 1% was *not overweight* at three years but *obese* at five years.
- In contrast, 2% of all the five-year-olds were *obese* at both ages; a further 2% were *obese* at three years and *overweight* at five years, while 1% was *obese* at three years and *not overweight* at five years.
- 10% of five-year-olds were *overweight* or *obese* at age three but *not overweight* at age five. In contrast, 7% were *not overweight* at age three, but were *overweight* or *obese* by age five.

Table 1: Breakdown of all five-year-olds according to BMI status at three years and five years of age

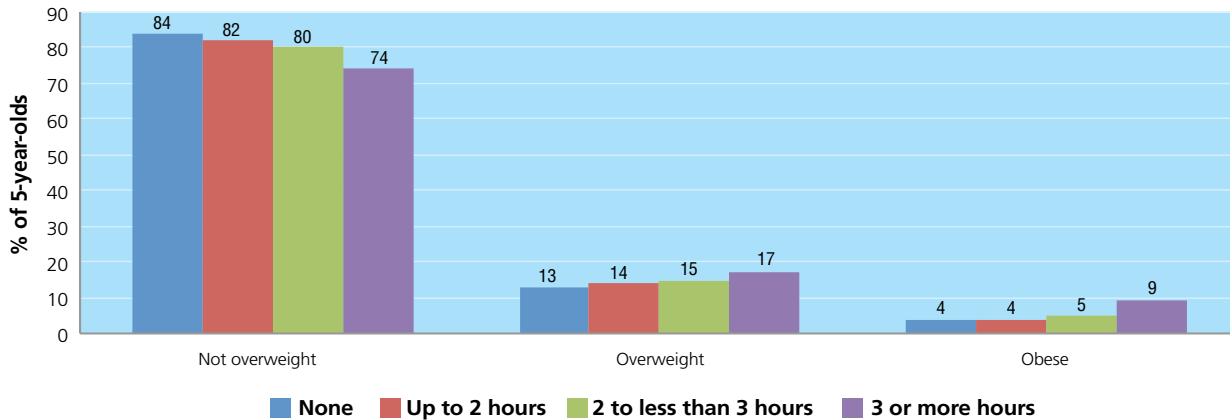
BMI status at three years	BMI status at five years			Total
	Not overweight	Overweight	Obese	
	<i>per cent</i>			
Not overweight	69%	6%	1%	76%
Overweight	9%	7%	2%	19%
Obese	1%	2%	2%	5%
Total	80%	15%	5%	100%

IMPACT OF 'SCREEN-TIME' ON DIET AND WEIGHT

More 'screen-time' associated with poorer eating habits and higher levels of overweight and obesity

- Figure 12 shows a clear relationship between the amount of 'screen-time' and BMI status. The higher the level of 'screen-time' reported for the child, the higher their risk of overweight and obesity.

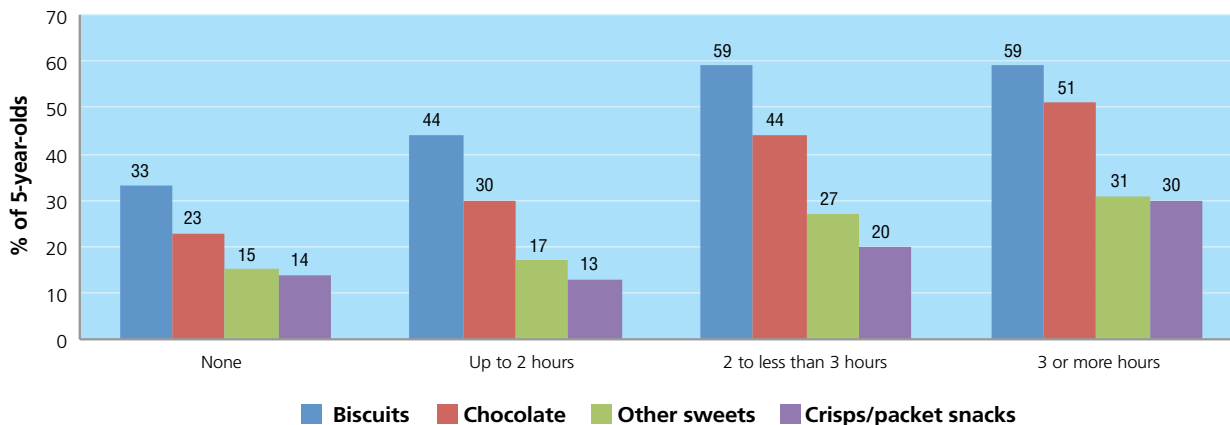
Figure 12: Screen-time and weight status at five years



The amount of 'screen-time' was also associated with some unhealthy dietary habits among five-year-olds. Children who spent three or more hours in front of a screen were considerably more likely to consume certain unhealthy foods *most days* or more often.

- Those watching three or more hours of television a day were more likely to consume higher quantities of certain snacks or sweets than those who watched for fewer or no hours; 59% of this group ate biscuits most days or more often, 51% ate chocolate, 31% ate other sweets, and 30% ate crisps or other packet snacks (Figure 13). This was true regardless of household income.

Figure 13: Hours watching television on weekdays and eating snacks or sweets most days or more often



SUMMARY

Overall, Irish children were reported to be in very good health and to be developing positively between birth and five years of age.

There were relationships between socio-economic factors such as income, social class and mother's level of education on the one hand and, on the other, the calories consumed per day, the amount of structured and unstructured play, and amount of children's 'screen-time'. These factors were also associated with overweight and obesity. Among five-year-olds, 15% were *overweight* and 5% *obese*. Some *overweight* and *obese* children regain healthy weight during these five years, but most remain at an unhealthy weight. Just over 69% of five-year-olds were *not overweight* at three and five years. This compares to 2% who were *obese* at both ages.



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 nine months and subsequently at three and five years of age, and a Child Cohort, interviewed initially at nine years of age and subsequently at 13.

The study is funded by the Department of Children and Youth Affairs, in association with the Department of Social Protection and the Central Statistics Office. It is being carried out by a consortium of researchers led by the Economic and Social Research Institute (ESRI) and Trinity College Dublin (TCD).

The first wave of fieldwork with the families of the Infant Cohort involved around 11,100 nine-month-olds, their parents and carers. Interviews began in September 2008 and were completed in March 2009. The second wave of interviews with this cohort (at three years of age) took place between January and August 2011, and the third wave of interviews (at five years of age) was completed between March and September 2013. The response rates in both the second and third waves were 90%.

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/growingupinireland/>)

and the Irish Qualitative Data Archive (IQDA)

(<http://www.iqda.ie/content/growing-ireland>).

Thank you to all participants

The success of *Growing Up in Ireland* is the result of contributions from a large range of individuals, organisations and groups, many of whom helped to recruit the sample and collect the data. 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 the children 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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