“A treat is no small trick”: Individual lifestyle, family context and child overweight/obesity in Italy

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Background and aim of the study

According to a report by UNICEF published in 2025, obesity among school-age children and adolescents has globally overtaken under-nutrition for the first time. While under-nutrition remains a major concern for children under five in many low- and middle-income countries, the prevalence of overweight and obesity among school-age children and adolescents is rising in all world regions. Globally, one in five children and adolescents aged 5–19 years are living with overweight.

Obesity in early life is associated with long-term adverse physical and mental health outcomes (Must & Anderson, 2003; Cunningham et al., 2022; OECD, 2024). The physical consequences are well documented and include cardiovascular risk factors, type 2 diabetes, menstrual irregularities, and sleep-disordered breathing. Equally important, though less well known, are the mental-health consequences and social stigma faced by individuals with obesity. Childhood obesity is frequently linked with psychosocial challenges such as low self-esteem, bullying, and academic underachievement, potentially worsening health and economic outcomes later in life (OECD, 2019).

A contemporary view on obesity recognises its multifactorial determinants. Scientific evidence supports an integrated, multidimensional approach that addresses all relevant contributors to obesity (genetic, psychosocial, environmental, socio-economic, behavioural attitudes and lifestyles). In the EU, poor nutrition and physical inactivity have played a key role in the increasing prevalence of overweight and obesity among adolescents and adults (OECD, 2024). In 2022, more than 20 % of 15-year-olds were overweight or obese, and socioeconomic inequalities were significant, with adolescent obesity rates more than 60 % higher among those from lower-affluence families compared to those from higher-affluence backgrounds.

The aim of this study is to examine the status of overweight/obesity among children and adolescents aged 6 to 17 years in Italy through a multifactorial lens. We will assess how much children’s own lifestyle behaviours contribute, alongside the lifestyle habits of their parents and the family’s socio-economic characteristics. In addition, we will explore whether, in the Italian context, there is evidence for intergenerational transmission of overweight and obesity from parents to children. The intergenerational transmission of obesity in children is a well-documented phenomenon driven by a mix of genetic and environmental factors, with parental obesity and unhealthy lifestyle habits strongly increasing a child’s risk (Whitaker et al., 2010). Finally, we will investigate whether there is a significant relationship between the weight status of children and adolescents and that of their siblings, as reported in other studies (Berge et al., 2016).

Data and Methods

The Istat “Aspects of Daily Life” survey is conducted annually on a random sample of approximately 25,000 households. All individuals in the sampled households are interviewed. The survey investigates multiple

dimensions of individuals' lives, including schooling, employment, family and relational life, housing and neighbourhood, leisure time, political and social participation, health and lifestyle behaviours.

Using data from this survey offers many advantages: the large sample size enables detailed analyses even at the territorial level; moreover, the survey allows not only estimation of the number of 6- to 17-year-old persons with overweight/obesity but also evaluation of trends across years (the first time the relevant variable was measured was in the 2010 edition). For individuals aged 14 years and over, weight and height data (required for body-mass index calculation) were self-reported, while for children and adolescents under 14 years they were collected by proxy, asking a parent or adult household member.

Specifically, the binary variable released by this survey and used in our study is "person 6-17 years with excess weight" vs "person 6-17 years normal weight or underweight". To construct this binary variable, first the body-mass index (BMI) of each individual is calculated and then compared against threshold values defined by Cole & Lobstein (2012). Therefore it is not possible to distinguish between "overweight" and "obesity".

In addition to questions on age, sex, marital status, education and employment status of all family members, the questionnaire covers the following: individuals' weight and height; dietary habits (frequency of consumption of various food groups, sugar-sweetened beverages and snacks); physical activity and sport participation; lifestyle behaviours (alcohol consumption/abuse, tobacco use, medication use); use of electronic devices (which ones and how frequently); self-rated health, chronic conditions and disability. For those aged 14 years and older, life-satisfaction across various domains is also measured. There are further questions on living environment and neighbourhood, difficulties and access to services. Finally, some questions assess the objective and subjective economic situation of the household.

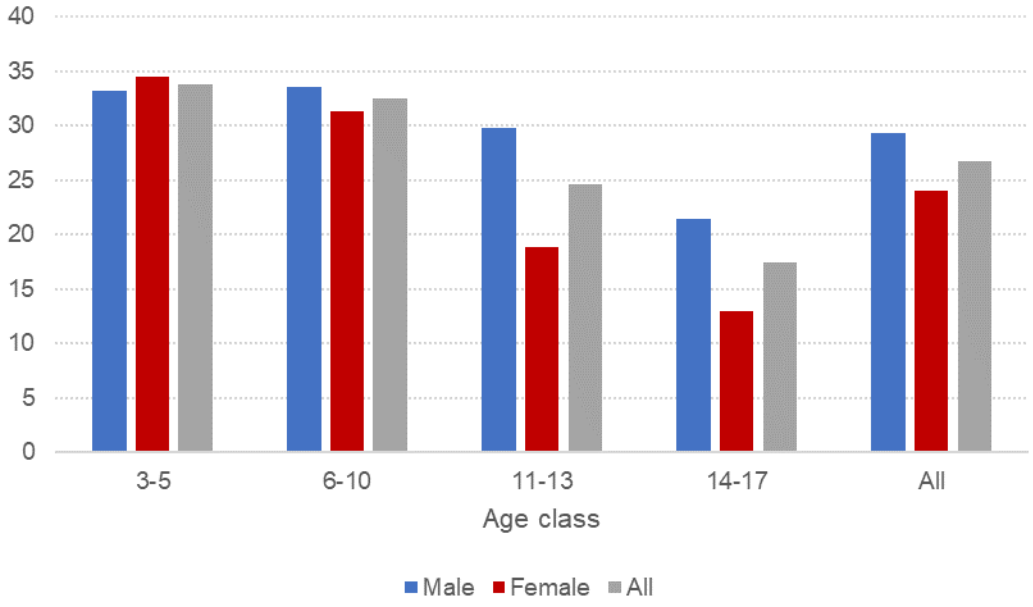
The informational richness of the survey is therefore considerable. It is indeed possible to explore several aspects directly or indirectly related to excess weight and, moreover, these aspects are measured for all members of the family. Parental behaviours may have a significant influence on those of their children, especially during childhood and adolescence. The family thus plays a decisive role in the inter-generational exchange of knowledge, behavioural practices, norms and values. Moreover, family members share socio-economic status, which is associated with differing propensities to engage in risk behaviours (Istat, 2005b). Using these data therefore allows investigation of both inter-generational (parents-children) and intra-generational (siblings) transmission of overweight/obesity. Unfortunately the data are cross-sectional and, despite their richness, do not permit a longitudinal approach and hence monitoring of weight trajectories. Another limitation of the available data is that, being a socio-demographic survey, weight and height are self-reported by the individuals. Nevertheless, the results align with those of other studies on Italy.

Descriptive Statistics and Future Analysis

In Italy in 2023 (ISTAT, 2025a, 2005b), more than one-third of children aged 3 to 5 years are overweight or obese (33.8%) — a rising figure over the past six years (+3 percentage points compared with 2017). The proportion is about one-third also for children aged 6 to 10 years (32.5%), and decreases among adolescents (24.6% for ages 11–13 years, 17.4% for ages 14–17 years). For the entire population of children and adolescents aged 3 to 17 years, the prevalence of excess weight is 26.7%, with significantly higher values in some geographic areas of the country.

Gender disparities in the share of children and adolescents who are overweight/obese in Italy are particularly striking — even when compared to other European countries (OECD, 2024). With the exception of children aged 3–5 years, where overweight is more common among girls, girls show significantly lower prevalence of excess weight than boys, and this difference increases with age, reaching its maximum in the 11–13 age class (a difference of 10.9 percentage points), then decreasing thereafter.

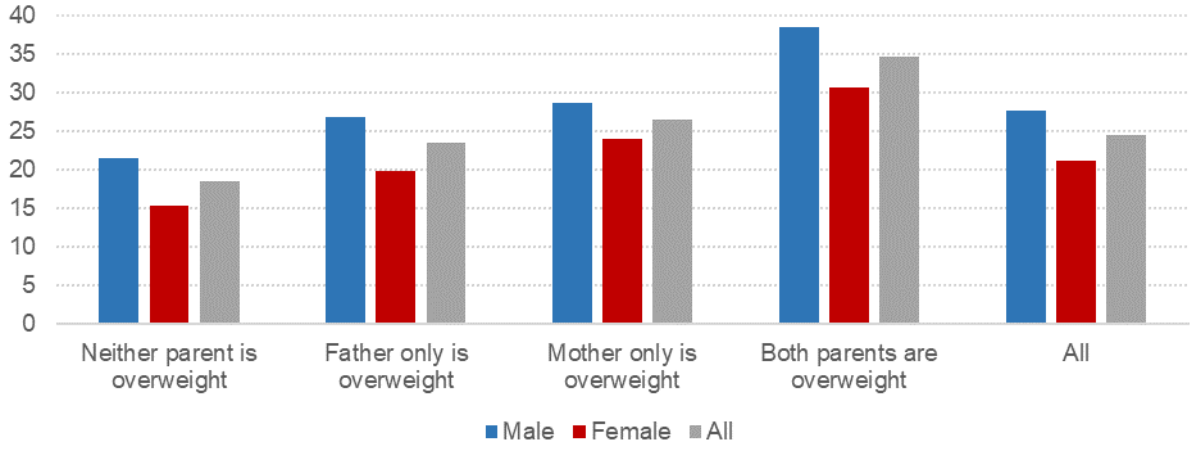
Figure 1 – Persons aged 3-17 years who are overweight (%), by age class and sex, Year 2023



Source: Istat (2025b)

A strong association is observed between parental and child overweight (Figure 2, ISTAT, 2025b). In particular, if both parents are overweight, the percentage of children aged 3 to 24 years in the same condition is 34.7%, whereas it drops to 18.5% when both parents are of normal weight. This parent-child association regarding overweight/obesity holds true for both boys and girls. Note that, as shown in other studies, when only one parent is overweight the proportion of overweight children is higher if the mother is the overweight parent than if the father is: in other words, a stronger mother-to-children transmission rather than father-to-children emerges.

Figure 2 - Persons aged 3-24 years who are overweight (%), by parental overweight status and sex, Year 2023



Source: Istat (2025b)

The objective of this study is to estimate a multivariate model of the probability that children within various age groups in Italy are overweight or obese, in order to highlight the associated risk factors. In particular, the aim is to measure the association between overweight and children's dietary and lifestyle habits, including the construction of synthetic indicators for the different domains considered (e.g., consumption of different food groups). In addition to individual risk factors, the study also considers the environment in which the

minor lives and the socio-economic characteristics of the family as a whole. Some studies have in fact shown that higher family socio-economic status is associated with a lower prevalence of overweight/obesity among children (Cunningham et al., 2014). Furthermore, the study explicitly investigates the intergenerational and intragenerational transmission of overweight within family members, considering not only the condition of overweight/obesity but also the lifestyle habits (and for adults, also educational attainment and occupational status) of various family members, as well as the child's gender. Finally, the same model will be estimated using older data in order to evaluate whether the associations found also held in the past, or whether they have evolved over time.

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