CONSUMPTION OF HEALTHY AND SUSTAINABLE DIETS AMONG ITALIAN ADULTS: ENVIRONMENTAL SENSITIVITY OR JUST A LIFESTYLE?

1. Topic

Food consumption habits are central to the current environmental and health-related debate for several reasons. The recent shift toward a longevity society is emphasizing healthy ageing, which can be supported by proper diets (Suresh *et al*., 2022) and the concept of "silver ecology," highlights the role of seniors in sustainable development. At the same time, the growing focus on climate change and sustainability encourages more sustainable food and resource consumption (ISTAT, 2023a). The importance of diets is also advocated by the Intergovernmental Panel on Climate Change, which showed the GHG mitigation potential of different diets such as vegan, vegetarian, flexitarian, Mediterranean, or other (IPCC, 2019). Mitigation potential of dietary change may be higher, but achievement of this potential at broad scales depends on consumer choices and dietary preferences that are guided by social, cultural, environmental, and traditional factors, as well as income growth. The excess weight and the daily consumption of vegetables and fruits are then two indicators collected by ISTAT in the BES (Equitable and Sustainable Well Being) in the thematic area of health (ISTAT, 2023b). Already more than twenty years ago WHO warned governments and institutions about the influences of diet and physical activity on health and pushed to implement global, regional, national policies and action plans to improve diets and increase physical activity that are sustainable (WHO, 2004).

Building on these considerations, several countries, including Italy, monitor food consumption and daily lifestyles as part of regular multipurpose surveys. The Italian National Institute of Statistics (ISTAT), for instance, has traditionally included nutrition among its indicators related to health risks and lifestyle factors (ISTAT, 2023a). In this contribution, we use Italian data to explore the potential factors associated with the consumption of red and processed meat. vs. behavioural reasons, including environmentally conscious behaviours.

2. Theoretical focus

Relations between demographic characteristics, environmental sensitivity, and individuals' prevention have been studied from different perspectives in several countries in the Northern world. Some studies have highlighted that individuals with greater environmental concern and awareness tend to engage in reduced red meat consumption and are more inclined toward sustainable purchasing choices (Boehm *et al*., 2019; Coker and van der Linden, 2022). Other studies using varied methods, ranging from 24-hour dietary recalls to cross-sectional surveys, consistently linked measures such as reduced meat consumption or a lower share of red meat spending with higher environmental awareness (Coker and van der Linden, 2022; Bimbo, 2023; Slotnick et al., 2023). These findings indicate that, when measured across diverse populations and methods, environmental consciousness relates quantitatively to lower red meat consumption and increased sustainable food purchasing behaviours.

Furthermore several studies identified mediating variables in the relationship between environmental awareness and dietary behavior. Among others Baur *et al*. (2022) used the Theory of Planned Behavior and found that intentions for healthy eating were more likely to translate into behavior than intentions for environmentally sustainable eating, as reported by the study, highlighting an intention-behavior gap. Sánchez-Sabaté and Sabaté (2019) discussed the roles of attitudes, self-efficacy, and perceived barriers (such as taste preferences and social norms), though mediation was not formally tested. Szalai *et al.* (2024) and Góralska-Walczak *et al.* (2023) noted that health consciousness and ethical motivations (such as animal welfare) often mediate or override environmental motives. These studies report a positive association between environmental awareness and plant-based dietary habits across diverse populations and contexts, but the strength and nature of

the relationship vary. Gender and age are consistent moderators, with women and younger individuals more likely to act on environmental awareness. European and Asian populations are generally more responsive than United States populations, as reported by the studies. The gap between intention and behavior is a recurring theme, particularly for environmental motives.

A previous Italian study on red and processed meat consumption between 2012 and 2022 revealed a significant decline primarily driven by changes in individual consumption propensities, possibly influenced by growing environmental awareness, health concerns, and evolving dietary norms (Furfaro *et al*., 2025).

Moving from the above-cited literature, we now broad the study to the consumption of different types of diets among Italian adults, following these two research hypotheses:

Hypothesis 1: individual *environmental sensitivity* is associated with a more healthy and sustainable diet.

Hypothesis 2: a healthy daily lifestyle *sensitive to ego well-being* is associated with a more healthy and sustainable diet.

3. Data and Methods

We use data from the annual household survey, *Aspects of Daily Life*, conducted by ISTAT since 1993 as part of its Multipurpose Survey system. Each year, the survey interviews approximately 20,000 households, encompassing around 50,000 individuals. We focus on 2022 and we consider only people aged 18+ who do not have missing values on the response variables of interest, amounting to a total sample size of 33,315. The survey includes several items related to dietary habits, and for the purpose of this study, we focus specifically on items which explore the frequency of red and processed meat consumption and the amount of fruit and vegetables. We created two variables: one which describes whether people eat at least four portions of vegetables and fruit and another one which describes a limited consumption of red and processed meat, where limited consumption refers to "less than once a week" for beef, cold cuts, pork and lamb. These items will help us describe the Mediterranean diet.

The sample distribution of these two variables by age groups is represented in the Figure 1 below:

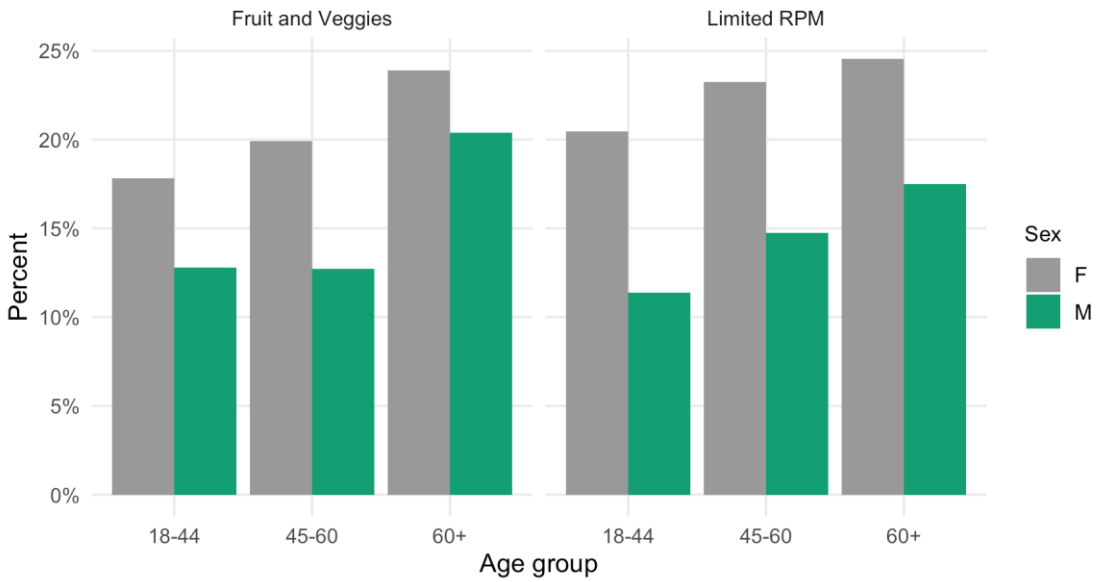

Figure 1: Percent of sampled individuals who eat at least 4 portions of fruit and vegetables (left panel) and red and percent of people who eat red and processed meat consumption often (right panel) by age group and Sex.

In order to include additional indicators of a healthy lifestyle in the analysis, we derived several variables from the original dataset. We created a binary variable representing physical activity. Participants were classified as physically active if they reported engaging in sports or physical exercise. Next, we defined a binary indicator for obesity based on the BMI category, we considered smoking behavior and alcohol consumption frequency outside of meals.
With reference to individual environmental sensitivity we followed Furfaro *et al*., 2025 two variables representing, respectively, two domains: one which refers to behaviour when grocery shopping, named Grocery Environmental Behaviour (GEB), and the other one which measures the behaviour in other everyday activities, named Everyday Environmental Practices (EEP). See Furfaro *et al*., 2025 for more details on the indicators construction.

In preliminary analysis, we noted significant differences among age groups and sex, suggesting that a multivariate analysis which considers all these factors is needed. In particular, by means of logistic regression we plan on understanding factors associated with the probability of a mediterranean diet with a focus on older adults. We also plan on further expand the analysis to include other types of diets considered healthy and unhealthy.

4. (Expected) Findings

This study contributes to the growing literature on sustainable diets by highlighting the demographic and behavioural drivers. We expect the Mediterranean diet to be an eating lifestyle associated both with environmental and ego well-being sensitivity (Carruba and Paganini 2025), especially for adult women. The analysis by macro age group could then reveal intergenerational differences useful for planning policy interventions for an healthy ageing.

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