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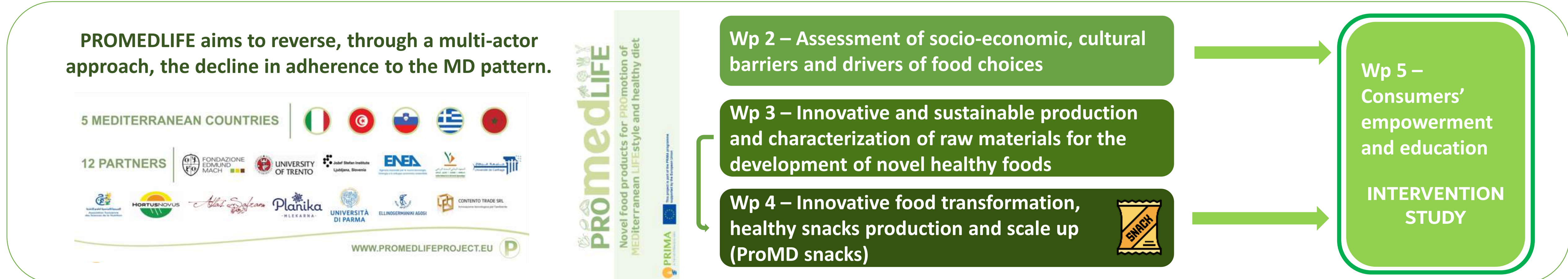
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INTRODUCTION

The **Mediterranean Diet** is a notable model of healthy eating¹, but its adherence has declined recently due to a gradual shift towards a more Westernized diet². Eating habits seem to consolidate during **adolescence**³, as it is a period of transition. School represent a particularly attractive environment for the promotion of healthy lifestyles → **IMPORTANCE OF FOOD EDUCATION AT SCHOOL!**

- There is no doubt that a better **knowledge of nutritional aspects** is associated with healthier dietary choices⁴.
- **Distributing portions of fruits and vegetables** daily in the classroom cultivates an "intentional" habit towards the desired behavior, which results in increased consumption of fruits and vegetables⁵.
- **Sensory training** in young consumers can activate chemosensory awareness and may lead to healthier and more balanced eating habits⁶.

AIM

This project aims to **improve adherence to the MD** and promote **healthy eating habits** in adolescents

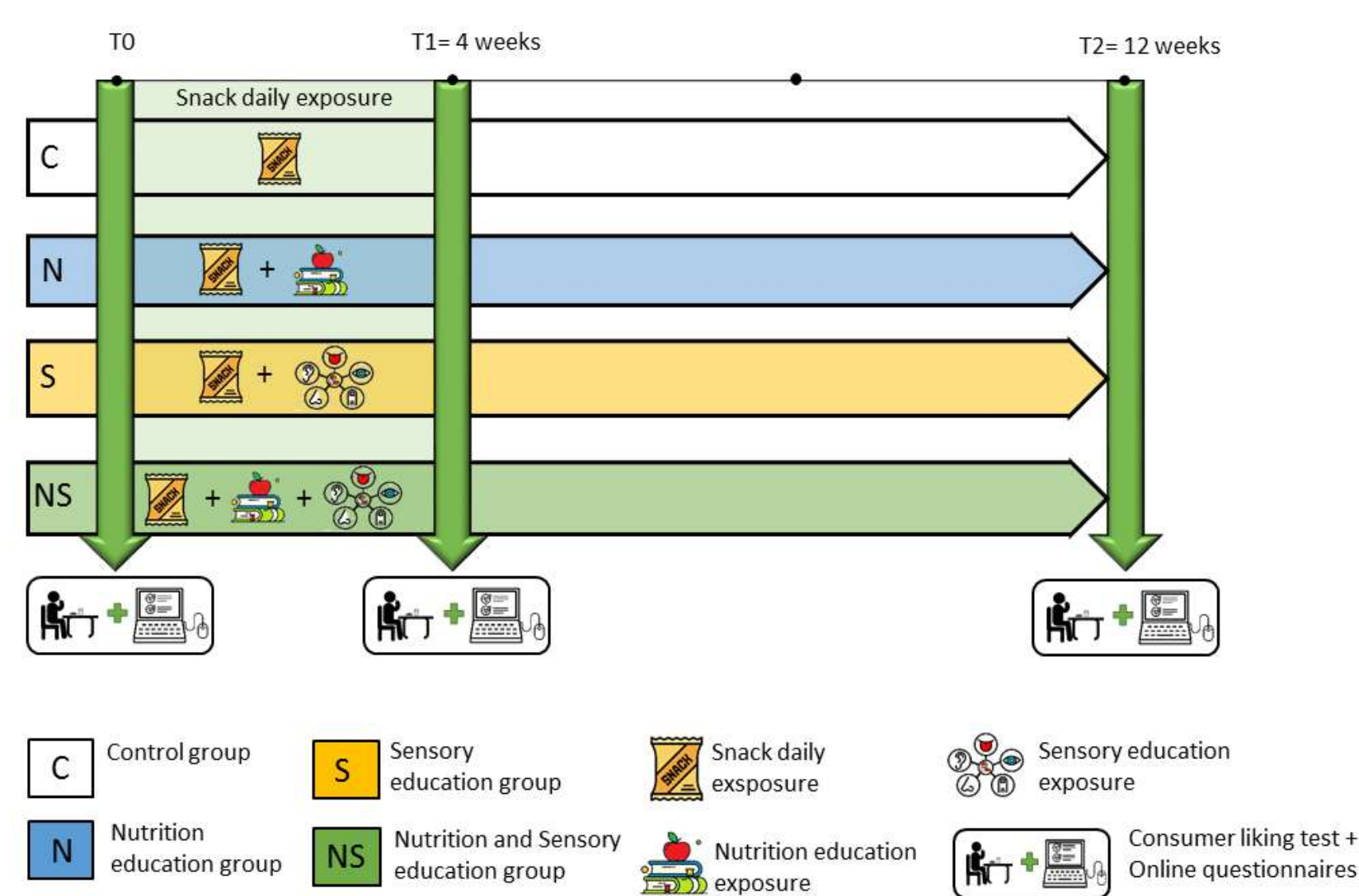
HOW? By adopting these 3 actions (alone and in combination):

- 1) daily **exposure** of a **healthy snack** (for 1 month)
- 2) **education** module on **food nutritional quality** (8h)
- 3) **education** module on **food sensory quality** (8h)



METHODS

TIMELINE OF THE EXPERIMENT



During the first four weeks (T0 to T1), a **healthy ProMD snack** will be distributed daily to all participants. The **N group** will receive over the four weeks a **Nutritional education** program; the **S group** a **Sensory educational program**; the **NS group** a **mixed program**; the **C group** will receive **no educational program**.

Data (Longitudinal measures) will be collected at the beginning of the intervention (**T0**) and after 4 (**T1**) and 12 (**T2**) weeks.

PARTICIPANTS

~ **200 students** (14 to 16 years old) from an high school in Italy
Student classes will be assigned to four different groups (C, N, S, NS)

LONGITUDINAL MEASURES

- 1 **Acceptability test** of the ProMD snacks → **LAM scale**
- 2 Direct measures of the habitual **diet**:
 - **KidMed questionnaire**⁷ → *Adherence to the MD*
 - **Food Frequency questionnaire**⁸ → *Frequency of consumption of the main food categories over a time frame of two weeks*
- 3 Measures associated with the **quality and variability** of the diet:
 - **Food neophobia scale**⁹ → *The reluctance to eat new foods*
 - **Picky eating scale**¹⁰ → *Unwillingness to include a wide range of both familiar and unfamiliar foods in the diet*
- 4 Direct investigation of how adolescents **make decisions** about what to eat:
 - **Food choice task**¹¹

Familiar vs. Unfamiliar food



Food in line vs. non in line with MD



➔ **2° Task:** Each food item rated (100-point VAS scale) for:

LIKING: "How much do you think you like this food?"

AROUSAL: "When you consider eating each of the following foods, please indicate how it makes you feel"

ADHERENCE TO MD: "How much is this food in line with the Mediterranean Diet?"

SENSORY MODULES from T0 to T1

TITLE	AIM	RESULTS	TEST
1 «THE 5 SENSES»	All five senses (and more!) are needed to correctly perceived food	Understanding the complexity of the sensory experience of a food	Team work, Classroom quiz, Individual tests
2 «THE SENSE OF TASTE»	Find out what the five tastes and other sensations are. Show individual differences	Recognizing taste combinations in everyday foods	Team work, Classroom quiz, Individual tests
3 «THE SENSE OF SMELL»	Importance of smell (retro-nasal vs. orthonasal) in the perception of food	Understanding how smells can contribute to the infinite nuances of food and drink	Team work, Classroom quiz, Individual tests
4 «TOUCH, AUDITORY, SIGHT»	What is texture, info from hearing, sight, somatosensory system	Having a comprehensive view of the sensory experience and interactions that are experienced every time we eat or drink	Team work, Classroom quiz, Individual tests

Team work = Classroom quiz = Individual tests

Nutritional modules will be developed by the University of Parma

EXPECTED RESULTS

Each of the three actions will probably lead to **positive**, but different effects on **healthy eating behaviour**. **1)** Exposure to a healthy snack increases acceptability towards these snack; **2)** Nutritional intervention promotes healthy nutritional choice; **3)** Sensory education teaches how to appreciate foods that tend to be less liked, reducing food neophobia/picky eating scores. We expect that the combinations of these actions (**NS group**) lead to an **optimal intervention**.

