

DEVELOPMENT AND IMPLEMENTATION OF EDUCATIONAL AND EMPOWERMENT MODELS TO PROMOTE HEALTHY AND SUSTAINABLE DIETS IN UNIVERSITY STUDENTS

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INTRODUCTION

Several studies^[1] have highlighted the key role of university canteens in promoting the adoption of healthy eating habits among students to prevent chronic diseases later in life. Understanding students' perceptions of the sustainability and healthiness of meals served in university canteens is crucial to designing an environment that meets students' needs.

AIM

Identify clusters of university students according to their Healthy Eating score and thus the most influential predictors of group membership to structure targeted nutritional interventions.

MATERIALS AND METHODS

Online survey aimed at students at the universities of Parma and Bologna

Healthy Eating sub-score (0-30) of the **SHED index**^[2]

Motivation-Opportunity-Ability (MOA)^[3] conceptual framework to identify psychological, behavioral, and socio-economic factors linked to certain dietary patterns

Cluster analysis, Random Forests, and Logistic Regression models

Socio-demographic aspects (25 variables)

Age, gender, social and economic situation, field of study, general habits, health status.

Motivations, Opportunity and Ability (24 variables)

Awareness, social norms, attitude, competing goals, eating-related eco-concerns, socialization, shopping and meal planning, budget management, cooking skills and mindful eating

Nutritional aspects (10 variables)

SHED index Healthy Eating sub-score

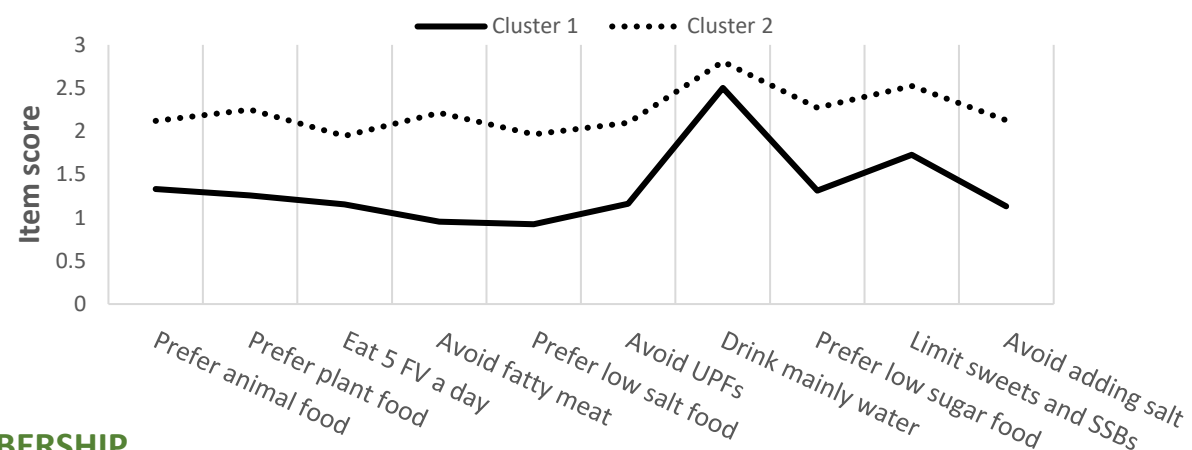
RESULTS

CLUSTERS IDENTIFICATION

The **cross-sectional online survey** was completed by 621 UNIPR and UNIBO students (59.4% female, mean age 22.9±5.0). The average score for Healthy Eating index was 18.1±5.5. A two-cluster solution was identified as the best (Silhouette scores 0.203).

	HE score	
Cluster	1	2
N	302	319
Mean	13.5	22.3
Median	14	22
SD	3.42	2.99
SE	0.20	0.18

Figure 1 SHED Healthy Eating sub-score in the two identified clusters. Each item offers a score from 0 to 3. HE sub-score is given by the sum of the score of each of the 10 items. (FV Fruit Vegetables, SSBs sugar-sweetened beverages, UPFs Ultra Processed Foods)



ASSOCIATION BETWEEN COVARIATES AND CLUSTER MEMBERSHIP

Table 1 Multivariate Logistic Regression Analysis. CI = confidence interval; OR = odds ratio.

Variables	Odds ratio	95% CI	p-value
Being responsible for food purchases	14.095	1.74-114.179	0.013
Being on a low-calorie diet	1.925	0.909-4.077	0.087
Avoiding certain foods due to climate change concerns	1.696	1.204-2.388	0.002
Ability to plan meals	1.691	1.316-2.173	<0.0001
Spending more time than others to look for sustainable food	1.478	1.086-2.011	0.013
Being a male	0.384	0.213-0.000695	0.002

FULL LIST OF VARIABLES:

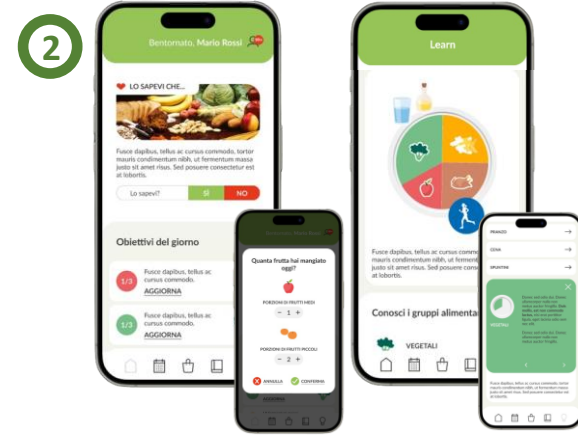


NEXT STEPS



Among modifiable factors, **meal planning skills** and **motivation related to the environmental impact of food** were shown to be issues that should be addressed with targeted approaches. Two intervention studies have been designed.

1. A **pre-post intervention study in a university canteen** in Parma which includes several **nudging techniques** and an educational campaign to increase sustainable dishes choices.
2. A **randomized controlled trial** aimed at testing the **effect of mobile health application** specifically developed to support students in meal planning. Both interventions will start in October 2024.



REFERENCES

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