



FELLOWSHIP SUMMARY REPORTS

Co-operative Research Programme: Sustainable Agricultural and Food Systems

Theme II ‘: Strengthening resilience in the face of multiple risks in a connected world

Fellowship Summary Report

Analysing the economic impact of sustainable dietary diversification on consumer choices in the MED countries using nudging strategies

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Fellowship dates: 5th July 2023 – 3rd January 2024

I consent for this report to be posted on the Co-operative Research Programme’s website

1. What were the objectives of the research project? Why is the research project important?

Background

In most European countries the prevalence of overweight in children and adolescents has steadily risen since 1980 [1]. Furthermore, the COVID-19 pandemic significantly disrupted children's daily eating routines and amplified the negative effects of the obesogenic environment on their health [2].

This serious risk appears even greater in European countries bordering the Mediterranean basin and especially in Italy and Spain. Indeed, among the European countries, Spain and Italy rank amongst the countries with the highest prevalence of overweight and obesity in the European Union [3,4]. According to the fifth wave of the Italian Surveillance System, in 2016 the prevalence rates of overweight (including obese) and obese primary school children were 30.6% and 9.3%, respectively, with southern regions displaying higher rates than northern regions [5]. In Spain, the prevalence of excess weight (overweight and obesity combined) has been reported as being well over 35% for children and adolescents, aged 8–17 [6].

In this context, the relevance of the food supply and environmental sustainability to public health is not a new issue, yet it is complex, and often contested. There is increasing evidence that choosing foods consistent with dietary guidelines will likely result in a lower environmental impact [7]. Considerations of sustainable diets, that in addition to being healthy also protect the environment to ensure the future of a safe, adequate, and nutritious food supply, are increasing internationally [8]. In this line the current EAT Lancet Commission on Food, Planet and Health [9] aims to build the evidence for healthy and sustainable dietary recommendations and many countries have placed greater emphasis on healthy and sustainable food choices.

Diversification has been suggested as a powerful approach towards making food systems more resilient [10]. Sustainable food systems and diets span across the following domains: food production, food quality, societal values, environment, health, economy and governance [11]. Dietary diversification has been propagated as a health-beneficial component of dietary behaviour [12]. In middle- and high-income countries, the first epidemiologic evidence for a health-beneficial effect of diversification indices was reported from Swedish and US American cohorts, where food variety and dietary diversity reduced all-cause and cause specific mortality [13;14].

In this context the exploration of effective weight loss strategies is essential. Nudges are currently advancing approaches that represent a new and better method for changing the behaviours of people towards healthy eating and reduction of food waste [15,16]. The majority of interventions assume that people are rational and conscious when making decisions. However, the dual-process model has provided evidence that the decision-making processes of humans are the product of two cognitive systems, which are derived from unconscious and conscious reasoning [17]. Most interventions change the participant's conscious decision-making process.

There has also been evidence concerning the effectiveness of nudges implemented in the public environment that are meant to improve individual health behaviours for primary preventions, such as increasing physical activity, choosing healthier food, quitting smoking and reducing alcohol consumption. However, these interventions did not target the consumption of sustainable food products by diversifying the diet. To our knowledge, empirical evidence on the effectiveness of nudge interventions has not been synthesized in a systematic manner.

This project explores diversification opportunities in sustainable diets along the food chain in Mediterranean countries and postulates the central hypothesis that diversification of sustainable diets jointly nudges strategies leads to healthier and improves the food safety in terms of food environment.

The current research aims at describing a framework of food security, safety and diversification diets in Med countries in a broader sense by identifying underlying factors, focus also on psychological ones, to drive consumers to change their diet towards sustainable healthy diet by the improvement of food safety and food environment using nudging strategies

2. Were the objectives of the fellowship achieved?

Are they on the way to being achieved?

This research project has achieved most of the goals that were proposed, while others will be implemented in the near future, thus continuing the collaboration between CITA and the University of Naples Federico II.

The fellow conducted an extensive literature review to examine the relation between personal and environmental determinants (physical, social and economic) of obesogenic food environment and nudges strategies that are used for obesity prevention. This review was conducted in collaboration with Prof Verneau and Dr. Mario Amato. The review allowed to identify the framework of food security, safety and diversification diets in Med countries by adopting the NOVA classification (which classifies the food products in fresh, processed and ultra processed processed), food security scales, psychological ones. This framework considers all determinants which drive consumers to change their diet towards sustainable healthy diet by the improvement of food safety and food environment using nudging strategies.

On the other hand, for the budget constraints only focus groups and virtual meetings were organized instead of field experiments with consumers to tackle consumer acceptance and behaviour change aspects. Actually, the focus groups were organized with undergraduate students of Political Science of University Federico II of Naples. Even the literature review identified different economic methodologies, including choice experiments and to evaluate the willingness to pay for diversified food products, we only implement focus groups to identify possible behavioural strategies to assess the impact on consumer purchasing decision-making.

3. What were the major achievements of the fellowship? (up to three)

The current research aims at describing a framework of food security, safety and diversification diets in Med countries in a broader sense by identifying underlying factors, focus also on psychological ones, to drive consumers to change their diet towards sustainable healthy diet by the improvement of food safety and food environment using nudging strategies.

This grant has allowed us to achieve several significant accomplishments: -

1. The fellowship has involved an extensive literature review (including academic and grey literature) to understand describing a framework of food security, safety and diversification diets in Med countries in a broader sense by identifying underlying factors, focus also on psychological ones, to drive consumers to change their diet towards sustainable healthy diet by the improvement of food safety and food environment using nudging strategies. This has been assisted by the Host Supervisor, at the Department of Political Science, University Federico II of Naples.
2. Establishment of two international partnerships with University Federico II of Naples (UNINA): The Department of Political Science and also with Clinical Department Medicine and Surgery of University Federico II in particular with Dr. Marilena Vitale, which also facilitated additional materials to the research team to allow to design future

field experiments on the consumption of ultra processed food, food security and obesity prevention.

3. Providing 2 seminars on my research line at the University of Naples Federico II (seminar placed on 18th September 2023 and 5th December 2023) to disseminate information and results of among different societal groups about nutritional health-sensitive food environment indicators associated with obesity

4. Will there be any follow-up work?

o Is a publication envisaged? Will this be in a journal or a publication? When will it appear?

One publication is planned for a journal article, to be co-authored by the Fellow and Host Supervisor and his team. This will be prepared in winter 2023, with the goal of publishing in a journal by the end of 2024. This joint publication will focus on the scoping review on economic impact of sustainable dietary diversification on consumer choices in the MED countries using nudging strategies and integrated by focus groups. The protocol and the article will be planned to be submitted during the first part of 2024 while the article will be submitted at the end of 2024.

o Is your fellowship likely to be the start of collaboration between your home institution and your host?

The collaboration between CITA (my home institution) and UNINA (the host) will certainly continue after this initial collaboration. Proving this, several subsequent steps have been already fixed, including for example:

1. Using the already existing literature review to elaborate a survey to be conduct to young people (age between 14-18 years) to investigate the consumption of ultra processed food products, the possible intervention strategy to prevent their consumption and improved their healthy eating.
2. The results of this fellow represent the base to build future consortium and the collaboration will be the base to elaborate future international projects (e.i. Horizon Europe calls).

o Is your research likely to result in protected intellectual property, novel products or processes?

- No

5. How might the results of your research project be important for helping develop regional, national, or international agro-food, fisheries or forestry policies and, or practices, or be beneficial for society?

The results are in line with Farm to Fork Strategy combats obesity and it supports consumers' transparency into making more informed and sustainable and healthy food purchases.

The EAT-Lancet Commission has outlined targets on achieving healthier and more environmentally friendly diets, providing guidelines on what and how much to eat at an individual level (Willett et al., 2019).

The results can supply a new multidisciplinary approach to promote the choice of diversified diets and nudge intervention to better help society to fight against obesity.

6. How was this research relevant to the CRP:

The results of this project addressed the objectives of the OCDE programme focused on sustainability, nutrition and food safety and the direct relevance to the theme objective, which is to 'Managing Risks in a Connected World', which one of the central aims is to undertake research with the view to anticipate, understand and manage risks come from obesity pandemic and thus that could impact food security, nutrition and environments

The HealthNudge4MED project addressed the entire scope of CRP and to the theme objectives "STRENGTHENING RESILIENCE IN THE FACE OF MULTIPLE RISKS IN A CONNECTED. Especially on "Sustainable productivity growth and food security and nutrition";

Firstly, this research proposal was cross-disciplinary and is focused on the social, economic and environmental elements required for combating obesity and overweight by diversification of the healthy and sustainable diets and nudges strategies. Secondly, this project targeted the diversification of the diets which contributed to the diversification of entire food system for the sustainable transformation of nutrition in MED countries to provide healthy diets while protecting the environment. The outcomes of sustainability, food security and nutrition were achieved through new innovative framework combining diversification of diets, nudge intervention and improvement of food environments. This project addresses and added value to the current debate about the nudging strategies to drive consumers to reduce the consumption of ultra processed food, reduce the obesity diseases and finally to improve the food security and safety.

7. Satisfaction

o Did your fellowship conform to your expectations?

The fellowship exceeded my expectations in terms of personnel, expertise and laboratory equipment as well as their great disposition to share access to their information. The fellowship allowed me to collaborate with reputed scientists and establish a close collaboration between my institute and the host institution. There is no doubt that the OECD fellowship enormously improved my career opportunities, given that the OECD is an honourable institution, the results obtained will be published in at least one publications and orally presented at a world-rank conference.

Will the OECD Co-operative Research Programme fellowship increase directly or indirectly your career opportunities?

This project offered me the potential to start a new line of research by combination of nudge intervention, obesogenic food environment, dietary sustainable diversification to mitigate non communicable disease. Hence I acquired experience also in the implementation of experiments from a new multidisciplinary perspective, taking into consideration also cognitive psychology and nutrition theme by developing experiments according new multidisciplinary approach to promote the choice of diversified diets and strategy intervention to better help society to fight against obesity.

Did you encounter any practical problems?

No.

8. Advertising the Co-operative Research Programme

o How did you learn about the Co-operative Research Programme?

From CSIC- INIA in Spain

o What would you suggest to make it more “visible”?

I suggest to prepare an InfoDay organized with the local contact points and advertise this event in social media

o Are there any issues you would like to record?

-No. Thank you very much for your support.

9. References

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