



Intellectual Output 1

Evaluation of Knowledge, attitude and perception in the field of healthy cooking

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Erasmus+ Programme – Strategic Partnership for
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Introduction

Intellectual Output 1 (IO1) seeks to assess the effectiveness of the pilot course developed as part of the Cooking Healthy European Path (CHEEP; 2020-1-IT02-KA201-079674) project. Led by the University of Palermo (UNIPA), the realization of IO1 involved collaboration among all partner organizations.

The efficacy of the pilot course was assessed by administering a questionnaire assessing knowledge and attitudes toward healthy cooking to two groups of students: the experimental group and the control group, before and after the implementation of the pilot course. Therefore, the research design employed for IO1 was a pre-post research design with a control group. Participants were students from project-involved schools (IPSSEOA “Pietro Piazza,” Palermo, Italy; Lycée hôtelier Yvon Bourges de Dinard, France; Zespol Szkol Gasztronomiczno-Hotelarskich, Gdansk, Poland; Formacion Profesional La Merced, Soria, Spain). Moreover, IO1 required providing feedback to the students involved in the short-term activities about their progress. This was achieved using part of the same questionnaire. Developing the questionnaire involved conducting a pilot study to assess the psychometric properties of an initial draft. As our goal was to evaluate both knowledge and attitudes toward healthy cooking, the questionnaire needed to incorporate two distinct scales: one for evaluating information acquired during the pilot course, and the other for assessing attitudes and perceptions. UNIPA team adopted distinct approaches for each scale. Detailed methods and procedures are outlined in the subsequent sections.

Developing Indicators and Measures for Project Evaluation

Knowledge about healthy cooking

The objective of the pilot study was to create a first draft of the questionnaire to be tested. Thanks to Rasch model and factorial analysis, we obtained a final version of the measure to be used for the realization of the IO1 that was characterized by brevity but also by sound psychometric properties.

1. The Pilot Study

The need to evaluate the knowledge about healthy cooking in students after the participation to the pilot course determined the necessity to have detailed information about the contents of the pilot course itself. In fact, in the context of the CHEEP project, the expression “healthy cooking” has a specific meaning that is strictly related to the dietary needs of people suffering from a specific set of Non-Communicable Diseases. Considering that the teachers that delivered the pilot course (IO3) were trained by the scientific committee composed of experts from the Consiglio Nazionale delle Ricerche (CNR) (IO2), UNIPA referred to the latter to have a complete picture of the contents to be assessed. The webinars covered 4 main issues: food allergies, celiac disease, diabetes, and obesity. Each disease has its own specificities; thus the part of the questionnaire dedicated to knowledge had 4 sub-scales.

1.1. Procedure

The creation of the questionnaire for the pilot study relied on interviews with the trainers involved in the webinar (IO2). Trainers provided UNIPA with the materials used in the webinar and with a total of 125 Yes/No questions (see Appendix A for the complete list) focused on the topics covered in each module. Two judges carefully read them and randomly extracted 59 questions (see Appendix B for the complete list). Since UNIPA planned to use Rasch model to analyze results, the sample should have been composed of both participants highly skilled in nutritional science and participants not skilled in such topics. Once data were collected, analyses provided information to eliminate a part of the items and create a short final version of the questionnaire about knowledge toward healthy cooking.

The draft questionnaire was composed of 59 Yes/NO questions: 15 questions for the Obesity topic; 16 for the Food Allergies topic; 13 for the Celiac Disease topic; 15 for the Diabetes topic. Four attention-check questions were added, 1 per topic. The final section of the draft questionnaire was dedicated to collecting socio-demographic information. The draft questionnaire was delivered online through the software Lime Survey (Version 2.63.1+). The order of questions and topics was randomized, and the questionnaire was anonymous.

1.2. Participants

598 Italian participants were recruited online from several fields: universities, direct invitation, Facebook, Instagram, and Google Business. 44 participants did not pass check items and were eliminated. 76.53% of participants were female, whereas 19.13% were male. Participants' age ranged from 18 and 70 years ($M = 27.20$; $SD = 9.14$). In Table 1.1 is reported the region of provenience distribution.

Table 1.1. Region - Frequency Distribution

Region	Frequency
ABRUZZO	5
BASILICATA	2
CALABRIA	1
CAMPANIA	14
EMILIA-ROMAGNA	17
FRIULI VENEZIA GIULIA	3
LAZIO	42
LIGURIA	9
LOMBARDIA	62
MARCHE	6
MOLISE	3
PIEMONTE	20
PUGLIA	10
SARDEGNA	13
SICILIA	245
TOSCANA	22
TRENTINO	3
UMBRIA	4
VENETO	25
NA	48

Note. NA = missing response

As shown in Figure 1.1, the entire national territory was covered, although Sicily was the modal region.

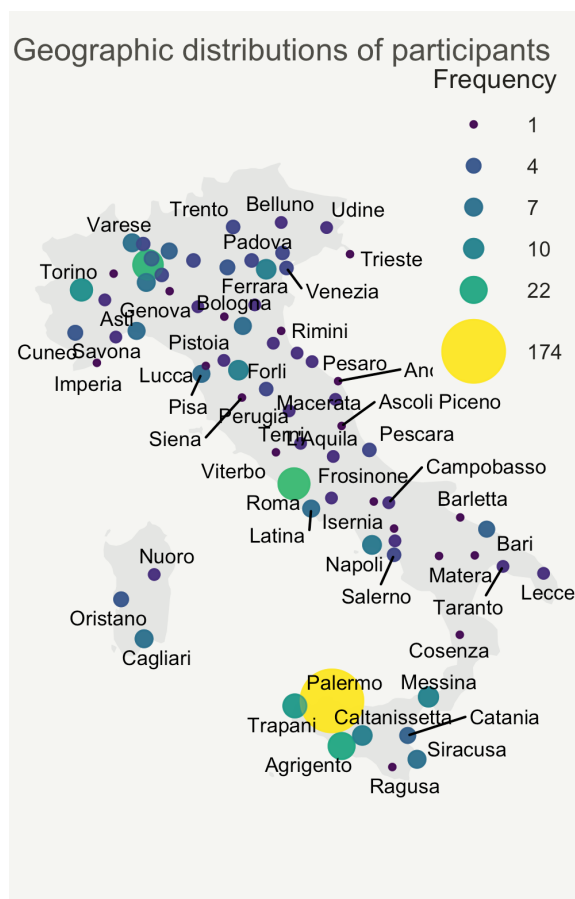


Figure 1.1. City - Frequency Distribution

Regarding participants' employment, as shown in Table 1.2, the modal modality was “students”. There were 75 assumed experts in biology and nutritional sciences (e.g., Biologists, Chemists/Pharmacists, Dieticians, Nutritionists, and Physicians) and a heterogeneity of other employments according to the International Standard Classification of Occupations (ISCO).

Table 1.2. Employment - Frequency Distribution

Employment	Freq
Armed forces occupations	1
Biologists	22
Chemists/Pharmacists	3
Craft and related trades workers	5
Dieticians	23
Elementary occupations	11
Managers	8
Nutritionists	15
Physician	12
Plant and machine operators, and assemblers	2
Professional	43
Researcher	5
Retired	3
Service and sales workers	22
Students	267
Technicians and associate professionals	46
Unemployed	14
NA	52

Note. NA = missing response

Students' faculty typology was distributed as shown in Table 1.3. The most frequent typology was "Medicine, Biology, Nutritional and Food Sciences, Chemistry and Pharmacy," followed by psychology and other typologies.

Table 1.3. Faculty Typology - Frequency Distribution

Corso di Laurea	Freq
Art and Humanities	7
Business, Administration and Marketing	6
Engineering	7
Languages and Literatures	4
Law Faculties	2
Medicine, Biology, Nutritional and Food Sciences, Chemistry and Pharmacy	162
Psychology and Social Services	135
NA	231

Note. NA = missing response.

Most participants (see Table 1.4) did not suffer from diseases that require special dietary precautions. However, there is a consistent number of participants (30.42%) suffering at least one of the following conditions: diabetes, obesity, food allergies, celiac disease, chronic inflammation, and other diseases that require special dietary precautions.

Table 1.4. Do you suffer from any of the following diseases? - diabetes, obesity, food allergies, celiac disease, chronic inflammations, and other diseases that require special dietary precautions - Frequency Distribution

Number of diseases	Freq
0	386
1	115
2	40
3	11
4	2
NA	0

1.3. Rasch Analysis

Let X_{ni} a dichotomous item where $x=1$ denotes a correct response and $x=0$ an incorrect response. In the Rasch model for dichotomous items, the probability of a subject n to respond correctly to an item i ($X_{ni} = 1$) is given by:

$$Pr\{X_{ni} = 1\} = \frac{e^{\beta_n - \delta_i}}{1 + e^{\beta_n - \delta_i}}$$

where β_n is the ability of subject n , and δ_i is the difficulty of item i . Consequently, in the case of a dichotomous item, $Pr\{X_{ni} = 1\}$ is the probability of success upon the interaction between the person's ability and item difficulty.

This model offers several advantages:

- invariant comparison: the comparison between two items is independent of participant abilities. Likewise, it's true the reverse, i.e., the comparison between two participant abilities is independent of the items used.
- sufficiency: if the Rasch model fits the data, the raw score is a sufficient statistic for parameters.
- best test design: it permits calibrating and choosing item difficulties as a function of a person's ability to measure.

1.3.1. Infit and Outfit MSQ

A first Rash model was tested using all items. Item difficulties are shown in Table 1.5: the lower value, the easier the item is.

Table 1.5. Item difficulties

Item id	Item (ITA)	Item (ENG)	Difficulty parameter
Celiac[Ce10]	È necessario controllare le etichette dei prodotti confezionati?	Is it necessary to check the labels on packaged products?	-2.90
Celiac[Ce9]	Quando si mangia fuori casa, si deve informare chi cucina della propria malattia?	When people eat out, do they have to inform the cook of their illness/condition?	-2.78
Obesity[SQ003]	I lipidi sono fondamentali per l'assorbimento di alcune vitamine?	Are lipids essential for the absorption of certain vitamins?	-2.68
Celiac[Ce4]	Per una dieta priva di glutine basta eliminare pane e pasta?	For a gluten-free diet, is excluding bread and pasta enough?	-2.49
Allergies[Al12]	La comparsa improvvisa di labbra gonfie dopo avere assunto un alimento è indizio di reazione allergica?	After eating a food, is the sudden appearance of swollen lips a sign of an allergic reaction?	-2.13
Obesity[SQ001]	Carboidrati, proteine e grassi sono nutrienti energetici?	Are carbohydrates, proteins and fats energy nutrients?	-1.57
Allergies[Al5]	La frutta è priva di antiossidanti?	Is fruit antioxidants-free?	-1.28
Celiac[Ce13]	Si può friggere il cibo senza glutine nell'olio in cui si è fritto il cibo con glutine?	Can you fry gluten-free food in the oil in which you have already fried food with gluten?	-1.25
Obesity[SQ013]	Consumare meno cibi processati può aiutare a ridurre il rischio di obesità?	Can consuming less processed foods help to reduce the risk of obesity?	-1.07

Allergies[Al6]	Gli ortaggi sono privi antiossidanti?	Are vegetables antioxidants-free?	-1.04
Obesity[SQ004]	Grassi e carboidrati possono essere esclusi dalla nostra dieta?	Can fats and carbohydrates be excluded from our diet?	-1.04
Allergies[Al1]	La frutta a guscio rappresenta un cibo a basso rischio di reazione allergica?	Does dried nuts represent a food with a low allergic reaction risk?	-0.89
Celiac[Ce2]	La celiachia necessita di una dieta priva di glutine costantemente?	Does celiac disease constantly requires a gluten-free diet?	-0.85
Obesity[SQ008]	Il coniglio è ricco in proteine vegetali?	Is the rabbit rich in vegetable protein?	-0.79
Obesity[SQ014]	Consumare un'adeguata quantità di fibre può aiutare a ridurre il rischio di obesità?	Can consuming an adequate amount of fibers help to reduce the risk of obesity?	-0.77
Celiac[Ce7]	Alla celiachia possono essere associate altre intolleranze o allergie alimentari?	Can celiac disease be associated with other food intolerances or allergies?	-0.73
Celiac[Ce11]	Un supporto dietistico periodico aiuta a rispettare la dieta priva di glutine?	Does a regular dietician support help to follow a gluten-free diet?	-0.68
Obesity[SQ002]	I lipidi sono fondamentali per l'assorbimento di alcune vitamine?	Are lipids essential for the absorption of certain vitamins?	-0.64
Celiac[Ce12]	Per la preparazione dei cibi senza glutine, gli utensili da cucina devono essere ad uso esclusivo del celiaco?	For the preparation of gluten-free meals, should kitchen utensils exclusively be used for the celiac?	-0.59
Allergies[Al4]	Tutte le vitamine sono antiossidanti?	Are all vitamins antioxidants?	-0.58
Diabete[Di1]	I carboidrati assunti con il pasto influiscono sulla glicemia post prandiale?	Do carbohydrates taken with the meal affect post-prandial glycaemia?	-0.54

Celiac[Ce6]	legumi contengono glutine?	Do legumes contain gluten?	-0.49
Obesity[SQ007]	La frutta secca a guscio (noci, mandorle,...) è povera in grassi?	Are dried nuts (walnuts, almonds, etc) poor in fats?	-0.43
Allergies[Al10]	I molluschi rappresentano un cibo ad alto rischio di reazione allergica?	Do shellfish represent a food with a high allergic reaction risk?	-0.40
Obesity[SQ011]	A parità di peso, i cracker sono meno calorici del pane?	With equal weight, are crackers less caloric than bread?	-0.25
Celiac[Ce1]	La celiachia è un'intolleranza permanente al glutine?	Is celiac disease a permanent gluten intolerance?	-0.20
Obesity[SQ015]	Consumare pranzi, cene e merende a basso contenuto calorico riduce il rischio di sovrappeso e obesità?	Does eating low-calories lunches, dinners and snacks reduce the risk of overweight and obesity?	-0.14
Diabete[Di12]	Mangiare cibo integrale riduce il picco glicemico postprandiale?	Does eating wholefoods reduce the postprandial glycemic peak?	-0.05
Allergies[Al7]	Una dieta ricca in fibre e polisaccaridi vegetali può distruggere la flora intestinale?	Can a diet rich in fibers and plant polysaccharides destroy intestinal flora?	0.02
Diabete[Di7]	Il fruttosio fa incrementare la glicemia?	Does fructose increase glycaemia?	0.03
Diabete[Di10]	L'olio di oliva è il migliore condimento consentito?	Is olive oil the best dressing allowed?	0.11
Obesity[SQ005]	In base alle raccomandazioni, le calorie da grassi saturi non devono superare il 10% delle calorie giornaliere?	According to the recommendations, should saturated fat calories not exceed 10% of daily calories?	0.20
Celiac[Ce8]	Piccole quantit? di glutine sono dannose per la salute del celiaco?	Are small amounts of gluten harmful to the health of the celiac?	0.22

Obesity[SQ009]	Le verdure sono ricche in proteine?	Are vegetables rich in protein?	0.31
Diabete[Di11]	L'assunzione di frutta può essere libera?	Can fruit intake be free (for diabetics)?	0.39
Obesity[SQ012]	Un piatto di cereali e legumi è un pasto nutrizionalmente completo?	Is a plate of cereals and legumes a nutritionally complete meal?	0.39
Diabete[Di6]	Il lattosio è uno zucchero?	Is lactose a sugar?	0.40
Allergies[Al14]	La comparsa improvvisa di crampi, nausea e vomito dopo avere assunto un alimento è indizio di reazione allergica?	After eating a food, is the sudden appearance of cramps, nausea and vomiting is a sign of an allergic reaction?	0.61
Diabete[Di4]	Gli zuccheri complessi o amidi sono consentiti?	Are complex sugars or starches allowed?	0.67
Diabete[Di5]	Il paziente diabetico può assumere dolcificanti?	Can the diabetic patient take sweeteners?	0.72
Celiac[Ce3]	Eliminare il glutine dall'alimentazione crea squilibri nutrizionali?	Does eliminating gluten from the diet create nutritional imbalances?	0.74
Diabete[Di9]	Gli ortaggi contengono carboidrati?	Do vegetables contain carbohydrates?	0.77
Allergies[Al9]	Le allergie alimentari possono causare alimentazione insufficiente?	Can food allergies cause poor nutrition?	0.82
Diabete[Di14]	L'ipoglicemia si corregge con la somministrazione di zuccheri?	Can hypoglycaemia be corrected by administering sugar?	0.82
Diabete[Di8]	Il miele è consentito ad un soggetto diabetico?	Can honey be allowed for diabetics?	0.85
Diabete[Di2]	I grassi contenuti in un pasto influiscono sulla glicemia post prandiale?	Do the fats contained in a meal affect post-prandial glycaemia?	0.89
Allergies[Al2]	La soia rappresenta un cibo a basso rischio di reazione allergica?	Does soy represent a food with a low allergic reaction risk?	0.91

Diabete[Di15]	La pizza è un alimento consigliato?	Is pizza a recommended food (for diabetics)?	1.01
Allergies[Al11]	Il grano rappresenta un cibo ad alto rischio di reazione allergica?	Does wheat represent a food with a high allergic reaction risk?	1.11
Celiac[Ce5]	Orzo e farro contengono glutine?	Do barley and spelt contain gluten?	1.15
Allergies[Al3]	Il pesce rappresenta un cibo a basso rischio di reazione allergica?	Does fish represent a food with a low allergic reaction risk?	1.17
Allergies[Al8]	I fagioli sono un alimento insolubile?	Are beans an insoluble food?	1.27
Allergies[Al16]	Gli asparagi sono un cibo prebiotico?	Is asparagus a prebiotic food?	1.51
Allergies[Al13]	La comparsa improvvisa di tosse dopo avere assunto un alimento è indizio di reazione allergica?	After eating a food, is the sudden appearance of coughing a sign of an allergic reaction?	1.54
Obesity[SQ010]	La margarina contiene meno grassi saturi del burro?	Does margarine contain less saturated fat than butter?	1.62
Allergies[Al15]	La comparsa improvvisa di colorito pallido dopo avere assunto un alimento è indizio di reazione allergica?	After eating a food, is the sudden appearance of paleness a sign of an allergic reaction?	1.77
Obesity[SQ006]	In base alle raccomandazioni, è importante assumere non più di 10 g di sale al giorno?	According to the recommendations, is it important to take no more than 10 g of salt per day?	2.31
Diabete[Di13]	L'utilizzo dei polialcoli (maltitolo) nel confezionamento di dolci e biscotti destinati al soggetto diabetico è raccomandato?	In the packaging of cakes and biscuits, is the use of polyalcohols (maltitol) recommended for diabetics?	2.42
Diabete[Di3]	Gli zuccheri semplici sono consentiti?	Are simple sugars allowed?	2.50

The first step to select the best items was to test the general item fit to the Rasch model. This can be estimated using mean square infit and outfit statistics (Wright & Linacre, 1994). Infit (inlier-sensitive or information-weighted fit) is sensitive to unexpected patterns of observations by items on persons that are approximately targeted on them. Differently, Outfit (outlier-sensitive fit statistic) is sensitive to unexpected observations by items on persons that are relatively very easy or very hard. For an optimal fit, the infit and outfit MSQ values should be within the range of 0.7 to 1.3. In Table 1.6, infit and outfit statistics are shown.

Table 1.6. Infit and Outfit

Item	X^2	df	p value	Outfit MSQ	Infit MSQ	Outfit t	Infit t	Discrim
Obesity[SQ001]	510.95	553.00	0.90	0.92	0.96	-0.33	-0.16	0.16
Obesity[SQ002]	474.87	553.00	0.99	0.86	0.95	-1.23	-0.49	0.25
Obesity[SQ003]	306.67	553.00	1.00	0.55	0.95	-1.38	-0.08	0.24
Obesity[SQ004]	593.18	553.00	0.12	1.07	0.97	0.51	-0.18	0.13
Obesity[SQ005]	534.18	553.00	0.71	0.96	1.01	-0.52	0.22	0.14
Obesity[SQ006]	580.74	553.00	0.20	1.05	1.01	0.99	0.22	0.10
Obesity[SQ007]	398.32	553.00	1.00	0.72	0.89	-2.98	-1.38	0.47
Obesity[SQ008]	441.22	553.00	1.00	0.80	0.93	-1.66	-0.63	0.30
Obesity[SQ009]	473.28	553.00	0.99	0.85	0.91	-2.49	-1.85	0.42
Obesity[SQ010]	627.86	553.00	0.02	1.13	1.12	4.75	4.71	-0.04
Obesity[SQ011]	470.65	553.00	1.00	0.85	0.95	-1.69	-0.74	0.32
Obesity[SQ012]	583.31	553.00	0.18	1.05	1.05	0.92	1.18	0.06
Obesity[SQ013]	501.61	553.00	0.94	0.90	0.97	-0.59	-0.24	0.18
Obesity[SQ014]	486.89	553.00	0.98	0.88	0.97	-0.95	-0.30	0.20
Obesity[SQ015]	555.09	553.00	0.47	1.00	0.99	0.05	-0.08	0.17
Allergies[Al1]	504.39	553.00	0.93	0.91	0.96	-0.63	-0.31	0.21
Allergies[Al2]	526.57	553.00	0.78	0.95	0.97	-1.39	-1.15	0.27
Allergies[Al3]	560.91	553.00	0.40	1.01	1.01	0.44	0.30	0.19
Allergies[Al4]	532.09	553.00	0.73	0.96	0.98	-0.32	-0.25	0.18
Allergies[Al5]	385.81	553.00	1.00	0.70	0.92	-1.94	-0.53	0.36

Allergies[Al6]	407.41	553.00	1.00	0.74	0.93	-1.90	-0.57	0.33
Allergies[Al7]	534.64	553.00	0.70	0.96	1.00	-0.44	-0.04	0.19
Allergies[Al8]	637.78	553.00	0.01	1.15	1.13	5.34	5.47	-0.03
Allergies[Al9]	547.60	553.00	0.56	0.99	1.00	-0.28	-0.01	0.19
Allergies[Al10]	520.90	553.00	0.83	0.94	0.98	-0.56	-0.25	0.22
Allergies[Al11]	598.56	553.00	0.09	1.08	1.08	2.60	3.25	0.04
Allergies[Al12]	432.32	553.00	1.00	0.78	0.95	-0.79	-0.14	0.20
Allergies[Al13]	573.44	553.00	0.26	1.03	1.03	1.34	1.24	0.12
Allergies[Al14]	630.19	553.00	0.01	1.14	1.09	2.80	2.50	-0.02
Allergies[Al15]	641.24	553.00	0.00	1.16	1.13	5.03	4.94	-0.07
Allergies[Al16]	590.11	553.00	0.13	1.06	1.06	2.47	2.81	0.06
Celiac[Ce1]	554.81	553.00	0.47	1.00	0.99	0.05	-0.10	0.14
Celiac[Ce2]	470.37	553.00	1.00	0.85	0.94	-1.15	-0.49	0.25
Celiac[Ce3]	588.08	553.00	0.15	1.06	1.06	1.44	1.69	0.07
Celiac[Ce4]	355.60	553.00	1.00	0.64	0.95	-1.16	-0.10	0.23
Celiac[Ce5]	531.79	553.00	0.73	0.96	0.98	-1.38	-1.05	0.24
Celiac[Ce6]	535.42	553.00	0.70	0.97	0.99	-0.28	-0.10	0.15
Celiac[Ce7]	555.85	553.00	0.46	1.00	0.98	0.07	-0.13	0.15
Celiac[Ce8]	535.64	553.00	0.69	0.97	0.98	-0.49	-0.43	0.23
Celiac[Ce9]	405.95	553.00	1.00	0.73	0.96	-0.65	-0.02	0.16
Celiac[Ce10]	558.39	553.00	0.43	1.01	0.97	0.15	0.03	0.03
Celiac[Ce11]	564.50	553.00	0.36	1.02	0.98	0.20	-0.22	0.17
Celiac[Ce12]	507.45	553.00	0.92	0.92	0.97	-0.72	-0.32	0.20
Celiac[Ce13]	513.87	553.00	0.88	0.93	0.96	-0.39	-0.23	0.17
Diabete[Di1]	415.64	553.00	1.00	0.75	0.91	-2.43	-1.03	0.37
Diabete[Di2]	580.71	553.00	0.20	1.05	1.04	1.30	1.32	0.14
Diabete[Di3]	569.17	553.00	0.31	1.03	1.02	0.50	0.37	0.12
Diabete[Di4]	525.87	553.00	0.79	0.95	0.98	-1.14	-0.57	0.27
Diabete[Di5]	500.90	553.00	0.94	0.90	0.93	-2.28	-2.13	0.38
Diabete[Di6]	472.52	553.00	0.99	0.85	0.92	-2.70	-1.81	0.37
Diabete[Di7]	617.02	553.00	0.03	1.11	1.00	1.47	-0.05	0.16

Diabete[Di8]	649.60	553.00	0.00	1.17	1.10	4.29	3.30	-0.02
Diabete[Di9]	496.54	553.00	0.96	0.90	0.92	-2.60	-2.53	0.40
Diabete[Di10]	525.16	553.00	0.80	0.95	0.98	-0.72	-0.36	0.22
Diabete[Di11]	534.74	553.00	0.70	0.96	0.98	-0.59	-0.52	0.25
Diabete[Di12]	481.73	553.00	0.99	0.87	0.96	-1.67	-0.57	0.24
Diabete[Di13]	554.76	553.00	0.47	1.00	0.97	0.04	-0.64	0.15
Diabete[Di14]	519.93	553.00	0.84	0.94	0.96	-1.60	-1.50	0.31
Diabete[Di15]	587.15	553.00	0.15	1.06	1.05	1.79	1.82	0.09

In line with this analysis, we excluded the following items: Obesity[SQ003], Allergies[Al5], Celiac[Ce4].

1.3.2. Item difficulty Invariance using participants' expertise criterion

In the Rasch model, item difficulties and persons' abilities should be independent. This means that an estimated item difficulty should not be a function of the expertise or the person's ability that give a response. In other words, a meter rod (the item difficulty) is a long meter independent of the length of the person measured (the person's ability). To test this assumption, we split the sample into two groups: experts vs. not experts. Experts were Biologists, Chemists/Pharmacists, Dieticians, Nutritionists, physicians, and students in Medicine, Biology, Nutritional and Food Sciences, Chemistry, and Pharmacy. Wald test was used to test if estimated item difficulties were invariant between groups.

Table 1.7 and Figure 1.2 show wald test statistics.

Table 1.7. Wald Test for expertise invariance

	z-statistic	p-value
beta Obesity[SQ001]	-0.41	0.68
beta Obesity[SQ002]	-1.56	0.12
beta Obesity[SQ004]	1.28	0.20
beta Obesity[SQ005]	0.06	0.95
beta Obesity[SQ006]	-0.69	0.49
beta Obesity[SQ007]	-1.40	0.16
beta Obesity[SQ008]	-2.05	0.04
beta Obesity[SQ009]	-1.70	0.09
beta Obesity[SQ010]	4.38	0.00
beta Obesity[SQ011]	-0.18	0.85
beta Obesity[SQ012]	-0.98	0.33
beta Obesity[SQ013]	-0.92	0.36
beta Obesity[SQ014]	-0.47	0.64
beta Obesity[SQ015]	1.66	0.10
beta Allergies[Al1]	0.68	0.50
beta Allergies[Al2]	-2.20	0.03
beta Allergies[Al3]	-0.79	0.43
beta Allergies[Al4]	-0.24	0.81
beta Allergies[Al6]	-2.05	0.04
beta Allergies[Al7]	-0.43	0.66

beta Allergies[Al8]	4.77	0.00
beta Allergies[Al9]	0.86	0.39
beta Allergies[Al10]	0.23	0.82
beta Allergies[Al11]	2.94	0.00
beta Allergies[Al12]	1.58	0.11
beta Allergies[Al13]	4.22	0.00
beta Allergies[Al14]	3.66	0.00
beta Allergies[Al15]	3.79	0.00
beta Allergies[Al16]	3.02	0.00
beta Celiac[Ce1]	2.26	0.02
beta Celiac[Ce2]	-1.56	0.12
beta Celiac[Ce3]	-0.71	0.47
beta Celiac[Ce5]	-0.62	0.53
beta Celiac[Ce6]	-0.87	0.38
beta Celiac[Ce7]	1.06	0.29
beta Celiac[Ce8]	0.19	0.85
beta Celiac[Ce9]	-0.66	0.51
beta Celiac[Ce10]	0.37	0.71
beta Celiac[Ce11]	0.17	0.86
beta Celiac[Ce12]	0.77	0.44
beta Celiac[Ce13]	1.27	0.21
beta Diabete[Di1]	-2.18	0.03
beta Diabete[Di2]	1.97	0.05
beta Diabete[Di3]	1.08	0.28
beta Diabete[Di4]	-2.39	0.02
beta Diabete[Di5]	-2.42	0.02
beta Diabete[Di6]	-4.77	0.00
beta Diabete[Di7]	3.23	0.00
beta Diabete[Di8]	4.62	0.00
beta Diabete[Di9]	-1.28	0.20
beta Diabete[Di10]	-2.57	0.01
beta Diabete[Di11]	0.38	0.71
beta Diabete[Di12]	-0.86	0.39
beta Diabete[Di13]	-0.96	0.34

beta Diabete[Di14]	0.60	0.55
beta Diabete[Di15]	2.70	0.01

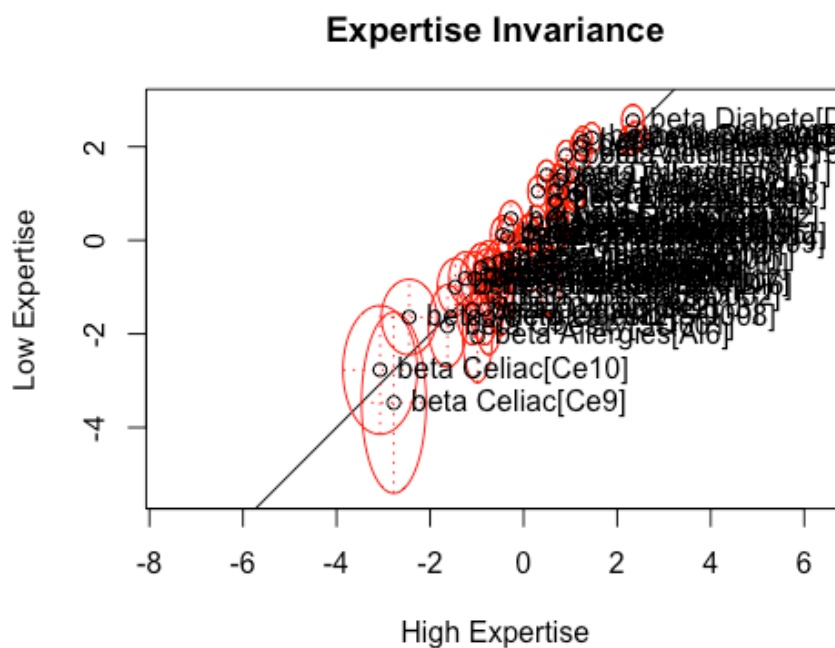


Figure 1.2

In line with this analysis, we excluded the following items: Obesity[SQ008], Obesity[SQ010], Allergies[Al2], Allergies[Al6], Allergies[Al8], Allergies[Al11], Allergies[Al13], Allergies[Al14], Allergies[Al15], Allergies[Al16], Celiac[Ce1], Diabete[Di1], Diabete[Di2], Diabete[Di4], Diabete[Di5], Diabete[Di6], Diabete[Di7], Diabete[Di8], Diabete[Di10], Diabete[Di15].

1.3.3. Item difficulty Invariance using ability split criterion

Again, we applied the same analysis (i.e., wald test) using the median-split ability criterion. In this case, persons' abilities used to obtain the two groups were estimated as a function of response patterns (Table 1.8 and Figure 1.3).

Table 1.8. Wald Test for ability invariance

	z-statistic	p-value
beta Obesity[SQ001]	1.19	0.23
beta Obesity[SQ002]	0.15	0.88
beta Obesity[SQ004]	2.05	0.04
beta Obesity[SQ005]	0.55	0.58
beta Obesity[SQ006]	2.95	0.00
beta Obesity[SQ007]	-2.98	0.00
beta Obesity[SQ009]	-2.78	0.01
beta Obesity[SQ011]	-1.64	0.10
beta Obesity[SQ012]	3.56	0.00
beta Obesity[SQ013]	1.36	0.17
beta Obesity[SQ014]	-1.50	0.13
beta Obesity[SQ015]	0.34	0.74
beta Allergies[Al1]	0.34	0.74
beta Allergies[Al3]	0.53	0.60
beta Allergies[Al4]	1.50	0.13
beta Allergies[Al7]	0.09	0.93
beta Allergies[Al9]	1.50	0.13
beta Allergies[Al10]	-0.16	0.87
beta Allergies[Al12]	-0.47	0.64
beta Celiac[Ce2]	-1.97	0.05
beta Celiac[Ce3]	2.43	0.02
beta Celiac[Ce5]	0.36	0.72
beta Celiac[Ce6]	1.15	0.25
beta Celiac[Ce7]	1.86	0.06

beta Celiac[Ce8]	0.20	0.84
beta Celiac[Ce9]	-0.38	0.70
beta Celiac[Ce10]	-0.25	0.81
beta Celiac[Ce11]	1.63	0.10
beta Celiac[Ce12]	-0.05	0.96
beta Celiac[Ce13]	0.27	0.79
beta Diabetes[Di3]	3.46	0.00
beta Diabetes[Di9]	-0.86	0.39
beta Diabetes[Di11]	2.30	0.02
beta Diabetes[Di12]	-1.64	0.10
beta Diabetes[Di13]	1.41	0.16
beta Diabetes[Di14]	-0.87	0.39

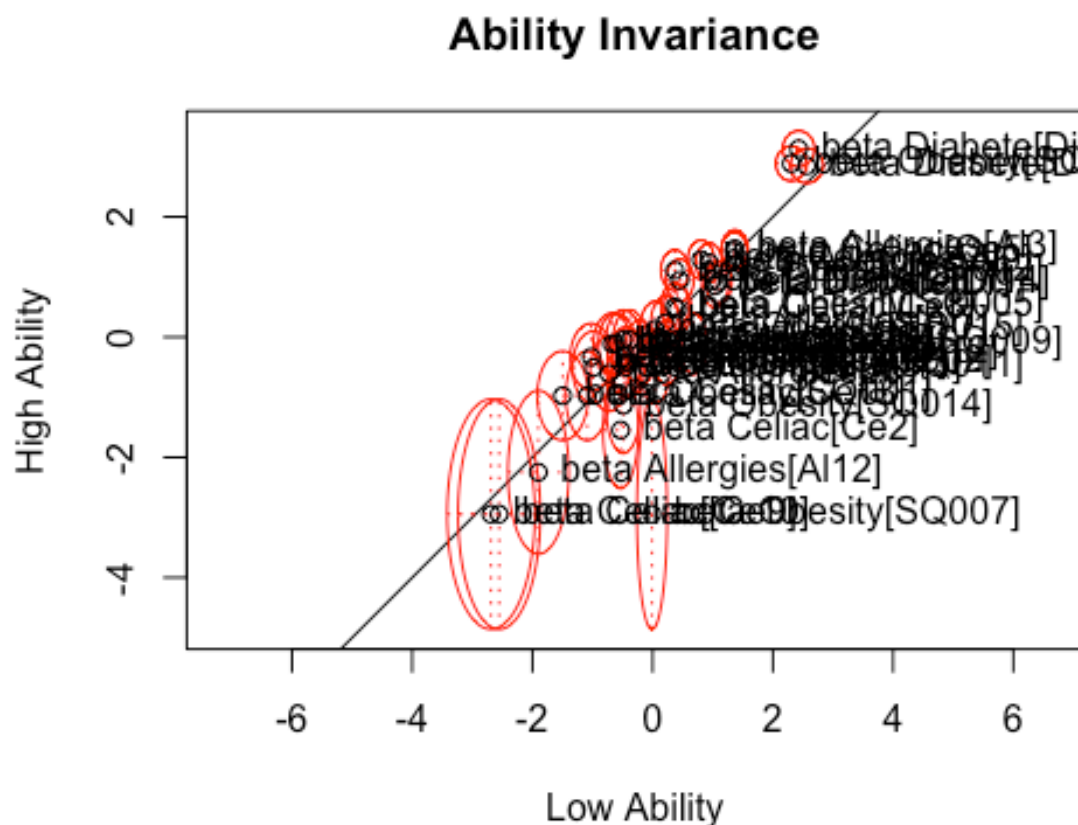


Figure 1.3

In line with this analysis, we excluded the following items: Obesity[SQ004], Obesity[SQ006], Obesity[SQ007], Obesity[SQ008], Obesity[SQ010], Allergies[Al7], Allergies[Al8], Celiac[Ce2], Celiac[Ce5].

1.4. Best Test Design and discriminant validity

In Figure 1.4, persons and items are located along the same latent dimension, whereas in Table 1.9 are reported remaining items with the respective estimated difficulties.

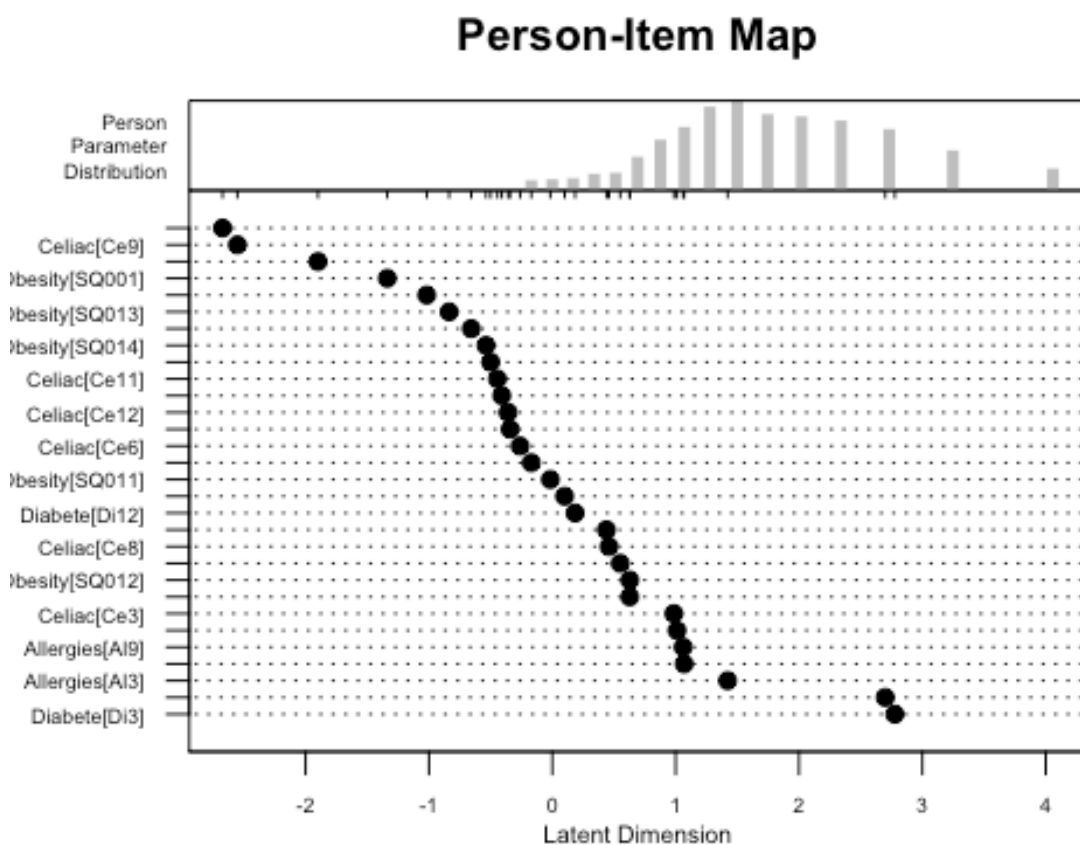


Figure 1.4

Table 1.9. Remaining items

Item id	Item (ITA)	Item (ENG)	difficulty parameter
Celiac[Ce10]	È necessario controllare le etichette dei prodotti confezionati?	Is it necessary to check the labels on packaged products?	-2.67
Celiac[Ce9]	Quando si mangia fuori casa, si deve informare chi cucina della propria malattia?	When people eat out, do they have to inform the cook of their illness/condition?	-2.55
Allergies[Al12]	La comparsa improvvisa di labbra gonfie dopo avere assunto un alimento è indizio di reazione allergica?	After eating a food, is the sudden appearance of swollen lips a sign of an allergic reaction?	-1.90
Obesity[SQ001]	Carboidrati, proteine e grassi sono nutrienti energetici?	Are carbohydrates, proteins and fats energy nutrients?	-1.34
Celiac[Ce13]	Si può friggere il cibo senza glutine nell'olio in cui si è fritto il cibo con glutine?	Can you fry gluten-free food in the oil in which you have already fried food with gluten?	-1.02
Obesity[SQ013]	Consumare meno cibi processati può aiutare a ridurre il rischio di obesità?	Can consuming less processed foods help to reduce the risk of obesity?	-0.84
Allergies[Al1]	La frutta a guscio rappresenta un cibo a basso rischio di reazione allergica?	Does dried nuts represent a food with a low allergic reaction risk?	-0.66
Obesity[SQ014]	Consumare un'adeguata quantità di fibre può aiutare a ridurre il rischio di obesità?	Can consuming an adequate amount of fibers help to reduce the risk of obesity?	-0.54
Celiac[Ce7]	Alla celiachia possono essere associate altre intolleranze o allergie alimentari?	Can celiac disease be associated with other food intolerances or allergies?	-0.50
Celiac[Ce11]	Un supporto dietistico periodico aiuta a rispettare la dieta priva di glutine?	Does a regular dietitian support help to follow a gluten-free diet?	-0.44

Obesity[SQ002]	I lipidi sono fondamentali per l'assorbimento di alcune vitamine?	Are lipids essential for the absorption of certain vitamins?	-0.41
Celiac[Ce12]	Per la preparazione dei cibi senza glutine, gli utensili da cucina devono essere ad uso esclusivo del celiaco?	For the preparation of gluten-free meals, should kitchen utensils exclusively be used for the celiac?	-0.36
Allergies[Al4]	Tutte le vitamine sono antiossidanti?	Are all vitamins antioxidants?	-0.34
Celiac[Ce6]	legumi contengono glutine?	Do legumes contain gluten?	-0.26
Allergies[Al10]	I molluschi rappresentano un cibo ad alto rischio di reazione allergica?	Do shellfish represent a food with a high allergic reaction risk?	-0.17
Obesity[SQ011]	A parità di peso, i cracker sono meno calorici del pane?	With equal weight, are crackers less caloric than bread?	-0.02
Obesity[SQ015]	Consumare pranzi, cene e merende a basso contenuto calorico riduce il rischio di sovrappeso e obesità?	Does eating low-calories lunches, dinners and snacks reduce the risk of overweight and obesity?	0.10
Diabete[Di12]	Mangiare cibo integrale riduce il picco glicemico postprandiale?	Does eating wholefoods reduce the postprandial glycemic peak?	0.18
Obesity[SQ005]	In base alle raccomandazioni, le calorie da grassi saturi non devono superare il 10% delle calorie giornaliere?	According to the recommendations, should saturated fat calories not exceed 10% of daily calories?	0.44
Celiac[Ce8]	Piccole quantit? di glutine sono dannose per la salute del celiaco?	Are small amounts of gluten harmful to the health of the celiac?	0.46
Obesity[SQ009]	Le verdure sono ricche in proteine?	Are vegetables rich in protein?	0.55
Obesity[SQ012]	Un piatto di cereali e legumi è un pasto nutrizionalmente completo?	Is a plate of cereals and legumes a nutritionally complete meal?	0.63

Diabete[Di11]	L'assunzione di frutta può essere libera?	Can fruit intake be free?	0.63
Celiac[Ce3]	Eliminare il glutine dall'alimentazione crea squilibri nutrizionali?	Does eliminating gluten from the diet create nutritional imbalances?	0.99
Diabete[Di9]	Gli ortaggi contengono carboidrati?	Do vegetables contain carbohydrates?	1.01
Allergies[Al9]	Le allergie alimentari possono causare alimentazione insufficiente?	Can food allergies cause poor nutrition?	1.06
Diabete[Di14]	L'ipoglicemia si corregge con la somministrazione di zuccheri?	Can hypoglycaemia be corrected by administering sugar?	1.07
Allergies[Al3]	Il pesce rappresenta un cibo a basso rischio di reazione allergica?	Does fish represent a food with a low allergic reaction risk?	1.42
Diabete[Di13]	L'utilizzo dei polialcoli (maltitol) nel confezionamento di dolci e biscotti destinati al soggetto diabetico è raccomandato?	In the packaging of cakes and biscuits, is the use of polyalcohols (maltitol) recommended for diabetics?	2.70
Diabete[Di3]	Gli zuccheri semplici sono consentiti?	Are simple sugars allowed?	2.78

As can be seen, some items (i.e. Celiac[Ce10], Celiac[Ce9], Celiac[Ce13], Allergies[Al12], Obesity[SQ001], Obesity[SQ013], Obesity[SQ014]) were easier than the lowest observed person ability (i.e. -0.17). Since these items did not have discriminative capability, we discarded them. Moreover, to obtain a final scale composed of 20 items (with 5 items for each subtype: Obesity, Celiac, Allergies, and Diabetes), we deleted items (Celiac[Ce12], Obesity[SQ005], and Diabete[Di11]) showing redundant difficulties compared to other items that, consequently, did not improve discriminant validity of the scale. The final scale is tabled in the final scale paragraph at the end of this chapter. In Figure 1.5, the person-item map is plotted for the final scale of 20 items.

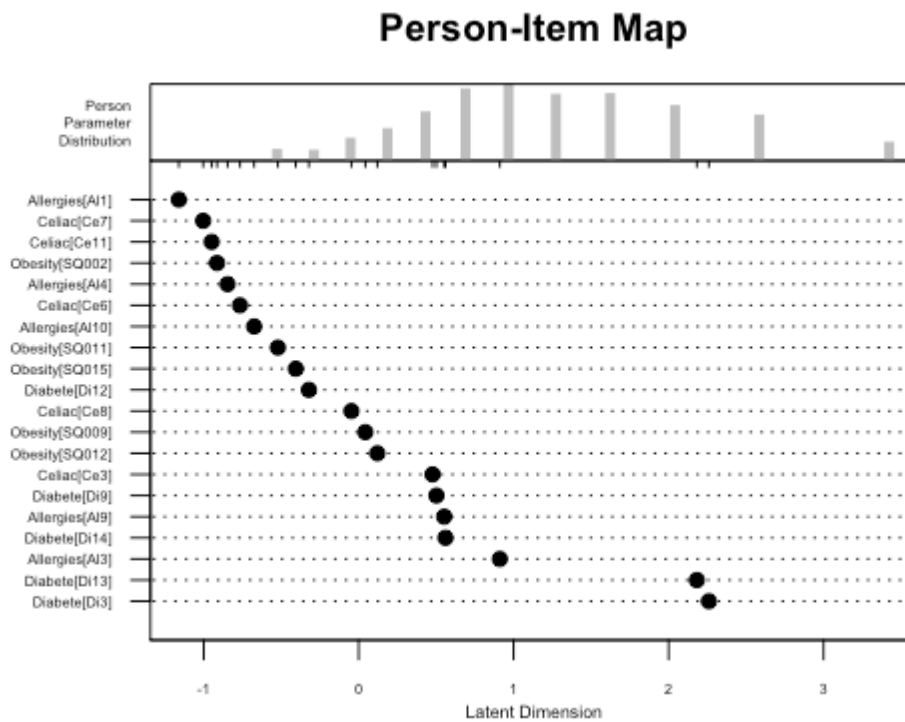


Figure 1.5: Final Scale - Person-Item Map

Although the scale showed the ability to discriminate across the entire sampled ability continuum, it appears more accurate (i.e., with a higher number of items) for ability values ranging from medium to low. Notably, these values are what we will expect to find in our target sample of students. In Figure 1.6 below, the frequency distribution is shown for experts (Biologists, Chemists/Pharmacists, Dieticians, Nutritionists, Physicians, and students in Medicine, Biology, Nutritional and Food Sciences, Chemistry and Pharmacy) and not experts, respectively.

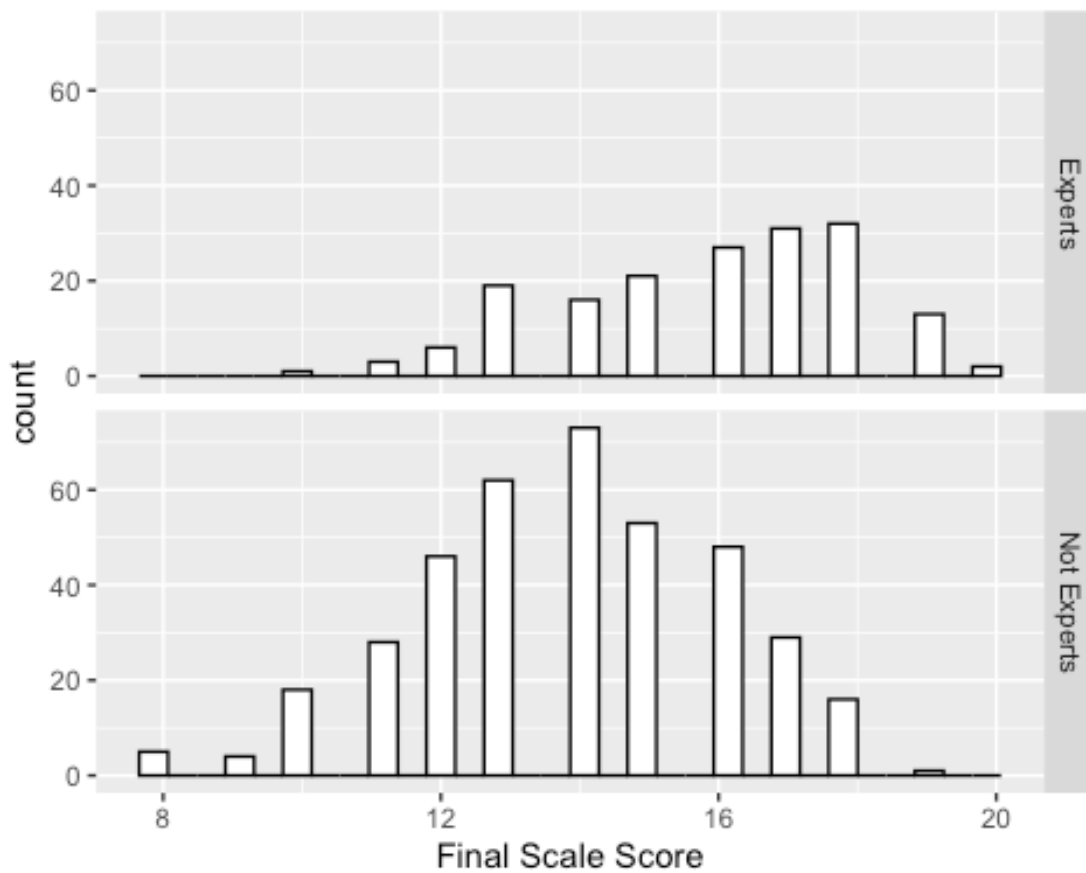


Figure 1.6

Finally, we tested if the final scale showed good discriminant validity (Figure 1.7). An independent sample t-test showed that the scale score was greater in experts than in not experts ($\Delta M = 2.07$, 95% CI [1.67, 2.46], $t(552) = 10.33$, $p < .001$), pointing out a strong effect size (Cohen's $d = 0.95$).

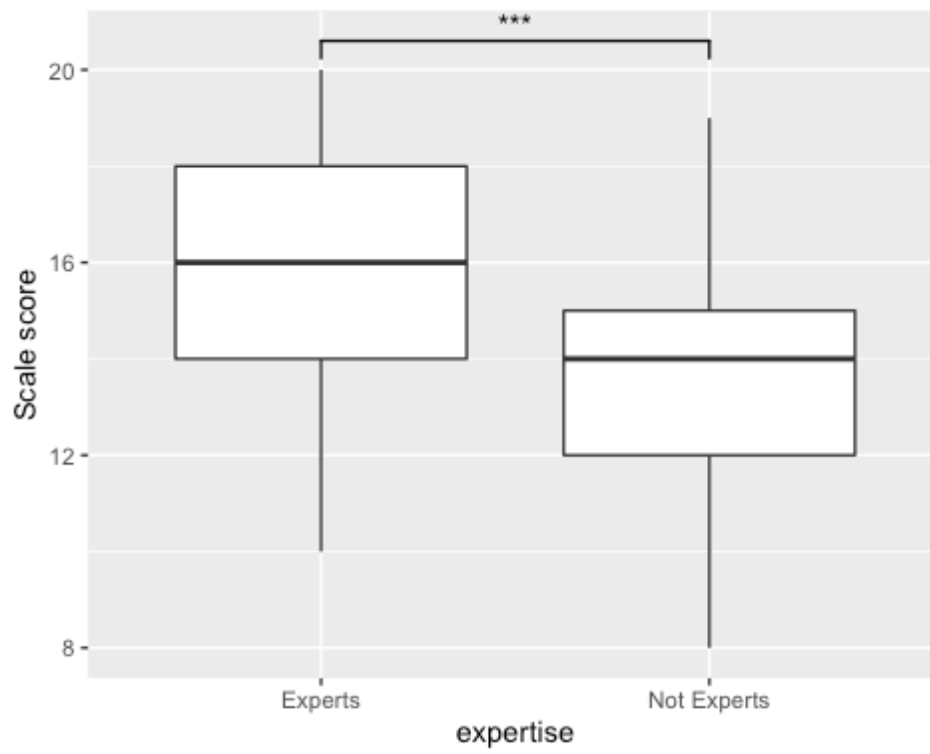


Figure 1.7

(i) Final Knowledge Scale Items

Table 1.10. Final Knowledge Items

id	item (ITA)	item (ENG)
Obesity[SQ002]	I lipidi sono fondamentali per l'assorbimento di alcune vitamine?	Are lipids essential for the absorption of certain vitamins?
Obesity[SQ009]	Le verdure sono ricche in proteine?	Are vegetables rich in protein?
Obesity[SQ011]	A parità di peso, i cracker sono meno calorici del pane?	With equal weight, are crackers less caloric than bread?
Obesity[SQ012]	Un piatto di cereali e legumi è un pasto nutrizionalmente completo?	Is a plate of cereals and legumes a nutritionally complete meal?
Obesity[SQ015]	Consumare pranzi, cene e merende a basso contenuto calorico riduce il rischio di sovrappeso e obesità?	Does eating low-calories lunches, dinners and snacks reduce the risk of overweight and obesity?
Allergies[Al1]	La frutta a guscio rappresenta un cibo a basso rischio di reazione allergica?	Does dried nuts represent a food with a low allergic reaction risk?
Allergies[Al3]	Il pesce rappresenta un cibo a basso rischio di reazione allergica?	Does fish represent a food with a low allergic reaction risk?
Allergies[Al4]	Tutte le vitamine sono antiossidanti?	Are all vitamins antioxidants?
Allergies[Al9]	Le allergie alimentari possono causare alimentazione insufficiente?	Can food allergies cause poor nutrition?
Allergies[Al10]	I molluschi rappresentano un cibo ad alto rischio di reazione allergica?	Do shellfish represent a food with a high allergic reaction risk?
Celiac[Ce3]	Eliminare il glutine dall'alimentazione crea squilibri nutrizionali?	Does eliminating gluten from the diet create nutritional imbalances?
Celiac[Ce6]	legumi contengono glutine?	Do legumes contain gluten?

Celiac[Ce7]	Alla celiachia possono essere associate altre intolleranze o allergie alimentari?	Can celiac disease be associated with other food intolerances or allergies?
Celiac[Ce8]	Piccole quantit? di glutine sono dannose per la salute del celiaco?	Are small amounts of gluten harmful to the health of the celiac?
Celiac[Ce11]	Un supporto dietistico periodico aiuta a rispettare la dieta priva di glutine?	Does a regular dietitian support help to follow a gluten-free diet?
Diabete[Di3]	Gli zuccheri semplici sono consentiti?	Are simple sugars allowed?
Diabete[Di9]	Gli ortaggi contengono carboidrati?	Do vegetables contain carbohydrates?
Diabete[Di12]	Mangiare cibo integrale riduce il picco glicemico postprandiale?	Does eating wholefoods reduce the postprandial glycemic peak?
Diabete[Di13]	L'utilizzo dei polialcoli (maltitolo) nel confezionamento di dolci e biscotti destinati al soggetto diabetico è raccomandato?	In the packaging of cakes and biscuits, is the use of polyalcohols (maltitol) recommended for diabetics?
Diabete[Di14]	L'ipoglicemia si corregge con la somministrazione di zuccheri?	Can hypoglycaemia be corrected by administering sugar?

(ii) Feedback for mobility activities

The realization of intellectual output 1 also required providing feedback to the students involved in the short-term activities about what they have learned. PO3 created a brief test containing the 20 knowledge items described in the previous sections. At the end of this test, students received feedback containing the number of correct responses for each disease and an overall evaluation (e.g., Your total score is great! Well done!). Moreover, the feedback consisted of a plot showing the student performance compared to the validation sample (Figure 1.8). The link to the questionnaire was sent to the teachers after each mobility, and they then submitted it to the students.

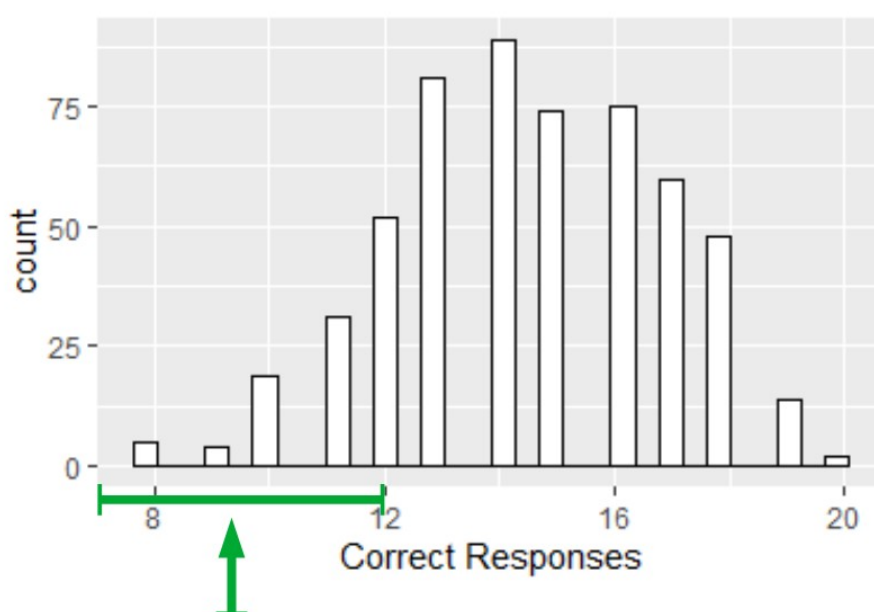


Figure 1.8. Feedback for students participating in LTTAs.

A

ttitudes and Perception of Healthy Cooking

A further indicator of the efficacy of the pilot course is represented by the change of attitudes and perceptions about healthy cooking of students involved in the project. In social psychology, the concept of attitude has many diverse definitions, and most of them have in common the element of *evaluation* (see Eagly & Chaiken, 1993; Fazio, 2014; Zanna & Rempel, 2008). Thus, in the context of the CHEEP project, the term attitude is used to indicate the overall evaluation of an object (Maio et al., 2019): healthy cooking. Attitudes are created both in direct (e.g., personal experience with the object) and indirect way (e.g., communications about the object) (Eagly & Chaiken, 1993), thus the experience of a pilot course about healthy cooking provide the possibility for the students to elaborate *ex novo* an attitude toward the topic and/or enrich the attitude they already have. Collecting information about attitudes *before* and *after* the course was, therefore, fundamental to understanding if and how the course had an effect on the participants. In order to elaborate the items for the assessment of the attitudes and perceptions about healthy cooking, the team from the University of Palermo run a literature search to individuate the most used theoretical approach to study nutrition-related behaviors. The Theory of Planned Behavior (TPB; Ajzen, 1991) has been widely used in research focused on health choices in general (e.g. smoking, exercising; for a review, see Godin & Kok, 1996), and in research focused on dietary behavior interventions in adults (e.g., Close et al., 2018) and adolescents (Grønhøj et al., 2012; Hackman & Knowlden, 2014; Riebl et al., 2015). Therefore, TPB was individuated as the theoretical frame for the creation of the questionnaire dedicated to assessing attitudes and perceptions toward healthy cooking.

2. The Theory of Planned Behavior

The relation between attitude and behavior has been widely debated in social psychology. The apparent incongruity between the attitude toward an object and the behavior acted toward the same object observed by some scholars (e.g., LaPiere, 1934) was solved thanks to the important contribution of Ajzen and Fishbein (1977). The authors formalized the principle of correspondence, stating that attitudes are good predictors of behavior, if their measurements are matched on several criteria. Moreover, Fishbein and Ajzen (1977) contributed to such issue with the Theory of Reasoned Action (TRA). As its name recalls, the theory is focused on behaviors that are intentional and planned and considers an indirect relation between attitudes and behaviors. In fact, the proximal antecedent of a behavior is behavioral intention. The latter relies on the attitude toward the behavior of interest and on subjective norms. While the attitude toward the behavior is the positive or negative evaluation of the behavior retained by a person, the subjective norm is the perception of pressure to produce a certain behavior or not. Despite having had a great impact on social psychological research, Ajzen (1991) expanded the TRA by adding another antecedent to the behavioral intention: perceived behavioral control (see Figure 2.1). Perceived behavioral control is the personal perception of being capable of producing a certain behavior or not.

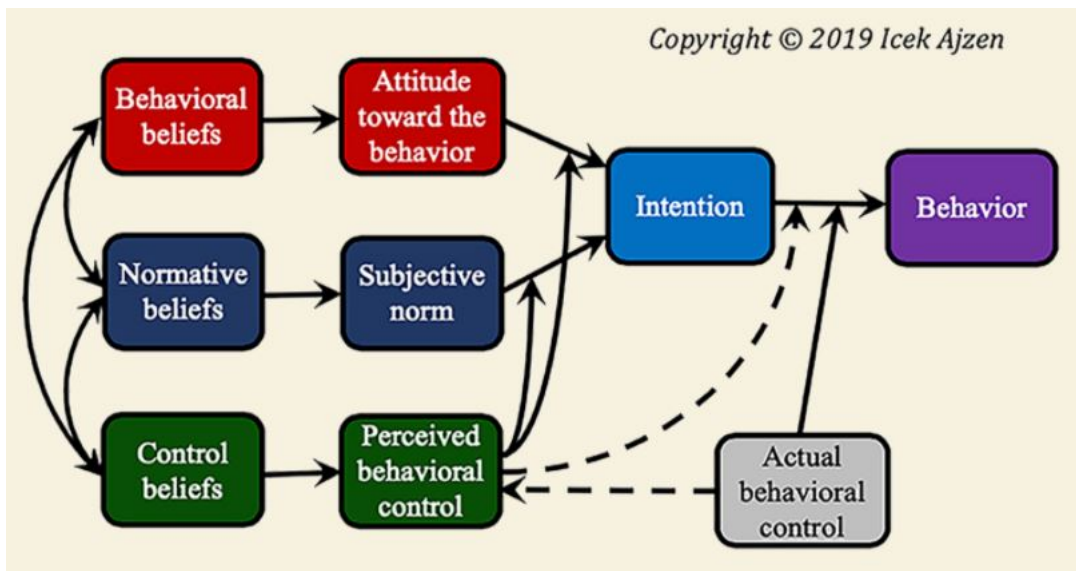


Figure 2.1. Representation of the Theory of Planned Behavior (Ajzen, 2019).

The antecedents of the behavioural intention depend on a set of beliefs. Behavioral beliefs represent the base of behavioral attitudes and our beliefs about the possible results of

behavior. Normative beliefs are the expectation that a specific group of persons (and not society in general, as in the case of subjective norms) has about the person's behavior. Finally, control beliefs are the antecedents of perceived behavioral control. They are a set of beliefs about factors that can hinder or facilitate the realization of a behavior.

2.1. Procedure

As stated above, it was not possible to use questionnaires found in the literature since the concept of healthy cooking was defined in a way that was not in line with the purpose of our study. Thus, UNIPA created *ex novo* a measure based on the TPB model that was suited for the objectives of the CHEEP project. Following Ajzen, the first step was to define the behavior of interest. In the context of CHEEP project, healthy cooking is the ability to prepare meals respecting the needs of people suffering from food allergies, obesity, diabetes, and celiac disease. This implies the necessity to pay attention to food selection, together with other precautions. Once the behavior of interest was defined, 2 collaborators of the researchers created a list of items for each of the variables considered by TPB. Specifically, the list was comprised of a total of 175 items organized as follows (see Appendix C for the complete list):

- Attitude toward the behavior of interest: 20 semantic differential items consisting of pairs of opposite words (e.g., good/bad, positive/negative) through which evaluate the behavior of interest. Moreover, the collaborators elaborated an alternative item formulation as 22 statements to which participants can respond on an agree-disagree Likert scale;
- Behavioral beliefs: 10 items to assess the strength of behavioral belief as statements to which participants can respond on a likely-unlikely Likert scale, and 10 items to assess the outcome evaluation as statements to which participants can respond on an extremely good-extremely bad Likert scale;
- Subjective norms: 13 items as statements to which participants can respond on an agree-disagree Likert scale;
- Normative beliefs: 7 items to assess injunctive beliefs referred to a set of social agencies (family, peers, schoolmates, classmates, friends, media, and teachers). These items were formulated as statements to which participants can respond on an agree-disagree Likert scale. Similarly, 7 items were elaborated to assess descriptive

normative beliefs referred to the same set of social agencies plus 2 referred to the ingroup of the participants (e.g., people like me) and scored on the same Likert scale;

- Motivation to comply: 13 items as statements to which participants can respond on an agree-disagree Likert scale. An alternative version was elaborated. It was composed of 7 items in the form of questions to which participants can respond on a not at all – very much Likert scale;
- Identification with the group: 7 items in the form of questions to which participants can respond on a not at all – very much Likert scale;
- Perceived behavioral control: 16 items were elaborated to assess self-efficacy scored on an agree-disagree Likert scale, and 18 items to assess autonomy and controllability of the behavior. All items were scored on the same Likert scale;
- Control beliefs: 18 items equally divided between (a) those aimed to assess if 2 factors – resources and competencies – could ease or obstacle the realization of the behavior, and (b) those aimed to assess how likely the 2 factors will be present;
- Behavioral intention: 5 items scored on a likely-unlikely Likert scale;
- Past behavior: 10 items scored on an always-never Likert scale.

The initial list of 175 items was then submitted to 2 researchers. As the first step, the attention was focused on the introductory section of the questionnaire. In presenting the research to participants, it was necessary to find a term to indicate the particular type of cooking that was the target of the study. The term “healthy cooking”, in fact, is mostly known as a term referring to food choices and cooking practices similar to those considered to prevent or treat obesity (see, for example, Raber et al., 2016, 2020). Considering that the CHEEP project also focuses on other diseases, it was necessary to individuate a term that was uniquely related to the type of cooking knowledge and practices that would have been covered by the pilot course. Therefore, the UNIPA team consulted the scientific committee of CNR that agreed on creating a specific new term – NCD cookery – to identify the behavior of interest. Considering that the term was unknown to the participants, it was necessary to clearly define it at the beginning of the questionnaire. Consequently, the questionnaire opening section stated that the goal of the research was to study the opinions held by participants about NCD (Non-Communicable Disease) cookery and the statement was followed by its definition: by NCD cookery was intended the preparation of meals respecting special dietary needs of people with food allergies, celiac disease, diabetes and obesity. It was added that for these

people, some foods are risky and that is necessary to pay attention to the ingredients and utensils used. To make sure that participants had carefully read and understood the meaning of NCD cookery, researchers formulated an item asking them to indicate the correct definition of the term choosing between 4 alternatives. Participants had 3 possibilities to give the correct answer and proceed with the fulfilment of the questionnaire. Diversely, after 3 incorrect attempts, participants would have been thanked for their time, and the questionnaire would not have been presented to them. The second step consisted of a further elaboration of the list by (a) modifying the formulation of part of the items and (b) selecting part of them. First of all, it was necessary to check for the correctness of the items' wording so that they actually measured the variable of interest. Then, it was also necessary to reduce the number of items in order to avoid participants get too tired to carefully fulfill them. Thus, the researchers compared the list and the formulation of the items with questionnaires found in scientific papers referring to TPB. The selection of the items was realized by following different criteria for each variable (see Appendix D for the complete list of items):

- Attitude toward the behavior of interest: Following scientific literature, the 2 researchers opted for the items elaborated as a semantic differential. In fact, this is the most used formulation in the scientific papers consulted. Then, the 2 researchers selected 11 items among those present on the list. The items selected were those that most precisely assessed attitude as defined in the previous paragraph. In fact, while the items on the list were informative about the behavior of interest, part of them were not assessing attitude toward healthy cooking. For example, while people could associate healthy cooking with the concepts of slowness and speed, these concepts are not indicative of a positive or negative evaluation of healthy cooking;
- Behavioral beliefs: Researchers focused on items assessing the strength of behavioral beliefs selecting 5 of them. These 5 were considered those covering the most important issues related to healthy cooking: taste of the meals, resources, precautions in using utensils and selecting ingredients, effects on career;
- Subjective norms: Researchers selected 6 out of the 13 items present in the first list. These were selected by considering the implication of the pilot course on participants' experience: their competencies and behaviors about healthy cooking;
- Normative beliefs: Researchers elaborated a different formulation for the items about injunctive and descriptive norms. For injunctive norms, the item was formulated as a

question about how important healthy cooking was, referred to each of the social agencies considered in the initial list. Answers should have been provided on a not at all-very important Likert scale. Researchers used the same formulation for the items about descriptive norms, except for the question content. In this case, the question asked how often healthy cooking was practised by those close to the participants;

- **Motivation to comply:** Researchers used a formulation similar to that used in the normative beliefs section. In this case, the question asked how important was to follow suggestions from those close to the participants. Answers should have been provided on a not at all-very important Likert scale;
- **Identification with the group:** no change was made to this section;
- **Perceived behavioral control:** To assess self-efficacy, the researchers selected 7 items focused on abilities and knowledge. The same criterion was used to select 5 items from the autonomy and controllability of the behavior section. In both cases, items were scored on an agree-disagree Likert scale;
- **Control beliefs:** Researchers identified 6 possible items to assess control beliefs. Three of them were focused on factors required by healthy cooking practice, 2 about contexts creating the conditions favouring the acquisition of both knowledge and skills about healthy cooking, and 1 about a factor that favours learning about healthy cooking. Six more items were selected to assess how influential these factors could have been considered.
- **Behavioral intentions:** Researchers added 1 item with a different formulation compared to those already present in the list;
- **Past behaviors:** In this case, researchers made two major changes. First of all, they defined a time window (the last month) within which the behaviors were practised. Then, they selected and rephrased 6 items. The list of items was introduced by a question about how often participants practised 6 behaviors related to healthy cooking. These were scored on a never-very-often Likert scale.

This set of items was further refined by UNIPA team. Notwithstanding the importance of all the variables discussed above, the literature search (see, for example, Hackman & Knowlden, 2014; Riebl et al., 2015) showed that a great part of studies on TPB considers only the relation between the behavior of interest, the behavioral intention, and its direct antecedents. The beliefs are only rarely contemplated. Considering this information and the

approximate size of the sample of participants that were involved in the project, the UNIPA team decided to include in the questionnaire the item that referred to the variables covered by the TPB, except for the set of beliefs. Moreover, a literature search revealed the presence of factors not covered by TPB but still important in the explanation of human behavior: the personal value of the behavior (e.g., Yadav & Pathak, 2017), the moral value of the behavior (e.g., Gao et al., 2017; Shin et al., 2018), and anticipated fear provoked by the behavior (e.g., Zhang et al., 2020). Thus, the UNIPA team decided to reduce the number of items related to TPB to have the possibility to add also some items to measure these additional factors. Therefore, the final draft questionnaire contained the following sections (see Appendix E for the complete list of items):

- Attitude toward the behavior of interest: Following the strict definition of attitude provided previously, researchers selected the 5 items that better represented the variable of interest;
- Subjective norms: In order to assess injunctive subjective norms, researchers re-phrased the existing items by formulating 5 statements about the perceived social pressure coming from important others about mastering competencies and abilities related to NCD cookery. Similarly, 5 statements were formulated to assess descriptive subjective norms about NCD cookery. Also, these were formulated as statements that, in this case, referred to competencies and abilities of NCD cookery shown by important others. The items were formulated so that participants should respond on a 7 points Likert scale (-3 = strongly disagree to 3 = strongly agree);
- Perceived behavioral control: To assess self-efficacy, the researchers selected 5 out of the existing 7 items selecting those directly citing NCD cookery. In fact, part of the existing items referred to behaviors related to NCD cookery but not directly citing this term (e.g., I feel capable of reinventing a traditional recipe for people with special dietary needs). At this step, researchers did not make any changes to the items in the section dedicated to the autonomy and controllability of the behavior. Items were formulated so that participants should respond on the same scale as the previous section;
- The personal value of the behavior: Researchers adapted 4 items from Yadav and Pathak (2017), assessing the relevance of the behavior for the participants. Items were

formulated so that participants should respond on the same scale as the previous section;

- The moral value of the behavior: Researchers adapted 4 items from Gao et al. (2017) and from Shin et al. (2018) to assess how much participants considered the mastering of NCD cookery as a moral obligation. Items were formulated so that participants should respond on the same scale as the previous section;
- Anticipated fear provoked by the behavior: Researchers used the 4 items used by Zhang et al. (2020) to assess the feelings provoked by cooking NCD cookery. Participants should respond by using a 7-point Likert scale (0 = not at all to 6 = very much);
- Past behaviors: Researchers selected 5 out of the 6 existing items. Differently from the existing list, the items were introduced by a question about how often participants practised 5 behaviors related to healthy cooking in the last 12 months. These were scored on a never-very-often Likert scale;
- Behavioral intentions: Researchers selected 5 out of the 6 existing items, excluding the item that resulted in a less clear in its formulation.

This final draft was submitted to a group of participants in order to evaluate its psychometric properties, verify the adequacy of the response scale, and eliminate redundant and/or unfitting items. Analysis, results and the final scale are described in the following chapter.

2. Preliminary analysis for attitude measure

2.1. Method

The final draft of the questionnaire described in the previous chapter was submitted to a sample of students from vocational schools in the south of Italy. The questionnaire spread online thanks to the help of teachers from the school "IPPSEOA Pietro Piazza". The questionnaire was comprised of 50 items organized into 8 groups: Attitude toward the behavior of interest; Subjective norms; Perceived behavioural control; Personal value of the behavior; Moral value of the behavior; Anticipated fear provoked by the behavior; Past behaviors; Behavioral intentions. Details about the number and type of items for each category can be found in the previous section, "Procedure".

2.2. Participants

From the initial pool of 220 participants, we retained a total of 204 of them after having filtered out the participants who failed the attention check items.

59.80% of participants were female, whereas 40.20% were male. Participants' age ranged from 18 and 22 years ($M = 18.45$; $SD = 0.78$). The final pool of participants was composed of students from later years of some vocational Sicilian schools (Table 2.1).

Table 2.1. Schools

Name of the school	Freq
CARLO ALBERTO DALLA CHIESA 5A	1
I. P. S. S. E. O. A. "G. AMBROSINI"	1
IISS DANILO DOLCI	10
IPSSEOA PIETRO PIAZZA	198
ISTITUTO ALBERGHIERO ABELE DAMIANI	1
SCHOOL NOT SPECIFIED	9

A large part of the sample is represented by students of the school "IPSSEOA Pietro Piazza", Palermo, Italy.

2.3. Measures

2.3.1. Past Behaviors

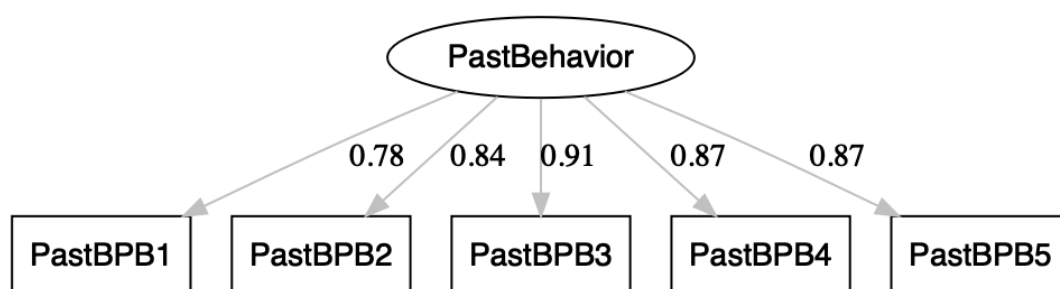
Past behaviors were measured using 5 items (see Table 2.2). The items were introduced by a question about how often participants practised 5 behaviors related to healthy cooking in the last 12 months. The items were scored on a Likert scale from 0 (Never) to 7 (Very Often).

Table 2.2. *In the last 12 months, how often do you have [Negli ultimi 12 mesi, quanto spesso hai]*

Item ID	IT	EN
PastB[PB1]	Cucinato NCD	Cooked NCD cookery
PastB[PB2]	Adattato ricette alla cucina NCD	Adapted recipes to NCD cookery
PastB[PB3]	Appreso e cercato informazioni sulla cucina NCD	Learned and searched information about NCD cookery
PastB[PB4]	Studiato la cucina NCD	Studied NCD cookery
PastB[PB5]	Parlato della cucina NCD	Talked about NCD cookery

2.3.1.1. Confirmatory Factor Analysis

We performed a Confirmatory Factor Analysis (CFA) to test the scale unidimensionality. Weighted Least-Squares Means and Variance-adjusted estimation (WLSMV) were used to avoid the disadvantages of violating multivariate normality assumptions (e.g., lack of statistical power and biased parameter estimation) and to estimate ordinal item structure. The models' fit was evaluated using the Root Mean Square Error of Approximation (RMSEA;



Steiger, 1998), the Comparative Fit Index (CFI; Bentler, 1990), and the Tucker–Lewis index (TLI; Tucker & Lewis, 1973). Based on Hu and Bentler (1998), Bentler (1990), and Browne and Cudeck (1992), we considered CFI and TLI values acceptable if above .90 and as satisfactory if close to or above .95. Moreover, we considered RMSEA values acceptable if below .08 and as satisfactory if close to or below .06. The model fitted with standardized loadings is shown in figure 4.1. The monofactorial structure of the scale showed good CFI and TLI indices ($CFI = 0.97$, $TLI = .94$), but a not satisfactory RMSEA ($RMSEA = .26$). Moreover, all standardized factor loadings are above the conventional threshold of .30.

Figure 2.1: Past Behavior scale model

Although RMSEA did not reach the satisfactory threshold, parallel analysis, Kaiser method, acceleration factor, and optimal coordinates confirmed the scale mono-factorial structure (Figure 2.2).

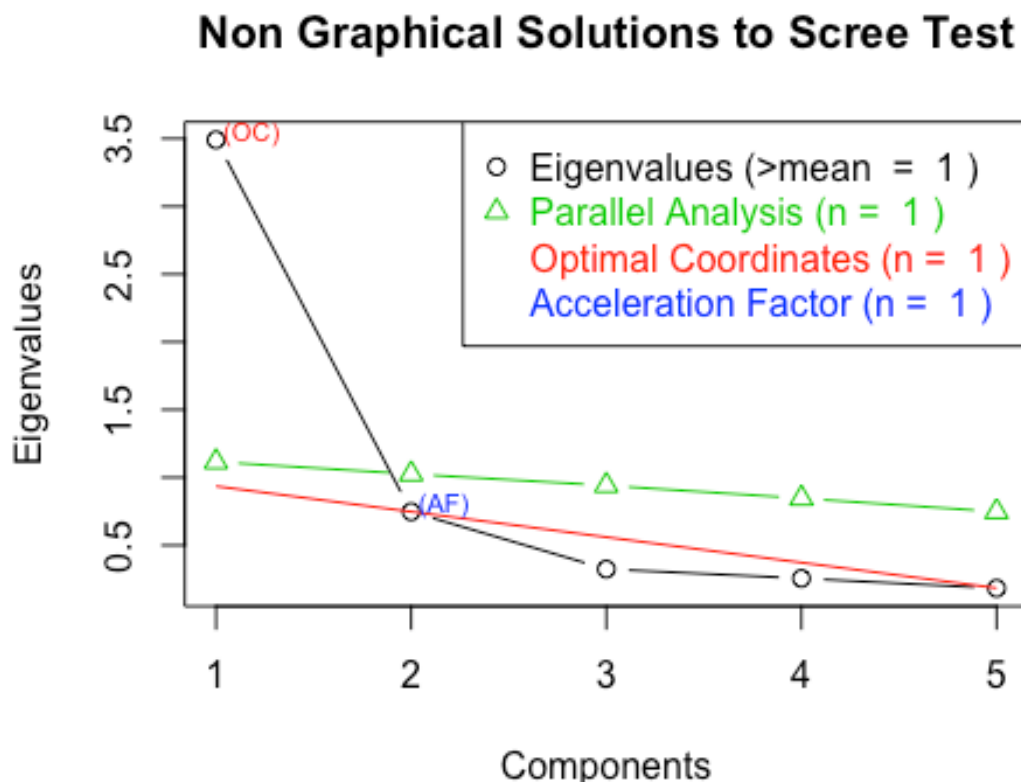


Figure 2.2: Past Behavior scale structure

2.3.1.2. Item analysis and reliability

The five items showed good internal consistency (Cronbach's = .89). The item analysis results are presented in Table 2.3.

Table 2.3. Item analysis

Item ID	alpha if an item is dropped	corrected item-total correlation
PastB[PB1]	0.89	0.62
PastB[PB2]	0.87	0.72
PastB[PB3]	0.85	0.81
PastB[PB4]	0.87	0.73
PastB[PB5]	0.86	0.78

In all cases, Cronbach's alphas did not increase if an item is dropped. Moreover, corrected item-total correlations (i.e., item-total correlation without that item itself) are all above the conventional threshold of .30.

2.3.1.3. Brief Past Behavior scale

Based on previous results, we choose the best three items for both factor loading and reliability contribution. As shown in Figure 2.3, the new brief scale had a strong mono-factorial structure in all three fit indices ($CFI = 1.00$, $TLI = > .99$, $RMSEA = .00$).

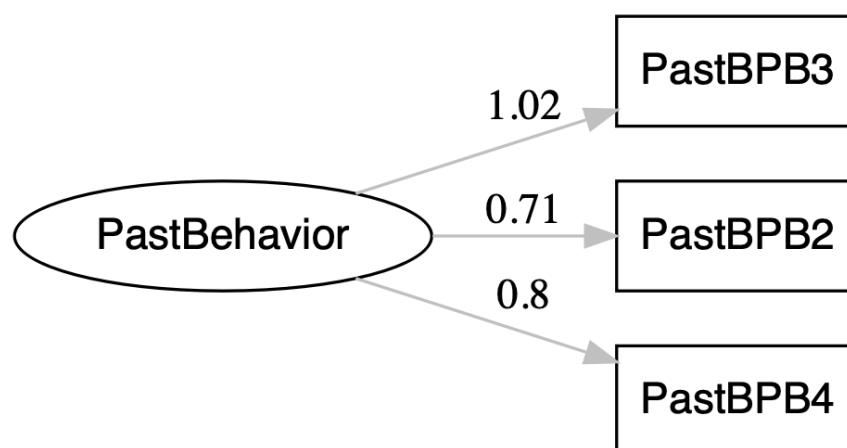


Figure 2.3: Brief Past Behavior scale structure

Moreover, the scale showed a good internal consistency (Cronbach's = .84). Items selected for the brief scale are reported in Table 2.4.

Table 2.4. In the last 12 months, how often do you have [Negli ultimi 12 mesi, quanto spesso hai]:

ID	IT	EN
PastB[PB2]	Adattato ricette alla cucina NCD	Adapted recipes to NCD cookery
PastB[PB3]	Appreso e cercato informazioni sulla cucina NCD	Learned and searched information about NCD cookery
PastB[PB4]	Studiato la cucina NCD	Studied NCD cookery

2.3.1.4. Choosing the best number of categories for the rating scale

In the current version of the scale, participants rated each behavior using a seven points Likert scale from 0 (Never) to 6 (Very Often). Figure 2.4 are depicted the Item Characteristic Curves for the three items selected. In these plots, the probability of choosing a category of the rating scale is represented as a function of participants' latent traits.

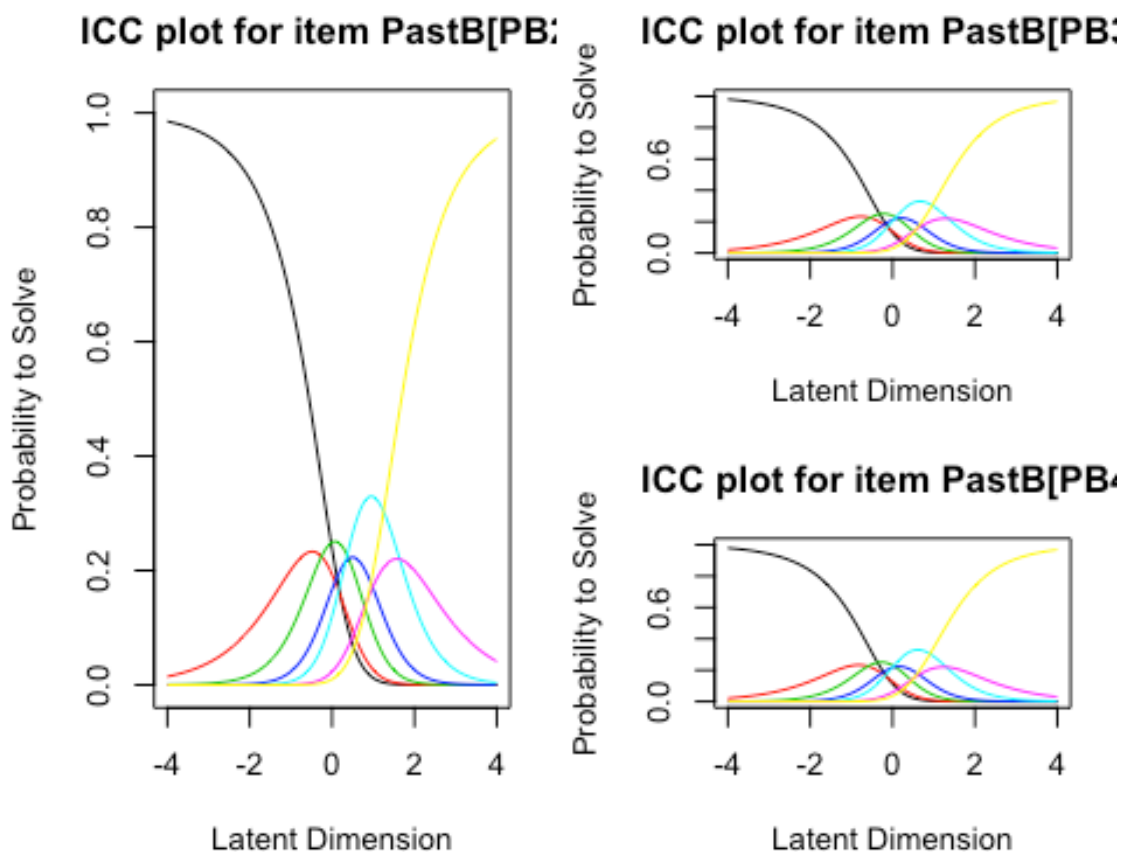


Figure 2.4. Brief Past Behavior Scale ICC plots

Ideally, participants with the lowest level (-4) of the latent trait (i.e., never performed the behavior) should have a maximum probability of choosing 0 (Never; the black line in Figure 2.4). Participants with a low latent trait - between -4 and -3 - should have the maximum probability of choosing 1 (the red line in Figure 2.4), and so on. However, only four points (and NOT points 1,3 and 5) showed a maximum probability of being chosen as a function of the person's latent trait. Consequently, being four the best number of points to use, we choose this rating length (from Never to Very Often) for the final version of the scale.

2.3.2. Behavioral Intention

Behavioral Intention was measured using five items (see Table 2.5) scored on a 7 points Likert scale, from -3 (Extremely unlikely) to +3 (Extremely likely).

Table 2.5. Please, read carefully and provide your answers [Per favore, leggi attentamente e dai le tue risposte]

Item ID	IT	EN
BInt[nt1]	Intendo impegnarmi a cucinare pietanze per persone con esigenze alimentari particolari	I am willing to commit myself to cooking meals for people with special dietary needs
BInt[nt2]	Cucinerò NCD	I will cook NCD cookery
BInt[nt3]	Intendo impegnarmi per possedere una buona conoscenza per cucinare NCD	I am willing to commit myself to have a good knowledge of NCD cookery
BInt[nt4]	Mi informerò sulle necessità delle persone con particolari esigenze alimentari	I will inform myself about the necessities of people with special dietary needs
BInt[nt5]	Mi aspetto di conoscere approfonditamente la cucina NCD	I expect to gain an in-depth knowledge of NCD cookery

2.3.2.1. Confirmatory Factor Analysis

As for Past Behavior scale, we performed a CFA to test unidimensionality. The model fitted with standardized loadings is displayed in Figure 4.5. The scale's mono-factorial structure showed good CFI and TLI indices ($CFI = 1.00$, $TLI = .99$) but a not satisfying RMSEA ($RMSEA = .09$). All standardized factor loadings are above the conventional threshold of .30.

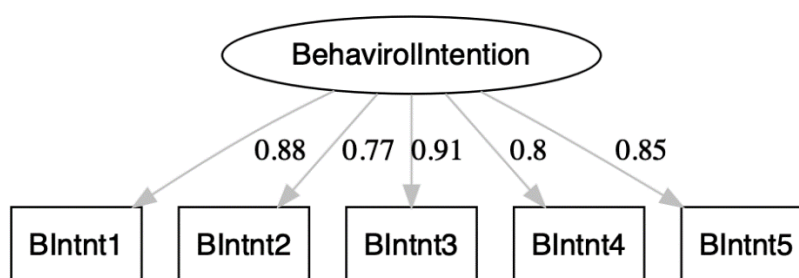


Figure 3.5: Behavioral Intention Scale model

Likewise, despite the not satisfactory level of RMSEA, parallel analysis, the Kaiser method, acceleration factor, and optimal coordinates confirmed the scale's monofactorial structure (Figure 2.6).

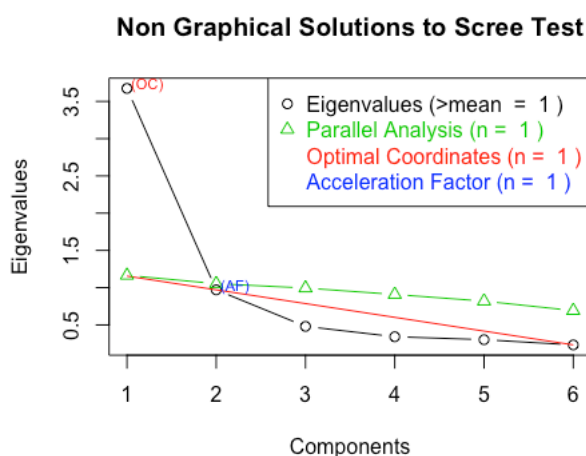


Figure 2.6

2.3.2.2. *Item analysis and reliability*

The five items composing the Behavioral Intention scale showed an optimal internal consistency (Cronbach's = .91). The item analysis results are shown in Table 2.6.

Table 2.6. Item analysis

Item	alpha if item is dropped	corrected item-total correlation
BInt[nt1]	0.88	0.79
BInt[nt2]	0.90	0.69
BInt[nt3]	0.87	0.83
BInt[nt4]	0.89	0.73
BInt[nt5]	0.88	0.78

In all cases, Cronbach's alphas did not increase if an item is dropped. Moreover, corrected item-total correlations are high and above the conventional threshold of .30.

2.3.2.3. Brief Behavioral Intention scale

Then, we chose the best three items considering both factor loading and reliability contribution. As shown in Figure 4.7, the new brief scale had a strong mono-factorial structure. All fit indices ($CFI = 1.00$, $TLI = > .99$, $RMSEA = .08$) reached very satisfactory levels, and the brief scale showed a very good internal consistency (Cronbach's $\alpha = .88$).



Figure 3.7: Brief Behavioral Intention scale structure

Items selected for the brief scale are reported in Table 2.7.

Table 2.7. Please, read carefully and provide your answers [Per favore, leggi attentamente e dai le tue risposte]

ID	IT	EN
BInt[nt1]	Intendo impegnarmi a cucinare pietanze per persone con esigenze alimentari particolari	I am willing to commit myself to cooking meals for people with special dietary needs
BInt[nt2]	Cucinerò NCD	I will cook NCD cookery
BInt[nt3]	Intendo impegnarmi per possedere una buona conoscenza per cucinare NCD	I am willing to commit myself to have a good knowledge of NCD cookery
BInt[nt4]	Mi informerò sulle necessità delle persone con particolari esigenze alimentari	I will inform myself about the necessities of people with special dietary needs

2.3.2.4. Choosing the best number of categories for the rating scale

As for the Past Behavior Scale, participants rated each item using a seven points Likert scale from 0 (Extremely unlikely) to 6 (Extremely likely). Figures 2.8 and 2.9 are depicted the ICC plots for the four items selected.

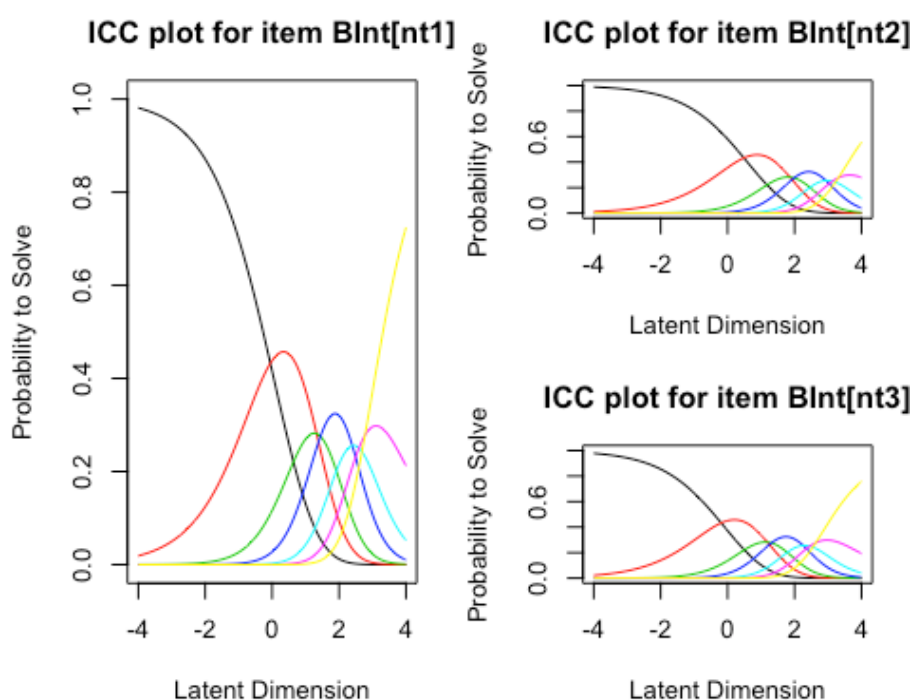


Figure 2.8

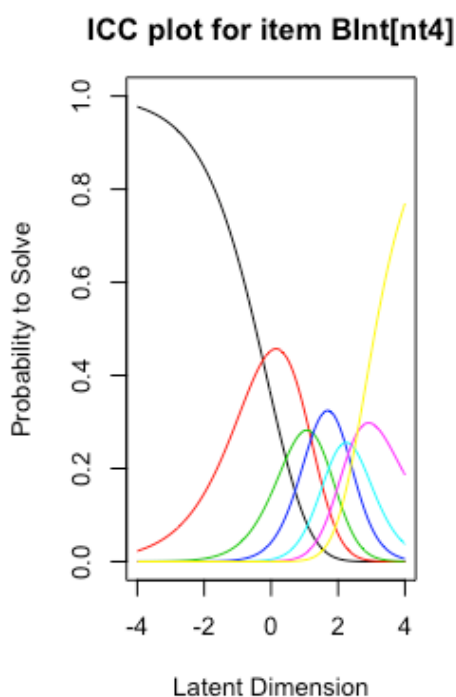


Figure 2.9

Five of the seven points characterizing the rating scale had a maximum probability of being chosen. Points 3 and 5 did not reach a maximum probability of being chosen as a function of a person's latent trait. Consequently, we chose a five points rating (from Extremely unlikely to Extremely likely) for the scale's final version.

2.3.3. Anticipatory Emotions

Anticipatory Emotions were measured using five items (see Table 3.8) to be rated on a 7 points Likert scale, from 0 (Not at all) to 6 (Very much).

Table 3.8. If I had to cook NCD cookery for people with special dietary needs, I would feel [Se dovessi cucinare NCD per persone con particolari esigenze alimentari mi sentirei]:

Item ID	IT	EN
AFear[AF1]	Ansioso/a	Anxious
AFear[AF2]	Impaurito/a	Afraid
AFear[AF3]	Nervoso/a	Nervous
AFear[AF4]	Spaventato/a	Scared
AFear[AF5]	Preoccupato/a	Worried

2.3.3.1. Confirmatory Factor Analysis

Also in this case, we performed a CFA to test unidimensionality. The model fitted with standardized loadings is displayed in Figure 2.10. The scale's mono-factorial structure showed good CFI and TLI indices ($CFI = 0.98$, $TLI = .97$) but a not satisfying RMSEA ($RMSEA = .21$). All standardized factor loadings are above the conventional threshold of .30.

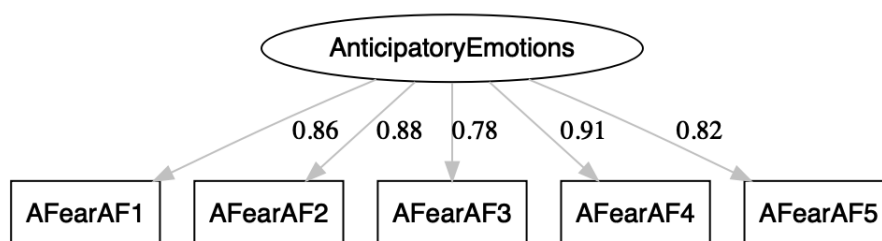


Figure 3.10. Anticipatory Emotions model

As in previous cases, parallel analysis, the Kaiser method, acceleration factor, and optimal coordinates confirmed the scale's mono-factorial structure (Figure 2.11) despite the not satisfactory level reached by the RMSEA index.

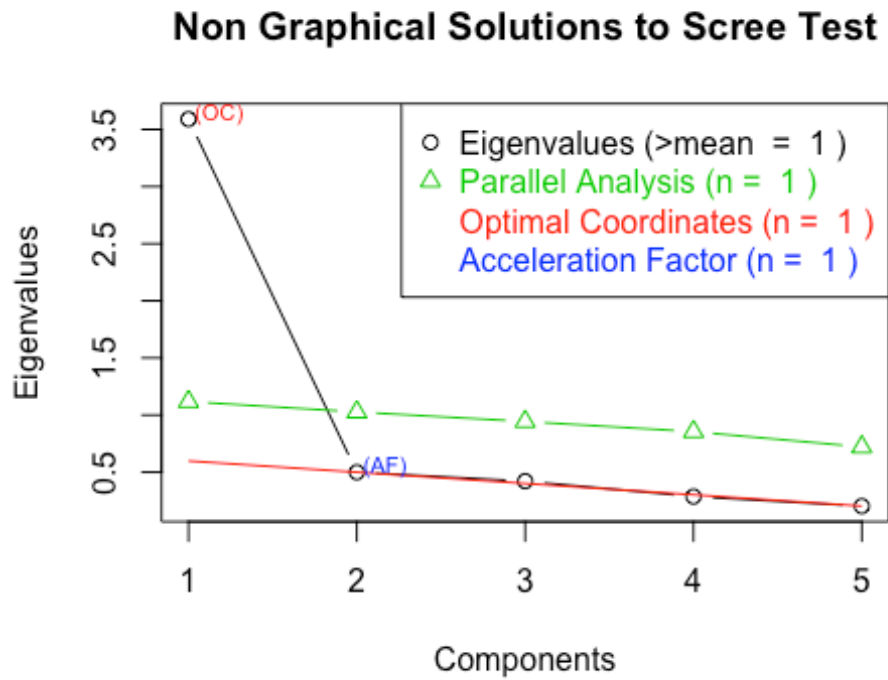


Figure 2.11: Anticipatory Emotions structure

2.3.3.2. Item analysis and reliability

The Anticipatory Emotions scale's five items showed optimal internal consistency (Cronbach's = .90). In Table 2.9 are showed the item analysis results.

Table 2.9. Item analysis

	alpha if item is dropped	corrected item-total correlation
AFear[AF1]	0.87	0.78
AFear[AF2]	0.88	0.76
AFear[AF3]	0.89	0.70
AFear[AF4]	0.87	0.79
AFear[AF5]	0.88	0.74

In all cases, Cronbach's alphas did not increase if an item is dropped. Moreover, corrected item-total correlations are high and above the conventional threshold of .30.

2.3.3.3. Brief Anticipatory Emotions scale

Then, we selected the best three items by taking into account both factor loading and reliability contribution. As shown in Figure 2.12, the new brief scale had a strong mono-factorial structure. All fit indices ($CFI = 1.00$, $TLI = > .99$, $RMSEA = .00$) reached satisfactory levels, and the brief scale showed a very good internal consistency (Cronbach's $\alpha = .87$).

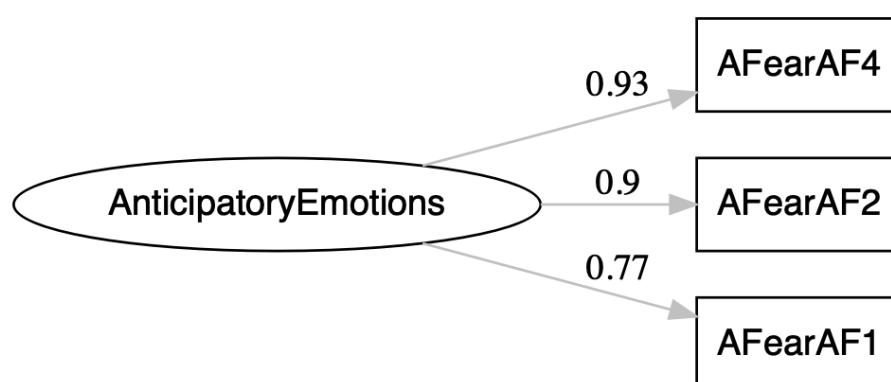


Figure 3.12: Brief Anticipatory Emotions scale structure

Items selected for the brief scale are reported in Table 2.10.

Table 2.10. If I had to cook NCD cookery for people with special dietary needs, I would feel (Se dovessi cucinare NCD per persone con particolari esigenze alimentari mi sentirei):

ID	IT	EN
AFear[AF1]	Ansioso/a	Anxious
AFear[AF2]	Impaurito/a	Afraid
AFear[AF4]	Spaventato/a	Scared

2.3.3.4. Choosing the best number of categories for the rating scale

Participants rated each emotion using a seven points Likert scale, from 0 (Not at all) to 6 (Very Much). In figure 2.13 are depicted the ICC plots for the three items selected.

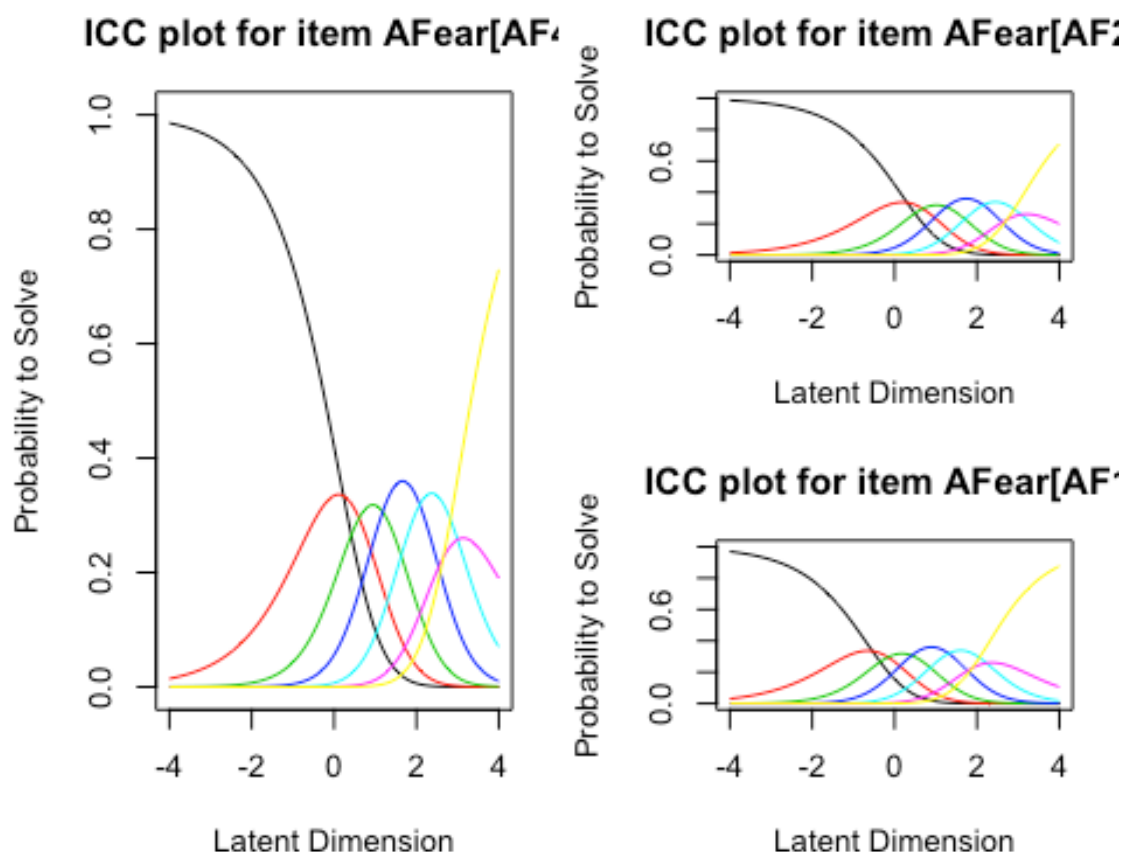


Figure 2.13. Brief Anticipatory Emotions scale ICC plots

Six points of the rating scale had a maximum probability of being chosen. Differently, point 5 did not reach the maximum probability of being chosen as a function of a person's latent trait. Consequently, we chose a 6 points rating (from "Not At All" to "Very Much") for the final version of the scale.

2.3.1. Attitude

Attitude was measured using a semantic differential scale with seven bipolar rating items (see Table 2.11), from -3 (<-->) to +3 (-->).

Table 3.11. The NCD cookery for me is [Per me la cucina NCD è]

Item ID	IT	EN
Att[Att1]	Frustrante Appagante	Frustrating Pleasing
Att[Att2]	Gustosa Insapore	Tasty Tasteless
Att[Att3]	Positiva Negativa	Positive Negative
Att[Att4]	Spiacevole Piacevole	Unpleasant Pleasant
Att[Att5]	Inutile Utile	Useless Useful
Att[Att6]	Buona Cattiva	Good Bad
Att[Att7]	Non importante Importante	Not important Important

2.3.1.1. Confirmatory Factor Analysis

A CFA was used to test unidimensionality of the scale. The model fitted with standardized loadings is displayed in Figure 3.14. The scale's mono-factorial structure showed good CFI and TLI indices ($CFI = 0.95$, $TLI = .93$) but a not satisfying RMSEA ($RMSEA = .15$). All standardized factor loadings are above the conventional threshold of .30.

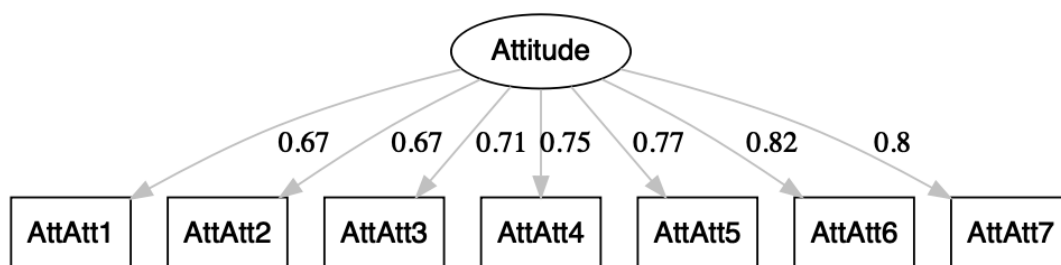


Figure 3.14: Attitude scale model

Besides, despite the not satisfactory level of RMSEA, parallel analysis, the Kaiser method, acceleration factor, and optimal coordinates confirmed the scale's mono-factorial structure (Figure 2.15).

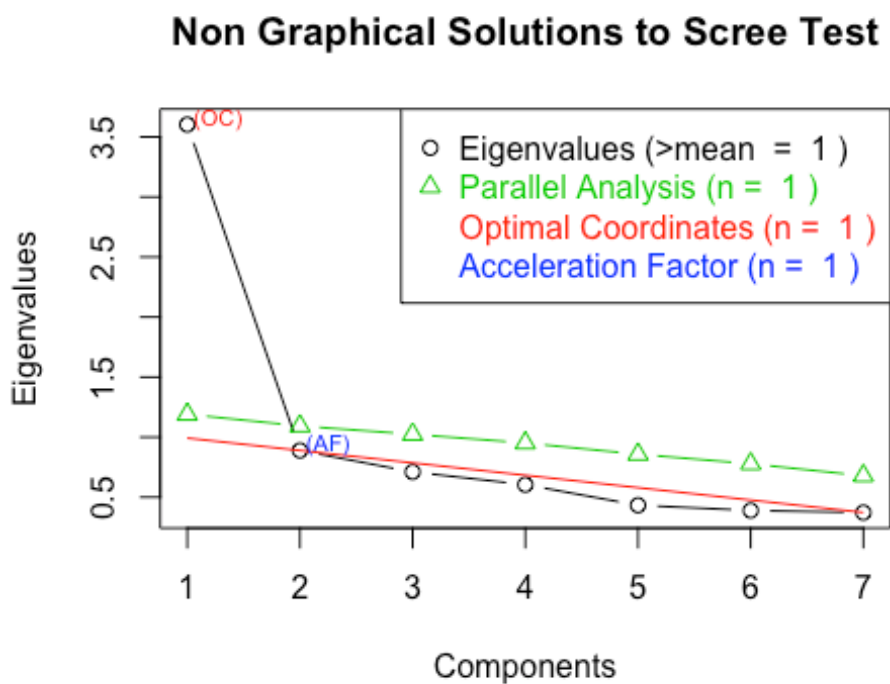


Figure 2.15: Attitude scale structure

2.3.1.2. Item analysis and reliability

The seven items of the Attitude scale showed a good level of Cronbach's alpha (Cronbach's = .84). In table 2.12 are showed the item analysis results.

Table 2.12. Item analysis

Item ID	alpha if item is dropped	corrected item-total correlation
Att[Att1]	0.82	0.57
Att[Att2]	0.83	0.54
Att[Att3]	0.82	0.56
Att[Att4]	0.81	0.65
Att[Att5]	0.82	0.55
Att[Att6]	0.81	0.68
Att[Att7]	0.82	0.60

In all cases, Cronbach's alphas did not increase if an item is dropped. Moreover, corrected item-total correlations are high and above the conventional threshold of .30.

2.3.1.3. Brief Attitude scale

In this case, we chose the best four items considering, once again, both factor loading and reliability contribution but also maintaining an equal number of pro-trait and con-trait items. Figure 3.16 depicts the unidimensional solution for the new brief scale, in which we opened the shared variance of pro-trait items. All fit indices ($CFI = 1.00$, $TLI = > .99$, $RMSEA = .00$) reached very satisfactory levels, and the brief scale showed an acceptable level of reliability (Cronbach's = .78). Items selected for the brief scale are reported in table 3.13.

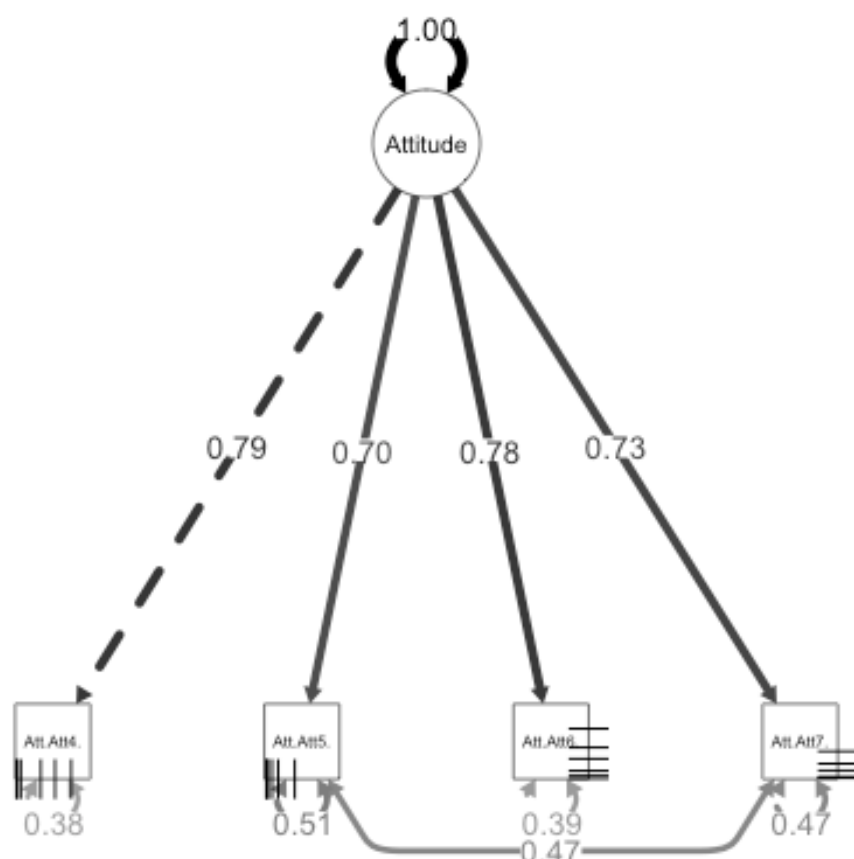


Figure 2.16: Brief Attitude scale model

Table 2.13: The NCD cookery for me is (Per me la cucina NCD e'):

ID	IT	EN
Att[Att4]	Spiacevole Piacevole	Unpleasant Pleasant
Att[Att5]	Inutile Utile	Useless Useful
Att[Att6]	Buona Cattiva	Good Bad
Att[Att7]	Non importante Importante	Not important Important

2.3.1.4. Choosing the best number of categories for the rating scale

In this case, participants rated each bipolar item using seven points rating scale from -3 (<-->) to +3 (-->). In figure 2.17 are depicted the ICC plots for the four items selected.

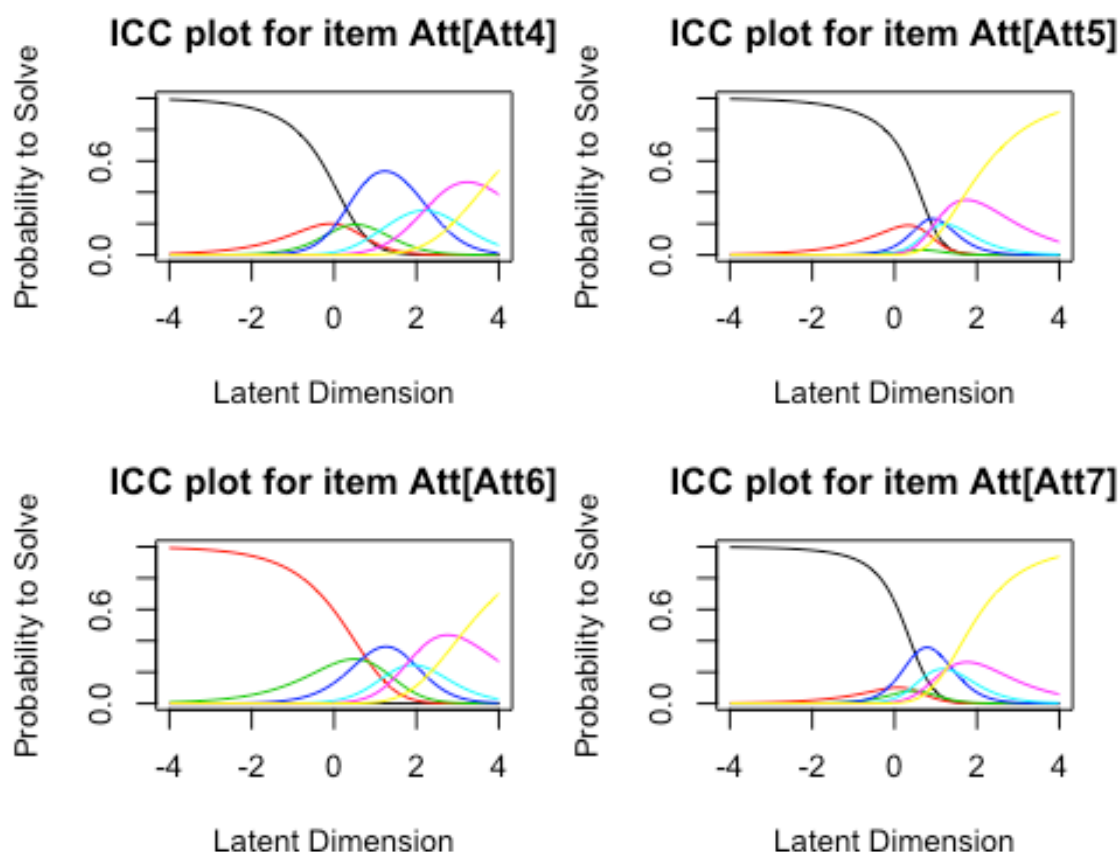


Figure 2.17: Brief Attitude scale ICC plots

Three, four and five points of the rating scale had a maximum probability of being chosen as a function of a person's latent trait. We chose a 5 points rating (from -2 [<-->] to +2 [-->]) for the scale's final version.

2.3.1. Autoefficacy and Behavioral Control

Autoefficacy and Behavioral Control were measured using a total of 10 Likert items (see Table 2.14), rated on a 7-point scale ranging from -3 (Strongly Disagree) to +3 (Strongly Agree).

Table 2.14: Please indicate your level of agreement or disagreement with the following statements [Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni]

Item ID	IT	EN	VARIABLE
PBC[Aut1]	Mi sento capace di cucinare NCD facendo comunque dei buoni piatti	I feel I can prepare good dishes even if I cook NCD cookery	Autoefficacy
PBC[Aut2]	Non penso di avere le competenze per cucinare NCD	I do not think I have the skills to cook NCD cookery	Autoefficacy
PBC[Aut3]	Sarei capace di preparare un intero menù NCD	I would be able to prepare an entire menu using NCD cookery	Autoefficacy
PBC[Aut4]	Non mi sento sicuro delle mie abilità nel cucinare per persone con particolari esigenze alimentari	I do not feel confident in my ability to cook for people with special dietary needs	Autoefficacy
PBC[Aut5]	Penso di avere le conoscenze alla base della cucina NCD	I think I have the basic knowledge about the NCD cookery	Autoefficacy
PBC[Con1]	Pur volendo, se cucinassi NCD, sarebbe impossibile avere il controllo di tutto	Even if I wanted to, if I cooked NCD cookery, it would be impossible to have control of everything	Behavioral Control
PBC[Con2]	Sento di avere il controllo se provassi a cucinare NCD	I feel I would have the control if I tried to cook NCD cookery	Behavioral Control
PBC[Con3]	Anche se volessi, non potrei cucinare NCD	Even if I wanted to, I could not cook NCD cookery	Behavioral Control
PBC[Con4]	Imparare la cucina NCD dipende solo me	Learning NCD cookery is entirely up to me	Behavioral Control

PBC[Con5]	Anche se volessi, non potrei imparare la cucina NCD	Even if I wanted to, I could not learn NCD cookery	Behavioral Control
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2.3.1.1. Exploratory and Confirmatory Factor Analysis

To disentangle if Autoefficacy and Behavioral Control are two distinguishable variables, we conducted an Exploratory Factor Analysis. Parallel analysis, acceleration factor, and optimal coordinates analyses suggested a number of factors to extract between 1 and 2 (Figure 2.18).

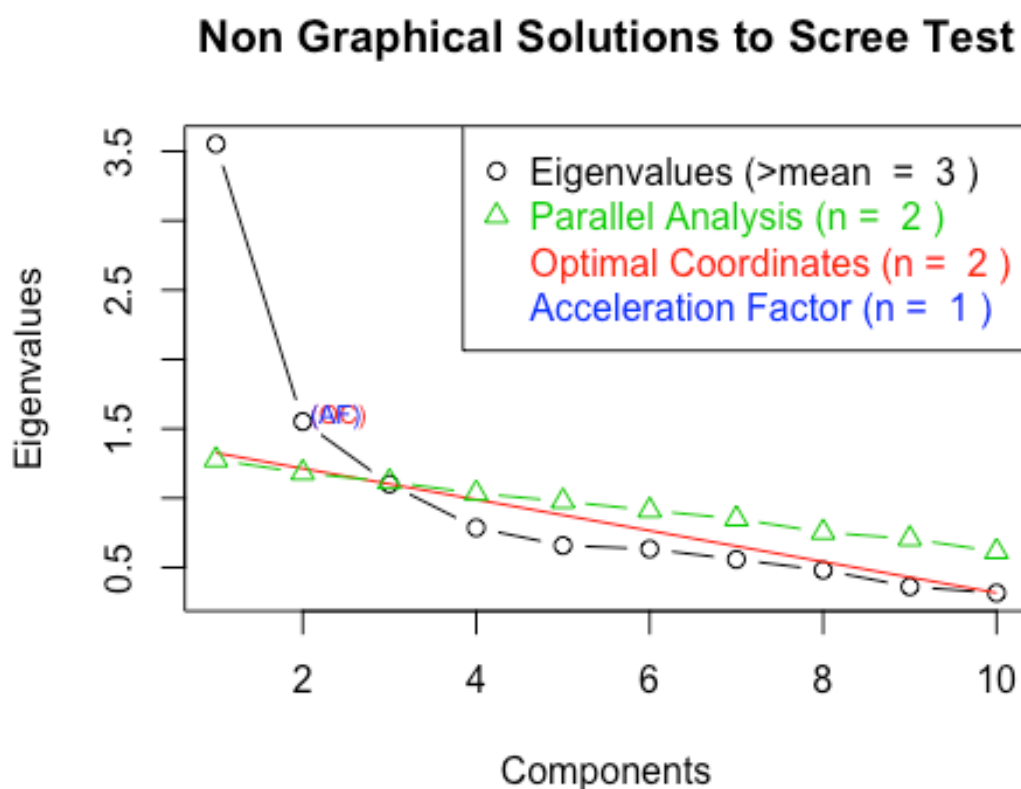


Figure 2.18: Autoefficacy and Behavioral Control scale structure

Then, we performed two Exploratory Factor Analyses with the minimum residuals method and promax rotation, extracting one and two factors, respectively (Tables 2.15 and 2.16).

Table 2.15. Two Factors Solution

Item ID	MR1	MR2
PBC[Aut1]	0.78	0.14
PBC[Aut5]	0.75	-0.07
PBC[Aut3]	0.64	0.08
PBC[Con2]	0.63	0.12
PBC[Con4]	0.19	-0.14
PBC[Con5]	-0.09	0.60
PBC[Aut4]	0.34	0.58
PBC[Con1]	-0.02	0.55
PBC[Con3]	0.01	0.52
PBC[Aut2]	0.31	0.37

Table 2.16. One Factor Solution

Item ID	MR
PBC[Aut1]	0.80
PBC[Aut4]	0.70
PBC[Con2]	0.66
PBC[Aut3]	0.63
PBC[Aut5]	0.60
PBC[Aut2]	0.55
PBC[Con3]	0.36
PBC[Con1]	0.35
PBC[Con5]	0.32
PBC[Con4]	0.07

The two factors and one-factor solutions accounted for 39.74% and 29.62% of explained variance, respectively. Importantly, the two method dimensions emerged in the two factors solution. In fact, the pro-trait items loaded on the first factor while the con-trait items

loaded on the second factor. Consequently, to account for the method factor, we compared two different models: a mono-factorial model with correlated uniquenesses method (Marsh, 1989) and a bifactorial solution as suggested by the exploratory factor analysis (Figure 2.19 and Figure 2.20). The one-factor model with correlated uniquenesses method showed a better fit ($CFI = 0.97$, $TLI = .95$, $RMSEA = .08$) than the two-factor solution ($CFI = 0.93$, $TLI = .90$, $RMSEA = .12$).

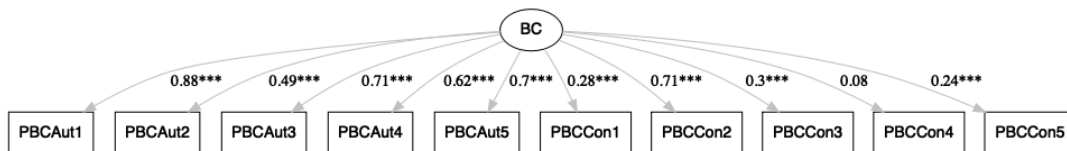


Figure 3.19: Autoefficacy and Behavioral Control scale - mono-factorial solution

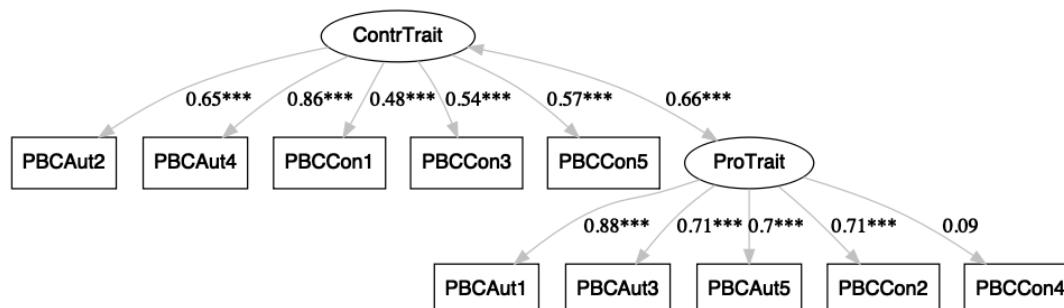


Figure 2.20. Autoefficacy and Behavioral Control scale - bifactorial solution

Since the item "PBC-Con4" did not load significantly on the pro-trait factor, we retested both models without it (Figure 2.21 and Figure 2.22). Fit indices increased (Monofactorial: $CFI = 0.99$, $TLI = .97$, $RMSEA = .07$; Bifactorial: $CFI = 0.93$, $TLI = .91$, $RMSEA = .12$) with the monofactorial solution with correlated uniquenesses method showing a better fit than the bifactorial model ($BIC = 1.25$).

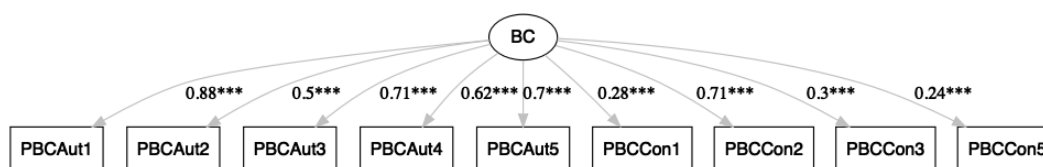


Figure 2.21: Autoefficacy and Behavioral Control scale – mono-factorial solution without PBC-Con4 item

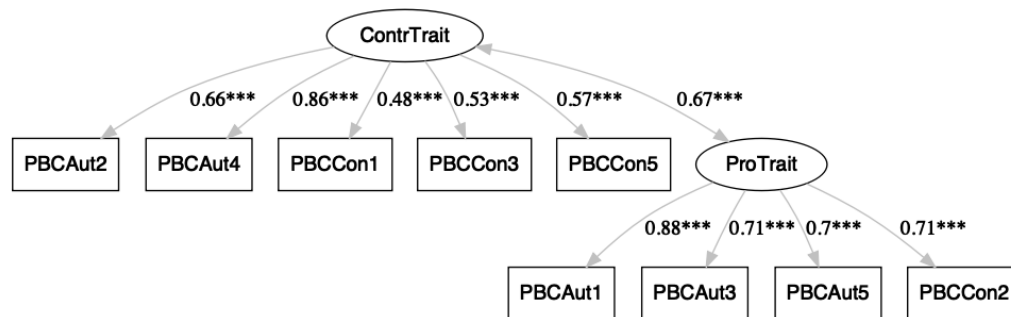


Figure 3.22: Autoefficacy and Behavioral Control scale – bifactorial solution without PBC-Con4 item

2.3.1.2. Item analysis and reliability

The final monodimensional scale showed an acceptable internal consistency (Cronbach's = .80). As shown in Table 2.17, Cronbach's alphas did not increase if an item is dropped, and all items showed a corrected item-total correlation above .30.

Table 2.17. Item analysis

Item ID	alpha if item is dropped	corrected item-total correlation
PBC[Aut1]	0.75	0.67
PBC[Aut2]	0.78	0.49
PBC[Aut3]	0.77	0.52
PBC[Aut4]	0.75	0.65
PBC[Aut5]	0.78	0.49
PBC[Con1]	0.79	0.34
PBC[Con2]	0.77	0.56
PBC[Con3]	0.79	0.35
PBC[Con5]	0.80	0.33

2.3.1.3. Brief scale

We chose the best four items in terms of both factor loading and reliability contribution, balancing both content (2 self-efficacy and 2 behavioral control items) and wording of items (2 pro-trait and 2 con-trait). As shown in Figure 2.23, the new brief scales showed good fit indices ($CFI = 1.00$, $TLI = 1.01$, $RMSEA = .00$) and a very good internal consistency (Cronbach's = .70).

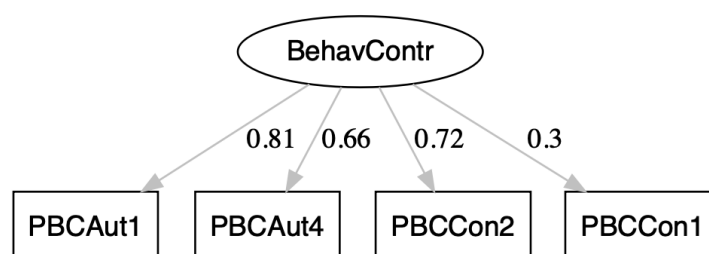


Figure 3.23: Behavioral control brief scale model

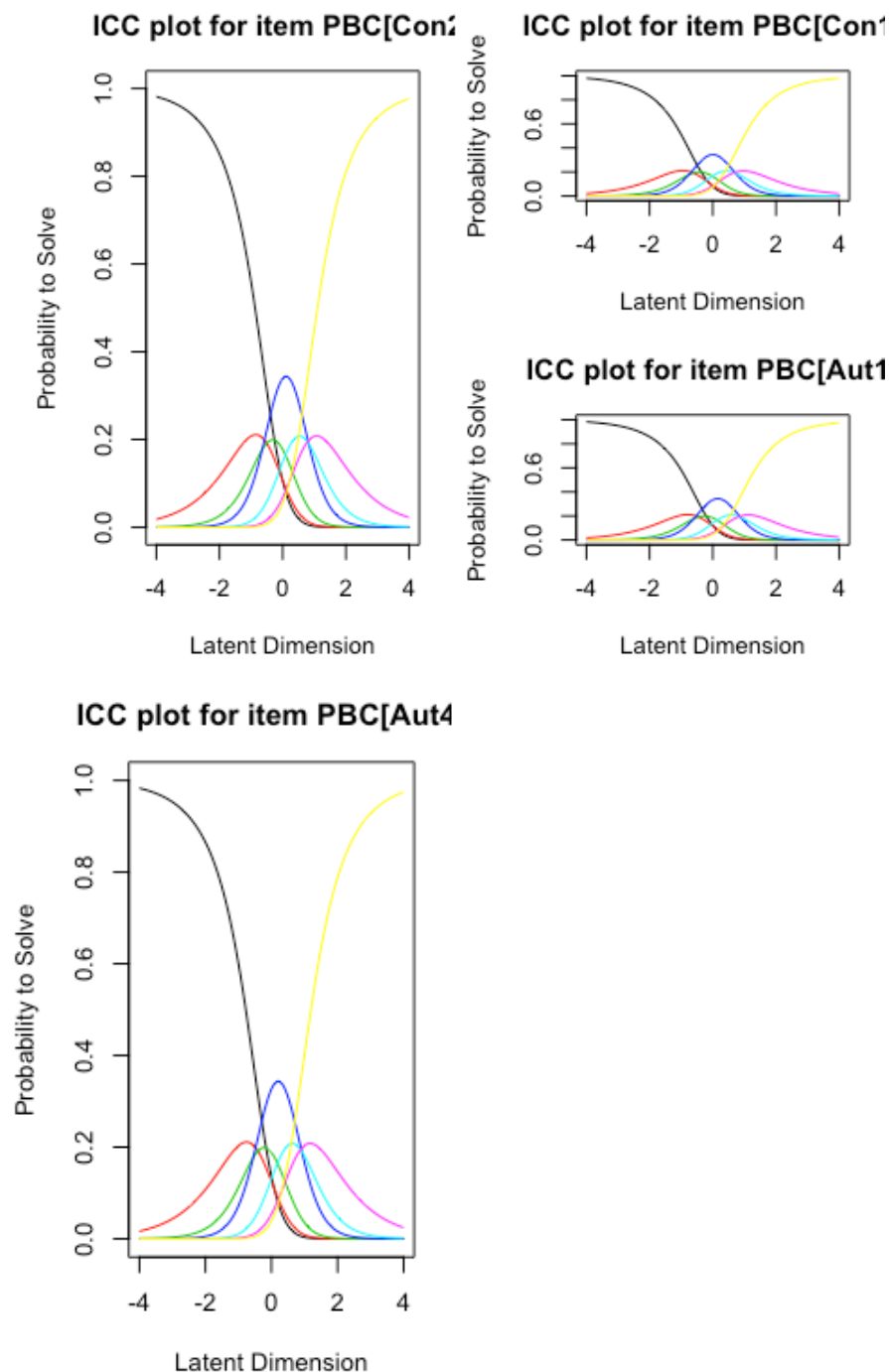
Items selected for the brief scale are reported in Table 2.18.

Table 2.18. Please indicate your level of agreement or disagreement with the following statements [Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni]

ID	IT	EN
PBC[Aut1]	Mi sento capace di cucinare NCD facendo comunque dei buoni piatti	I feel I can prepare good dishes even if I cook NCD cookery
PBC[Aut4]	Non mi sento sicuro delle mie abilità nel cucinare per persone con particolari esigenze alimentari	I do not feel confident in my ability to cook for people with special dietary needs
PBC[Con1]	Pur volendo, se cucinassi NCD, sarebbe impossibile avere il controllo di tutto	Even if I wanted to, if I cooked NCD cookery, it would be impossible to have control of everything
PBC[Con2]	Sento di avere il controllo se provassi a cucinare NCD	I feel I would have the control if I tried to cook NCD cookery

2.3.1.4. *Choosing the best number of categories for the rating scale*

Participants rated each item using a seven points Likert scale, from -3 (Strongly Disagree) to +3 (Strongly Agree). Figure 2.24 are depicted the ICC plots for the four items selected.



Only three points of the rating scale had a maximum probability of being chosen. However, to maintain variability in the choice and to preserve the middle point, we decided on a five-point rating scale (from "Strongly Disagree" to "Strongly Agree") in the final version.

2.3.1. Injunctive and Descriptive Norms

Injunctive and Descriptive Norms were measured using 10 Likert items (see Table 2.19) from -3 (Strongly Disagree) to +3 (Strongly Agree).

Table 2.19. Please indicate your degree of agreement and disagreement with the following statements [Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni]

Item ID	IT	EN	VARIABLE
SubN[SNI1]	Molte persone a cui tengo sarebbero contente se io cucinassi NCD	Many people I care about would be happy if I cooked NCD cookery	Injunctive Norms
SubN[SNI2]	Molte persone a cui tengo non ritengono importante che io eviti la contaminazione dei cibi quando cucino per chi ha particolari esigenze alimentari	Many people I care about do not think it is important that I avoid food contamination when cooking for those with special dietary needs	Injunctive Norms
SubN[SNI3]	Molte persone per me importanti si aspettano che sappia riconoscere gli alimenti rischiosi per la salute delle persone	Many people who are important to me expect me to be able to recognise foods that are risky to people's health	Injunctive Norms
SubN[SNI4]	Alla maggior parte delle persone a cui tengo non importa che io sappia cucinare NCD	Most people I care about do not care that I can cook NCD cookery	Injunctive Norms
SubN[SNI5]	La maggior parte delle persone di cui mi importa si aspettano che sappia bilanciare i valori nutrizionali quando cucino per chi ha particolari esigenze alimentari	Most people I care about expect me to be able to balance nutritional values when I cook for those with special dietary needs	Injunctive Norms
SubN[SND1]	Molte persone a cui tengo cucinano NCD	Many people I care about can cook NCD cookery	Descriptive Norms
SubN[SND2]	Molte persone a cui tengo non prestano attenzione alla contaminazione dei cibi quando cucinano per chi ha particolari esigenze alimentari	Many people I care about do not pay attention to food contamination when cooking for those with special dietary needs	Descriptive Norms

SubN[SND3]	Molte persone per me importanti sanno riconoscere gli alimenti rischiosi per la salute delle persone	Many people who are important to me are able to recognise foods that are dangerous to people's health	Descriptive Norms
SubN[SND4]	La maggior parte delle persone a cui tengo non conoscono la cucina NCD	Most people I care about are not familiar with NCD cookery	Descriptive Norms
SubN[SND5]	La maggior parte delle persone di cui mi importa sanno bilanciare i valori nutrizionali quando cucinano per chi ha particolari esigenze alimentari	Most people I care about know how to balance nutritional values when they cook for those with special dietary needs	Descriptive Norms

2.3.1.1. Exploratory and Confirmatory Factor Analysis

Likewise, we had the need to disentangle the dimensional structure of Injunctive and Descriptive items; thus, we conducted again an exploratory factor analysis. Parallel analysis, acceleration factor, and optimal coordinates analyses suggested a different number of factors ranging between 1 and 4 (Figure 2.26).

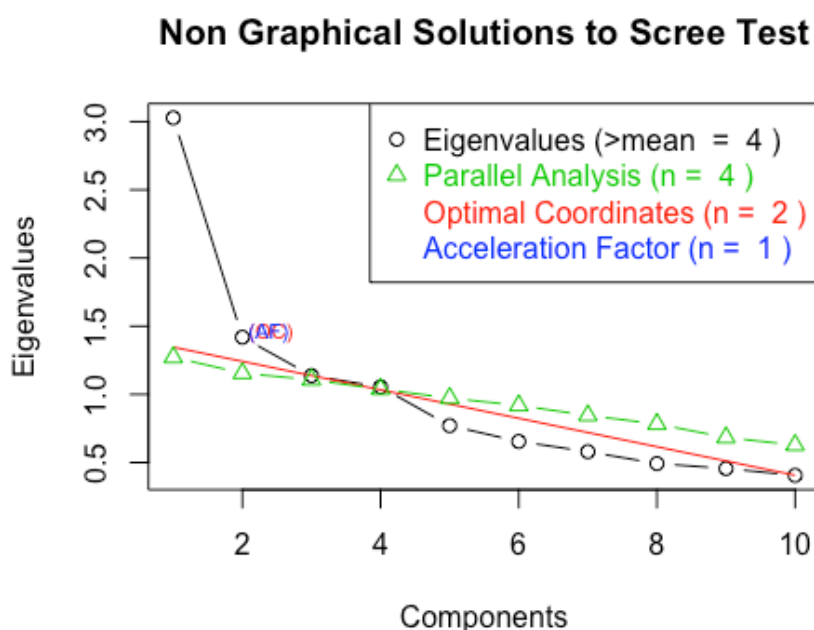


Figure 2.26

Then, we performed three exploratory factor analyses with the minimum residuals method and promax rotation, extracting one, two, and four factors, respectively (Tables 2.20, 2.21, and 2.22).

Table 2.20. One Factor Solution

Item	MR
SubN[SND1]	0.59
SubN[SND5]	0.57
SubN[SNI5]	0.57
SubN[SNI3]	0.50
SubN[SNI1]	0.50
SubN[SNI4]	0.47
SubN[SND3]	0.44
SubN[SND4]	0.40
SubN[SNI2]	0.33
SubN[SND2]	0.32

In the one factor solution all items showed loadings above .30. The one dimensional solution accounted for the 22.84% of explained variance.

Table 2.21. Two Factors Solution

Item	MR1	MR2
SubN[SNI3]	1.03	-0.38
SubN[SNI5]	0.58	0.05
SubN[SNI1]	0.45	0.10
SubN[SNI2]	0.36	0.00
SubN[SND4]	-0.20	0.72
SubN[SND1]	0.12	0.56
SubN[SND2]	-0.09	0.48
SubN[SNI4]	0.08	0.47
SubN[SND5]	0.29	0.34
SubN[SND3]	0.22	0.27

In the two factors solution, all items showed loadings above or near .30, accounting for 32.90% of explained variance. Four Injunctive Norms items loaded on the first factor, whereas five Descriptive Norms items loaded on the second factor. The item "SubN[SNI4]" loaded on the "wrong" factor (Descriptive and not Injunctive). These two factors were strongly correlated ($r = 0.55$).

Table 2.22. Four Factors Solution

Item	MR3	MR1	MR4	MR2
SubN[SNI3]	0.85	-0.20	0.13	-0.08
SubN[SNI5]	0.49	0.19	0.09	-0.10
SubN[SNI1]	0.45	0.35	-0.10	-0.08
SubN[SNI2]	0.40	-0.04	0.00	0.23
SubN[SNI4]	0.11	0.64	-0.11	0.06
SubN[SND4]	-0.15	0.57	0.08	0.19
SubN[SND5]	0.11	-0.03	0.63	0.04
SubN[SND3]	0.06	-0.08	0.56	0.06
SubN[SND1]	-0.09	0.38	0.55	-0.14
SubN[SND2]	-0.05	0.23	0.06	0.86

The four factors accounted for 0.47% of explained variance. As in the two factors solution, the four Injunctive Norms items loaded on the first factor. The second factor was saturated by items "SubN[SNI4]" and "SubN[SND4]". These two items shared a common method (con-trait item) and formulation. Three pro-trait items of Descriptive Norms loaded on the third factor, whereas the descriptive con-trait item "SubN[SND2]" loaded on the fourth factor. Correlations among factors are shown in Table 2.23.

Table 2.23. Four Factors Solution: Factor Correlations

Item ID	MR3	MR1	MR4	MR2
MR3	1.00	0.34	0.40	0.09
MR1	0.34	1.00	0.46	0.05
MR4	0.40	0.46	1.00	0.19
MR2	0.09	0.05	0.19	1.00

Taken together, these analyses showed two possible solutions: a one-dimensional and a two-dimensional factor model. In addition, there was a method factor, and the item “SubN[SNI4]” did not load on the Injunctive Norms factor. Consequently, we removed this item and tested two confirmatory factor models (Figure 2.27 and Figure 2.28) using the correlated uniquenesses method: a mono-factorial ($CFI = 0.84$, $TLI = .76$, $RMSEA = .14$) and a bifactorial solution, respectively ($CFI = 0.95$, $TLI = .92$, $RMSEA = .08$).

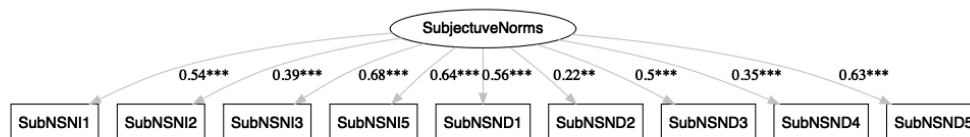


Figure 2.27. Subjective norms

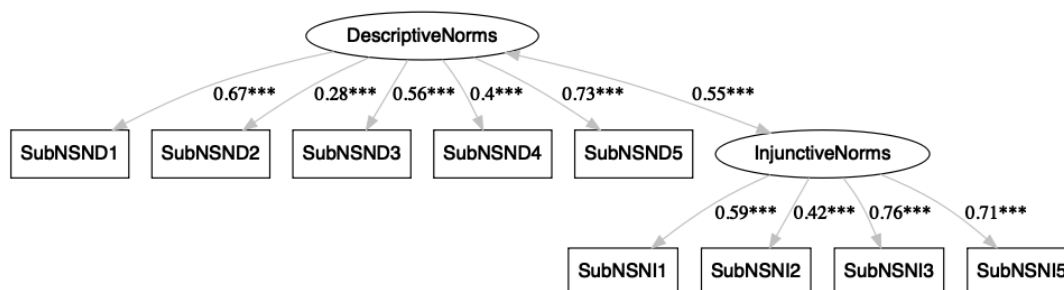


Figure 2.28: Injunctive norms

The two-factorial solution showed an acceptable fit, clearly better than the one-dimensional model.

2.3.1.2. Item analysis and reliability

Both the Injunctive (Cronbach's = .65) and Descriptive Norms (Cronbach's = .65) scales showed a Cronbach's alpha below conventional thresholds of .70 (see also Table 2.24 and 2.25). Moreover, Injunctive Norm's alpha increased if the item "SubN[SNI2]" was dropped. Consequently, we decided to eliminate this item in the next version of the scale. However, considering the low items' number and that all items showed a corrected item-total correlation closed or above .30, we considered these alpha values as acceptable.

Table 2.24. Item analysis - Injunctive Norms

Item ID	alpha if item is dropped	corrected item-total correlation
SubN[SNI1]	0.60	0.40
SubN[SNI2]	0.68	0.29
SubN[SNI3]	0.48	0.57
SubN[SNI5]	0.55	0.46

Table 2.25. Item analysis - Descriptive Norms

Item	alpha if item is dropped	corrected item-total correlation
SubN[SND1]	0.57	0.47
SubN[SND2]	0.63	0.34
SubN[SND3]	0.61	0.38
SubN[SND4]	0.62	0.39
SubN[SND5]	0.57	0.46

2.3.1.3. Brief scales

For each scale, we individuated the best three items in terms of both factor loading and reliability contribution, balancing as best as possible the wording of items (pro-trait and con-trait items). As shown in Figure 2.29, the new brief scales showed good fit indices ($CFI = 0.96$, $TLI = .92$, $RMSEA = .11$) and an acceptable internal consistency for both Injunctive (Cronbach's $= .68$) and Descriptive (Cronbach's $= .59$) Norms scales.

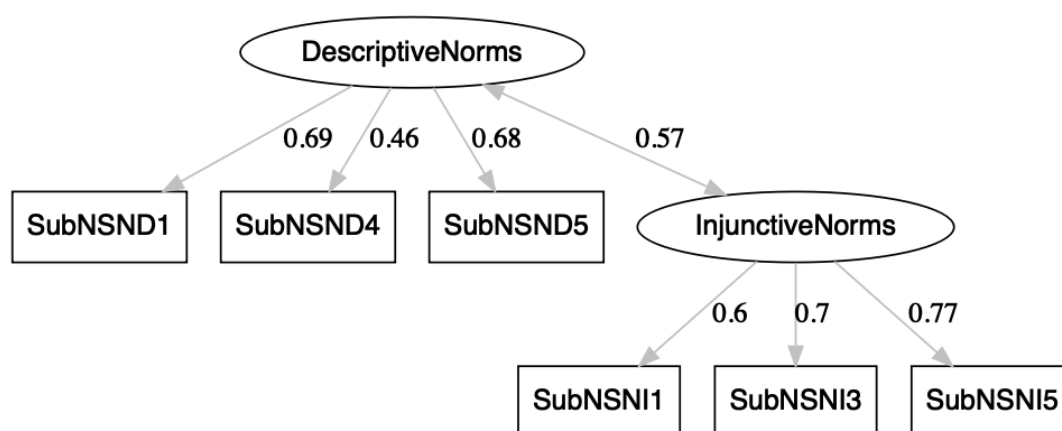


Figure 2.29. Descriptive and injunctive norms brief scale

Items selected for the brief scales are reported in Tables 2.26 and 2.27.

Table 2.26. Injunctive Norm Scale

Item ID	IT	EN
SubN[SNI1]	Molte persone a cui tengo sarebbero contente se io cucinassi NCD	Many people I care about would be happy if I cooked NCD cookery
SubN[SNI3]	Molte persone per me importanti si aspettano che sappia riconoscere gli alimenti rischiosi per la salute delle persone	Many people who are important to me expect me to be able to recognise foods that are risky to people's health
SubN[SNI5]	La maggior parte delle persone di cui mi importa si aspettano che sappia bilanciare i valori nutrizionali quando cucino per chi ha particolari esigenze alimentari	Most people I care about expect me to be able to balance nutritional values when I cook for those with special dietary needs

Table 2.27. Descriptive Norm Scale

ID	IT	EN
SubN[SND1]	Molte persone a cui tengo cucinano NCD	Many people I care about can cook NCD cookery
SubN[SND4]	La maggior parte delle persone a cui tengo non conoscono la cucina NCD	Most people I care about are not familiar with NCD cookery
SubN[SND5]	La maggior parte delle persone di cui mi importa sanno bilanciare i valori nutrizionali quando cucinano per chi ha particolari esigenze alimentari	Most people I care about know how to balance nutritional values when they cook for those with special dietary needs

2.3.1.4. Choosing the best number of categories for the rating scale

Participants rated each item using seven points Likert scale from -3 (Strongly Disagree) to +3 (Strongly Agree). In Figures 2.30 and 2.31 are depicted the ICC plots for the six items selected.

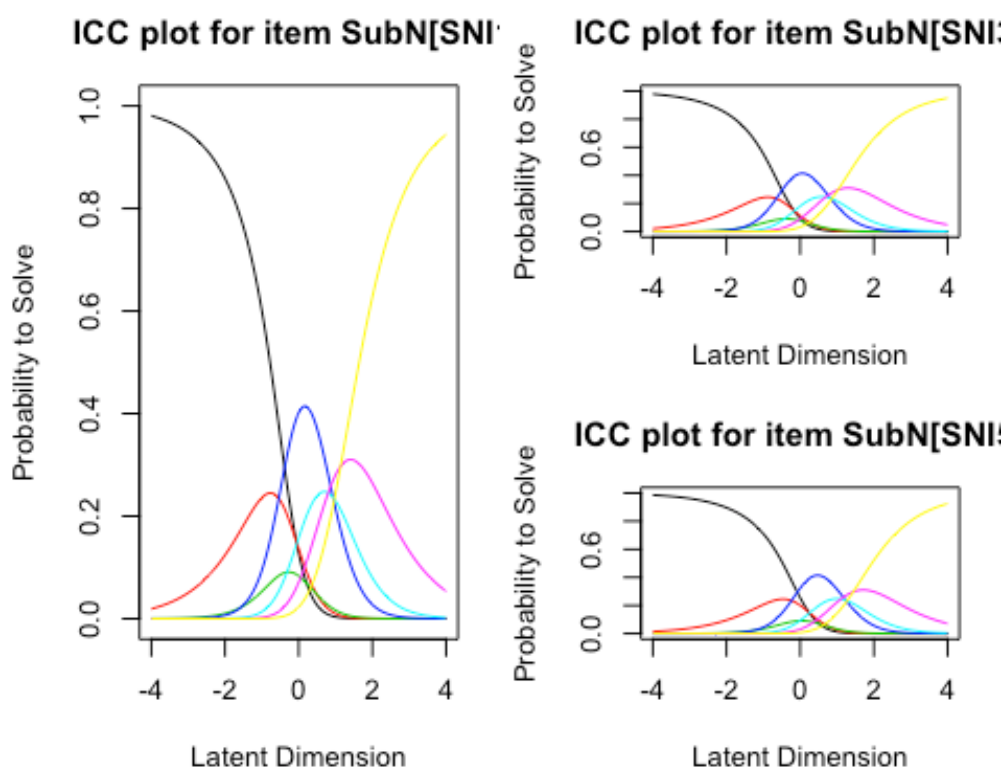


Figure 2.30. Injunctive norms brief scale ICC plots

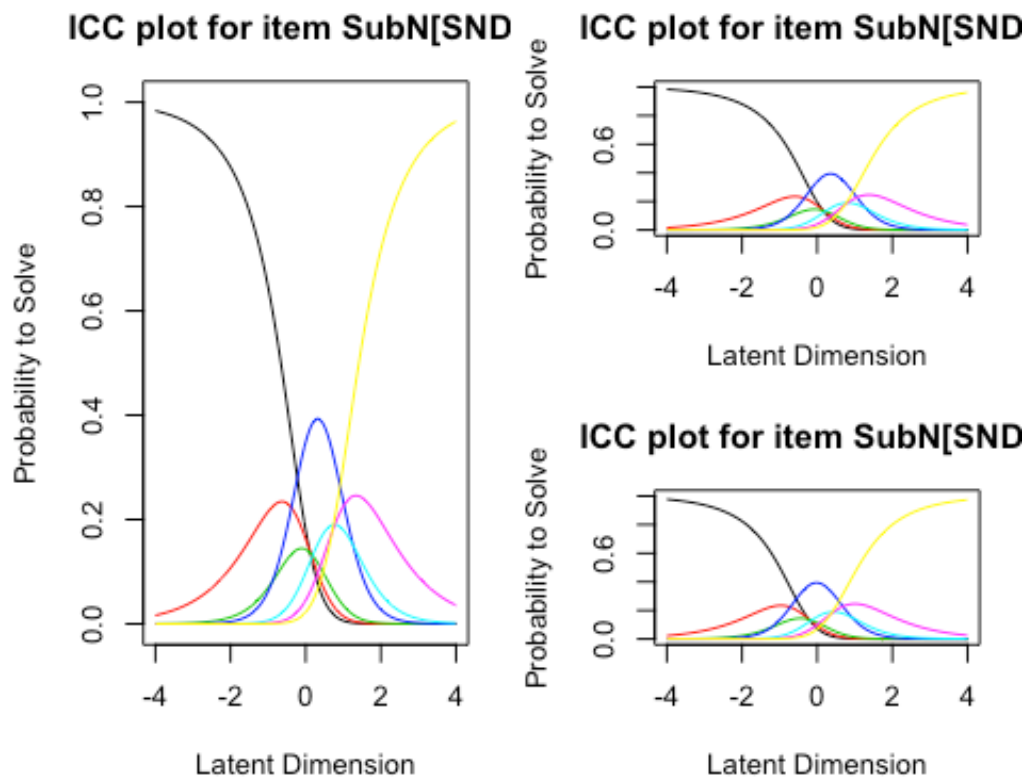


Figure 2.31. Descriptive norms brief scale ICC plots

Just three points of the rating scale had a maximum probability of being chosen. However, to maintain variability in the choice and to preserve the middle point, we decide for a five-point rating scale (from -2 "Strongly Disagree" to +2 "Strongly Agree") in the final version.

2.3.1. Personal and Moral Values

Personal and Moral Values were measured using 4 Likert items for each variable (see Table 2.28), scaled from -3 (Strongly Disagree) to +3 (Strongly Agree).

Table 2.28. Please indicate your degree of agreement or disagreement with the following statements [Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni]

ID	IT	EN	VARIABLE
VAL[PVAL1]	Imparare la cucina NCD mi permetterebbe di avere un curriculum competitivo	Learning NCD cookery would allow me to have a competitive curriculum	Personal Value
VAL[PVAL2ut2]	Cucinare NCD non è di grande importanza per la propria carriera professionale	Cooking NCD cookery is not of great importance for one's professional career	Personal Value
VAL[PVAL3]	Saper cucinare NCD mi renderebbe più sereno/a circa le mie possibilità di trovare un lavoro	Knowing how to cook NCD cookery would make me feel more confident about my chances of finding a job	Personal Value
VAL[PVAL4]	Non mi interessa imparare la cucina NCD perché non la ritengo utile per la mia carriera	I am not interested in learning NCD cookery because I do not think it is useful for my career	Personal Value
Mor[Mor1]	Per me conoscere la cucina NCD è una responsabilità morale	Knowing about NCD cookery is a moral responsibility for me	Moral Vaules
Mor[Mor2]	Mi sentirei in colpa se non sapessi cucinare NCD per persone con particolari esigenze alimentari	I would feel guilty if I would not be able to cook NCD cookery for people with special dietary	Moral Vaules
Mor[Mor3]	Penso che sia moralmente giusto cucinare NCD	I think it is morally right to cook NCD cookery	Moral Vaules
Mor[Mor4]	Sarei scontento di me stesso se non riuscissi a soddisfare le richieste di chi ha particolari esigenze alimentari	I would be displeased with myself if I could not fulfil the requests of those with special dietary needs	Moral Vaules

2.3.1.1. Exploratory and Confirmatory Factor Analysis

To disentangle the dimensional structure of value items, we conducted exploratory factor analyses. Parallel analysis, acceleration factor, and optimal coordinates analyses suggested a different number of factors ranged 1 and 4 (Figure 2.32).

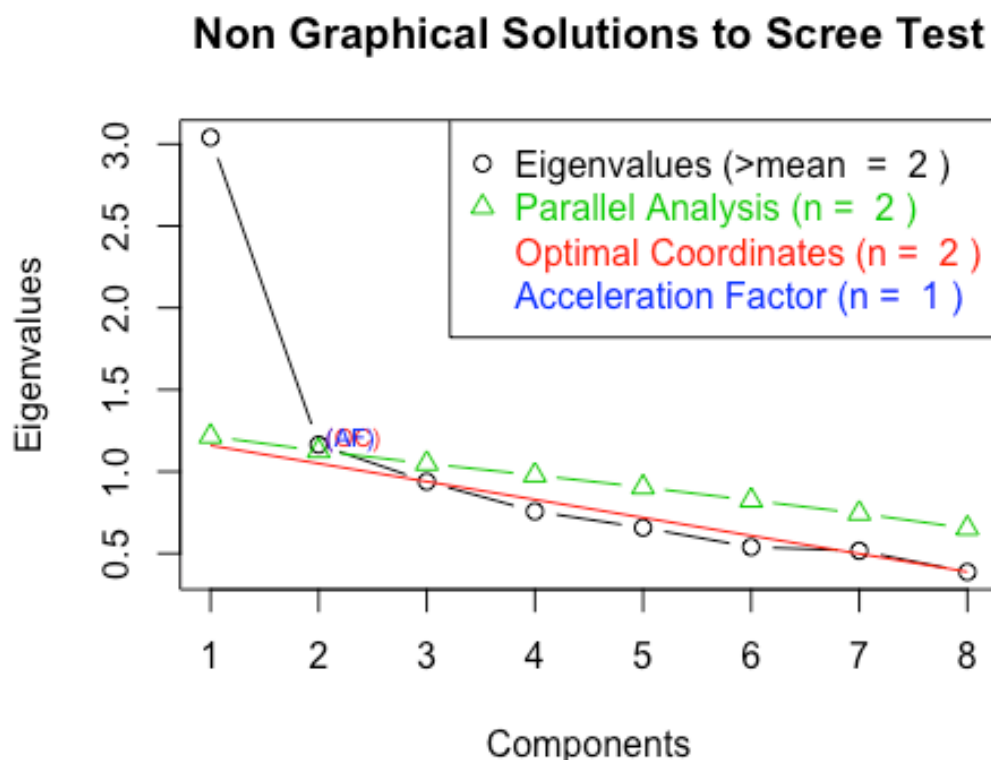


Figure 2.32

Then, we performed three exploratory factor analyses with the minimum residuals method and promax rotation, extracting one and two factors, respectively (Tables 2.29 and 2.30).

Table 2.29. One Factor Solution

Item	MR
VAL[PVAL3]	0.66
Mor[Mor1]	0.63
Mor[Mor3]	0.62
VAL[PVAL1]	0.55
Mor[Mor2]	0.52
VAL[PVAL2ut2]	0.46
Mor[Mor4]	0.43
VAL[PVAL4]	0.42

In the one-factor solution, all items showed loading above .30. The one-dimensional solution accounted for 29.54% of explained variance.

Table 2.30. Two Factors Solution

Item	MR1	MR2
Mor[Mor1]	0.81	-0.11
Mor[Mor3]	0.67	0.00
Mor[Mor4]	0.51	-0.06
Mor[Mor2]	0.42	0.14
VAL[PVAL3]	0.39	0.33
VAL[PVAL4]	-0.10	0.63
VAL[PVAL2ut2]	-0.05	0.62
VAL[PVAL1]	0.10	0.54

In the two factors solution, all items showed loading above or near .30, accounting for 37.06% of explained variance. The four Moral Values items loaded in the first factor and three of the four Personal Values items loaded in the second factor. The item "VAL[PVAL3]" loaded on both factors. Consequently, we choose to eliminate it. These two factors were strongly

correlated ($r = 0.61$). Furthermore, we tested two confirmatory factor models (Figure 2.33 and Figure 2.34) using the correlated uniquenesses method: a mono-factorial ($CFI = 0.93$, $TLI = .89$, $RMSEA = .14$) and a bifactorial solution, respectively ($CFI = 0.96$, $TLI = .93$, $RMSEA = .11$).

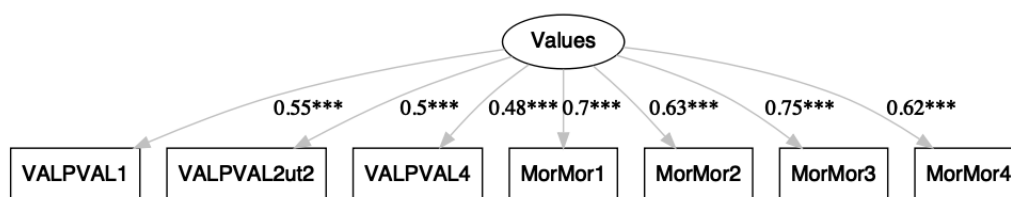


Figure 2.33: Personal and Moral Values scale - mono-factorial solution

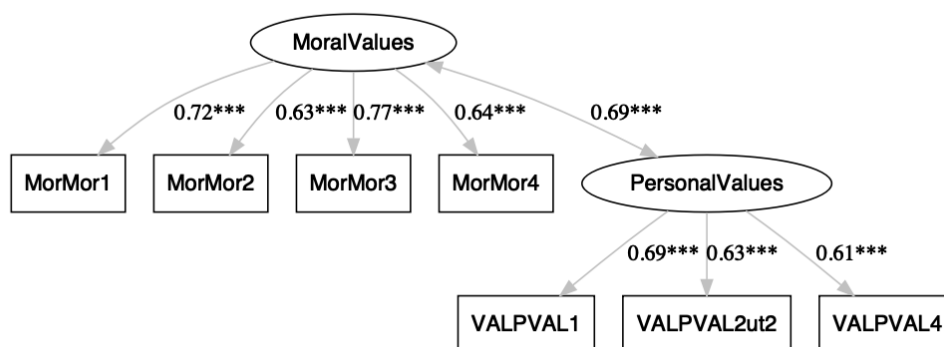


Figure 2.34: Personal and Moral Values scale - bifactorial solution

The two factorial solutions showed to fit data better than the one-dimensional model ($BIC = 7.59$).

2.3.1.2. Item analysis and reliability

Personal (Cronbach's = .60) and Moral (Cronbach's = .69) Values scales showed a Cronbach's alpha below conventional thresholds of .70. However, none of the items increased alpha if dropped, and they showed corrected item-total correlations above .30 (Table 2.31 and 2.32). Considering the low number of items composing the scales, we considered these alpha values as acceptable.

Table 2.31. Item analysis - Personal Values

Item ID	alpha if item is dropped	corrected item-total correlation
VAL[PVAL1]	0.55	0.37
VAL[PVAL2ut2]	0.46	0.44
VAL[PVAL4]	0.49	0.42

Table 2.32. Item analysis - Moral Values

Item	alpha if item is dropped	corrected item-total correlation
Mor[Mor1]	0.59	0.51
Mor[Mor2]	0.65	0.45
Mor[Mor3]	0.62	0.48
Mor[Mor4]	0.65	0.44

2.3.1.3. Brief scales

For each scale, we choose the best three items in terms of both factor loading and reliability contribution. As shown in Figure 2.35, the new brief scales showed good fit indices ($CFI = 1.00$, $TLI = > .99$, $RMSEA = .00$) and an acceptable internal consistency for both Personal (Cronbach's = .60) and Moral (Cronbach's = .65) value scales.

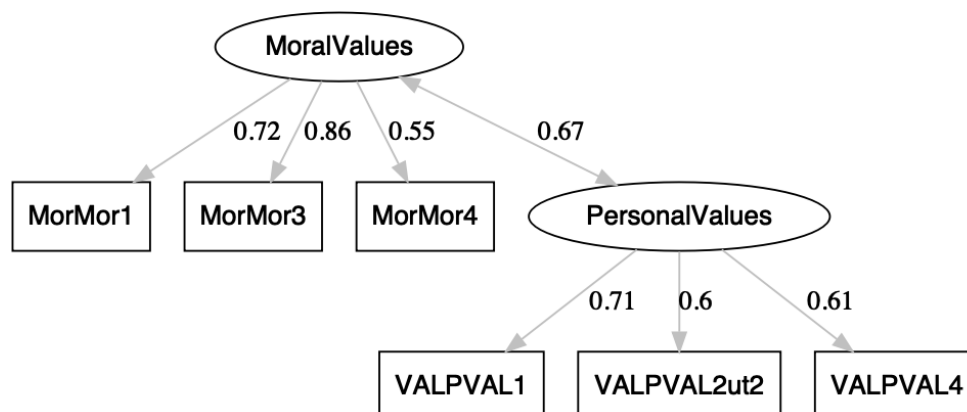


Figure 2.35. Personal and Moral Values brief scales structures

Items selected for the brief scales are reported in Tables 2.33 and 2.34.

Table 2.33. Personal Value Scale

Item ID	IT	EN
VAL[PVAL1]	Imparare la cucina NCD mi permetterebbe di avere un curriculum competitivo	Learning NCD cookery would allow me to have a competitive curriculum
VAL[PVAL2ut2]	Cucinare NCD non è di grande importanza per la propria carriera professionale	Cooking NCD cookery is not of great importance for one's professional career
VAL[PVAL4]	Non mi interessa imparare la cucina NCD perché non la ritengo utile per la mia carriera	I am not interested in learning NCD cookery because I do not think it is useful for my career

Table 2.34. Moral Value Scale

Item ID	IT	EN
Mor[Mor1]	Per me conoscere la cucina NCD è una responsabilità morale	Knowing about NCD cookery is a moral responsibility for me
Mor[Mor3]	Penso che sia moralmente giusto cucinare NCD	I think it is morally right to cook NCD cookery
Mor[Mor4]	Sarei scontento di me stesso se non riuscissi a soddisfare le richieste di chi ha particolari esigenze alimentari	I would be displeased with myself if I could not fulfil the requests of those with special dietary needs

2.3.2. Choosing the best number of categories for the rating scale

Participants rated each item using a seven points Likert scale from -3 (Strongly Disagree) to +3 (Strongly Agree). Figures 2.36 and 2.37 are depicted the ICC plots for the six items selected.

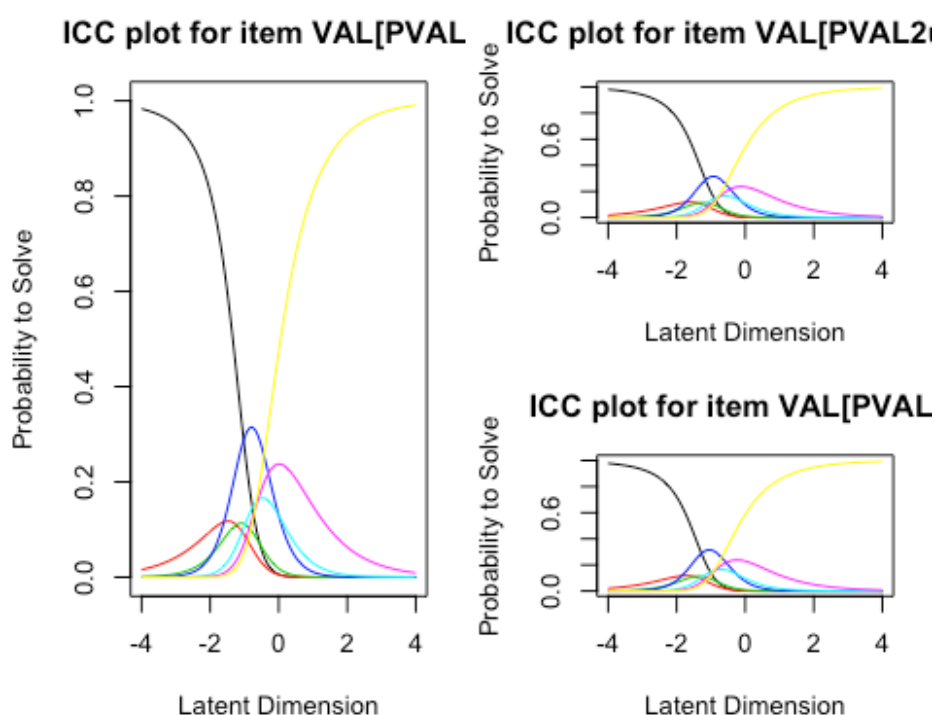


Figure 2.36: Personal Value Briefscale ICC plots

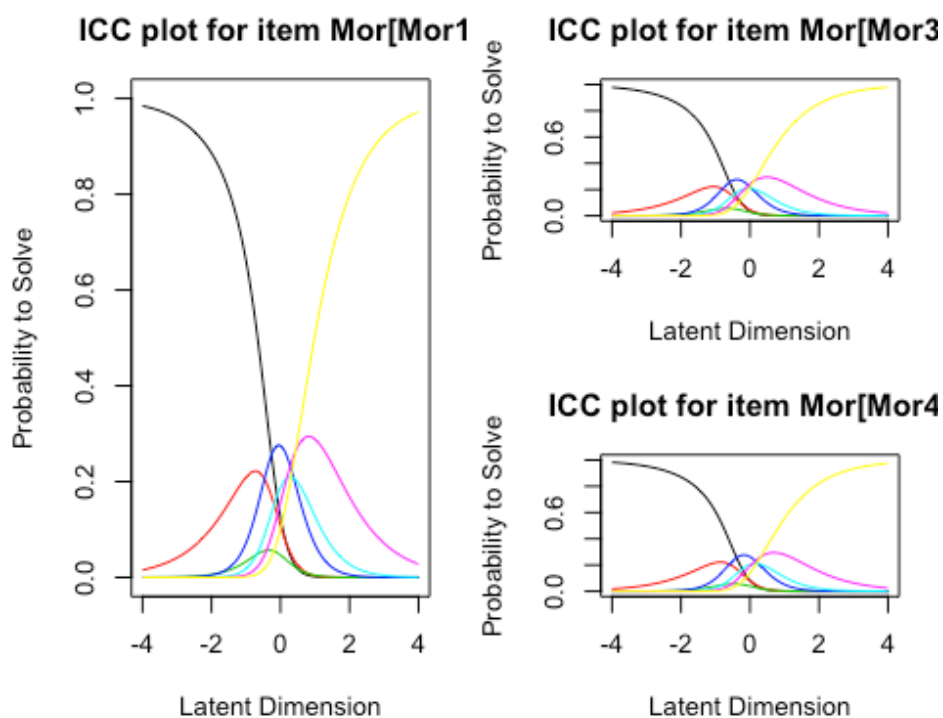


Figure 2.37: Moral Value brief scale ICC plots

Three or four points of the rating scale showed a maximum probability of being chosen. However, to guarantee variability in the choice and to preserve the middle point, we decided on a five-point rating scale - from -2 to + 2, maintaining the anchors "Strongly Disagree" and "Strongly Agree" - in the final version.

2.8. Convergent and Predictive Validity

Descriptive statistics and the correlation matrix are displayed in Table 2.35. Once the dimensional and scaling characteristics of the scales were ascertained, we focused on the capability of the measures to actually assess the variables of interest. Namely, the validity.

Table 2.35. Descriptive Statistics and correlation matrix

	1	2	3	4	5	6	7	8	<i>M</i>	<i>SD</i>
1. Past Behavior	-								2.90	1.74
2. Behavioral Intention	.52***	-							5.03	1.58
3. Attitude	.23***	.35***	-						5.81	1.07
4. Behavioral Control	.37***	.43***	.25***	-					4.54	1.32
5. Descriptive Norms	.42***	.18*	.02	.25***	-				4.12	1.33
6. Injunctive Norms	.25***	.41***	.21**	.23**	.35***	-			5.16	1.25
7. Personal Values	.28***	.49***	.26***	.29***	.09	.37***	-		5.93	1.12
8. Moral Values	.20**	.38***	.29***	.21**	.08	.39***	.33***	-	5.63	1.22
9. Anticipatory Emotions	-.14	-.07	-.04	-.36***	-.12	.02	-.04	.09	2.90	1.60

Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

In order to study this psychometric aspect, first we tested the classical Planned Behavior Model, in which behavioral intention is predicted by attitudes, behavioral control and normative beliefs. As shown in Table 2.36, the model of Ajzen was confirmed. In fact, Injunctive (but not Descriptive) norms, Attitude and Behavioral Control significantly predicted Behavioral Intention.

Table 2.36. Classical Planned Behavior Model. DV: Behavioral Intention

Predictor	b	b 95% CI	beta	beta 95% CI	sr2	sr2 95% CI	r
(Intercept)	-0.37	[-1.59, 0.85]					
Descriptive Norms	-0.01	[-0.16, 0.13]	-0.01	[-0.14, 0.11]	.00	[-.00, .00]	.18*
Injunctive Norms	0.39**	[0.23, 0.54]	0.30	[0.18, 0.43]	.08	[.02, .14]	.41**
Attitude	0.30**	[0.12, 0.48]	0.20	[0.08, 0.32]	.04	[-.01, .08]	.35**
Behavioral Control	0.38**	[0.23, 0.53]	0.32	[0.19, 0.44]	.09	[.02, .15]	.43**

Fit $R^2 = .331^{**}$, 95% CI[.22,.41]

Note. A significant b-weight indicates the beta-weight and semi-partial correlation are also significant. b represents unstandardized regression weights. beta indicates the standardized regression weights. sr2 represents the semi-partial correlation squared. r represents the zero-order correlation. Square brackets are used to enclose the lower and upper limits of a confidence interval. * indicates $p < .05$. ** indicates $p < .01$.

The model explained the 33.13% of behavioral intention variance. Then, we added the new variables selected (Moral and Personal values, and Anticipatory Emotions) to the classical model. As shown in Table 2.37, Injunctive norms, Attitude and Behavioral Control still predicted Behavioral Intention. Moreover, Personal and Moral values (but not Anticipatory Emotions) significantly increased the percentage of model-explained variance (41.35%). This increment was statistically significant ($F(3) = 9.16, p < .001$).

Table 2.37. *Extendend Planned Behavior Model. DV: Behavioral Intention*

Predictor	b	b 95% CI	beta	beta 95% CI	sr2	sr2 95% CI	r
(Intercept)	-2.04**	[-3.41, -0.67]					
Descriptive Norms	0.02	[-0.12, 0.16]	0.02	[-0.10, 0.14]	.00	[-.00, .00]	.18*
Injunctive Norms	0.22*	[0.05, 0.38]	0.17	[0.04, 0.30]	.02	[-.01, .05]	.41**
Attitude	0.21*	[0.03, 0.38]	0.14	[0.02, 0.26]	.02	[-.01, .04]	.35**
Behavioral Control	0.31**	[0.15, 0.46]	0.26	[0.13, 0.38]	.05	[.00, .09]	.43**
Anticipatory	0.02	[-0.09, 0.14]	0.02	[-0.09, 0.14]	.00	[-.00, .00]	-.07
Personal Values	0.39**	[0.22, 0.56]	0.28	[0.15, 0.40]	.06	[.01, .11]	.49**
Moral Values	0.15	[-0.01, 0.32]	0.12	[-0.00, 0.24]	.01	[-.01, .03]	.38**

Fit $R^2 = .414^{**}$; 95% CI[.29,.48]

Note. A significant b-weight indicates the beta-weight and semi-partial correlation are also significant. b represents unstandardized regression weights. beta indicates the standardized regression weights. sr2 represents the semi-partial correlation squared. r represents the zero-order correlation. Square brackets are used to enclose the lower and upper limits of a confidence interval. * indicates $p < .05$. ** indicates $p < .01$.

Then, we tried to predict past behavior. Considering that the main variable predicted by the original model is future behavior, we expected little differences in our results compared to the existing literature findings. However, scholars primarily reported intention as the principal predictor of behavior. As in the previous analysis, we first tested the classical model, in which past behavior was predicted by behavioral intention, attitudes, behavioral control and normative beliefs (Table 2.38).

Table 2.38. Classical Planned Behavior Model - DV: Past Behavior

Predictor	b	b 95. CI	beta	beta 95. CI	sr2	sr2 95. CI	r
(Intercept)	-1.97**	[-3.24, -0.70]					
Behavioral Intention	0.47**	[0.33, 0.62]	0.43	[0.30, 0.56]	.12	[.05, .20]	.52**
Descriptive Norms	0.45**	[0.30, 0.61]	0.35	[0.23, 0.47]	.10	[.04, .17]	.42**
Injunctive Norms	-0.11	[-0.29, 0.06]	-0.08	[-0.21, 0.04]	.01	[-.01, .02]	.25**
Attitude	0.11	[-0.08, 0.30]	0.07	[-0.05, 0.18]	.00	[-.01, .02]	.23**
Behavioral Control	0.13	[-0.03, 0.29]	0.10	[-0.03, 0.22]	.01	[-.01, .03]	.37**
Fit $R^2 = .402^{**}$; 95% CI[.29,.48]							

As expected, behavioral intention was the main predictor of the behavior. Moreover, Descriptive (but not Injunctive) Norms directly and positively predicted the outcome variable. The model explained the 40.16% of past behaviors. Consequently, we tested the extended model, in which we added Personal and Moral Values, and Anticipatory Emotions. As shown in Table 2.39, the model remained unchanged.

Table 2.39. Extended Planned Behavior Model - DV: Past Behavior

Predictor	b	b 95. CI	beta	beta 95 CI	sr2	sr2 95 CI	r
(Intercept)	-2.02*	[-3.57, -0.46]					
B e h a v i o r a l Intention	0.46**	[0.30, 0.62]	0.42	[0.28, 0.56]	.10	[.04, .17]	.52**
Descriptive Norms	0.46**	[0.30, 0.61]	0.35	[0.23, 0.47]	.10	[.03, .17]	.42**
Injunctive Norms	-0.12	[-0.31, 0.07]	-0.09	[-0.22, 0.05]	.01	[-.01, .02]	.25**
Attitude	0.11	[-0.09, 0.30]	0.06	[-0.05, 0.18]	.00	[-.01, .02]	.23**
Behavioral Control	0.11	[-0.07, 0.29]	0.08	[-0.05, 0.22]	.00	[-.01, .02]	.37**
A n t i c i p a t o r y Emotion	-0.03	[-0.16, 0.10]	-0.03	[-0.15, 0.09]	.00	[-.00, .01]	-.14
Personal Values	0.05	[-0.15, 0.26]	0.03	[-0.10, 0.16]	.00	[-.01, .01]	.28**
Moral Values	0.00	[-0.18, 0.18]	0.00	[-0.12, 0.13]	.00	[-.00, .00]	.20**

Fit $R^2 = .403^{**}$; 95% CI[.28,.47]

2.9. The final scale

In previous analyses, we reduced the scale length from 50 to 30 items. All brief scales obtained had a good internal validity with factor structures showing satisfactory fit indices. Item analyses displayed an acceptable internal consistency, and predictive and convergent validity confirmed the classical model of planned behavior in respect of both behavioral intention and past behavior. Moreover, the newly added variables showed good reliability and validity, significantly increasing the predictive power of the model. Finally, through the optimal scaling and the Rash model, we selected the best rating scale length for each dimension measured. The final scale is reported in Table 2.40.

Table 2.40. Final scale

Item ID	IT	EN	VARIABLE	RATING
				LENGTH
PastB[PB2]	Adattato ricette alla cucina NCD	Adapted recipes to NCD cookery	Past Behavior	4.00
PastB[PB3]	Appreso e cercato informazioni sulla cucina NCD	Learned and searched information about NCD cookery	Past Behavior	4.00
PastB[PB4]	Studiato la cucina NCD	Studied NCD cookery	Past Behavior	4.00
BInt[nt1]	Intendo impegnarmi a cucinare pietanze per persone con esigenze alimentari particolari	I am willing to commit myself to cooking meals for people with special dietary needs	Behavioral Intention	5.00
BInt[nt2]	Cucinerò NCD	I will cook NCD cookery	Behavioral Intention	5.00
BInt[nt3]	Intendo impegnarmi per possedere una buona conoscenza per cucinare NCD	I am willing to commit myself to have a good knowledge of NCD cookery	Behavioral Intention	5.00
BInt[nt4]	Mi informerò sulle necessità delle persone con particolari esigenze alimentari	I will inform myself about the necessities of people with special dietary needs	Behavioral Intention	5.00
AFear[AF1]	Ansioso/a	Anxious	Anticipatory Emotions	6.00

AFear[AF2]	Impaurito/a	Afraid	Anticipatory Emotions	6.00
AFear[AF4]	Spaventato/a	Scared	Anticipatory Emotions	6.00
Att[Att4]	Spiacevole Piacevole	Unpleasant Pleasant	Attitude	5.00
Att[Att5]	Inutile Utile	Useless Useful	Attitude	5.00
Att[Att6]	Buona Cattiva	Good Bad	Attitude	5.00
Att[Att7]	Non importante Importante	Not important Important	Attitude	5.00
PBC[Aut1]	Mi sento capace di cucinare NCD facendo comunque dei buoni piatti	I feel I can prepare good dishes even if I cook NCD cookery	Autoefficacy	5.00
PBC[Aut4]	Non mi sento sicuro delle mie abilità nel cucinare per persone con particolari esigenze alimentari	I do not feel confident in my ability to cook for people with special dietary needs	Autoefficacy	5.00
PBC[Con1]	Pur volendo, se cucinassi NCD, sarebbe impossibile avere il controllo di tutto	Even if I wanted to, if I cooked NCD cookery, it would be impossible to have control of everything	Behavioral Control	5.00
PBC[Con2]	Sento di avere il controllo se provassi a cucinare NCD	I feel I would have the control if I tried to cook NCD cookery	Behavioral Control	5.00
SubN[SNI1]	Molte persone a cui tengo sarebbero contente se io cucinassi NCD	Many people I care about would be happy if I cooked NCD cookery	Injunctive Norms	5.00
SubN[SNI3]	Molte persone per me importanti si aspettano che sappia riconoscere gli alimenti rischiosi per la salute delle persone	Many people who are important to me expect me to be able to recognise foods that are risky to people's health	Injunctive Norms	5.00

SubN[SNI5]	La maggior parte delle persone di cui mi importa si aspettano che sappia bilanciare i valori nutrizionali quando cucino per chi ha particolari esigenze alimentari	Most people I care about expect me to be able to balance nutritional values when I cook for those with special dietary needs	Injunctive Norms	5.00
SubN[SND1]	Molte persone a cui tengo cucinano NCD	Many people I care about can cook NCD cookery	Descriptive Norms	5.00
SubN[SND4]	La maggior parte delle persone a cui tengo non conoscono la cucina NCD	Most people I care about are not familiar with NCD cookery	Descriptive Norms	5.00
SubN[SND5]	La maggior parte delle persone di cui mi importa sanno bilanciare i valori nutrizionali quando cucinano per chi ha particolari esigenze alimentari	Most people I care about know how to balance nutritional values when they cook for those with special dietary needs	Descriptive Norms	5.00
VAL[PVAL1]	Imparare la cucina NCD mi permetterebbe di avere un curriculum competitivo	Learning NCD cookery would allow me to have a competitive curriculum	Personal Value	5.00
VAL[PVAL2ut 2]	Cucinare NCD non è di grande importanza per la propria carriera professionale	Cooking NCD cookery is not of great importance for one's professional career	Personal Value	5.00
VAL[PVAL4]	Non mi interessa imparare la cucina NCD perché non la ritengo utile per la mia carriera	I am not interested in learning NCD cookery because I do not think it is useful for my career	Personal Value	5.00
Mor[Mor1]	Per me conoscere la cucina NCD è una responsabilità morale	Knowing about NCD cookery is a moral responsibility for me	Moral Values	5.00
Mor[Mor3]	Penso che sia moralmente giusto cucinare NCD	I think it is morally right to cook NCD cookery	Moral Values	5.00

Mor[Mor4]	Sarei scontento di me stesso se non riuscissi a soddisfare le richieste di chi ha particolari esigenze alimentari	I would be displeased with myself if I could not fulfil the requests of those with special dietary needs	Moral Vaules	5.00
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The final version was shared with the schools involved in the project, which translated all the materials (see Appendix F).

Evaluation of knowledge, attitude and perception in the field of healthy cooking

3. Assessing the effects of the project

Intellectual Output 1 (IO1) aimed at verifying the efficacy of the pilot course planned and implemented during the Cooking Healthy European Path (CHEEP; 2020-1-IT02-KA201-079674) project. The realization of IO1, led by the University of Palermo (UNIPA) team, involved the participation of all the partner organizations. According to the best evidence-based practices, a questionnaire was submitted to 2 groups of students, an experimental and a control one, before and after the implementation of the pilot course in each country. Thus, the research design used to realize the IO1 was a pre-post research design with a control group. The participants enrolled in the experimental group were students of the schools involved in the project (IPSSEOA “Pietro Piazza”, Palermo, Italy; Lycée hôtelier Yvon Bourges de Dinard, France; Zespół Szkół Gastronomiczno-Hotelarskich, Gdansk, Poland; Formacion Profesional La Merced, Soria, Spain) and participating in the pilot course. The participants involved in the control group, instead, were collected among the students of the school participating in the project but not exposed to the pilot course. Moreover, the control group’s participants were collected among the students enrolled in other schools in the same country if the minimum number of 20 participants was not reached (e.g., Spain).

Before the pilot course began, the experimental and control groups were provided with a link to the questionnaire described in the previous sections. The pre-test phase was conducted in October 2021 for Polish, Italian and Spanish schools, involving the administration of the questionnaire to the participants before the pilot course activities. Regarding the French school, due to the withdrawal of the Fondation Apprentis d’Auteuil from the partnership and the subsequent replacement process, Lycée hôtelier Yvon Bourges de Dinard participated in the implementation of the pre-test phase in January 2022. The post-test phase, which mirrored the pre-test phase, occurred after completing the pilot course in April 2023 for all schools.

3.1. Participants

The participants were collected among the students of the schools involved in the project. In the pre-test phase, 211 students were reached: 99 for the experimental and 112 for the control group. One hundred eighty-eight students of them also responded to the post-test (89 from the experimental group and 99 from the control one). The missing 23 participants left the schools.

Within the span of the pretest period, students' age in the experimental group ranged from 15 to 71 with a median age of 16 years ($IQR = 1$; 51 male and 43 female). Likewise, in the control group, students' age ranged from 15 to 26, with a median age of 16 years ($IQR = 2$; 66 male and 44 female). Notably, control and experimental groups were equivalent regarding sex at birth ($\chi^2(1, n=188) = 0.00, p = .958$) and students' age ($W = 4211.00, p = .761$). Table 3.1 shows the number of valid students in the experimental and the control groups at the pre and post-test phases.

Table 3.1. Number of participants in the control and experimental group at the pre- and post-test phase for each country

	Control group (pre-test)	Experimental group (pre-test)	Control group (post-test)	Experimental group (post-test)
Spain	20	22	20	20
France	25	16	25	15
Italy	37	36	27	29
Poland	30	25	27	25
Total	112	99	99	89

3.2. Measures

As described in the previous chapter, the final questionnaire consisted of 50 items measuring knowledge and perception of healthy cooking.

Knowledge about healthy cooking was assessed by twenty dichotomic items (yes/no response) covering all diseases addressed during the pilot course (5 items for each disease): Obesity, Allergies, Celiac disease, and Diabetes.

Attitudes and perceptions about healthy cooking were measured through a set of items covering the variables considered by the Theory of Planned Behavior. Specifically:

- healthy cooking attitude was assessed by four Likert items. The scale showed good reliability both at the pre- (Cronbach's alpha = .76) and the post-test (Cronbach's alpha = .75).
- subjective norms were measured by 6 items showing good reliability (Cronbach's alpha at the pre-test = 0.62; Cronbach's alpha at the post-test = 0.65).
- perceived behavioral control was measured by 4 items. However, a con-trait item exhibited an item-total correlation below .30 and was deleted. The final scale formed by the three remaining items showed an acceptable internal consistency (Cronbach's alpha at the pre-test = 0.56; Cronbach's alpha at the post-test = 0.64).
- behavioral intentions - also assessed by 4 items - showed excellent reliabilities in both phases (Cronbach's alpha at the pre-test = 0.90; Cronbach's alpha at the post-test = 0.90).
- moreover, we added some other variables to study anticipatory emotions and the values associated with healthy cooking. According to the literature, these factors are good predictors of deliberate behaviors. Specifically, using three items for each variable, we measured personal value (Cronbach's alpha at the pre-test = 0.74; Cronbach's alpha at the post-test = 0.76), anticipatory fear (Cronbach's alpha at the pre-test = 0.80; Cronbach's alpha at the post-test = 0.81), and moral value attributed to healthy cooking (Cronbach's alpha at the pre-test = 0.65; Cronbach's alpha at the post-test = 0.69).

- finally, past behaviors were measured using three items (Cronbach's alpha at the pre-test = 0.79; Cronbach's alpha at the post-test = 0.86).

Overall, we used a total of 30 items to which participants responded using Likert-type or semantic differential scales.

3.3. Data analysis strategy

We used two different strategies to evaluate the impact of participation in the project course on students' knowledge and perception of healthy cooking. First, we used a t-test to determine whether there was a statistically significant difference between the experimental and the control group on each dependent variable. We limited the use of statistical inference to the estimation of the overall course effect. Using the overall sample of 188 students, we were able to detect a small improvement with a power of .80 and an alpha level of .05. Differently, to assess the course's impact within each country, we employed the effect size index Cohen's *d* owing to the smaller sample sizes and the resulting low statistical power. We utilised canonical Cohen's *d* thresholds of .2, .5 and .8 as indices of a small, medium and strong effect, respectively. Both t-tests and Cohen's *ds* were computed on the difference score between the post-test and the pre-test for each of the variables of interest. In this way, a positive score would indicate an increase in the variable of interest, while a negative score would indicate a decrease between the pre-test and the post-test phase.

Second, we explored the robustness of the results using multiple linear regressions. Specifically, we tested the overall course effect controlling it for potential confounders such as previous experiences with diseases requiring special diets (e.g., being affected by such diseases or having contacts with persons affected by such diseases), and sociodemographic variables (i.e., sex at birth, age and subjective socioeconomic status). In this case, we used the post-test of each variable of interest as the dependent variable and the pre-test as a covariate. This approach represents the most suitable analysis to test a treatment effect when groups are not equivalent at the pre-test and are not randomly allocated to the experimental and the control groups (see the Lord's paradox; Pearl, 2016).

3.4. Results

Table 3.2 displays descriptive statistics (i.e., means and standard deviations) and Pearson's correlations among the variables. Interestingly, the overall score of knowledge regarding healthy cooking exhibited a small and significant positive correlation with attitude and personal value toward it: the more students incremented their positive attitude and perceived value of healthy cooking, the more improved their knowledge about it. Consistent with prior research, attitudes toward healthy cooking demonstrated positive associations with all variables encompassed by the Theory of Planned Behavior. Furthermore, difference scores of these variables displayed positive correlations with personal values and moral concern, whereas past behaviors and perceived behavioral control exhibited a negative correlation with anticipated fear. This last finding is not surprising, as it is rational to expect that the more an activity is performed, and the higher the perception of control over it, the less it is feared.

Table 3.2. Mean, standard deviation and correlations among the variables' difference scores

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Overall knowledge score	0.94	2.96								
2. Past behavior	0.51	1.04	.06							
3. Attitude	0.01	0.88	.18*	.28**						
4. Behavioral intentions	-0.04	1.21	.03	.43**	.34**					
5. Subjective norms	-0.01	0.75	.11	.33**	.22**	.29**				
6. Perceived behavioral control	0.09	0.94	-.03	.28**	.22**	.38**	.17*			
7. Personal values	0.12	0.98	.17*	.21**	.33**	.41**	.11	.31**		
8. Moral Value	0.00	0.97	.03	.33**	.18*	.41**	.36**	.32**	.38**	
9. Anticipated fear	0.05	1.40	-.01	-.15*	-.11	-.07	-.13+	-.19**	-.01	-.07

Note. * $p < .05$; ** $p < .01$; $p < .001$

3.4.1. Knowledge about healthy cooking

To gain a comprehensive and detailed understanding of the impact of the pilot course on participants' knowledge, we conducted t-tests for the overall sample. Figure 3.1 showed the participants' knowledge improvement between pre and post-test for the control and experimental group, respectively.

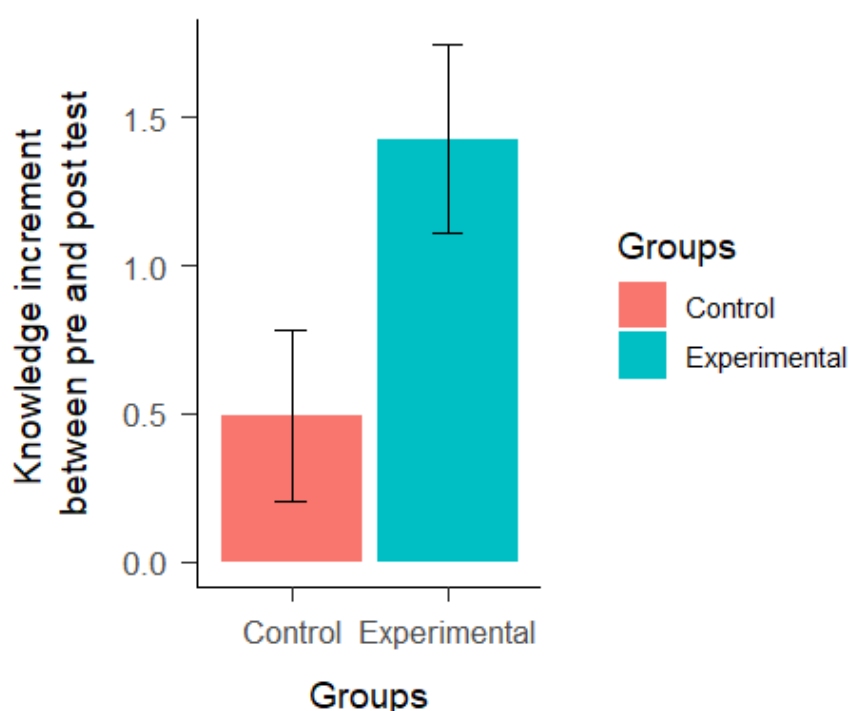


Figure 3.1. Comparison between experimental and control group's knowledge scores

Students exposed to the project course (i.e., the experimental group; $M = 1.43$, $SD = 3.00$) showed a modest but significant ($t(186) = -2.17$, $p = 0.03$, $d = 0.32$) improvement in knowledge about healthy cooking than students that did not participate in the project activities (i.e., the control group; $M = 0.49$, $SD = 2.88$).

However, this satisfactory effect of the project course showed substantial heterogeneity among countries. As depicted in Figure 3.2, Poland had the best knowledge increment showing the most substantial effect size ($d = 0.98$), followed by Italy, which revealed a satisfactory improvement ($d = 0.49$). Differently, France ($d = -0.15$) and Spain ($d = -0.32$) did not show a satisfactory effect of the project course on knowledge about healthy cooking.

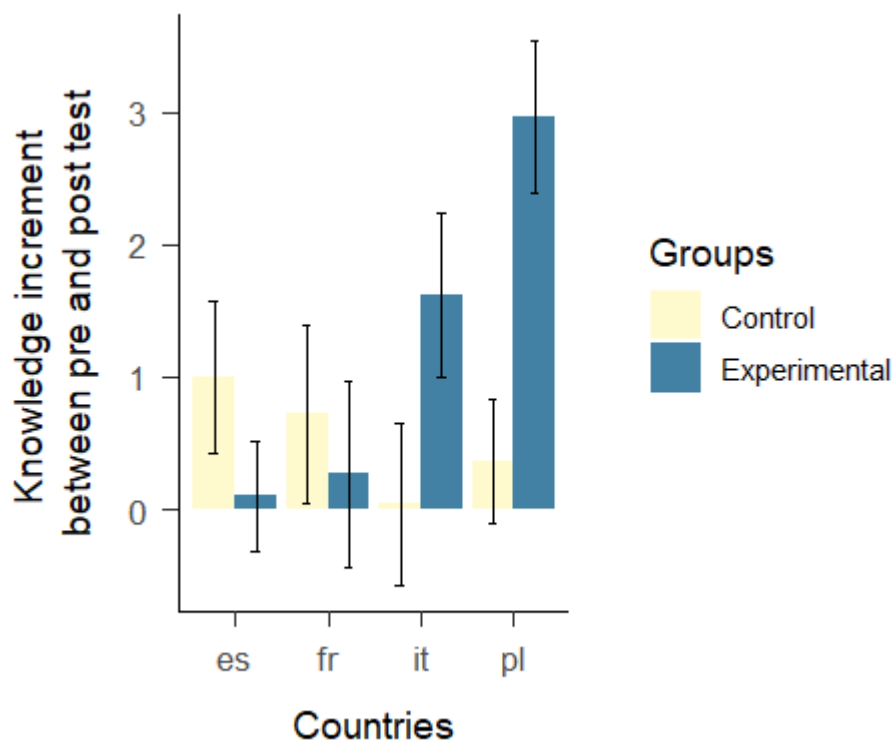


Figure 3.2. Comparison between experimental and control group's knowledge scores across countries

To further explore the robustness of this finding, we regressed the knowledge score at the post-test on project exposure, the experience of any diseases addressed by the project, previous contact with individuals affected by these diseases, sex at birth, age, perceived socioeconomic status, and knowledge score at the pre-test. As shown in Table 3.3, the positive effect of project exposure remained robust ($b = 0.49$, 95% CI [0.13,0.86], $t(178) = 2.65$, $p = .009$), even controlling for other variables.

Table 3. Effect of pilot course exposure on knowledge

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	9.26	[6.83, 11.70]	7.51	178	< .001
Project exposure	0.49	[0.13, 0.86]	2.65	178	.009
Diseases contact	0.13	[-0.09, 0.35]	1.17	178	.244
Diseases affected	-0.01	[-0.46, 0.44]	-0.05	178	.962
Sex at Birth	0.06	[-0.31, 0.44]	0.32	178	.750
Age	-0.01	[-0.06, 0.03]	-0.54	178	.587
SES	0.11	[-0.08, 0.31]	1.14	178	.256
Knowledge pre	0.26	[0.09, 0.43]	2.98	178	.003

3.4.2. Attitudes and perceptions of healthy cooking

To assess the impact of participation in the pilot course on attitudes and perceptions of healthy cooking, we employed the same approach as we did for studying changes in knowledge. Specifically, we examined the effect of participation in the project course on each variable encompassed by the Theory of Planned Behavior (Ajzen, 1991) and on personal value, moral concern, and anticipated fear.

3.4.2.1. Attitude toward healthy cooking

Attitudes toward healthy cooking were affected positively by participation in the pilot course. The t-test on the overall sample revealed a statistically significant improvement ($t(186) = -2.49, p = 0.01, d = 0.36$) in the evaluation of healthy cooking. Participants in the experimental group ($M = 0.17, SD = 0.83$) showed a stronger improvement than those in the control one ($M = -0.14, SD = 0.90$) (see Figure 3.3).

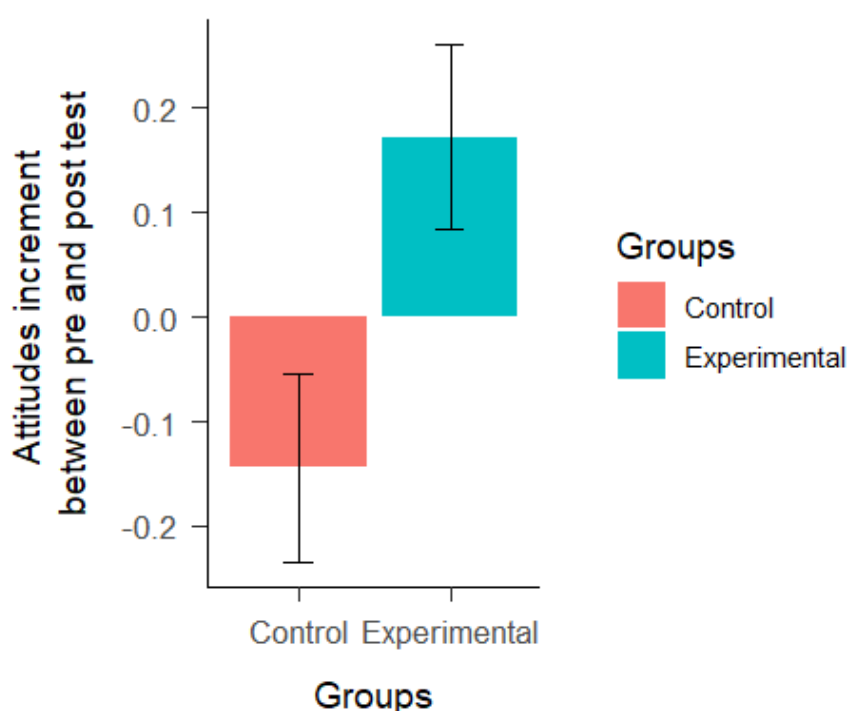


Figure 3.3. Comparison between experimental and control group's attitude scores

The multiple regression confirmed the robustness of this encouraging finding (Table 3.4). Participation in the pilot course had a significant and positive impact on attitudes toward healthy cooking, even after controlling for the effect of other potentially confounding variables ($b = 0.20, 95\% \text{ CI } [0.09, 0.30], t(178) = 3.66, p < .001$).

Table 3.4. Effect of pilot course exposure on attitudes toward healthy cooking

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	2.31	[1.67, 2.95]	7.13	178	< .001
Project exposure	0.20	[0.09, 0.30]	3.66	178	< .001
Diseases contact	-0.05	[-0.11, 0.01]	-1.62	178	.107
Diseases affected	0.01	[-0.12, 0.14]	0.16	178	.871
Sex at Birth	0.12	[0.01, 0.22]	2.14	178	.034
Age	0.01	[0.00, 0.02]	1.56	178	.120
SES	0.04	[-0.02, 0.09]	1.30	178	.195
Attitude pre	0.37	[0.23, 0.50]	5.32	178	< .001

At the country level (see Figure 3.4), we observed a uniform positive attitude improvement in French ($d = 0.68$), Poland ($d = 0.42$), and Spain ($d = 0.56$) but not in Italy ($d = -0.03$). Notably, supplementary analyses suggested that the last effect was probably due to a selection bias. Italian project course was more structured and publicized. Consequently, students of the experimental group had higher positive attitudes than the control group at the pre-test. In fact, a regression controlling for selection bias showed that Italy had a project exposure effect on attitudes comparable with those of other countries.

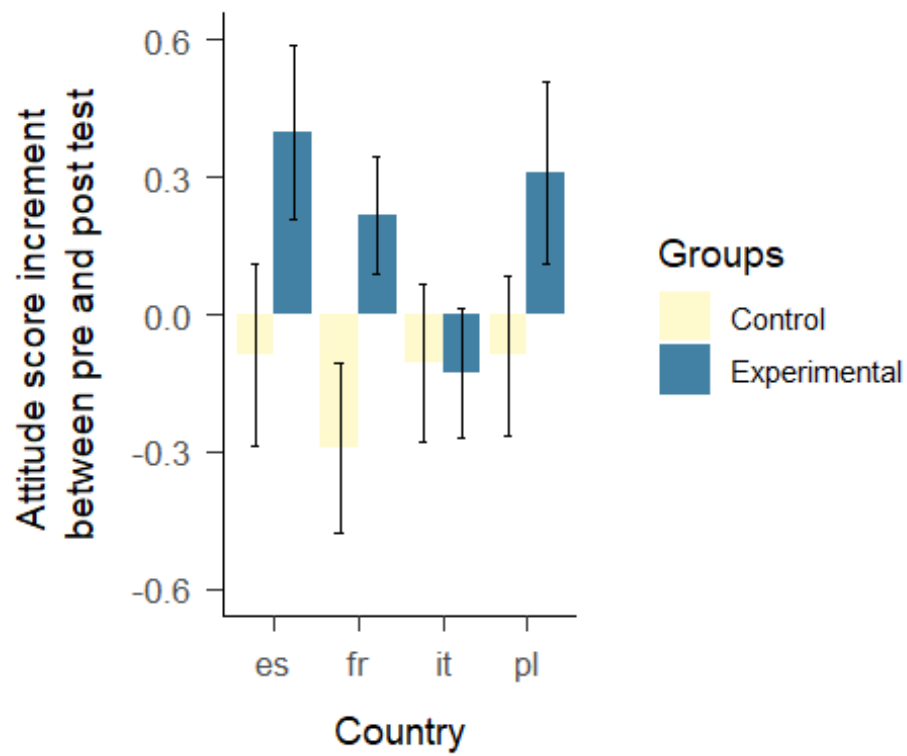


Figure 3.4. Comparison between experimental and control group's attitude scores across countries

3.4.2.2. Subjective norms about healthy cooking

Participating in the pilot course positively changed the perception of subjective norms regarding healthy cooking. First of all, the t-test revealed a stronger ($t(186) = -3.46, p < .001, d = 0.51$) norms increment (Figure 3.5) in participants that were involved in the new curriculum ($M = 0.19, SD = 0.73$) than in the control group ($M = -0.18, SD = 0.72$). Consequently, students after the pilot course had an increment in the belief that their significant others (family, friends, colleagues, etc.) endorse healthy cooking. This powerful and positive social pressure to engage in healthy cooking behaviors remains robust ($b = 0.20, 95\% \text{ CI } [0.11, 0.29], t(178) = 4.58, p < .001$) accounting for the effect of other variables (see Table 3.5).

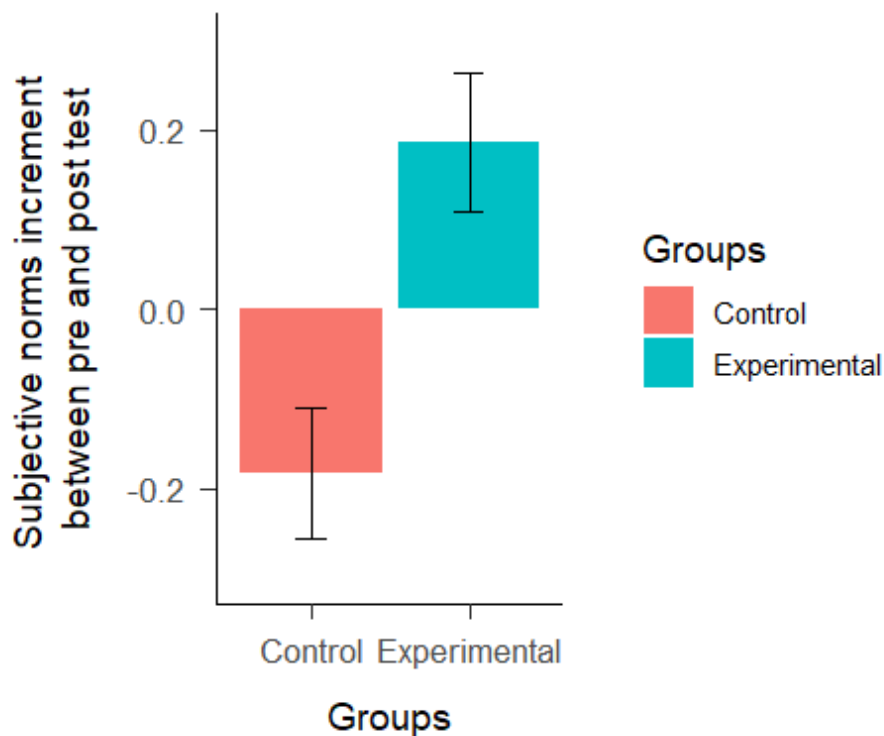


Figure 3.5. Comparison between experimental and control group's subjective norms scores

Table 3.5. Effect of pilot course exposure on subjective norms about healthy cooking

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	1.79	[1.27, 2.31]	6.74	178	< .001
Project exposure	0.20	[0.11, 0.29]	4.58	178	< .001
Diseases contact	-0.03	[-0.08, 0.02]	-1.03	178	.307
Diseases affected	-0.05	[-0.15, 0.06]	-0.86	178	.389
Sex at Birth	0.04	[-0.05, 0.13]	0.82	178	.413
Age	0.01	[0.00, 0.02]	1.83	178	.069
SES	0.04	[-0.01, 0.08]	1.59	178	.114
Subjective norms pre	0.33	[0.20, 0.47]	4.86	178	< .001

Finally, Cohen's *d* at the country level revealed the effect was homogeneous across schools (Figure 3.6). Specifically, Spain reported the strongest effect ($d = 0.78$), followed by France ($d = 0.58$), Italy ($d = 0.56$) and Poland ($d = 0.26$).

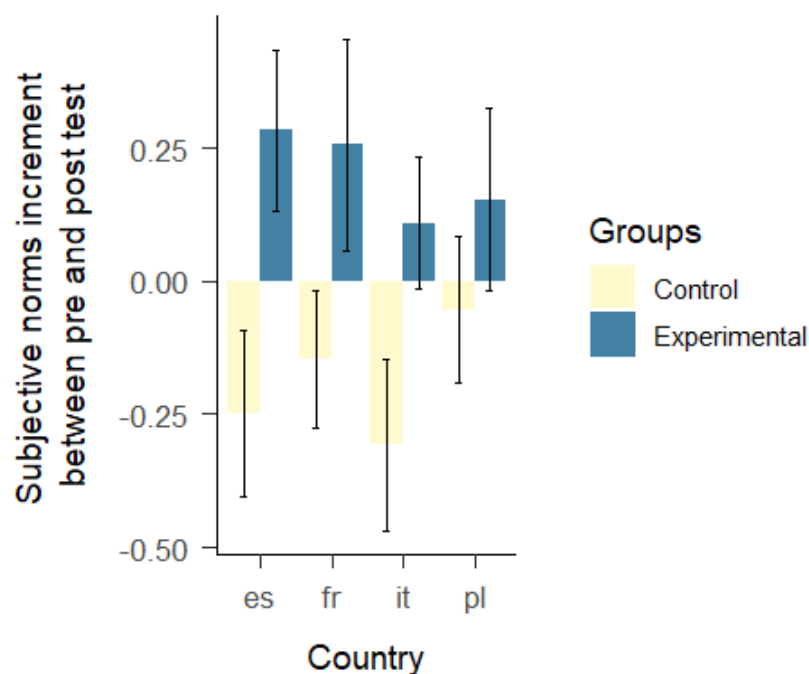


Figure 6. Comparison between experimental and control group's subjective norms scores across countries

3.4.2.3. Perceived behavioral control on healthy cooking

Participation in the pilot course did not increase participants' perception of behavioral control on healthy cooking. T-test on the overall sample ($t(186) = -1.11, p = 0.27, d = 0.16$) indicated that the improvement in perceived control in the experimental group ($M = 0.16, SD = 0.99$) did not differ from the control group ($M = 0.01, SD = 0.88$) (Figure 3.7). Multiple regression (Table 3.6) confirmed the null effect ($b=0.07, 95\% \text{ CI } [-0.04, 0.18], t(178)=1.27, p=.204$) accounting for confounding variables. Therefore, students' perceptions of their ability to cook healthily did not change significantly after participating in the course activities.

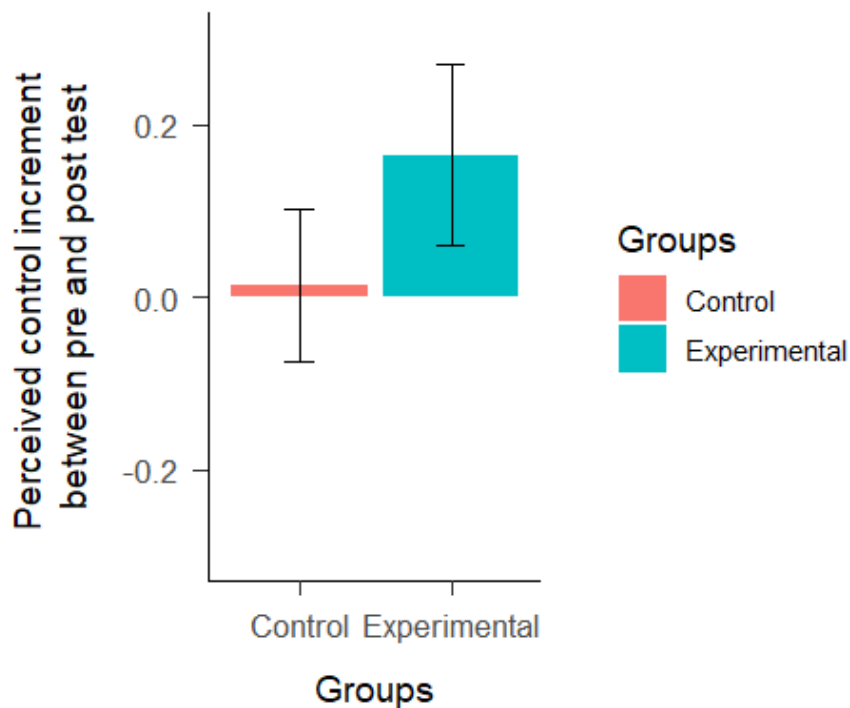


Figure 3.7. Comparison between experimental and control group's perceived behavioral control scores

Table 3.6. Effect of pilot course exposure on perceived behavioral control of healthy cooking

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	1.93	[1.27, 2.60]	5.77	178	< .001
Project exposure	0.07	[-0.04, 0.18]	1.27	178	.204
Diseases contact	0.02	[-0.04, 0.08]	0.61	178	.541
Diseases affected	-0.03	[-0.17, 0.10]	-0.48	178	.630
Sex at Birth	-0.02	[-0.14, 0.09]	-0.40	178	.688
Age	0.02	[0.01, 0.04]	3.31	178	.001
SES	0.05	[-0.01, 0.11]	1.63	178	.105
Behavioral control pre	0.26	[0.12, 0.40]	3.62	178	< .001

However, at the country level, we observed dissimilarities across countries. While France ($d = 0.06$), Italy ($d = -0.08$), and Poland ($d = -0.14$) did not report satisfactory improvements, participation in the pilot course determined a strong increment in Spanish students' perception of control on healthy cooking behaviors ($d = 0.89$) (Figure 3.8).

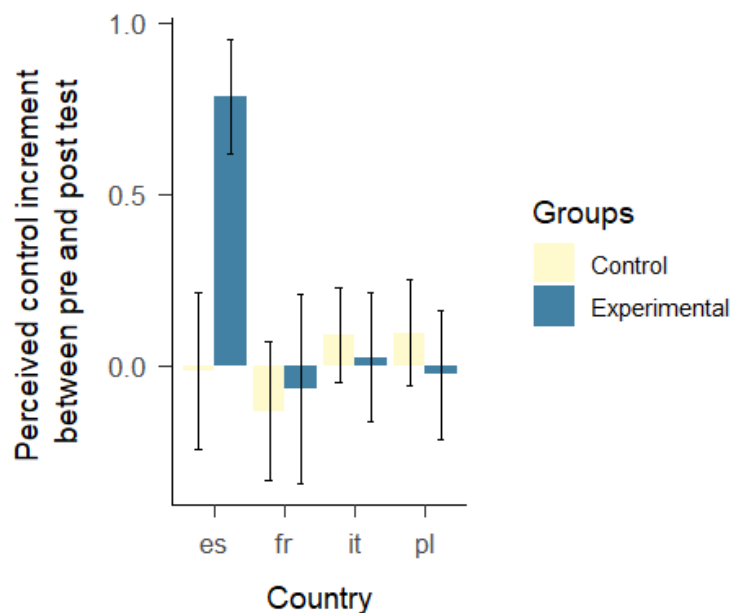


Figure 3.8. Comparison between experimental and control group's perceived behavioral control scores across countries

3.4.2.4. Behavioral intentions about healthy cooking

Apparently, according to the results of the t-test on the overall sample ($t(186) = -0.77, p = 0.44, d = 0.11$), there were no differences in the behavioral intentions about healthy cooking between students participating in the new curriculum ($M = 0.04, SD = 1.14$) and the control group ($M = -0.10, SD = 1.28$). However, this apparent null effect was due to a selection bias, i.e. students with higher behavioral intentions at the pre-test chose the experimental classes ($t(186) = -2.67, p = .008$). Indeed, participation in the pilot course improved the intention of students to engage in cooking for persons with Non-Communicable Diseases (Figure 3.9) after controlling for selection bias (i.e., behavioral intentions at the pre-test) and other confounding variables ($b = 0.21, 95\% \text{ CI } [0.07, 0.36], t(178) = 2.95, p = .004$) (Table 7).

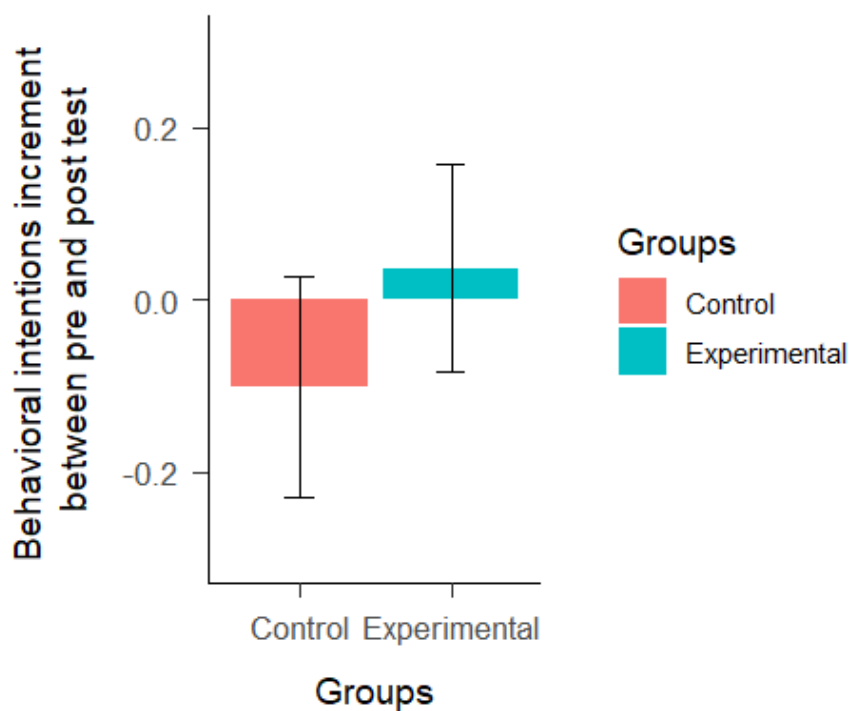


Figure 3.9. Comparison between experimental and control group's behavioral intentions scores

Table 3.7. Effect of pilot course exposure on behavioral intentions of cooking healthily

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	1.77	[1.05, 2.49]	4.85	178	< .001
Project exposure	0.21	[0.07, 0.36]	2.95	178	.004
Diseases contact	0.01	[-0.07, 0.09]	0.18	178	.857
Diseases affected	-0.06	[-0.23, 0.11]	-0.70	178	.485
Sex at Birth	0.03	[-0.12, 0.17]	0.36	178	.721
Age	0.02	[0.00, 0.03]	1.65	178	.101
SES	0.07	[0.00, 0.15]	1.89	178	.060
Behavior intention pre	0.29	[0.17, 0.42]	4.53	178	< .001

At the country level, the effect of the pilot course was mixed (Figure 3.10). Cohen's *d* computed on the gain score revealed that Spain ($d = .62$) and France ($d = .55$) reported satisfactory improvements in the intention to engage in healthy cooking activities after the involvement in the project course, whereas Italy ($d = -.35$) and Poland ($d = -.19$) did not. Comparing behavioral intentions between experimental and control groups for each country, France, Spain, and Poland showed an equivalence at the pre-test. Italy exhibited a significant difference in behavioral intentions at the pre-test ($t(53) = -2.92, p = .005$), suggesting that the null effect was probably attributable to a selection bias. Indeed, the project course was more structured and publicized in Italy, attracting students with higher behavioral intentions at the pre-test.

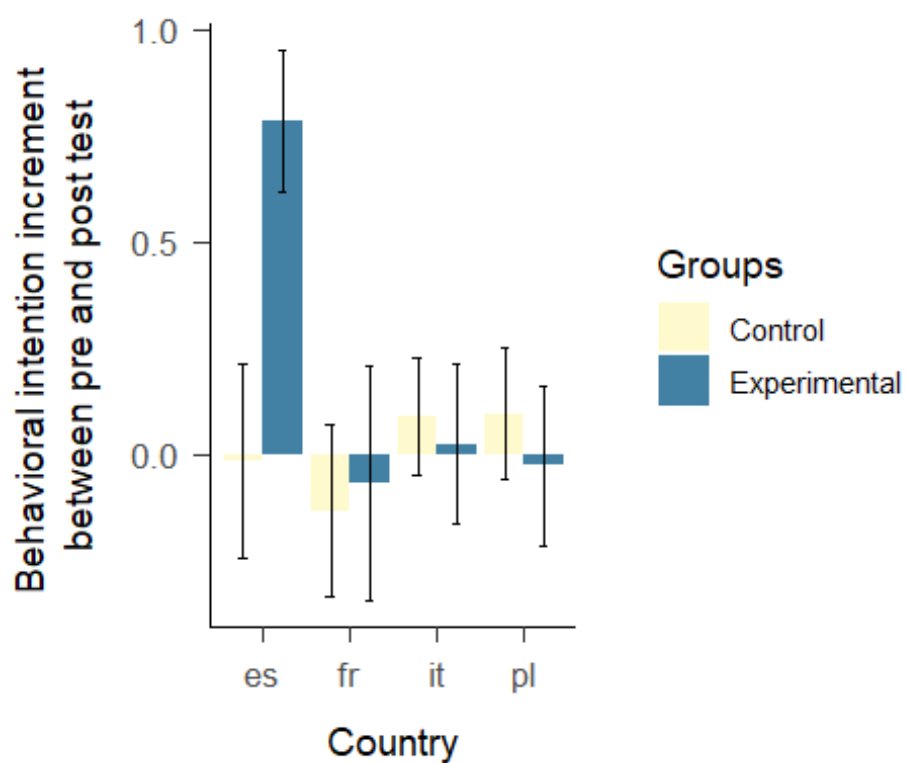


Figure 3.10. Comparison between experimental and control group's behavioral intention scores across countries

3.4.2.5. The personal value of healthy cooking practices

Even personal relevance attributed to mastering healthy cooking practices apparently did not increase after participation in the new curriculum ($t(186) = 0.09, p = 0.93, d = 0.01$). The increment of the personal value of healthy cooking reported by participants involved in the pilot course ($M = 0.11, SD = 0.94$) did not differ from that reported by participants in the control group ($M = 0.12, SD = 1.02$) (Figure 3.11).

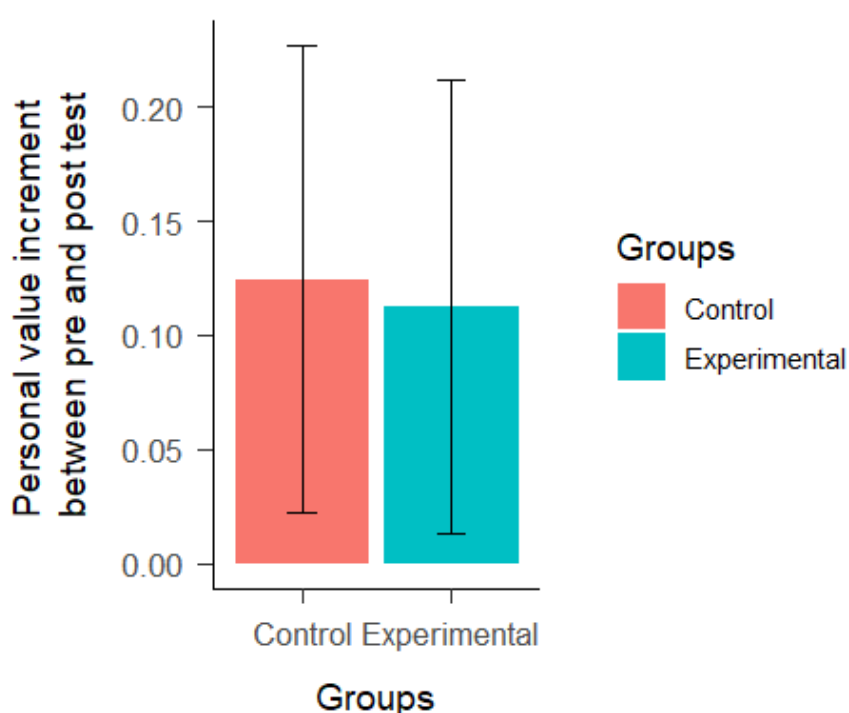


Figure 3.11. Comparison between experimental and control group's personal value scores

However, controlling for selection bias, the results of multiple regression (Table 3.8) demonstrated that project exposure ($b = 0.15, 95\% \text{ CI } [0.03, 0.27], t(178) = 2.50, p = .013$) increased the perceived personal value of healthy cooking. Interestingly, students reporting higher socioeconomic status attributed greater personal value to healthy cooking ($b = .10, 95\% \text{ CI } [0.02, 0.17], t(179) = 2.56, p = .011$). These results suggest that exposure to the new curriculum improved the perceived personal relevance of cooking healthy and that students living in better socioeconomic conditions perceived cooking healthy as more important for their careers.

Table 3.8. Effect of pilot course exposure on the personal value of healthy cooking

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	1.87	[1.16, 2.57]	5.24	178	< .001
Project exposure	0.15	[0.03, 0.27]	2.50	178	.013
Diseases contact	-0.01	[-0.08, 0.06]	-0.34	178	.733
Diseases affected	-0.13	[-0.27, 0.01]	-1.78	178	.078
Sex at Birth	0.02	[-0.09, 0.14]	0.40	178	.688
Age	0.01	[-0.01, 0.02]	0.94	178	.350
SES	0.11	[0.05, 0.17]	3.50	178	.001
Perceived value pre	0.37	[0.24, 0.49]	5.65	178	< .001

Likewise, there was a relevant selection bias in Italy ($t(53) = -5.09, p < .001$) and France ($t(38) = -2.72, p = .009$) with Cohen's *d*s (Figure 3.12) showing a null effect in any school involved in the project (France $d = -.06$; Italy $d = -.39$; Poland $d = .11$; Spain $d = .09$).

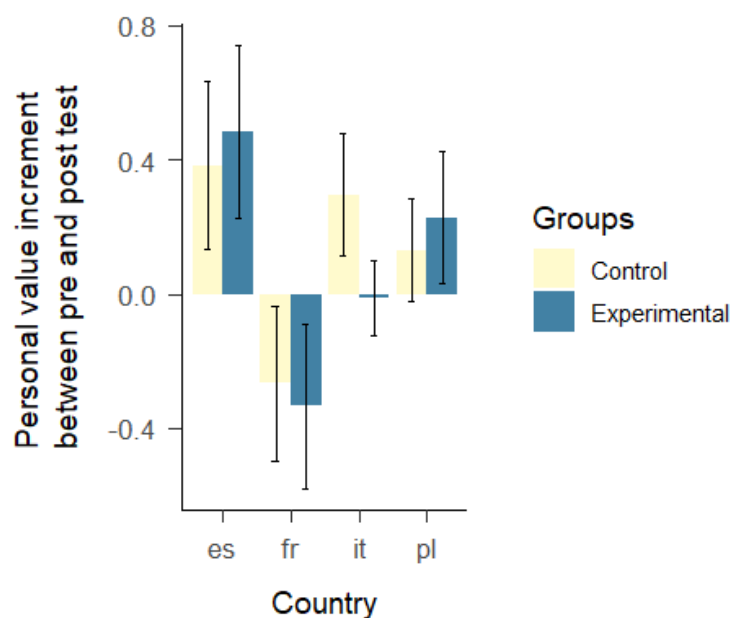


Figure 3.12. Comparison between experimental and control group's personal value scores across countries

3.4.2.6. Anticipatory fear of healthy cooking

T-test ($t(167.7) = 0.35$, $p = 0.72$, $d = 0.05$) revealed that the improvement of anticipatory fear to engage in healthy cooking reported in the pilot course ($M = 0.01$, $SD = 1.56$) did not differ from the control group ($M = 0.08$, $SD = 1.24$) (see Figure 3.13). This null effect remains even after controlling for the effect of other confounding variables ($b=0.10$, 95% CI $[-0.06, 0.27]$, $t(178)=1.22$, $p=.223$) (Table 3.9). Thus, participation in the curriculum focused on healthy cooking did not change students' negative feelings (e.g., fear, anxiety) when they imagined themselves involved in such activities.

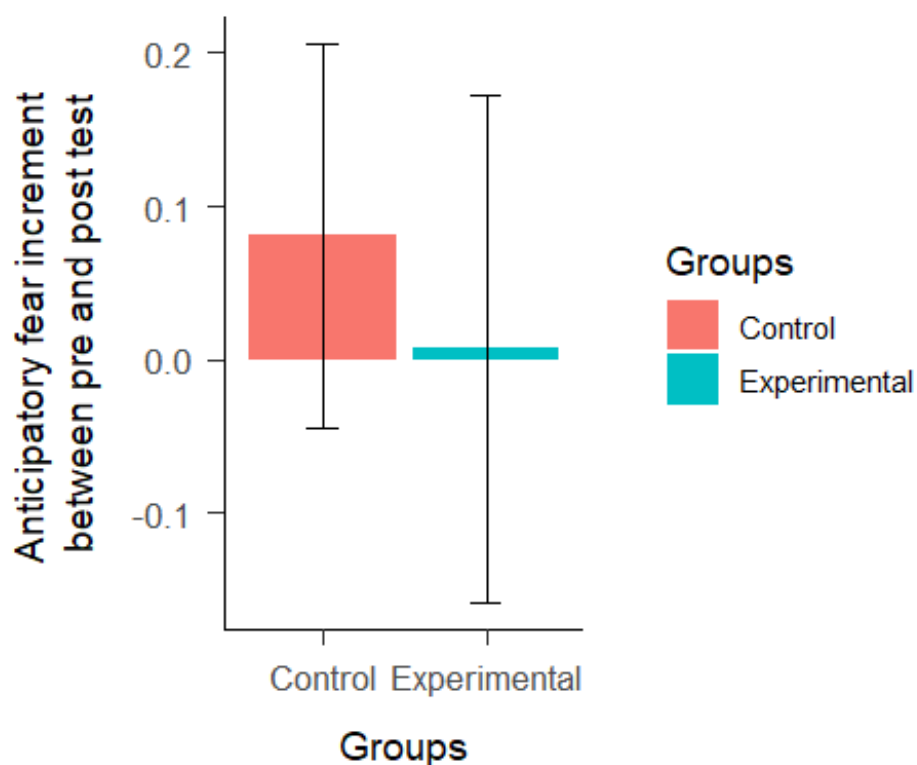


Figure 3.13. Comparison between experimental and control group's anticipatory fear scores

Table 3.9. Effect of pilot course exposure on anticipatory fear of healthy cooking

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	1.98	[1.14, 2.82]	4.66	178	< .001
Project exposure	0.10	[-0.06, 0.27]	1.22	178	.223
Diseases contact	-0.02	[-0.12, 0.07]	-0.46	178	.643
Diseases affected	-0.06	[-0.26, 0.15]	-0.55	178	.582
Sex at Birth	0.00	[-0.17, 0.17]	-0.04	178	.972
Age	-0.02	[-0.04, 0.00]	-1.53	178	.129
SES	0.02	[-0.07, 0.11]	0.39	178	.695
Perceived fear pre	0.29	[0.15, 0.43]	4.10	178	< .001

However, there were differences across countries (Figure 3.14). In Poland ($d = -.33$) and Spain ($d = -.43$), participation in the project activities slightly decreased the fear of healthy cooking. Project exposure in Italy ($d = .31$) and France ($d = .29$) negligibly increased the anticipated fear of healthy cooking. Notably, there was no selection bias in each country.

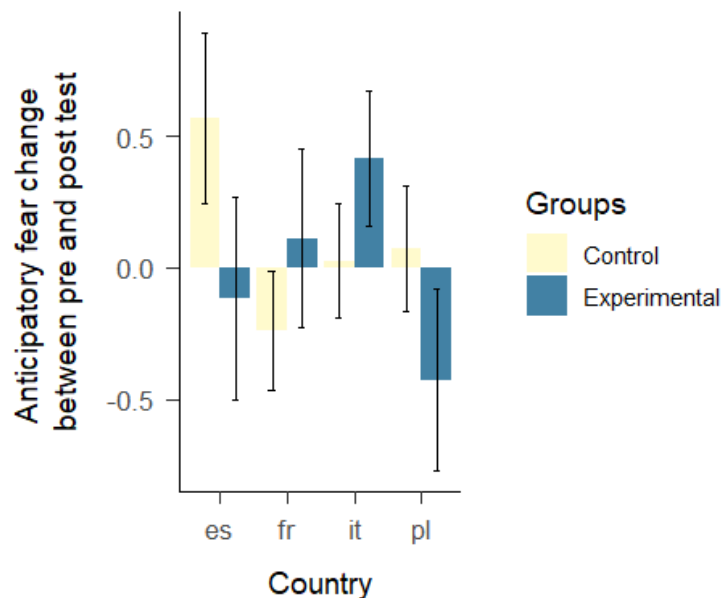


Figure 3.14. Comparison between experimental and control group's anticipatory fear scores across countries

3.4.2.7. The moral value of healthy cooking

Although the t-test ($t(186) = -1.74, p = 0.08, d = 0.25$) did not reveal a difference in moral values of healthy cooking between experimental ($M = 0.13, SD = 0.99$) and control group ($M = -0.11, SD = 0.95$) (Figure 3.15), there was a significant improvement for students involved in the new curriculum.

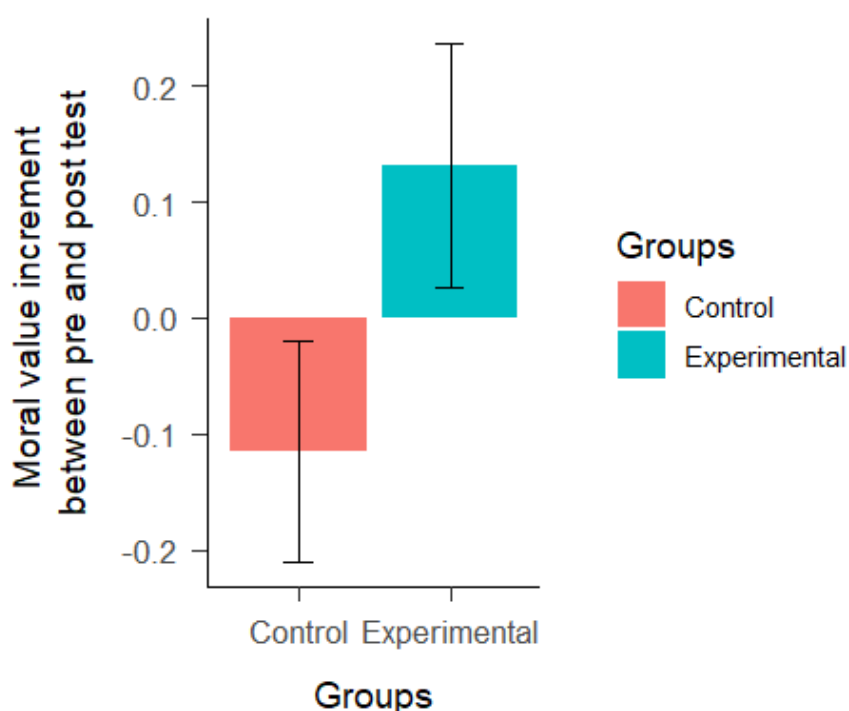


Figure 3.15. Comparison between the experimental and control group's moral value scores

Indeed, multiple regression (Table 3.10) demonstrated a positive effect of project exposure ($b = 0.19, 95\% \text{ CI } [0.08, 0.30], t(178) = 3.41, p = .001$) after controlling for selection bias and other confounding variables. Moreover, regression results revealed that students reporting higher socioeconomic status attributed more moral value to healthy cooking activities ($b=0.11, 95\% \text{ CI } [0.04, 0.19], t(179)=3.02, p=.003$). Therefore, participating in the pilot course favored the recognition of the moral importance of healthy cooking, and living in a better socioeconomic context promoted this acknowledgement.

Table 3.10. Effect of pilot course exposure on the moral value of healthy cooking

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	2.18	[1.47, 2.89]	6.07	178	< .001
Project exposure	0.19	[0.08, 0.30]	3.41	178	.001
Diseases contact	0.02	[-0.05, 0.08]	0.48	178	.629
Diseases affected	-0.12	[-0.26, 0.02]	-1.72	178	.087
Sex at Birth	0.10	[-0.01, 0.21]	1.77	178	.079
Age	0.00	[-0.01, 0.02]	0.60	178	.546
SES	0.10	[0.05, 0.16]	3.55	178	< .001
Morality pre	0.25	[0.12, 0.38]	3.72	178	< .001

At the country level (Figure 3.16), France ($d = .61$) and Spain ($d = .45$) showed the highest moral value improvement as a function of project activities. Italy ($d = .09$) and Poland ($d = .06$) did not. As for other outcomes, Italy's result was marginally affected by the selection bias ($t(53) = -1.72$, $p = .092$). Students that chose the healthy curriculum in Italy attributed more moral values than the control group. Thus, controlling for the selection bias, Italian students showed an improvement in the moral value of healthy cooking as a function of project exposure ($f^2 = .077$)

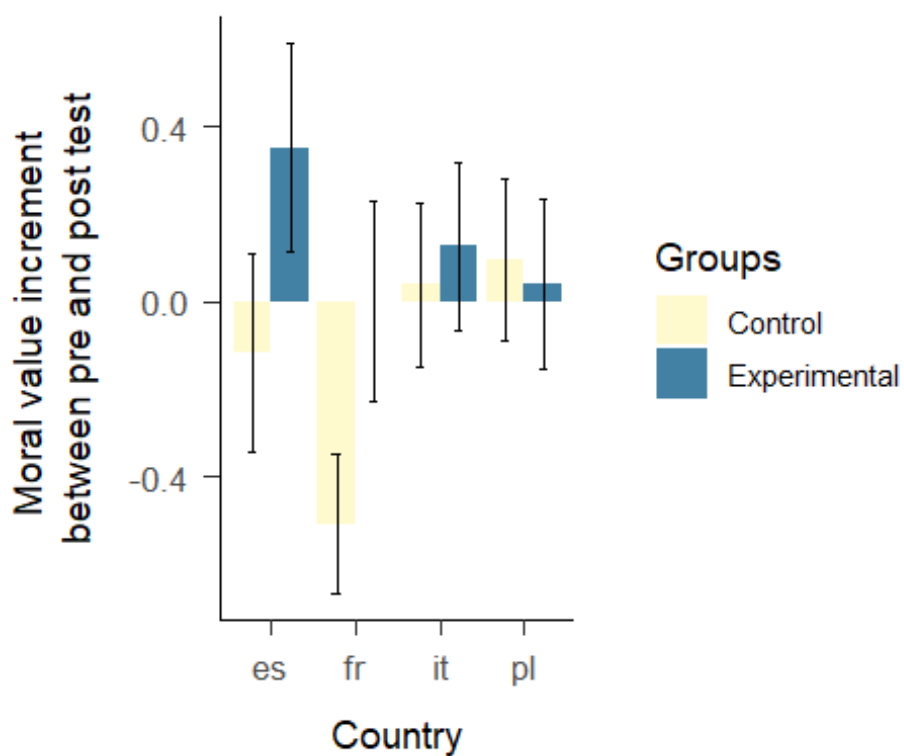


Figure 16. Comparison between experimental and control group's moral value scores across countries

3.4.2.8. Past behaviors

Participating in the pilot course had a positive effect on students' reported behaviors regarding healthy cooking. The involvement in the new curriculum largely improved ($t(186) = -5.9, p = 0, d = 0.86$) how often students cooked healthily in the past 12 months. Participants in the experimental group cooked healthily more ($M = 0.94, SD = 1.00$) than those in the control group ($M = 0.12, SD = 0.91$) (Figure 3.17). Attending the new curriculum, therefore, provided students with the opportunity to practice healthy cooking.

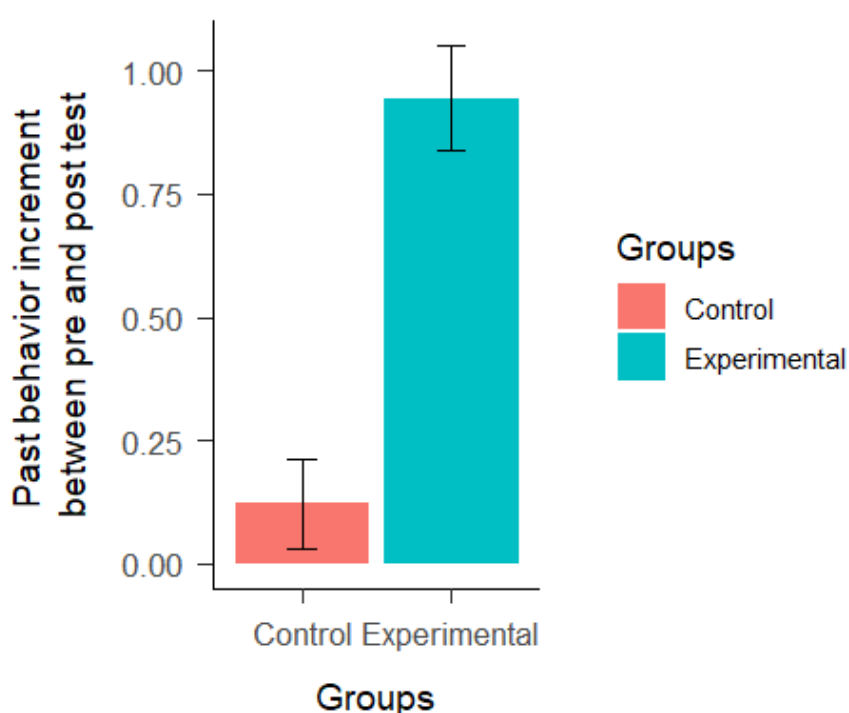


Figure 3.17. Comparison between the experimental and control group's past behavior scores

Importantly, this finding was robust for the effect of potentially confounding variables ($b = 0.44, 95\% \text{ CI } [0.33, 0.56], t(178) = 7.74, p < .001$) as shown by the results of the multiple regression (see Table 3.11).

Table 3.11. Effect of pilot course exposure on past behavior

Predictor	<i>b</i>	95% CI	<i>t</i>	<i>df</i>	<i>p</i>
Intercept	1.57	[1.04, 2.11]	5.80	178	< .001
Project exposure	0.44	[0.33, 0.56]	7.74	178	< .001
Diseases contact	-0.05	[-0.11, 0.02]	-1.47	178	.145
Diseases affected	-0.03	[-0.17, 0.10]	-0.50	178	.619
Sex at Birth	0.00	[-0.12, 0.11]	-0.07	178	.945
Age	0.02	[0.00, 0.03]	2.04	178	.043
SES	0.02	[-0.03, 0.08]	0.82	178	.412
Past behaviors pre	0.28	[0.14, 0.42]	4.01	178	< .001

Moreover, as shown in Figure 3.18, this positive finding was homogeneous across countries. We detected satisfactory increments in past behavior in all schools, (Spain $d = 1.29$, Poland $d = .80$, Italy $d = .78$, and France $d = .58$).

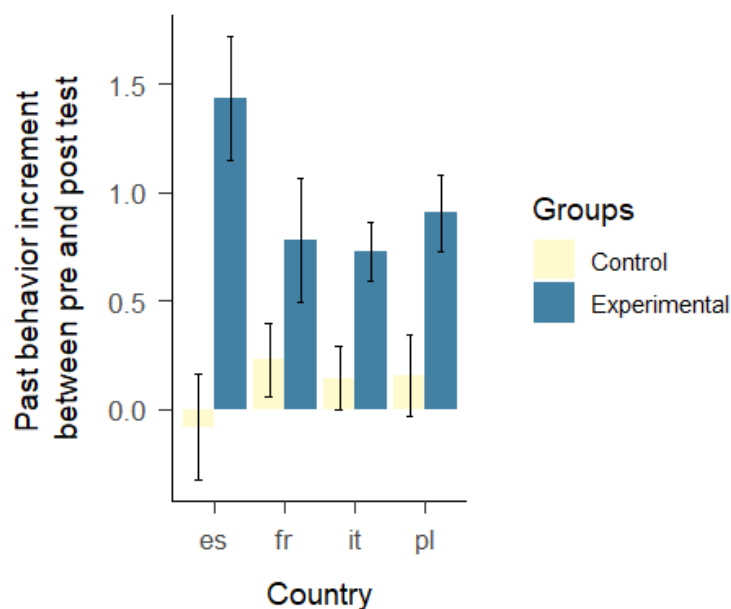


Figure 3. 18. Comparison between experimental and control group's past behavior scores across countries

3.5. Discussion and conclusions

The current project output aimed to evaluate the efficacy of the pilot course developed during the Erasmus+ project named “Cooking Healthy European Path” (CHEEP; 2020-1-IT02-KA201-079674). The project focused on creating and implementing a new curriculum in European vocational schools, targeting cooking for individuals with special dietary needs due to obesity, allergies, celiac disease, and diabetes. Evaluating the efficacy of the new curriculum in improving students' knowledge, attitudes, and perceptions regarding healthy cooking was part of the project activities. To achieve this, we utilised a robust pre-post research design with a control group using measures specifically created for the study.

Regarding the change in knowledge about healthy cooking, we found a positive impact of the pilot course on students' expertise. Students involved in the pilot course showed significant improvements in their knowledge regarding cooking practices for people with non-communicable diseases compared to those who did not participate. This finding is consistent with prior research demonstrating the effectiveness of healthy cooking interventions in enhancing food literacy (e.g., Murimi et al., 2017; West et al., 2020).

For what concerns attitudes and perceptions about healthy cooking, participation in the pilot course positively affected the attitude of participants. Students involved in the pilot course evaluated healthy cooking more positively than those who did not participate (e.g., the control group). This result was consistent with other research about the effectiveness of such educational interventions in influencing attitudes toward cooking (Cunningham-Sabo & Lohse, 2013; Hasan et al., 2019; Lavelle et al., 2016). Similarly, participating in the pilot course positively affected the perception of subjective norms, i.e., the perception that students have of encouragement and expectations from significant others in engaging in healthy cooking. Moreover, students that took part in the pilot course reported having cooked healthily in the twelve months before the implementation of the post-test phase more than those not taking part in it. The new curriculum, therefore, offers a valuable and promising opportunity for students to develop and enhance their culinary expertise to address the needs of individuals with dietary restrictions or health conditions. Thus, project course implementation boosted students' perception of the importance of healthy cooking and its moral relevance, increasing the intention to engage in professional career cooking for persons with Non-Communicable Diseases.

So far, we discussed the general effects of the project. At the country level, each school involved in the project has important structural, cultural, and contextual peculiarities, depicting thus a distinct results picture. Thus as an example, Lycée Hôtelier Yvon Bourges of Dinard (France) joined the project one year after the beginning of the project, when CNR had already delivered the webinars. Even if recordings of the webinars were available on the project website, the teachers could not attend them live and had fewer opportunities to interact with the scientific committee. Centro Integrado de formación profesional "La Merced" in Soria (Spain) is a small professional school with few permanent teachers on staff; some left the school and were replaced during the project. As a result, in both cases, teachers – the target of the training delivered by CNR and the scientific committee – did not supervise the students through all the steps of the new curriculum implementation. On the other hand, Piazza Institute has implemented an extremely structured curriculum on healthy cooking by providing a new scholastic specialization.

Considering this heterogeneity, Italian students exhibited marked enhancements in several domains. Notably, there was a substantial increase in their knowledge about healthy cooking. Past behaviors related to healthy cooking seemed to have also been positively influenced, suggesting that they might have been integrating healthier practices into their routines. Italian project implementation displayed improvements in attitude towards healthy cooking and the perceived social pressure (subjective norms). Importantly, there was a notable surge in the students' intention to engage in healthy cooking in the future (behavioural intention). Moreover, Italian students appeared to recognize the intrinsic worth (perceived value) and ethical importance (moral value) of healthy cooking.

The project's impact on Polish students was evident in their enhanced knowledge about healthy cooking and shifts in past behaviors. Their general disposition (attitude) towards healthy cooking witnessed positive changes, and they seemed to be more involved by the perceived expectations of others (subjective norms). A unique aspect among Polish students was the emergence of a perceived fear reduction, which suggests that they might have become more able to cope with the potential adverse consequences of healthy cooking.

French students showed significant positive shifts, especially in terms of their behaviors and their overall attitude towards healthy cooking. They boosted the influence of positive societal pressure (subjective norms) and demonstrated a heightened intention to engage in healthy cooking (behavioural intention). The French cohort, like the Italians,

seemed to ascribe greater value and moral importance to healthy cooking, reflected in increased gain scores on these measures.

Finally, the Spanish students' data reveals changes in behaviors concerning healthy cooking, which echoes with outcomes seen in other nations. Their attitude towards healthy cooking became more favorable, and they seemed more influenced by societal expectations (subjective norms). Interestingly, these students showed enhanced self-efficacy in controlling their cooking behaviors (behavioral control). Their intention to cook healthily in the future (behavioural intention) and the moral value they attached to healthy cooking also saw substantial improvements. Likewise, their perceived fear of cooking for persons with Non-Communicable Diseases decreased.

In conclusion, the findings demonstrated the significant impact of the pilot course on knowledge and attitudes toward healthy cooking. Participating in the curriculum improved knowledge, attitudes toward cooking practices for individuals with special dietary needs, and the perception of some of the variables that can be important in such practices. However, we observed heterogeneous results at the country level. On the one hand, these results suggest paying attention to contextual elements in implementing this educational intervention. On the other hand, they point out the efficacy of this new curriculum for students attending vocational schools.

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Appendix

Appendix A

Yes/No response

Food allergies

- In food allergy, does the person only react to large quantities of "wrong" food?
- Can food allergies cause poor nutrition?
- Does dried nuts represent a food with a low allergic reaction risk?
- Do shellfish represent a food with a high allergic reaction risk?
- Does soy represent a food with a low allergic reaction risk?
- Does wheat represent a food with a high allergic reaction risk?
- Does fish represent a food with a low allergic reaction risk?
- After eating food, is the sudden appearance of swollen lips a sign of an allergic reaction?
- After eating food, is the sudden appearance of coughing a sign of an allergic reaction?
- After eating food, does the sudden appearance of cramps, nausea and vomiting is a sign of an allergic reaction?
- After eating food, is the sudden appearance of paleness is a sign of an allergic reaction?
- Are all vitamins antioxidants?
- Is fruit antioxidants-free?
- Are vegetables antioxidants-free?
- Can a diet rich in fibre and plant polysaccharides destroy intestinal flora?
- Are beans an insoluble food?
- Are asparagus a prebiotic food?
- Can foods with vegetable oils be used freely?
- Can you recognise a food allergic reaction?
- Does food allergy exclude from diet allergenic food?
- Does food allergy exclude from the diet the raw allergenic food?
- Does food allergy exclude from the diet cooked allergenic food?

Diabetes

- Is nutritional therapy essential in the management of diabetes?
- Do carbohydrates taken with the meal affect post-prandial glycaemia?
- Do the fats contained in a meal affect post-prandial glycaemia?
- Are simple sugars allowed?
- Are complex sugars or starches allowed?
- Can the diabetic patient take sweeteners?
- Is lactose a sugar?
- Does fructose increase glycaemia?
- Can honey be allowed for diabetics?
- Do vegetables contain carbohydrates?
- Is olive oil the best dressing allowed?
- Can fruit intake be free (for diabetics)?
- Does eating wholefoods reduce the postprandial glycemic peak?
- Does rice contain gluten?

- In the packaging of cakes and biscuits, is the use of polyalcohols (maltitol) recommended for diabetics?
- Are tremors, sweating, and sensory obnubilation symptoms of hypoglycemia?
- Can hypoglycaemia be corrected by administering sugar?
- Is pizza a recommended food (for diabetics)?
- Would you be able to recognise a hypoglycaemic crisis?
- Can "counting" the carbohydrates in meals be an aid in the management of the therapy?
- Are the measurement of glycaemia - and thus self-monitoring - a useful practice in the management of the disease?
- Is education on a correct diet a fundamental step in the diabetics' therapeutic programme?
- Is the knowledge of gluten-free foods indispensable for the management of diabetic patients with celiac disease?

Celiac disease

- Is celiac disease a permanent gluten intolerance?
- Does celiac disease constantly require a gluten-free diet?
- Does eliminating gluten from the diet create nutritional imbalances?
- Is excluding bread and pasta for a gluten-free diet enough?
- Do barley and spelt contain gluten?
- Do legumes contain gluten?
- Can celiac disease be associated with other food intolerances or allergies?
- Are small amounts of gluten harmful to the health of the celiac?
- When people eat out, do they have to inform the cook of their illness/condition?
- Is it necessary to check the labels on packaged products?
- Does regular dietician support help to follow a gluten-free diet?
- For the preparation of gluten-free meals, should kitchen utensils be exclusively used for celiac?
- Can you fry gluten-free food in the oil in which you have already fried food with gluten?

Obesity

- Are carbohydrates, proteins and fats energy nutrients?
- Are vitamins and minerals plastic nutrients?
- Are carbohydrates and fats macronutrients?
- Are lipids essential for the absorption of certain vitamins?
- Do vitamins provide a lot of energy?
- Are fats completely avoidable in a balanced diet?
- Can fats and carbohydrates be excluded from our diet?
- Can vitamins and minerals be excluded from our diet?
- Are omega 3 and omega 6 essential fats?
- Is alcohol a non-essential nutrient?
- Is salt a non-essential nutrient?
- Are vegetable proteins micronutrients?

- According to the recommendations, are 3 servings of fruit and vegetables per day sufficient?
- According to the recommendations, is it necessary to limit the consumption of saturated fats?
- According to the recommendations, is it necessary to limit the consumption of milk and dairy products?
- According to the recommendations, is it necessary to drink water away from meals?
- According to the recommendations, should saturated fat calories not exceed 10% of daily calories?
- According to the recommendations, is it important to take no more than 10 g of salt per day?
- According to the recommendations, is it important to completely eliminate red meat from the diet?
- According to the recommendations, is it important to limit cooking on the grill and at high temperatures?
- Is banana rich in added sugar?
- Is low-fat fruit yoghurt rich in added sugar?
- Are dried nuts (walnuts, almonds, etc) poor in fats?
- Is vegetable margarine rich in fat?
- Is the rabbit rich in vegetable protein?
- Is rice oil low in fat?
- Are common shortbread biscuits poor in salt and rich in sugar?
- Are vegetables rich in protein?
- Is dark chocolate poorer in fat and calories than milk chocolate?
- Are all cholesterol-free foods poor in fat?
- Is a glass of sugar-free fruit juice a valid alternative to a portion of fruit?
- Is brown sugar a healthy alternative to white sugar?
- Is there more protein in a glass of whole milk than in a glass of skimmed milk?
- Does margarine contain less saturated fat than butter?
- Does one gram of butter have more calories than one gram of margarine?
- Is olive oil rich in monounsaturated fats?
- Is there more calcium in a glass of whole milk than in a glass of skimmed milk?
- Does one gram of table sugar (sucrose) provide more calories than one gram of fructose?
- 10g of butter brings more calories than 10 ml of oil?
- Are seed oils naturally rich in vitamins?
- With equal weight, are crackers less caloric than bread?
- Does 80g of pasta have the same calories as 120g of rice?
- Are homemade cakes healthier than commercial snacks?
- Do sugar-free fruit juices contain no sugar?
- Does whole wheat pasta have fewer calories than refined semolina pasta?
- Can the calcium contained in the water contribute to the daily calcium requirement?
- Does a plate of pasta and beans have the same protein content as a slice of meat?
- Is a plate of cereals and legumes a nutritionally complete meal?
- Is it preferable to eat red meat instead of cereals and legumes for a sustainable diet?

- Is red meat among the foods with the greatest environmental impact?
- Is the Mediterranean diet characterised by sporadic consumption of processed meat?
- Does body weight give precise information on body composition?
- Is the Body Mass Index useful to understand if an individual is obese?
- Can consuming less processed foods help to reduce the risk of obesity?
- Can drinking more water help reduce the risk of obesity?
- Can consuming less salt help reduce the risk of obesity?
- Can consuming an adequate amount of fibre help to reduce the risk of obesity?
- Does an obese child have a higher risk of becoming an obese adult?
- To prevent obesity, is it enough to follow a balanced diet and exercise one hour a week?
- Is a food defined as dietetic when its energy intake is reduced?
- Is being overweight or obese a health risk factor?
- Does eating low-calorie lunches, dinners and snacks reduce the risk of overweight and obesity?

Appendix B

Yes/No response

Obesity

- Are carbohydrates, proteins and fats energy nutrients?
- Are lipids essential for the absorption of certain vitamins?
- Are fats completely to be avoided in a balanced diet?
- Can fats and carbohydrates be excluded from our diet?
- According to the recommendations, should saturated fat calories not exceed 10% of daily calories?
- According to the recommendations, is it important to take no more than 10 g of salt per day?
- Are dried nuts (walnuts, almonds, etc) poor in fats?
- Is the rabbit rich in vegetable protein?
- Are vegetables rich in protein?
- Does margarine contain less saturated fat than butter?
- With equal weight, are crackers less caloric than bread?
- Is a plate of cereals and legumes a nutritionally complete meal?
- Can consuming less processed foods help to reduce the risk of obesity?
- Can consuming an adequate amount of fibers help to reduce the risk of obesity?
- Does eating low-calories lunches, dinners, and snacks reduce the risk of overweight and obesity?

ATTENTION CHECK ITEM: I was born in 2033

Food allergies

- Does dried nuts represent a food with a low allergic reaction risk?
- Does soy represent a food with a low allergic reaction risk?
- Does fish represent a food with a low allergic reaction risk?
- Are all vitamins antioxidants?
- Is fruit antioxidants-free?
- Are vegetables antioxidants-free?
- Can a diet rich in fibers and plant polysaccharides destroy intestinal flora?
- Are beans an insoluble food?
- Can food allergies cause poor nutrition?
- Do shellfish represent a food with a high allergic reaction risk?
- Does wheat represent a food with a high allergic reaction risk?
- After eating food, is the sudden appearance of swollen lips a sign of an allergic reaction?
- After eating food, is the sudden appearance of coughing a sign of an allergic reaction?
- After eating food, is the sudden appearance of cramps, nausea and vomiting is a sign of an allergic reaction?
- After eating food, is the sudden appearance of paleness is a sign of an allergic reaction?
- Is asparagus a prebiotic food?

ATTENTION CHECK ITEM: I am an alien

Celiac disease

- Is celiac disease a permanent gluten intolerance?
- Does celiac disease constantly require a gluten-free diet?
- Does eliminating gluten from the diet create nutritional imbalances?
- For a gluten-free diet, is excluding bread and pasta enough?
- Do barley and spelt contain gluten?
- Do legumes contain gluten?
- Can celiac disease be associated with other food intolerances or allergies?
- Are small amounts of gluten harmful to the health of the celiac?
- When people eat out, do they have to inform the cook of their illness/condition?
- Is it necessary to check the labels on packaged products?
- Does regular dietician support help to follow a gluten-free diet?
- For the preparation of gluten-free meals, should kitchen utensils exclusively be used for celiac?
- Can you fry gluten-free food in the oil in which you have already fried food with gluten?

ATTENTION CHECK ITEM: I have been to the moon 3 times

Diabetes

- Do carbohydrates taken with the meal affect post-prandial glycaemia?
- Do the fats contained in a meal affect post-prandial glycaemia?
- Are simple sugars allowed?
- Are complex sugars or starches allowed?
- Can the diabetic patient take sweeteners?
- Is lactose a sugar?
- Does fructose increase glycaemia?
- Can honey be allowed for diabetics?
- Do vegetables contain carbohydrates?
- Is olive oil the best dressing allowed?
- Can fruit intake be free (for diabetics)?
- Does eating wholefoods reduce the postprandial glycemic peak?
- In the packaging of cakes and biscuits, is the use of polyalcohols (maltitol) recommended for diabetics?
- Can hypoglycaemia be corrected by administering sugar?
- Is pizza a recommended food (for diabetics)?

ATTENTION CHECK ITEM: - I travelled to Mars

Appendix C

This questionnaire is part of research that studies the opinions on cooking for people with special dietary needs due to certain diseases. In particular, we are interested in your personal opinion about HEALTHY COOKING. HEALTHY COOKING means the preparation of meals respecting special dietary needs such as those of people with food allergies, celiac disease and metabolic diseases (diabetes, hypercholesterolemia, etc.). For these people, some foods are very risky (e.g., sugar for those with diabetes, butter for those allergic to dairy). Therefore, it is sometimes necessary to pay attention to the ingredients and also to the utensils used. Please read the text carefully and answer all questions. There are no right or wrong answers, we are only interested in your opinion.

Please remember that the questionnaire is anonymous, which means that no one can trace your identity. Also, remember that your answers will not be read by your teachers and that the way you answer will have no effect on your grades.

Attitude toward the behavior of interest

Semantic differential

To me HEALTHY COOKING is:								
Frustrating	1	2	3	4	5	6	7	Pleasant
Boring	1	2	3	4	5	6	7	Funny
Difficult	1	2	3	4	5	6	7	Easy
Slow	1	2	3	4	5	6	7	Fast
Expensive	1	2	3	4	5	6	7	Cheap
Tasteless	1	2	3	4	5	6	7	Tasty
Amateur	1	2	3	4	5	6	7	Professionals
Banal	1	2	3	4	5	6	7	Creative
Negative	1	2	3	4	5	6	7	Positive
Unpleasant	1	2	3	4	5	6	7	Pleasant
Ugly	1	2	3	4	5	6	7	Beautiful
Useless	1	2	3	4	5	6	7	Useful
Bad	1	2	3	4	5	6	7	Good
Harmful	1	2	3	4	5	6	7	Beneficial
Stressful	1	2	3	4	5	6	7	Relaxing
Tiring	1	2	3	4	5	6	7	Restful
Disappointing	1	2	3	4	5	6	7	Stimulating
Insignificant	1	2	3	4	5	6	7	Interesting
Risky	1	2	3	4	5	6	7	Safe
Not important	1	2	3	4	5	6	7	Important

Figure A1. Evaluation of attitude toward healthy cooking through semantic differential

Alternative formulation

1. I like to cook in a healthy way
2. Cooking in a healthy way is stimulating to me.
3. Cooking in a healthy way is easy for me.
4. Cooking for people with special dietary needs is fun to me.
5. I believe that cooking traditional recipes in healthier versions is very stimulating.
6. I don't like to cook in a healthy way
7. Cooking in a healthy way is frustrating to me
8. Cooking in a healthy way is more difficult for me
9. I don't like to cook in a healthy way because it's too stressful.
10. I believe that cooking in a healthy way is boring.
11. I believe that cooking traditional recipes in healthier versions while respecting particular dietary requirements is not very stimulating.
12. To me, reading the labels carefully before using pre-packaged food is important
13. I think that reading the labels carefully before using pre-packaged food is boring.
14. To me, avoiding sauces and dressings with unknown composition is useless.
15. To me, avoiding sauces and dressings with unknown composition is important.
16. To me, recognising the different effects that cooking has on high-risk foods is important.
17. To me, recognising the different effects that cooking has on high-risk food is useless.
18. To me, using a different set of utensils for the preparation of food for people with special dietary needs is stressful.
19. To me, using a different set of utensils for the preparation of food for people with special dietary needs is enjoyable.
20. I would like to work in a restaurant that cooks for people with special dietary needs.
21. I would not like to work in a restaurant that deals with healthy cooking
22. To me, balancing the nutritional values of dishes for people with special dietary needs is important

Behavioral beliefs: *Strength of behavioral belief:*

23. Cooking in a healthy way would make me prepare less tasty dishes
24. Cooking in a healthy way would make me prepare more tasty dishes
25. Cooking in a healthy way would waste more resources (time, materials, money...).
26. Cooking in a healthy way would make me waste more time
27. Ingredients for healthy cooking would be much more expensive for me
28. Cooking in a healthy way would oblige me to pay close attention to the ingredients used
29. Healthy cooking would oblige me to be very careful when using utensils during the preparation of the food
30. Cooking for people with special dietary needs would be uninspiring to me
31. Cooking in a healthy way would help me become a real professional chef
32. I don't need to know how to cook in a healthy way to be considered a real professional chef.
33. Cooking in a healthy way requires balancing the nutritional values of the meals

Outcome evaluation:

12. The fact that cooking healthy would make me prepare less tasty meals, to me is...
13. The fact that cooking healthy would make me prepare tastier meals, to me is...
14. The fact that cooking healthy would make me waste more resources (time, materials, money...), to me is...
15. The fact that cooking healthy would make me waste more time, to me is...
16. The fact that ingredients for healthy cooking would be much more expensive, to me is...
17. The fact that cooking healthy would make me pay a lot of attention to the ingredients, to me is...
18. The fact that healthy cooking would make me to be very careful when using utensils during the preparation of food, to me is...
19. The fact that cooking for people with special dietary needs would not be very stimulating, to me is...
20. The fact that cooking healthy would help me to become a real professional chef, to me is...
21. The fact that I do not need to know how to cook healthily to be considered a real professional chef, to me is...
22. The fact that balancing nutritional values is necessary to cook meals for people with special dietary needs, for me is...

Subjective norms

34. People close to me think that it is important to cook for people with special dietary needs.
35. People close to me think that it is important to cook healthily
36. I am expected to be able to cook meals that are suitable for people with special dietary needs.
37. I am expected to be able to cook healthily
38. Most people who are important to me would be happy if I cooked healthily.
39. I feel under social pressure to know how to use products suitable for people with special dietary needs
40. I feel under social pressure to know how to cook meals for people with special dietary needs
41. Many people who are important to me want me to learn how to cook food suitable for people with special dietary needs.
42. I am expected to be able to recognise foods that are dangerous to the health of people with special dietary needs.
43. I am expected to use a different set of tools when preparing high-risk food
44. I am expected to carefully read the labels of the pre-packaged food
45. I am expected to avoid sauces and dressings with unknown composition.
46. I am expected to avoid unintentional contamination when preparing meals for people with special dietary needs
47. I am expected to be able to balance the nutritional values of meals for people with special dietary needs

Normative beliefs

Injunctive normative beliefs

48. My family thinks I should cook for people with special dietary needs
49. My peers think I should cook for people with special dietary needs
50. My schoolmates think I should cook for people with special dietary needs
51. My classmates think I should cook for people with special dietary needs
52. My friends think I should cook for people with special dietary needs
53. The media I use the most (TV programs, social media) suggest cooking for people with special dietary needs
54. My teachers think I should cook for people with special dietary needs.

Descriptive normative beliefs

55. My family cooks for people with special dietary needs
56. My peers cook for people with special dietary needs
57. My schoolmates cook for people with special dietary needs
58. My classmates cook for people with special dietary needs
59. My friends cook for people with special dietary needs
60. The media I use the most (TV programs, social media) show how to cook for people with special dietary needs
61. My teachers cook for people with special dietary needs
62. Many people like me cook in a healthy way
63. Many people like me cook for people with special dietary needs

Motivation to comply

64. What my family thinks is important to me
65. What my peers think is important to me
66. What my schoolmates think is important to me
67. What my classmates think is important to me
68. What my friends think is important to me
69. What the media (TV programmes, social media) suggest about cooking is important to me
70. What my teachers think is important to me
71. My family's approval is important to me
72. My peers' approval is important to me
73. My schoolmates' approval is important to me
74. My classmates' approval is important to me
75. My friends' approval is important to me
76. My teachers' approval is important to me

Alternative version

14. Generally speaking, how important is what your family thinks you should do?
15. Generally speaking, how important is what your peers think you should do?
16. Generally speaking, how important is what your schoolmates think you should do?
17. Generally speaking, how important is what your classmates think you should do?
18. Generally speaking, how important is what your friends think you should do?

19. Generally speaking, how important is what the cooking media (TV programs, social media) advise you to do?
20. Generally speaking, how important is what your teachers think you should do?

Identification with the group

77. When it comes to cooking, how much do you want to be like your family?
78. When it comes to cooking, how much do you want to be like your peers?
79. When it comes to cooking, how much do you want to be like your schoolmates?
80. When it comes to cooking, how much do you want to be like your classmates?
81. When it comes to cooking, how much do you want to be like your friends?
82. When it comes to cooking, how much do you want to be like the people you see in the cooking media (TV programs, social media)?
83. When it comes to cooking, how much do you want to be like your teachers?

Perceived behavioral control

Self-efficacy

84. I feel able to innovate a traditional recipe for people with special dietary needs
85. If I wanted, I could cook meals respecting special dietary needs
86. I believe that cooking healthy is not so difficult for me
87. I feel able to cook healthy
88. I feel able to cook tasty meals healthy
89. I would not be able to prepare an entire menu respecting particular dietary requirements
90. I do not think I have the skills to cook a traditional recipe by adapting it to particular dietary needs.
91. I believe that cooking for people with special dietary needs is easy to me
92. I do not think I am capable of making meals for people with special dietary needs
93. I am confident that I can cook meals for people with special dietary needs.
94. I can recognize foods that are risky for people with special dietary needs
95. I can recognize an adverse reaction to food
96. I can choose the most appropriate type of cooking for a high-risk food
97. Compared to my peers, I am very good at cooking for people with special dietary needs
98. I feel very confident in my ability to cook for people with special dietary needs
99. I feel capable of balancing the nutritional values in meals for people with special dietary needs

Autonomy and controllability of the behavior

100. I think that being able to cook meals for people with special dietary needs is up to me
101. Cooking healthily depends on factors that are beyond my control (for example, it is not taught at school).
102. I think that cooking for people with special dietary needs is up to me
103. I can cook a meal for people with special dietary needs whenever I want
104. I think that choosing the most appropriate type of cooking for high-risk food is up to me

105. I think that avoiding high-risk foods is up to me
106. I think that recognizing high-risk foods is up to me
107. I think that replacing high-risk foods with ingredients suitable for people with special dietary needs is up to me
108. Replacing high-risk foods with ingredients suitable for people with special dietary needs depends on factors that I cannot control
109. I think that using a different set of utensils for the preparation of high-risk food is up to me
110. Using a different set of utensils to prepare food for people with special dietary needs depends on factors over which I have no control
111. I think that avoiding sauces and dressings with unknown compositions is up to me
112. I think that recognizing the different effects that different types of cooking have on high-risk foods is up to me
113. I think that avoiding contamination of the meal for people with special dietary needs is up to me
114. Avoiding meal contamination for people with special dietary needs depends on factors that I cannot control
115. I think that reading the labels carefully before using pre-packaged food is up to me
116. I believe I have enough resources available (time, materials, money) to cook for people with particular dietary needs.
117. I can decide on my own if I want to cook for people with special dietary needs
118. I think that knowing how to balance nutritional values in meals for people with special dietary needs is up to me

Control beliefs

Competencies

119. Over the coming 3 years, I expect to get the necessary skills to cook healthily
120. Having skills in special dietary needs would allow me to cook healthily
121. Over the coming 3 years, I expect to get the necessary skills to cook an entire menu in a healthy way
122. Having skills in special dietary needs would allow me to cook an entire menu in a healthy way
123. Over the coming 3 years, I expect to get the necessary skills to recognize high-risk foods
124. Having skills in special dietary needs would allow me to recognize high-risk foods
125. Over the coming 3 years, I expect to get the necessary skills to choose the most appropriate type of cooking for a high-risk food
126. Having skills in special dietary needs would allow me to choose the most appropriate type of cooking for a high-risk food
127. Over the coming 3 years, I expect to get the necessary skills to recognize an adverse reaction to a food
128. Having skills in special dietary needs would allow me to recognize an adverse reaction to a food
129. Having skills in the nutritional values of foods would allow me to know how to balance them in meals for people with special dietary needs

Resources

23. I expect to have enough time if I wanted to cook healthily
24. Having enough time would allow me to cook healthily
25. I expect to have a different set of tools for the preparation of food for people with special dietary needs
26. Having a different set of utensils for the preparation of food for people with special dietary needs would allow me to cook healthily
27. I expect to have enough time to carefully read the labels on pre-packaged food if I wanted to cook healthily.
28. Having enough time to carefully read the labels of pre-packaged food would allow me to cook healthily
29. I expect to have enough money to buy suitable food for people with special dietary needs would allow me to cook healthily
30. Having enough money to buy suitable food for people with special dietary needs would allow me to cook in a healthy way
31. Having enough time to balance the nutritional values of the meals would allow me to cook healthily

Behavioral intention

130. I intend to commit myself to cooking meals for people with special dietary needs
131. I intend to cook respecting special dietary needs
132. I expect to cook respecting special dietary needs
133. I want to cook meals respecting special dietary needs
134. I want to cook meals for people with special dietary needs

Past behavior

135. I happened to cook healthily
136. I happened to cook for people with special dietary needs
137. I happened to cook traditional recipes by adapting them to people with special dietary needs.
138. I happened to follow TV programs or social media pages showing how to cook for people with special dietary needs.
139. I happen to read the labels carefully before using pre-packaged foods
140. I happen to avoid sauces and dressings of which I do not know the composition
141. In my family, it happens that people cook healthily
142. I happen to cook, avoiding risky food for people with special dietary needs
143. I happened to see a person showing an adverse reaction to a food
144. I happen to have all the ingredients available to cook meals for people with special dietary needs
145. I happen to balance the nutritional values of meals for people with special dietary needs

Appendix D

This questionnaire is part of research that studies opinions on cooking for people with special dietary needs. In particular, we are interested in your personal opinion about **NCD (Not Communicable Disease) COOKERY**. By **NCD COOKERY**, we mean the preparation of meals respecting special dietary needs, such as those of people with food allergies, celiac disease, diabetes and obesity. For these people, some foods are very risky (e.g., sugar for those with diabetes, butter for those allergic to dairy). Therefore, it is sometimes necessary to pay attention to the ingredients and also to the utensils used.

Remember that the questionnaire is anonymous, which means that no one can trace your identity. Also, remember that your answers will not be read by your teachers and that the way you answer will have no effect on your grades.

Attitude toward the behavior of interest

Semantic differential

To me NCD COOKERY is:								
Frustrating	1	2	3	4	5	6	7	Pleasing
Boring	1	2	3	4	5	6	7	Funny
Difficult	1	2	3	4	5	6	7	Easy
Tasteless	1	2	3	4	5	6	7	Tasty
Banal	1	2	3	4	5	6	7	Creative
Negative	1	2	3	4	5	6	7	Positive
Unpleasant	1	2	3	4	5	6	7	Pleasant
Ugly	1	2	3	4	5	6	7	Beautiful
Useless	1	2	3	4	5	6	7	Useful
Bad	1	2	3	4	5	6	7	Good
Not important	1	2	3	4	5	6	7	Important

Figure A2. Evaluation of attitude toward NCD COOKERY through semantic differential

Behavioral beliefs

146. Cooking NCD cookery would make me prepare less tasty dishes
147. Cooking NCD cookery would make me waste more resources (time, materials, money...)
148. Cooking NCD cookery would oblige me to pay close attention to the ingredients I use
149. NCD cookery would oblige me to be very careful when using utensils during the preparation of the food
150. Cooking NCD cookery would make me a real professional chef

Subjective norms

151. Most people who are important to me think that NCD cookery is of great value
152. Most people who are important to me expect I learn NCD cookery
153. Most people who are important to me would be happy if I cooked healthily

154. Most people who are important to me expect me to be able to recognize foods that are dangerous to the health of people with special dietary needs.
155. Most people who are important to me expect me to avoid unintentional contamination when preparing meals for people with special dietary needs
156. Most people who are important to me expect me to be able to balance the nutritional values of meals for people with special dietary needs

Normative beliefs

Injunctive norms

How important is NCD cookery for...

- My family
- My peers
- My schoolmates
- My classmates
- My friends
- The media I use the most (TV programs, social media)
- My teachers

Descriptive norms

Among your acquaintances, who knows and practices NCD cooking?

- My family
- My peers
- My schoolmates
- My classmates
- My friends
- The media I use the most (TV programs, social media)
- My teachers

Motivation to comply

For you, how important is it to follow the suggestions and the example of...

- My family
- My peers
- My schoolmates
- My classmates
- My friends
- The media I use the most (TV programs, social media)
- My teachers

Identification with the group

157. When it comes to cooking, how much do you want to be like your family?
158. When it comes to cooking, how much do you want to be like your peers?
159. When it comes to cooking, how much do you want to be like your schoolmates?
160. When it comes to cooking, how much do you want to be like your classmates?

161. When it comes to cooking, how much do you want to be like your friends?
162. When it comes to cooking, how much do you want to be like the people you see in the cooking media (TV programs, social media)?
163. When it comes to cooking, how much do you want to be like your teachers?

Perceived behavioral control

Self-efficacy

164. I feel able to innovate a traditional recipe for people with special dietary needs
165. I believe that cooking healthily is not so difficult for me
166. I feel able to cook tasty meals healthily
167. I think I have the knowledge to cook NCD cookery.
168. I would not be able to prepare an entire menu using NCD cookery
169. I think I have the skills to cook NCD cookery.
170. I feel very confident in my abilities to cook for people with special dietary needs

Autonomy and controllability of the behavior

171. I feel I would have control if I tried to cook NCD
172. I can cook a meal for people with special dietary needs whenever I want
173. Learning NCD cookery is entirely up to me
174. Even if I wanted to, I could not cook NCD cookery
175. Even if I wanted to, I could not learn NCD cookery

Control beliefs and power of the factors over the behavior

Control beliefs

176. Learning NCD cookery takes a lot of time and effort
177. My school and friends encourage me to cook NCD cookery
178. My school creates the conditions for me to learn NCD cookery
179. NCD cookery requires a lot of attention
180. NCD cookery requires many precautions
181. NCD cookery requires the right tools

Power

7. Having time and not feeling tired are key factors to cook NCD cookery
8. Being able to pay close attention is a key factor in cooking NCD cookery
9. Having a school that provides the necessary training is important for learning NCD cookery
10. Having someone encouraging you is fundamental to cooking NCD cookery
11. Taking a lot of precautions is a crucial factor for NCD cookery
12. Having the right tools is crucial for NCD cookery

Behavioral intention

182. I intend to commit myself to cooking meals for people with special dietary needs
183. I intend to cook NCD cookery

- 184. I expect to cook NCD cookery respecting special dietary needs
- 185. I am willing to commit myself to having a good knowledge of NCD cookery
- 186. I will cook NCD cookery
- 187. I intend to get to know NCD cookery in depth

Past behavior

In the last month, how often do you have:

- 188. Cooked NCD cookery
- 189. Adapted recipes to NCD cookery
- 190. Learned and searched for information about NCD cookery
- 191. Studied NCD cookery
- 192. Talked about NCD cookery
- 193. Practised NCD cookery

Appendix E

PLEASE READ CAREFULLY

This questionnaire is part of a research that studies opinions on cooking for people with special dietary needs.

In particular, we are interested in your personal opinion about **NCD (Not Communicable Disease) COOKERY**. By **NCD COOKERY** we mean the preparation of meals respecting **special dietary needs**, such as those of people with *food allergies, celiac disease, diabetes and obesity*.

For these people, some foods are very risky (e.g.: sugar for those with diabetes, butter for those allergic to dairy). Therefore, it is sometimes necessary to pay attention to the ingredients and also to the utensils used.

Remember that the questionnaire is anonymous, which means that no one can trace your identity. Also remember that your answers will not be read by your teachers and that the way you answer **will have no effect on your grades**.

DEFINITION CHECK ITEM

Please indicate which of the following alternatives is the NCD cookery definition you read on the previous page:

- NCD cookery is the preparation of meals respecting special dietary needs such as those of people with food allergies, celiac disease, diabetes and obesity.
- NCD cookery is the preparation of meals respecting particular ethical choices such as the exclusive use of ingredients of plant origin.
- NCD cookery is the preparation of meals using both ingredients and culinary techniques typical of other cultures.
- NCD cookery is the preparation of meals using only animal or plant products obtained through environmentally friendly procedures.

Past behavior

0-6 points scale (0 = Never; 6 = Always)

In the last 12 months, how often do you have

- 194. Cooked NCD cookery
- 195. Adapted recipes to NCD cookery
- 196. Learned and searched information about NCD cookery
- 197. Studied NCD cookery
- 198. Talked about NCD cookery

Behavioral intention

0-6 points scale (0 = Extremely unlikely; 6 = Extremely likely)

- 199. I am willing to commit myself to cooking meals for people with special dietary needs
- 200. I will cook NCD cookery

201. I am willing to commit myself to having a good knowledge of NCD cookery
202. I will inform myself about the necessities of people with special dietary needs.
203. I expect to gain an in-depth knowledge of NCD cookery

Attention check item: Attention, this is a control question: select the answer "2".

Attitude toward the behavior of interest

In this section, the response mode is a bit peculiar. On each line, you find a pair of opposite words, divided by 7 circles. To indicate your answer, select the circle that best represents your position between the two opposite words. For example:

The school for me is:

Boring o o o o o Funny

If the school for me is ABSOLUTELY boring, I will click on the circle closest to "Boring".

Boring X o o o o Funny

If the school for me is a bit boring and not much fun, then I will click on the third circle.

Boring o o o X o o Funny

So, following these instructions, we gave you, tell us your evaluation about the NCD cookery.

To me NCD COOKERY is:								
Frustrating	1	2	3	4	5	6	7	Pleasing
Tasty	1	2	3	4	5	6	7	Tasteless
Positive	1	2	3	4	5	6	7	Negative
Unpleasant	1	2	3	4	5	6	7	Pleasant
Useless	1	2	3	4	5	6	7	Useful
Good	1	2	3	4	5	6	7	Bad
Not important	1	2	3	4	5	6	7	Important

Figure A3. Evaluation of attitude toward NCD COOKERY through semantic differential

Subjective norms

Please indicate your level of agreement or disagreement with the following statements -3 to +3 points scale (-3 = Strongly agree; +3 = Strongly disagree)

Injunctive

204. Many people I care about would be happy if I cooked NCD cookery
205. Many people I care about do **not** think it is important that I avoid food contamination when cooking for those with special dietary needs.
206. Many people who are important to me expect me to be able to recognize foods that are risky to people's health.
207. Most people I care about do **not** care that I can cook NCD cookery
208. Most people I care about expect me to be able to balance nutritional values when I cook for those with special dietary needs.

Descriptive

- 209. Many people I care about can cook NCD cookery
- 210. Many people I care about do **not** pay attention to food contamination when cooking for those with special dietary needs.
- 211. Many people who are important to me are able to recognize foods that are dangerous to people's health
- 212. Most people I care about are **not** familiar with NCD cookery
- 213. Most people I care about know how to balance nutritional values when they cook for those with special dietary needs.

Attention check item: Attention, this is a control question: select the answer "0".

Perceived behavioral control

Please indicate your level of agreement or disagreement with the following statements -3 to +3 points scale (-3 = Strongly agree; -3 = Strongly disagree)

Self-efficacy

- 214. I feel I can prepare good dishes even if I cook NCD cookery
- 215. I do **not** think I have the skills to cook NCD cookery
- 216. I would be able to prepare an entire menu using NCD cookery
- 217. I do **not** feel confident in my ability to cook for people with special dietary needs
- 218. I think I have the basic knowledge of the NCD cookery

Autonomy and controllability of the behavior

- 219. Even if I wanted to, if I cooked NCD cookery, it would be impossible to have control of everything
- 220. I feel I would have control if I tried to cook NCD cookery
- 221. Even if I wanted to, I could **not** cook NCD cookery
- 222. Learning NCD cookery is entirely up to me
- 223. Even if I wanted to, I could **not** learn NCD cookery

Attention check item: Attention, this is a control question: select the answer "+ 1".

The personal value of the behavior

-3 to +3 points scale (-3 = Strongly agree; -3 = Strongly disagree)

- 224. Learning NCD cookery would allow me to have a competitive curriculum
- 225. Cooking NCD cookery is **not** of great importance for one's professional career
- 226. Knowing how to cook NCD cookery would make me feel more confident about my chances of finding a job.
- 227. I am **not** interested in learning NCD cookery because I do not think it is useful for my career.

Attention check item: Attention, this is a control question: select the answer "+ 2".

Anticipated fear provoked by the behavior

0-6 points scale (0 = Not at all; 6 = Very much)

If I had to cook NCD cookery for people with special dietary needs, I would feel:

- Anxious
- Afraid
- Nervous
- Scared
- Frightened

The moral value of the behavior

-3 to + 3 points scale (-3 = Strongly agree; -3 = Strongly disagree)

228. Knowing about NCD cookery is a moral responsibility for me;
229. I would feel guilty if I would **not** able to cook NCD cookery for people with special dietary needs
230. I think it is morally right to cook NCD cookery
231. I would be displeased with myself if I could **not** fulfill the requests of those with special dietary needs

Attention check item: Attention, this is a control question: select the answer "+ 1".

Appendix F



Sección A: Introduzione

POR FAVOR LEE CON DETENIMIENTO

Este cuestionario es parte de un investigación que estudia las opiniones sobre cocinar para gente con necesidades especiales en su dieta.

En particular, estamos interesados en tu opinión personal sobre COCINA NCD (Enfermedad de no transmisión).

Con COCINA NCD queremos decir la preparación de comidas con respecto a necesidades especiales en la dieta, tales como *alergias alimentarias, celíacos, diabetes y obesidad*. Para esta gente, algunos alimentos son un riesgo (e.j. azúcar para diabéticos, mantequilla para alérgicos a los lácteos). Por lo tanto, es necesario, a veces, prestar atención a los ingredientes y también a los utensilios que se usen.

Recuerda que el cuestionario es anónimo, lo que quiere decir que nadie puede localizar tu identidad. También recuerda que tus respuestas no serán leídas por tus profesores y la manera que contestes no afectará a tus calificaciones de tus materias.

Sección B: IntroduzioneCheck

B1. Por favor, indica cual de las alternativas es cocina NCD, según la definición que leiste en el folio anterior:

La cocina NCD es la preparación de comidas respecto a la necesidad de un dietario especial como los que van dirigidos a gente con alergias alimentarias, enfermedad de celíacos y obesidad.

☐

La cocina NCD es la preparación de comidas respecto a las elecciones éticas particulares como el uso exclusivo de ingredientes de origen vegetal.

☐

La cocina NCD es la preparación de comida usando ambas cosas: ingredientes y técnicas culinarias típicas de otras culturas.

☐

La cocina NCD es la preparación de comida usando solo productos animales o vegetales obtenidos a través de procesos respetuosos con el medio ambiente.

☐

B2.



Sección C: Wrong

Desafortunadamente, no has respondido correctamente. Para que el estudio tenga éxito es esencial que entiendas realmente lo que significa la cocina NCD. Por favor, vuelve a intentarlo.

Con COCINA NCD (Enfermedad de no transmisión) queremos decir la preparación de comidas con respecto a necesidades especiales en la dieta, tales como *celiacos, diabetes y obesidad*.

Para esta gente, algunos alimentos son un riesgo (e.j. azucar para diabéticos, mantequilla para alérgicos a los lácteos). Por lo tanto, es necesario, a veces, prestar atención a los ingredientes y también a los utensilios que se usen.

Sección D: WrongCheck

D1. Por favor, indica cual de las alternativas es cocina NCD, según la definición que leiste en el folio anterior:

La cocina NCD es la preparación de comidas respecto a la necesidad de un dietario especial como los que van dirigidos a gente con alergias alimentarias, enfermedad de celiacos y obesidad.

☐

La cocina NCD es la preparación de comidas respecto a las elecciones particulares como el uso exclusivo de ingredientes de origen vegetal.

☐

La cocina NCD es la preparación de comida usando ambas cosas: ingredientes y técnicas culinarias típicas de otras culturas.

☐

La cocina NCD es la preparación de comida usando solo productos animales o vegetales obtenidos a través de procesos respetuosos con el medio ambiente.

☐

Sección E: Wrong2

Lamentablemente, has vuelto a dar una respuesta errónea. Para que la investigación tenga éxito, es esencial que usted realmente entienda lo que significa la cocina NCD. Por favor, inténtelo de nuevo.

Con COCINA NCD (Enfermedad de no transmisión) queremos decir la preparación de comidas con respecto a necesidades especiales en la dieta, tales como *celiacos, diabetes y obesidad*.

Para esta gente, algunos alimentos son un riesgo (e.j. azucar para diabéticos, mantequilla para alérgicos a los lácteos). Por lo tanto, es necesario, a veces, prestar atención a los ingredientes y también a los utensilios que se usen.

Sección F: Wrong2Check

F1. Por favor, indica cual de las alternativas es cocina NCD, según la definición que leiste en el folio anterior:

La cocina NCD es la preparación de comidas respecto a la necesidad de un dietario especial como los que van dirigidos a gente con alergias alimentarias, enfermedad de celiacos y obesidad.

☐

La cocina NCD es la preparación de comidas respecto a las elecciones particulares como el uso exclusivo de ingredientes de origen vegetal.

☐

La cocina NCD es la preparación de comida usando ambas cosas: ingredientes y técnicas culinarias típicas de otras culturas.

☐

La cocina NCD es la preparación de comida usando solo productos animales o vegetales obtenidos a través de procesos respetuosos con el medio ambiente.

☐



Sección G: Blocco B-I

Por favor lee y contesta las siguientes preguntas

G1. En los últimos 12 meses, con que frecuencia has:
document.getElementById('vmmsg_515_num_answers').style.visibility
= "hidden";

document.getElementById('vmmsg_515_num_answers').style.visibility = "hidden";

	Nunca0	1	2	Muy amenudo3
Adapatado recetas a cocina NCD	☐	☐	☐	☐
Aprendido e investigado recetas para cocina NCD	☐	☐	☐	☐
Estudiado cocina NCD	☐	☐	☐	☐

G2. Por favor lee detenidamente y contesta:
document.getElementById('vmmsg_521_num_answers').style.visibility
= "hidden";

document.getElementById('vmmsg_521_num_answers').style.visibility = "hidden";

	Muy improbable 0	1	2	3	Muy probable4
Estoy dispuesto a involucrarme en preparar comidas para gente con necesidades especiales en su dieta.	☐	☐	☐	☐	☐
Cocinaré NCD	☐	☐	☐	☐	☐
Estoy dispuesto a adquirir un buen conocimiento de NCD	☐	☐	☐	☐	☐
Me informaré sobre las necesidades de la gente con particularidades en su dieta	☐	☐	☐	☐	☐



Sección H: Ant

H1.

En esta sección, el modo de respuesta es un poco particular. En cada línea encontrará un par de palabras opuestas (antónimos), divididas por 7 círculos. Para indicar su respuesta, seleccione el círculo que mejor represente su posición entre las dos palabras opuestas. Por ejemplo:

La escuela para mí es:

Aburrida o o o o Divertida

Si la escuela es **ABSOLUTAMENTE** aburrida, haré clic en el círculo más cercano a "Aburrido".

Aburrido X o o o Divertido

Si la escuela para mí es un poco aburrida y no muy divertida, entonces haré clic en el tercer círculo.

Aburrido o X o o Divertido

Así que, siguiendo estas instrucciones, cuéntanos tu valoración sobre la cocina NCD.

LA COCINA NCD PARA MÍ ES:

```
document.getElementById('vmmsg_527_num_answers').style.visibility  
= "hidden";
```

```
document.getElementById('vmmsg_527_num_answers').style.visibility = "hidden";
```

			0	->	-->
Desagradable Agradable	☐	☐	☐	☐	☐
Útil Inútil	☐	☐	☐	☐	☐
Bueno Malo	☐	☐	☐	☐	☐
No importante Importante	☐	☐	☐	☐	☐



H2. Por favor indica el grado de acuerdo o desacuerdo de las siguientes afirmaciones

```
$(document).ready(function(){ // Identify this question
var thisQuestion = $('#question{SubN}'); // Assign column-specific
classes $('table.subquestion-list tr', thisQuestion).each(function(i) {
    $('> *:gt(0)', this).each(function(i){
$(this).addClass('column-'+(i+1)); $(this).attr('data-column', i+1); });
    }); // Resize the inputs $('column-1 input[type="text"]',
    thisQuestion).css('width', 'auto').attr('size', '10'); $('column-2
input[type="text"]', thisQuestion).css('width', 'auto').attr('size', '5');
    });
document.getElementById('vmmsg_535_num_answers').style.visibility
= "hidden";
```

document.getElementById('vmmsg_535_num_answers').style.visibility = "hidden";

	Totalmente en desacuerdo- 2	- 1	Ni de acuerdo ni en desacuerdo0	+ 1	Totalmente de acuerdo+ 2
Muchas personas que son importantes para mi estarían muy contentas si cocino NCD	☐	☐	☐	☐	☐
Mucha gente importante para mi, espera que sea capaz de reconocer alimnetos con riesgo para la salud	☐	☐	☐	☐	☐
La mayoría de la gente que es importante para mí espera que sea capaz de contrapesar/equilibrar los valores nutricionales cuando cocino para personas con necesidades especiales en sus dietas.	☐	☐	☐	☐	☐
Mucha gente que es importante para mí cocina NCD	☐	☐	☐	☐	☐
La mayoría de las personas que me importan no conocen la cocina NCD	☐	☐	☐	☐	☐
La mayoría de las personas que me importan sabe como equilibrar los valores nutricionales cuando cocinan para personas con necesidades alimenticias especiales.	☐	☐	☐	☐	☐

H3. Por favor, indica tu grado de acuerdo o desacuerdo con las siguientes frases

```
document.getElementById('vmmsg_546_num_answers').style.visibility
= "hidden";
```

document.getElementById('vmmsg_546_num_answers').style.visibility = "hidden";

	Totalmente en desacuerdo- 2	- 1	Ni de acuerdo ni en desacuerdo0	+ 1	Totalmente de acuerdo+ 2
Creo que puedo preparar buenos platos incluso si cocino NCD	☐	☐	☐	☐	☐
No confío en mis habilidades culinarias para personas con necesidades dietéticas especiales.	☐	☐	☐	☐	☐
Incluso aunque quisiera, sería imposible tener un control de todo mientras cocino NCD	☐	☐	☐	☐	☐
Creo que tendría el control si intentata cocinar NCD.	☐	☐	☐	☐	☐



Sección I: Blocco VFM

I1. Por favor, indica tu grado de acuerdo o desacuerdo con las siguientes frases

`document.getElementById('vmmsg_557_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_557_num_answers').style.visibility = "hidden";`

	Totalmente en desacuerdo- 2	- 1	Ni de acuerdo ni en desacuerdo0	+ 1	Totalmente de acuerdo+ 2
Aprender NCD me permitiría tener un Curriculum Vitae competitivo	☐	☐	☐	☐	☐
Cocinar NCD no es de gran importancia para mi vida profesional	☐	☐	☐	☐	☐
No estoy interesado en aprender cocina NCD porque creo que no es útil en mi vida profesional	☐	☐	☐	☐	☐

I2. Si tuviera que cocinar NCD para personas con necesidades especiales en su dieta, me sentiría:

`document.getElementById('vmmsg_568_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_568_num_answers').style.visibility = "hidden";`

	Nada0	1	2	3	4	Mucho5
Ansioso	☐	☐	☐	☐	☐	☐
Temeroso	☐	☐	☐	☐	☐	☐
Asustado	☐	☐	☐	☐	☐	☐

I3. Por favor indica el grado de acuerdo o desacuerdo de las siguientes afirmaciones

`document.getElementById('vmmsg_574_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_574_num_answers').style.visibility = "hidden";`

	Totalmente en desacuerdo- 2	- 1	Ni de acuerdo ni en desacuerdo0	+ 1	Totalmente de acuerdo+ 2
Saber cocina NCD es una necesidad moral para mí	☐	☐	☐	☐	☐
Creo que es moralmente correcto cocinar NCD	☐	☐	☐	☐	☐
Estaría decepcionado si no pudiera llevar a cabo la comanda de gente con necesidades especiales en su dieta.	☐	☐	☐	☐	☐

Sección J: Obesità

Por favor, indica la respuesta que cosideres correcta

J1. Por favor, contesta las siguientes preguntas.

	Sí	No
¿Son los lípidos esenciales para la absorción de ciertas vitaminas?	☐	☐



- | | Sí | No |
|---|--------------------------|--------------------------|
| ¿Son las verduras ricas en proteínas? | ☐ | ☐ |
| ¿Con el mismo peso tienen los crackers menos calorías que el pan? | ☐ | ☐ |
| ¿Es un plato de cereales y legumbres una comida completa nutricionalmente? | ☐ | ☐ |
| ¿Tomar almuerzos y comidas bajas en calorías y snacks reduce el riesgo de sobrepeso y obesidad? | ☐ | ☐ |

Sección K: Alergie

Por favor, indica la respuesta que consideres correcta

K1. Por favor, contesta las siguientes preguntas

- | | Sí | No |
|--|--------------------------|--------------------------|
| ¿Los frutos secos representan un alimento con poco riesgo a reacciones alérgicas?? | ☐ | ☐ |
| ¿El pescado representa un alimento con poco riesgo de reacciones alérgicas? | ☐ | ☐ |
| ¿Son todas las vitaminas antioxidantes? | ☐ | ☐ |
| ¿Pueden las alergias alimenticias causar mala nutrición? | ☐ | ☐ |
| ¿El marisco representa un alimento con poco riesgo de reacciones alérgicas? | ☐ | ☐ |

Sección L: Celiachia

Por favor, indica la respuesta que consideres correcta

L1. Por favor, contesta las siguientes preguntas

- | | Sí | No |
|---|--------------------------|--------------------------|
| ¿Eliminar el gluten de la dieta puede crear desequilibrios nutricionales? | ☐ | ☐ |
| ¿Las legumbres tienen gluten? | ☐ | ☐ |
| ¿Las enfermedades celíacas pueden estar asociadas con otro tipo de alergias alimenticias? | ☐ | ☐ |
| ¿Pequeñas cantidades de gluten pueden ser dañinas para celíacos? | ☐ | ☐ |
| ¿Puede ayudarte un dietista a seguir una dieta sin gluten? | ☐ | ☐ |



M1. Por favor, contesta las siguientes preguntas

Puede corregirse la hipoglicemia administrando azucar? ☐ ☐

Sección N: Socio-demo

Mujer	
-------	--

[illegible][illegible]

Vengo de Marte



N5. ¿Conoces personalmente a alguien que sufra de alguna de estas enfermedades?

	Sí	No
Diabetes	☐	☐
Obesidad	☐	☐
Alergias Alimenticias	☐	☐
Enfermedad de Celiacos	☐	☐
Inflamaciones crónicas	☐	☐
Otras enfermedades que requieran dietas especiales	☐	☐
Nací en 2033	☐	☐

N6. Imagina que esta linea representa como está organizada la sociedad.

En una punta (marcada con un 1) está la gente que *tiene menos dinero, poca o nada educación académica, sin trabajo o con trabajos que nadie quiere o respeta.*

En la otra punta opuesta (marcada con un 10) está la gente que *tiene más dinero, la mayor formación educativa, y los trabajos que otorgan más respeto.*

Ahora piensa en tu familia. Por favor, dinos donde crees que se encuentra tu familia en esta linea. Indica la posición que mejor indica donde se encontraría tu familia.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Este cuestionario está ahora completado

Gracias por tu contribución!



Partie A: Introduction

MERCI DE LIRE ATTENTIVEMENT

Ce questionnaire fait partie d'une recherche sur les opinions quant à la cuisine adaptée aux personnes avec des besoins diététiques spécifiques.

Plus spécifiquement, nous nous intéressons à votre opinion sur la CUISINE NCD (Non Communicable Disease).

Par le terme CUISINE NCD, nous voulons dire la préparation de repas respectant des besoins diététiques spéciaux de personnes telles que les personnes avec des *allergies alimentaires, la maladie céliaque, du diabète ou de l'obésité*. Pour ces personnes, certains aliments représentent un vrai risque (par exemple le sucre pour les diabétiques, le beurre pour ceux allergiques aux produits laitiers). De ce fait, il est parfois nécessaire de faire attention aux ingrédients mais aussi aux ustensiles utilisés.

Rappelez-vous que ce questionnaire est anonyme, ce qui veut dire qu'il n'y aura aucune trace de votre identité. Gardez également à l'esprit que vos réponses ne seront pas lues par vos professeurs et que la façon dont vous répondrez n'aura aucun effet sur vos notes.

Partie B: IntroduzioneCheck

B1. Parmi ces propositions, merci de bien vouloir indiquer quelle est la définition que vous avez lu sur la page précédente:

La cuisine NCD est la préparation de repas respectant des besoins diététiques spéciaux de personnes telles que les personnes avec des allergies alimentaires, la maladie céliaque, du diabète ou de l'obésité.

☐

La cuisine NCD est la préparation de repas respectant des choix éthiques spécifiques, tel que l'utilisation exclusive d'ingrédients d'origine végétale.

☐

La cuisine NCD est la préparation de repas utilisant des ingrédients et des techniques culinaires typiques d'autres cultures.

☐

La cuisine NCD est la préparation de repas basée sur l'utilisation d'ingrédients animaux ou végétaux obtenus grâce à des méthodes respectueuses de l'environnement.

☐

B2.



Partie C: Wrong

Malheureusement, vous n'avez pas donné la bonne réponse. Afin de réussir ce projet de recherche, il est essentiel de bien comprendre ce que la cuisine NCD signifie. Essayez encore!

Par le terme CUISINE NCD, nous voulons dire la préparation des repas respectant des besoins diététiques spéciaux de personnes telles que les personnes avec des *allergies alimentaires, la maladie céliaque, du diabète ou de l'obésité*.

Pur ces personnes, certains aliments représentent un vrai risque (par exemple le sucre pour les diabétiques, le beurre pour ceux allergiques aux produits laitiers). De ce fait, il est parfois nécessaire de faire attention aux ingrédients mais aussi aux ustensiles utilisés.

Partie D: WrongCheck

D1. Parmi ces propositions, merci de bien vouloir indiquer quelle est la définition que vous avez lu sur la page précédente:

La cuisine NCD est la préparation de repas respectant des besoins diététiques spéciaux de personnes telles que les personnes avec des allergies alimentaires, la maladie céliaque, du diabète ou de l'obésité.

☐

La cuisine NCD est la préparation de repas respectant des choix éthiques spécifiques, tel que l'utilisation exclusive d'ingrédients d'origine végétale.

☐

La cuisine NCD est la préparation de repas utilisant des ingrédients et des techniques culinaires typiques d'autres cultures.

☐

La cuisine NCD est la préparation de repas basée sur l'utilisation d'ingrédients animaux ou végétaux obtenus grâce à des méthodes respectueuses de l'environnement.

☐

Partie E: Wrong2

Malheureusement, vous n'avez toujours pas donné la bonne réponse. Afin de réussir ce projet de recherche, il est essentiel de bien comprendre ce que la cuisine NCD signifie. Essayez encore!

Par le terme CUISINE NCD, nous voulons dire la préparation des repas respectant des besoins diététiques spéciaux de personnes telles que les personnes avec des *allergies alimentaires, la maladie céliaque, du diabète ou de l'obésité*.

Pur ces personnes, certains aliments représentent un vrai risque (par exemple le sucre pour les diabétiques, le beurre pour ceux allergiques aux produits laitiers). De ce fait, il est parfois nécessaire de faire attention aux ingrédients mais aussi aux ustensiles utilisés.

Partie F: Wrong2Check

F1. Parmi ces propositions, merci de bien vouloir indiquer quelle est la définition que vous avez lu sur la page précédente:

La cuisine NCD est la préparation de repas respectant des besoins diététiques spéciaux de personnes telles que les personnes avec des allergies alimentaires, la maladie céliaque, du diabète ou de l'obésité.

☐

La cuisine NCD est la préparation de repas respectant des choix éthiques spécifiques, tel que l'utilisation exclusive d'ingrédients d'origine végétale.

☐

La cuisine NCD est la préparation de repas utilisant des ingrédients et des techniques culinaires typiques d'autres cultures.

☐

La cuisine NCD est la préparation de repas basée sur l'utilisation d'ingrédients animaux ou végétaux obtenus grâce à des méthodes respectueuses de l'environnement.

☐



Partie G: Blocco B-I

Merci de lire et de répondre aux questions suivantes

G1. Dans les 12 derniers mois, à quelle fréquence avez-vous:
`document.getElementById('vmmsg_515_num_answers').style.visibility`
`= "hidden";`

document.getElementById('vmmsg_515_num_answers').style.visibility = "hidden";

	Jamais0	1	2	Très souvent3
Adapté vos recette à la cuisine NCD	☐	☐	☐	☐
Appris et recherché des informations sur la cuisine NCD	☐	☐	☐	☐
Etudié la cuisine NCD	☐	☐	☐	☐

G2. Merci de lire attentivement et de nous communiquer vos réponses
`document.getElementById('vmmsg_521_num_answers').style.visibility`
`= "hidden";`

document.getElementById('vmmsg_521_num_answers').style.visibility = "hidden";

	Extrême ment improbable0	1	2	3	Extrême ment probable4
Je souhaite m'impliquer et cuisiner pour des personnes avec des besoins spéciaux	☐	☐	☐	☐	☐
Je vais cuisiner de façon NCD	☐	☐	☐	☐	☐
Je souhaite m'impliquer et avoir de bonnes connaissances sur la cuisine NCD	☐	☐	☐	☐	☐
Je vais m'informer sur les besoins des personnes avec des besoins diététiques particuliers	☐	☐	☐	☐	☐



Partie H: Ant

H1. Dans cette section, le type de réponse est un peu particulier. A chaque ligne vous trouverez deux mots opposés, divisés par 7 cercles. Pour indiquer votre réponse, sélectionnez le cercle qui représente où est ce que vous vous situez entre ces deux mots. Par exemple:

Pour moi l'école est:

Ennuyeuse o o o o o Amusante

Si l'école est **ASOLUMENT** pour vous ennuyeuse alors vous cliquerez sur le cercle le plus proche d'«ennuyeuse».

Ennuyeuse X o o o o Amusante

Si l'école est un peu ennuyeuse et pas très amusante alors je cliquerai sur le troisième cercle

Ennuyeuse o X o o o Amusante

En suivant ces instructions, indiquez votre évaluation à propos de la cuisine NCD.

LA CUISINE NCD EST POUR MOI:

```
document.getElementById('vmmsg_527_num_answers').style.visibility  
= "hidden";
```

```
document.getElementById('vmmsg_527_num_answers').style.visibility = "hidden";
```

			0	->	-->
Désagréable Agréable	☐	☐	☐	☐	☐
Inutile Utile	☐	☐	☐	☐	☐
Bien Mauvais	☐	☐	☐	☐	☐
Pas important Important	☐	☐	☐	☐	☐



H2.

Merci d'indiquer votre niveau d'accord ou de désaccord avec les déclarations suivantes

```
$(document).ready(function(){ // Identify this question
var thisQuestion = $('#question{SubN}'); // Assign column-specific classes
$('table.subquestion-list tr', thisQuestion).each(function(i){
$(this).addClass('column-'+(i+1)); $(this).attr('data-column', i+1); });
}); // Resize the inputs
$('.column-1 input[type="text"]', thisQuestion).css('width', 'auto').attr('size', '10');
$('.column-2 input[type="text"]', thisQuestion).css('width', 'auto').attr('size', '5');
});
document.getElementById('vmsg_535_num_answers').style.visibility = "hidden";
```

document.getElementById('vmsg_535_num_answers').style.visibility = "hidden";

	Totalement en désaccord- 2	- 1	Ni d'accord, ni en désaccord0	+ 1	Totalement d'accord+ 2
Beaucoup de gens qui me sont chers seraient heureux que je cuisine NCD	☐	☐	☐	☐	☐
Beaucoup de gens qui me sont chers s'attendent à ce que je sache reconnaître des aliments dangereux pour la santé	☐	☐	☐	☐	☐
La plupart des gens qui me sont chers s'attendent à ce que je sois capable d'équilibrer les valeurs nutritionnelles lorsque je cuisine pour ceux avec des besoins spéciaux.	☐	☐	☐	☐	☐
Beaucoup de gens qui me sont chers cuisinent NCD	☐	☐	☐	☐	☐
La plupart des gens qui me sont chers ne connaissent pas la cuisine NCD	☐	☐	☐	☐	☐
La plupart des gens auxquels je tiens savent équilibrer les recette nutritionnellement lorsqu'ils cuisinent pour des personnes avec des besoins particuliers	☐	☐	☐	☐	☐

H3.

Merci d'indiquer votre niveau d'accord ou de désaccord avec les déclarations suivantes

```
document.getElementById('vmsg_546_num_answers').style.visibility = "hidden";
```

document.getElementById('vmsg_546_num_answers').style.visibility = "hidden";

	Totalement en désaccord- 2	- 1	Ni d'accord, ni en désaccord0	+ 1	Totalement d'accord+ 2
Je pense que je peux préparer de bons plats même si je cuisine NCD	☐	☐	☐	☐	☐
Je n'ai pas confiance en ma capacité de cuisiner pour des personnes avec des besoins spéciaux	☐	☐	☐	☐	☐
Même si je le voulais, ce serait impossible de tout contrôler si on cuisine NCD	☐	☐	☐	☐	☐
Je pense que je maîtriserais si j'essayais de cuisiner NCD	☐	☐	☐	☐	☐



Partie I: Blocco VFM

I1. Merci d'indiquer votre niveau d'accord ou de désaccord avec les déclarations suivantes

`document.getElementById('vmmsg_557_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_557_num_answers').style.visibility = "hidden";`

	Totalement en désaccord- 2	- 1	Ni d'accord, ni en désaccord0	+ 1	Totalement d'accord+ 2
Apprendre la cuisine NCD me permettrait d'avoir un CV compétitif	☐	☐	☐	☐	☐
Cuisiner NCD n'a pas grande importance dans une carrière professionnelle	☐	☐	☐	☐	☐
Je ne suis pas intéressé par l'apprentissage de la cuisine NCD parce que je pense que cela ne me sera pas utile dans ma carrière.	☐	☐	☐	☐	☐

I2. Si je devais cuisiner NCD pour des personnes avec des besoins spéciaux, je me sentirais:

`document.getElementById('vmmsg_568_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_568_num_answers').style.visibility = "hidden";`

	Pas du tout0	1	2	3	4	Beaucoup5
Anxieux/se	☐	☐	☐	☐	☐	☐
Effrayé(e)	☐	☐	☐	☐	☐	☐
Apeuré(e)	☐	☐	☐	☐	☐	☐

I3. Merci d'indiquer votre niveau d'accord ou de désaccord avec les déclarations suivantes

`document.getElementById('vmmsg_574_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_574_num_answers').style.visibility = "hidden";`

	Totalement en désaccord- 2	- 1	Ni d'accord, ni en désaccord0	+ 1	Totalement d'accord+ 2
Connaître la cuisine NCD est une responsabilité morale pour moi	☐	☐	☐	☐	☐
Je pense que c'est moralement juste de cuisiner NCD	☐	☐	☐	☐	☐
Je serais déçu(e) si je ne pouvais pas répondre aux attentes des personnes avec des besoins diététiques particuliers.	☐	☐	☐	☐	☐

Partie J: Obesità

Merci de choisir la bonne réponse selon vous

J1. Merci de répondre à toutes les questions suivantes

	Oui	Non
Les lipides sont-ils essentiels à l'absorption de certaines vitamines?	☐	☐



Oui Non

Les légumes sont-ils riches en protéines?

☐ ☐

A poids égal, les crackers sont-ils aussi riches que le pain?

☐ ☐

Est-ce qu'un plat de céréales et de légumineuses représente un repas complet nutritionnellement?

☐ ☐

Est-ce que le fait de manger peu de calories au déjeuner, au dîner et pour les en-cas réduit le risque de surpoids et d'obésité ?

☐ ☐

Partie K: Allergie

Merci de choisir la bonne réponse selon vous

K1. Merci de répondre à toutes les questions suivantes

Oui Non

Est-ce que les noix représentent un risque faible de réaction allergique?

☐ ☐

Est-ce que le poisson représente un risque faible de réaction allergique?

☐ ☐

Toutes les vitamines sont-elles des antioxydants?

☐ ☐

Les allergies alimentaires peuvent-elles causer la malnutrition?

☐ ☐

Est-ce que les crustacés représentent un risque élevé de réaction allergiques?

☐ ☐

Partie L: Celiachia

Merci de choisir la bonne réponse selon vous

L1. Merci de répondre à toutes les questions suivantes

Oui Non

Est-ce qu'éliminer le gluten de son alimentaire provoque un déséquilibre alimentaire?

☐ ☐

Les légumineuses contiennent-elles du gluten?

☐ ☐

La maladie coeliaque peut-elle être associée avec d'autres intolérances alimentaires ou allergies ?

☐ ☐

Est-ce que des petites doses de gluten peuvent s'avérer nocives pour la personne atteinte de la maladie coeliaque?

☐ ☐

Est-ce que le soutien d'un diététicien traditionnel aide à suivre un régime sans gluten?

☐ ☐



M1. Merci de répondre à toutes les questions suivantes

Partie N: Socio-demo

Une femme

[illegible][illegible]

Je viens de Mars



N5. Connaissez-vous personnellement quelqu'un qui souffre de l'une des maladies suivantes?

	Oui	Non
Diabète	☐	☐
Obésité	☐	☐
Allergies alimentaires	☐	☐
Maladie coeliaque	☐	☐
Inflammations chroniques	☐	☐
Autre maladie qui requiert une attention diététique particulière	☐	☐
Je suis né en 2033	☐	☐

N6. Imaginez que cette frise représente la façon dont la société est organisée.

D'un côté (indiqués par le numéro 1) se trouvent les gens avec *le moins d'argent, peu ou pas d'éducation, pas de travail ou un travail que personne ne veut ou ne respecte.*

De l'autre côté, (indiqués par le numéro 10) se trouvent les gens avec *le plus d'argent, le plus haut niveau d'éducation, et le travail qui rapporte le plus de respect.*

Maintenant pensez à votre famille. Merci de nous indiquer où vous pensez que votre famille se trouverait sur cette frise. Indiquez la position qui représenterait le mieux où se trouve votre famille sur cette frise.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Le questionnaire est maintenant terminé.

Merci de votre contribution!



Sezione A: Introduzione

LEGGI CON MOLTA ATTENZIONE

Questo questionario è parte di una ricerca che studia le opinioni sulla cucina dedicata a persone che hanno particolari esigenze alimentari.

In particolare, siamo interessati alla tua opinione personale circa la **CUCINA NCD** (Non Communicable Disease).

Per **CUCINA NCD** intendiamo la preparazione di pasti rispettando **particolari esigenze alimentari** come quelle delle persone con **allergie alimentari, celiachia, diabete e obesità**. Per queste persone, alcuni alimenti sono molto rischiosi (p.e.: zucchero per chi ha il diabete, burro per chi è allergico ai latticini). E' quindi a volte necessario fare attenzione agli ingredienti e anche agli utensili che si usano.

Ricorda che il questionario è anonimo, ciò significa che nessuno potrà risalire alla tua identità. Ricorda inoltre che le tue risposte non verranno lette dai tuoi insegnanti e che il modo in cui rispondi non avrà **nessun effetto** sui tuoi voti.

Sezione B: IntroduzioneCheck

B1. Indica quale tra le seguenti alternative è la definizione di cucina NCD che hai letto nella pagina precedente:

Per cucina NCD si intende la preparazione di pasti rispettando particolari esigenze alimentari come quelle delle persone con allergie alimentari, celiachia, diabete e obesità.

☐

Per cucina NCD si intende la preparazione di pasti rispettando particolari scelte etiche quali l'esclusivo utilizzo di ingredienti di origine vegetale.

☐

Per cucina NCD si intende la preparazione di pasti utilizzando ingredienti e tecniche culinarie tipiche di altre culture

☐

Per cucina NCD si intende la preparazione di pasti utilizzando esclusivamente prodotti animali o vegetali ottenuti mediante procedure rispettose dell'ambiente

☐

B2.



Sezione C: Wrong

Purtroppo non hai dato la risposta corretta. Al fine del successo della ricerca è fondamentale che tu capisca cosa si intende per cucina NCD. Riprova!

Per CUCINA NCD (Non Communicable Disease) intendiamo la preparazione di pasti rispettando particolari esigenze alimentari come quelle delle persone con *allergie alimentari, celiachia, diabete e obesità*.

Per queste persone, alcuni alimenti sono molto rischiosi (p.e.: zucchero per chi ha il diabete, burro per chi è allergico ai latticini). E' quindi a volte necessario fare attenzione agli ingredienti e anche agli utensili che si usano.

Sezione D: WrongCheck

D1. Indica quali tra le seguenti alternative è la definizione di cucina NCD che hai letto nella pagina precedente:

Per cucina NCD si intende la preparazione di pasti rispettando particolari esigenze alimentari come quelle delle persone con allergie alimentari, celiachia, diabete e obesità.

☐

Per cucina NCD si intende la preparazione di pasti rispettando particolari scelte etiche quali l'esclusivo utilizzo di ingredienti di origine vegetale.

☐

Per cucina NCD si intende la preparazione di pasti utilizzando ingredienti e tecniche culinarie tipiche di altre culture

☐

Per cucina NCD si intende la preparazione di pasti utilizzando esclusivamente prodotti animali o vegetali ottenuti mediante procedure rispettose dell'ambiente

☐

Sezione E: Wrong2

Purtroppo hai dato di nuovo la risposta sbagliata. Al fine del successo della ricerca è fondamentale che tu capisca cosa si intende per cucina NCD. Riprova!

Per CUCINA NCD (Non Communicable Disease) intendiamo la preparazione di pasti rispettando particolari esigenze alimentari come quelle delle persone con *allergie alimentari, celiachia, diabete e obesità*.

Per queste persone, alcuni alimenti sono molto rischiosi (p.e.: zucchero per chi ha il diabete, burro per chi è allergico ai latticini). E' quindi a volte necessario fare attenzione agli ingredienti e anche agli utensili che si usano.

Sezione F: Wrong2Check

F1. Indica quali tra le seguenti alternative è la definizione di cucina NCD che hai letto nella pagina precedente:

Per cucina NCD si intende la preparazione di pasti rispettando particolari esigenze alimentari come quelle delle persone con allergie alimentari, celiachia, diabete e obesità.

☐

Per cucina NCD si intende la preparazione di pasti rispettando particolari scelte etiche quali l'esclusivo utilizzo di ingredienti di origine vegetale.

☐

Per cucina NCD si intende la preparazione di pasti utilizzando ingredienti e tecniche culinarie tipiche di altre culture

☐

Per cucina NCD si intende la preparazione di pasti utilizzando esclusivamente prodotti animali o vegetali ottenuti mediante procedure rispettose dell'ambiente

☐



Sezione G: Blocco B-I

Per favore, leggi e rispondi a tutte le domande

G1. Negli ultimi 12 mesi, quanto spesso hai:
`document.getElementById('vmmsg_515_num_answers').style.visibility`
`= "hidden";`
document.getElementById('vmmsg_515_num_answers').style.visibility = "hidden";

	Mai0	1	2	Molto spesso3
Adattato ricette alla cucina NCD	☐	☐	☐	☐
Appreso e cercato informazioni sulla cucina NCD	☐	☐	☐	☐
Studiato la cucina NCD	☐	☐	☐	☐

G2. Per favore, leggi attentamente e dai le tue risposte
`document.getElementById('vmmsg_521_num_answers').style.visibility`
`= "hidden";`
document.getElementById('vmmsg_521_num_answers').style.visibility = "hidden";

	Estremament e improbabile0	1	2	3	Estremame nte probabile4
Intendo impegnarmi a cucinare pietanze per persone con esigenze alimentari particolari	☐	☐	☐	☐	☐
Cucinerò NCD	☐	☐	☐	☐	☐
Intendo impegnarmi per possedere una buona conoscenza per cucinare NCD	☐	☐	☐	☐	☐
Mi informerò sulle necessità delle persone con particolari esigenze alimentari	☐	☐	☐	☐	☐



Sezione H: Ant

H1. In questa sezione la modalità di risposta è un po' particolare. Su ogni riga trovi una coppia di parole opposte fra loro divise da 5 cerchietti. Per indicare la tua risposta, seleziona il cerchietto che meglio rappresenta la tua posizione fra le due parole opposte. Per esempio:

Per me la scuola è:

Noiosa o o o o o Divertente

Se per me la scuola è ASSOLUTAMENTE noiosa cliccherò sul cerchietto più vicino a "Noiosa".

Noiosa X o o o o Divertente

Se invece per me la scuola un po' noiosa e non molto divertente allora cliccherò sul secondo cerchietto.

Noiosa o X o o o Divertente

Quindi, seguendo le istruzioni che ti abbiamo dato, dicci la tua sulla cucina NCD.

PER ME LA CUCINA NCD E':

```
document.getElementById('vmmsg_527_num_answers').style.visibility  
= "hidden";
```

```
document.getElementById('vmmsg_527_num_answers').style.visibility = "hidden";
```

			0	->	-->
Spiacevole Piacevole	☐	☐	☐	☐	☐
Inutile Utile	☐	☐	☐	☐	☐
Buona Cattiva	☐	☐	☐	☐	☐
Non importante Importante	☐	☐	☐	☐	☐



H2. Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti

affermazioni

```
$(document).ready(function(){ // Identify this question
var thisQuestion = $('#question{SubN}'); // Assign column-specific
classes $('table.subquestion-list tr', thisQuestion).each(function(i) {
    $('> *:gt(0)', this).each(function(i){
$(this).addClass('column-'+(i+1)); $(this).attr('data-column', i+1); });
    }); // Resize the inputs $('column-1 input[type="text"]',
    thisQuestion).css('width', 'auto').attr('size', '10'); $('column-2
input[type="text"]', thisQuestion).css('width', 'auto').attr('size', '5');
    });
document.getElementById('vmmsg_535_num_answers').style.visibility
= "hidden";
```

document.getElementById('vmmsg_535_num_answers').style.visibility = "hidden";

Assolutamen
te in
disaccordo- 2 - 1 Nè in
accordo nè in
disaccordo0 + 1 Assolutamen
te
d'accordo+ 2

Molte persone a cui tengo sarebbero contente se io cucinassi NCD

☐.....☐.....☐.....☐.....☐

Molte persone per me importanti si aspettano che sappia riconoscere gli alimenti rischiosi per la salute delle persone

☐.....☐.....☐.....☐.....☐

La maggior parte delle persone di cui mi importa si aspettano che sappia bilanciare i valori nutrizionali quando cucino per chi ha particolari esigenze alimentari

☐.....☐.....☐.....☐.....☐

Molte persone a cui tengo cucinano NCD

☐.....☐.....☐.....☐.....☐

La maggior parte delle persone a cui tengo non conoscono la cucina NCD

☐.....☐.....☐.....☐.....☐

La maggior parte delle persone di cui mi importa sanno bilanciare i valori nutrizionali quando cucinano per chi ha particolari esigenze alimentari

☐.....☐.....☐.....☐.....☐

H3. Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti

affermazioni

```
document.getElementById('vmmsg_546_num_answers').style.visibility
= "hidden";
```

document.getElementById('vmmsg_546_num_answers').style.visibility = "hidden";

Assolutamen
te in
disaccordo- 2 - 1 Nè in
accordo nè in
disaccordo0 + 1 Assolutamen
te
d'accordo+ 2

Mi sento capace di cucinare NCD facendo comunque dei buoni piatti

☐.....☐.....☐.....☐.....☐

Non mi sento sicuro delle mie abilità nel cucinare per persone con particolari esigenze alimentari

☐.....☐.....☐.....☐.....☐

Pur volendo, se cucinassi NCD, sarebbe impossibile avere il controllo di tutto

☐.....☐.....☐.....☐.....☐

Sento di avere il controllo se provassi a cucinare NCD

☐.....☐.....☐.....☐.....☐



Sezione I: Blocco VFM

- I1. Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni**

document.getElementById('vmmsg_557_num_answers').style.visibility = "hidden";

document.getElementById('vmmsg_557_num_answers').style.visibility = "hidden";

	Assolutamen te in disaccordo- 2	- 1	Nè in accordo nè in disaccordo0	+ 1	Assolutamen te d'accordo+ 2
Imparare la cucina NCD mi permetterebbe di avere un curriculum competitivo	☐	☐	☐	☐	☐
Cucinare NCD non è di grande importanza per la propria carriera professionale	☐	☐	☐	☐	☐
Non mi interessa imparare la cucina NCD perché non la ritengo utile per la mia carriera	☐	☐	☐	☐	☐

- I2. Se dovessi cucinare NCD per persone con particolari esigenze alimentari mi sentirei:**

document.getElementById('vmmsg_568_num_answers').style.visibility = "hidden";

document.getElementById('vmmsg_568_num_answers').style.visibility = "hidden";

	Per nulla0	1	2	3	4	Moltissimo 5
Ansioso/a	☐	☐	☐	☐	☐	☐
Impaurito/a	☐	☐	☐	☐	☐	☐
Spaventato/a	☐	☐	☐	☐	☐	☐

- I3. Per favore, indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni**

document.getElementById('vmmsg_574_num_answers').style.visibility = "hidden";

document.getElementById('vmmsg_574_num_answers').style.visibility = "hidden";

	Assolutamen te in disaccordo- 2	- 1	Nè in accordo nè in disaccordo0	+ 1	Assolutamen te d'accordo+ 2
Per me conoscere la cucina NCD è una responsabilità morale	☐	☐	☐	☐	☐
Penso che sia moralmente giusto cucinare NCD	☐	☐	☐	☐	☐
Sarei scontento di me stesso se non riuscissi a soddisfare le richieste di chi ha particolari esigenze alimentari	☐	☐	☐	☐	☐

Sezione J: Obesità

Per favore, indica quella che secondo te è la risposta esatta

- J1. Per favore, rispondi a tutte le seguenti domande**

	Si	No
I lipidi sono fondamentali per l'assorbimento di alcune vitamine?	☐	☐



Sì No

Le verdure sono ricche in proteine?

☐.....☐

A parità di peso, i cracker sono meno calorici del pane?

☐.....☐

Un piatto di cereali e legumi è un pasto nutrizionalmente completo?

☐.....☐

Consumare pranzi, cene e merende a basso contenuto calorico riduce il rischio di sovrappeso e obesità?

☐.....☐

Sezione K: Allergie

Per favore, indica quella che secondo te è la risposta giusta

K1. Per favore, rispondi a tutte le seguenti domande

Sì No

La frutta a guscio rappresenta un cibo a basso rischio di reazione allergica?

☐.....☐

Il pesce rappresenta un cibo a basso rischio di reazione allergica?

☐.....☐

Tutte le vitamine sono antiossidanti?

☐.....☐

Le allergie alimentari possono causare alimentazione insufficiente?

☐.....☐

I molluschi rappresentano un cibo ad alto rischio di reazione allergica?

☐.....☐

Sezione L: Celiachia

Per favore, indica quella che secondo te è la risposta corretta

L1. Per favore, rispondi a tutte le domande

Sì No

Eliminare il glutine dall'alimentazione crea squilibri nutrizionali?

☐.....☐

I legumi contengono glutine?

☐.....☐

Alla celiachia possono essere associate altre intolleranze o allergie alimentari?

☐.....☐

Piccole quantità di glutine sono dannose per la salute del celiaco?

☐.....☐

Un supporto dietistico periodico aiuta a rispettare la dieta priva di glutine?

☐.....☐



M1. Per favore, rispondi a tutte le seguenti domande

Sì No

Gli zuccheri semplici sono consentiti?

Gli ortaggi contengono carboidrati?

Mangiare cibo integrale riduce il picco glicemico postprandiale?

L'utilizzo dei polialcoli (maltitolo) nel confezionamento di dolci e biscotti destinati al soggetto diabetico è raccomandato?

L'ipoglicemia si corregge con la somministrazione di zuccheri?

Sezione N: Socio-demo

N1. Sei

Maschio

7

Femmina

N2. Indica la tua età in anni compiuti

[illegible]

N3. Indica il nome della tua scuola e della tua classe

[illegible]

N4. Soffri di una delle seguenti malattie?

Si No

Diabetes

Obesità

Allergie alimentari

Celiachia

Infiammazioni croniche

Altre malattie che richiedono accorgimenti alimentari particolari

Vengo da Marte



N5. Conosci personalmente qualcuno che soffre di una delle seguenti malattie?

	Sì	No
Diabete	☐	☐
Obesità	☐	☐
Allergie alimentari	☐	☐
Celiachia	☐	☐
Infiammazioni croniche	☐	☐
Altre malattie che richiedono accorgimenti alimentari particolari	☐	☐
Sono nato/a nel 2033	☐	☐

N6. Immagina che questa linea rappresenti come è organizzata la società.

A un'estremità (contrassegnata con il numero 1) ci sono le persone che *hanno meno soldi, poca o nessuna istruzione, nessun lavoro o lavoro che nessuno vuole o rispetta.*

All'estremità opposta (contrassegnata dal numero 10) ci sono le persone che *hanno più soldi, la più alta scolarità e i lavori che portano il maggior rispetto.*

Ora pensa alla tua famiglia. Per favore dicci dove pensi che la tua famiglia sarebbe su questa linea. Indica la posizione che meglio rappresenta la posizione della tua famiglia su questa linea.

1	2	3	4	5	6	7	8	9	10
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Il questionario è finito

Grazie per il tuo contributo!



Część A: Wprowadzenie

PROSIMY UWAŻNIE PRZECZYTAĆ

Ten kwestionariusz jest częścią badania opinii na temat gotowania dla osób ze specjalnymi potrzebami żywieniowymi.

W szczególności interesuje nas Twoja osobista opinia na temat. **KUCHNI NCD** (choroby niezakaźnej).

Przez **KUCHNI NCD** rozumiemy przygotowywanie posiłków uwzględniających specjalne potrzeby dietetyczne np. Osób z **alergiami pokarmowymi, celiakią, cukrzycą i otyłością**. Dla tych osób niektóre pokarmy są bardzo ryzykowne (np. : cukier dla diabetyków, masło dla alergików, uczulenie na nabiał). Dlatego czasami trzeba zwrócić uwagę na składniki, a także na używane naczynia.

Pamiętaj, że kwestionariusz jest anonimowy, co oznacza, że nikt nie może prześledzić Twojej tożsamości. Pamiętaj również, że Twoje odpowiedzi nie zostaną odczytane przez nauczycieli, a sposób, w jaki odpowiesz, nie będzie miał wpływu na Twoje oceny.

Część B: IntroduzioneCheck

B1. Proszę wskazać, która z poniższych alternatyw jest definicją gotowania NCD, którą przeczytałeś na poprzedniej stronie:

Kuchnia NCD to przygotowywanie posiłków uwzględniających szczególne potrzeby dietetyczne, np. Osób z alergiami pokarmowymi, celiakią, cukrzycą i otyłością.

Gotowanie NCD to przygotowywanie posiłków z poszanowaniem określonych wyborów etycznych, takich jak wyłączenie użycie składników pochodzenia roślinnego.

Gotowanie NCD polega na przygotowywaniu posiłków przy użyciu zarówno składników, jak i technik kulinarnych typowych dla innych kultur.

Gotowanie NCD polega na przygotowywaniu posiłków przy użyciu wyłącznie produktów pochodzenia zwierzęcego lub roślinnego uzyskanych w wyniku procedur przyjaznych dla środowiska.

☐☐☐☐

B2.



Część C: Wrong

Niestety nie udzieliłeś poprawnej odpowiedzi. Aby badania zakończyły się sukcesem, ważne jest, aby naprawdę zrozumieć, co oznacza gotowanie NCD. Proszę spróbuj ponownie!

Przez KUCHNI NCD (choroby niezakaźnej) rozumiemy przygotowywanie posiłków uwzględniających specjalne potrzeby dietetyczne np. Osób z *alergiami pokarmowymi, celiakią, cukrzycą i otyłością*..

Dla tych osób niektóre pokarmy są bardzo ryzykowne (np .: cukier dla diabetyków, masło dla alergików, uczulenie na nabiał). Dlatego czasami trzeba zwrócić uwagę na składniki, a także na używane naczynia.

Część D: WrongCheck

D1. Proszę wskazać, która z poniższych alternatyw jest definicją gotowania NCD, którą przeczytałeś na poprzedniej stronie:

Kuchnia NCD to przygotowywanie posiłków uwzględniających szczególne potrzeby dietetyczne, np. Osób z alergiami pokarmowymi, celiakią, cukrzycą i otyłością.

☐

Gotowanie NCD to przygotowywanie posiłków z poszanowaniem określonych wyborów etycznych, takich jak wyłączenie użycie składników pochodzenia roślinnego.

☐

Gotowanie NCD polega na przygotowywaniu posiłków przy użyciu zarówno składników, jak i technik kulinarnych typowych dla innych kultur.

☐

Gotowanie NCD polega na przygotowywaniu posiłków przy użyciu wyłącznie produktów pochodzenia zwierzęcego lub roślinnego uzyskanych w wyniku procedur przyjaznych dla środowiska.

☐

Część E: Wrong2

Niestety, ponownie podałeś złą odpowiedź. Aby badania zakończyły się sukcesem, ważne jest, aby naprawdę zrozumieć, co oznacza gotowanie NCD. Proszę spróbuj ponownie!

Przez KUCHNI NCD (choroby niezakaźnej) rozumiemy przygotowywanie posiłków uwzględniających specjalne potrzeby dietetyczne np. Osób z *alergiami pokarmowymi, celiakią, cukrzycą i otyłością*..

Dla tych osób niektóre pokarmy są bardzo ryzykowne (np .: cukier dla diabetyków, masło dla alergików, uczulenie na nabiał). Dlatego czasami trzeba zwrócić uwagę na składniki, a także na używane naczynia.



Część F: Wrong2Check

F1. Proszę wskazać, która z poniższych alternatyw jest definicją gotowania NCD, którą przeczytałeś na poprzedniej stronie:

Kuchnia NCD to przygotowywanie posiłków uwzględniających szczególne potrzeby dietetyczne, np. Osób z alergiami pokarmowymi, celiakią, cukrzycą i otyłością.

Gotowanie NCD to przygotowywanie posiłków z poszanowaniem określonych wyborów etycznych, takich jak wyłączenie składników pochodzenia roślinnego.

Gotowanie NCD polega na przygotowywaniu posiłków przy użyciu zarówno składników, jak i technik kulinarnych typowych dla innych kultur.

Gotowanie NCD polega na przygotowywaniu posiłków przy użyciu wyłącznie produktów pochodzenia zwierzęcego lub roślinnego uzyskanych w wyniku procedur przyjaznych dla środowiska.

☐☐☐☐

Część G: Blocco B-I

Przeczytaj i odpowiedz na wszystkie poniższe pytania

G1. Jak często w ciągu ostatnich 12 miesięcy: `document.getElementById('vmmsg_515_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_515_num_answers').style.visibility = "hidden";`

Nigdy0 1 2 Bardzo często3

Przepisy dostosowane do kuchni NCD

☐.....☐.....☐.....☐

Nauczyłem się i szukałem informacji na temat gotowania NCD

☐.....☐.....☐.....☐

Studiował kuchnię NCD

☐.....☐.....☐.....☐

G2.

Prosimy o uważne przeczytanie i udzielenie odpowiedzi `document.getElementById('vmmsg_521_num_answers').style.visibility = "hidden";`

`document.getElementById('vmmsg_521_num_answers').style.visibility = "hidden";`

Bardzo mało prawdopodobne0 1 2 3 Bardzo prawdopodobne4

Chętnie zaangażuję się w gotowanie posiłków dla osób ze specjalnymi potrzebami dietetycznymi

☐.....☐.....☐.....☐.....☐

Ugotuję kuchnię NCD

☐.....☐.....☐.....☐.....☐

Jestem gotów zobowiązać się do dobrej znajomości kuchni NCD

☐.....☐.....☐.....☐.....☐

Poinformuję się o potrzebach osób ze specjalnymi potrzebami żywieniowymi

☐.....☐.....☐.....☐.....☐



Część H: Ant

H1. W tej sekcji tryb odpowiedzi jest niestandardowy. W każdym wierszu znajdziesz parę przeciwnych słów, podzielonych na 7 kółek. Aby wskazać swoją odpowiedź, wybierz kółko, które najlepiej reprezentuje twoją pozycję między dwoma przeciwstawnymi słowami. Na przykład:

Szkoła dla mnie to:

Nudne o o o o o Ciekawa

Jeśli szkoła jest dla mnie **ABSOLUTNIE** nudna, kliknę kółko najbliższe „Nuda”.

Nudne X o o o o Ciekawa

Jeśli szkoła jest dla mnie trochę nudna i niezbyt fajna, to kliknę trzecie kółko.

Nudne o X o o o Ciekawa

Tak więc, postępując zgodnie z tymi instrukcjami, powiedz nam swoją ocenę dotyczącą gotowania NCD.

KUCHNIA NCD DLA MNIE TO: `document.getElementById('vmsg_527_num_answers').style.visibility = "hidden";`

`document.getElementById('vmsg_527_num_answers').style.visibility = "hidden";`

			0	->	-->
Nieprzyjemne Przyjemne	☐	☐	☐	☐	☐
Bezużyteczne Użyteczne	☐	☐	☐	☐	☐
Dobre Złe	☐	☐	☐	☐	☐
Nieważne ważne	☐	☐	☐	☐	☐



H2.

Wskaż, w jakim stopniu zgadzasz się i nie zgadzasz się z poniższymi stwierdzeniami

```
$(document).ready(function(){ // Identify this question
var thisQuestion = $('#question{SubN}');
// Assign column-specific classes
$('#table.subquestion-list tr',
thisQuestion).each(function(i) { $('> *:gt(0)',
this).each(function(i){
$(this).addClass('column-' + (i+1)); $(this).attr('data-column', i+1); }); }); // Resize the inputs
$('.column-1 input[type="text"]',
thisQuestion).css('width', 'auto').attr('size', '10');
$('.column-2 input[type="text"]',
thisQuestion).css('width', 'auto').attr('size', '5'); });
document.getElementById('vmsg_535_num_answers').style.visibility = "hidden";
document.getElementById('vmsg_535_num_answers').style.visibility = "hidden";
```

Zdecydow
anie
niezgadza
m się- 2 - 1 Ani się
zgadzam,
ani się nie
zgadzam0 + 1 Zdecydow
anie
zgadzam
się+ 2

Wiele osób, które są dla mnie ważne, byłoby
szczęśliwych, gdybym gotował kuchnię NCD

....................

Wiele osób, które są dla mnie ważne, oczekuje, że
będę w stanie rozpoznać żywność, która jest
niebezpieczna dla zdrowia ludzi

....................

Większość osób, które są dla mnie ważne, oczekuje,
że będę w stanie zrównoważyć wartości odżywcze,
kiedy gotuję dla osób ze specjalnymi potrzebami
żywieniowymi

....................

Wiele ważnych dla mnie osób gotuje kuchnię NCD

....................

Większość ludzi, którzy są dla mnie ważni, nie zna
kuchni NCD

....................

Większość osób, na których mi zależy, wie, jak
zrównoważyć wartości odżywcze, gotując dla osób o
specjalnych potrzebach żywieniowych

....................

H3.

Wskaż, w jakim stopniu zgadzasz się lub nie
zgadzasz z następującymi stwierdzeniami document.
getElementById('vmsg_546_num_answers').style.visi
bility = "hidden";

```
document.getElementById('vmsg_546_num_answers').style.visibility = "hidden";
```

Zdecydow
anie
niezgadza
m się- 2 - 1 Ani się
zgadzam,
ani się nie
zgadzam0 + 1 Zdecydow
anie
zgadzam
się+ 2

Czuję, że mogę przygotować dobre potrawy, nawet
jeśli gotuję kuchnię NCD

....................

Nie czuję się pewnie, czy potrafię gotować dla osób
ze specjalnymi potrzebami żywieniowymi

....................



Zdecydow
anie
niezgadza
m się- 2 - 1 Ani się
zgadzam,
ani się nie
zgadzam0 + 1 Zdecydow
anie
zgadzam
się+ 2

Nawet gdybym chciał, nie miałbym kontroli nad
wszystkim podczas gotowania potraw NCD

☐.....☐.....☐.....☐.....☐

Czuję, że będę miał kontrolę, jeśli spróbuję gotować
kuchnię NCD

☐.....☐.....☐.....☐.....☐

Część I: Blocco VFM

11.

**Wskaż, w jakim stopniu zgadzasz się lub nie
zgadzasz z następującymi stwierdzeniami document.
getElementById('vmsg_557_num_answers').style.visi
bility = "hidden";**

`document.getElementById('vmsg_557_num_answers').style.visibility = "hidden";`

Zdecydow
anie
niezgadza
m się- 2 - 1 Ani się
zgadzam,
ani się nie
zgadzam0 + 1 Zdecydow
anie
zgadzam
się+ 2

Nauka gotowania NCD pozwoliłaby mi mieć
konkurencyjne CV

☐.....☐.....☐.....☐.....☐

Gotowanie Kuchnia NCD nie ma wielkiego znaczenia
dla własnej kariery zawodowej

☐.....☐.....☐.....☐.....☐

Niejestem zainteresowany nauką gotowania NCD,
ponieważ nie uważam, że jest to przydatne w mojej
karierze.

☐.....☐.....☐.....☐.....☐

12. **Gdybym musiał gotować kuchnię NCD dla osób ze
specjalnymi potrzebami żywieniowymi, czułbym się:
document.getElementById('vmsg_568_num_answers'
).style.visibility = "hidden";**

`document.getElementById('vmsg_568_num_answers').style.visibility = "hidden";`

Ani
trochę0 1 2 3 4 Bardzo
wiele5

Niespokojny

☐.....☐.....☐.....☐.....☐.....☐

Zaniepokojony

☐.....☐.....☐.....☐.....☐.....☐

Przestraszony

☐.....☐.....☐.....☐.....☐.....☐

13.

**Wskaż, w jakim stopniu zgadzasz się lub nie
zgadzasz z następującymi stwierdzeniami document.
getElementById('vmsg_574_num_answers').style.visi
bility = "hidden";**

`document.getElementById('vmsg_574_num_answers').style.visibility = "hidden";`

Zdecydow
anie
niezgadza
m się- 2 - 1 Ani się
zgadzam,
ani się nie
zgadzam0 + 1 Zdecydow
anie
zgadzam
się+ 2

Znajomość kuchni NCD jest dla mnie moralną
odpowiedzialnością

☐.....☐.....☐.....☐.....☐



Zdecydow
anie
niezgadza
m się- 2

- 1

Ani się
zgadzam,
ani się nie
zgadzam0

+ 1

Zdecydow
anie
zgadzam
się+ 2

Myślę, że gotowanie potraw z NCD jest moralnie właściwe

☐.....☐.....☐.....☐.....☐

Byłbym rozczarowany, gdybym nie mógł spełnić życzeń osób o specjalnych potrzebach żywieniowych

☐.....☐.....☐.....☐.....☐

Część J: Obesità

Wybierz odpowiedź, którą uważasz za właściwą

J1. Proszę odpowiedzieć na wszystkie poniższe pytania

Tak Nie

Czy lipidy są niezbędne do wchłaniania niektórych witamin?

☐.....☐

Czy warzywa są bogate w białko?

☐.....☐

Czy przy takiej samej wadze krakersy są mniej kaloryczne niż chleb?

☐.....☐

Czy talerz zbóż i roślin strączkowych to pełnowartościowy posiłek?

☐.....☐

Czy spożywanie niskokalorycznych obiadów, kolacji i przekąsek zmniejsza ryzyko nadwagi i otyłości?

☐.....☐

Część K: Allergie

Wybierz odpowiedź, którą uważasz za właściwą

K1. Proszę odpowiedzieć na wszystkie poniższe pytania

Tak Nie

Czy orzechy stanowią żywność o niskim ryzyku reakcji alergicznej?

☐.....☐

Czy ryby stanowią pokarm o niskim ryzyku reakcji alergicznej?

☐.....☐

Czy wszystkie witaminy są przeciwutleniaczami?

☐.....☐

Czy alergię pokarmową mogą powodować złe odżywianie?

☐.....☐

Czy skorupiaki stanowią żywność o wysokim ryzyku reakcji alergicznej?

☐.....☐

Część L: Celiachia

Wybierz odpowiedź, którą uważasz za właściwą

L1. Proszę odpowiedzieć na wszystkie poniższe pytania

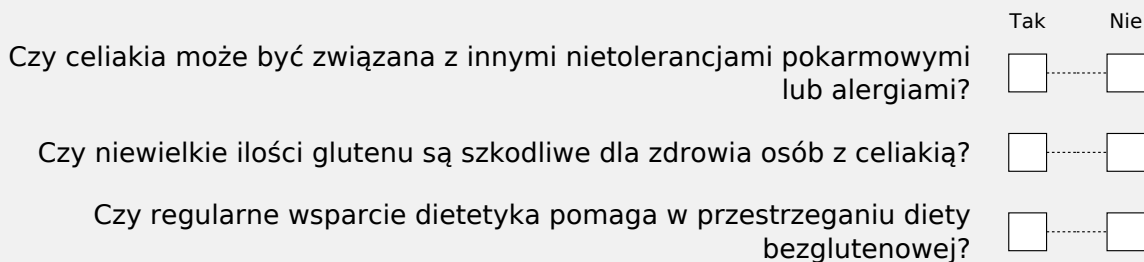
Tak Nie

Czy wyeliminowanie glutenu z diety powoduje zaburzenia równowagi żywieniowej?

☐.....☐

Czy rośliny strączkowe zawierają gluten?

☐.....☐



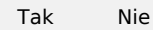
Wybierz odpowiedź, którą uważasz za właściwą

	Tak	Nie
Czy dozwolone są cukry proste?	☐	☐
Czy warzywa zawierają węglowodany?	☐	☐
Czy jedzenie pełnowartościowych produktów obniża poposiłkowy szczyt glikemii?	☐	☐
Czy przy pakowaniu ciast i herbatników zalecane jest stosowanie polialkoholi (maltitolu) dla diabetyków?	☐	☐
Czy hipoglikemię można korygować podając cukier?	☐	☐

Mężczyzna
Kobieta

[illegible][illegible]

	Tak	Nie
Cukrzyca	☐	☐
Otyłość	☐	☐
Alergie pokarmowe	☐	☐
Nietolerancja glutenu	☐	☐



Tak Nie



Kwestionariusz jest teraz wypełniony

Dziękuję za Twój wkład!